

Some of the comments received from attendee in survey after the conference were:

- 'Denver seems less safe now that pot is legalized.'
- 'Don't have a meeting in downtown Denver...what a depressing downtown area.'
- 'The neighborhood had way too many vagrants. I don't remember Denver being that bad.'
- 'Poor area, lots of crime as we sat outside on a patio on the 16th Street mall on Sunday evening having a beer, I turned my head to look at a television, when I turned back a street person was drinking my beer. I am sure this is not an image Denver wants portrayed around the country.'"

Homeless

Marijuana Legalization in Colorado: How Recreational Weed is Attracting People, but Spiking the State's Homeless Rate:⁷ In this two-part reporting piece, a 25 year old man named Devin Butts is followed around by a reporter during his first two days in Pueblo, Colorado. Devin self-admitted he moved to Colorado due to the legal marijuana industry where he can freely use without harassment. After beginning to use marijuana as a youth, Devin graduated to hydrocodone pills, methamphetamine and crack and did stints in and out of jail related to the drug use. As a final determining factor, Devin decided to move to Colorado from Texas when "...his lawyer had told him the new marijuana charge was finally moving forward in the courts. He was looking at another 120 days behind bars." As the reporter follows Devin around, he applies for jobs at the local mall and takes several hits of marijuana throughout the day. While he is determined to become a success story in Colorado, he also is in line with the belief that tax revenue from marijuana "...should go to help those like himself that have been lured to the region because of cannabis." Likewise, various other individuals involved with the marijuana industry as well as homeless services believe that more money "...should go to understanding and addressing the needs of the people who've arrived in the state with an interest in marijuana and not much else."

Further information from the series: According to the report, "Interviews with people at homeless shelters in Denver and other Colorado cities like Pueblo suggest that since Colorado launched its legalized cannabis system in 2014, the percentage of newcomers to the facilities who are there in part because of the lure of marijuana has swollen to 20 to 30 percent." "All told, several hundred marijuana migrants struggling with poverty appear to be arriving in Colorado each month."

Posada, a homeless services center in Pueblo, Colorado:

- According to Anne Stattelmann, Posada's director:
 - "Shelters currently have enough beds for just 1 percent of the area's total homeless population."

Denver's St. Francis Center day shelter in Denver, Colorado:

- According to Tom Luehrs, executive director:
 - "A survey conducted by a grad student last year found that between 17 and 20 percent of the 350 or so new people the center was seeing each month said they'd come to the area in part because of medical marijuana."

Salvation Army Crossroads Shelter in Denver, Colorado:

- According to Lt. Col. Daniel L. Starrett, Intermountain divisional commander for the Salvation Army:
 - "An informal survey of 500 newcomers in the summer of 2014 determined that nearly 30 percent were there because of cannabis."
 - "Not only has that number been sustained, but it has continued to grow."

Urban Peak, a shelter for people ages 15 to 24 in Denver, Colorado:

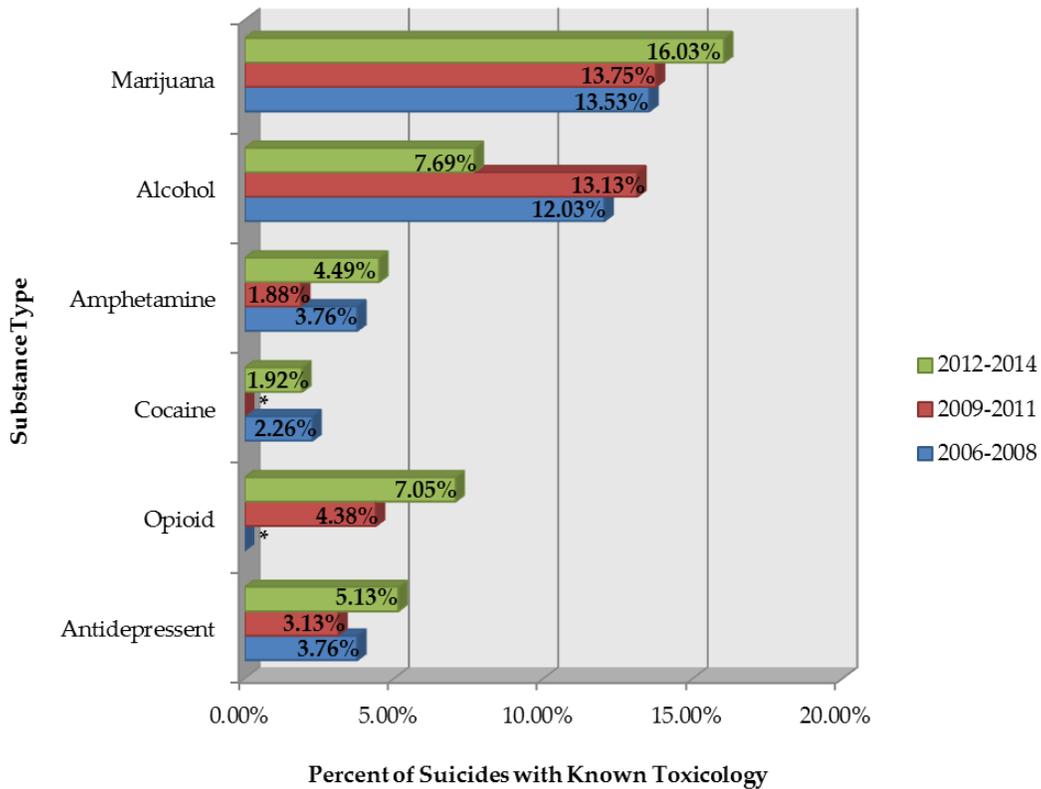
- According to Kim Easton, CEO:
 - "For a while, we informally collected information, and at least one in three of the youth were saying said [sic] they were here in Denver because of the legalization of marijuana."
 - "In the spring following legalization, we had a dramatic increase in the number of youth seeking services, a 150 percent increase just coming in the door. That has become our new normal."

Posada+, Pueblo County (Colorado): Posada has seen a 102 percent increase in the number of homeless served since 2013 when recreational marijuana was legalized. Director Anne Stattelmann cites three major reasons poor people are coming to Pueblo; including legalized marijuana, expanded Medicaid, and the reputation as a cheap place to live.⁸

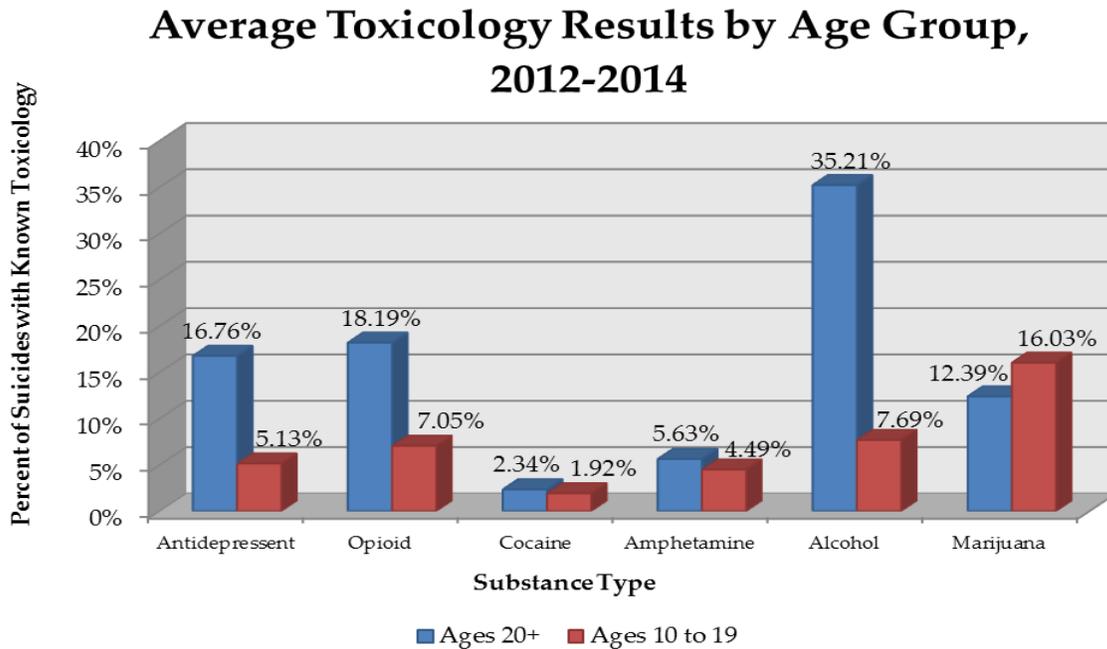
"Urban Travelers": Denver Mayor Michael Hancock has blamed recent trouble on downtown Denver's 16th Street Mall on "urban travelers" and marijuana. Mayor Hancock said, "...he personally talked to some and they were candid about the attraction of marijuana." During a news conference where Mayor Hancock described new security measures to counteract the ongoing trouble on the popular downtown mall, Hancock referred to these individuals as a "scourge of hoodlums" and went on to say that "They're taking beds from our chronically homeless people."⁹

Suicide Data

Average Toxicology of Suicides Among Adolescents Ages 10 to 19 Years Old



SOURCE: Colorado Department of Public Health and Environment (CDPHE), Colorado Violent Death Reporting System



SOURCE: Colorado Department of Public Health and Environment (CDPHE), Colorado Violent Death Reporting System

Environmental Impact

Growing Marijuana is Doing More Damage than You Think: Environmental pollution is especially troublesome among illegal marijuana grow operations. Many illegal growers prefer indoor locations due to being relatively discreet, the increased control, and the year-long production capability. Roughly one-third of America’s marijuana supply is cultivated indoors and the energy needed to power these indoor grow ops is enough to power around 1.7 million homes. As energy is used, greenhouse gases such as carbon dioxide and methane are produced at a rate of 2 pounds of CO₂ per joint.

Additionally, outdoor cultivation operations pose their own environmental threats including:

- Water resource abuse
- Trespass grows on federal land or a stranger’s private property
- Unauthorized land conversion
- Toxic rat poisons
- Excessive energy use

These illegal grow operations don’t necessarily account for the damage they cause and, therefore, often leave a negative impact on the environment.¹⁰

Mind-Blowing Facts About Marijuana Production in America:¹¹

- Trespass grows accounted for 72 percent of outdoor plants seized in California in 2013. Nearly half of the cannabis eradicated by law enforcement nationwide was on public or tribal land.
- During California's growing season, outdoor grows consume roughly 60 million gallons of water a day – 50 percent more than is used by all the residents of San Francisco.
- An indoor grow module accommodating 4 plants sucks as much electricity as 29 refrigerators.
- In California, indoor marijuana grows account for about 9 percent of household electricity use.
- For every pound of pot grown indoors, 4,600 pounds of CO₂ goes into the atmosphere.
- The production and distribution of pot in America emits as much carbon as 3 million cars.

Water Consumption More than Doubles with Illegal Marijuana Home Grows in Colorado: Public utility records revealed that water usage in one illegal marijuana home grow ranged from 13,200 to 18,000 gallons per month. Water consumption by previous tenants within the same exact residence averaged 6,000 to 7,000 gallons per month.¹²

Illegal Marijuana Home Grows are the New Meth Houses: Illegal home grows present significant potential risks to public health and public safety. Colorado homes used for cultivating marijuana often sustain extensive damage. In many cases these operations have caused house fires, blown electrical transformers, mold throughout the residences, and environmental damages. Growing conditions consume high levels of power and water and results in the drainage of chemical-laden waste water often disposed of improperly.

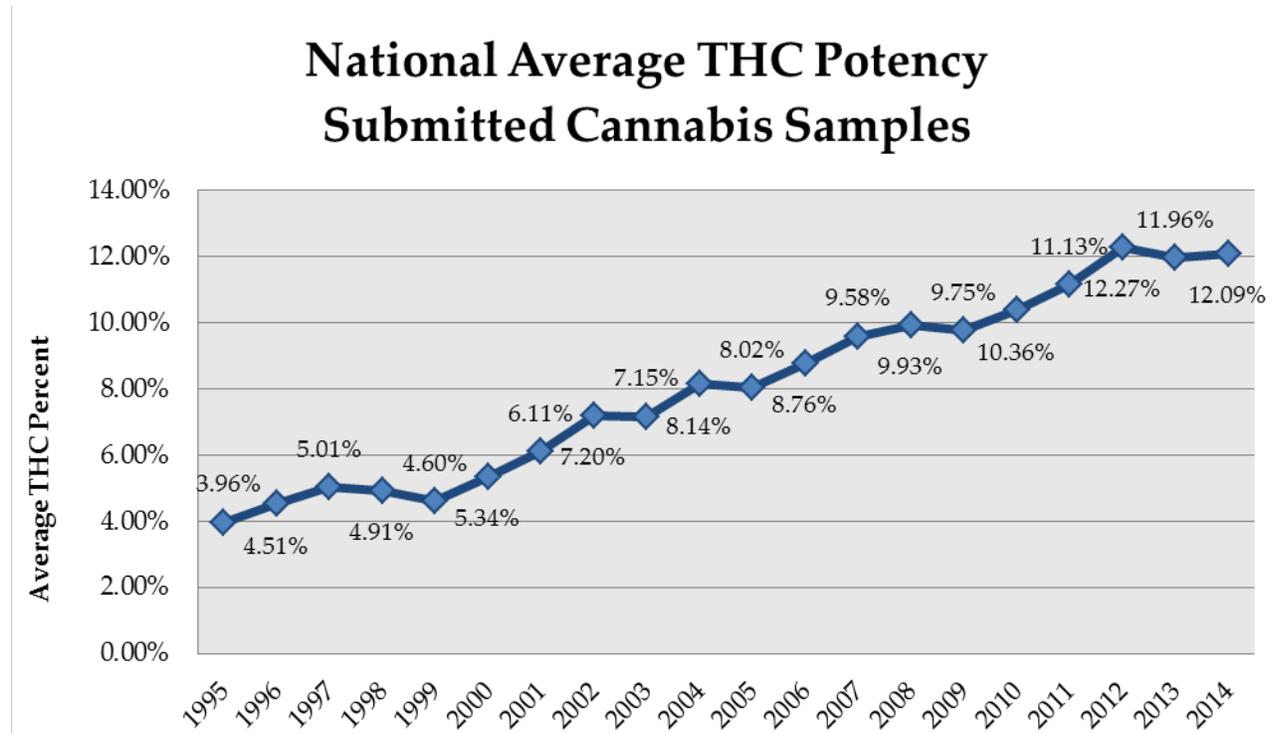
Growers often alter the interior structure of these homes to enhance their ability to grow year round. Most of these alterations are not to code which presents serious risks to first responders. Holes are cut into the floors, tampering with high voltage electrical systems, loose and extension cords present entrapment hazards, explosive chemicals such as propane and butane all present clear hazards for fire fighters and police officers responding to the residence in an emergency situation.

“Much like the ‘meth houses’ of the 1990’s, many of these homes may ultimately be rendered uninhabitable.”¹³

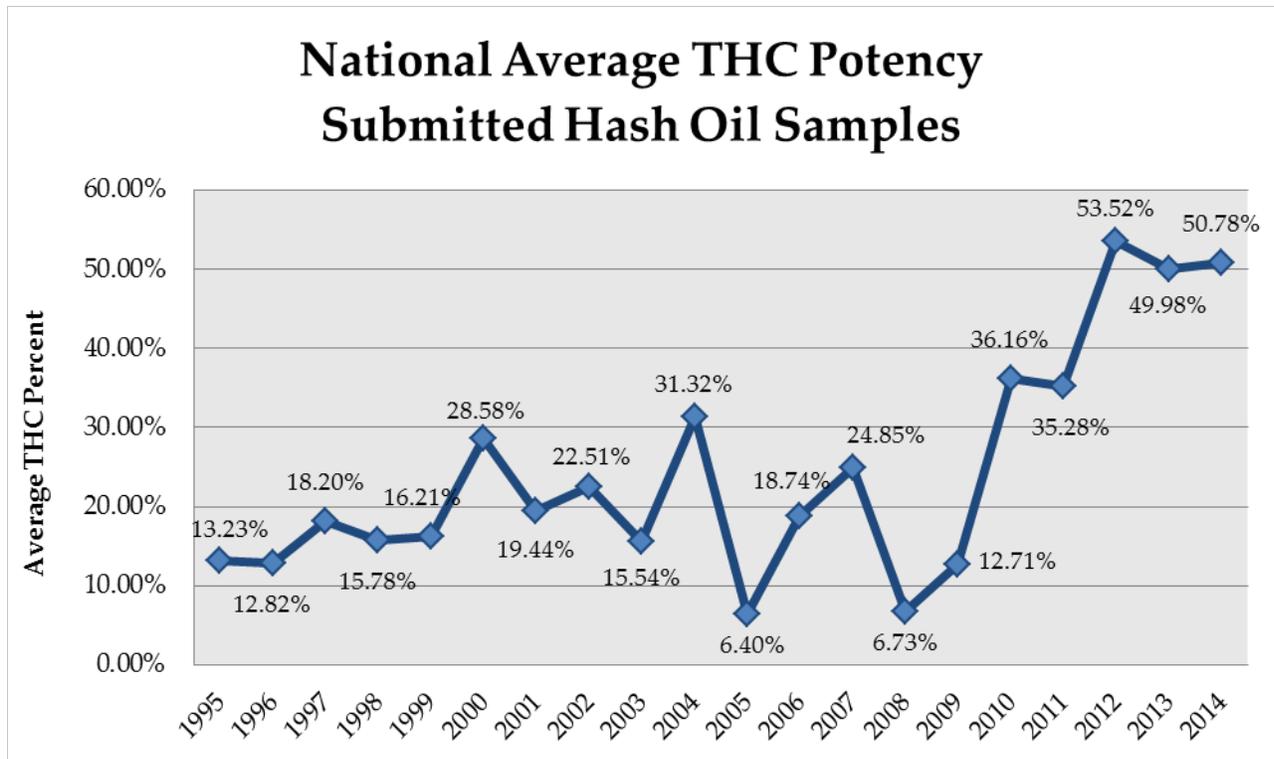
Stealing Electricity for Home Grows: “In some cases, growers tap directly into utility lines outside the residence in order to ‘steal’ electricity before its consumption is

registered on the property’s meter. This practice is encountered increasingly in Colorado residential grows. Aside from the power theft involved, hot tapping also poses an increased fire and safety risk to occupants, landlords, neighbors and first responders.”¹⁴

THC Potency



SOURCE: Potency Monitoring Program, Quarterly Report Number 132, National Center for Natural Products Research (NCNPR) at the University of Mississippi, under contract with the National Institute on Drug Abuse.



SOURCE: Potency Monitoring Program, Quarterly Report Number 132, National Center for Natural Products Research (NCNPR) at the University of Mississippi, under contract with the National Institute on Drug Abuse.

Marijuana Use and Alcohol Consumption

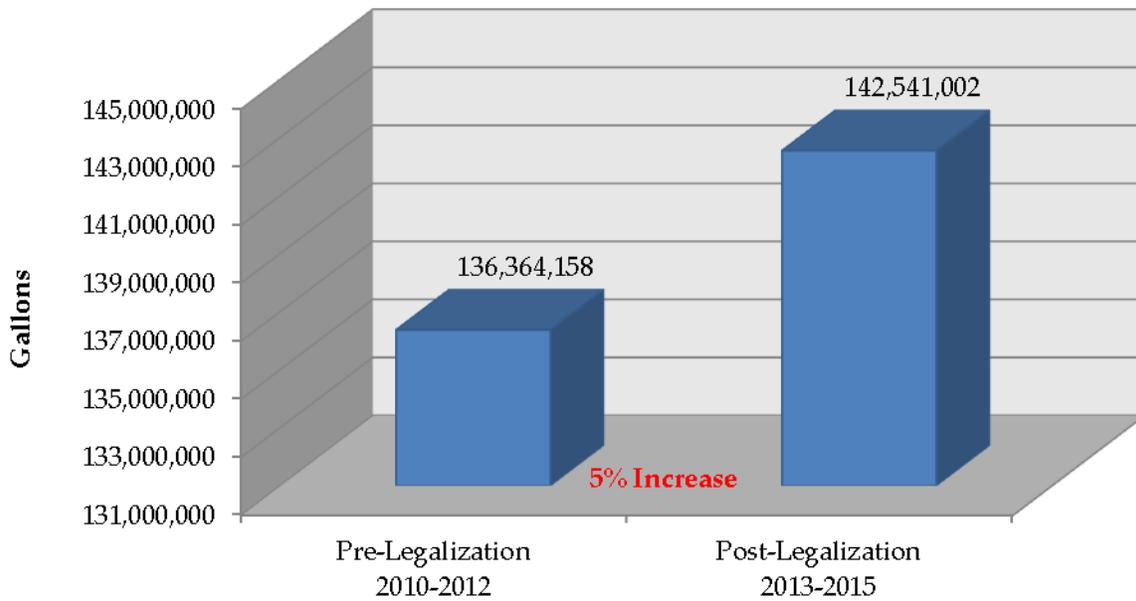
- ❖ There are some who have theorized that legalizing marijuana would reduce alcohol consumption. Thus far that theory is not supported by the data.

Colorado Consumption of Alcohol



SOURCE: Colorado Department of Revenue, Colorado Liquor Excise Tax

Colorado Average Consumption of Alcohol



SOURCE: Colorado Department of Revenue, Colorado Liquor Excise Tax

Related Material

Colorado Stands out for Consuming Drugs and Alcohol: “The Substance Abuse and Mental Health Services Administration annually surveys Americans age 12 and older about whether they use opioid painkillers for non-medical reasons or consume any marijuana, alcohol or cocaine. States are ranked into quintiles based on what proportion of their population uses each substance, thereby creating a ‘top 10 list’ for all four. Colorado stands out as the only state which is a top consumer of all four substances.”¹⁵

Medical Marijuana Registry

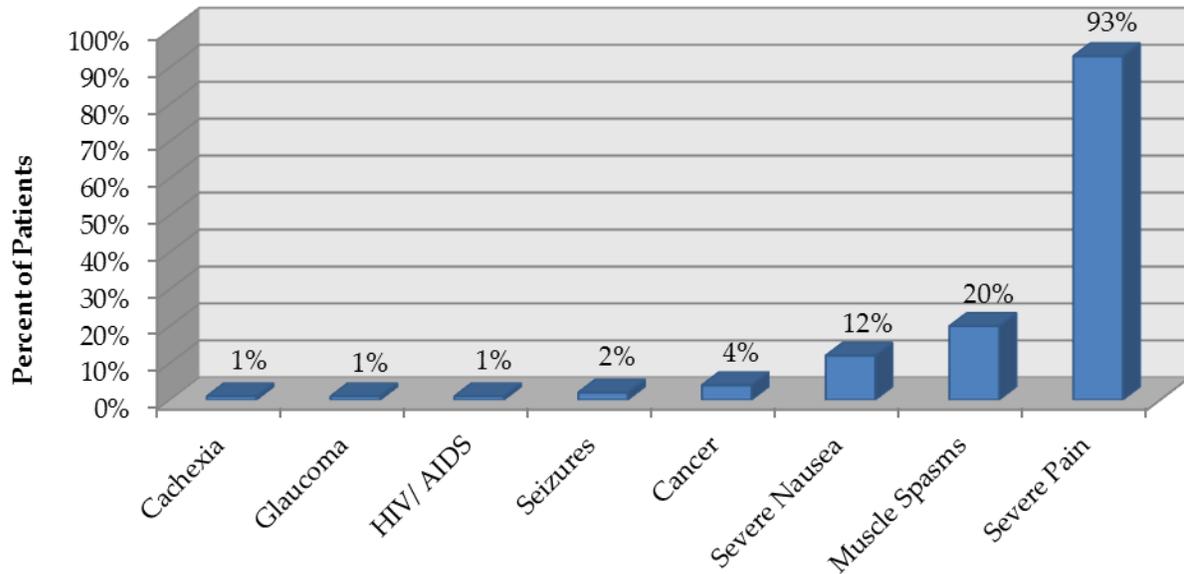
Medical Marijuana Registry Identification Cards¹⁶

- December 31, 2009 – 41,039
- December 31, 2010 – 116,198
- December 31, 2011 – 82,089
- December 31, 2012 – 108,526
- December 31, 2013 – 110,979
- December 31, 2014 – 115,467
- December 31, 2015 – 107,534

Profile of Colorado Medical Marijuana Cardholders:¹⁷

- Age of cardholder
 - 65 percent male, with an average age of 42 years
 - 0.3 percent between the ages of 0 and 17
 - 49 percent between the ages of 18 and 40
 - 23 percent between the ages of 21 and 30
- Reporting medical condition of cardholder
 - 93 percent report severe pain as the medical condition
 - 6 percent collectively report cancer, glaucoma and HIV/AIDS
 - 2 percent report seizures

Percent of Medical Marijuana Patients Based on Reporting Condition



SOURCE: Colorado Department of Public Health and Environment, Medical Marijuana Statistics

NOTE: TOTAL DOES NOT EQUAL 100 PERCENT AS SOME PATIENTS REPORT USING MEDICAL MARIJUANA FOR MORE THAN ONE DEBILITATING MEDICAL CONDITION.

Related Material

Docs Gone Wild on Pot Referrals: For the first time the medical board has taken action against some doctors for over-recommending plant count grows for medical marijuana cardholders. “State records current through the end of May show that 478 patients have recommendations for more than 75 plants. Another 1,324 patients have permission to grow between 50 to 75 plants. More than 2,200 have been recommended to grow between 26 and 50 plants.” With that much product available, even considering a patient’s tolerance level or complicated cooking processes to create edible products, it is foolish to assume “...no one with that amount of marijuana would ever be tempted to engage in black-market or underground sales.”¹⁸

Colorado Licensed Marijuana Businesses as of January 2016

Medical Marijuana:¹⁹

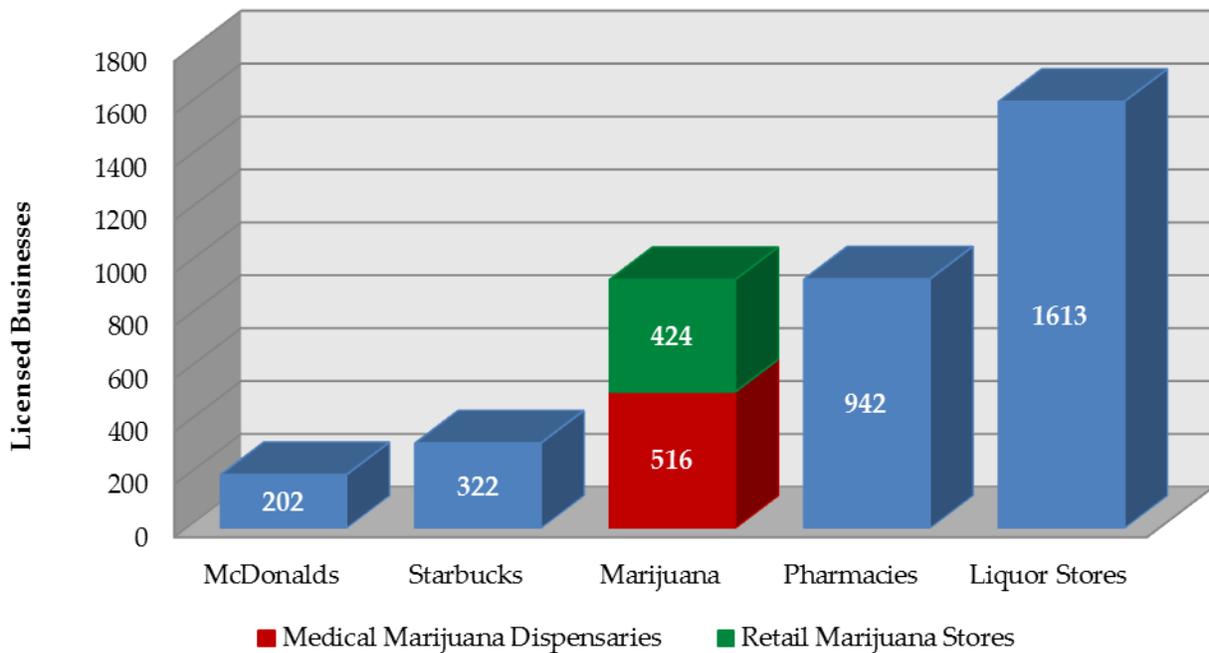
- 516 medical marijuana centers (dispensaries)
- 751 marijuana cultivation facilities
- 202 infused products (edibles) businesses

Recreational Marijuana:²⁰

- 424 marijuana retail stores
- 514 marijuana cultivation facilities
- 168 infused product (edibles) businesses
- 17 testing facilities

Business Comparisons, January 2016

Colorado Business Comparisons, January 2016



SOURCE: Colorado Department of Revenue; Starbucks Coffee Company, Corporate Office Headquarters; McDonalds Corporation, Corporate Office Headquarters

Demand and Market Size

The Colorado Department of Revenue published a report in July 2014 called, “Market Size and Demand for Marijuana in Colorado.” Some of the information included:²¹

Demand

- In 2014, the established demand for marijuana by Colorado residents 21 years and older is **121.4 metric tons (267,638.44 pounds)** of marijuana.
- In 2014, the estimated demand for marijuana by out-of-state visitors 21 years and older is **8.9 metric tons (19,620.94 pounds)**.
- The potential range of demand for the above two groups is between **104.2–157.9 metric tons** (between **229,719.32** and **348,106.34** pounds).

Market Size

- There are an estimated **485,000 Colorado adult regular marijuana users** (at least once per month), which is **9 percent** of the total Colorado population of all ages (5.363 million).
- Heavy users who consume marijuana nearly daily make up the top **21.8 percent** of the user population but account for **66.9 percent** of the demand for marijuana.
- Out-of-state visitors represent about **44 percent** of the metro area marijuana retail sale of marijuana and approximately **90 percent** of sales in heavily-visited mountain communities.
- Colorado has **23 percent** of its users consume nearly daily compared to **17 percent** nationally; that is **35.29 percent** higher.

Third Quarter 2015 Reported Sales of Marijuana in Colorado (January – September)²²

- 111,046 pounds of medical marijuana flower
- 77,964 pounds of recreational marijuana flower

- 1,719,551 units of medical edible products
- 3,932,215 units of recreational edible products

- ❖ **A single ounce of marijuana, depending on the solvent type and production method, can produce between 347 and 413 edibles of 10 mg THC strength.**

2014 Price of Marijuana²³

	1 Gram	Ounce
Buds/Flowers	\$14.03	\$264.14
Edibles	\$24.99 (100 mg)	N/A
Concentrates	\$55.00	N/A

Local Response to the Medical and Recreational Marijuana Industry in Colorado²⁴

Recreational Marijuana Business and Local Jurisdiction Response:

- 272 municipalities*
- 234 municipalities have taken action on the issue
 - 75 percent have prohibited (168) or have a moratorium (8)
 - 25 percent have allowed (58)

- 62 counties* (unincorporated areas)
 - 63 percent have prohibited or have a moratorium (39)
 - 37 percent have allowed (23)

- 296 local jurisdictions have addressed the issue
 - 73 percent have prohibited or have a moratorium (215)
 - 27 percent have allowed (81)

- 334 total of all local jurisdictions
 - 64 percent have prohibited or have a moratorium (215)
 - 24 percent have allowed (81)
 - 11 percent have not addressed the issue (38)

* Broomfield and Denver are both a city and county but included only once in municipalities data.

Medical and Recreational Business and Local Jurisdiction Response:²⁵

- 68 percent have banned (218)
- 32 percent have allowed (104)

Sources:

¹ CBS Denver/Channel 4, June 30, 2016, "Man With PVC Pipe Goes After People On 16th Street Mall," <<http://denver.cbslocal.com/2016/06/30/man-wielding-pvc-pipe-goes-after-people-on-16th-street-mall/>>, accessed June 30, 2016

² Associated Press, *The Washington Times*, July 5, 2016, "Colorado homicides up 15 percent; rapes up by 11 percent", <<http://www.washingtontimes.com/news/2016/jul/5/colorado-homicides-up-15-percent-rapes-up-by-11-pe/>>, accessed July 5, 2016

³ Andy Koen, KOAA TV Channel 5, June 28, 2016, "Family tried to get Halloween mass shooter committed," <<http://www.koaa.com/story/32330489/family-tried-to-get-halloween-mass-shooter-committed>>, accessed August 9, 2016

⁴ Adams County (Colorado) Sheriff's Office

⁵ Megan Arellano, Colorado Public Radio, June 12, 2015, "Colo. Pot Director Tells Mass. That State Revenue Gains Are a Myth", <<https://www.cpr.org/news/newsbeat/colo-pot-director-tells-mass-state-revenue-gains-are-myth>>, accessed August 9, 2016

⁶ Nelson Garcia, KUSA/9News.com, August 16, 2016, "Marijuana Tax Revenue Impacts Small Districts," <<http://www.9news.com/news/marijuana-tax-money-impacts-small-school-districts/299656466>>, accessed August 16, 2016

⁷ Joel Warner, *International Business Times*, June 20, 2016, "Marijuana Legalization In Colorado: How Recreational Weed Is Attracting People, But Spiking The State's Homeless Rate [PART ONE]", <<http://www.ibtimes.com/>>, accessed June 20, 2016

⁸ Anne Stattelmann, "Links and PowerPoint", e-mail message, August 19, 2016

⁹ Noelle Phillips, *The Denver Post*, June 30, 2016, "Denver mayor says violence won't be tolerated on 16th Street Mall," <<http://www.denverpost.com/2016/06/30/16th-street-mall-video-attack/>>, accessed June 30, 2016

¹⁰ Abby Hutmacher, PotGuide.com Colorado, February 1, 2016, "Growing Marijuana is Doing More Damage Than You Think," <<https://www.coloradopotguide.com/colorado-marijuana-blog/2016/february/01/growing-marijuana-is-doing-more-damage-than-you-think/>>, accessed June 17, 2016

¹¹ Josh Harkinson, Brett Brownell and Julia Lurie, *Mother Jones*, "24 Mind-Blowing Facts About Marijuana Production in America," March/April 2014 Issue, <<http://www.motherjones.com/print/244516>>, accessed June 17, 2016

¹² Drug Enforcement Administration, Denver Field Division, July 2016

¹³ "Residential Marijuana Grows in Colorado: The New Meth Houses?" DEA Intelligence Report: UNCLASSIFIED, DEA-DEN-DIR-041-16, June 2016

¹⁴ Drug Enforcement Administration, Denver Field Division, May 2016

¹⁵ *The Washington Post* as published in *The Denver Post*, May 23, 2016, "Survey: Colorado stands out for consuming drugs, alcohol," <<http://www.denverpost.com/2016/05/23/colorado-first-in-drugs-survey/>>, accessed June 9, 2016

¹⁶ Colorado Department of Public Health and Environment, "Medical Marijuana Registry Program Update (as of March 31, 2015)", <https://www.colorado.gov/pacific/sites/default/files/03_2015_%20MMR_report_draft.pdf>, accessed May 15, 2015

¹⁷ Colorado Department of Public Health and Environment, "Medical Marijuana Registry Program Update (as of March 31, 2015)", <https://www.colorado.gov/pacific/sites/default/files/03_2015_%20MMR_report_draft.pdf>, accessed May 15, 2015

¹⁸ "The Post Editorials: Docs gone wild on pot referrals," *The Denver Post*, Wednesday, July 27, 2016, Opinion Section, p. 17A, col. 1

¹⁹ Colorado Department of Revenue, Marijuana Enforcement Division

²⁰ John Ingold, *The Denver Post*, February 20, 2014, “Lot of green will roll in”

²¹ Marijuana Policy Group for the Colorado Department of Revenue, Executive Summary, “Market Size and Demand for Marijuana in Colorado,” July 2014

²² Colorado Department of Revenue Enforcement Division – Marijuana, January 28, 2015, “MED 2015 Third Quarter Update”

²³ Colorado Department of Revenue, “Marijuana Equivalency in Portions and Dosage”, August 10, 2015

²⁴ Colorado Municipal League and Colorado Counties, Inc.

²⁵ Colorado Department of Revenue Marijuana Enforcement Division, 2015 Third Quarter Update

SECTION 10: Reference Materials

Reports and Articles

Government

❑ **Washington State Marijuana Impact Report by Northwest High Intensity Drug Trafficking Area (NWHIDTA), March 2016**

The Northwest HIDTA wrote this in-depth report in order to discuss the regulatory functions set by marijuana policy, present data on the impacts of the industry, and to depict where Washington State stands after one year of commercialization. Topics addressed include a regulatory overview, impact on youth, impact on adults, impaired driving, diversion of marijuana, THC extraction, marijuana-related crime, current markets and the upcoming market.¹

❑ **Review of Literature and Subcommittee Reports by the Wyoming Governor's Marijuana Impact Assessment Council, February 2016**

The recent legalization of marijuana in Colorado and other states creates an environment where it is important to have access to unbiased scientific information and reports from reliable sources on the subject. With that in mind, the Wyoming Governors Marijuana Impact Assessment Council (GMIAC) was created in July of 2015. This group consists of legislators, division directors, physicians, law enforcement personnel, executive directors, statisticians, professors, research scientists and others who all come together for the purpose of assisting legislators and the public in making informed decisions concerning varying levels of marijuana legalization. Within this report, areas of possible impact that are addressed include education, health, agriculture, revenue, criminal justice and more.²

❑ **Report of the Special Senate Committee on Marijuana by the Special Senate Committee on Marijuana, March 8th, 2016**

The Massachusetts Senate created the Special Senate Committee on Marijuana in February, 2015. The purpose of the committee was to research and analyze the policy ramifications if Massachusetts were to legalize the adult recreational use and

sale of marijuana. The committee was given the responsibility of conducting an objective review of marijuana policy in Massachusetts as well as lessons to be learned from other states, particularly Colorado and Washington. In this report, the committee recommends actions for the state to address numerous policy issues if marijuana were to be legalized in Massachusetts.³

❑ ***Marijuana Legalization in Colorado: Early Findings by the Colorado Department of Public Safety, March 2016***

Since the passage of Amendment 64, which allows for the retail sale and possession of marijuana in Colorado, the Division of Criminal Justice within the Department of Public Safety has studied the impacts of Amendment 64 (particularly as these relate to law enforcement activities). This report describes early findings of marijuana legalization within the state. More specifically, the impact on public safety, public health, and youth are studied and discussed.⁴

❑ ***Impacts of the Downtown Environment on the Tourism Industry and Visitor Perceptions by VISIT DENVER, November 12th, 2015***

VISIT DENVER is the marketing organization for the City of Denver. This presentation highlights the safety trends and feedback that VISIT DENVER has received from convention and leisure visitors over the span of several years. Some issues discussed include the homeless, youth, panhandling, safety, cleanliness, and drugs including public marijuana consumption on the streets of Denver.⁵

❑ ***Report to the Joint Budget Committee by the Colorado Department of Revenue, Enforcement Division – Marijuana, April 1st, 2016***

This report details the progress being made by the State Licensing Authority in processing licenses, in addition to providing an overview of the retail marijuana markets, revenue generated by medical and recreational marijuana businesses, expenses incurred by the State Licensing Authority, the number of medical establishments applying to convert to retail establishments, and enforcement measures taken against licensed persons.⁶

❑ ***Third Quarter Update by the Colorado Department of Revenue, Enforcement Division – Marijuana, January 28th, 2016***

This report includes information on marijuana business licensing status, number of plants cultivated for medical and recreational purposes, volume of marijuana sold within both recreational and medical markets, units of infused edibles and non-edibles sold, mandatory retail testing for edibles, enforcement activity and administrative actions taken by the State Licensing Authority from January through September 2015.⁷

❑ ***Marijuana Equivalency in Portion and Dosage by the Colorado Department of Revenue, August 10th, 2015***

This study provides unbiased, scientific information that can be used to suggest appropriate equivalencies between flower and alternative marijuana products. It is a summary of how different marijuana products are produced and consumed. The information in this study can be used to convert concentrate and infused products into their flower weight equivalents from both a production and consumption viewpoint.⁸

❑ ***Residential Marijuana Grows in Colorado: The New Meth Houses by the Drug Enforcement Administration (DEA) Denver Division, June 2016***

In this report, the proliferation of large-scale marijuana grow operations is examined. The effects of these large-scale marijuana grow operations are discussed, along with an outlook from the perspective of the DEA.⁹

❑ ***Marijuana Enforcement in Nebraska by the Nebraska Center for Justice Research, 2016***

This report details trends in law enforcement and corrections related to the possession and sale of marijuana in Nebraska in the first full year of recreational legalization in Colorado.¹⁰

Youth

❑ ***The Impact of Marijuana Policies on Youth – Technical Report, by the American Academy of Pediatrics, March 2015***

This technical report updates the 2004 American Academy of Pediatrics (AAP) report on the legalization of marijuana. Epidemiology of marijuana use is presented, as are definitions and biology of marijuana compounds, side effects of marijuana use, and effects of use on adolescent brain development. In addition, four different approaches to the legalization of marijuana in the United States are discussed and compared. Lastly, three separate policy approaches on adolescent marijuana use are discussed.¹¹

❑ ***The Impact of Marijuana Policies on Youth – Policy Statement, by the American Academy of Pediatrics (AAP), March 2015***

This policy statement is an update of the American Academy of Pediatrics (AAP) policy statement “Legalization of Marijuana: Potential Impact on Youth,” 2004. In this position statement, the AAP examines the issue of marijuana legalization; more

specifically, the effects of marijuana, decriminalization efforts and effects, conclusions. Recommendations in regard to the legalization of marijuana are provided by the AAP.¹²

❑ ***Marijuana Use: Detrimental to Youth by the American College of Pediatricians, April 2016***

According to the American College of Pediatricians (ACP), marijuana is addicting, has adverse effects upon the adolescent brain, is a risk for both cardio-respiratory disease and testicular cancer, and is associated with both psychiatric illness and negative social outcomes. Evidence indicates limited legalization of marijuana has already raised rates of unintended marijuana exposure among young children, and may increase adolescent use. Therefore, the American College of Pediatricians opposes the legalization of marijuana for recreational use and urges extreme caution in legalizing marijuana for medicinal use.³

❑ ***Cannabis Does Alter Your Brain by Lisa Ryan, February 11th, 2016***

This article describes research by lead study author Dr. Francesca Filbey, of the University of Texas at Dallas. The research described was focused on looking deeper into the effects of using marijuana early in life. Specifically, the study found that subjects who began use of marijuana prior to age 16 had underdeveloped prefrontal cortexes. Furthermore, subjects who began their use after the age of 16 experienced accelerated brain aging¹⁴

❑ ***Cannabis Use is Quantitatively Associated with Nucleus Accumbens and Amygdala Abnormalities in Young Adult Recreational Users by Jodi M. Gilman et al., 16 April 2014***

This article describes a study performed by Harvard and Northwestern University researchers which aims to look closely at the effects of tetrahydrocannabinol (THC) on brain development. More specifically, researchers examined the brain morphometry on young adult recreational marijuana users.¹⁵

Driving Under the Influence of Drugs (DUID)

❑ ***Prevalence of Marijuana Involvement in Fatal Crashes: Washington, 2010-2014 by the AAA Foundation for Traffic Safety, May 2016***

This report quantifies the prevalence of marijuana involvement in fatal crashes in the state of Washington from 2010-2014. The study investigated whether the prevalence changed after Washington legalized recreational use of marijuana, in

addition to creating a new *per se* limit for driving under the influence of marijuana which took effect on December 6th, 2012.¹⁶

□ ***An Evaluation of Data from Drivers Arrested for Driving Under the Influence in Relation to Per se Limits for Cannabis by the AAA Foundation for Traffic Safety, May 2016***

One of the major concerns shared by both opponents and proponents of greater access to cannabis is its impact on driver performance and relationship to adverse effects on traffic safety. Several states have implemented *per se* delta-9-tetrahydrocannabinol THC blood limits that define the offense of driving while impaired by cannabis, and others are actively considering such limits. This report describes the findings of a study that was undertaken to determine whether data from the Drug Recognition Expert (DRE) program consisting of physiological indicators of drug use, and performance in roadside cognitive and psychomotor tests, supported any particular quantitative threshold for a *per se* law for THC within the blood.¹⁷

□ ***Advancing Drugged Driving Data at the State Level by the AAA Foundation For Traffic Safety, March 2016***

The objective of this project is to identify and recommend strategies for improving state-level data on the nature and extent of drugged driving in the United States by addressing the most significant barriers that impede state efforts to collect and compile such data. This report discusses barriers to effective data and describes expert panel recommendations for addressing those barriers.¹⁸

□ ***Drug-Impaired Driving by The Governors Highway Safety Association (GHSA), September 30th, 2015***

This report summarizes the current state of knowledge on drug-impaired driving, including what little is known about the costs and effectiveness of these actions, and identifies actions states can take to reduce drug-impaired driving. Specifically, this report highlights the increase of marijuana use and its role in impaired driving.¹⁹

□ ***Overview of Major Issues Regarding the Impacts of Alcohol and Marijuana on Driving by the AAA Foundation for Traffic Safety, March 2016***

This report provides an overview of issues related to marijuana consumption, driving impairment and blood testing as well as the potential impacts of social and legal factors. Comparisons to alcohol are provided to serve as a single point of reference.²⁰

❑ ***Drug Recognition Expert (DRE) Examination Characteristics of Cannabis Impairment by Hartman et al., April 22nd, 2016***

The Drug Evaluation and Classification Program (DECP) is commonly utilized in driving under the influence (DUI) cases to help determine categories of impairing drugs present in drivers. Cannabis, one of the categories, is associated with approximately doubled crash risk. This article describes a study which set-out to determine the most reliable DECP metrics for identifying cannabis-driving impairment.²¹

❑ ***Delays in DUI Blood Testing: Impact On Cannabis DUI Assessments by Ed Wood, Ashley Brooks-Russell and Phillip Drum, June 11th 2015***

This study examined the time from law enforcement dispatch to the first blood draw in cases of driving under the influence (DUI) vehicular homicide and a subset of DUI vehicular assault cases in Colorado in 2012. Laboratory toxicology results were also examined to understand the implications of delays in blood draws in cases of driving while under the influence of marijuana's delta-9-tetrahydrocannabinol (THC).²²

❑ ***Cannabis Effects on Driving Lateral Control With and Without Alcohol by Hartman et al., June 23rd, 2015***

Effects of cannabis, the most commonly encountered non-alcohol drug in driving under the influence cases, are heavily debated. This article describes a study performed by researchers aimed at determining how blood THC concentrations relate to driving impairment, both with and without alcohol.²³

❑ ***Medical Marijuana Involved in CA Fatal Crashes by Al Crancer, M.A. and Phillip Drum, Pharm.D.***

The relationship between driver fatalities, marijuana use and alcohol use are examined in this report. The contributing data for this report was obtained from the National Highway Traffic Safety Administration (NHTSA) Fatality Analysis Reporting System (FARS), 2010-2014.²⁴

Health

❑ ***The Health and Social Effects of Nonmedical Cannabis Use by the Management of Substance Abuse (MSB) Unit in the Department of Mental and Substance Abuse (MSD) of the World Health Organization, 2016***

This report is an update on the health and social consequences of non-medical cannabis use, with a special focus on the effects on young people and on long-term

frequent use. Furthermore, this report builds on contributions from a broad range of experts and researchers from around the world. It aims to present current knowledge on the impact of non-medical cannabis use on health, from its impact on brain development to its role in respiratory diseases.²⁵

❑ ***Update of Cannabis and its Medical Use by Bertha K. Madras, 2015***

This report was commissioned by the Secretariat of the Expert Committee on Drug Dependence, Department of Essential Medicines and Health Products, World Health Organization (WHO). This document serves as a summary of the current status of the medical marijuana field and a framework to incorporate new information as it arises.²⁶

❑ ***Association Between Lifetime Marijuana Use and Cognitive Function in Middle Age by Reto Auer, M.D., et al., March 2016***

This article describes the findings of a study aimed at understanding the association between cumulative lifetime exposure to marijuana use and cognitive performance in middle age.²⁷

❑ ***NAMI Mass Comes Out Against Legalizing Recreational Marijuana by the National Alliance on Mental Illness of Massachusetts (NAMI Mass), May 23rd, 2016***

The National Alliance on Mental Illness Massachusetts seeks to improve the quality of life both for people with mental illness and for their families. This article describes the organization's strong opposition to the legalization of marijuana, citing, "detrimental effects for those with mental illness and for people predisposed to mental illness."²⁸

❑ ***Prevalence of Marijuana Use Disorders in the United States Between 2001-2002 and 2012-2013, by Deborah S. Hasin, PhD, et al., December 2015***

Laws and attitudes toward marijuana in the United States are becoming more permissive, but little is known about whether the prevalence rates of marijuana use and marijuana use disorders have changed in the 21st century. This study set out to present nationally-representative information on the past year prevalence rates of marijuana use and marijuana use disorder among marijuana users in the US adult general population, and whether this has changed between 2001-2002 and 2012-2013.²⁹

❑ ***Public Health Researchers Look At Rise In Marijuana-Related Hospitalizations by Mollie Durkin, January 2016***

Dr. Zhu, a postdoctoral associate at Duke University Medical Center in Durham, N.C., describes the issues surrounding an increasing prevalence of marijuana use in the U.S., and a seemingly related increase in hospital utilization related to the drug.³⁰

❑ **Colorado Visitors Using Marijuana More Likely to End Up In Emergency Room by Marla Paul (Northwestern University Journalist), February 25th, 2016**

This article summarizes the findings of a joint study out of Northwestern University Feinberg School of Medicine and the University of Colorado School of Medicine, by lead investigator Dr. Howard Kim. The study, published in the *New England Journal of Medicine*, set out to investigate and compare the number of Colorado residents, and out of state visitors, who ended up in the emergency room with marijuana-related symptoms.³¹

❑ **Legalizing Marijuana Will Increase Our Opiate Epidemic by Heidi Heilman of the New Boston Post, March 2016**³²

- A study of rodents, conducted at the Hurd Laboratory at the Mount Sinai School of Medicine, showed that rodents exposed to THC in the adolescent years had offspring that were primed for addiction. The research has yet to be reproduced in humans, but other studies on trans-generational effects of other drugs in humans appear consistent with the discoveries in rodents.
- Science suggests that legalizing marijuana will not only expose more people to a serious decline in cognitive and mental health functioning, but possibly also prime certain segments of the population – including unborn children – for more opiate addiction and brain changes.

Use Surveys

❑ **Behavioral Health Trends in the United States: Results from the 2014 National Survey on Drug Use and Health (NSDUH) by the Substance Abuse and Mental Health Services Administration (SAMHSA), September 2015**

This national report summarizes findings from the 2014 National Survey on Drug Use and Health (NSDUH) on trends in the behavioral health of people aged 12 years old or older in the civilian, non-institutionalized population of the United States. Topics addressed include illicit drug, tobacco and alcohol use, substance use disorders, and mental health issues.³³

❑ **Healthy Kids Colorado Survey 2015 by the University of Colorado Anschutz Community Epidemiology & Program Evaluation Group, 2016**

This report examines the results of a biennial survey which collects anonymous, self-reported health-related information from Colorado middle and high school students every other year. In 2015, approximately 17,000 randomly-selected students from more than 157 middle schools and high schools participated. The data includes survey results in many topic areas to include tobacco, alcohol and marijuana use. In addition, the data also reflect student attitudes and perceptions that address health behaviors and the influences that can support a student's healthy choices.³⁴

□ ***Youth Risk Behavior Surveillance by the U.S. Department of Health and Human Services Centers for Disease Control and Prevention, June 10th, 2016***

The national Youth Risk Behavior Survey (YRBS) monitors priority health risk behaviors that contribute to the leading causes of death, disability, and social problems among youth and adults in the United States. The national YRBS is conducted every two years during the spring semester and provides data representative of 9th through 12th grade students in public and private schools throughout the United States.³⁵

Miscellaneous

□ ***What Will Legal Marijuana Cost Employers by National Families in Action, 2015***

This report educates employers about how marijuana laws are changing, how those laws will affect employers' ability to conduct business, and what employers can do to protect that ability.³⁶

□ ***Workplace Drug Testing in the Era of Legal Marijuana, by the Institute for Behavior and Health, Inc., March 2015***

The shift in drug policy has created significant concern and confusion for many employers, employees, and job applicants about drug testing in general and testing for marijuana specifically. This report provides guidance for employers about drug testing employees and job applicants for marijuana use in the workplace.³⁷

□ ***The Hidden Costs of Marijuana Use in Colorado: One Emergency Department's Experience by Kenneth Finn, M.D. and Rochelle Salmore, M.S.N., R.N., 2016***

To date, there are few studies on the financial impact of marijuana use on the health care system. This study aims to assess potential health care costs and adverse health effects related to cannabis use in an acute care community hospital in Colorado. During the study period, the study hospital incurred a true loss of twenty million dollars in uncollected charges.³⁸

❑ ***Issues in the Implementation and Evolution of the Commercial Recreational Marijuana Market in Colorado by Subritzky et al., December 15th, 2015***

This report brings together material sourced from peer reviewed academic papers, grey literature publications, reports in mass media and niche media outlets, and government publications to outline the regulatory model and process in Colorado. Additionally, this report includes descriptions of some of the issues that have emerged in the early stages of marijuana legalization within Colorado.³⁹

❑ ***The Impacts of Marijuana Dispensary Density and Neighborhood Ecology on Marijuana Abuse and Dependence by Christina Mair et al., June 23rd 2015***

This article describes the findings of researchers who investigated associations between marijuana abuse and dependence hospitalizations, as well as community demographic and environmental conditions from 2001 to 2012 in California.⁴⁰

❑ ***Marijuana Survey Finds Medical Users More Likely to Consume Edibles and Vaporize by the RAND Corporation, January 28th, 2016***

This article describes the findings of a study which provides some of the first evidence about patterns of marijuana use in states that have legalized medical marijuana.⁴¹

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