

THE LEGALIZATION OF MARIJUANA IN COLORADO *THE IMPACT*

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Rocky Mountain High Intensity
Drug Trafficking Area

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- Colorado Department of Education
- Colorado Department of Human Services, Office of Behavioral Health
- Colorado Department of Public Health and Environment
- Colorado Department of Transportation
- Colorado Office of State Planning and Budgeting
- Colorado State Patrol
- Colorado Violent Death Reporting System
- Colorado Department of Revenue
- Marijuana Enforcement Division
- Rocky Mountain Poison and Drug Center
- State of Colorado Judicial Branch, Division of Probation Services
- University of Colorado Hospital - Burn Trauma Unit
- Aurora Police Department
- Boulder Police Department
- City and County of Denver
- Denver Epidemiology Working Group
- Denver Police Department
- Larimer County Sheriff's Office
- Arapahoe House Public Communications Office
- ChemaTox Laboratory
- Colorado Association of School Resource Officers
- Colorado Children's Hospital
- Colorado Hospital Association
- Colorado School Counselors Association
- McDonalds Corporate Office
- Starbucks Coffee Company Corporate Office
- The Salvation Army

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Table of Contents

Acknowledgements

Executive Summary 1

Introduction..... 7

Purpose 7

The Debate 7

Background..... 8

Preface..... 8

Colorado’s History with Marijuana Legalization 9

 Early Medical Marijuana 2000-2008 9

 Medical Marijuana Commercialization and Expansion 2009-Present 9

 Recreational Marijuana 2013-Present..... 11

SECTION 1: Impaired Driving..... 13

 Introduction 13

 Definitions..... 13

 Some Findings 14

 Data for Traffic Deaths 15

 Total Number of Statewide Traffic Deaths..... 16

 Marijuana-Related Traffic Deaths..... 16

 Average Number of Traffic Deaths Related to Marijuana 17

 Traffic Deaths Related to Marijuana..... 17

 Percent of All Traffic Deaths That Were Marijuana Related 18

 Operators Testing Positive for Marijuana 18

 Average Number of Operators Testing Positive for Marijuana 19

 Percent of Operators Tested Who Were Positive for Marijuana 19

 Drug Combinations for Operators Testing Positive for Marijuana 20

 Data for Impaired Driving..... 20

 Trends in Cannabinoid Screens & THC Confirmations in Colorado 2009-2014 21

 Number of Cannabinoid Screens..... 22

 Number of Positive Cannabinoid Screens..... 22

 Number of Positive Cannabinoid Screens with Active THC..... 23

 Colorado State Patrol Number of DUIs, 2014..... 24

 Denver Police Department Number of DUIs Involving Marijuana 25

 Aurora Police Department Number of DUIs, 2014 25

Larimer County Sheriff’s Office Percent of DUIDs Involving Marijuana..... 26

Number of DUI Admissions to Arapahoe House with Marijuana as a
 Self-Reported Drug of Choice..... 26

Total Number of Accidents in Colorado 27

Related Costs 27

Drug Recognition Experts..... 28

Case Examples and Related Material..... 28

Sources..... 32

SECTION 2: Youth Marijuana Use..... 35

Introduction 35

Some Findings 35

Data 37

 Colorado Average Past Month Use of Marijuana Ages 12 to 17 Years Old 37

 Youth (Ages 12 to 17 Years Old) Past Month Marijuana Use National vs. Colorado 37

 Prevalence of Past 30-Day Marijuana Use, 12 to 17 Years Old, 2006-2012
 (U.S., Denver Metro and Colorado)..... 38

 National Average Past Month Use by 12 to 17 Years Old, 2013..... 38

 State by State Past Month Usage by 12 to 17 Years Old, 2013 39

 Top and Bottom States for Past Month Marijuana Use Youth
 (12 to 17 Years Old), 2013 40

 Drug-Related Suspensions/Expulsions..... 40

 Average Drug-Related Suspensions/Expulsions..... 41

 Percentage of Total Suspensions in Colorado from 2004-2014 School Years 42

 Percentage of Total Expulsions in Colorado from 2004-2014 School Years..... 42

 Percentage of Total Referrals to Law Enforcement in Colorado from 2004-2014
 School Years 43

 Colorado Probation Average Percent Positive THC Urinalyses
 Ages 12 to 17 Years Old..... 43

 Colorado School Resource Officer Survey 44

 Predominant Marijuana Violations, 2015..... 44

 Student Marijuana Source, 2015 45

 Some Comments from School Resource Officers..... 45

 School Counselor Survey 46

 Predominant Marijuana Violations, 2015..... 47

 Student Marijuana Source, 2015 48

 Some Comments from School Counselors..... 48

 Youth Use Surveys Not Utilized and Why 52

 Youth Risk Behavior Survey (YRBS)..... 52

 Monitoring the Future (MTF) Study 52

 Healthy Kids Colorado Survey (HKCS)..... 53

 Related Material 53

Sources.....58

SECTION 3: Adult Marijuana Use 61

Introduction61

Some Findings62

Data63

 College Age (18 to 25 Years Old) 63

 Average Past Month Use of Marijuana College Age..... 63

 College Age Past Month Marijuana Use (National vs. Colorado)..... 64

 Prevalence of Past 30-Day Marijuana Use 2006-2012 (United States,
 Denver Metro and Colorado) 64

 States for Past Month Marijuana Use College-Age, 2013..... 65

 State of Colorado Probation Number of Positive THC Urinalyses 65

 Adults (26+ Years Old)66

 Average Past Month Use of Marijuana66

 Adult Past Month Marijuana Use (National vs. Colorado).....66

 Prevalence of Past 30-Day Marijuana Use, 2006-2012, (United States,
 Denver Metro and Colorado)67

 States for Past Month Marijuana Use Adults, 201367

 State of Colorado Probation Number of Positive THC Urinalyses68

 Colorado Adult Marijuana Use Demographics.....68

Related Material69

Sources.....72

SECTION 4: Emergency Room and Hospital Marijuana-Related Admissions 75

Introduction75

Some Findings75

Definitions77

Data77

 Marijuana-Related Emergency Room Visits77

 Colorado Emergency Department Rates that are Likely Related to Marijuana.....78

 Colorado Emergency Department Rates that Could be Related to Marijuana79

 Emergency Department Rates Per 100,000 Marijuana-Related, 2011-2013,
 Colorado and Denver..... 80

 Hospitalizations Related to Marijuana81

 Average Marijuana-Related Hospitalizations.....81

 Colorado Hospitalization Rates that are Likely Related to Marijuana.....82

 Colorado Hospitalization Rates that Could be Related to Marijuana83

 Hospital Discharge Rates Per 100,000 Marijuana Related, 2007-2013,
 Colorado and Denver..... 84

Marijuana Ingestion Among Children Under 12 Years-of-Age85
 Cost85
 Related Material85
 Sources.....87

SECTION 5: Marijuana-Related Exposure 89
 Introduction89
 Some Findings89
 Data91
 All Ages, Average Number of Marijuana-Related Exposures.....91
 Number of Exposures Reported for Marijuana Only91
 Number of Marijuana-Related Exposures, by Age Range92
 Youth Ages 6 to 17 Years Old, Average Number of Marijuana-Related Exposures92
 Children Ages 0 to 5 Years Old, Average Number of Marijuana-Related Exposures ...93
 Marijuana-Related Exposures Children Ages 0 to 5 Years Old.....93
 Average Percent of All Marijuana-Related Exposures, Ages 0 to 5 Years Old,
 National vs. Colorado94
 Related Material94
 Sources.....95

SECTION 6: Treatment 97
 Introduction97
 Some Findings97
 Data98
 Treatment with Marijuana as Primary Substance of Abuse, All Ages98
 Drug Type for Treatment Admissions, All Ages.....99
 Percent of Marijuana Treatment Admissions by Age Group99
 Marijuana Treatment Admissions Based on Criminal Justice Referrals100
 Sources.....100

SECTION 7: Diversion of Colorado Marijuana..... 101
 Introduction101
 Definitions102
 Some Findings102
 Data103
 Colorado Marijuana Interdiction Seizures103
 Average Pounds of Colorado Marijuana from Interdiction Seizures.....104
 States to Which Colorado Marijuana Was Destined (2014)105
 Top Three Cities for Marijuana Origin105
 A Few Examples of Interdictions.....105

A Few Examples of Investigations111

A Few Examples of Diversion Involving Youth.....116

Some Examples from School Resource Officers117

Some Examples from School Counselors118

Comments118

Sources.....119

SECTION 8: Diversion by Parcel..... 123

Introduction123

Some Findings123

Data124

 Parcels Containing Marijuana Mailed from Colorado to Another State..... 124

 Pounds of Colorado Marijuana Seized by the U.S. Postal Inspection Service 125

 Number of States Destined to Receive Marijuana Mailed from Colorado 125

 Colorado Marijuana Parcels Destined for Outside of the United States.....126

 Pounds of Colorado Marijuana Destined for Outside of the United States 126

 Colorado Marijuana Destined for Outside of the United States, 2014 127

A Few Parcel Examples.....127

Sources.....130

SECTION 9: THC Extraction Labs 133

Introduction133

Some Findings134

Data134

 THC Extraction Lab Explosions.....134

 THC Extraction Lab Explosion Injuries 135

 University of Colorado Hospital THC Extraction Lab Self-Admitted Burn Victims ... 135

Sources.....136

SECTION 10: Related Data 137

Topics.....137

Crime137

 Colorado Crime 138

 All Reported Crime in Denver 138

 City and County of Denver Crime 139

 Total Marijuana-Related Crime for Denver City and County..... 139

 Marijuana-Related Crime for Denver City and County
 (Industry and Non-Industry)..... 140

 Denver Police Department Unlawful Public Display/Consumption of Marijuana..... 141

 Boulder Police Department Marijuana Public Consumption Citations 141

Revenue	142
Total Revenue from Marijuana Taxes, Calendar Year 2014.....	142
Colorado’s Total General Fund Revenue, FY 2015.....	143
Some Costs Related to Marijuana Revenue for the State of Colorado, FY 2015/16	144
Articles	144
Homeless	146
Total Overnight Beds Provided, January Through June	146
Related Material	146
Suicide Data	148
Average Toxicology of Suicides Among Adolescents Ages 10 to 19 Years Old, 2009-2013.....	149
Average Toxicology Results by Age Group Colorado, 2009-2013	149
Environmental Impact.....	149
THC Potency.....	151
Potency Monitoring Program – Average THC Percent DEA-Submitted Cannabis Samples 1995-2013 (National)	151
Potency Monitoring Program – Average THC Percent All Submitted Hash Oil Samples 1995-2013 (National)	152
Marijuana Use and Alcohol Consumption.....	153
Colorado Average Consumption of Alcohol in Gallons, Per Calendar Year	153
Medical Marijuana Registry	153
Medical Marijuana Registry Identification Cards	153
Profile of Colorado Medical Marijuana Cardholders	154
Percent of Medical Marijuana Patients Based on Reporting Condition.....	154
Colorado Licensed Marijuana Businesses as of January 2015	154
Business Comparisons, January 2015.....	155
Colorado Business Comparisons, January 2015	155
Denver Business Comparisons, January 2015.....	156
Demand and Market Size	156
2014 Reported Sales of Marijuana in Colorado	157
2014 Price of Marijuana.....	157
Local Response to the Medical and Recreational Marijuana Industry in Colorado	158
Polling.....	158
Lawsuits	159
Other Issues	160
Sources.....	161
SECTION 11: Reference Material	165
Reports.....	165
Articles.....	167

Executive Summary

Purpose

Rocky Mountain High Intensity Drug Trafficking Area (RMHIDTA) is tracking the impact of marijuana legalization in the state of Colorado. This report will utilize, whenever possible, a comparison of three different eras in Colorado's legalization history:

- **2006 – 2008:** Early medical marijuana era
- **2009 – Present:** Medical marijuana commercialization and expansion era
- **2013 – Present:** Recreational marijuana era

Rocky Mountain HIDTA will collect and report comparative data in a variety of areas, including but not limited to:

- Impaired driving
- Youth marijuana use
- Adult marijuana use
- Emergency room admissions
- Marijuana-related exposure cases
- Diversion of Colorado marijuana

This is the third annual report on the impact of legalized marijuana in Colorado. It is divided into eleven sections, each providing information on the impact of marijuana legalization. The sections are as follows:

Section 1 – Impaired Driving:

- In 2014, when retail marijuana businesses began operating, there was a **32 percent** increase in marijuana-related traffic deaths in just one year from 2013.
- Colorado marijuana-related traffic deaths increased **92 percent** from 2010 – 2014. During the same time period all traffic deaths only increased **8 percent**.

- Marijuana-related traffic deaths were approximately **20 percent** of all traffic deaths in 2014 compared to half that (**10 percent**) just five years ago.
- In 2014, when retail marijuana businesses began operating, toxicology reports with positive marijuana results of active THC results for primarily driving under the influence have increased **45 percent** in just one year.

Section 2 – Youth Marijuana Use:

- In 2013, **11.16 percent** of Colorado youth ages 12 to 17 years old were considered current marijuana users compared to **7.15 percent** nationally. Colorado ranked **3rd** in the nation and was **56 percent** higher than the national average.
- Drug-related suspensions/expulsions increased **40 percent** from school years 2008/2009 to 2013/2014. The vast majority were for marijuana violations.
- Positive THC urinalyses tests, for probationers ages 12 to 17 years old, increased **20 percent** since marijuana was legalized in 2013.
- A 2015 survey of school resource officers and school counselors revealed similar results about increased school marijuana issues since the legalization of recreational marijuana.

Section 3 – Adult Marijuana Use:

- In 2013, **29 percent** of college age students (ages 18 to 25 years old) were considered current marijuana users compared to **18.91 percent** nationally. Colorado, ranked **2nd** in the nation, was **54 percent** higher than the national average.
- In 2013, **10.13 percent** of adults ages 26 years old and over were considered current marijuana users compared to **5.45 percent** nationally. Colorado, ranked **5th** in the nation, was **86 percent** higher than the national average.
- Positive THC urinalyses tests, for probationers age 18 to 25 and 26+ years old, increased **49 and 87 percent** respectively since marijuana was legalized in 2013.

Section 4 – Emergency Room Marijuana and Hospital Marijuana-Related Admissions:

- In 2014, when retail marijuana businesses began operating, there was a **29 percent** increase in the number of marijuana-related emergency room visits in only one year.
- In 2014, when retail marijuana businesses began operating, there was a **38 percent** increase in the number of marijuana-related hospitalizations in only one year.
- In the three years after medical marijuana was commercialized, compared to the three years prior, there was a **46 percent** increase in hospitalizations related to marijuana.
- Children’s Hospital Colorado reported **2** marijuana ingestions among children under 12 in 2009 compared to **16** in 2014.

Section 5 – Marijuana-Related Exposure:

- In 2014, when retail marijuana businesses began operating, marijuana-only related exposures increased **72 percent** in only one year.
- In the years medical marijuana was commercialized (2009 – 2012), marijuana-related exposures averaged a **42 percent** increase from pre-commercialization years (2006 – 2008) average.
- During the years 2013 – 2014, the average number of all age exposures was 175 per year. Exposures have doubled since marijuana was legalized in Colorado.
- Young children (ages 0 to 5) marijuana-related exposures in Colorado:
 - During the years 2013 – 2014, the average number of children exposed was **31** per year.
 - This is a **138 percent** increase from the medical marijuana commercialization years (2009 – 2012) average which was a **225 percent** increase from pre-commercialization years (2006 – 2008).

Section 6 – Treatment:

- Over the last ten years, the top three drugs involved in treatment admissions, in descending order, were alcohol (average **12,943**), marijuana (average **6,491**) and methamphetamine (average **5,044**).
- Marijuana treatment data from Colorado in years 2005 – 2014 does not appear to demonstrate a definite trend. Colorado averages approximately **6,500** treatment admissions annual for marijuana abuse.

Section 7 – Diversion of Colorado Marijuana:

- During 2009 – 2012, when medical marijuana was commercialized, the yearly average number interdiction seizures of Colorado marijuana increased **365 percent** from **52** to **242** per year.
- During 2013 – 2014, when recreational marijuana was legalized, the yearly average interdiction seizures of Colorado marijuana increased another **34 percent** from **242** to **324**.
- The average pounds of Colorado marijuana seized, destined for 36 other states, increased **33 percent** from 2005 – 2008 compared to 2009 – 2014.

Section 8 – Diversion by Parcel:

- U.S. mail parcel interceptions of Colorado marijuana, destined for 38 other states, increased **2,033 percent** from 2010 – 2014.
- Pounds of Colorado marijuana seized in the U.S. mail, destined for 38 other states, increased **722 percent** from 2010 – 2014.
- From 2006 – 2008, compared to 2013 – 2014, the average number of seized parcels containing Colorado marijuana, that were destined outside the United States, increased over **7,750 percent** and pounds of marijuana seized in those parcels increased over **1,079 percent**.

Section 9 – THC Extraction Labs:

- In 2013, there were **12** THC extraction lab explosions compared to **32** in 2014.
- In 2013, there were **18** injuries from THC extraction lab explosions compared to **30** in 2014.

Section 10 – Related Data:

- Overall, crime in Denver increased 12.3 percent from 2012 to 2014.
- Colorado annual tax revenue from the sale of recreational marijuana was **52.5** million (CY2014) or about **0.7 percent** of total general fund revenue (FY2015).
- The majority of cities and counties in Colorado have banned recreational marijuana businesses.
- National THC potency has risen from an average of **3.96 percent** in 1995 to an average of **12.55 percent** in 2013. The average potency in Colorado was **17.1 percent**.
- Homelessness increased with the appeal of legal marijuana being a factor.
- Denver has more licensed medical marijuana centers (**198**) than pharmacies (**117**).

Section 11 – Related Material:

- This section lists various studies and reports.

There is much more data in each of the eleven sections, which can be used as a standalone document. All of the sections are on the Rocky Mountain HIDTA website and can be printed individually; go to www.rmhidta.org/Reports.

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Introduction

Purpose

The purpose of this report and future reports is to document the impact of the legalization of marijuana for medical and recreational use in Colorado. Colorado and Washington serve as experimental labs for the nation to determine the impact of legalizing marijuana. This is an important opportunity to gather and examine meaningful data and facts. Citizens and policymakers may want to delay any decisions on this important issue until there is sufficient and accurate data to make an informed decision.

The Debate

There is an ongoing debate in this country concerning the impact of legalizing marijuana. Those in favor argue that the benefits of removing prohibition far outweigh the potential negative consequences. Some of the benefits they cite include:

- Eliminate arrests for possession and sale, resulting in fewer people with criminal records and a reduction in the prison population.
- Free up law enforcement resources to target more serious and violent criminals.
- Reduce traffic fatalities since users will switch from alcohol to marijuana, which does not impair driving to the same degree.
- No increase in use, even among youth, because of tight regulations.
- Added revenue generated through taxation.
- Eliminate the black market.

Those opposed to legalizing marijuana argue that the potential benefits of lifting prohibition pale in comparison to the adverse consequences. Some of the consequences they cite include:

- Increase in marijuana use among youth and young adults.
- Increase in marijuana-impaired driving fatalities.
- Rise in number of marijuana-addicted users in treatment.

- Diversion of marijuana.
- Adverse impact and cost of the physical and mental health damage caused by marijuana use.
- The economic cost to society will far outweigh any potential revenue generated.

Background

The next several years should help determine which side is most accurate. A number of states have enacted varying degrees of legalized marijuana by permitting medical marijuana and four permitting recreational marijuana. In 2010, Colorado's legislature passed legislation that included the licensing of medical marijuana centers ("dispensaries"), cultivation operations and manufacturing of marijuana edibles for medical purposes. In November 2012, Colorado voters legalized recreational marijuana allowing individuals to use and possess an ounce of marijuana and grow up to six plants. The amendment also permits licensing marijuana retail stores, cultivation operations, marijuana edible factories and testing facilities. Washington voters passed a similar measure in 2012.

Preface

Volume 3 2015 will be formatted similar to *Volume 2*. It is important to note that, for purposes of the debate on legalizing marijuana in Colorado, there are three distinct timeframes to consider. Those are: the early medical marijuana era (2000 – 2008), the medical marijuana commercialization era (2009 – current) and the recreational marijuana era (2013 – current).

- **2000 – 2008:** In November 2000, Colorado voters passed Amendment 20 which permitted a qualifying patient, and/or caregiver of a patient, to possess up to 2 ounces of marijuana and grow 6 marijuana plants for medical purposes. During that time there were between 1,000 and 4,800 medical marijuana cardholders and no known dispensaries operating in the state.
- **2009 – Current:** Beginning in 2009 due to a number of events, marijuana became *de facto* legalized through the commercialization of the medical marijuana industry. By the end of 2012, there were over 100,000 medical marijuana cardholders and 500 licensed dispensaries operating in Colorado. There were also licensed cultivation operations and edible manufacturers.

- **2013 – Current:** In November 2012, Colorado voters passed Constitutional Amendment 64 which legalized marijuana for recreational purposes for anyone over the age of 21. The amendment also allowed for licensed marijuana retail stores, cultivation operations and edible manufacturers. Retail marijuana businesses became operational January 1, 2014.

Colorado's History with Marijuana Legalization

Early Medical Marijuana 2000 – 2008

In November 2000, Colorado voters passed Amendment 20 which permitted a qualifying patient and/or caregiver of a patient to possess up to 2 ounces of marijuana and grow 6 marijuana plants for medical purposes. Amendment 20 provided identification cards for individuals with a doctor's recommendation to use marijuana for a debilitating medical condition. The system was managed by the Colorado Department of Public Health and Environment (CDPHE), which issued identification cards to patients based on a doctor's recommendation. The department began accepting applications from patients in June 2001.

From 2001 – 2008, there were only 5,993 patient applications received and only 55 percent of those designated a primary caregiver. During that time, the average was three patients per caregiver and there were no known retail stores selling medical marijuana ("dispensaries"). Dispensaries were not an issue because CDPHE regulations limited a caregiver to no more than five patients.

Medical Marijuana Commercialization and Expansion 2009 – Present

In 2009, the dynamics surrounding medical marijuana in Colorado changed substantially. There were a number of factors that played a role in the explosion of the medical marijuana industry and number of patients:

The first was a Denver District Judge who, in late 2007, ruled that CDPHE violated the state's open meeting requirement when setting a five-patient-to-one-caregiver ratio and overturned the rule. That opened the door for caregivers to claim an unlimited number of patients for whom they were providing and growing marijuana. Although this decision expanded the parameters, very few initially began operating medical

marijuana commercial operations (dispensaries) in fear of prosecution, particularly from the federal government.

The judge's ruling, and caregivers expanding their patient base, created significant problems for local prosecutors seeking a conviction for marijuana distribution by caregivers. Many jurisdictions ceased or limited filing those types of cases.

At a press conference in Santa Ana, California on February 25, 2009, the U.S. Attorney General was asked whether raids in California on medical marijuana dispensaries would continue. He responded "No" and referenced the President's campaign promise related to medical marijuana. In mid-March 2009, the U.S. Attorney General clarified the position saying that the Department of Justice enforcement policy would be restricted to traffickers who falsely masqueraded as medical dispensaries and used medical marijuana laws as a shield.

Beginning in the spring of 2009, Colorado experienced an explosion to over 20,000 new medical marijuana patient applications and the emergence of over 250 medical marijuana dispensaries (allowed to operate as "caregivers"). One dispensary owner claimed to be a primary caregiver to 1,200 patients. Government took little or no action against these commercial operations.

In July 2009, the Colorado Board of Health, after hearings, failed to reinstate the five-patients-to-one-caregiver rule.

On October 19, 2009, U.S. Deputy Attorney General David Ogden provided guidelines for U.S. Attorneys in states that enacted medical marijuana laws. The memo advised "Not focus federal resources in your state on individuals whose actions are in clear and unambiguous compliance with existing state law providing for the medical use of marijuana."

By the end of 2009, new patient applications jumped from around 6,000 for the first seven years to an additional 38,000 in just one year. Actual cardholders went from 4,800 in 2008 to 41,000 in 2009. By mid-2010, there were over 900 unlicensed marijuana dispensaries identified by law enforcement.

In 2010, law enforcement sought legislation to ban dispensaries and reinstate the one-to-five ratio of caregiver to patient as the model. However, in 2010 the Colorado Legislature passed HB-1284 which legalized medical marijuana centers (dispensaries), marijuana cultivation operations, and manufacturers for marijuana edible products. By

2012, there were 532 licensed dispensaries in Colorado and over 108,000 registered patients, 94 percent of who qualified for a card because of severe pain.

Recreational Marijuana 2013 – Present

In November of 2012, Colorado voters passed Amendment 64, which legalized marijuana for recreational use. Amendment 64 allows individuals 21 years or older to grow up to six plants, possess/use 1 ounce or less and furnish an ounce or less of marijuana if not for remuneration. Amendment 64 permits marijuana retail stores, marijuana cultivation sites, marijuana edible factories and marijuana testing sites. The first retail marijuana businesses were licensed and operational in January of 2014. Some individuals have established private cannabis clubs, formed co-ops for large marijuana grow operations, and/or supplied marijuana for no fee other than donations.

What has been the impact of commercialized medical marijuana and legalized recreational marijuana on Colorado? Review the report and you decide.

NOTE:

- **DATA, IF AVAILABLE, WILL COMPARE PRE- AND POST-2009 WHEN MEDICAL MARIJUANA BECAME COMMERCIALIZED AND AFTER 2013 WHEN RECREATIONAL MARIJUANA BECAME LEGALIZED.**
- **MULTI-YEAR COMPARISONS ARE GENERALLY BETTER INDICATORS OF TRENDS. ONE-YEAR FLUCTUATIONS DO NOT NECESSARILY REFLECT A NEW TREND.**
- **PERCENTAGE COMPARISONS MAY BE ROUNDED TO THE NEAREST WHOLE NUMBER**
- **PERCENT CHANGES ADDED TO GRAPHS WERE CALCULATED AND ADDED BY ROCKY MOUNTAIN HIDTA.**
- **THIS REPORT WILL CITE DATASETS WITH TERMS SUCH AS “MARIJUANA-RELATED” OR “TESTED POSITIVE FOR MARIJUANA.” THAT DOES NOT NECESSARILY PROVE THAT MARIJUANA WAS THE CAUSE OF THE INCIDENT.**

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SECTION 1: Impaired Driving

Introduction

This section provides information on traffic deaths and impaired driving involving positive tests for marijuana. The data comparison, when available, will be from 2006 through 2014. The information compares the early medical marijuana era (2006 – 2008), the medical marijuana commercialization and expansion era (2009 – current) and the recreational marijuana era (2013 – current) in Colorado.

- **2006 – 2008:** There were between 1,000 and 4,800 medical marijuana cardholders and no known dispensaries operating in Colorado.
- **2009 – Current:** There were over 108,000 medical marijuana cardholders and 532 licensed dispensaries operating in Colorado by the end of 2012. See the introduction at the beginning of this report for more details on the commercialization and explosion of Colorado’s medical marijuana trade.
- **2013 to– Current:** In November 2012, Colorado voters passed Constitutional Amendment 64 which legalized marijuana for recreational purposes for anyone over 21 years of age. The amendment also allowed for licensed marijuana retail stores, cultivation operations and edibles manufacturing.

Definitions

DUID: Driving Under the Influence of Drugs (DUID) which can include alcohol in combination with drugs. This is an important measurement since the driver’s ability to operate a vehicle was sufficiently impaired that it brought his or her driving to the attention of law enforcement. Not only the erratic driving but the subsequent evidence that the subject was under the influence of marijuana confirms the causation factor.

Definitions in Reviewing Fatality Data:

- **Marijuana-Related:** Also called “marijuana mentions,” is any time marijuana shows up in the toxicology report. It could be marijuana only or marijuana with other drugs and/or alcohol.
- **Marijuana Only:** When toxicology results show marijuana and no other drugs or alcohol.
- **Fatalities:** A death resulting from a traffic crash involving a motor vehicle.
- **Operators:** Anyone in control of their own movements such as a driver, pedestrian or bicyclist.

Some Findings

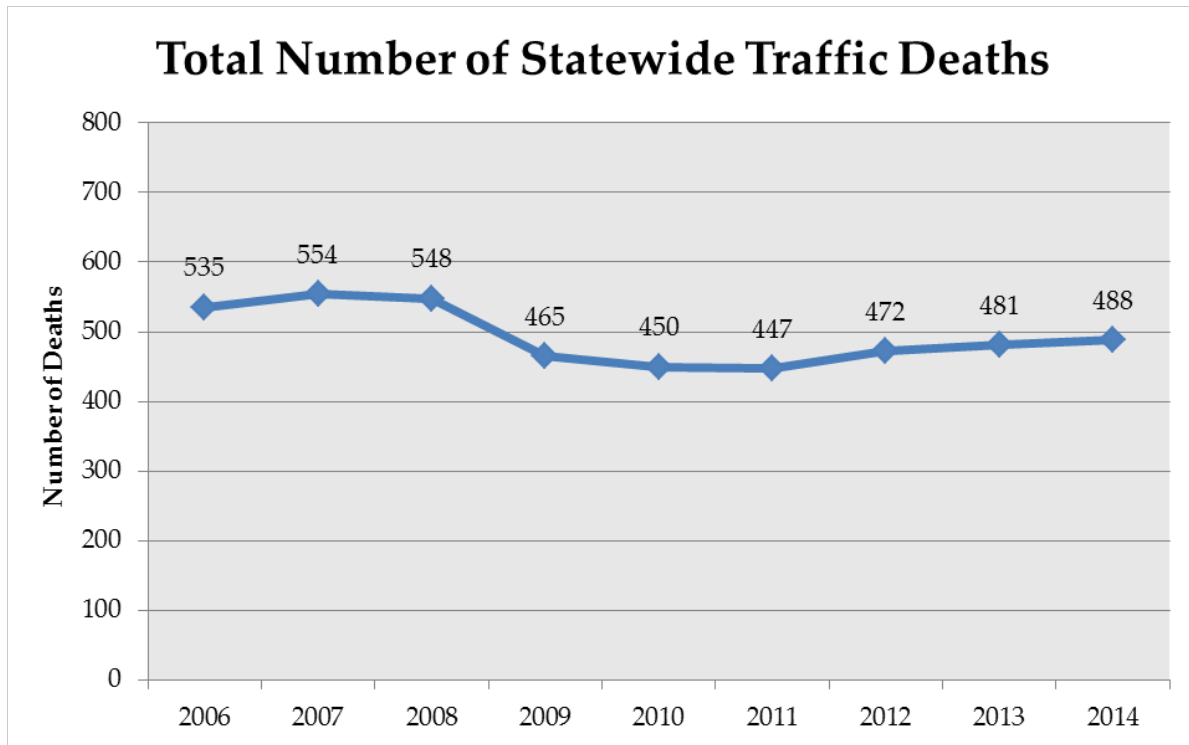
- In 2014, when retail marijuana stores began operating, there was a 32 percent increase in marijuana-related traffic deaths in just one year.
- Colorado marijuana-related traffic deaths increased **92 percent** from 2010 – 2014. During the same time periods all traffic deaths only increased **8 percent** respectively.
- In 2009, Colorado marijuana-related traffic deaths involving operators testing positive for marijuana represented **10 percent** of all traffic fatalities. By 2014, that number nearly doubled to **19.26 percent**.
- The average number of marijuana-related traffic deaths increased **41 percent** in the two years recreational marijuana was legalized (2013 – 2014) compared to the medical marijuana commercialization years (2009 – 2012), which was **48 percent** higher than pre-commercialization years (2006 – 2008).
- Consistent with the past, in 2014 still only **47 percent** of operators involved in traffic deaths were tested for drug impairment. Out of those who were tested, about **1 in 4** tested positive for marijuana.
- The Colorado State Patrol DUID Program, started in 2014, indicated:
 - **77 percent** (674) of the 874 DUIDs involved marijuana

- **41 percent** (354) of the 874 DUIDs involved marijuana only
- Denver Police Department DUIDs involving marijuana increased **100 percent** from 2013 (33) to 2014 (66).
- In 2014, when retail marijuana businesses began operating, toxicology reports with positive marijuana results of active THC primarily related to driving under the influence **increased 45 percent** in only one year.

Data for Traffic Deaths

NOTE:

- **THE DATA FOR 2012 THROUGH 2014 WAS OBTAINED FROM THE NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION'S FATALITY ANALYSIS REPORTING SYSTEM (FARS). COLLECTION AND ANALYSIS OF DATA WAS CONDUCTED BY ROCKY MOUNTAIN HIDTA AFTER CONTACTING ALL CORONER OFFICES AND LAW ENFORCEMENT AGENCIES INVOLVED WITH FATALITIES TO OBTAIN TOXICOLOGY REPORTS. THIS REPRESENTS 100 PERCENT REPORTING. PRIOR YEAR(S) MAY HAVE HAD LESS THAN 100 PERCENT REPORTING TO THE COLORADO DEPARTMENT OF TRANSPORTATION, AND SUBSEQUENTLY THE FATALITY ANALYSIS REPORTING SYSTEM (FARS).**
- **2014 FARS DATA WILL NOT BE OFFICIAL UNTIL JANUARY 2016.**



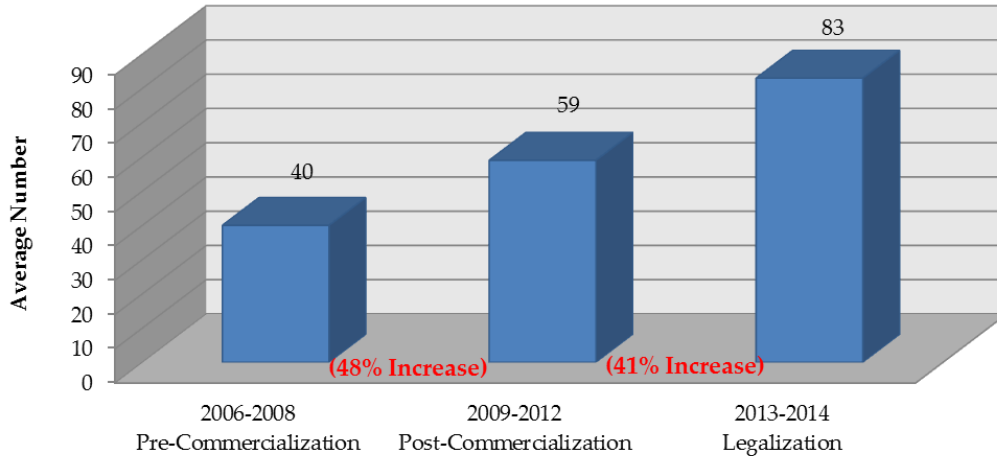
SOURCE: National Highway Traffic Safety Administration, Fatality Analysis Reporting System (FARS), 2006-2013 and CDOT/RMHIDTA 2014

Marijuana-Related Traffic Deaths*			
Crash Year	Total Statewide Fatalities	Fatalities with Operators Testing Positive for Marijuana	Percentage Total Fatalities (Marijuana)
2006	535	37	6.92%
2007	554	39	7.04%
2008	548	43	7.85%
2009	465	47	10.10%
2010	450	49	10.89%
2011	447	63	14.09%
2012	472	78	16.53%
2013	481	71	14.76%
2014	488	94	19.26%

*Fatalities Involving Operators Testing Positive for Marijuana

SOURCE: National Highway Traffic Safety Administration, Fatality Analysis Reporting System (FARS), 2006-2013 and CDOT/RMHIDTA 2014

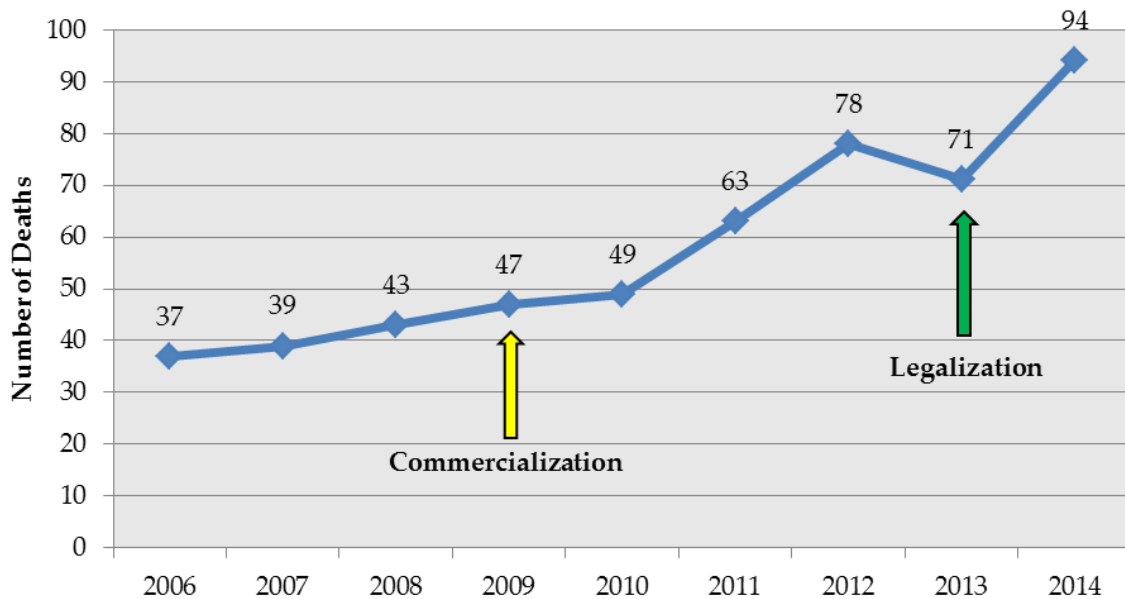
Average Number of Traffic Deaths Related to Marijuana *



*Average Number of Fatalities when an Operator Tested Positive for Marijuana

SOURCE: National Highway Traffic Safety Administration, Fatality Analysis Reporting System (FARS), 2006-2013 and CDOT/RMHIDTA 2014

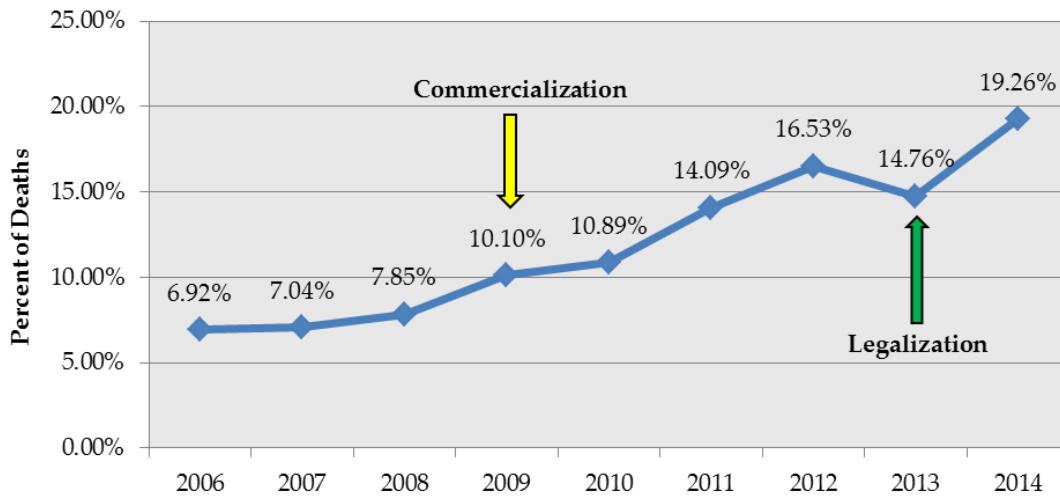
Traffic Deaths Related to Marijuana*



*Number of Fatalities Involving Operators Testing Positive for Marijuana

SOURCE: National Highway Traffic Safety Administration, Fatality Analysis Reporting System (FARS), 2006-2013 and CDOT/RMHIDTA 2014

Percent of All Traffic Deaths That Were Marijuana Related*



*Percent of All Fatalities Where the Operators Tested Positive for Marijuana

SOURCE: National Highway Traffic Safety Administration, Fatality Analysis Reporting System (FARS), 2006-2013 and CDOT/RMHIDTA 2014

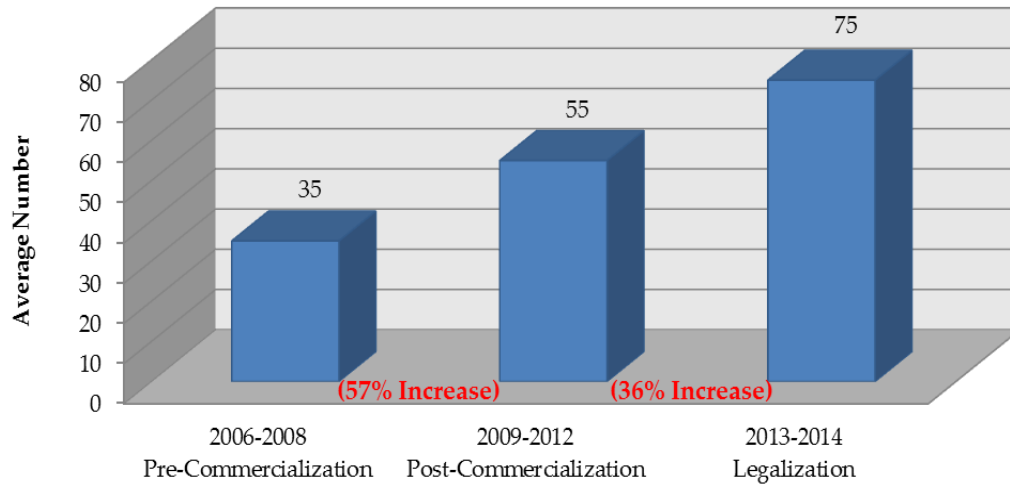
Operators Testing Positive for Marijuana*			
Crash Year	Total Operators Involved in Crashes	Operators in Fatal Crashes Testing Positive for Marijuana	Percentage of Total Operators Who Tested Positive for Marijuana
2006	795	32	4.03%
2007	866	34	3.93%
2008	782	39	4.99%
2009	718	46	6.41%
2010	652	45	6.90%
2011	648	57	8.81%
2012	732	70	9.56%
2013	702	63	8.97%
2014	765	87	11.37%

*Operators Involved in Fatalities Testing Positive for Marijuana

SOURCE: National Highway Traffic Safety Administration, Fatality Analysis Reporting System (FARS), 2006-2013 and RMHIDTA 2014

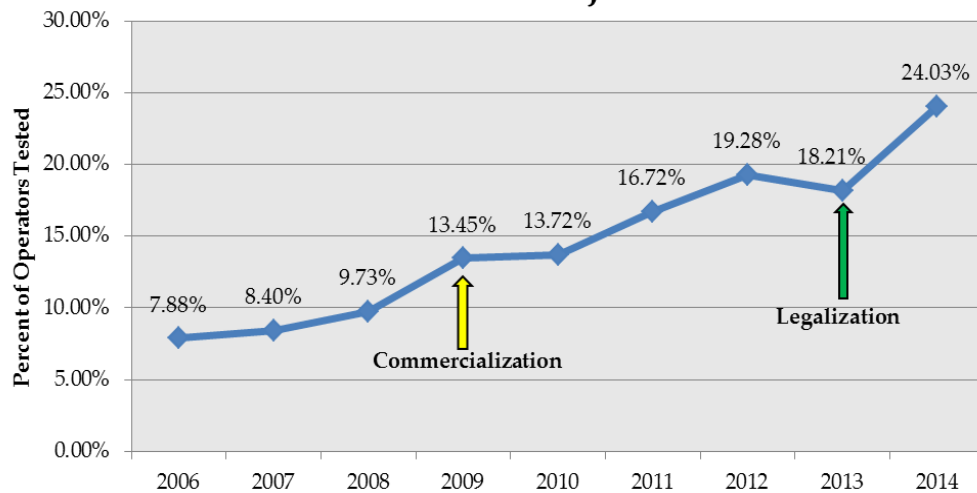
❖ Consistent with the past, in 2014 still only 47 percent of operators involved in traffic deaths were tested for drug impairment.

Average Number of Operators Testing Positive for Marijuana



SOURCE: National Highway Traffic Safety Administration, Fatality Analysis Reporting System (FARS), 2006-2013 and CDOT/RMHIDTA 2014

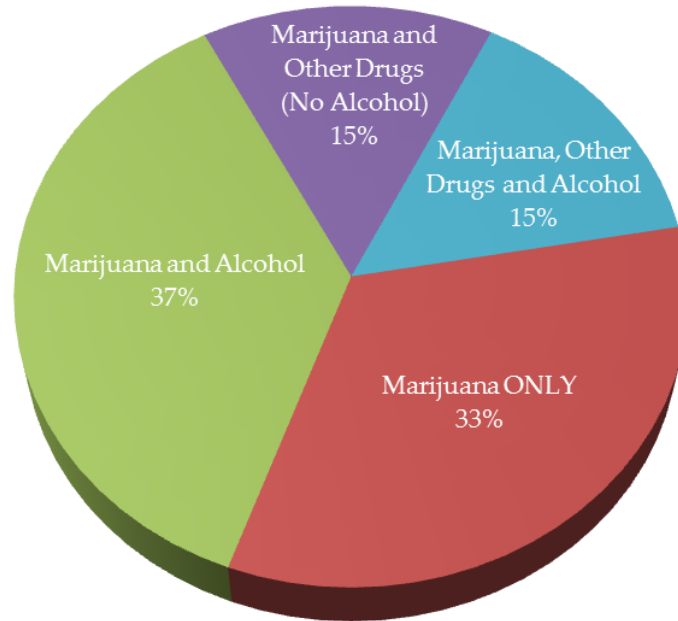
Percent of Operators Tested Who Were Positive for Marijuana*



*Percent of All Operators Tested for Drug Impairment

SOURCE: National Highway Traffic Safety Administration, Fatality Analysis Reporting System (FARS), 2006-2013 and CDOT/RMHIDTA 2014

Drug Combinations for Operators Positive for Marijuana*



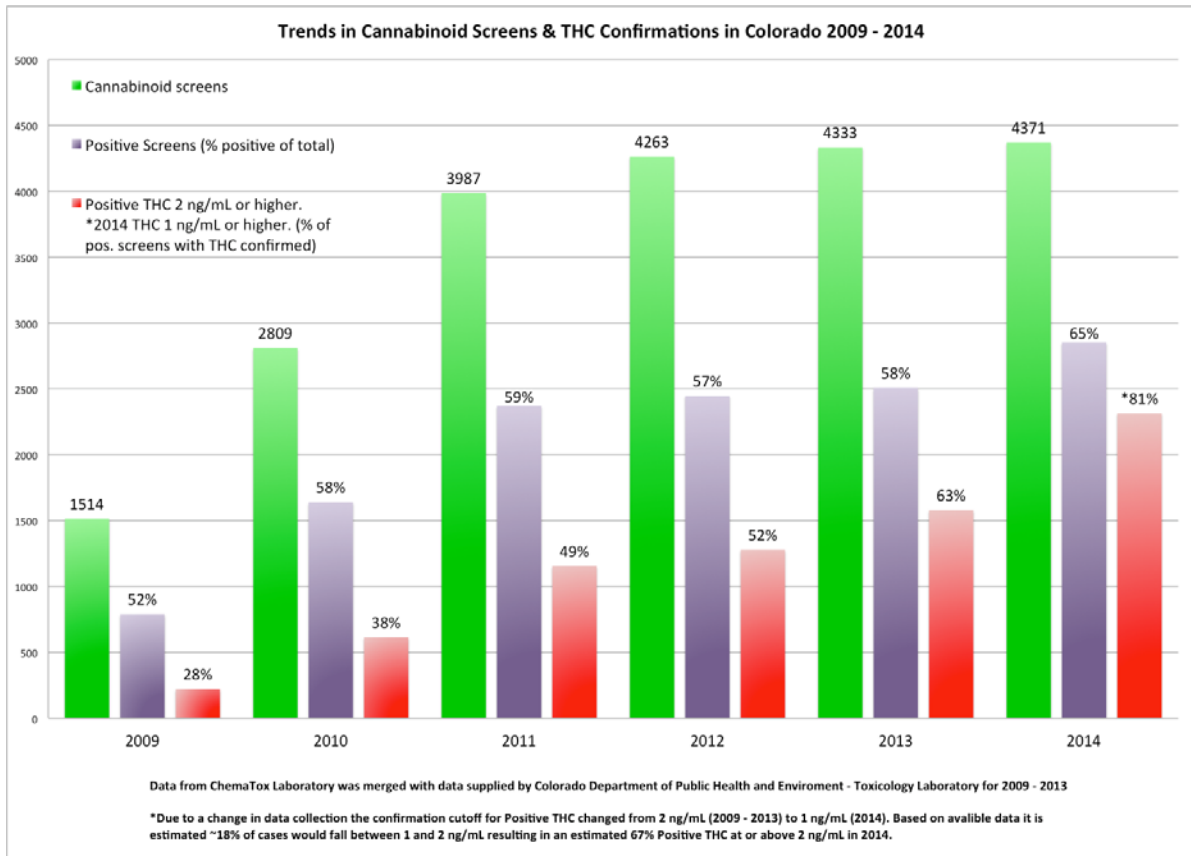
*Toxicology results for all substances present in individuals who tested positive for marijuana

SOURCE: National Highway Traffic Safety Administration/Colorado Department of Transportation/Rocky Mountain HIDTA

- ❖ In 2014, of the operators who tested positive for marijuana, one out of three had only marijuana present in their system.

Data for Impaired Driving

NOTE: THE NUMBER OF DUID ARRESTS IS NOT REFLECTIVE OF THE TOTAL NUMBER OF PEOPLE ARRESTED FOR DRIVING UNDER THE INFLUENCE WHO ARE INTOXICATED ON NON-ALCOHOL SUBSTANCES. IF SOMEONE IS DRIVING BOTH INTOXICATED ON ALCOHOL AND INTOXICATED ON ANY OTHER DRUG (INCLUDING MARIJUANA), ALCOHOL IS ALMOST ALWAYS THE ONLY INTOXICANT TESTED FOR. A DRIVER WHO TESTS OVER THE LEGAL LIMIT FOR ALCOHOL WILL BE CHARGED WITH DUI, EVEN IF HE OR SHE IS POSITIVE FOR OTHER DRUGS. HOWEVER, WHETHER OR NOT HE OR SHE IS POSITIVE FOR OTHER DRUGS WILL REMAIN UNKNOWN BECAUSE OTHER DRUGS ARE NOT OFTEN TESTED FOR.

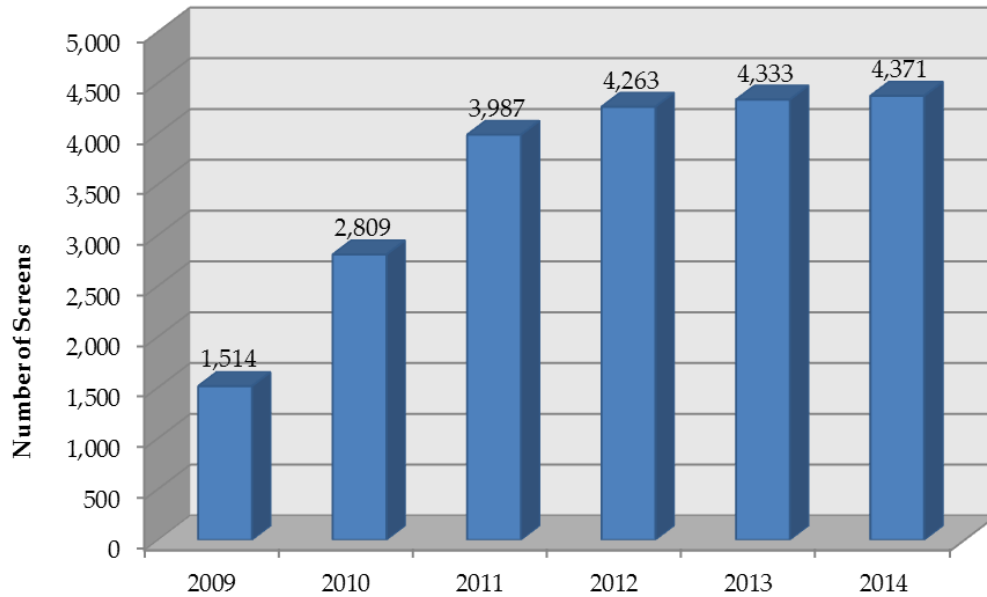


SOURCE: Sarah Urfer, M.S., D-ABFT-FT; ChemaTox Laboratory

[Explanation of ChemaTox Graphs](#)

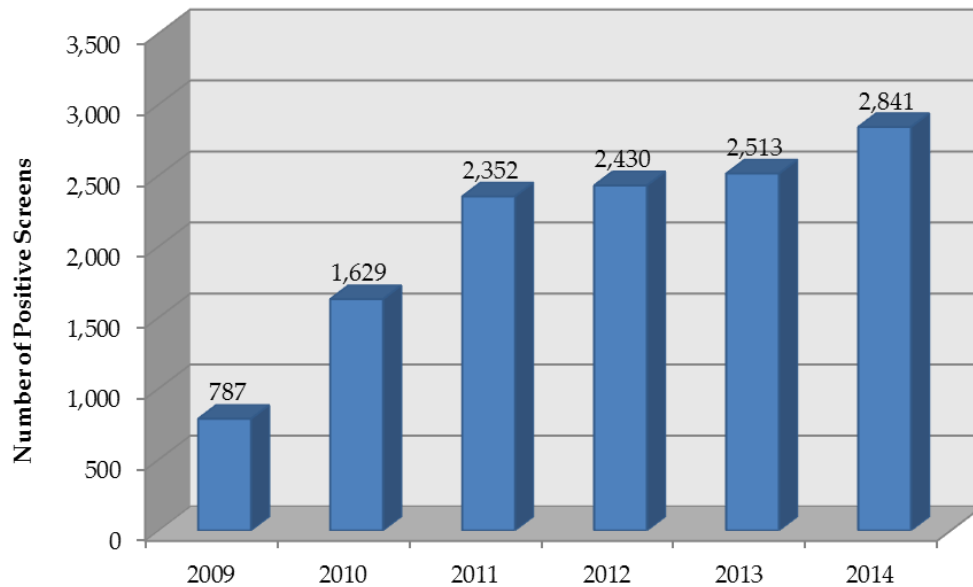
The below three graphs are Rocky Mountain HIDTA’s conversation of ChemaTox data into raw numbers. The first graph represents the total number of drug screens that were tested for cannabinoids. Of those screens tested, the second graph represents the number of cannabinoid positive screens. The third graph demonstrates, of those positive screens, how many were positive for active THC.

Number of Cannabinoid Screens



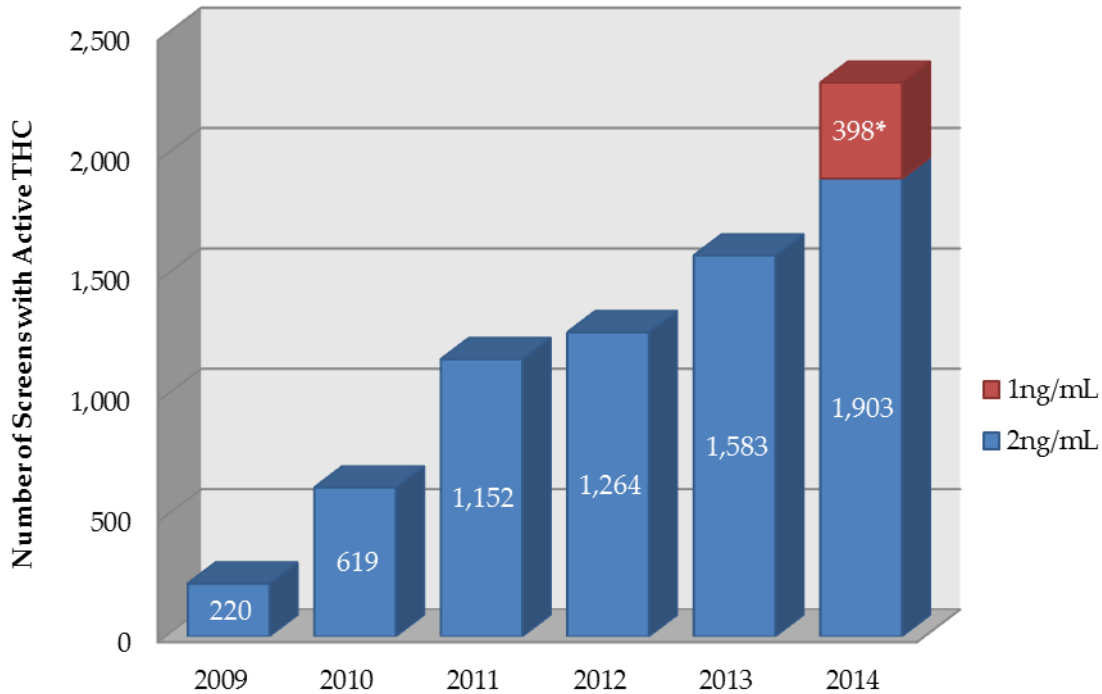
SOURCE: Rocky Mountain HIDTA

Number of Positive Cannabinoid Screens



SOURCE: Rocky Mountain HIDTA

Number of Positive Cannabinoid Screens with Active THC



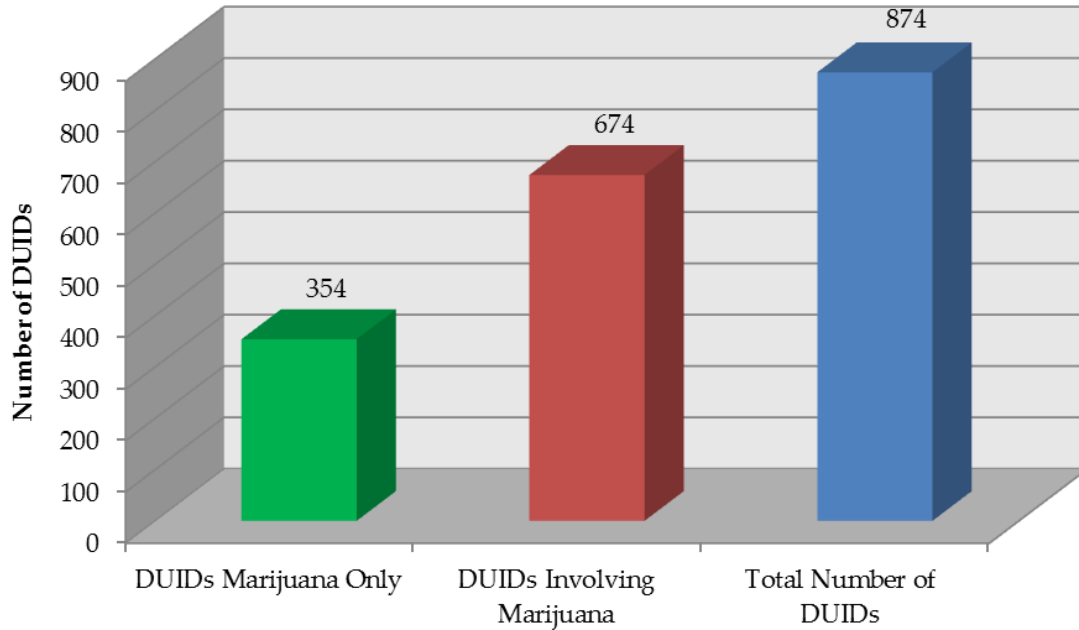
*"Due to a change in data collection, the confirmation cutoff for Positive THC changed from 2ng/mL (2009-2013) to 1 ng/mL (2014). Based on available data it is estimated ~18% of cases would fall between 1 and 2ng/mL resulting in an estimated 67% Positive THC at or above 2 ng/mL in 2014."¹

SOURCE: Rocky Mountain HIDTA

NOTE: THE ABOVE GRAPHS INCLUDE DATA FROM CHEMATOX LABORATORY WHICH WAS MERGED WITH DATA SUPPLIED BY COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT - TOXICOLOGY LABORATORY. THE VAST MAJORITY OF THE SCREENS ARE DUID SUBMISSIONS FROM COLORADO LAW ENFORCEMENT.

NOTE: COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT DISCONTINUED TESTING IN JULY 2013.

Colorado State Patrol Number of DUIDs, 2014

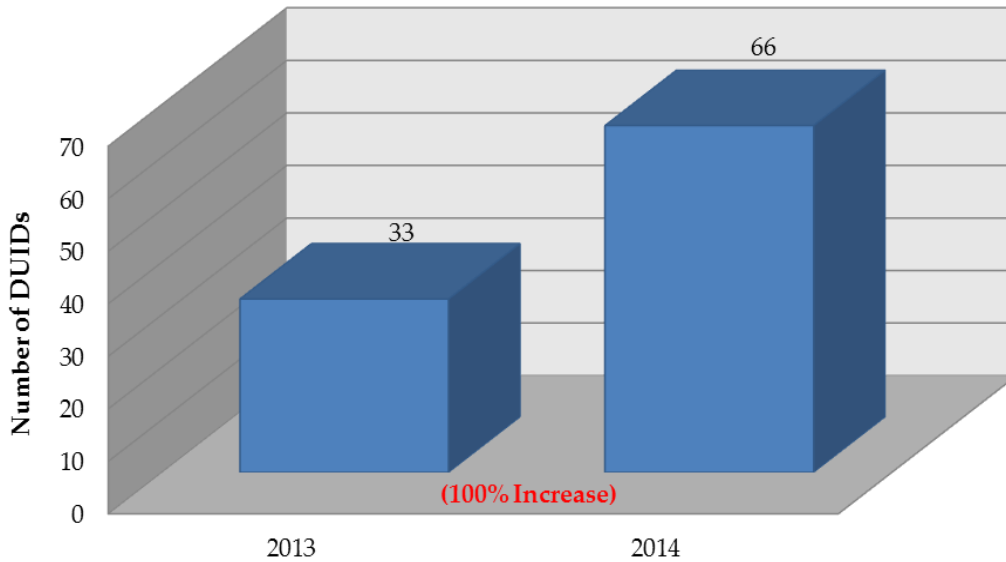


SOURCE: Colorado State Patrol, CSP Citations for Drug Impairment by Drug Type, 2014

- ❖ 77 percent of total DUIDs involved marijuana
- ❖ 41 percent of total DUIDs involved marijuana only

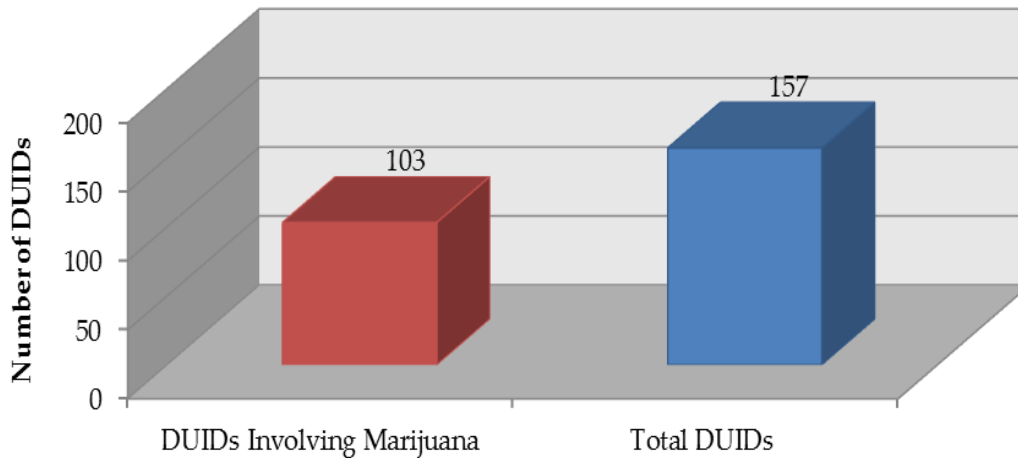
NOTE: "MARIJUANA CITATIONS DEFINED AS ANY CITATION WHERE CONTACT WAS CITED FOR DRIVING UNDER THE INFLUENCE (DUI) OR DRIVING WHILE ABILITY IMPAIRED (DWAI) AND MARIJUANA INFORMATION WAS FILLED OUT ON TRAFFIC STOP FORM INDICATING MARIJUANA & ALCOHOL, MARIJUANA & OTHER CONTROLLED SUBSTANCES, OR MARIJUANA ONLY PRESENT BASED ON OFFICER OPINION ONLY (NO TOXICOLOGICAL CONFIRMATION)." - COLORADO STATE PATROL

Denver Police Department Number of DUIDs Involving Marijuana



SOURCE: Denver Police Department, Traffic Investigations Bureau via Data Analysis Unit

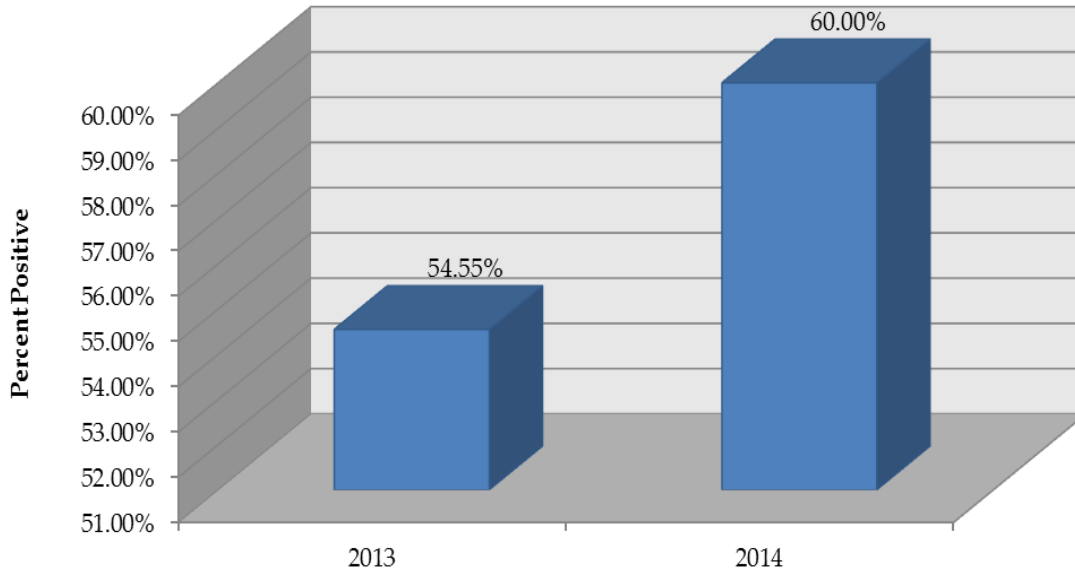
Aurora Police Department Number of DUIDs, 2014



SOURCE: Aurora Police Department, Traffic Division

❖ 66 percent of total DUIDs involved marijuana.

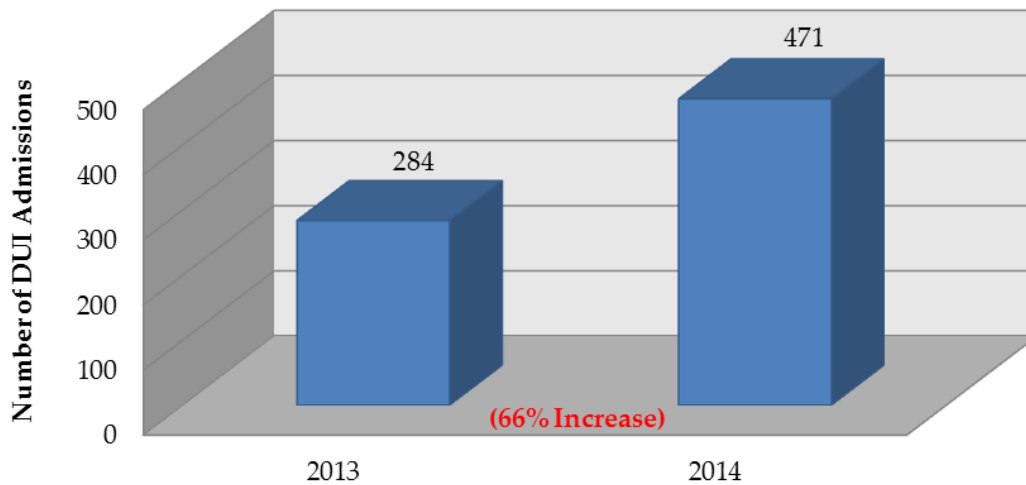
Larimer County Sheriff's Office Percent of DUIDs Involving Marijuana*



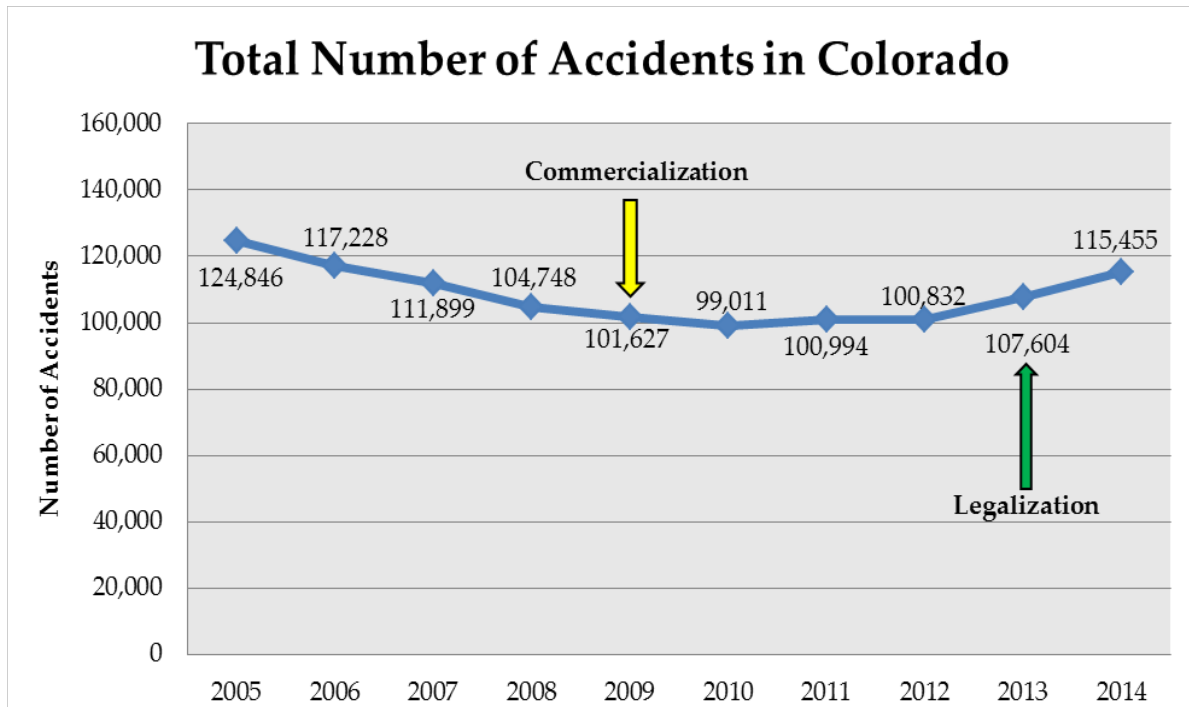
*Percent of all DUID blood samples submitted for drug testing

SOURCE: Larimer County Sheriff's Office, Records Unit

Number of DUI Admissions to Arapahoe House with Marijuana as a Self-Reported Drug of Choice



SOURCE: Arapahoe House, Public Communications Office



SOURCE: Colorado Department of Transportation (CDOT)

❖ 15 percent increase from 2012 to 2014

Related Costs

Economic Cost of Vehicle Accidents Resulting in Fatalities: According to the National Highway Traffic Safety Administration report, *The Economic and Societal Impact Of Motor Vehicles Crashes, 2010*, the total economic costs for a vehicle fatality is \$1,398,916. That includes property damage, medical, insurance, productivity, among other considerations.²

Cost of Driving Under the Influence: The cost associated with the first driving-under-the-influence offense (DUI) is estimated at \$10,270. Costs associated with a DUID (driving-under-the-influence-of-drugs) are very similar to those of a DUI/alcohol.³

Drug Recognition Experts

According to the Colorado Department of Transportation Drug Recognition Experts (DRE) Coordinator, in 2014, 290 individuals evaluated (48.49 percent) showed signs of marijuana impairment.⁴

Case Examples and Related Material

Both Drivers Killed Were “Stoned”: Two females, one 28 and the other 49, died in an automobile crash on September 29, 2014 in Longmont, Colorado. “Both drivers had more than 5 ng/mL of THC in their systems...” The younger woman, who was believed to be the primary cause of the accident, was also under the influence of alcohol. This woman was the mother of twin 3-year-olds who were in the vehicle but survived.⁵

Hit and Run Kills Veteran: In April 2014, the driver of a vehicle ran into the back of a motorcycle sending the cyclist flying into the street. The driver of the vehicle, who had blood alcohol content (BAC) of 2.5 and marijuana in his system*, failed to stop and went home. The driver of the motorcycle was a 23-year-old airman stationed at Buckley Air Force Base involved in the Global Missile Warning System. The driver of the vehicle, a 32-year-old and former president of his fraternity at Colorado State University, was sentenced to 12 years in prison.⁶

Teen Driver Under the Influence Kills a High School Student: In November 2014, a teenager driving under the influence of marijuana hit and killed a 16-year-old high school student. One of the passengers in the vehicle said that the driver had been smoking “weed” in the car and was too high to drive safely. Another friend told law enforcement and he and the driver had smoked “weed” before driving to the high school the day of the crash. He said that he tried to convince the driver not to take the wheel but the driver refused. According to police the driver had trouble walking a straight line, following directions and smelled like marijuana.⁷

One Died in Three-Car Accident During Morning Commute: In January 2013, during the morning commute, a Jeep hit the back of a Subaru station wagon as both vehicles were headed eastbound on U.S. 36. The driver of the Jeep lost control and the vehicle flipped, ejecting the driver who died at the scene.⁸ The driver of the Jeep tested positive for marijuana only.*

* Information obtained by Rocky Mountain HIDTA not published in the original article.

Driver and Passenger Engulfed in Flames: On August 3, 2015 at 6:30 in the morning, 25-year-old Ricardo Gardea drove his SUV through a neighborhood careening through traffic. He was spotted by police prior to the crash and estimated to be driving at about 100 mph. He ran a red light and began “pinballing” off cars in the intersection. He eventually slammed into the back of a Jeep which was “hurtled roughly a block.” The gas tank exploded, engulfing the driver and his passenger in flames. The police officer at the scene called in “we need the paramedics in here quick because this person is still moving, but he, uh, he’s on fire.”

The driver of the vehicle, whose burns covered 65 percent of his body, died leaving behind a 7-month-old daughter. The passenger of the vehicle was seriously injured. Gardea, who caused this six-vehicle accident, fled the scene on foot but was subsequently arrested. According to the police report, “Gardea told investigators that he was under the influence of marijuana and had been drinking.” The 25-year-old has a criminal record dating back to 2007 including more than 20 arrests.⁹

Hit and Run Kills One: An SUV crashed into a minivan driven by a mother with two children inside. The crash happened at Peoria and 51st Street a little after midnight. Both the driver and the passenger of the SUV left the scene of the accident, taking off running. The driver was later arrested and tested positive for marijuana only.* The mother died from her injuries, the 6-year-old had serious injuries and the 11-year-old minor injuries.¹⁰

Drag Racing Kills Two: In June 2013, while drag racing a driver lost control of his vehicle and struck another vehicle head on. This happened at about 8:30 p.m. at Constitution Avenue just east of Circle Drive in Colorado Springs. The driver, who was allegedly drag racing, was killed as was the driver of the other vehicle who was an 84-year-old woman. The driver was a 25-year-old male who tested positive for marijuana only.¹¹

Pedestrian Killed: In June 2013 a pedestrian was hit and killed when crossing a street at the 1400 block of South Nevada Avenue in Colorado Springs, Colorado. The driver of the vehicle was not charged because the pedestrian was not crossing at a crosswalk.¹² The pedestrian tested positive for marijuana only.*

Bicyclist Died from a Collision: A bicyclist cycling eastbound on westbound lanes of 100th Avenue in Thornton didn’t stop at a stop light at the intersection with Colorado Boulevard. The bicyclist was struck by a GMC pick-up at about 10:30 p.m.¹³ The bicyclist, who was at fault, tested positive for marijuana and oxycodone, died.*

Injured Teacher No Fan of Marijuana: An article in *The Pueblo Chieftain* dated June 21, 2015 tells the story of a young schoolteacher who was crippled from a head-on collision by a truck driven by a man under the influence of marijuana. Witnesses to the accident saw the driver of the truck stumbling out of a Loaf 'N Jug and enter his truck. The observers were so alarmed they called authorities and then followed him so they could report his location. They then watched him weave across the lines of the highway and smash head-on into the young teacher's vehicle. They searched the vehicle and subsequently discovered small amounts of marijuana inside a marijuana grinder. The Pueblo West High School mathematics teacher said, "People didn't know what they were voting for. And if it continues to grow as it has since being legalized, there will be a lot more drivers who are high, and a lot more victims like me."¹⁴

Driver High on Pot Causes Crash that Injures Six: In July 2014, a 22-year-old woman was speeding eastbound on Colfax Avenue at about 2:30 in the morning. She ran a red light at Speer Boulevard and collided with another vehicle. Apparently she was driving 60 mph in a 30 mph zone when the accident, injuring six people, occurred. The young female admitted to "drinking one beer and smoked a bowl of marijuana."

"A just-completed study on medical marijuana by University of Colorado researchers found the proportion of marijuana-positive drivers involved in fatal crashes in Colorado increased dramatically since the middle of 2009. That's when medical marijuana was commercialized in the state."¹⁵

Pilot Error Caused Fatal 2013 Plane Crash: In December 2013, a pilot and her two passengers were killed when the airplane stalled and went into a spin prior to crashing into a remote snow-covered area on the Western Slope. The National Transportation Safety Board report said that the pilot failed to maintain adequate air speed while flying in low altitude, causing the wreck. A toxicology test showed that the pilot had consumed marijuana prior to the accident but there was not enough evidence to determine impairment.¹⁶

Drugged Driving Increases:

It was brought to the attention of Rocky Mountain HIDTA that although the article "Drug Use on U.S. Roads Rises as Drunken Driving Drops," was correctly cited and used in this report; the article itself misquotes a study from the National Highway Traffic Safety Administration (NHTSA). Therefore, we have removed that entry from our publication.

Buying Auto Insurance to Combat Pothead Drivers: A 2007 study by the National Highway Traffic Safety Administration found that marijuana was the most common drug used by drivers. "This sample found that about 4 percent of drivers were high during day and more than 6 percent at night."

Researchers from Columbia University's Mailman School of Public Health, examining over 23,500 fatal car crashes, found that marijuana contributed to 12 percent of the deaths in 2010 from only 4 percent in 1999.

"But increased danger on the road from stoned drivers in states where use is legal means all drivers should consider additional auto insurance, such as uninsured/underinsured motor coverage..." This came from Insurance Information Institute spokesperson Loretta Worters.¹⁷

Study on Marijuana-Impaired Drivers. The National Institute on Drug Abuse and the National Highway Traffic Safety Administration funded a study of 18 persons behind the wheel of a driving simulator who were given different combinations of marijuana, alcohol and/or a placebo. The study revealed that newer marijuana users were worse drivers at just 1 or 2 nanograms than heavy marijuana users. Also of note for the study:

- "THC moved more rapidly than alcohol out of the bloodstream and into the body, making it harder to detect accurately with a blood test." Also of note from this study:
- "Some heavy users had detectable THC in their body for nearly a month, and they performed some tasks worse up to three weeks after they last consumed marijuana."
- "Drivers who drank alcohol and smoked marijuana saw a stronger "high" than with pot alone..."
- Combining alcohol and marijuana impairs the driver to a greater degree than just one or the other.

Marilyn Huestis, chief of chemistry and drug metabolism of the Intramural Research Program at the National Institute on Drug Abuse, stated, "One of the things we know happens with cannabis is that it reduces your field of vision and you get tunnel vision, so you're unable to react as quickly."^{18,19}

70 Percent of Marijuana Users Have Driven Under the Influence: The National Cannabis Prevention and Information Centre (NCPIC) surveyed 4,600 Australians and found that 70 percent of recent marijuana users had driven under the influence of the drug. The primary researcher, Dr. Gates, stated, "We know from research that any cannabis use will affect your tracking ability, your reaction time, your attention span, your awareness of distance, your co-ordination, concentration." He said, "It is time for a wake-up call."²⁰

Sources

¹ Sarah Urfer, ChemaTox Laboratory.

² U.S. Department of Transportation National Highway Traffic Safety Administration, "The Economic and Societal Impact Of Motor Vehicle Crashes, 2010," May 2014, <<http://www.nrd.nhtsa.dot.gov/pubs/812013.pdf>>, accessed February 19, 2015

³ *Cost of a DUI* brochure, <<https://www.codot.gov/library/brochures/COSTDUI09.pdf/view>>, accessed February 19, 2015

⁴ Colorado Department of Transportation, 2015

⁵ Anica Padilla, ABC7 News-Denver, December 3, 2014, "Police: Both drivers killed in Longmont crash were stoned, one had also been drinking", <<http://www.thedenverchannel.com/news/local-news/police-both-drivers-killed-in-longmont-crash-were-stoned-one-had-also-been-drinking>>, accessed December 3, 2014

⁶ Raquel Villanueva and Blair Shiff, KUSA-9 News, November 14, 2014, "Man get 12 years for hit-and-run that killed airman," <<http://www.9news.com/story/news/local/2014/11/14/man-sentenced-in-hit-and-run-that-killed-an-airman/19027447/>>, accessed July 23, 2015

⁷ Megan Quinn, *Broomfield News*, March 17, 2015, "Police: Teen driver who struck. Killed Broomfield HS student Chad Britton was high at time of accident," <http://www.broomfieldenterprise.com/broomfield-news/ci_27729745/police-teen-driver-who-struck-killed-broomfield-hs>, accessed March 18, 2015

⁸ Mitchel Byars, *The Denver Post*/Lifestyles section, January 22, 2013, "1 dead after 3-car accident closes U.S. 36 for hours during morning commute", <http://www.denverpost.com/ci_22423991/u-s-36-shut-down-after-possibly-fatal>, accessed December 3, 2014

⁹ Jesse Paul, *The Denver Post*, "Denver Hit-and-Run/Police ID suspect in deadly wreck," August 5, 2015

¹⁰ KUSA 9News/Denver, December 25, 2013, "1 killed, 3 injured in Denver hit-and-run," <http://archive.9news.com/news/local/article/370380/346/1-killed-3-injured-in-Denver-hit-and-run>, accessed December 4, 2014

¹¹ Travis Ruiz, FOX21News.com, June 24, 2013, "Two people killed in possible street-racing crash", <<http://fox21news.com/2013/06/24/two-people-killed-in-possible-street-racing-crash/>>, accessed December 3, 2014

¹² Travis Ruiz, Fox21news.com, June 24, 2013, "Springs police: Pedestrian killed when crossing street," <<http://fox21news.com/2013/06/24/springs-police-pedestrian-killed-when-crossing-street/>>, accessed December 3, 2014

¹³ 9News Staff, KUSA-Channel 9 Denver, March 10, 2013, "Police: Bicyclist at fault in fatal weekend collision," <<http://www.9news.com/story/news/local/2014/02/25/1847780/>>, accessed December 4, 2014

¹⁴ Steven Henson, *The Pueblo Chieftain*, June 21, 2015, "Injured teacher no fan of marijuana," <<http://www.chieftain.com/news/3695332-120/driver-marijuana-pueblo-driving/>>, accessed June 22, 2015

¹⁵ Dave Young, KDVR.com, July 30, 2014, "Driver accused of causing crash that hurt 6 was high on pot, DA says," <<http://kdvr.com/2014/07/30/22-year-old-woman-charged-with-driving-high-assaulting-six-people/>>, accessed July 23, 2015

¹⁶ The Associated Press, May 5, 2015, "Pilot error caused fatal 2013 plane crash," <<http://www.9news.com/story/news/crime/2015/05/05/grand-junction-pilot-error-plane-crash-2013/26916463/>>, accessed May 7, 2015

¹⁷ Ed Leefeldt, insurance.com, April 29, 2014, "Buying auto insurance to combat pothead drivers," <<http://www.insurance.com/auto-insurance/coverage/buying-auto-insurance-combat-pothead-drivers.html>>, accessed October 20, 2014

¹⁸ Trevor Hughes, *USA Today*, June 23, 2015, "Study analyzes how much pot impairs drivers," <<http://www.usatoday.com/story/news/2015/06/23/marijuana-drivers/29155165/>>, accessed June 25, 2015

¹⁹ DailyMail.com reporter, June 24, 2015, "Official: Cannabis use impairs driving as much as alcohol says first of its kind study while drug's legality continues to spread," <<http://www.dailymail.co.uk/news/article->

3137943/Marijuana-DOES-impair-driving-kind-comprehensive-government-study-reveals-cannabis-use-affect-motor-skills-three-drinks.html>, accessed June 25, 2015

²⁰ Andrew Griffiths, ABCNews.net, June 9, 2015, “Nearly 70 per cent of cannabis users report driving under the influence: research,” <<http://www.abc.net.au/news/2015-06-10/cannabis-users-report-driving-under-influence/6534368>>, accessed June 22, 2015

SECTION 2: Youth Marijuana Use

Introduction

The following section reviews youth use rates of marijuana in Colorado and nationally. Datasets examine reported use “within the last 30 days” as opposed to “lifetime” usage. The use of the 30-day data provides a more accurate picture and is classified as current use. The lifetime data collection model typically includes individuals who are infrequent or experimental users of marijuana.

Most of the comparisons are between 2006 through 2013. The information compares the early medical marijuana era (2006 – 2008), the medical marijuana commercialization and expansion era (2009 – current) and the recreational marijuana era (2013 –current) in Colorado.

- **2006 –2008:** There were between 1,000 and 4,800 medical marijuana cardholders and no known dispensaries operating in Colorado.
- **2009 – Current:** There were over 108,000 medical marijuana cardholders and 532 licensed dispensaries operating in Colorado by the end of 2012. See the introduction at the beginning of this report for more details on the commercialization and explosion of Colorado’s medical marijuana trade.
- **2013 – Current:** In November 2012, Colorado voters passed Constitutional Amendment 64 which legalized marijuana for recreational purposes for anyone over 21 years of age. The amendment also allowed for licensed marijuana retail stores, cultivation operations and edibles manufacturing.

Some Findings

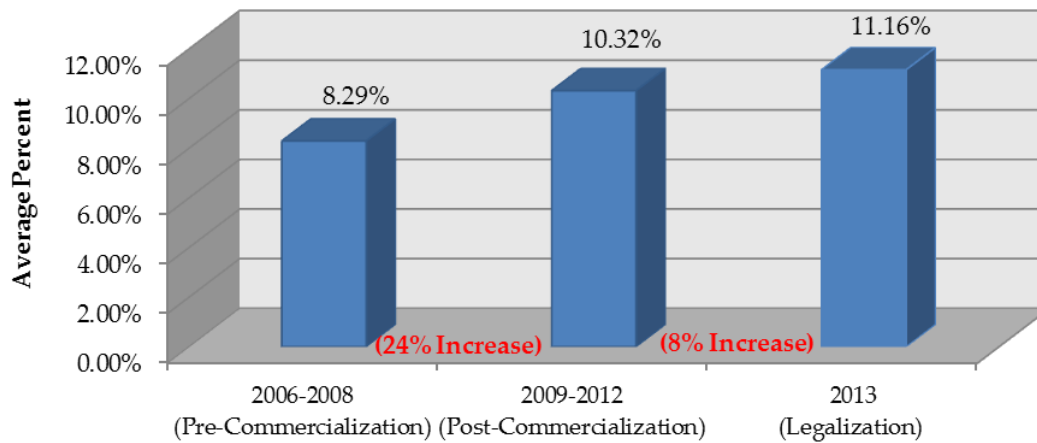
- Youth (ages 12 to 17 years old) Past Month Marijuana Use, 2013
 - Colorado average for youth was **11.16** percent

- National average for youth was **7.15** percent
 - Colorado was ranked **3rd** in the nation for current marijuana use among youth (**56.08** percent higher than the national average)
 - In 2006, Colorado ranked **14th** in the nation for current marijuana use among youth
- Between pre-commercialization and post-commercialization of medical marijuana, there was a **24 percent** increase in youth (ages 12 to 17 years old) monthly marijuana use. There was an **8 percent** increase in just one year after legalization of recreational marijuana in 2013.
- The top ten states for the highest rate of current marijuana use were all medical marijuana states whereas the bottom ten were all non-medical-marijuana states.
- There was a **40 percent** increase in drug-related suspensions and expulsions in Colorado from school year 2008/2009 to 2013/2014.
- There was a **20 percent** increase in the percent of 12 to 17 year old probationers testing positive for marijuana since marijuana was legalized for recreational purposes.
- A June, 2015 Rocky Mountain HIDTA survey of 95 Colorado school resource officers (SROs) and an August 2015 survey of 188 Colorado school counselors reveals:
 - The majority have experienced an increase in student marijuana-related incidents since recreational marijuana was legalized.
 - The most common violations on campus are possession and being under the influence during school hours.
 - Most students obtain their marijuana from a friend who gets it legally, or from their parents/family member(s).

NOTE: SAMHSA RELEASED NATIONAL DATA ON DRUG USE FOR 2014 IN SEPTEMBER 2015. HOWEVER, STATE DRUG USE DATA FOR 2014 WILL NOT BE AVAILABLE UNTIL TOWARD THE END OF 2015.

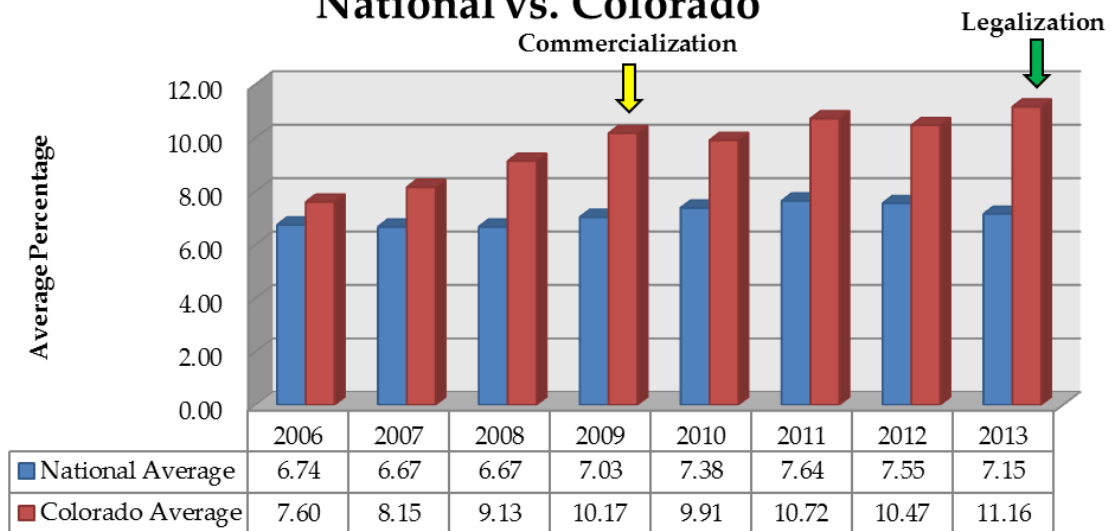
Data

Colorado Average Past Month Use of Marijuana Ages 12 to 17 Years Old



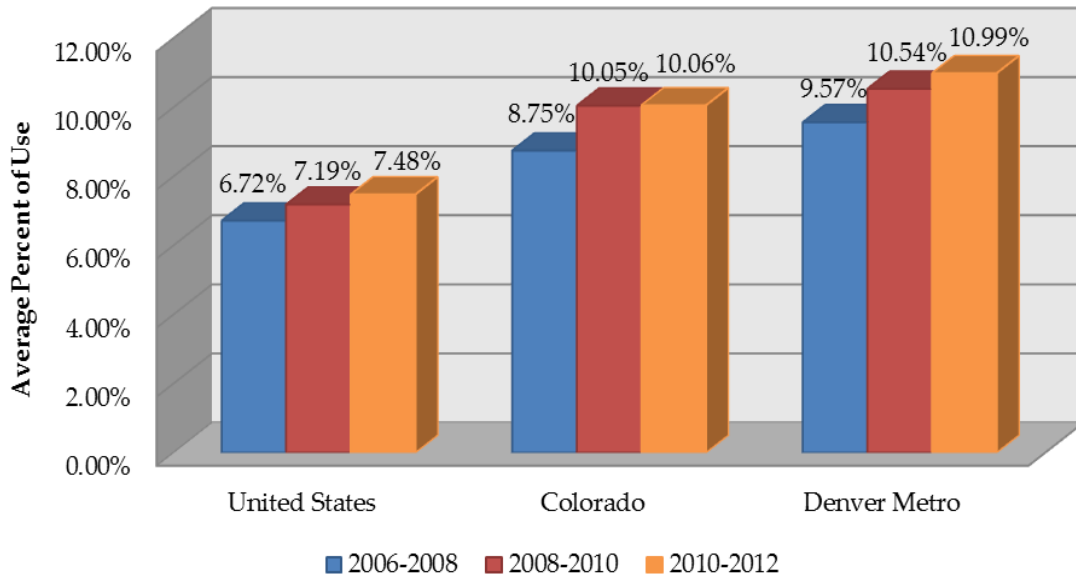
SOURCE: SAMHSA.gov, National Survey on Drug Use and Health 2012 and 2013

Youth (Ages 12 to 17 Years Old) Past Month Marijuana Use National vs. Colorado



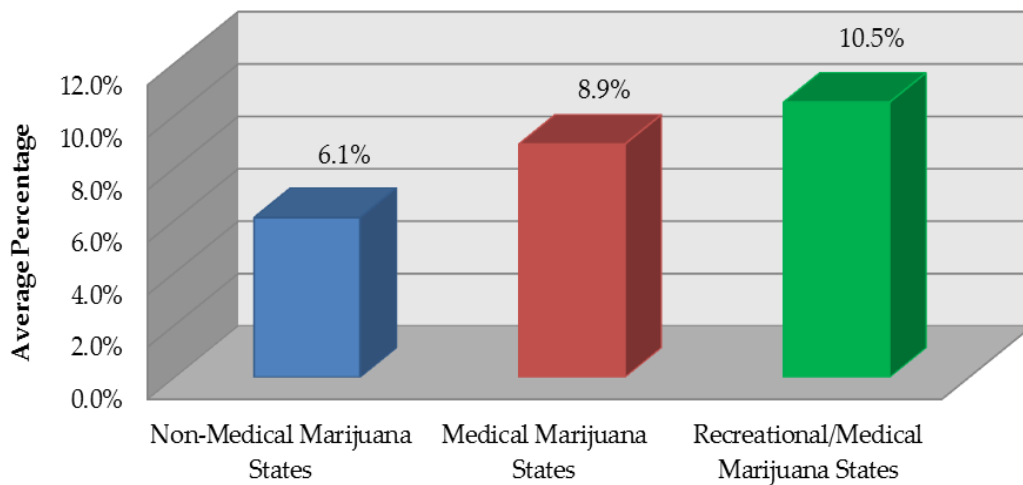
SOURCE: SAMHSA.gov, National Survey on Drug Use and Health, 2006-2013

Prevalence of Past 30-Day Marijuana Use, 12 to 17 Years Old, 2006-2012



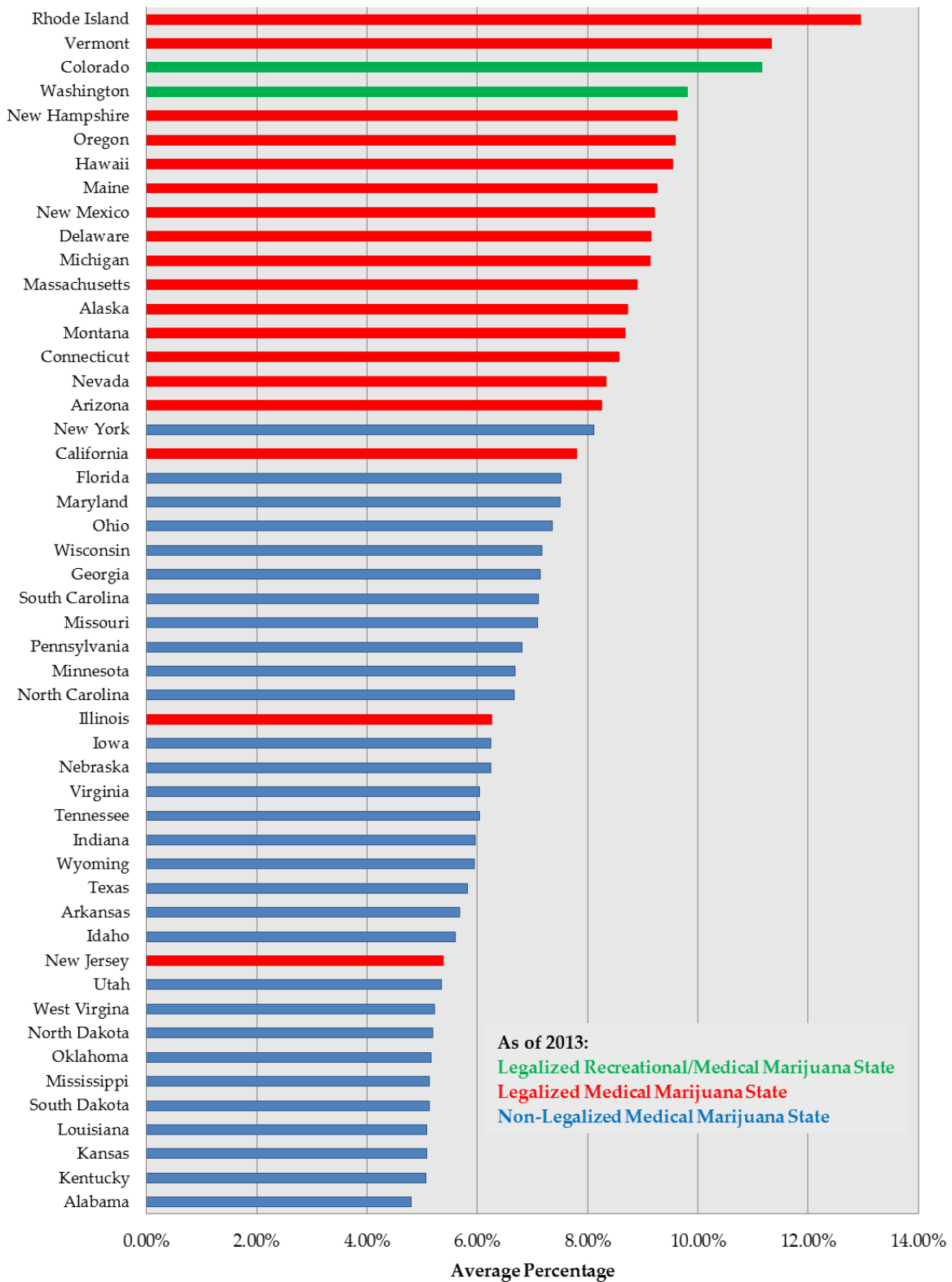
SOURCE: Denver Epidemiology Working Group (DEWG), Denver Office of Drug Strategy, October 29, 2014 and National Survey of Drug Use and Health, Sub-state Estimates 2006 – 2012

National Average Past Month Use by 12 to 17 Years Old, 2013



SOURCE: SAMHSA.gov, National Survey on Drug Use and Health 2012 and 2013

State-by-State Past Month Usage by 12 to 17 Years Old, 2013



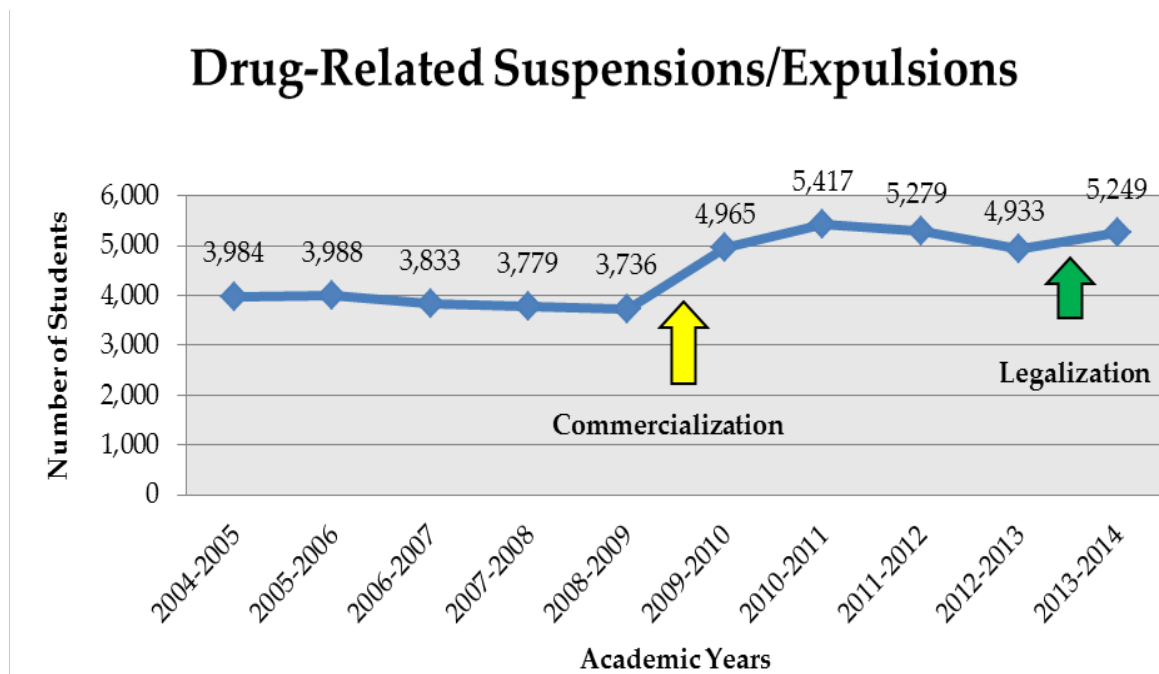
SOURCE: SAMHSA.gov, National Survey on Drug Use and Health 2012 and 2013

States for Past Month Marijuana Use Youth (12 to 17 Years Old), 2013¹

<u>Top 10</u> (Medical Marijuana States in 2013)	<u>Bottom 10</u> (Non-Medical Marijuana States in 2013)
<i>National Rate = 7.15%</i>	

<ol style="list-style-type: none"> 1. Rhode Island – 12.95% 2. Vermont – 11.34% 3. ++Colorado – 11.16% 4. ++Washington – 9.81% 5. New Hampshire – 9.62% 6. Oregon – 9.59% 7. Hawaii – 9.55% 8. Maine – 9.26% 9. New Mexico – 9.22% 10. Delaware – 9.15% 	<ol style="list-style-type: none"> 41. Utah – 5.35% 42. West Virginia – 5.23% 43. North Dakota – 5.19% 44. Oklahoma – 5.16% 45. Mississippi – 5.13% 46. South Dakota – 5.13% 47. Kansas – 5.09% 48. Louisiana – 5.09% 49. Kentucky – 5.07% 50. Alabama – 4.81%
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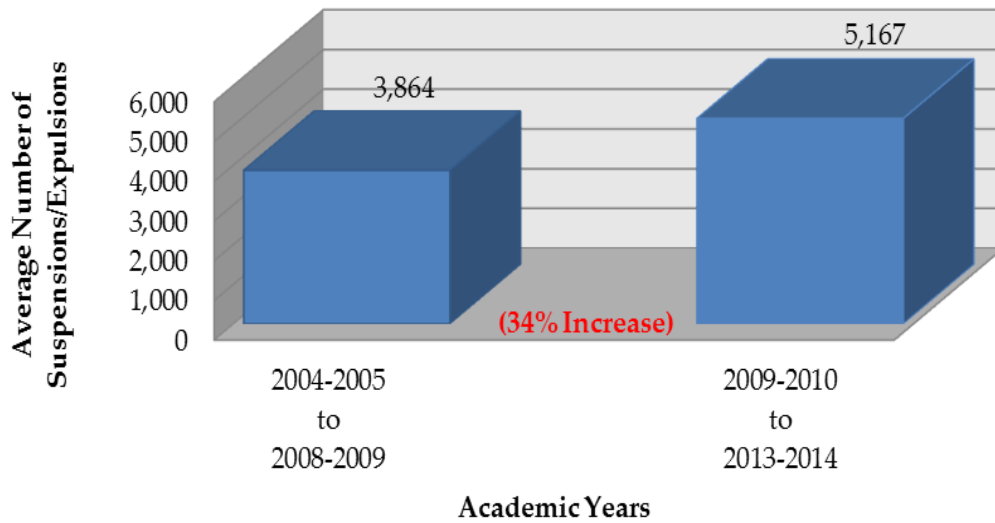
++ Legalized recreational marijuana in 2013



SOURCE: Colorado Department of Education, 10-Year Trend Data: State Suspension and Expulsion Incident Rates and Reasons

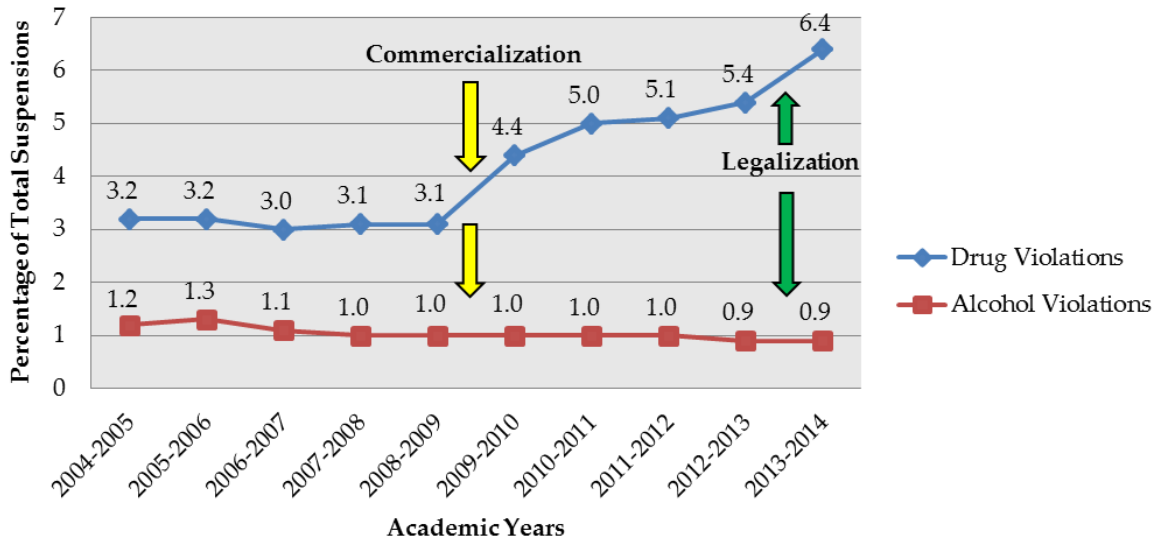
NOTE: THE COLORADO DEPARTMENT OF EDUCATION INCLUDED ALL DRUGS IN THIS DATASET. HOWEVER, DEPARTMENT OFFICIALS REPORTED THAT MOST DRUG-RELATED SUSPENSIONS/EXPULSIONS REPORTED SINCE THE 2008/2009 ACADEMIC YEAR HAVE BEEN RELATED TO MARIJUANA.²

Average Drug-Related Suspensions/Expulsions



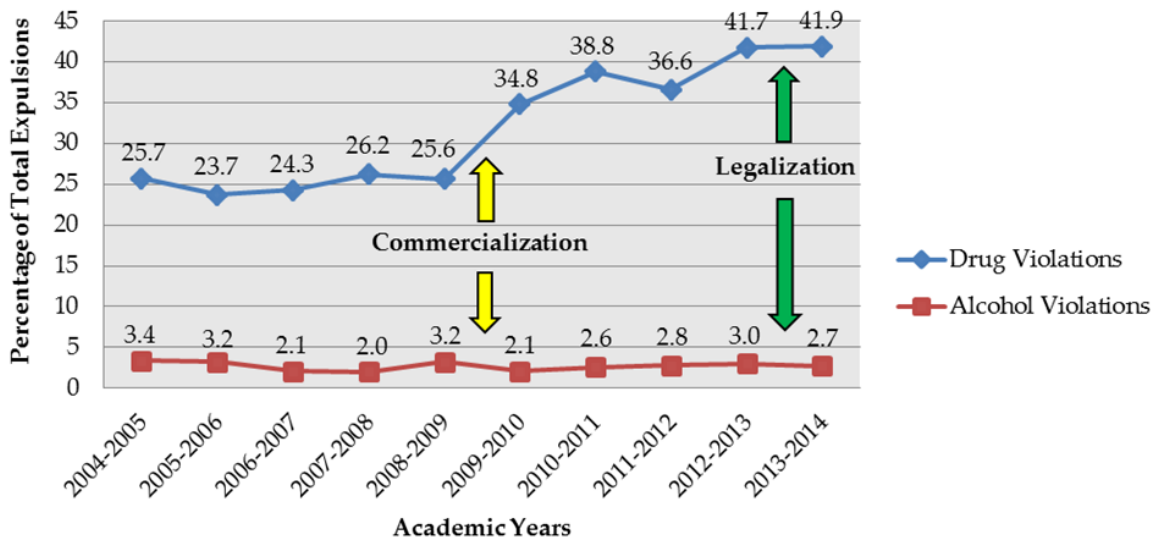
SOURCE: Colorado Department of Education, 10-Year Trend Data: State Suspension and Expulsion Incident Rates and Reasons

Percentage of *Total Suspensions* in Colorado from 2004-2014 School Years



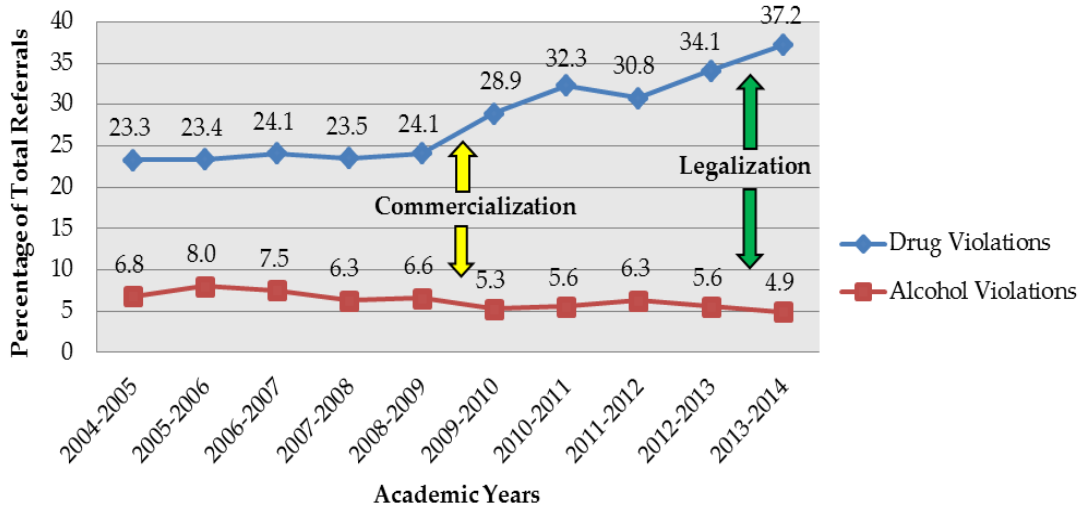
SOURCE: Colorado Department of Education, 10-Year Trend Data: State Suspension and Expulsion Incident Rates and Reasons

Percentage of *Total Expulsions* in Colorado from 2004-2014 School Years



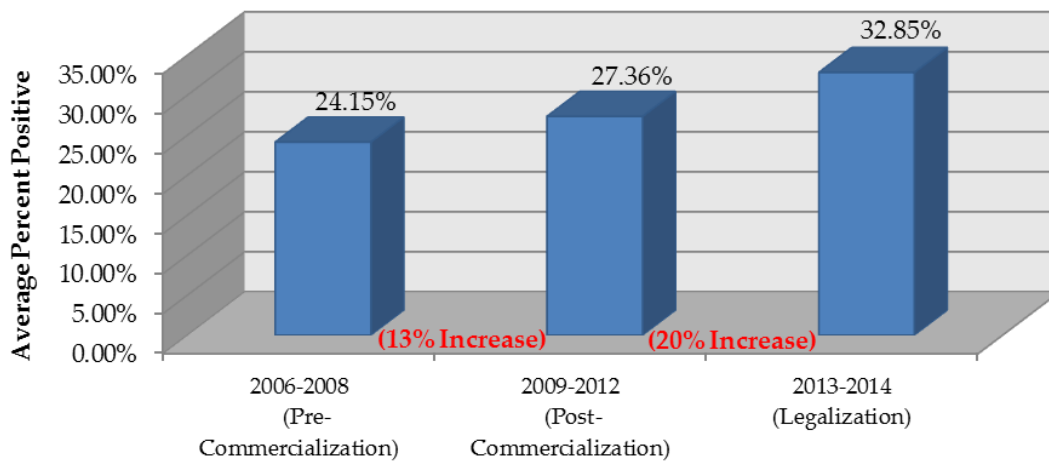
SOURCE: Colorado Department of Education, 10-Year Trend Data: State Suspension and Expulsion Incident Rates and Reasons

Percentage of Total Referrals to Law Enforcement in Colorado from 2004-2014 School Years



SOURCE: Colorado Department of Education, 10-Year Trend Data: State Suspension and Expulsion Incident Rates and Reasons

Colorado Probation Average Percent Positive THC Urinalyses Ages 12 to 17 Years Old



SOURCE: State of Colorado Judicial Branch, Division of Probation Services

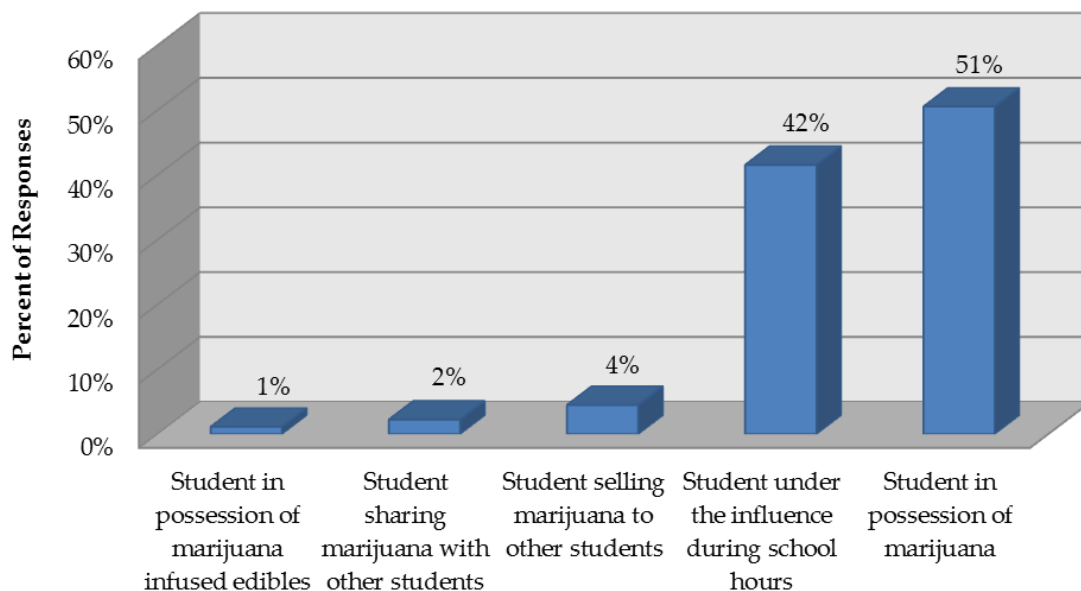
Colorado School Resource Officer Survey³

In June 2015, 95 school resource officers (SROs) completed a survey concerning marijuana at schools. The majority were assigned to high schools with an average tenure of six years as an SRO. They were asked for their professional opinion on a number of questions including:

- Since the legalization of recreational marijuana, what impact has there been on marijuana-related incidents at your school?
 - 90 percent reported an increase in incidents
 - 9 percent reported no change in incidents
 - 1 percent reported a slight decrease in incidents

- What were the most predominant marijuana violations on campus?
 - 51 percent reported possession of marijuana
 - 42 percent reported being under the influence during school hours
 - 4 percent reported selling marijuana to other students
 - 2 percent reported sharing marijuana with other students
 - 1 percent reported possession of marijuana-infused edibles

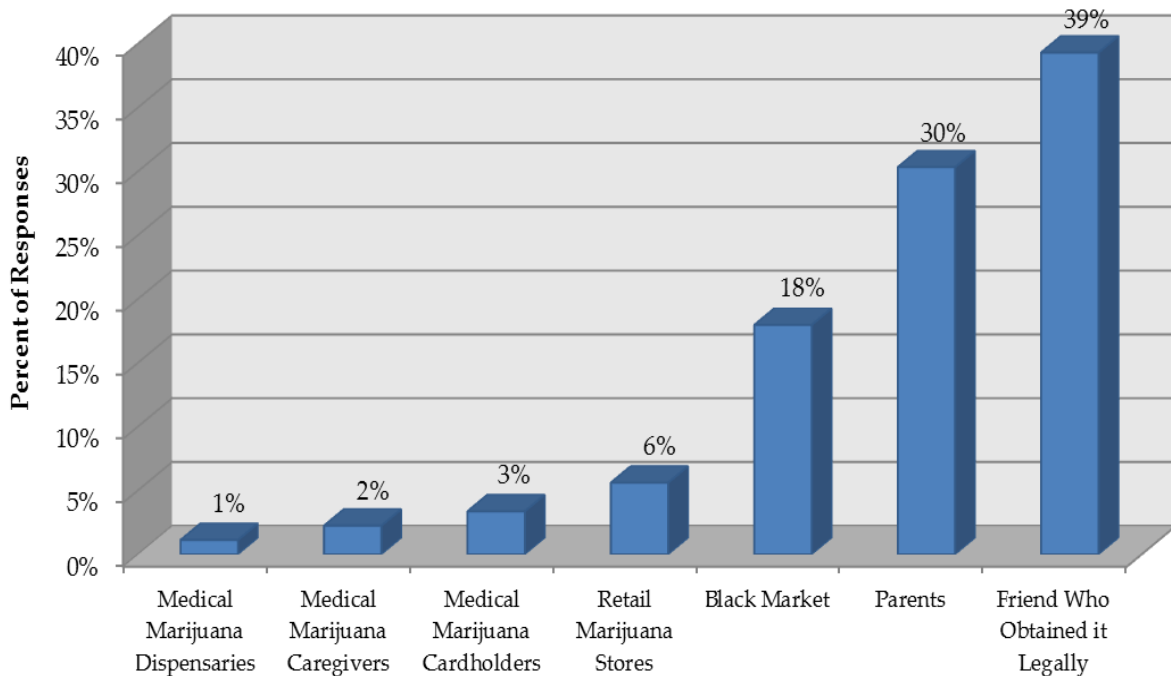
Predominant Marijuana Violations, 2015



SOURCE: Colorado Association of School Resource Officers (CASRO) and Rocky Mountain HIDTA

- Where do the students get their marijuana?
 - 39 percent reported friends who obtain it legally
 - 30 percent reported from their parents
 - 18 percent reported from the black market
 - 6 percent reported from retail marijuana stores
 - 3 percent reported from medical marijuana cardholders
 - 2 percent reported from medical marijuana caregivers
 - 1 percent reported from medical marijuana dispensaries

Student Marijuana Source, 2015



SOURCE: Colorado Association of School Resource Officers (CASRO) and Rocky Mountain HIDTA

Some Comments from School Resource Officers

6th Grade Users: “I have 6th graders that smoke marijuana before school. They steal it from their parents or older siblings.”

Pick Up Tool: “One junior boy, while in class and trying to pick up girls in his class. Offered to share marijuana edibles (Rice Krispy treats/fruity pebbles infused) to three girls in his class while asking for their phone numbers.”

Medical Marijuana Card for 18th Birthday: “During the spring I made contact with a student under the influence of marijuana with friends in an alley. After taking them back to my office to write citations. A female who was 18 years old had a marijuana card. She related that her parents took her to get it on her birthday. I advised her she had to be 21 regardless of her card.”

School to ER: Had two marijuana overdoses requiring ambulance transport to ER. Both incidents were 14 year old females.”

Increased Incidents: “Numbers of incidents are climbing each year in a school of 430.

2012-2013 (5 incidents)

2013-2014 (11 incidents)

2014-2015 (18 incidents)”

15-Year-Old Marijuana Card Holder: “15 year old with red card obtaining marijuana from friends in tobacco form. Attempted to give it to other females if they would smoke with him. Same student was caught with pipes one month before, the student attempted to fight with staff to keep them from searching him.”

17-Year-Old Assaults Father: “17 year old male refused to hang up cell phone during class. Student caused disruption in class attempted to physically stop principal from taking his backpack subsequent search found marijuana in his backpack. Suspect later assaulted his father and was taken into custody.”

Father’s Joint: “In April 2015, five middle school students were observed on the playground passing around what appeared to be a marijuana joint. When contacted, each admitted to consuming marijuana on campus. When asked where (sic) the marijuana was obtained, one of the students admitted taking it from his father.”

Vapor Pens: “Students smoking marijuana in class out of vapor pens. 8 year old found in possession of vapor pens and test positive for marijuana.”

School Counselor Survey⁴

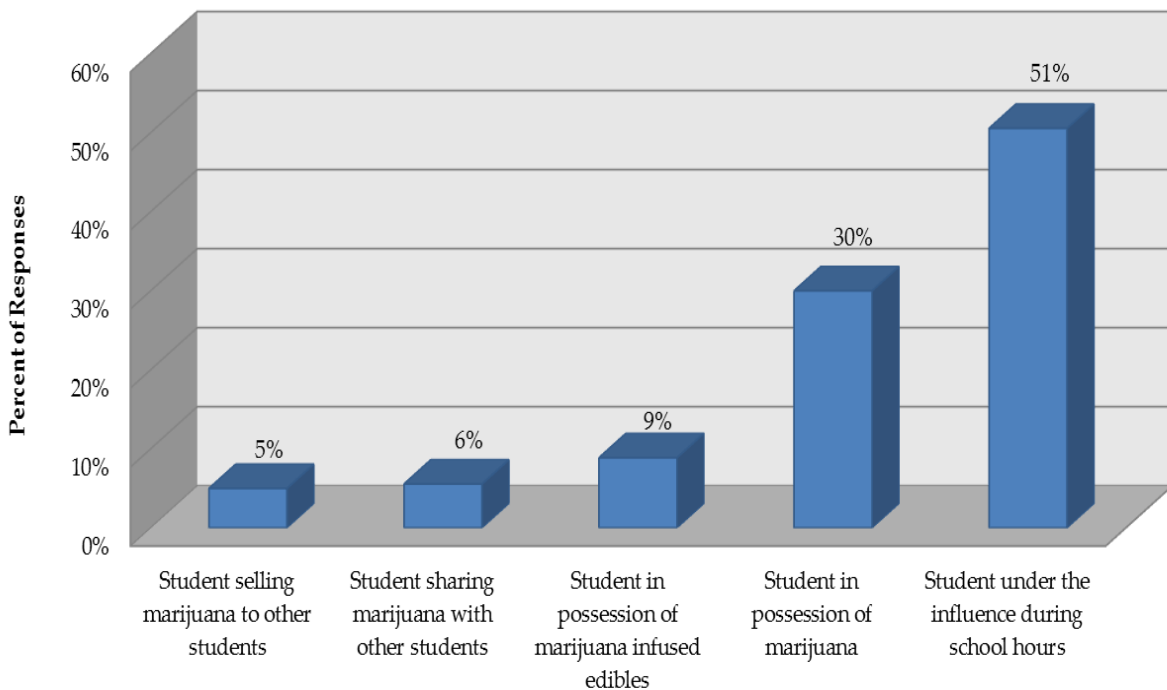
In August 2015, 188 school counselors completed a survey concerning the legalization of marijuana at schools. The majority were assigned to high schools with

an average tenure of ten years. They were asked for their professional opinion on a number of questions including:

- Since the legalization of recreational marijuana, what impact has there been on marijuana-related incidents at your school?
 - 69 percent reported an increase in incidents
 - 30 percent reported no change in incidents
 - 2 percent reported a slight decrease in incidents

- What were the most predominant marijuana violations on campus?
 - 51 percent reported being under the influence during school hours
 - 30 percent reported possession of marijuana
 - 9 percent reported possession of marijuana-infused edibles
 - 6 percent reported sharing marijuana with other students
 - 5 percent reported selling marijuana to other students

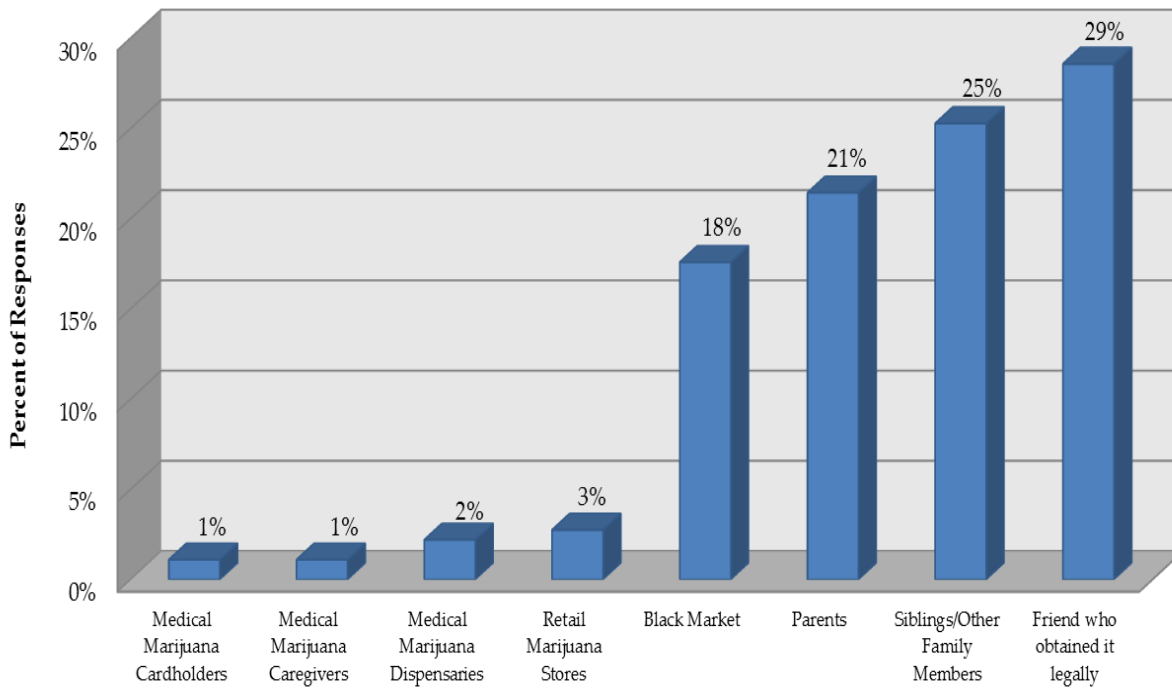
Predominant Marijuana Violations, 2015



SOURCE Colorado School Counselor Association (CSCA) and Rocky Mountain HIDTA

- Where do the students get their marijuana?
 - 29 percent reported friends who obtain it legally
 - 25 percent reported from their siblings or other family members
 - 21 percent reported from their parents
 - 18 percent reported from the black market
 - 3 percent reported from retail marijuana stores
 - 2 percent reported from medical marijuana dispensaries
 - 1 percent reported from medical marijuana cardholders
 - 1 percent reported from medical marijuana caregivers

Student Marijuana Source, 2015



SOURCE Colorado School Counselor Association (CSCA) and Rocky Mountain HIDTA

Some Comments from School Counselors

Halls Reek of Pot After Lunch:

- “Many kids come back from lunch highly intoxicated from marijuana use. Halls reek of pot, so many kids are high that it is impossible to apprehend all but the most impaired.”
- “They go off campus and smoke during lunch with friends. They will run home with friends during lunch and smoke then.”

- “There have been several instances of students in their cars on lunch or during their off hours ‘hotboxing’ or smoking marijuana. Most students are seniors but on occasion, seniors will provide marijuana to 9th or 10th grade students.”
- “2014/2015 school year, several students caught coming back from off-campus lunch under the influence of marijuana.”
- “Had a student come back from lunch, teacher believed that they were high. Student was escorted to the office, student admitted they were indeed high to the administrator.”
- “Students are often referred after lunch (open campus) after they have been riding around smoking marijuana with their friends.”
- “More and more students are coming back to school high after lunch.”
- “In April 2015, students were going out for a break. 2-3 students smoked marijuana about a block away from school. They smelled like pot when they got back.”

Arrives at School Stoned:

- “At the beginning of the second semester, three middle school boys were routinely arriving late at school, and noticeable intoxicated.”
- “We have middle school students who either come to school high, or have it on them in a bag. Or they have pipes on them.”
- “In May 2015, a teacher witnessed 2 seniors smoking marijuana while driving to school. One student admitted to having done so; the other denied it.”
- “Teaching a lesson in class during first period that started 7:30 AM and 2 students were already high in class.”
- “A male 13 y/o student fell asleep in several classes. He was interviewed by the school counselor and the RSO (sic). He was assessed as being high and admitted that he uses marijuana often before school. He steals it from his older brother.”
- “12 yr. old, sixth grader, was suspected of coming to summer school high. When confronted he told the teacher that he smoked it at home the night before but denied being high at the time. Later, he confirmed that he had smoked early that morning. The marijuana came from his mother’s stash.”

New Use of Bathrooms:

- “Students using in the bathroom.”
- “2 students were smoking marijuana in the restroom last year.”
- “8th grade male student had marijuana in his locker, classmates reported it. 8th grade female student smoked a joint in a school bathroom during school hours. Shared it with a friend.”

- “7th grade girl last year had hidden marijuana and a pipe in the girl’s restroom and told several friends who began getting bathroom break passes from various classrooms. Security noted an increased traffic flow to and from that restroom and found the weed and soon after the violators.”

It’s Legal:

- “3 or 4 times in the last school year, students have come to school under the influence after meeting at homes where parents were absent, sharing marijuana off campus and then bringing it on campus. 7th and 8th grade students have been involved, and most often their reaction when caught is ‘it’s legal’.”
- “I met with at least 5 students last year alone that have been showing significant signs of drug use or were caught and they all said they will not stop using weed on a daily basis. Their justification was it’s fine because it’s legal. If it’s legal it’s not as bad as what adults say about the risks.”

Just a Plant:

- “In March of 2015 a fifth grade boy offered marijuana to another fifth grader on the playground. In October of 2014 a kindergarten girl described the pipe in her grandmother’s car and the store where you go to buy pipes. In May of 2015 a first grade girl reported that her mom smokes weed in the garage. ‘It’s not a drug, it’s just a plant’.”

Grades Decline:

- “I would like to say that in general our Marijuana incidents have not gone up. We have a savvy population that knows to keep it away from school. However, I have seen a huge spike in talking with kids about it in my sessions. Last year I had two very intelligent students (above 4.0) that used marijuana 2-6 times a week. Both of them had grades decline and significant social emotional issues spike in the Spring of their Senior Year. They also both had violations at school.”

Dad Allows Pot Smoking:

- “We had reports of two students (brothers) appear to be high at school. Our officer assessed both of them and discovered that their father, who had a medical marijuana card, was having them both “smoke a bowl” before school. He thought it would make their school day easier.”

Parents High:

- “At our elementary school, we have noticed an increased number of parents showing up to school high. Kids have also brought [marijuana] to school to show their friends.”

Difficulty in Assessment:

- “For school personnel, it is more difficult to evaluate what substance a student is under the influence of. We can smell alcohol and smoked marijuana but the edibles and vapes are hard to detect.”

Warning: Drug Canines:

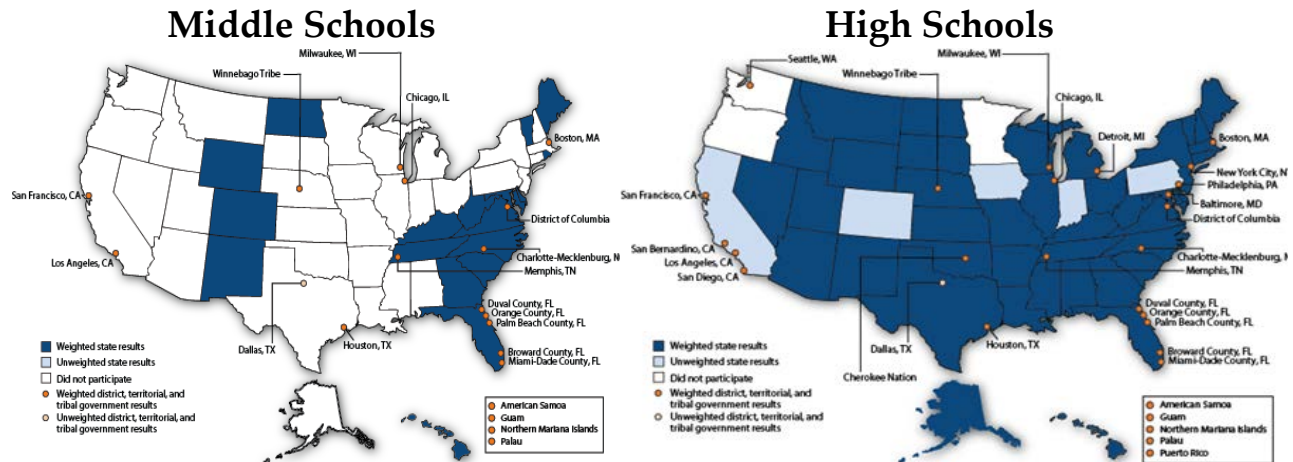
- “I would like to just offer that we need policy that allows for more use of drug dogs and not having to forewarn students or parents when these dogs will be present. Students and especially dealers, the ones we need to catch, are very vigilant in making adjustments when these resources are used.”

Youth Use Surveys Not Utilized and Why

- ❖ After careful analysis and consideration, Rocky Mountain HIDTA did not use the following datasets in this report because of the following reasons:

Centers for Disease Control Youth Risk Behavior Survey (YRBS): In 2013, Colorado fell short of the required number of student responses and was, therefore, not included. Additionally, upon further review, it was discovered that since 1991 the state of Colorado has only been represented in the High School YRBS survey with weighted data four times. Since 1995, Colorado has only been represented in the Middle School YRBS survey by weighted data twice. States that participated in the 2013 Middle School and High School YRBS surveys are represented in dark blue in the below maps. It should be noted, in 2013, high schools in the following eight states were not included with high school data: California, Colorado, Oregon, Washington, Minnesota, Illinois, Iowa and Pennsylvania.⁵

**Centers for Disease Control Youth Risk Behavior Survey
2013 YRBS Participation Map**



SOURCE: Centers for Disease Control and Prevention, Adolescent and School Health, YRBS Participation Maps and History <<http://www.cdc.gov/healthyyouth/data/yrbs/participation.htm>>

Monitoring the Future (MTF) Study: Monitoring The Future is designed to be nationally-represented and not state-represented. MTF does not provide usable estimates for the specific state of Colorado because of the state’s relatively small size. Colorado is only 1.6 percent of the total U.S. population; thus, the sampling would only

be 1.6 percent of Colorado schools (400) or about 6 schools per year. Since 2010, the survey sampled an average of 4.6 Colorado schools. In 2014 and 2015, there were four schools surveyed each year of which three were eighth grade. Therefore, the MTF study is not useful for state data pertaining to Colorado for school-age drug use data and trends.⁶

Healthy Kids Colorado Survey (HKCS): The Healthy Kids Colorado Survey is voluntary, self-reported health information from Colorado middle and high school students. However, this survey notably changed in 2013. “Sample sizes from 2005-2011 ranged from about 700 to 1,500 students” whereas “sample size for 2013 for current and lifetime use was about 25,000 high school students.” Additionally, the HKCS “methodology changed in 2013 to include charter schools and to expand the sample size.” Rocky Mountain HIDTA did not feel it was consistent to compare data pre-2013 with the new method of collecting data.⁷

Related Material

Denver Public School Marijuana Arrests Increased 39 Percent: Since marijuana was legalized in 2013, Denver Police Department reported 154 arrests in 2013 compared to 111 in 2012 which is a 39 percent increase. Students who talked to 9News from one high school are quoted as saying:⁸

- “[Legalization] does make it more acceptable because a lot of people couldn’t get it before, but now they have uncles or cousins or whatever that are old enough to get it, and they can just get it for them.”
- Another student saying he sees pot use frequently, “around the parks, walking on the streets, at the bus, in the bus. Everywhere.”
- Another student saying that students have easier access to the drug than they did before made the comment, “It’s Colorado.” A student commented, “Yeah, some kids just come to class all stoned.” “[Teachers] don’t really do nothing. They just look at them. Give them a weird look and then just walk away.”

School workers say it can be a tough call to report cases like that. Kids suspected of being high that are not disrupting classes, just quietly zoned out at their desk.

Valley Schools See Increase in Marijuana-Related Offenses: “Administrators at the Roaring Fork Valley high schools have seen an uptick in marijuana-related infractions over the first full year of the drug being legalized for adult recreational use, causing some changes in the curriculum to better inform students about how pot can adversely affect the teenage brain.” School District Superintendent Diana Sirko said in

comparison to the last three to five years there has been a “dramatic increase” in infractions during the recently-completed school year. She states, “I didn’t think [legalization] would affect things any more than alcohol does, but we’ve been more impacted than we first thought. Because of the fact that [marijuana] is now legal, it’s viewed differently by kids... It’s the availability and overall mindset that leads to problems.”⁹

School Drug Incidents Raise Questions on Colorado Pot Policy: “Hundreds of Colorado’s middle-school students got caught with drugs at school last year, setting a decade-high record while raising questions about the impact of the state’s legal marijuana industry.” School-based experts believe that the 24 percent increase in middle school drug reports directly relate to the legal marijuana industry. Denver Public Schools saw a 7 percent increase from 452 in school year 2012/13 to 482 in school year 2013/14. “The 951 middle-school drug violations across Colorado was the highest tally in a decade.” School officials say that the greater availability and acceptance appears to be prompting more kids to try marijuana. Aurora P.D. School Resource Officer Susan Condrey stated, “I would say that at any given time, any day of the week, there are probably about 10% of the kids in the high school that are under the influence of something.”¹⁰

Chuck Frank: Study Shatters Claims Marijuana is Harmless: An article in the scientific journal *Addiction* by Professor Wayne Hall of King’s College in London, who is also the World Health Organization drug advisor, “built a compelling case with regard to the negative and adverse effects of cannabis.” Among the professor’s findings was that regular use, particularly among teens, leads to long-term mental health problems as well as addiction.¹¹

- “One in six teenagers who regularly smoke the drug become dependent on it.”
- Cannabis doubles the risk of developing psychotic disorders, including schizophrenia.
- “Cannabis users do worse at school. Heavy use in adolescence appears to impair intellectual development.”
- “One in ten adults who regularly smoke marijuana become dependent and are more likely to go on to harder drugs.”
- “Driving after smoking marijuana doubles the risk of car crashes, which increases substantially if the driver also drank alcohol.”
- “A study released (April 23, 2014) by the *Journal of the American Heart Association* revealed a relationship between cardiovascular disease and cannabis use in regular marijuana users.”

This New Study is Bad News if You're a Marijuana Supporter: Researchers at Northwestern University released a study in the journal *Hippocampus* related to some findings regarding heavy use of marijuana on teenagers' long-term memory. The study examined daily marijuana users who began at the age of 16 compared to the same age young adults who never used marijuana. Researchers used an MRI scan of the area of the brain responsible for long-term memory retention. Researchers also conducted MRI scans for subjects in their early 20's who were two years removed from heavy marijuana use. The study showed an "oddly shaped hippocampus" in heavy marijuana users that accompanied long-term memory test scores 18 percent lower than those who had not used marijuana. One of the senior authors stated, "The memory processes that appear to be affected by cannabis are ones that we use every day to solve common problems and to sustain our relationships with friends and family." This apparently was the first study that confirmed the relationship between heavy marijuana use and a misshapen hippocampus that lead to poor long-term memory function.¹²

Impact of Youth Marijuana Use: A study published in the journal *Lancet Psychiatry* by Dr. Muiris Houston provides some startling findings concerning marijuana use among youth.

- Daily users of marijuana prior to the age of 17 are 60 percent less likely to complete high school or get a university degree than those who do not use marijuana.
- Teens who are daily users of marijuana are seven times more likely to attempt suicide.
- Teens who use marijuana on a daily basis are eight times more likely to use other drugs later in life.¹³

Teen Marijuana Use and the Risk of Psychosis: "Doctors in Germany have noted an alarming rise in psychotic episodes linked to excessive marijuana use among young people, which follows other studies around the world raising alarms." "The number of patients admitted with psychotic episodes after having consumed cannabis has more than tripled in Germany over the last 15 years, from 3,392 in 2000 to 11,708 in 2013." "More than half the patients are younger than 25."¹⁴

Pot Smoking Can Damage Developing Brains "Scientists believe that the increased potency leads to abnormalities in the shape, density, and volume of the nucleus accumbens, the walnut-shaped area of the brain that's associated with pleasure and pain. The nucleus accumbens "Is the core of motivation," says study co-author Hans Breiter. J.M. [Gilman et al., Cannabis Use Is Quantitatively Associated with Nucleus Accumbens and Amygdala Abnormalities in Young Adult Recreational Users, *Journal of*

Neuroscience (Neurobiology of Disease section), 34 (2014), 5529–5538] “This is a part of the brain you do not want to mess around with.”¹⁵

Teens That Smoke Pot Could End Up Shorter: “Researchers at a university in Pakistan studied levels of hormones linked to growth and puberty in the blood of 217 boys addicted to marijuana and 220 who didn’t smoke at all.” They found certain hormones linked to puberty were higher among pot users but growth hormone levels were significantly lower. When checking back years later, the researchers found non-marijuana users were 9 pounds heavier and 4.6 inches taller on average than their marijuana-smoking counterparts. The scientists, who presented their findings at a conference in Ireland, said that this might help provide some insight into the effects of drug use on growth and development.¹⁶

Medical Marijuana May Pose Risk to Teens: Study: A study by a professor in the School of Nursing at the University of Michigan showed that teens who legally were using medical marijuana were ten times more likely to say they were addicted than those that got the drugs illegally. The study author, Carol Boyd, stated, “I think that medical marijuana laws are failed policy and that these data lend support to my position.”¹⁷

Study Identifies Teens at Risk for Hashish Use: “The recent increase in popularity of marijuana use coupled with more liberal state-level policies has begun to change the landscape of adolescent marijuana use. More potent forms of marijuana, such as hashish, may present a threat to adolescent health.” A study by researchers connected to the New York University Center for Drug Use and HIV Research was one of the first to examine the prevalence and correlation between hash use among a sample of U.S. high school students. One of the researchers reports that one out of ten teens reported using hashish and that marijuana and hashish bear the same risk factors for regular users but are much stronger from hashish, which is a more potent form of marijuana.¹⁸

THC Levels in Teens: In a Colorado Springs *Gazette* Op/Ed dated June 21, 2015 entitled “THC extracts concentrate problems: For example, the average level of THC found in the urine of about 5,000 adolescents ages 12-19 by researchers at the University of Colorado jumped from 358 nanograms per milliliter in 2007 through 2009 – just before the state’s boom in medical marijuana dispensaries – to 536 milliliters from 2010 through 2013.”¹⁹

Pot Unsafe to Teen and Young Adult Brains Under Construction: “Even moderate marijuana use among teens and young people was shown in a study this year to cause abnormalities in the developing brain. Yet as Colorado and other states legalize

recreational pot use, the public perception is that it is generally safe.” A study published in the *Journal of Neuroscience* in April 2014, conducted by the Harvard Medical School and Northwestern University Feinberg School of Medicine, used brain scans on young adults who smoked marijuana moderately. The researchers found changes in the volume, shape and density in the regions of the brain responsible for judgment, motivation, decision-making and emotional behavior. They found that the more these young adults smoked, the greater the abnormalities.²⁰

Pot Used to be Pretty Harmless, But It’s Plenty Dangerous Today: Dr. Grace M. McGorrian, in a *Pittsburgh Post-Gazette* editorial, compares the impact of marijuana from the 1960s and ‘70s to the marijuana of today. She states, “Modern marijuana has been genetically modified to be more potent – six to 10 times higher in THC.” The article goes on to describe experience with marijuana users in that they have a greater distortion of reality and consciousness and also sometimes appear to be very sedated and unsteady on their feet. She mentions poor balance and compromised memory even when no longer high. She mentions that she has seen THC levels rise from “200 nanograms per milliliter to 500, to 1,000, to 1,750 (I have seen all these levels.)” Dr. McGorrian also cites that 50 percent of those using high-potency marijuana daily will experience withdrawal symptoms to include poor sleep, decline in appetite, possible vomiting and stomach pain. She cites anxiety, irritability increases and some experience muscle twitching and limb spasms. She says the symptoms will clear in less than a week but the experience is rough and that many heavy users resume smoking mid-withdrawal. Dr. McGorrian is board-certified in adult and forensic psychiatry.²¹

Under the Influence of Parents: A survey conducted by the Hazelden Betty Ford Foundation’s Center for Public Advocacy show that children of parents who have used marijuana are three times more likely to use it themselves. This nationwide survey was conducted of individuals between the ages of 18 and 25 to get a better understanding of marijuana using habits and attitudes. The survey found that 72 percent of children who reported their parents have used, or are using, marijuana have in fact used it themselves. That compares to less than 20 percent of children whose parents have not used marijuana. The survey also found that 15 percent stated they used marijuana before the age of 14 and about 35 percent between the ages of 14 and 16.

The survey also found that the majority of young adult marijuana users (6 out of 10) did not think marijuana was addictive and didn’t damage the brain. Almost half of those felt that eating marijuana was safer than smoking it.

In Colorado, close to 49 percent of youth surveyed admitted they had used marijuana compared to approximately 41 percent nationwide. In Colorado, 24 percent of youth said they used marijuana daily compared to about 19 percent for the rest of the country.²²

Marijuana Exposure Among Children Younger Than Six Years in the United States: “The rate of exposure to marijuana among young children nationwide is rising. Young children in states where laws allow sale and use of marijuana face significantly elevated risks of exposure and poisoning.”²³

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¹⁹ Wayne Laugesen and Pula Davis, *The Gazette* editorial board, June 21 2015, "Clearing the Haze/THC extracts concentrate problems," <<http://gazette.com/clearing-the-haze-thc-extracts-concentrate-problems/article/1554097>>, accessed June 22, 2015

²⁰ Electra Draper, *The Denver Post*, December 26, 2014, "A Year of Legal Pot/Pot unsafe for teen and young adult brains under construction," <http://www.denverpost.com/potanniversary/ci_27174681/pot-unsafe-teen-and-young-adult-brains-under>, accessed July 14, 2015

²¹ Dr. Grace M. McGorrian, *Pittsburgh Post-Gazette*, May 24, 2015, "Pot used to be pretty harmless, but it's plenty dangerous today," <<http://www.post-gazette.com/opinion/Op-Ed/2015/05/24/A-tale-of-two-reefers/stories/201505240065>>, accessed May 25, 2015

²² Hazelden Betty Ford Center Foundation, *Recovery News*, September 18, 2014, "Under the Influence of Parents – Children of marijuana users much more likely to start using marijuana at a young age, new Hazelden Betty Ford Foundation survey finds," <<https://www.hazelden.org/web/public/children-of-marijuana-users.page>>, accessed September 18, 2014

²³ Bridget Onders, BS, et al, "Marijuana Exposure Among Children Younger Than Six Years in the United States," *Clinical Pediatrics*, June 10, 2015, 1-9

SECTION 3: Adult Marijuana Use

Introduction

The following section reviews rates of marijuana use by adults in Colorado and nationally. Data sets examine reported use “within the last 30 days” as opposed to “lifetime” use. Use of the 30-day data provides a more accurate picture and is classified as current use. The lifetime data collection model includes those who were typically infrequent or experimental users of marijuana.

Data comparisons are from years 2006 through 2013. The information compares the early medical marijuana era (2006 – 2008), the medical marijuana commercialization and expansion era (2009 – current) and the recreational marijuana era (2013 – current) in Colorado.

- **2006 – 2008:** There were between 1,000 and 4,800 medical marijuana cardholders and no known dispensaries operating in Colorado.
- **2009 – Current:** There were over 108,000 medical marijuana cardholders and 532 licensed dispensaries operating in Colorado by the end of 2012. See the introduction at the beginning of this report for more details on the commercialization and explosion of Colorado’s medical marijuana trade.
- **2013 – Current:** In November 2012, Colorado voters passed Constitutional Amendment 64 which legalized marijuana for recreational purposes for anyone over 21 years of age. The amendment also allowed for licensed marijuana retail stores, cultivation operations and edibles manufacturing.

Some Findings

- College Age Adults (ages 18 to 25 years old) Current Marijuana Use 2013
 - Colorado average – **29.05 percent**
 - National average – **18.91 percent**
 - Colorado was ranked **2nd** in the nation for current marijuana use among college-age adults (**53.62 percent** higher than the national average).
 - In 2006, Colorado was ranked **8th** in the nation for current marijuana use among college-age adults.
- Between pre- and post-commercialization of medical marijuana, there was a **17 percent** increase in college-age (ages 18 to 25 years old) monthly marijuana use. There was an **11 percent** increase in just one year after legalization of recreational marijuana in 2013.
- There was a **49 percent** increase in 18 to 25-year-old probationers testing positive for marijuana since marijuana was legalized for recreational purposes.
- Adults (ages 26+ years old) Current Marijuana Use 2013
 - Colorado average – **10.13 percent**
 - National average – **5.45 percent**
 - Colorado was ranked **5th** in the nation for current marijuana use among adults (**85.87 percent** higher than the national average)
 - In 2006, Colorado was ranked **8th** in the nation for current marijuana use among adults
- Between pre- and post-commercialization of medical marijuana, there was a **32 percent** increase in adult (26+ years old) monthly marijuana use. There was a **27 percent** increase in just one year after legalization of recreational marijuana in 2013.
- The top ten states for the highest rate of current marijuana use were all medical-marijuana states.
 - College age rate (18 to 25 years old): Top ten states average of **26.31 percent** compared to national average of **18.91 percent**
 - Adult rate (26+ years old): Top ten states average of **9.28 percent** compared to national average of **5.45 percent**

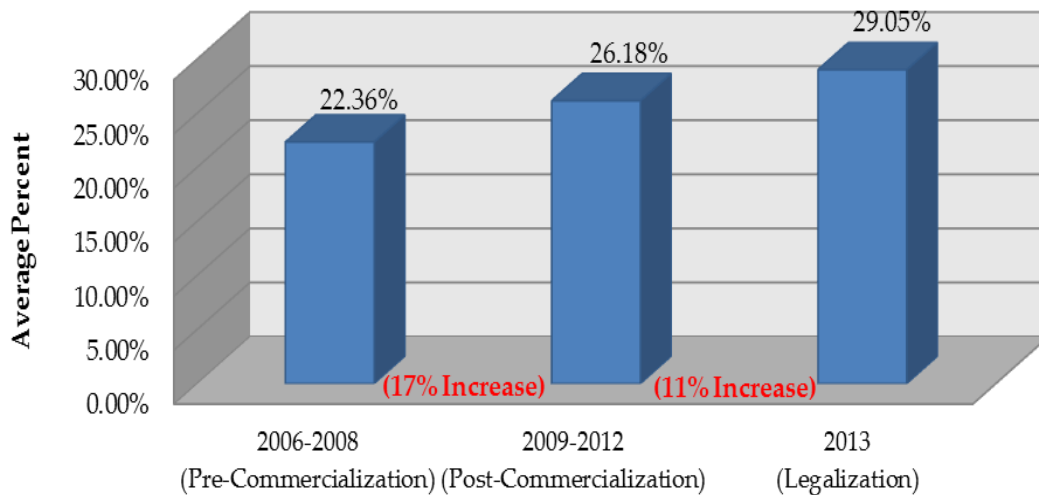
- There has been an **87 percent** increase in 26+ years old probationers testing positive for marijuana since marijuana was legalized for recreational use.

NOTE: SAMSHA RELEASED NATIONAL DATA ON DRUG USE FOR 2014 IN SEPTEMBER 2015. HOWEVER, STATE DRUG USE DATA FOR 2014 WILL NOT BE AVAILABLE UNTIL TOWARD THE END OF THE YEAR 2015.

Data

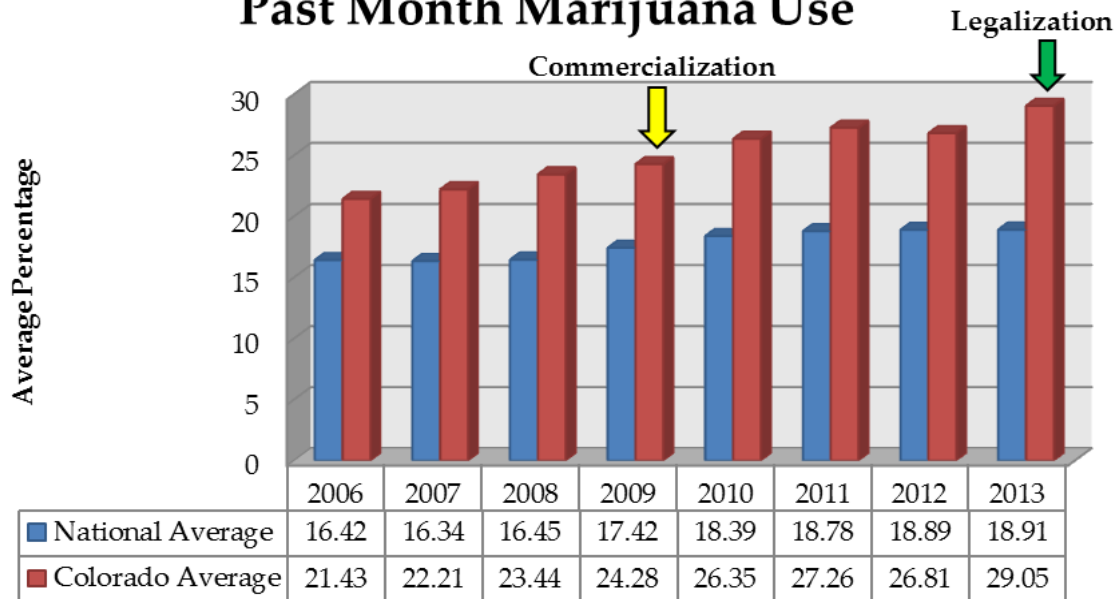
College Age (18 to 25 Years Old)

Average Past Month Use of Marijuana College Age (18 to 25 Years Old)



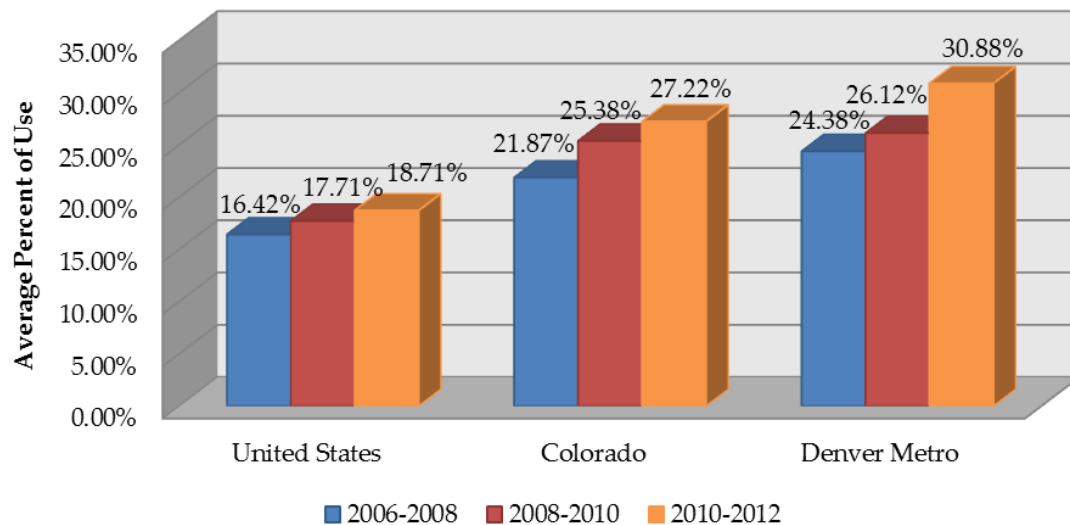
SOURCE: SAMHSA.gov, National Survey on Drug Use and Health, 2006–2013

College Age (18 to 25 Years Old) Past Month Marijuana Use



SOURCE: SAMHSA.gov, National Survey on Drug Use and Health, 2006 - 2013

Prevalence of Past 30-Day Marijuana Use, 18 to 25 Years Old, 2006-2012



SOURCE: Denver Epidemiology Workgroup (DEWG), Denver Office of Drug Strategy, October 29, 2014 and the National Survey of Drug Use and Health, Sub-state Estimates 2006-2012

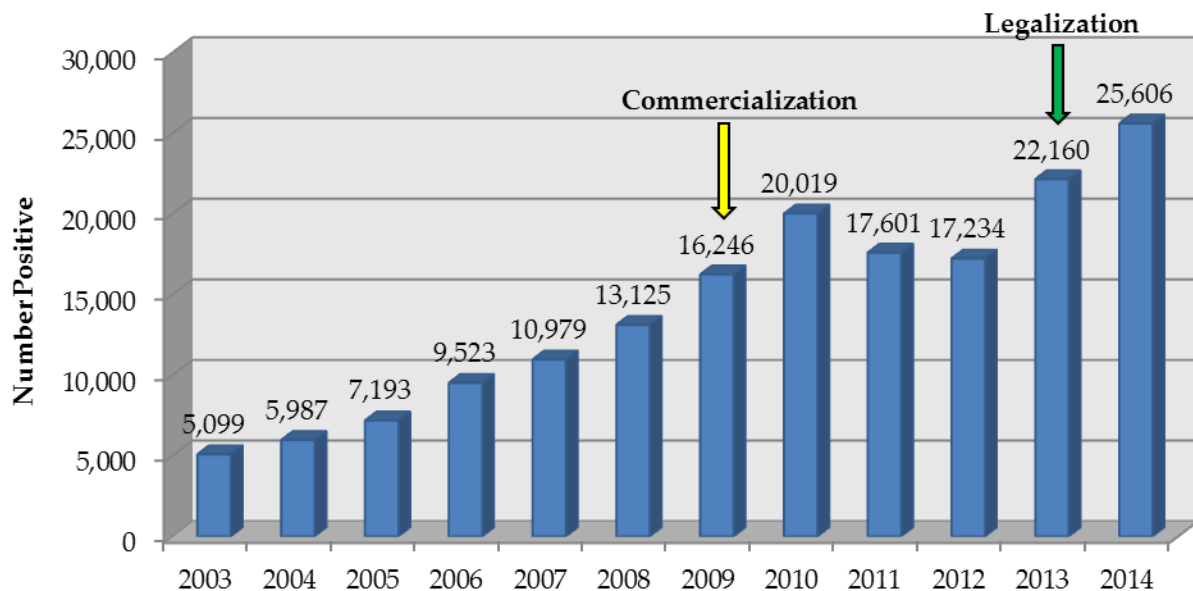
States for Past Month Marijuana Use College Age (18 to 25 Years Old), 2013¹

<u>Top 10</u> (Medical Marijuana States in 2013)	<u>Bottom 10</u> (Non-Medical Marijuana States in 2013)
National Rate = 18.91%	

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. Rhode Island – 29.79% 2. ++Colorado – 29.05% 3. Vermont – 28.74% 4. New Hampshire – 27.77% 5. Massachusetts – 26.64% 6. ++Washington – 25.56% 7. Maine – 24.71% 8. Connecticut – 24.41% 9. Oregon – 23.39% 10. Montana – 23.04% | <ol style="list-style-type: none"> 41. Oklahoma – 14.43% 42. Arkansas – 14.28% 43. Wyoming – 14.12% 44. Idaho – 14.05% 45. North Dakota – 14.04% 46. Alabama – 13.93% 47. Texas – 13.88% 48. South Dakota – 12.68% 49. Kansas – 12.23% 50. Utah – 10.91% |
|---|--|

++ Legalized recreational marijuana in 2013

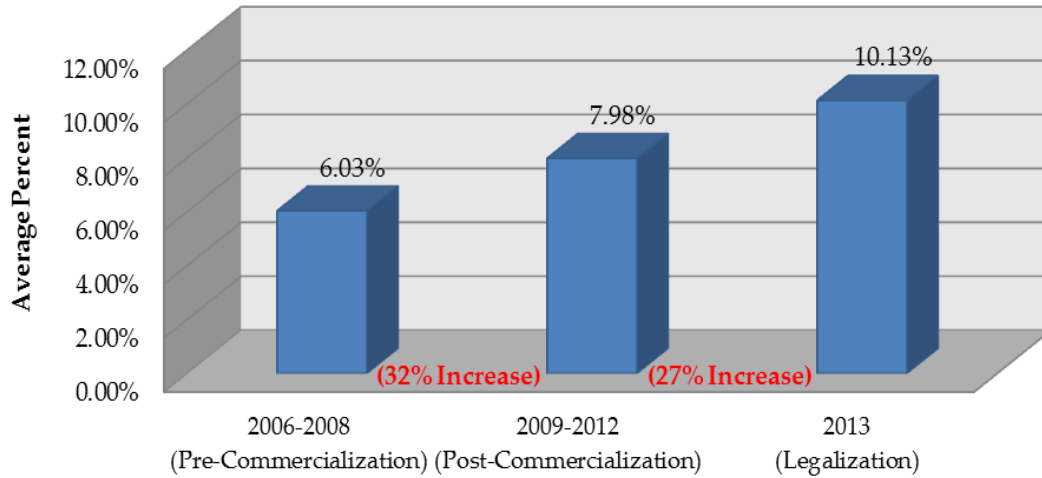
State of Colorado Probation Number of Positive THC Urinalyses Ages 18 to 25 Years Old



SOURCE: State of Colorado Judicial Branch, Division of Probation Services

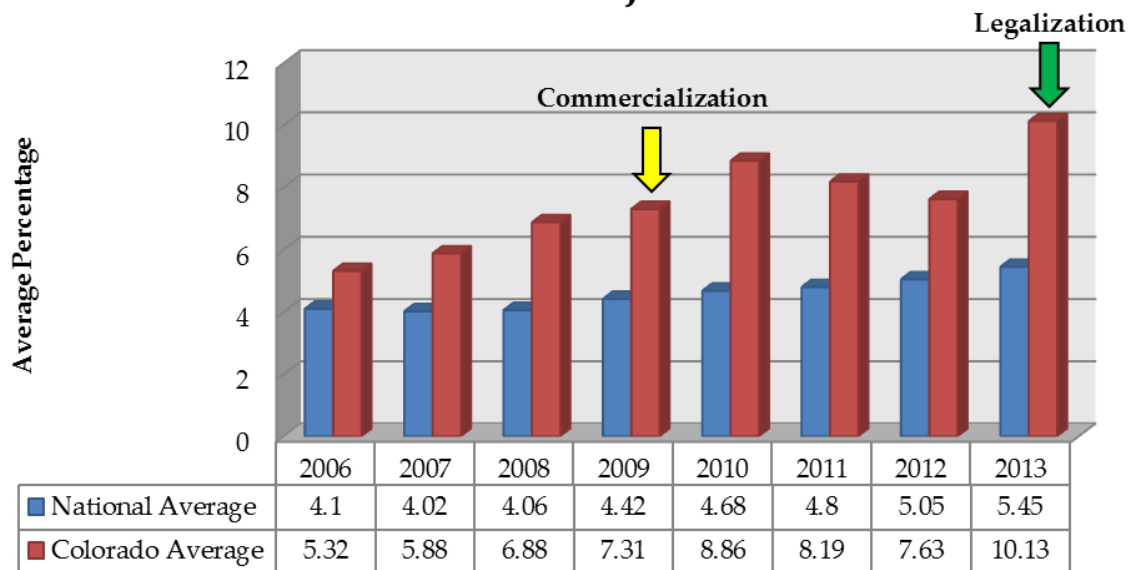
Adults (26+ Years Old)

Average Past Month Use of Marijuana Adults (Age 26+ Years Old)



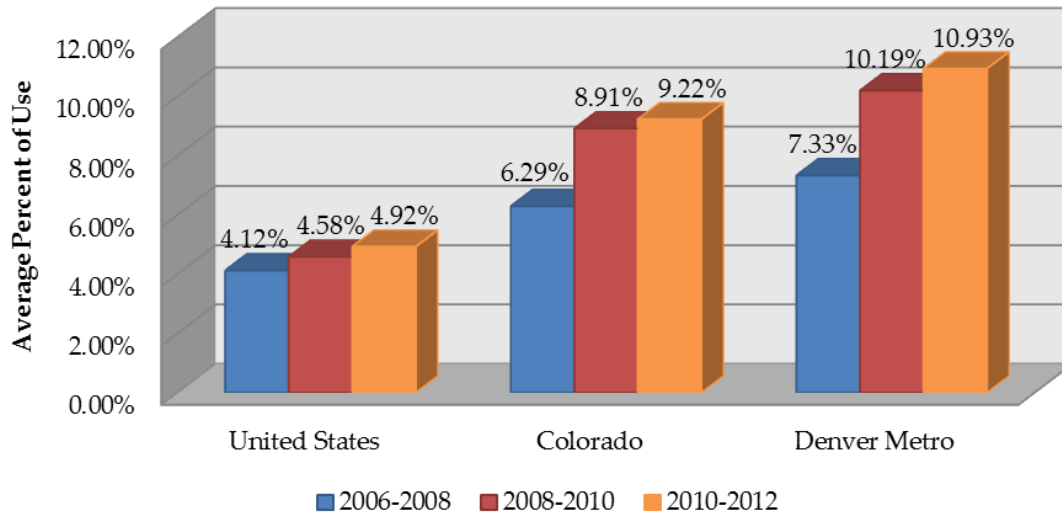
SOURCE: SAMHSA.gov, National Survey on Drug Use and Health, 2006-2013

Adult (Age 26+ Years Old) Past Month Marijuana Use



SOURCE: SAMHSA.gov, National Survey on Drug Use and Health, 2006-2013

Prevalence of Past 30-Day Marijuana Use, 26+ Years Old, 2006-2012



SOURCE: Denver Epidemiology Workgroup (DEWG), Denver Office of Drug Strategy, October 29, 2014 and the National Survey of Drug Use and Health, Sub-state Estimates 2006-2012

States for Past Month Marijuana Use Adults 26 Years Old and Older, 2013¹

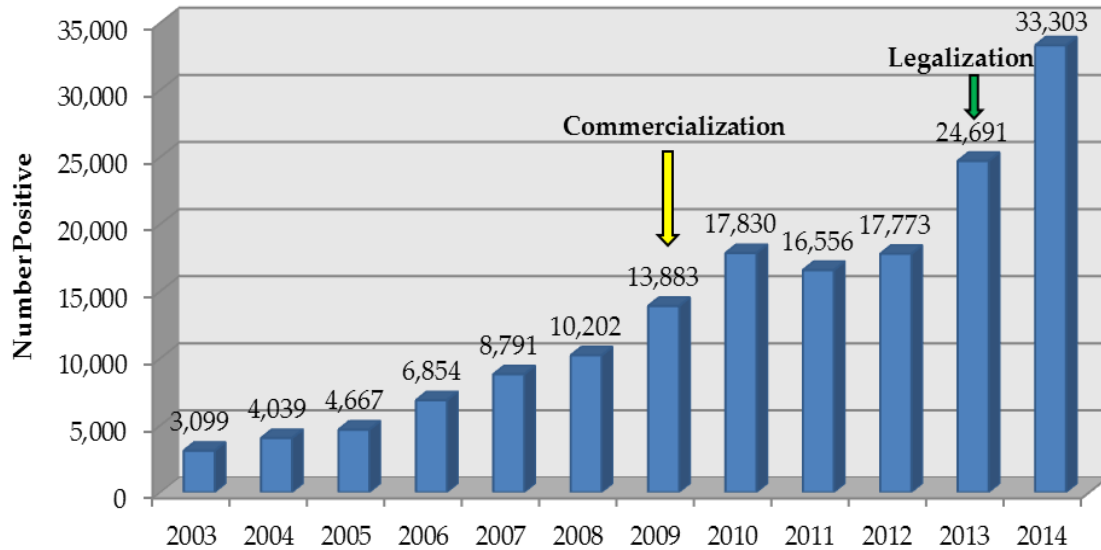
<u>Top 10</u> (Medical Marijuana States in 2013)	<u>Bottom 10</u> (Non-Medical Marijuana States in 2013)
<i>National Rate = 5.45%</i>	

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. Rhode Island – 11.18% 2. Alaska – 10.60% 3. ++Washington – 10.39% 4. Oregon – 10.37% 5. ++Colorado – 10.13% 6. Vermont – 8.88% 7. Montana – 8.44% 8. Maine – 7.95% 9. Michigan – 7.64% 10. New Mexico – 7.23% | <ol style="list-style-type: none"> 41. South Dakota – 3.67% 42. **New Jersey – 3.64% 43. Texas – 3.62% 44. West Virginia – 3.57% 45. Kentucky – 3.53% 46. Alabama – 3.41% 47. Louisiana – 3.33% 48. Mississippi – 3.26% 49. North Dakota – 3.26% 50. Kansas – 2.90% |
|---|---|

++ Legalized recreational marijuana in 2013

**** First dispensary opened in December 2012**

State of Colorado Probation Number of Positive THC Urinalyses Ages 26+ Years Old



SOURCE: State of Colorado Judicial Branch, Division of Probation Services

[Colorado Adult Marijuana Use Demographics²](#)

According to the Colorado Behavior Risk Factor Surveillance System, 2014:

- 13.6 percent of adults (18+ years old) are current users of marijuana
- Approximately 1 out of 3 current users report using marijuana daily
- A little less than 1 in 5 (18.8 percent) report driving after using marijuana
- Highest current use demographics:
 - Younger adults (18 to 24 years old)
 - Less than high school education
 - Lower household income
 - Black
 - Gay/Lesbian/Bisexual adults
 - Men
- Three highest current use areas in Colorado:
 - Boulder 18.9 percent
 - Denver 18.5 percent
 - Mountain Area West of Denver 15.6 percent

Related Material

Marijuana Intoxication Blamed for More Deaths, Injuries: CBS4 Investigates reporter Brian Maass, in May of 2015, did a report on marijuana intoxication and deaths. One case cited was an 18-year-old former outstanding soccer player (Daniel Juarez) who was smoking marijuana with a friend and subsequently told the friend he did not want anymore because he was too high. According to witnesses, he began acting irrationally, running wild, stripping off his clothes and went into an apartment. He then got a knife and stabbed himself 20 times, one of which pierced his heart. The autopsy report showed 38.2 nanograms of THC in his blood at the time of death. The level set for impaired driving by the state of Colorado is 5 nanograms.

A second case cited was a University of Wyoming 19-year-old student (Levy Pongi) who was visiting Denver. Apparently he and his friends were ingesting marijuana edibles when the student began acting irrationally by upending furniture, tipping over lamps then rushing out on the hotel balcony and jumping to his death. This student had 7.2 nanograms of THC in his blood at time of death.

A third case cited was a wife (Kristine Kirk) who called 911 to report her husband (Richard Kirk) was acting erratically after eating marijuana edibles. While she was on the phone, her husband shot and killed her in front of their three children. The husband's lawyer claimed he was not responsible for his actions due to "involuntary" intoxication.

A fourth case cited was a 17-year-old Boulder high school student (Brant Clark) who committed suicide. According to his mother he had consumed a large amount of marijuana at a party and then suffered major psychotic episodes requiring emergency care at two hospitals over a three-day period. Three days later he took his own life leaving behind a note that said, "Sorry for what I have done. I wasn't thinking the night I smoked myself out." This case occurred in 2007 prior to the commercialization of medical marijuana.

A fifth case cited was an individual (Tron Doshe) who was returning home from a Colorado Rockies game and had lost his keys. He attempted to climb the outside of the apartment building to reach his balcony when he fell to his death. This death was ruled an accident. The autopsy report showed that this individual had 27.3 nanograms of marijuana in his system, 5 times over Colorado's legal limit and no other drugs were found in his system.

The last case cited was a college student (Luke Goodman) who was on a skiing vacation with his family in Keystone, ingested marijuana edibles and subsequently shot himself to death. The autopsy report showed that he had 3.1 nanograms of THC in his system but that family members said he acted extremely irrational after ingesting the edibles.

Doctor Chris Colwell, chief of Emergency Medicine at Denver Health Medical Center, said, "Since the legalization of marijuana in Colorado, he has seen more and more cases like these of people who have ingested marijuana making poor decisions, decisions they would not otherwise make." He said, "In some cases they will ingest marijuana and behave in a way we would describe as psychotic." Dr. Colwell goes on to state several times each week they see people at the emergency department who have ingested marijuana and are acting suicidal. He states that they have to be restrained to ensure they are not a danger to themselves or other people. Dr. Colwell recalls one example in which a man dressed as Super Man ingested marijuana edibles and then jumped off a balcony as if he could fly. Although the man survived, he suffered several fractures.³

Marijuana Edibles Blamed for Keystone Death: Luke Goodman, a 23-year-old college graduate was on a two-week ski vacation with his family. He and a cousin purchased marijuana edibles and marijuana. They began ingesting the edible marijuana. Apparently Goodman consumed several peach tart candies and several hours later was reported to be jittery, incoherent and talking non-sensibly. His cousin reports that he made eye contact but didn't see them. His cousin described him as "pretty weird and relatively incoherent. It was almost like something else was speaking through him." Apparently the family left the condo and Luke Goodman retrieved a handgun he traveled with and shot himself to death. His cousin and family members referred to him as well-adapted, well-adjusted with no signs of depression or suicidal thoughts. His cousin said that, "He was the happiest guy in the world. He had everything going for him."^{4,5,6}

Hiker Falls to His Death: Twenty-one year old Justin Bondi fell 150 feet to his death while hiking with a friend. According to the friend, on May 3, 2015 they stopped to eat sandwiches while hiking. The friend said that Bondi, "suddenly started shaking" and then fell to his death. The friend later acknowledged to investigators that they had smoked marijuana before embarking on their hike. The autopsy report showed marijuana, a metabolic of cocaine and Xanax. "A 'marijuana drink' and a 'metal tool commonly used in association with marijuana' were also found at the scene according to the police report."⁷

Comedian Takes Too Much of Colorado Marijuana: "Comedian Ralphie May was escorted by police out of his concert venue on Thursday night after he allegedly indulged in too many marijuana-infused edibles and 'lost the plot' on stage." Apparently the 42-year-old entertainer was so high that he struggled to make it onto the stage. While trying to continue, he apparently couldn't put a sentence together, had trouble finishing a joke and constantly lost his place. Obviously the audience was not

happy and demanded refunds. This took place at Avalon Theater in Grand Junction, Colorado.⁸

Colorado Adult Marijuana Use Now Almost Double the National Average: “A new statewide study funded by the Colorado Department of Public Health and Environment found that 13.6% of Colorado adults are regular users of marijuana – almost double the rate (7.4%) of the entire country, according to recent Health and Human Services studies.” “Denver is home to the most number of marijuana stores – and leads the state with 18.5% of adults as current users.”⁹

Marijuana Use Increases in Colorado, According to New Federal Survey: “As marijuana legalization took hold in Colorado, the estimated percentage of regular cannabis users in the state jumped to the second-highest level in the country, according to new federal stats.” “Only Rhode Island topped Colorado in the percentage of residents who reported using marijuana as frequently.”¹⁰

Colorado Partly Blamed as Pot Use Up: “An increasing number of visitors to Yellowstone National Park are being prosecuted for possession of small amounts of medical and recreational pot, which remains illegal on federal land. Park rangers attribute the trend to ignorance of federal law and the growing prevalence of legal pot in other states, including neighboring Colorado, which has legal medical and recreational marijuana. The U.S. attorney’s office prosecuted 21 marijuana cases from Yellowstone in 2010 and 52 in 2014. As of December 17th, the office had handled 80 cases in 2014. Those convicted of misdemeanor possession typically receive \$1,000 fines.”¹¹

Study Shows Increased Adult Marijuana Use and Binge Drinking in States That Legalize Medical Marijuana: “Researchers from Emory’s [University] Rollins School of Public Health found an increase in adult marijuana use and binge drinking after the implementation of medical marijuana laws (MML) in ten states that permit marijuana use for medical purposes.” Dr. Heife Wen, PhD states, “These potential public health consequences may impose considerable economic and social costs on the society.”¹²

Cannabis Smokers Warned They Risk Poorer Exam Grades: “After studying data on more than 54,000 course grades achieved by students from around the world who were enrolled at Maastricht University [Netherlands] before and after the restrictions were introduced, the economists came to a striking conclusion.” [Before and after the restrictions were introduced, for certain out-of-country students from buying marijuana.] In a paper presented to the Royal Economic Society conference in Manchester, the economists revealed that those who could no longer legally buy

cannabis did better in their studies. University economist Olivier Marie stated, “The effects we find are large, consistent and statistically very significant.” The economist goes on, “In line with how THC consumption affects cognitive functioning, we find that performance gains are larger for courses that require more numerical/mathematical skills.”¹³

Marijuana-Using Employees: According to Quest Diagnostics: “Drug use costs the U.S. economy billions of dollars annually. According to the 1998 report by the Department of Labor, 73 percent of all current drug users aged 18 and older were employed. This calculates to 6.7 million full-time workers and 1.6 million part-time workers. Marijuana use among employees can lead to lower productivity, increased workplace accidents and injuries, increased absenteeism and lower morale.” “According to the U.S. Department of Labor, drug abuse in the workplace costs employers approximately \$81 billion each year in lost productivity.”¹⁴

Drug Tests in the Workforce: “Quest Diagnostics’ Drug Testing Index showed that, in 2013, positive drug test results in the workforce for marijuana increased nationwide by 6.2 percent. This is the first increase in positive reported drug tests in a decade. Positive tests for marijuana were dramatically higher in the two states with legal recreational marijuana. The marijuana positivity rates increased 20 percent in Colorado and 23 percent in Washington.”¹⁵

Sources

¹ National Survey on Drug Use and Health (NSDUH), Substance Abuse and Mental Health Services Administration (reports 2006 through 2013)

² Colorado Behavioral Risk Factor Surveillance System, “Marijuana Use in Colorado,” Colorado Department of Public Health and Environment

³ Brian Maass, CBS4 Investigates, May 18, 2015, “Marijuana Intoxication Blamed In More Deaths, Injuries,” <<http://denver.cbslocal.com/2015/05/18/marijuana-intoxication-blamed-in-more-deaths-injuries/>>, accessed May 19, 2015

⁴ Brian Maass, CBS4 Investigates, March 25, 2015, “Marijuana Edibles Blamed For Keystone Death,” <<http://denver.cbslocal.com/2015/03/25/marijuana-edibles-blamed-for-keystone-death/>>, accessed March 26, 2015

⁵ From Staff Reports, *Tulsa World*, March 26, 2015, "Mother of local man who committed suicide says marijuana candy in Colorado led to his death," <http://www.tulsaworld.com/news/local/mother-of-local-man-who-committed-suicide-says-marijuana-candy/article_5f34296b-7bec-5689-90b5-fd677d2dd8e5.html>, accessed March 26, 2015

⁶ National Families in Action & Partners, *The Marijuana Report*, May 27, 2015, *The Marijuana Report.org/The Marijuana Report*, accessed May 28, 2015

⁷ Mitchel Byars, *Daily Camera*, August 20, 2015, "Boulder coroner: Man's fall accidental; drugs may have been involved," <http://www.dailycamera.com/news/boulder/ci_28676915/boulder-coroner-mans-fall-accidental-drugs-may-have>, accessed August 21, 2015

⁸ Sophie Jane Evans, *Dailymail.com*, January 18, 2015, "Police called to comedian Ralphia May's Colorado show after 'he takes too much legal marijuana', forgets his act and causes uproar among the audience," <<http://www.dailymail.co.us/news/>>, accessed January 18, 2015

⁹ Smart Approaches to Marijuana (SAM), "Colorado Adult Marijuana Use Now Almost Double the National Average," press release, June 16, 2015

¹⁰ John Ingold, *The Denver Post*, December 26, 2014, "Marijuana use increased in Colorado, according to new federal survey", <http://www.denverpost.com/news/ci_27212493/marijuana-use-increased-colorado-according-new-federal-survey>, accessed December 26, 2014

¹¹ *The Denver Post/Colorado Roundup*, Tuesday, January 6, 2015 "Yellowstone National Park - Colorado partly blamed as pot use up"

¹² Woodruff Health Sciences Center, May 6, 2015, "Emory study shows increased adult marijuana use and binge drinking in states that legalize medical marijuana," <http://www.news.emory.edu/stories/2015/05/legalize_medical_marijuana_abuse/index.html>, accessed May 7, 2015

¹³ Jamie Doward, *The Guardian*, April 22, 2015, "Cannabis smokers warned they risk poorer exam grades," <<http://www.theguardian.com/society/2015/apr/11/cannabis-smokers-risk-poorer-grades-dutch-study-legalisation>>, accessed April 11, 2015

¹⁴ Quest Diagnostics webpage,
<<http://www.questdiagnostics.com/home/companies/employer/drug-screening/drugs-tested.html/>>, accessed November 29, 2014

¹⁵ Institute for Behavior and Health, Inc., *“Workplace Drug Testing in the Era of Legal Marijuana*, March 2015”

SECTION 4: *Emergency Room and Hospital Marijuana-Related Admissions*

Introduction

The following section summarizes emergency room (ER) and hospital data related to marijuana in Colorado. The information, when available, compares the early medical marijuana era (2006 – 2008), the medical marijuana commercialization and expansion era (2009 – current) and the recreational marijuana era (2013 – current) in Colorado.

- **2006 – 2008:** There were between 1,000 and 4,800 medical marijuana cardholders and no known dispensaries operating in Colorado.
- **2009 – Current:** There were over 108,000 medical marijuana cardholders and 532 licensed dispensaries operating in Colorado by the end of 2012. See the introduction at the beginning of this report for more details on the commercialization and explosion of Colorado’s medical marijuana trade.
- **2013 – Current:** In November 2012, Colorado voters passed Constitutional Amendment 64 which legalized marijuana for recreational purposes for anyone over 21 years of age. The amendment also allowed for licensed marijuana retail stores, cultivation operations and edibles manufacturing.

Some Findings

- Colorado emergency room visits per year related to marijuana:
 - 2013 – **14,148**
 - 2014 – **18,255**

- In 2014, when retail marijuana businesses began operating, there was a **29 percent** increase in the number of marijuana-related emergency room visits in only one year.
- In 2014, when retail marijuana businesses began operating, the rate of emergency department visits likely related to marijuana increased **25 percent** in just one year.
- Emergency room visits related to marijuana per 100,000 in 2013:
 - Denver rate – **415.46**
 - Colorado rate – **248.32**
 - Denver’s rate was **67 percent** higher than Colorado’s rate and increased **25 percent** when recreational marijuana was legalized in 2013.
- Hospitalizations related to marijuana:
 - 2011 – **6,305**
 - 2012 – **6,715**
 - 2013 – **8,272**
 - 2014 – **11,439**
- In 2014, when retail marijuana businesses began operating, there was a **38 percent** increase in the number of marijuana-related hospitalizations in only one year.
- In 2014, when retail marijuana stores began operating, the rate of hospitalizations likely related to marijuana increased **20 percent** in only one year.
- Hospital discharges related to marijuana per 100,000 in 2013:
 - Denver rate – **245.94**
 - Colorado rate – **148.80**
 - Denver’s rate was over **65 percent higher** than Colorado’s rate and increased **29 percent** when recreational marijuana was legalized in 2013.
- In the three years after medical marijuana was commercialized, compared to the three years prior, there was a **46 percent** increase in hospitalization related to marijuana.

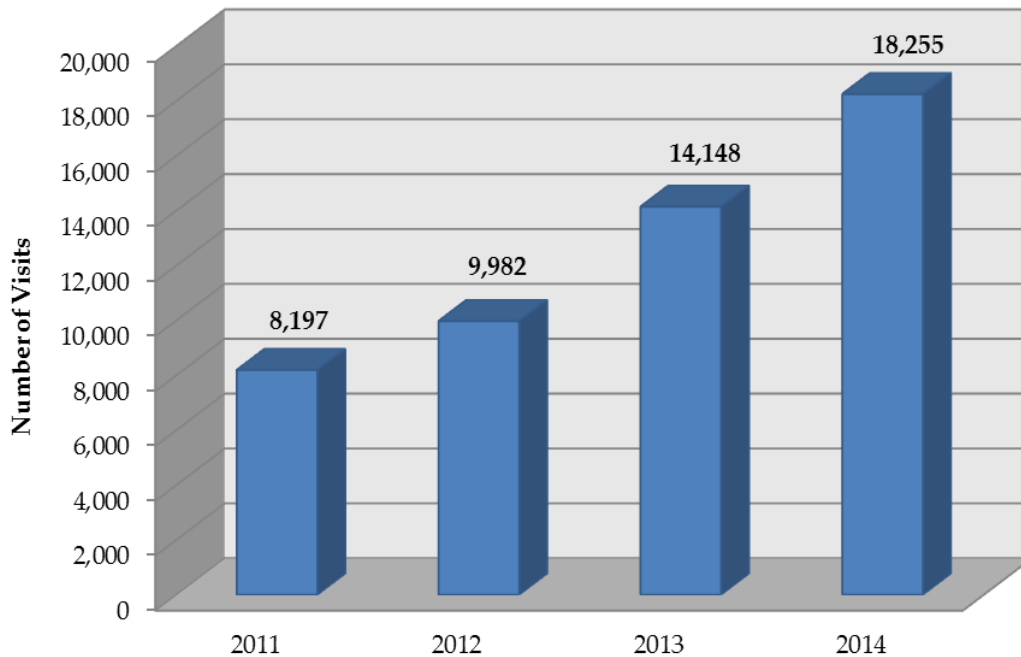
- Children’s Hospital Colorado reported 2 marijuana ingestions among children under 12 years old in 2009 compared to 16 in 2014.

Definitions

Marijuana-Related: Also referred to as “marijuana mentions.” This means the data could be obtained from lab tests, self-admitted or some other form of validation by the physician. That does not necessarily prove marijuana was the cause of the emergency admission or hospitalization.

Data

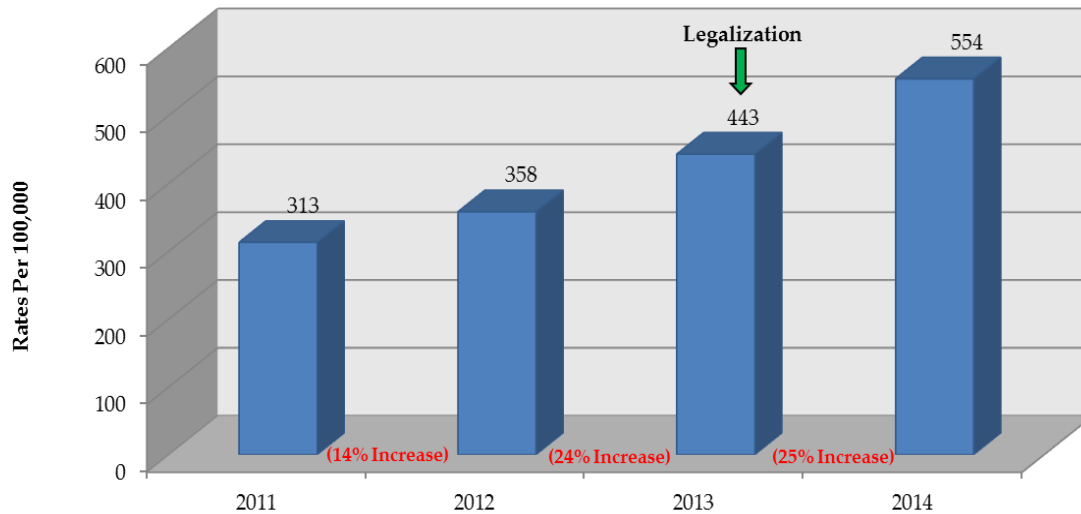
Marijuana-Related Emergency Room Visits



SOURCE: Colorado Hospital Association, Emergency Department Visit Dataset. Statistics prepared by the Health Statistics and Evaluation Branch, Colorado Department of Public Health and Environment

NOTE: 2011 AND 2012 EMERGENCY DEPARTMENT DATA REFLECTS INCOMPLETE REPORTING STATEWIDE. INFERENCES CONCERNING TRENDS, INCLUDING 2011 AND 2012, SHOULD NOT BE MADE. 2014 FIGURES SHOULD BE ACCURATE, OR CLOSE TO ACCURATE, BUT HAVE NOT YET BEEN FINALLY CONFIRMED.

Colorado Emergency Department Rates that are Likely Related to Marijuana*



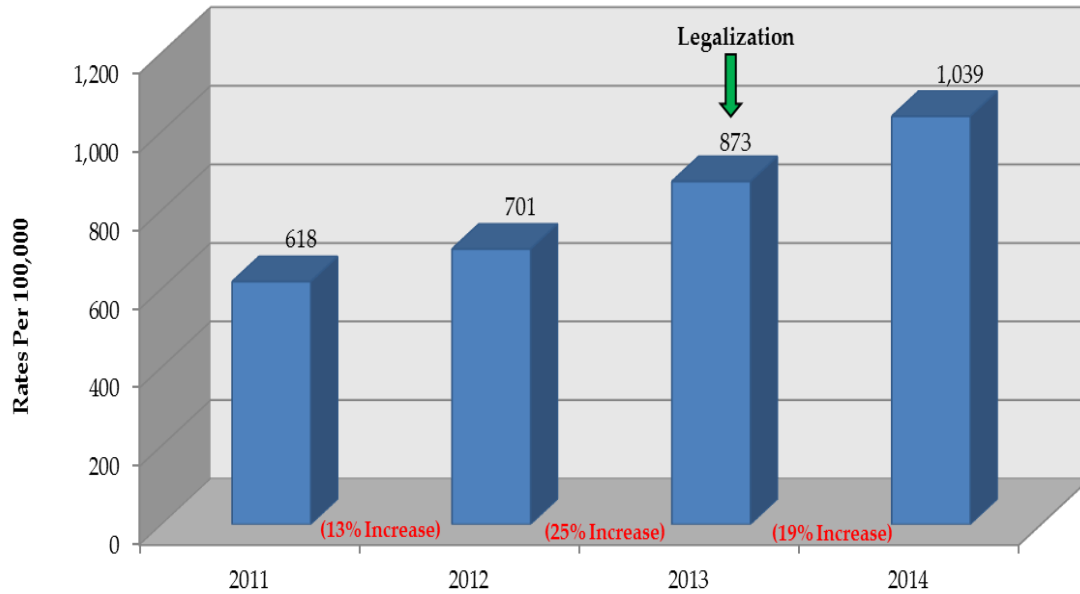
*Rates of Emergency Department (ED) Visits with Possible Marijuana Exposures, Diagnoses, or Billing Codes in the First Three Diagnosis Codes per 100,000 ED Visits by Year in Colorado

SOURCE: Colorado Department of Public Health and Environment, *Monitoring Health Concerns Related to Marijuana in Colorado: 2014*

NOTE: "POSSIBLE MARIJUANA EXPOSURES, DIAGNOSES, OR BILLING CODES IN THE FIRST THREE DIAGNOSIS CODES: THESE DATA WERE CHOSEN TO REPRESENT THE HD AND ED VISITS WHERE MARIJUANA USE WAS LIKELY A CAUSAL OR STRONG CONTRIBUTING FACTOR TO THE UNDERLYING REASON FOR THE HD AND ED VISIT. THESE DATA CONSISTED OF HD AND ED VISITS CODED WITH DISCHARGE CODES RELATED TO POISONING BY PSYCHODYSLEPTICS OR SEPARATE CODES RELATED TO CANNABIS ABUSE IN THE FIRST THREE DIAGNOSIS CODES WHICH ARE MORE LIKELY TO BE CLINICALLY SIGNIFICANT CODES." - COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, *MONITORING HEALTH CONCERNS RELATED TO MARIJUANA IN COLORADO: 2014*

NOTE: DATA NOT AVAILABLE PRE-2011.

Colorado Emergency Department Rates that Could be Related to Marijuana*



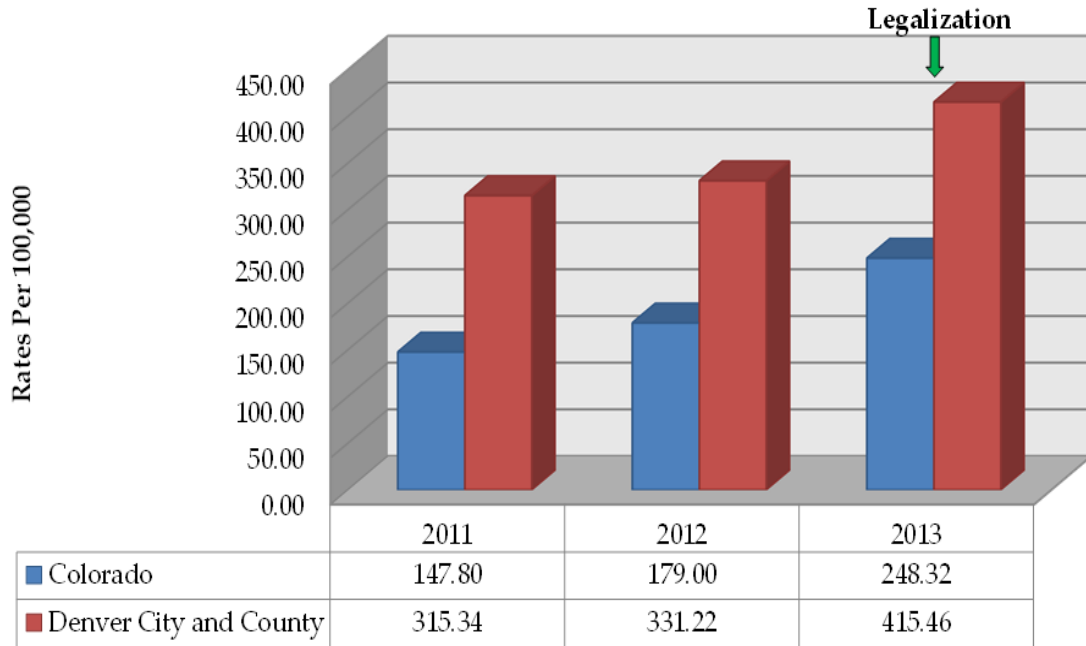
*Rates of Emergency Department (ED) Visits with Possible Marijuana Exposures, Diagnoses, or Billing Codes per

SOURCE: Colorado Department of Public Health and Environment, *Monitoring Health Concerns Related to Marijuana in Colorado: 2014*

NOTE: *“POSSIBLE MARIJUANA EXPOSURES, DIAGNOSES, OR BILLING CODES IN ANY OF LISTED DIAGNOSIS CODES: THESE DATA WERE CHOSEN TO REPRESENT THE HD AND ED VISITS WHERE MARIJUANA COULD BE A CAUSAL, CONTRIBUTING, OR COEXISTING FACTOR NOTED BY THE PHYSICIAN DURING THE HD OR ED VISIT. FOR THESE DATA, MARIJUANA USE IS NOT NECESSARILY RELATED TO THE UNDERLYING REASON FOR THE HD OR ED VISIT. SOMETIMES THESE DATA ARE REFERRED TO AS HD OR ED VISITS WITH ANY MENTION OF MARIJUANA.” - COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, *MONITORING HEALTH CONCERNS RELATED TO MARIJUANA IN COLORADO: 2014**

NOTE: DATA NOT AVAILABLE PRE-2011.

Emergency Department Rates Per 100,000 Marijuana-Related, 2011-2013

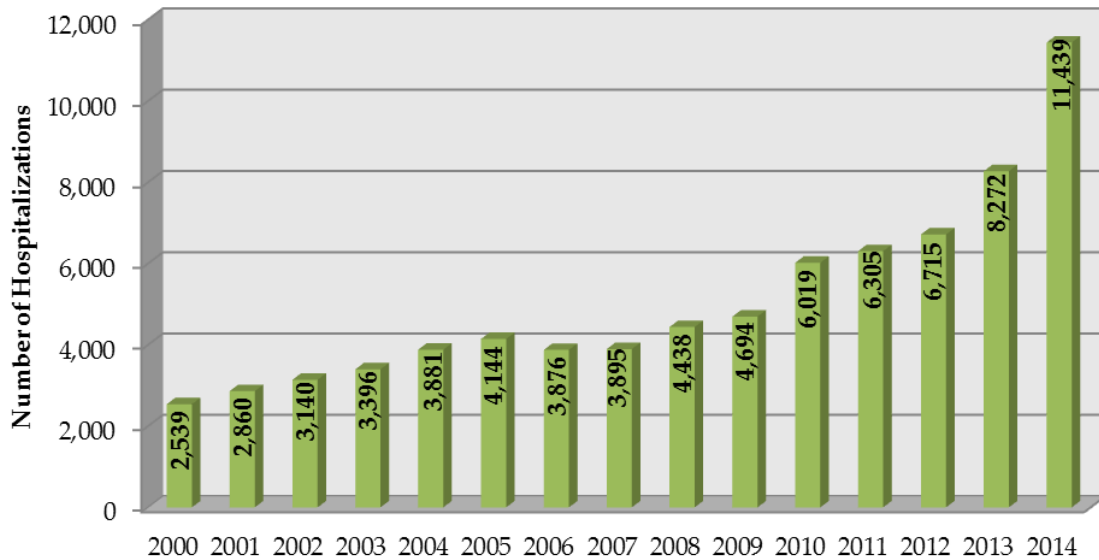


SOURCE: Denver Office of Drug Strategy, The Denver Drug Strategy Commission, *Proceedings of the Denver Epidemiology Work Group (DEWG)*, October 29, 2014

❖ The highest rates from 2011 to 2013 were among young adults (18 to 25 years).

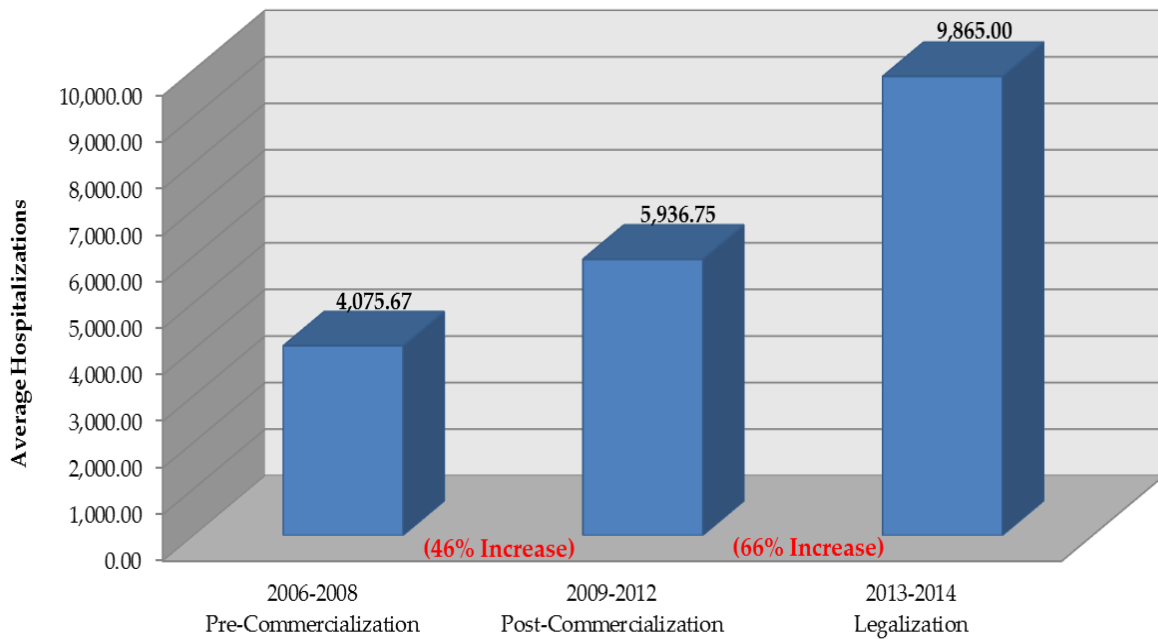
NOTE: 2011 AND 2012 EMERGENCY ROOM DATA DOES NOT REPRESENT COMPLETE, STATEWIDE PARTICIPATION. INCREASES OBSERVED OVER THESE THREE YEARS MAY BE DUE PARTLY, OR COMPLETELY, TO INCREASES IN REPORTING BY EMERGENCY ROOMS.

Hospitalizations Related to Marijuana



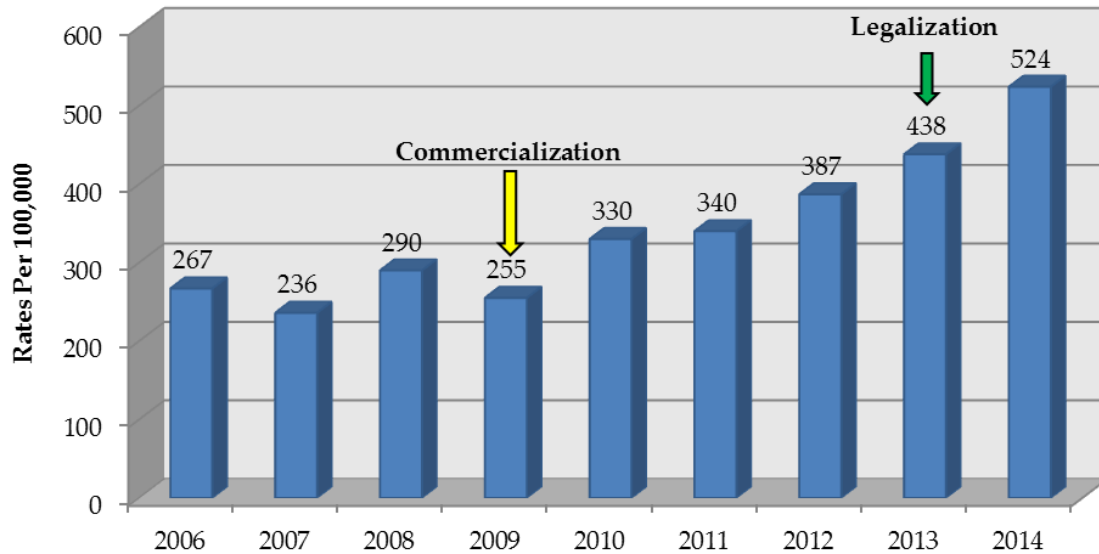
SOURCE: Colorado Hospital Association, Hospital Discharge Dataset. Statistics prepared by the Health Statistics and Evaluation Branch, Colorado Department of Public Health and Environment

Average Marijuana-Related Hospitalizations



SOURCE: Colorado Hospital Association, Hospital Discharge Dataset. Statistics prepared by the Health Statistics and Evaluation Branch, Colorado Department of Public Health and Environment

Colorado Hospitalization Rates that are Likely Related to Marijuana*

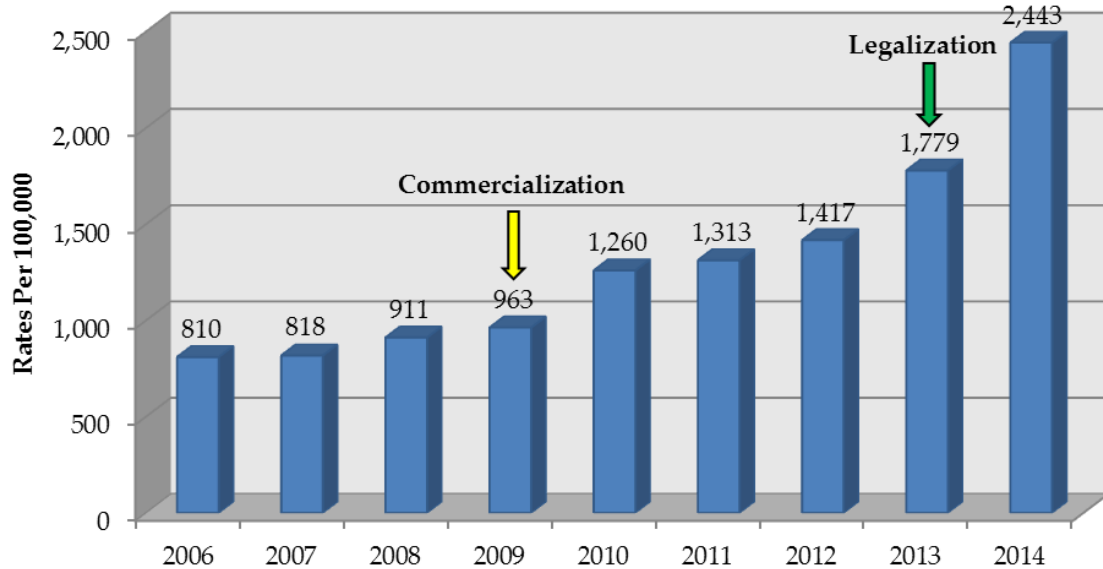


*Rates of Hospitalization (HD) Visits with Possible Marijuana Exposures, Diagnoses, or Billing Codes in the *First Three Diagnosis Codes* per 100,000 HD Visits by Year in Colorado

SOURCE: Colorado Department of Public Health and Environment, *Monitoring Health Concerns Related to Marijuana in Colorado: 2014*

NOTE: "POSSIBLE MARIJUANA EXPOSURES, DIAGNOSES, OR BILLING CODES IN THE FIRST THREE DIAGNOSIS CODES: THESE DATA WERE CHOSEN TO REPRESENT THE HD AND ED VISITS WHERE MARIJUANA USE WAS LIKELY A CAUSAL OR STRONG CONTRIBUTING FACTOR TO THE UNDERLYING REASON FOR THE HD AND ED VISIT. THESE DATA CONSISTED OF HD AND ED VISITS CODED WITH DISCHARGE CODES RELATED TO POISONING BY PSYCHODYSLEPTICS OR SEPARATE CODES RELATED TO CANNABIS ABUSE IN THE FIRST THREE DIAGNOSIS CODES WHICH ARE MORE LIKELY TO BE CLINICALLY SIGNIFICANT CODES." - COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, *MONITORING HEALTH CONCERNS RELATED TO MARIJUANA IN COLORADO: 2014*

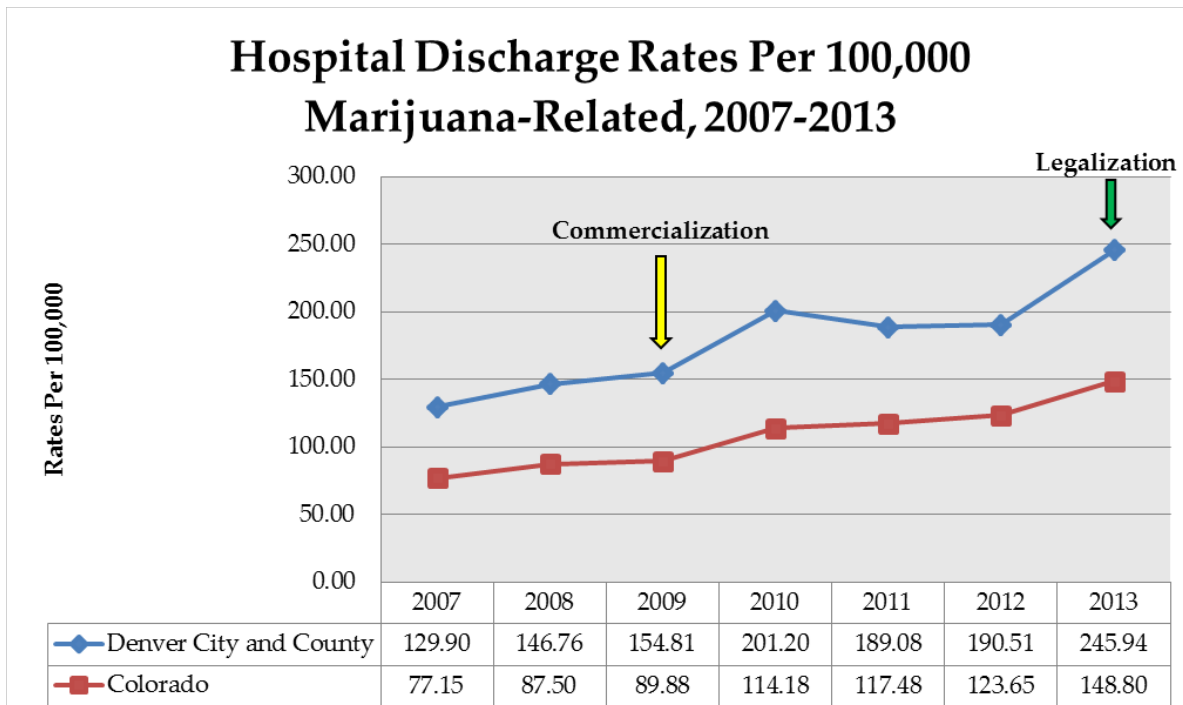
Colorado Hospitalization Rates that Could be Related to Marijuana*



*Rates of Hospitalization (HD) Visits with Possible Marijuana Exposures, Diagnoses, or Billing Codes per 100,000 HD Visits by Year in Colorado

SOURCE: Colorado Department of Public Health and Environment, *Monitoring Health Concerns Related to Marijuana in Colorado: 2014*

NOTE: "POSSIBLE MARIJUANA EXPOSURES, DIAGNOSES, OR BILLING CODES IN ANY OF LISTED DIAGNOSIS CODES: THESE DATA WERE CHOSEN TO REPRESENT THE HD AND ED VISITS WHERE MARIJUANA COULD BE A CAUSAL, CONTRIBUTING, OR COEXISTING FACTOR NOTED BY THE PHYSICIAN DURING THE HD OR ED VISIT. FOR THESE DATA, MARIJUANA USE IS NOT NECESSARILY RELATED TO THE UNDERLYING REASON FOR THE HD OR ED VISIT. SOMETIMES THESE DATA ARE REFERRED TO AS HD OR ED VISITS 'WITH ANY MENTION OF MARIJUANA.'" - COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, *MONITORING HEALTH CONCERNS RELATED TO MARIJUANA IN COLORADO: 2014*

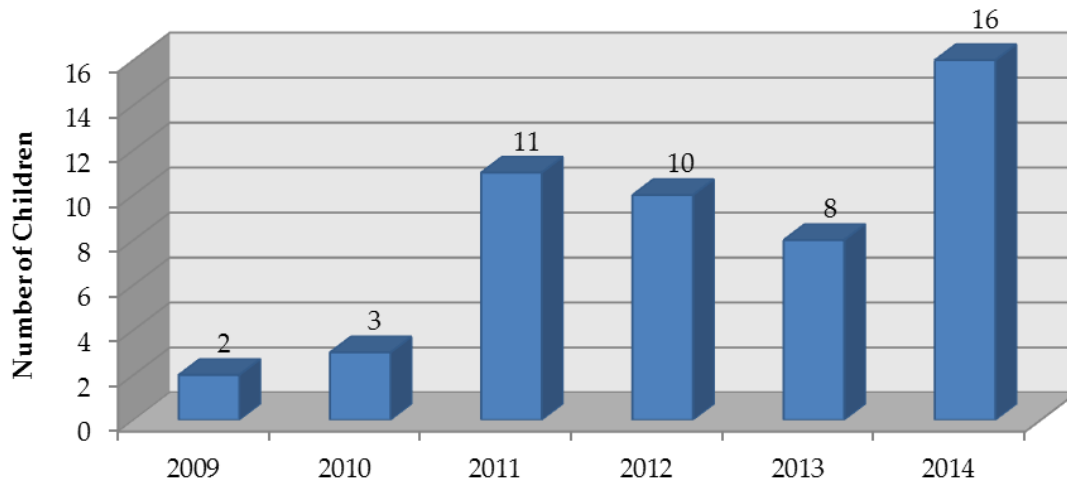


SOURCE: Denver Office of Drug Strategy, The Denver Drug Strategy Commission, *Proceedings of the Denver Epidemiology Work Group (DEWG)*, October 29, 2014

❖ The highest rates from 2011 to 2013 were among young adults (18 to 25 years).

NOTE: HOSPITAL DISCHARGE DATA REPRESENTS AN INDIVIDUAL'S INPATIENT STAY AT A HOSPITAL REQUIRING, AT MINIMUM, AN OVERNIGHT STAY AND IS IN REFERENCE TO WHEN THE PATIENT LEAVES THE HOSPITAL. A CODE IS ASSIGNED AS TO WHY THE PATIENT WAS IN THE HOSPITAL, CALLED THE ICD-9 CODE, WHICH IS USED FOR BOTH THE PATIENT'S MEDICAL RECORD AND FOR BILLING PURPOSES.

Marijuana Ingestion Among Children Under 12 Years-of-Age



SOURCE: George Sam Wang, M.D. and Lalit Bajaj, M.D., Children's Hospital Colorado

Cost

Cost of Emergency Room: A study was conducted of a cross section of ER encounters from 2006 to 2008. The study found that "During our study period, the median charge for outpatient conditions in the emergency room was \$1,233."¹

Related Material

Cannabis-Related ED Visits Rise in States With Legalized Use: "Cannabis use and abuse have increased significantly during the past few years, especially in states where use of the substance is now legal, new research suggests." A study from the U.S. Healthcare Cost and Utilization Project show that emergency room visits coded for marijuana grew 50.4 percent between 2007 and 2012 in Colorado. This study was presented at the American Academy of Addiction Psychiatry (AAAP) 25th Annual meeting. "Everyone's talking about Colorado, but why aren't they also talking about the states with medical use of marijuana? There appears to be a flaw in the system," lead author Abhishek Rai, MD, from the Department of Psychiatry at St. Mary Mercy

Hospital in Livonia, Michigan, told *Medscape Medical News*. “People with access to marijuana are using it and then coming to the ED,” added Dr. Rai.²

Places With More Marijuana Dispensaries Have More Marijuana-Related Hospitalizations: A press release on August 10, 2015 from the University of Pittsburgh Schools of the Health Sciences released a study to be published in the scientific journal *Drug and Alcohol Dependence*. The study revealed that, “People who live in areas of California with a higher density of marijuana dispensaries experience a greater number of hospitalizations involving marijuana abuse and dependence.”³

The Implications of Marijuana Legalization in Colorado: An article in the *Journal of the American Medical Association* by physicians from the Department of Emergency Medicine University of Colorado discusses the health implications of “marijuana policy liberalization.” They write that, “Increased availability lead to increased health care utilization related to marijuana exposure. Exacerbation of chronic health conditions was expected. Tetrahydrocannabinol (THC) is associated with psychosis, anxiety, and depression symptoms, making exacerbation of underlying psychiatric disorders inevitable.” The article further states, “However, there has been an increase in visits for pure marijuana intoxication. These were previously a rare occurrence, but even this increase is difficult to quantify. Patients may present to emergency departments (EDs) with anxiety, panic attacks, public intoxication, vomiting, or other nonspecific symptoms precipitated by marijuana use. The University of Colorado ED sees approximately 2000 patients per week; each week, an estimated 1 to 2 patients present solely for marijuana intoxication and another 10 to 15 for marijuana-associated illnesses.”⁴

Five Students at a Denver Middle School Ingest Pot Edibles: A Denver middle school student had sprinkled marijuana on top of “rice crispy treats”. Apparently five students ingested the marijuana, some of whom became ill. One of the students was rushed to the hospital at the request of her parents.⁵

3-Year-Old Rushed to Emergency A 3-year-old was taken to the emergency room after her father told the mother that the child was laying on the couch, seemed tired and not acting normally. At the hospital, the little girl vomited and was subsequently tested positive for marijuana. A search of the couple’s residence found nearly 9 ounces of marijuana in a “plastic open top bin” and four marijuana plants growing. Officers also discovered suspected cocaine in the residence.⁶

Burglar Taken to Hospital. Two juveniles were caught burglarizing a marijuana dispensary in Denver. One of the juveniles had to be taken to the hospital because he was so intoxicated.⁷

Sources

¹ Caldwell N, Srebotnjak T, Wang T, Hsia R (2013 “How Much Will I get Charged for This?” Patient Charges for Top Ten Diagnoses in the Emergency Department, *PloS ONE* 8(2): e55491. Doi:10.1371/journal.pone.0055491, accessed January 2015

² Deborah Brauser, Medscape Medical News from the American Academy of Addiction Psychiatry (AAAP) 25th Annual Meeting, December 16, 2014, “Cannabis-Related ED Visits Rise in States with Legalized Use”, <<http://www.medscape.com/viewarticle/836663>>, XXWAAWS December 16, 2014

³ University of Pittsburgh, Schools of the Health Sciences Media Relations, press release, August 10, 2015, <<http://www.upmc.com/media/NewsReleases/2015/Pages/mair-marijuana.aspx>>, accessed August 10, 2015

⁴ Andrew A. Monte, MD; Richard D. Zane, MD; and Kennon J. Heard, MD, PhD, Department of Emergency Medicine, University of Colorado, *Journal of the American Medical Association*, December 8, 2014, “The Implications of Marijuana Legalization in Colorado,” <<http://jama.jamanetwork.com>>, accessed December 9, 2014

⁵ Anthony Cotton, *The Denver Post*, May 7, 2015, “Denver police: Five students at Skinner Middle School ingest pot edibles; girl cited”, <http://www.denverpost.com/news/ci_28070625/denver-police-investigating-reports-that-students-at-middle>, accessed May 7, 2015

⁶ Alan Gaithright, ABC 7 News Denver, December 17, 2014, “Denver toddler ingests marijuana; parents charged with child abuse, drug possession, DA says,” <<http://www.thedenverchannel.com/news/local-news/denver-toddler-ingests-marijuana-parents-charged-with-child-abuse-drug-possession-da-says>>, accessed December 17, 2014

⁷ Noelle Phillips, *The Denver Post*, January 14, 2015, “Two juveniles busted breaking into Denver marijuana dispensary,” <http://denverpost.com/news/ci_27320321/two-juveniles-busted-breaking-into-denver-marijuana-dispensary>, accessed January 24, 2015

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SECTION 5: Marijuana-Related Exposure

Introduction

This section provides information primarily regarding Colorado marijuana-related self-reported calls to the Rocky Mountain Poison and Drug Center (RMPDC), Denver, Colorado.

The data comparisons are from 2006 through 2013. The information compares the early medical marijuana era (2006 – 2008), the medical marijuana commercialization/expansion era (2009 – current) and the recreational marijuana era (2013 – current) in Colorado.

- **2006 – 2008:** There were between 1,000 and 4,800 medical marijuana cardholders and no known dispensaries operating in Colorado.
- **2009 – Current:** There were over 108,000 medical marijuana cardholders and 532 licensed dispensaries operating in Colorado by the end of 2012. See the introduction at the beginning of this report for more details on the commercialization and explosion of Colorado’s medical marijuana trade.
- **2013 – Current:** In November 2012, Colorado voters passed Constitutional Amendment 64 which legalized marijuana for recreational purposes for anyone over 21 years of age. The amendment also allowed for licensed marijuana retail stores, cultivation operations and edibles manufacturing.

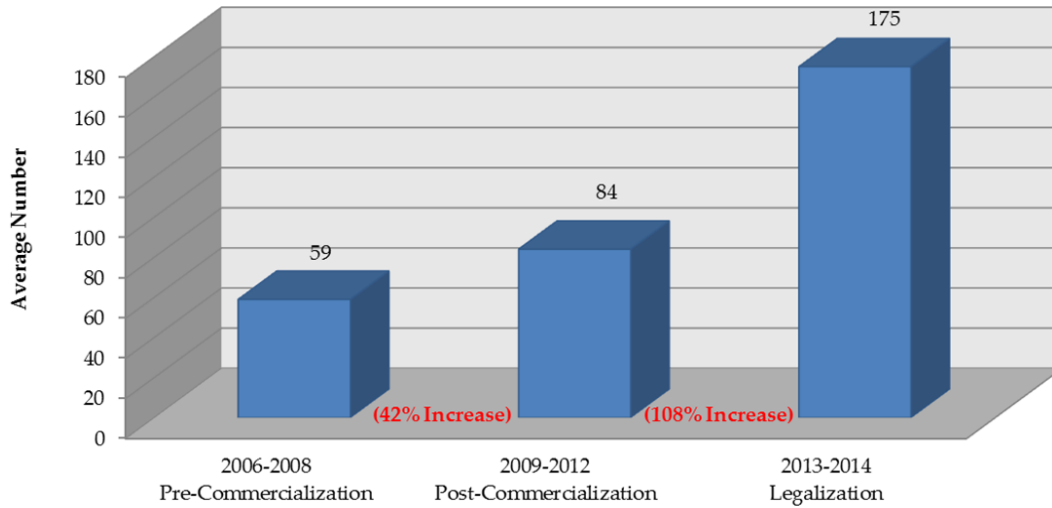
Some Findings

- In 2014, when retail marijuana businesses began operating, marijuana-only related exposures increased **72 percent** in only one year.

- In the years medical marijuana was commercialized (2009 – 2012), marijuana-related exposures averaged a **42 percent** increase from prior years (2001 – 2008) average.
- All ages Colorado marijuana-related exposures:
 - During the years 2013 – 2014, the average number of all ages exposures was **175** per year.
 - Exposures for all ages **doubled** in Colorado after legalization.
- Youth (ages 6 to 17 years old) marijuana-related exposures in Colorado:
 - During the years 2013 – 2014, the average number of children exposed was **45** per year.
 - This is an **80 percent** increase from medical marijuana commercialization years (2009 – 2012) average which was a **67 percent** higher increase over previous years (2006 – 2008) averages.
- Young children (ages 0 to 5 years old) marijuana-related exposures in Colorado:
 - During the years 2013 – 2014, the average number of children exposed was **31** per year.
 - This is a **138 percent** increase from the medical marijuana commercialization years (2009 – 2012) average which was a **225 percent** increase from prior years (2006 – 2008).
- Percent of total marijuana-related exposures involving children ages 0 to 5 years old:
 - During 2013 – 2014, a yearly average of **17.71 percent**
 - This is about triple the national average of **5.95 percent**

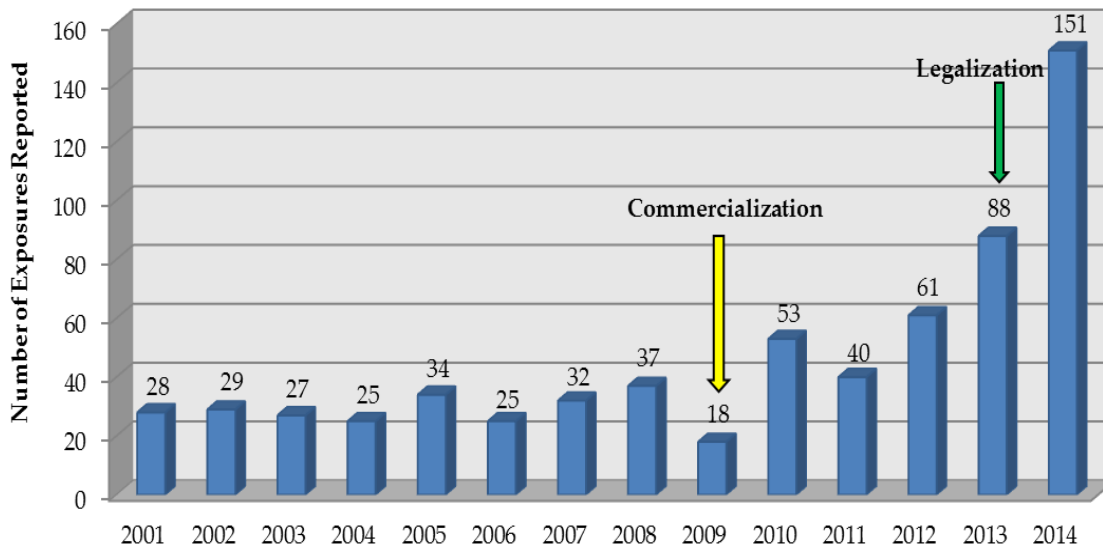
Data

All Ages, Average Number of Marijuana-Related Exposures



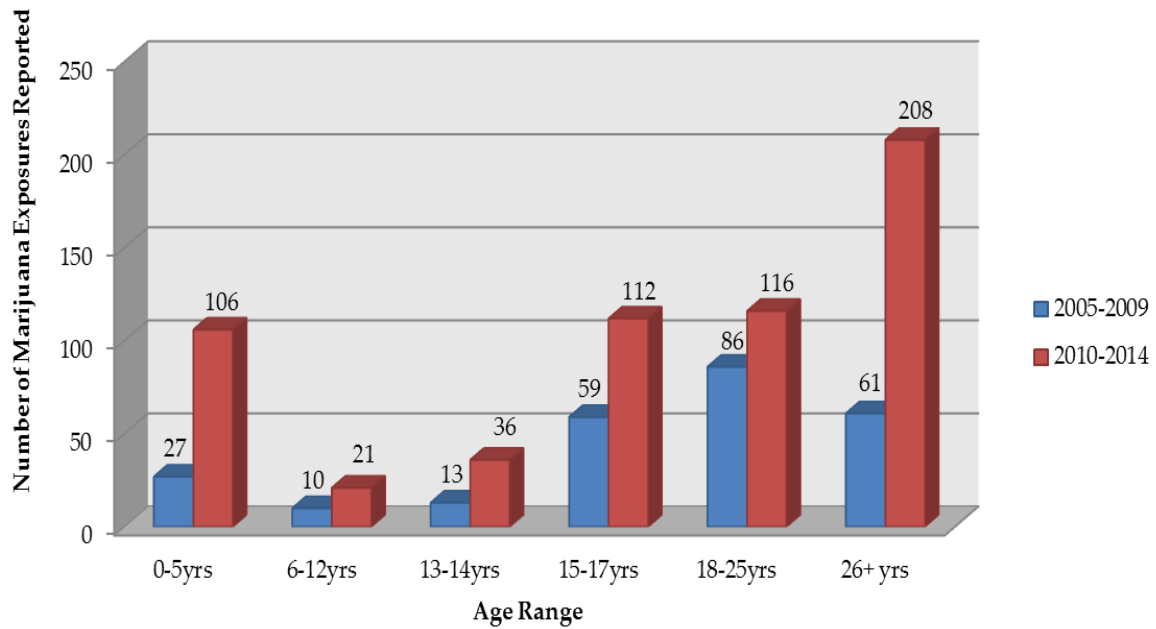
SOURCE: Rocky Mountain Poison and Drug Center

Number of Exposures Reported for Marijuana Only



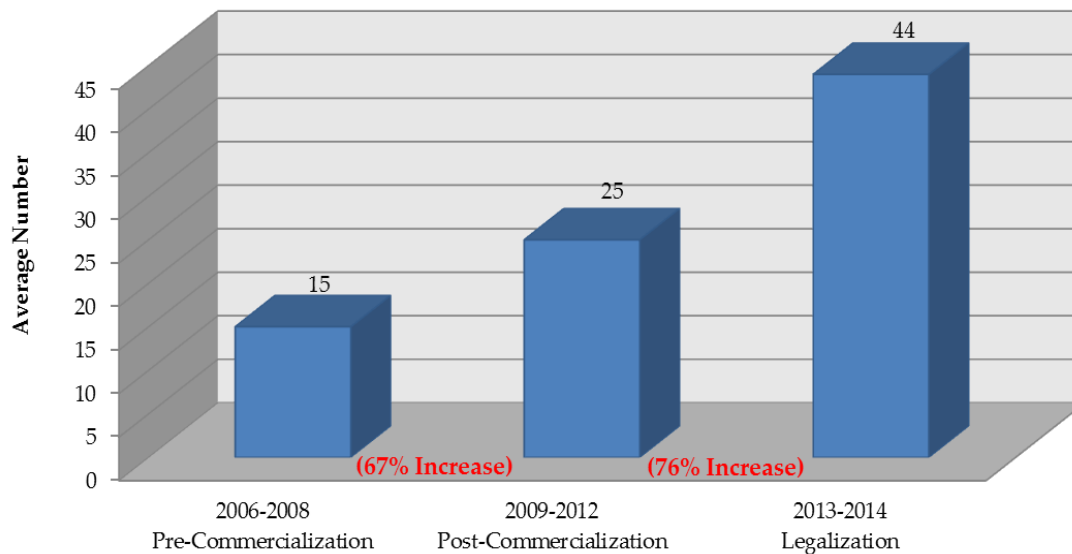
SOURCE: Colorado Department of Public Health and Environment, *Monitoring Health Concerns Related to Marijuana in Colorado: 2014* via Rocky Mountain Poison and Drug Center

Number of Marijuana-Related Exposures, by Age Range



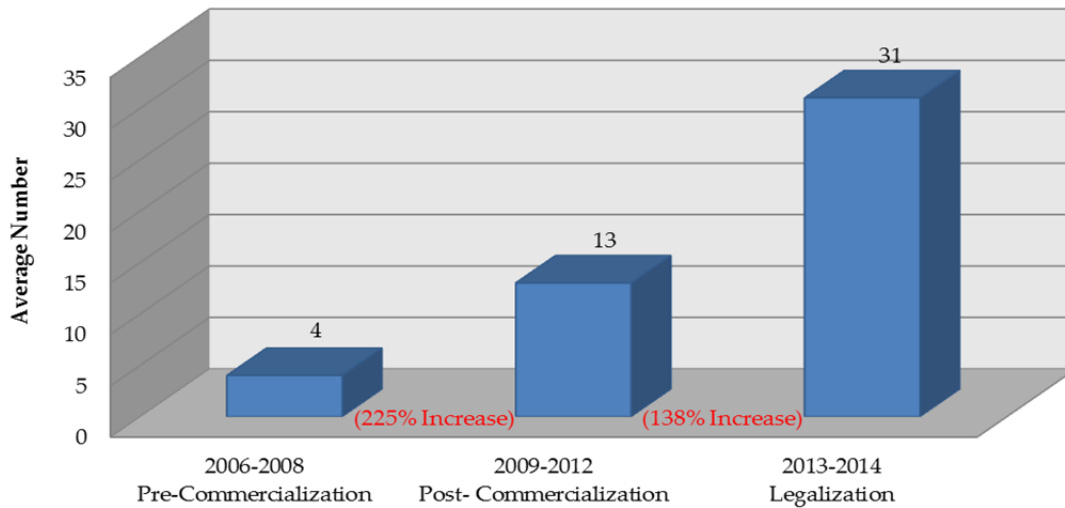
SOURCE: Rocky Mountain Poison and Drug Center

Youth Ages 6 to 17 Years Old, Average Number of Marijuana-Related Exposures



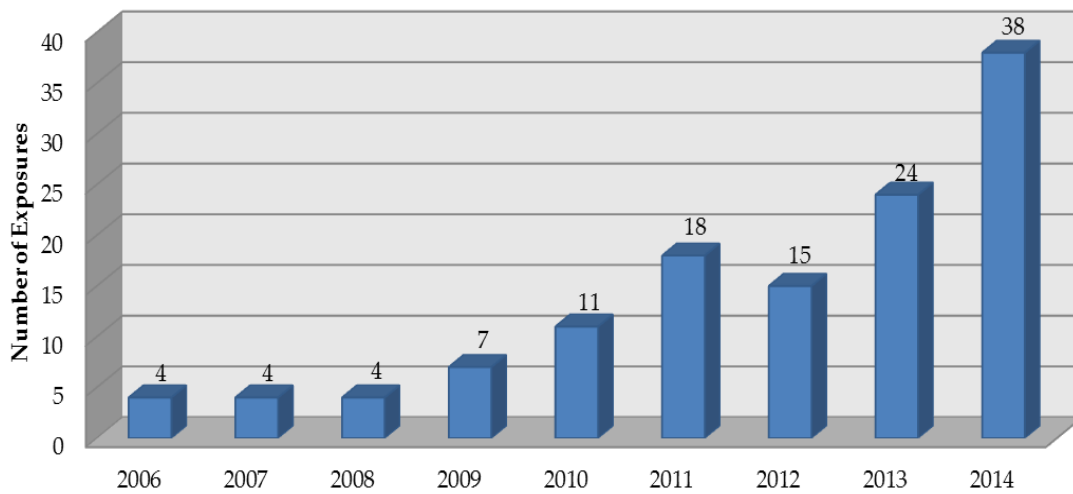
SOURCE: Rocky Mountain Poison and Drug Center

Children Ages 0 to 5 Years Old, Average Number of Marijuana-Related Exposures



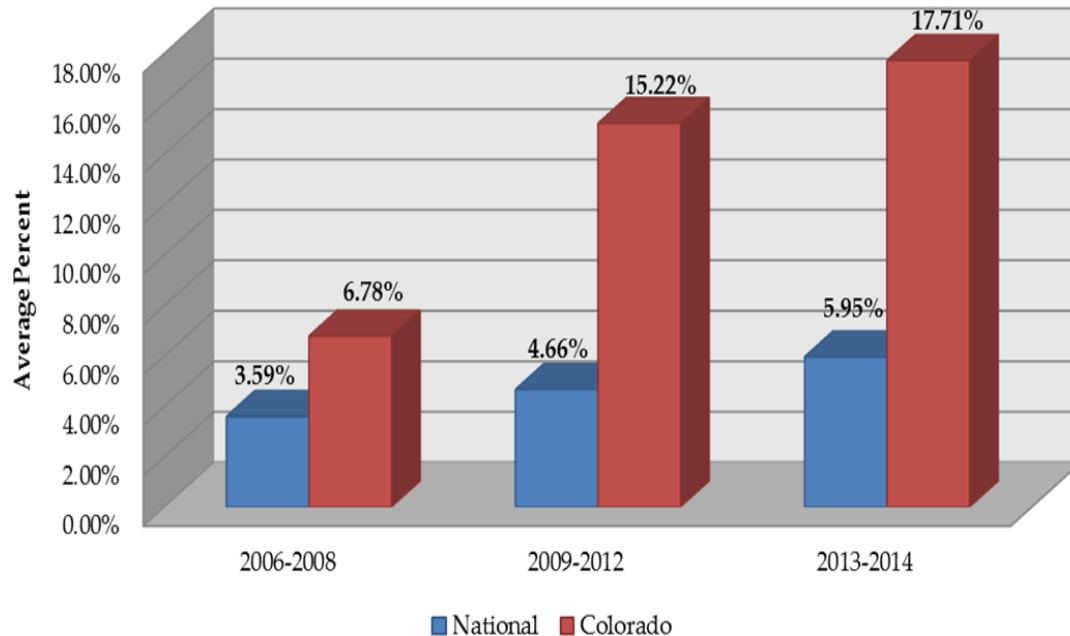
SOURCE: Rocky Mountain Poison and Drug Center

Marijuana-Related Exposures Children Ages 0 to 5 Years Old



SOURCE: Rocky Mountain Poison and Drug Center

Average Percent of All Marijuana-Related Exposures, Ages 0 to 5 Years Old



SOURCE: Rocky Mountain Poison and Drug Center

Related Material

Pot-related Calls to Colorado, Washington Poison Centers Up: In a *Denver Post* article dated January 25, 2015 by Gene Johnson of the Associated Press, it cites the substantial increase in calls to poison control centers related to marijuana. “The spike in numbers since marijuana was legalized includes a troubling jump in cases involving young kids.” Calls to the Colorado poison center in 2014 almost doubled the number of calls in 2013 and tripled the calls in 2012. Calls to the Washington poison center jumped about 50 percent from 2013 to 2014. Calls involving children nearly doubled in both states.¹

Child Marijuana Poisoning Incidents Increase After States Legalize Pot: A study by researchers at the Nationwide Children’s Hospital report, “More young children are exposed to marijuana in states after the drug had become legal for medical or recreational use...” This study, in the journal *Clinical Pediatrics* found: “the rate of marijuana exposures among children 5 years old and under increased 16 percent each

year after legalization in those states.” According to the National Poison Database System, child exposures increased 147 percent from 2006- 2013.²

Children and THC-Infused Edibles: According to a Colorado Springs *Gazette* Op/Ed dated June 21, 2015, entitled “THC extracts concentrate problems”: “In Colorado, the number of exposures to THC-infused edibles in your children increased fourfold in one year, from 19 cases in 2013 to 95 in 2014, according to the Rocky Mountain Poison and Drug Center.”³

Sources

¹ Gene Johnson, the Associated Press/*Denver Post*, January 25, 2015, “Pot-related calls to Colo., Wash. poison centers up”

² Jackie Borchardt, Northeast Ohio Media Group, June 16, 2015, “Child marijuana poisoning incidents increase after states legalize pot,” <http://www.cleveland.com/open/index.ssf/2015/06/child_poisoning_cases_increase.html%23incart_river>, accessed June 17, 2015

³ Wayne Laugesen and Pula Davis, *The Gazette* editorial board, June 21 2015, “Clearing the Haze/THC extracts concentrate problems,” <<http://gazette.com/clearing-the-haze-thc-extracts-concentrate-problems/article/1554097>>, accessed June 22, 2015

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SECTION 6: Treatment

Introduction

This section examines whether Colorado's legalized medical marijuana industry and the recent legalization of marijuana for recreational use has affected the admission rate to substance abuse treatment programs.

The information compares the early medical marijuana era (2006 – 2008), the medical marijuana commercialization and expansion era (2009 – current) and the recreational marijuana era (2013 – current) in Colorado.

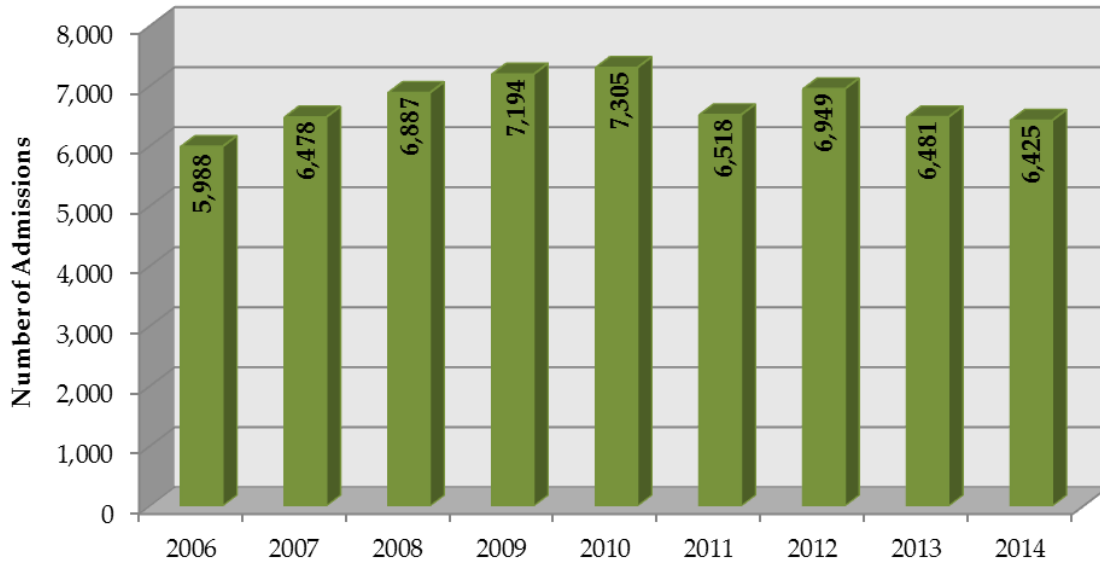
- **2006 – 2008:** There were between 1,000 and 4,800 medical marijuana cardholders and no known dispensaries operating in Colorado.
- **2009 – Current:** There were over 108,000 medical marijuana cardholders and 532 licensed dispensaries operating in Colorado by the end of 2012. See the introduction at the beginning of this report for more details on the commercialization and explosion of Colorado's medical marijuana trade.
- **2013 – Current:** In November 2012, Colorado voters passed Constitutional Amendment 64 which legalized marijuana for recreational purposes for anyone over 21 years of age. The amendment also allowed for licensed marijuana retail stores, cultivation operations and edibles manufacturing.

Some Findings

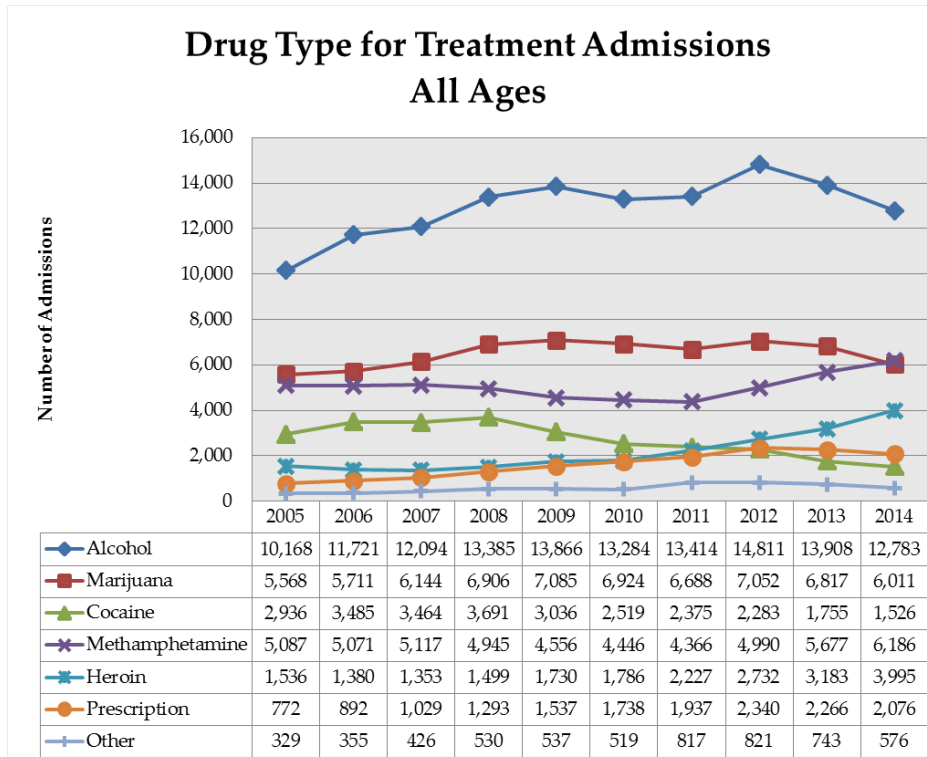
- Marijuana treatment data from Colorado in years 2005 – 2014 does not appear to demonstrate a definitive trend. Colorado averages approximately **6,500** treatment admissions annually for marijuana abuse.
- Over the last ten years, the top three drugs involved in treatment admissions, in descending order, were alcohol (average **12,943**), marijuana (average **6,491**) and methamphetamine (average **5,044**).

Data

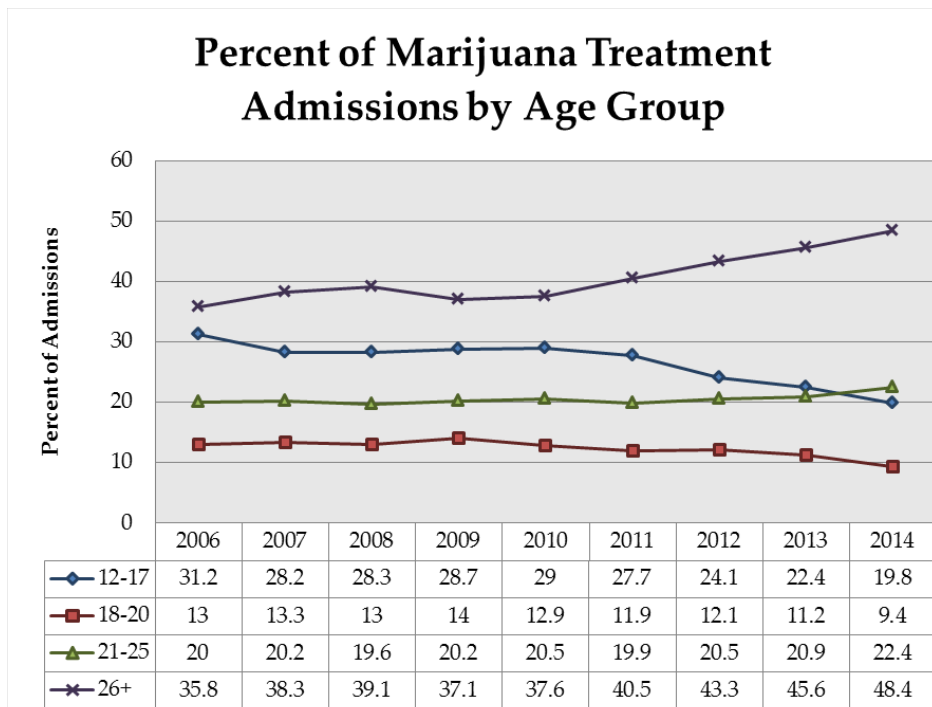
Treatment with Marijuana as Primary Substance of Abuse, All Ages



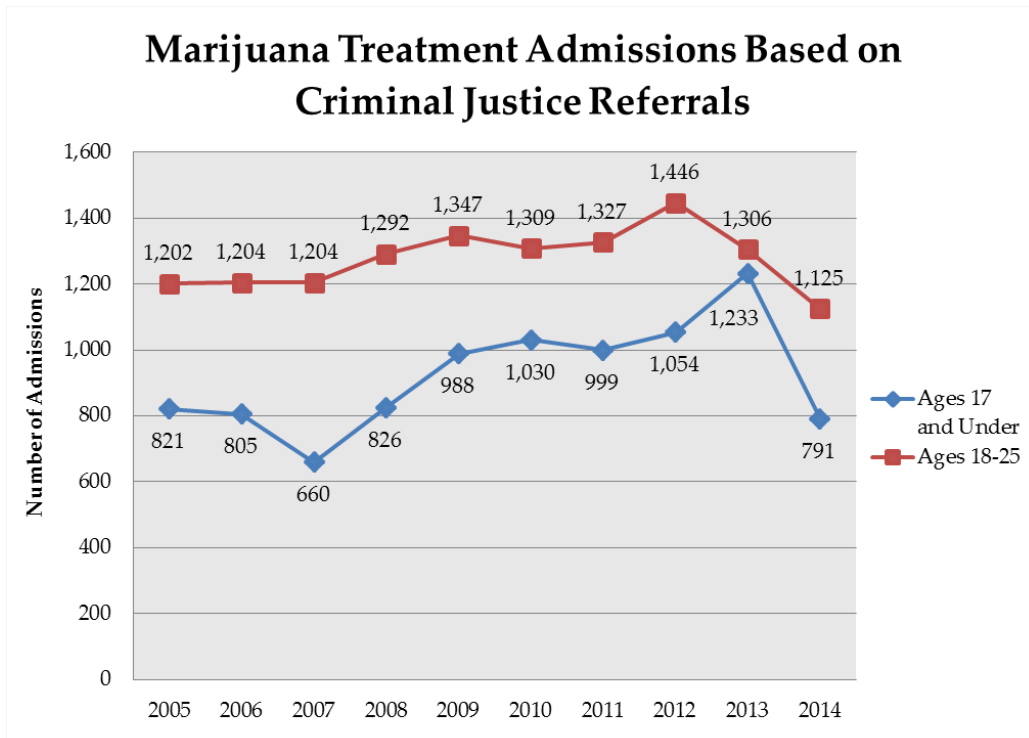
SOURCE: Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration, Treatment Episode Data Set (TEDS) based on administrative data reported by states to TEDS through April 03, 2015



SOURCE: Colorado Department of Human Services, Office of Behavioral Health, 2005 – 2014



SOURCE: Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration, Treatment Episode Data Set (TEDS) based on administrative data reported by states to TEDS through April 3, 2015



SOURCE: Colorado Department of Health Services, Office of Behavioral Health, 2005 – 2014

NOTE: DATA FROM THE COLORADO OFFICE OF BEHAVIORAL HEALTH IN YEARS 2011 THROUGH 2013 SHOWS THAT APPROXIMATELY 70 PERCENT OF MARIJUANA TREATMENT ADMISSIONS FOR THOSE OVER 18 YEARS OF AGE WERE REFERRALS FROM CRIMINAL JUSTICE AND 30 PERCENT WERE CLASSIFIED AS VOLUNTARY.¹ THIS IS LIKELY A CONTRIBUTING FACTOR FOR THE DROP IN ADMISSIONS FOR MARIJUANA ABUSE.

“We have noticed that those presenting with Cannabis Use Disorder are more committed to their use and harder to get through to than in years past. Patients tell us regularly that they will give up other drugs/alcohol but not marijuana and remind us of its legal status. This logic would obviously hold no water with alcohol and is a disturbing trend given that patients telling us this are often in dire straits. Their use/addiction has had and is having extremely detrimental effects on their lives yet they tell us it can’t be an issue because marijuana is “legal and non-addictive.”²

Sources

¹ Colorado Department of Human Services, Office of Behavioral Health, 2005 – 2014

² Clinical Director Michael Barnes, PhD, LMFT, Business Development/Community Liaison, CeDAR/University of Colorado Hospital, September 2015

SECTION 7: *Diversion of Colorado Marijuana*

Introduction

This section examines whether Colorado legalizing medical and recreational marijuana has established Colorado as a marijuana source state for other parts of the country. There is no mandatory process for law enforcement to report either the seizure or the source of the marijuana. Rocky Mountain High Intensity Drug Trafficking Area (RMHIDTA) contacted some law enforcement entities and requested voluntary reporting of those instances in which Colorado marijuana was seized in their jurisdiction. Only those cases that were completed and are a matter of public record were used in this report. Open or long-term major investigations involving marijuana trafficking from Colorado have been excluded. This section includes:

- Interdictions resulting in seizure of marijuana from Colorado
- Investigations resulting in seizure of marijuana from Colorado
- Cases involving youth trafficking

The information compares the early medical marijuana era (2006 – 2008), the medical marijuana commercialization and expansion era (2009 – current) and the recreational marijuana era (2013 – current) in Colorado.

- **2006 – 2008:** There were between 1,000 and 4,800 medical marijuana cardholders and no known dispensaries operating in Colorado.
- **2009 – Current:** There were over 108,000 medical marijuana cardholders and 532 licensed dispensaries operating in Colorado by the end of 2012. See the introduction at the beginning of this report for more details on the commercialization and explosion of Colorado's medical marijuana trade.

- **2013 – Current:** In November 2012, Colorado voters passed Constitutional Amendment 64 which legalized marijuana for recreational purposes for anyone over 21 years of age. The amendment also allowed for licensed marijuana retail stores, cultivation operations and edibles manufacturing.

Definitions

Colorado Marijuana Interdiction Seizures: Incidents where highway or state patrols stopped a driver for a traffic violation and subsequently found Colorado marijuana destined for other parts of the country. These interdiction seizures are reported on a voluntary basis to the National Seizure System (NSS) managed by the El Paso Intelligence Center (EPIC). These are random traffic stops, not investigations, and does not include local law enforcement data.

Some Findings

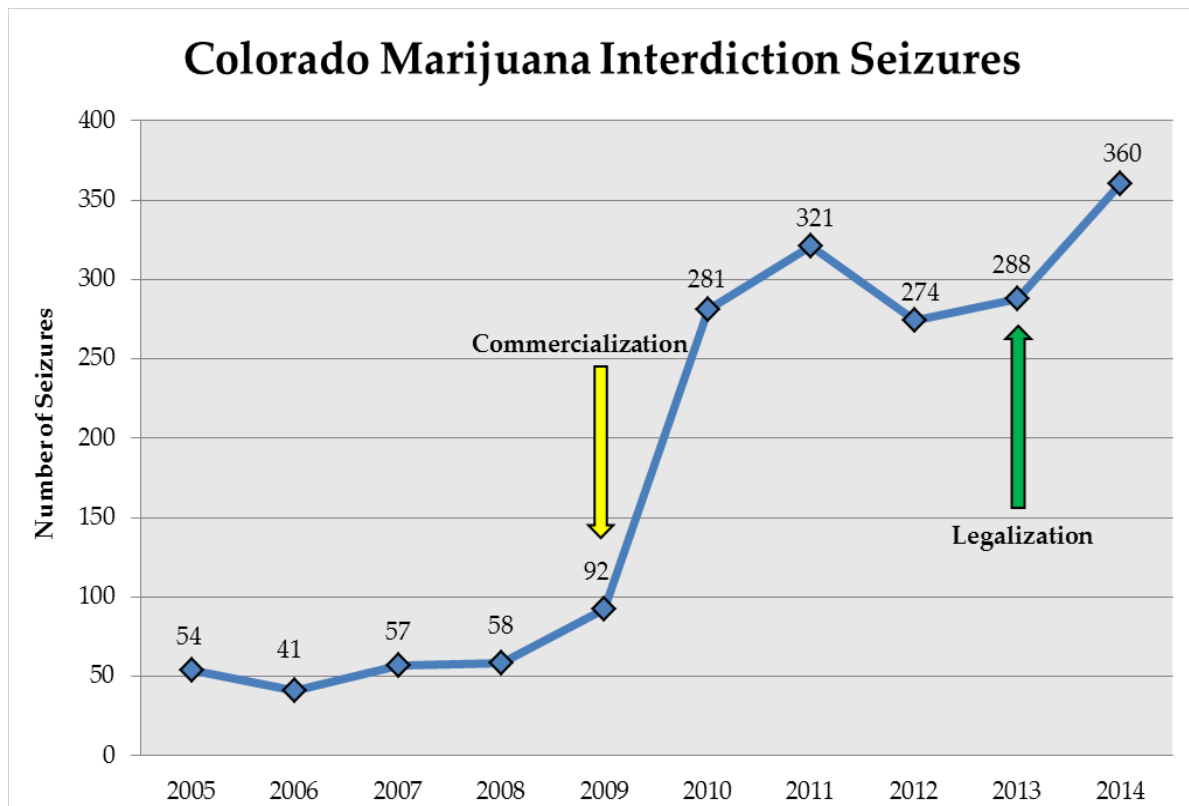
- During 2009 – 2012, when medical marijuana was commercialized, the yearly average number interdiction seizures of Colorado marijuana increased **365 percent** from **52** to **242** per year.
- During 2013 – 2014, when recreational marijuana was legalized, the yearly average interdiction seizures of Colorado marijuana increased another **34 percent** from **242** to **324**.
- In 2014, there were **360 interdiction** seizures of Colorado marijuana destined for other states. When compared to the pre-commercialization average of **52** from 2005 – 2008, this represents a **592 percent increase**.
- The total average number of pounds of Colorado marijuana seized from 2005 – 2008 compared to 2009 – 2014 increased **33 percent** from **2,763 pounds** to **3,671 pounds**.
- Of the 360 seizures in 2014, there were **36 different states** destined to receive marijuana from Colorado. The most common destinations identified were Kansas, Missouri, Illinois, Oklahoma and Florida.

- The top county identified as the source for the marijuana in 2014 was Denver, with 63 percent.

Data

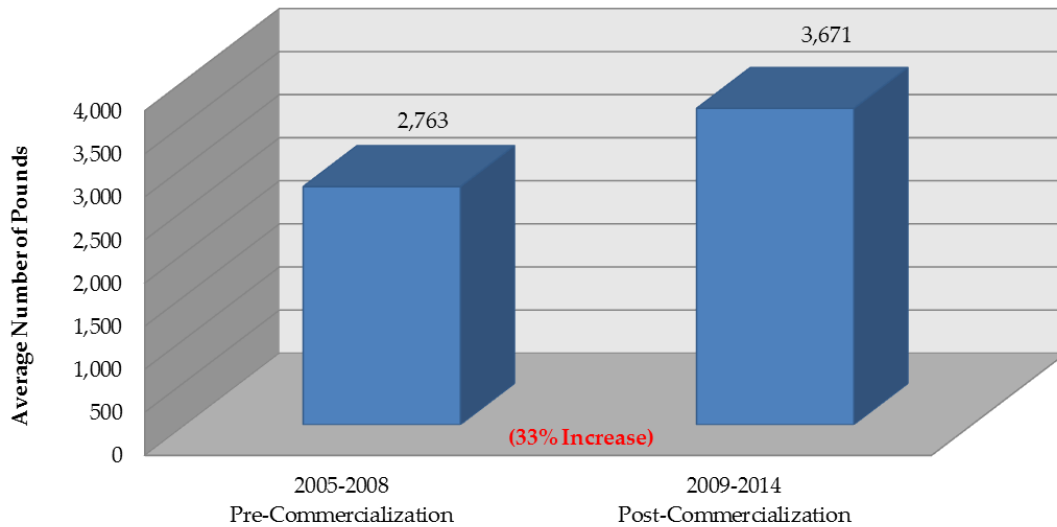
NOTE: THE BELOW CHARTS ONLY INCLUDE CASES WHERE COLORADO MARIJUANA WAS ACTUALLY SEIZED AND REPORTED. IT IS UNKNOWN HOW MANY COLORADO MARIJUANA LOADS WERE NOT DETECTED OR, IF SEIZED, WERE NOT REPORTED.

- ❖ A 2014 survey of approximately 100 interdiction experts estimates they seize 10 percent or less of what gets through undetected.



SOURCE: El Paso Intelligence Center, National Seizure System, as of March 20, 2015

Average Pounds of Colorado Marijuana from Interdiction Seizures



SOURCE: El Paso Intelligence Center, National Seizure System, as of March 20, 2015

Rocky Mountain HIDTA expects the total weight of marijuana seized in the future will likely decrease due to:

- More marijuana loads with high THC content and lower weight “buds” as opposed to lower THC content and higher weight bulk.
- The increased popularity of hash and hash oil which are high THC, high price and low weight.
- Smaller loads with less weight are easier to conceal and more difficult to detect.

States to Which Colorado Marijuana Was Destined (2014) (Total Reported Incidents per State)



SOURCE: El Paso Intelligence Center, National Seizure System, as of March 20, 2015

❖ **21 seizures with undisclosed destination states**

Top Three Cities for Marijuana Origin

Originating City Rank	Number of Seizures from Originating City	Percentage
1. Denver	227	63.06%
2. Yuma	20	5.56%
3. Colorado Springs	14	3.89%

A Few Examples of Interdictions

Wyoming Highway Patrol Busy with Colorado Marijuana: The Wyoming Highway Patrol reported that, in the first quarter of 2015, 30 percent of their highway

interdiction seizures involved people traveling to Colorado specifically for the purpose of purchasing and transporting marijuana and THC products to locations outside of Colorado. In one case in March, a highway patrol trooper stopped a vehicle for traffic violations. The officer subsequently found that the driver had failure-to-appear warrants for traffic offenses out of Wyoming and did not have a valid drivers' license. Subsequent to the arrest, officers found close to 5 ounces of high-grade marijuana. The driver told the officer that he had purchased the marijuana from a dispensary in the Steamboat Springs area of Colorado.

Georgia Dealer Moves to Colorado for Marijuana Supply: On June 4, 2014, a Mississippi Highway Patrol trooper stopped a vehicle with Georgia plates for a traffic violation. As a result of the traffic stop, the trooper seized 5 pounds of marijuana from Denver, Colorado en route to **Atlanta, Georgia**. Apparently a Georgia resident moved to Denver so he could qualify for and use Colorado's legalization status to obtain and ship marijuana back to Georgia. The marijuana was referred to as "legal mile-high weed."

Scottsbluff, Nebraska Resident Frequents Colorado Dispensaries: On December 20, 2014, a Scottsbluff (Nebraska) Police Department officer stopped a vehicle for a traffic violation. The vehicle was being driven by a female but the vehicle was registered to her boyfriend, both from Scottsbluff. Pursuant to the stop the officer found numerous items of marijuana literature from dispensaries in Denver and containers of marijuana bottles from dispensaries. The female told the officer that her boyfriend frequents marijuana dispensaries. The search further revealed numerous concealment locations in the vehicle. While the officer was conducting the search, the boyfriend arrived and advised the officer that anything found in the vehicle belonged to him.

"Old Stuff" (Colorado Marijuana) to Mom's House: On December 17, 2014, a Shawnee County Sheriff's Office deputy stopped a rental vehicle registered in Missouri. The driver, from Denver, Colorado, was en route to **Parkville, Missouri** allegedly with boxes of "old stuff" to be taken to his mother's house. During this traffic stop the officer found THC butter, 3.9 pounds of high-grade marijuana in 17 different containers, labels from a Colorado dispensary as well as equipment and butane for setting up a marijuana extraction lab.

Medical Marijuana Items from Colorado: On January 28, 2015, a South Dakota Highway Patrol officer stopped a vehicle registered in Minnesota for a traffic violation. During the search of the vehicle, the officer found 1 pound of marijuana, ½ pound of

butane hash oil and 4 pounds of marijuana edibles. According to the officer, almost all of it was medical marijuana items from Colorado.

Candy and Gummy Bears from Colorado to Florida: On September 8, 2014, Louisiana law enforcement stopped a rental vehicle for a traffic violation. The vehicle, traveling from Colorado to **Tallahassee, Florida**, was subsequently searched. The officer found approximately 10 pounds of high-grade marijuana and assorted marijuana edibles, including 3 bottles of sour gummy bears, “Monkey Bar”, “Boulder Bar” and “Cookies and Cream.”

Marijuana Plants and Edibles: In March of 2015, a Kansas Highway Patrol trooper stopped a vehicle, registered in Wisconsin, for a traffic violation. Subsequent to the stop the trooper searched the vehicle and found 4 pounds of marijuana, 44 marijuana plants, 2 tubs of marijuana edibles and 3 marijuana candy bars in the vehicle. The vehicle was coming from Denver, Colorado en route to **Wisconsin**.

Colorado Marijuana and Candy to Montana: On July 27, 2014, a Wyoming Highway Patrol trooper stopped a vehicle with Tennessee plates coming from Denver, Colorado en route to **Montana**. As a result of the traffic stop the trooper seized over 11 ounces of high-grade marijuana, 1 THC lollipop and 2 THC candies. The driver claimed he was going to Montana to fly fish although there was no fly fishing gear in the vehicle.

Over 14 Pounds of Marijuana and Half a Pound of THC Wax: On March 14, 2015, a South Dakota Highway Patrol trooper stopped a vehicle registered in Minnesota for a traffic violation. A subsequent search revealed close to 15 pounds of marijuana and over half a pound of THC wax concealed in a suitcase and bag in the trunk of the vehicle. The vehicle was coming from Denver, Colorado en route to **Rapid City, South Dakota**.

120 Pounds and Edibles: In December of 2014, Kansas Highway Patrol troopers stopped a vehicle registered in Georgia for a traffic violation. Subsequent to the stop, the trooper discovered 120 pounds of marijuana and a half pound of marijuana edibles inside the vehicle. The vehicle was coming from Denver, Colorado en route to **Missouri**.

Marijuana and Edibles Destined for Lincoln, Nebraska: On April 4, 2015, a Colorado State Patrol trooper stopped a rental vehicle for a traffic violation. During the stop, the trooper discovered 30 pounds of marijuana and 3,200 milligrams of marijuana

edibles concealed in a suitcase and duffel bag in the trunk. The vehicle was headed to **Lincoln, Nebraska** from Denver, Colorado.

U-Haul with Marijuana: In July of 2014, a Kansas Highway Patrol trooper stopped a vehicle towing a U-Haul trailer for traffic violations. During the traffic stop, the vehicle was searched and 67 pounds of marijuana, along with 17 pounds of marijuana edibles, were found inside the vehicle. The vehicle was coming from Denver, Colorado en route to **Missouri**.

Colorado to Minnesota: On January 24, 2015, a South Dakota Highway Patrol trooper stopped a vehicle registered in Minnesota for a traffic violation. A subsequent search revealed 3 pounds of marijuana and 44 grams of THC wax as well as a loaded 9 mm handgun. This vehicle was coming from Fort Collins, Colorado en route to **Minnesota**.

Colorado Marijuana to Virginia: On April 6, 2015, a Nebraska State Patrol trooper stopped a vehicle registered in Virginia for a traffic violation. A subsequent search revealed over 7 pounds of marijuana as well as marijuana edibles concealed inside a suitcase in the trunk of the vehicle and backpacks throughout the vehicle. The vehicle was coming from Colorado en route to **Virginia**.

168 Pounds Seized in South Carolina Two individuals from Colorado were arrested in Cherokee County, South Carolina after a traffic stop revealed approximately 168 pounds of marijuana. According to arresting officers, the marijuana was destined for **Charlotte, North Carolina** and worth approximately \$900,000.¹

Troopers Seize 33 Pounds of Pot: In November, 2014, Texas Department of Public Safety troopers seized 33 pounds of marijuana during a traffic stop. The two occupants of the vehicle who were arrested had just come from Colorado and were suspected of transporting the marijuana back to **Ashville, North Carolina**.²

34 Pounds Found in Pennsylvania Rental Vehicle: On January 11, 2015, a Nebraska State Patrol trooper stopped a vehicle for a traffic violation. This rental vehicle, registered out of Pennsylvania, was coming from Colorado en route to **Mason City, Iowa**. The trooper subsequently discovered 34 pounds of marijuana concealed inside two duffel bags in the trunk of the vehicle.

242 Pounds of Marijuana Seized: On April 11, 2014, a Nebraska State Patrol trooper stopped a vehicle for a traffic violation. A subsequent search revealed 242

pounds of marijuana found under the bed of the truck. The vehicle was coming from Denver, Colorado en route to **Rochester, New York**.

53 Pounds Destined for Wisconsin: On February 19, 2015, a South Dakota Highway Patrol trooper stopped a vehicle registered in Wisconsin. A subsequent search of the vehicle revealed 53 pounds of marijuana concealed in the trunk. This vehicle was coming from Colorado en route to **Wisconsin**.

10 Pounds Destined for Cedar Falls, Iowa: On October 20, 2014, an Iowa State Patrol trooper stopped a vehicle for a traffic violation. The trooper subsequently discovered 10 pounds of marijuana concealed inside two bags in the back seat of this pick-up truck. The driver came from Aurora, Colorado and was en route to **Cedar Falls, Iowa**.

5 Pounds Destined for College Town: On December 13, 2014, an Iowa State Patrol trooper stopped a vehicle for a traffic violation. The trooper subsequently discovered 5 pounds of marijuana concealed inside the inner lining of a suitcase that was located in the trunk of the vehicle. The vehicle was coming from Denver, CO en route to **Ann Arbor, Michigan**.

New Jersey Rental Transporting Marijuana to Minnesota: On March 6, 2015, an Iowa State Patrol trooper stopped a vehicle for a traffic violation. A subsequent search revealed 6 pounds of marijuana concealed inside the spare tire area of the trunk of the vehicle. The rental vehicle, registered in New Jersey, was coming from Colorado en route to **Twin Cities, Minnesota**.

Yuma, Colorado to Boston, Massachusetts: On March 8, 2014, an Ohio Highway Patrol trooper stopped a vehicle for traffic violations. During the stop, the trooper seized over 45 kilograms of marijuana. The vehicle was coming from Yuma, CO en route to **Boston, Massachusetts**.

55 Pounds to Columbia, Missouri: On October 25, 2014, Missouri Highway Patrol troopers pulled over a vehicle for traffic violations. During the stop, a subsequent search was conducted and the troopers discovered 55 pounds of marijuana. The vehicle, registered in Texas, was coming from Yuma, CO en route to **Columbia, Missouri**.

Illinois Stops Marijuana Destined for Ohio: On October 23, 2014, Illinois State Police stopped a vehicle traveling from Denver, Colorado to **Akron, Ohio**. During the traffic stop officers, assisted by a K9, seized 8 pounds of high-grade marijuana vacuum-sealed and placed in two duffel bags in the trunk.

36 Pounds Destined for Florida: In January of 2015, a Kansas Highway Patrol trooper stopped a vehicle for traffic violations. Subsequent to the stop, the trooper discovered 36 pounds of high-grade marijuana inside the vehicle. This vehicle, registered in Florida, was coming from Denver, Colorado en route to **Florida**.

Marijuana to Kentucky: In April of 2015, a Kansas Highway Patrol trooper stopped a vehicle with Texas registration for a traffic violation. A subsequent search of the vehicle revealed 24 pounds of marijuana concealed inside the vehicle. The vehicle was coming from Denver, Colorado en route to **Kentucky**.

Marijuana to New Mexico: On September 4, 2014, a Colorado State Patrol trooper stopped a vehicle registered in New Mexico for a traffic violation. During the stop the trooper discovered 32 pounds of marijuana in a duffel bag in the trunk of the car. The vehicle was coming from Denver, Colorado en route to **Roswell, New Mexico**.

38 Pounds to Sioux Falls, South Dakota: On September 18, 2014, a Colorado State Patrol trooper stopped a vehicle for traffic violations. During the stop, the trooper discovered 38 pounds of marijuana in brand new luggage that was purchased in Denver specifically for the purpose of storing the marijuana in the trunk. The vehicle was coming from Denver en route to **Sioux Falls, South Dakota**.

Trick or Treat Bag with Marijuana: On November 1, 2014, a Wyoming Highway Patrol trooper stopped a vehicle for speeding. When asked, the driver admitted she did not have registration for the vehicle and that she was coming from Colorado en route to **Wamsutter, Wyoming**. The trooper subsequently found eight plastic bags containing over 7 ounces of high-grade marijuana that were concealed in a plastic trick or treat bag.

Colorado Marijuana to North Dakota: On December 5, 2014, a Colorado State Patrol trooper stopped a vehicle for a traffic violation. The vehicle was coming from Denver, Colorado en route to **Grand Forks, North Dakota**. During the stop, the trooper seized 15 pounds of marijuana wrapped in a vacuum-sealed container found in a suitcase and duffel bag in the trunk.

A Few Examples of Investigations

NOTE: THE EXAMPLES BELOW ARE ONLY A SMALL SAMPLE OF THE MANY INVESTIGATIONS INVOLVING COLORADO MARIJUANA CITED BY VARIOUS DRUG UNITS.

Colorado “Medical” Marijuana Sold in Springfield, Missouri: Based on a tip, Springfield (Missouri) P.D. officers secured a search warrant on the home of a drug dealer. Pursuant to the warrant, officers seized half a pound of marijuana, \$2,000 in cash and nine weapons. Records show that one of the suspects had removed some of the contraband from the residence prior to police executing the warrant. They also seized items consistent with a THC extraction lab. Both suspects face charges of possession with intent to distribute a controlled substance. According to the news article: “A pair of Springfield men have been arrested and accused of collecting medical marijuana in Colorado and selling it in southwest Missouri.”³

Caregiver and 425 Pounds of Colorado Marijuana in Nashville: Two Breckenridge residents were arrested in a drug bust in Nashville, Tennessee where officers seized 425 pounds of marijuana, 4 pounds of hashish and \$355,000 in cash.

“Nashville police say Breckenridge’s Christopher Steven Crumbliss, 39, and Tasha Desmond, 21, were part of a group traveling around the country illegally selling high-grade marijuana from Colorado.” Crumbliss had a history of brushes with the law connected with marijuana cultivation and distribution activities but claimed to be a caregiver. In 2007 he and his wife, Tiffany, were charged in Larimer County (Colorado) with marijuana cultivation and possession with intent to distribute. They argued they were protected under the caregiver provision of Colorado medical marijuana law. Charges against Tiffany were dropped and Christopher Crumbliss plead guilty but was given probation in lieu of prison. A year later Larimer County Sheriff’s Department and DEA served search warrants at the Crumbliss’ three homes in Larimer County and Blue River, seizing more than 200 plants and 20 pounds of finished product. There were no criminal charges filed. Tiffany Crumbliss is the owner of Soul Shine Medical Consulting, a medical marijuana dispensary in Breckenridge. She categorically denies that the marijuana seized in Nashville came from her business.⁴

“Weak Enforcement” Leads to Colorado Marijuana Trafficking Organizations: In March 2015, Colorado law enforcement secured indictments against 32 people accused of being part of a multi-million dollar organization growing marijuana in Colorado for distribution out of state. This group, although growing illegally, had warehouses in areas populated by licensed commercial marijuana growers. The organization operated under the false pretense of being medical marijuana caregivers. “Their real goal,

according to the indictment, was to use Colorado's laws and commercial marijuana industry to 'hide in plain sight.'" "Organization members 'subjectively felt Colorado's weak regulatory enforcement structure afforded them the easiest opportunity to conduct illegal marijuana and distribution activity with little to no consequences from law enforcement and civil regulators,' the indictment states." Apparently most of the marijuana, estimated at 400 pounds monthly, was exported primarily to Minnesota. In fact, an individual with a skydiving business is accused of using company aircraft for marijuana shipments between Colorado and Minnesota or Texas. Apparently this individual was stopped in Kansas and found to be in possession of 66 pounds of marijuana and \$330,000 in cash.⁵

Sex Trafficking and Drugs: "Denver has evolved into a breeding ground, officials say, for sex-traffickers who lure young runaways, often in exchange for drugs, into the underground business." "Tom Ravenelle with the FBI said he's seeing more print and online advertisements – chock-full of keywords like '4-20 friendly' – that attract young girls." "A former prostitute who said she traded sex for marijuana talked to CBS4 anonymously about her experience." Apparently she ran away when she was 17 and fell into prostitution, bartering sex for drugs and didn't leave until more than two decades. "I traded for marijuana because that was my vice," she said. "I needed to escape."⁶

Legalization of Marijuana and Sex Tourism:

- The legalization of marijuana is fueling a sex tourism industry in Colorado.
- "Several victims were brought to Colorado specifically because of the availability of marijuana and the state being '420-friendly'."⁷

Outlaw Motorcycle Gang Affiliate Trafficking in Colorado Marijuana: In September 2014, Colorado law enforcement initiated an undercover operation involving the sale of large quantities of marijuana. A suspect sold an undercover agent 1 pound of marijuana for \$2,300 and negotiated the sale of an additional 30 pounds of marijuana. Just prior to completing the sale, officers served a search warrant at the unregistered warehouse and the suspect's residence. Officers seized a sophisticated marijuana grow operation with 198 marijuana plants and approximately 31 pounds of marijuana. The entire investigation resulted in 2 arrests and the seizure of 1,600 marijuana plants, 36 pounds of processed marijuana, 22 firearms and over \$100,000 in cash.⁸

1,100 Marijuana Plants in Lafayette, Colorado: David Melvin, 44, and Katie Melvin, 31, were arrested for growing 1,100 marijuana plants inside their home in Lafayette, Colorado. The two claimed the marijuana grow was legal, although the Colorado Department of Revenue "asserts that neither Kingsley [Katie Melvin's former

business partner] nor the Melvins had any existing applications with the state, or with the city or county of Denver, with whom Katie told police she had applied.”⁹

Pot Delivery Services Thriving in Colorado’s Black Market: “Legalizing marijuana was supposed to largely eliminate the black market for pot, but a CBS4 Investigation found dealers have come off the street corner and onto the Internet, openly posing as legitimate delivery services. In just three hours, we contacted three delivery services and had marijuana products delivered all over Denver. The services claim to be perfectly legal because nothing was for sale. Instead of payment, buyers were expected to pay a pre-specified, cash ‘donation’.” In one case, a CBS4 employee appearing under age answered an ad for marijuana for a “\$35 donation.” When the marijuana delivery service arrived, the delivery man said that he had to get the money first and that he got the marijuana from a friend who was a grower for a dispensary.

Another CBS4 employee responded to an ad for “Delicious Edibles for Donation.” When ordering by text, the CBS4 employee asked if they were strong and the reply was, “Yes, will have a morbidly depressed person laughing on the floor.”

In the third case, the delivery driver claimed to be the chef who made the edibles and arrived with pre-packaged candies. Apparently they offered a full menu and the CBS4 employee ordered a \$60 sampling but again there was no proof of age required. The delivery service offered to ship bulk orders.

None of these delivery services would be interviewed on camera.¹⁰

Springfield Inundated by High-grade Marijuana from Colorado: Springfield, Missouri drug investigators are seeing an influx of high-grade marijuana, particularly from Colorado. A highway patrol sergeant says that the more potent marijuana has driven up the prices. In 2013, the Missouri State Highway Patrol seized 1,071 pounds of marijuana and approximately 1,700 pounds in 2014. So far in 2015, January through June, they seized more than 1,000 pounds. They also say that they have seen a huge increase in marijuana-infused food products.¹¹

Medical Marijuana Scam Leads to Residence Turned Into Pot Farm: In June of 2015, a Colorado woman thought she was renting her home to a sweet couple from Florida who needed a place to live. What she didn’t realize is this sweet couple was actually engaged in marijuana cultivation and trafficking. Apparently the couple turned the unfinished 2,800 sq. ft. basement into an elaborate marijuana cultivation facility. She said they had been cleaning up the mess for a week and that the tenants caused tens of thousands of dollars in damage. She said, “It absolutely makes me sick to my stomach.” Apparently the tenant stated that his doctor had prescribed him 75 plants as well as his cousin and his cousin’s wife. He claimed he was in compliance with the law. The lady who owned the home thought she was renting to a couple who

were going to start a senior care service. Little did she know that the man had served 3-1/2 years in prison for trafficking more than a ton of marijuana.¹²

Colorado Marijuana to Illinois and Georgia: In January 2015, Colorado law enforcement conducted an undercover operation into a marijuana trafficking organization shipping Colorado marijuana to Illinois and Georgia. The operation resulted in several undercover purchases of marijuana and a search warrant for the primary location. Pursuant to the search warrant, a 456 marijuana plant grow, a hash oil lab and 28 weapons were seized.¹³

Yellowstone Sees Rise in Marijuana Cases: “An increasing number of visitors to Yellowstone National Park are being prosecuted for possession small amounts of medical and recreational pot, which remains illegal on federal land.” Park rangers attribute this increasing trend to ignorance of federal law and the growing prevalence of legal marijuana, including neighboring Colorado. In 2010, there were only 21 marijuana cases in Yellowstone which more than doubled in 2013 and quadrupled in 2014 as of December 17, 2014. There were 52 cases in 2013 and, as of December 17, 2014, 80 cases handled by the U.S. Attorney’s Office in October 2013. An artist from Hawaii was pulled over for speeding and park rangers subsequently found 3 grams of marijuana which he admitted to purchasing in Colorado.¹⁴

Oklahoman Busted with 85 Pounds of Colorado Marijuana: In December 2014, two days after Oklahoma officials filed a lawsuit against the state of Colorado, a Tulsa subject was arrested with 85 pounds of marijuana and \$20,000 in cash. Apparently the man and a mother-daughter team from Broken Arrow, Oklahoma were taking the marijuana to Tulsa. Officers found receipts showing that the three had gone to Colorado where they had purchased the marijuana.¹⁵

Undercover Operation in Boulder: On May 9, 2014 Boulder Police Department arrested six adults and one juvenile after a month-long undercover investigation. Apparently this group was responsible for distributing marijuana and psychedelic mushrooms to juveniles and adults in and around the Central Park area. The involved officers believe the marijuana was purchased from a local medical marijuana dispensary.¹⁶

Forged Marijuana Business Licenses: Anna Cozy, 36, was charged with forging marijuana business licenses. “The charges allege that Cozy was running a marijuana business in Denver and provided phony business licenses to inspectors.”¹⁷

Colorado Marijuana-Infused Candy in Maryland: Prince Georges County (Maryland) police seized several boxes of candy that were infused with marijuana. The boxes were destined for Laurel, Maryland coming from Colorado and the West Coast. The candy included taffy, mint chocolate bars, blueberry chocolate bars and banana-walnut chocolate bars. The police put out a warning to parents to be aware of such products saying they are easily confused with real candy.¹⁸

State Shuts Down Pot Shops: The Department of Revenue has around 55 fulltime employees to keep “a closer eye” on over 2,000 marijuana businesses. However, in 2014 55 medical marijuana businesses closed compared to 35 during the 3 previous years combined. Some of the reasons for the closures include a dispensary with 4,000 ounces of marijuana beyond their per-patient limit, neglecting to implement required inventory tracking, failing to provide evidence that at least 70 percent of their stock was self-grown, insufficient internal cultivation and other violations of regulations.

“In October, the Herbal Center in Denver was closed for a laundry list of infractions, including having more than 200 pounds of excess marijuana on its medical side, evidence of consumption on the premises, operating before obtaining a local license, inventory tracking errors and insufficient security.”

In Carbondale (Colorado) in 2011 the owner of Mother Earth Dispensary was arrested on charges of selling marijuana to unlicensed buyers and selling cocaine to undercover law enforcement officers.¹⁹

Craigslist Pot Sellers: Three men were arrested for selling 4-1/4 pounds of marijuana for \$10,000. An undercover officer found a posting for an online marketplace for marijuana and made a contact. He made arrangements for the undercover purchase, meeting two of the individuals at one location and driving to another which was a licensed marijuana retailer. It was there they met another individual who was an employee of the retail marijuana operation who had a backpack full of marijuana. This individual “had been buying thousands of dollars’ worth of marijuana from his employer, according to the [Denver Police Department’s] Facebook post.”²⁰

2,630 Marijuana Plants in an Outdoor Grow on Public Land: On October 1, 2014 federal and local law enforcement seized an outdoor marijuana cultivation site with 2,630 marijuana plants on White River National Forest land. This grow operation was well tended by the growers. It had black piping supplying water to the grow operation from a stream that was dammed up to collect the water. Officers reported tents, food, shovels, tarps, weed spreader and other items for the grow operation, including piles of trash throughout the grow site.²¹

A Few Examples of Diversion Involving Youth

Teacher Accused of Providing Pot to Students: A high school teacher in Thornton, Colorado was fired for allegedly providing marijuana to students. “One parent told FOX31 Denver, ‘My daughter is a senior at Pinnacle and she said that kids have been buying edibles as well as regular marijuana from her.’”²²

Teen Shot During Hash Oil Deal: A man, with a female teenager, made arrangements over Facebook to buy “marijuana wax” (hash oil). When they met to consummate the transaction, one of the suspects got out of the vehicle and robbed the man at gunpoint. The man then drove after the suspect’s vehicle from which a shot was fired, hitting the 16-year-old teenager and a dog that was in the man’s vehicle.²³

Mother Provided Marijuana to Son Who Jumped From Window: The mother of a 19-year-old teenager was arrested for providing a marijuana edible brownie to her son. On April 14, 2015, the young man consumed one dose of edible marijuana brownie and started acting strangely. According to witnesses, he ran toward the living room window and jumped three stories to the ground. A neighbor reports that he heard the window shatter when the young man jumped and found him lying bloodied on the ground. Reports indicate he was covered in glass and blood but was confused when he ran up to him to ask for help. According to a neighbor, the young man didn’t realize he had jumped from a window.²⁴

Mom Supplies Marijuana Edibles: In February 2015, a 14-year-old was taken by ambulance to a hospital after eating homemade marijuana-infused candy. The student obtained the candy from a fellow student who brought it to school after his mom had made it at home. The mother, who claims to be a consultant for marijuana manufacturing, stated that the candy did not contain any marijuana. Apparently the Colorado Bureau of Investigation disagreed as analysis of the candy revealed it did contain marijuana. The mother will be charged with contributing to the delinquency of a minor.²⁵

Girl Eats Father’s Marijuana-Laced Bar: A young Wisconsin girl ate a THC-laced chocolate bar that was purchased in Colorado and brought back to Wisconsin. The girl said she found the bar in the dresser drawer of her father’s bedroom. When school officers were alerted, the young girl’s pulse was so weak that the officers were unable to read it. When officers served a search warrant at the girl’s residence, they found infused marijuana labeled as being medicinal THC. The officers also seized hash oil, a concentrated form of THC.²⁶

Some Examples from School Resource Officers²⁷

Middle School Drug Organization: “On an incident three students, one-sixth, seventh and eighth graders, were involved in sale, transport and exchange of marijuana. One of the students was the salesman the other would transport the weed and last student would collect the money. All the students were reported by the buyer. All received a citation.”

Medical Marijuana “Patient” Sells at High School: “19 years of age non-student leaves medical marijuana dispensary and drives straight to my high school. The non-student was able to blend in inside the school and was attempting to sell his medical marijuana to students in the lunch room. He went to jail. Approximately three ounces of marijuana was recovered from his car in the parking lot.”

Mom is Source: “In February 2015, a high school student was contacted on campus with marijuana and marijuana edibles that she was given by her mother who legally obtained them recreationally.”

Dispensary Marijuana: “More than 50% of confiscated marijuana was in dispensary containers.”

Grow Operation “Discards”: “Students are retrieving discards from a grow operation to re-sell as true product. Charged with felony distribution.”

13-Year-Old Dealer: “In February 2014, a 13 year old was dealing marijuana to two other students after stealing marijuana from his father’s medical supply.”

10-Year-Old Dealer: “A ten year old boy selling marijuana to other ten year olds on school grounds. Boy got the drugs from parents stuff.”

Lock and Key: 10th grade student takes approximately three ounces of medical marijuana from parents inventory and brings it to school where he was attempting to sell it to other students. Parents were adamant that he couldn’t have got it from their supply as they have the only key to gain access to it. They were wrong.”

Some Examples from School Counselors²⁸

Dealing Pot at School:

- “Last spring we had a 10th grade student who sold marijuana to another student in the men’s faculty bathroom.”
- “October, 2014. 7th grade students reported another 7th grader trying to sell marijuana at school. He was searched and the substance was found. Got it from dad’s supply.”
- “A seventh grade student was caught selling edibles to classmates in the hallway. The student was suspended. An 8th grade student was caught carrying a knife and an empty container of marijuana in his backpack. He was also suspended. Ironically, he was one of the students. Who was caught buying the brownies from the 7th grade student.”

Comments

Nebraska Sheriff Speaks Out Against Marijuana Source: Adam Hayward, the sheriff of Deuel County, Nebraska, which is right by the state line with Colorado, says he has “arrested all sorts of people carrying marijuana back from Colorado along Interstate 76: teenagers making weekend runs to Denver and once a 67 year old grandmother.” In reference to a 75 pound seizure of marijuana, he stated that the pot came from a marijuana growing facility in Colorado.²⁹

Sidney, Nebraska Chief of Police Rolls Eyes at Colorado Ads: The Chief of Police of Sidney, Nebraska felt that the radio ads by the Colorado Department of Public Health and Environment telling people not to take marijuana out of the state were a joke. He says, “Do you really think that somebody listening to that is going to say, ‘Oh, they said on the radio I shouldn’t take my marijuana back into Nebraska. So because they said it on the radio and I got a warning, I’m gonna listen to it’? Nah.” Since Colorado has had retail stores, police in rural counties that border Colorado are reporting big increases in illegal marijuana trafficking. The chief says they have seen a 50 percent increase during that time.³⁰

Black Market is Thriving in Colorado: Colorado Attorney General Cynthia Coffman, in referencing the marijuana black market, stated “Don’t buy that,” she told the room (fellow state attorneys general at a professional conference in February). “The criminals are still selling on the black market. ...We have plenty of cartel activity in Colorado (and) plenty of illegal activity that has not decreased at all.”³¹

Oklahoma Sheriff's Deputy Reference Colorado Marijuana: "We're running into more people with marijuana out of Colorado – just a regular, old traffic stop," said Dillon March, a sheriff's deputy in Custer County, Oklahoma who regularly patrols Interstate 40, a major east-west freeway stretching across the country. "They'll drive to Colorado, they'll pick it (marijuana) up, and they'll drive back to where they're from, whether that be Oklahoma, Texas, Missouri or Arkansas."³²

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SECTION 8: *Diversion by Parcel*

Introduction

This section examines whether Colorado's legalized medical marijuana industry and the recent legalization of marijuana for recreational use has established Colorado as a source state for marijuana for other parts of the country. The use of parcel packages as a drug transportation method has gained popularity with drug traffickers.

The available information compares the years 2009 through 2013 considered the medical marijuana commercialization/expansion era (2009 – current) and the recreational marijuana era (2013 – current) in Colorado.

- **2006 – 2008:** There were between 1,000 and 4,800 medical marijuana cardholders and no known dispensaries operating in Colorado.
- **2009 – Current:** There were over 108,000 medical marijuana cardholders and 532 licensed dispensaries operating in Colorado by the end of 2012. See the introduction at the beginning of this report for more details on the commercialization and explosion of Colorado's medical marijuana trade.
- **2013 – Current:** In November 2012, Colorado voters passed Constitutional Amendment 64 which legalized marijuana for recreational purposes for anyone over 21 years of age. The amendment also allowed for licensed marijuana retail stores, cultivation operations and edibles manufacturing.

Some Findings

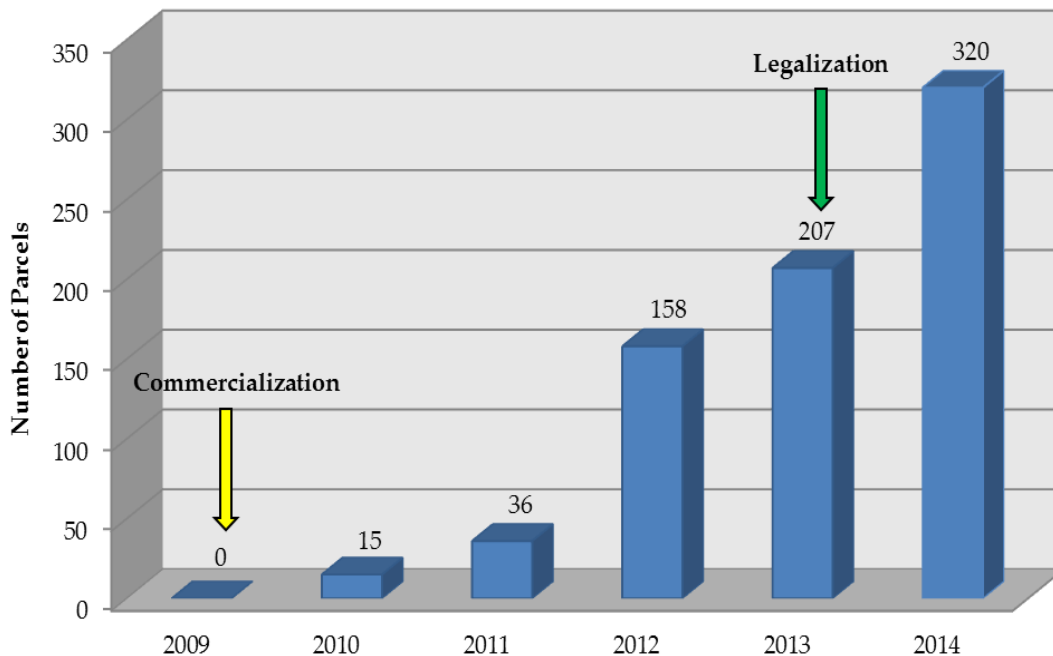
- From 2010 – 2014, the number of intercepted U.S. mail packages of marijuana from Colorado, has increased 2,033 percent from 15 to 320.
- In just one year, from 2013 to 2014 when retail marijuana businesses began operating, there was a **55 percent increase** in Colorado marijuana packages seized in the mail.

- From 2010 – 2014, the total pounds of marijuana seized from U.S. packages mailed from Colorado has increased **722 percent** from 57 to 470 pounds.
- Between 2010 and 2014, the number of states destined to receive marijuana mailed from Colorado has increased each year from 10 to 38.
- From 2006 – 2008, compared to 2013 – 2014, the average number of parcels containing Colorado marijuana seized that were destined outside the United States increased over **7,750 percent** and the pounds of marijuana seized in those parcels increased over **1,079 percent**.

Data

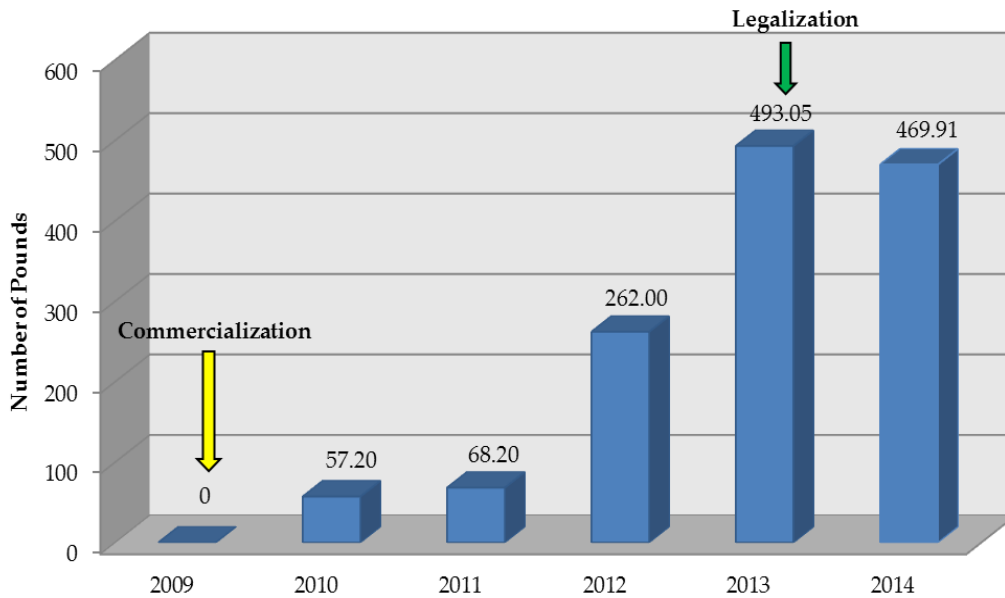
NOTE: THESE FIGURES ONLY REFLECT PACKAGES SEIZED; THEY DO NOT INCLUDE PACKAGES OF COLORADO MARIJUANA THAT WERE MAILED AND REACHED THE INTENDED DESTINATION. INTERDICTION EXPERTS BELIEVE THE PACKAGES SEIZED WERE JUST THE “TIP OF THE ICEBERG.”

Parcels Containing Marijuana Mailed from Colorado to Another State



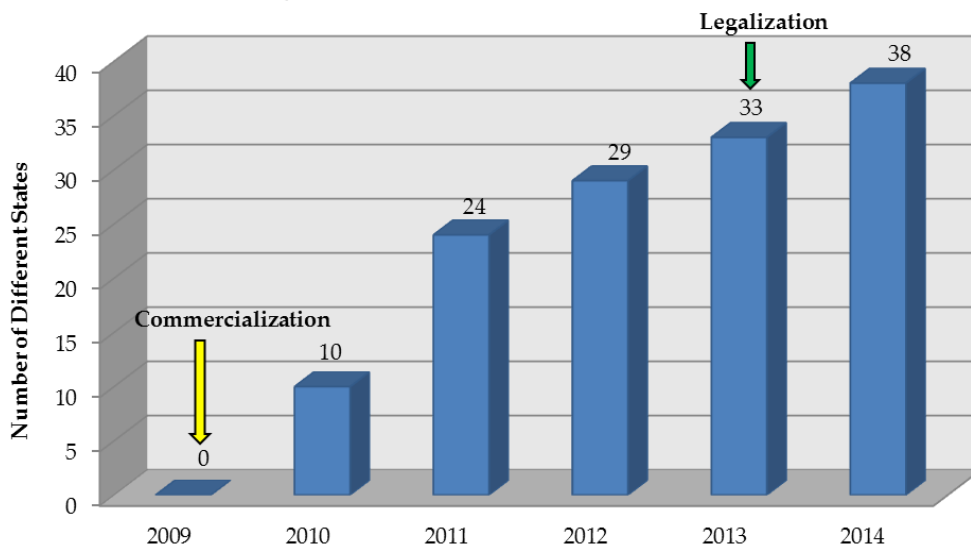
SOURCE: United States Postal Inspection Service, Prohibited Mailing of Narcotics, as of January 21, 2015

Pounds of Colorado Marijuana Seized by the U.S. Postal Inspection Service



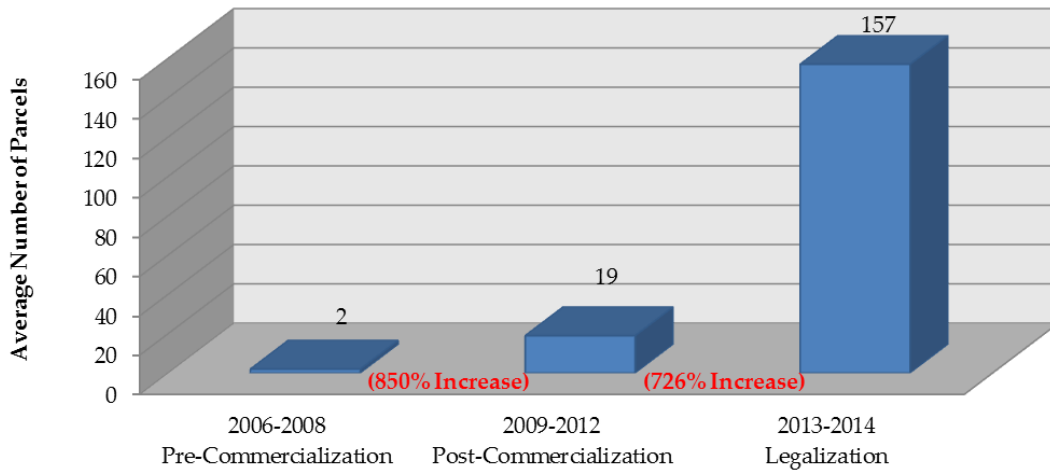
SOURCE: United States Postal Inspection Service, Prohibited Mailing of Narcotics, as of January 21, 2015

Number of States Destined to Receive Marijuana Mailed from Colorado



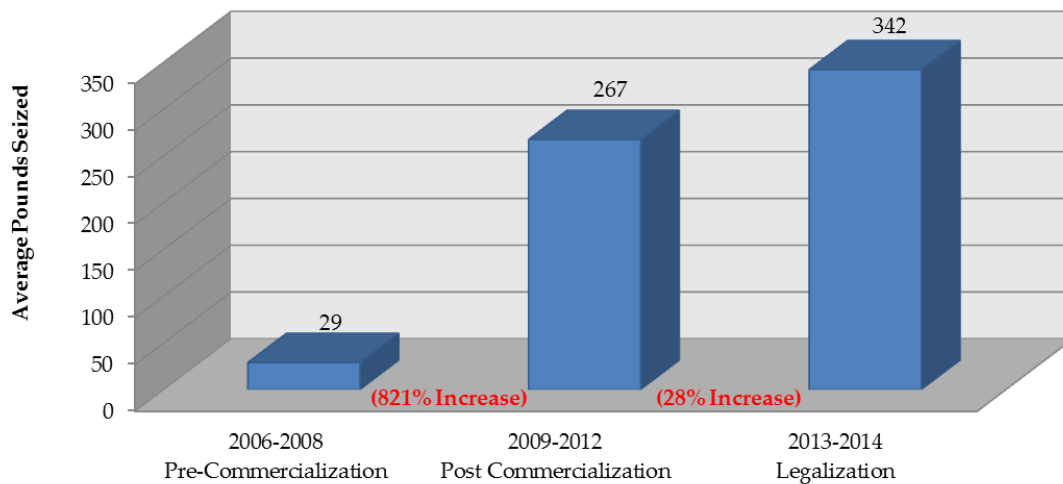
SOURCE: United States Postal Inspection Service – Prohibited Mailing of Narcotics

Colorado Marijuana Parcels Destined for Outside of the United States



SOURCE: United States Customs and Border Protection

Pounds of Colorado Marijuana Destined for Outside of the United States



SOURCE: United States Customs and Border Protection

Colorado Marijuana Destined for Outside of the United States, 2014



SOURCE: United States Customs and Border Protection

- ❖ 95 of the 215 total seizures were of unknown destination.

A Few Parcel Examples

- ❖ There are courier delivery service companies, with locations throughout the country, from which Colorado marijuana destined for other states have been seized. Unlike the U.S. Postal Service, a central data repository does not exist for these various private couriers.

Bad Luck in Marijuana Industry Leads to Arrest: In April 2015, a major parcel company alerted Chicago Police to a package coming from Colorado that had a strong odor of marijuana. Police obtained a search warrant and seized nearly 7 pounds of marijuana. The individual to whom the package was delivered was arrested. This individual was identified as part of the young entrepreneurs who went to Colorado about five years prior to make money in the medical marijuana industry. Apparently he moved to Colorado and grew marijuana plants in a warehouse outside of Denver. At the same time, his wife operated a small medical marijuana dispensary in Denver.

Prior to this arrest in 2015, he was arrested in 2010 by Chicago Police for a parcel post package containing 40 pounds of marijuana. The individual reflected on his hard luck in the medical marijuana business and stated, "Some people in the industry have gotten lucky. Other guys like me have gotten caught in the system."¹

North Metro Task Force Busy with Parcel Cases: North Metro Task Force responded to 142 packages containing marijuana from just one parcel company. They have had additional cases with two other major parcel companies.²

Medical Marijuana Store Owner to Receive \$16,000: In February 2015, three suspicious parcels were identified. A search warrant was obtained and revealed the packages contained over \$16,000 in cash. These three parcels, all coming from different locations including Idaho, Pennsylvania and Illinois, were destined for a Colorado Springs metro area medical marijuana store owner.²

Colorado Marijuana Selfie: In February 2015, a Texas man was arrested for trying to send himself marijuana and marijuana products he purchased in Pueblo, Colorado. Apparently the subject purchased the marijuana in Pueblo and then mailed it to himself in **San Angelo, Texas** where he resides. The package, when seized, contained 9 pounds of "high-grade marijuana" and marijuana edibles as well as cough syrups, skin patches and "wax" that had been "legally purchased" from two separate dispensaries in Pueblo. This individual was arrested in Texas.³

Breck Man Gets Pot Christmas Presents at New York Hotel": In December, 2014, a 28-year-old Breckenridge, Colorado resident was taken into custody for possession of over 16 pounds of marijuana. Apparently he used the U.S. Postal Service to ship the marijuana, wrapped as Christmas presents, to himself in **New York**.⁴

It's Illegal to Ship Marijuana Out of State?: In October 2013, North Metro Task Force investigated a package containing 10.2 pounds of marijuana and 3.4 pounds of edibles being shipped to Florida. They were able to identify the individual, a former resident of Florida, who was sending packages to relatives living in **Florida**. He claimed he didn't realize it was illegal to ship marijuana and edibles.²

Castle Rock Man Mails Pot: An individual in Castle Rock, Colorado plead guilty to sending more than 100 packages of marijuana to "locations across the country and receiving several hundred thousand dollars through the mail in return." The U.S. Attorney's Office in Colorado reports that searches of the subject's apartment and vehicle turned up approximately 24 pounds of marijuana, marijuana extract and marijuana edibles. The authorities also seized \$53,000 in cash.⁵

Colorado Marijuana to Broward County, Florida: In 2014, there were nine separate parcels received in **Broward County, Florida** that were marijuana originating from Colorado. The total weight was 30.17 pounds with one package as small as 4 grams and another as large as 17 pounds. There was hash oil and marijuana candy seized in two of the packages. Four of the packages were sent from Denver, two from Aurora, one from Lakewood, one from Colorado Springs and one from Golden.²

25 Parcels Seized Going to 13 States: In 2014, one parcel facility seized 25 packages containing marijuana from Colorado with a total weight of 123 pounds. They were able to identify that nine of the packages came directly from Denver, three from Littleton, two from Aurora, two from Breckenridge and the rest were sent from six other cities in Colorado.²

Brownies to Florida: In March 2015, the West Metro Task Force responded to a parcel company that opened a suspicious package and found two baggies with marijuana brownies, along with a business card. The card read “Sweet Mary Jane – Merciful Chocolate.” The package was destined for **Sulphur Springs, Florida**.²

Regular Customer: In January 2014, a suspicious parcel was located which subsequently lead to a search warrant revealing 1.2 pounds of marijuana. Law enforcement was able to identify the sender who was shipping the marijuana from Colorado to **Maryland**. The individual was a frequent customer at this parcel location.²

Colorado Marijuana to Northern Florida: In Northern Florida, 15 marijuana and/or hashish parcels from Colorado had been sent to Florida weighing a total of 40.5 pounds. All the marijuana was hydroponic and destined for **Florida** with the exception of one 5.7 pound package that was destined for **Georgia**.²

Highway Traffic Stop Results in Package Interception: In July 2014, two subjects traveling from Aurora, Colorado to **Des Moines, Iowa** were stopped on Interstate 76 in Colorado for a traffic violation. During the stop, a receipt from a major parcel company was discovered. The package on the receipt was subsequently intercepted and 3.5 pounds of marijuana was seized.²

Colorado to Arkansas: In April 2014, a parcel company turned over a package containing 5.4 ounces of marijuana to TRIDENT. Apparently the package, coming from Garfield County, Colorado, was en route to **Jonesboro, Arkansas**.²

Regular Packages from Colorado to South Dakota: In July 2014, North Metro Task Force investigated a package containing 3.2 pounds of marijuana being shipped from

Colorado to **Rapid City, South Dakota**. The follow-up investigation with the South Dakota authorities resulted in the suspect confessing to have received packages from Colorado on a regular basis.²

Stuffed Animals with Marijuana: In June 2015, Loveland Police Department was called out on a suspicious package from a parcel company. They discovered that the package contained stuffed animals full of marijuana and weighing over 2 ounces. The package was coming from Colorado en route to **Navarre, Florida**.²

Hash to Florida: In January 2015, a customer acting very suspicious attempted to ship a parcel from the Colorado Springs area to **Florida**. This individual subsequently gave consent to open the parcel, which contained approximately 5 ounces of hash.²

5 Pounds to Houston, Texas: In May 2015, West Metro Task Force investigators were called by a parcel company who had discovered five 1-pound packages of marijuana destined to be shipped to **Houston, Texas**.²

Helping a Friend: In September 2014, West Metro Task Force investigators responded when a 29-year-old male attempted to send an overnight package containing miscellaneous food items and marijuana concentrate. When arrested, the individual told the investigators he was attempting to “help” a friend who lived in **Hawaii**.²

Halloween Candy from Colorado: In October 2014, law enforcement in the Metropolitan Washington, DC area seized three parcels containing approximately 7.2 pounds of THC-laced Halloween candy. These parcels originated from Colorado and were set to be delivered to an address in **Maryland**.²

Colorado Marijuana to Mississippi: In 2014, there were six packages with marijuana from Colorado being sent to **Mississippi** via parcels. The total weight of the six parcels was 9.7 pounds.²

Sources

¹ CBS2 Local/Chicago, April 6, 2015, “Man Busted Again For Colorado-To-Chicago UPS Marijuana Shipment,” <<http://chicago.cbslocal.com/2015/04/06/man-busted-again-for-colorado-to-chicago-ups-marijuana-shipment/>>, accessed April 6, 2015

² Rocky Mountain High Intensity Drug Trafficking Area, 2015

³ Jesse Paul, *The Denver Post*/Denver and the West Section, February 5, 2015, "Pueblo police: Texas man arrested after trying to send \$63,000 of marijuana," <http://www.denverpost.com/news/ci_27465615/pueblo-police-texas-man-arrested-after-trying-send?source=infinite>, accessed February 5, 2015

⁴ Allison Sylte, 9News.com, December 17, 2014, "Breck man gets pot Christmas presents at NY hotel," <<http://www.9news.com/story/news/crime/2014/12/17/david-malchow-marijuana-christmas-present/20548229/>>, accessed December 18, 2014

⁵ *The Denver Post*/Colorado Roundup Section, May 13, 2015 "Castle Rock Man pleads guilty to mailing marijuana."

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SECTION 9: THC Extraction Labs

Introduction

Since the *de facto* and actual legalization of marijuana, many new trends have developed. The emergence of the THC extraction lab, commonly referred to as a butane hash oil (BHO) lab, is a prime example. The major draw to marijuana extraction is the potency of the final product. Some marijuana concentrates can contain 80-90 percent THC, whereas an average size marijuana cigarette averages 10-15 percent THC. Marijuana users state that vaporizing even a small amount of marijuana concentrate produces a more euphoric high than smoking.

There are several solvents that can be used during the extraction process, including acetone, butane, carbon dioxide (CO₂), hexane and rubbing alcohol. However, butane hash oil extraction has become an increasingly popular method of producing marijuana concentrate. The process involves forcing butane through an extraction tube filled with finely-ground marijuana. The residue that emerges from the other end is a mixture of highly-concentrated THC and butane. Once the butane has completely evaporated, the final product is a viscous liquid known as “dab,” “wax,” “shatter”, or “earwax,” to name a few. This product does not emit the characteristic odor of traditional marijuana.

Butane is a very volatile and explosive solvent. Flash fire explosions have originated from the butane used in the extraction process. Several elements can spark a deadly explosion, such as static electricity, open flame from a cigarette lighter, or a simple electric switch. This process has sent several individuals to the hospital for burn treatments and the numbers continue to rise. This section examines the trends in both extraction lab explosions and the resulting injuries.

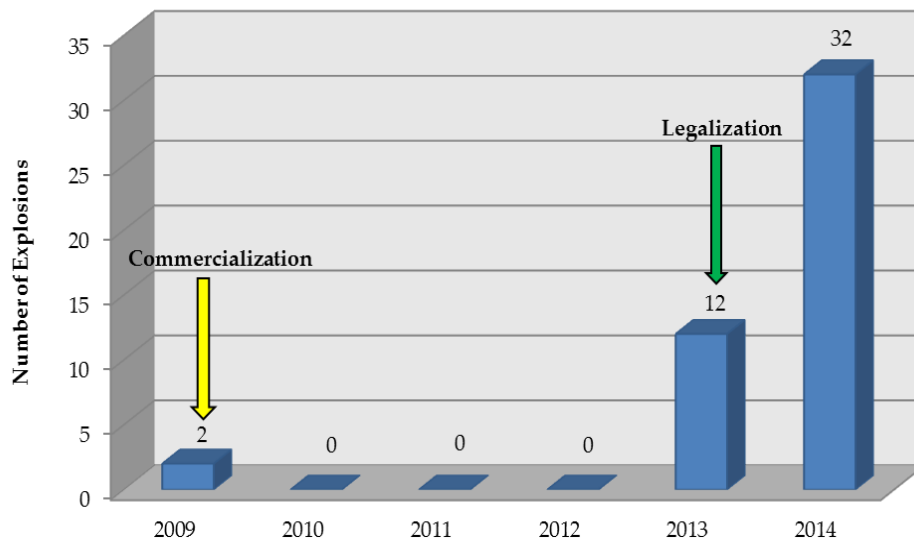
The information in this section covers the medical marijuana commercialization and expansion era (2009 – current) and the recreational marijuana era (2013 – current) in Colorado.

Some Findings

- From 2013 – 2014 there was a **167 percent** increase in reported Colorado THC extraction lab explosions from 12 to 32.
- From 2013 – 2014, there was a **67 percent** increase of injuries related to Colorado THC extraction lab explosions from 18 to 30.
- **Top three cities** where a THC extraction lab explosion occurred in Colorado in 2014:
 - Denver = 7
 - Grand Junction = 4
 - Colorado Springs = 3
- In 2014, **94 percent** of all explosions occurred in a residential setting.
- As of September 9, 2015, there have only been 7 THC extraction lab explosions reported.

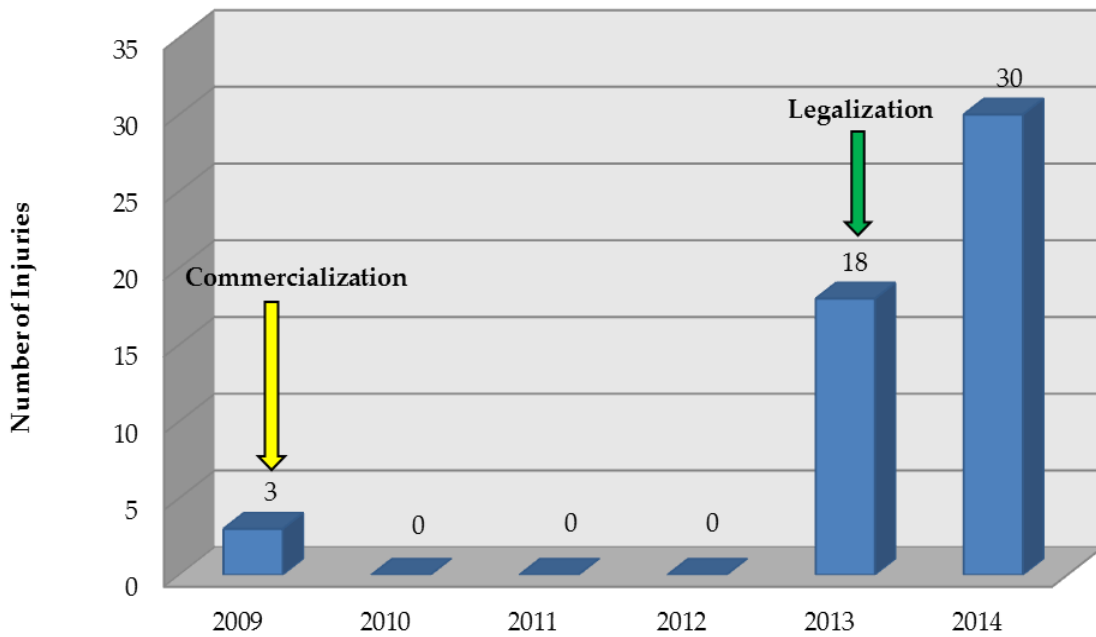
Data

THC Extraction Lab Explosions



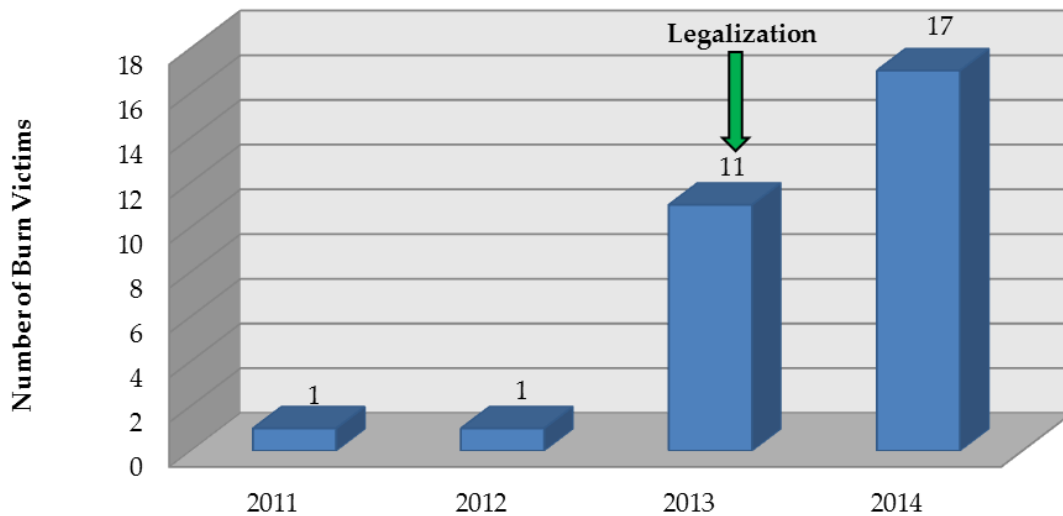
SOURCE: Rocky Mountain HIDTA, Investigative Support Center

THC Extraction Lab Explosion Injuries



SOURCE: Rocky Mountain HIDTA, Investigative Support Center

University of Colorado Hospital THC Extraction Lab Self-Admitted Burn Victims



SOURCE: University Hospital Burn Unit – University of Colorado Hospital

- ❖ **Some of the injuries from the extraction process include, but are not limited to, severe burns to the hands, arms and face. The University Hospital Burn Unit – University of Colorado Hospital reports several cases in which skin grafts were required to repair the injuries.¹**

- ❖ **It should be noted that based on the first seven months of reported THC extraction lab explosions in 2015, there appears to be a significant decline from the previous two years. This is largely due to the publicity generated by the police, fire, healthcare and media in 2014 regarding the dangers of THC extraction labs. As of September 9, 2015, only seven lab explosions have been reported to Rocky Mountain HIDTA and only four lab-related injuries reported to the Burn Center.**

Sources

¹ Camy Boyle, MS, RN, CCRN, CCNS, associate nurse manager, University Hospital Burn Unit – University of Colorado Hospital, personal interview, March 2014

Rocky Mountain HIDTA compiled the data provided by local, fire and police departments.

SECTION 10: Related Data

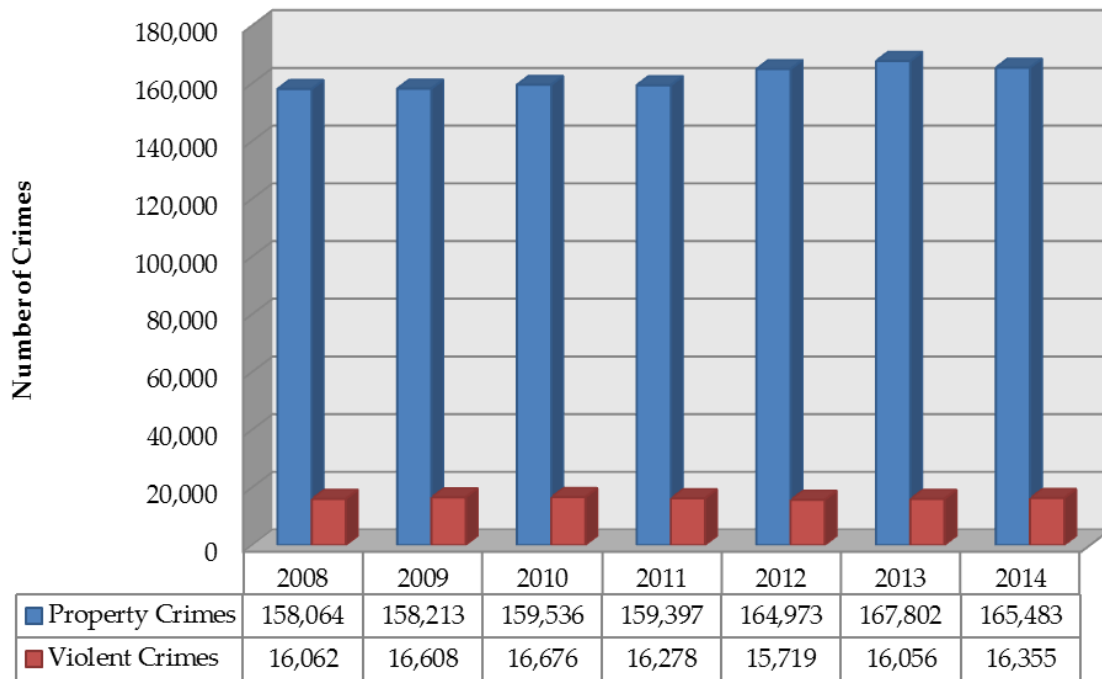
Topics

- Crime
- Revenue
- Homeless
- Suicides
- Environmental Impact
- THC Potency
- Marijuana Use and Alcohol Consumption
- Medical Marijuana Registry
- Licensed Marijuana Businesses as of January 2015
- Business Comparisons as of January 2015
- Demand and Market Size
- 2014 Reported Sales of Marijuana in Colorado
- 2014 Price of Marijuana
- Local Response to the Medical and Recreational Marijuana Industry in Colorado
- Polling
- Lawsuits
- Other Issues

Crime

Denver Crime: Some proponents from the marijuana industry claim that, since marijuana retail stores began on January 1, 2014, the crime rate in Denver has decreased. Actually, reported crime in Denver increased 10 percent during that time period.

Colorado Crime



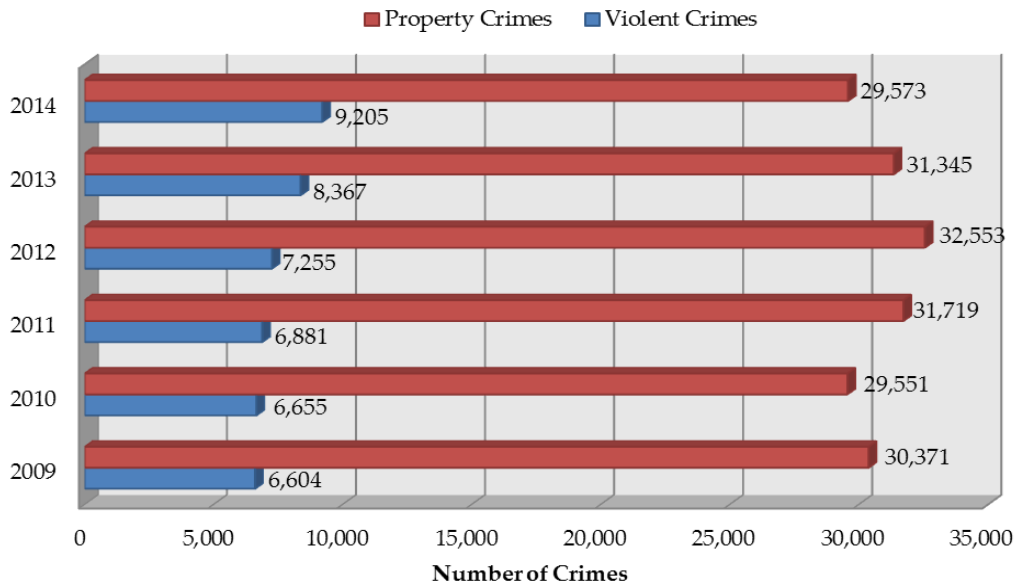
SOURCE: Colorado Bureau of Investigation, <http://crimeinco.cbi.state.co.us/>

All Reported Crime in Denver		
2013	2014	
55,115 reported crimes	60,788 reported crimes	5,391 reported crimes increase from 2013 to 2014 (10 percent increase)

- Crimes against persons increased **15.1 percent**
- Crimes against property decreased **3 percent**
- Crimes against society increased **23 percent**
- All other offenses increased **41 percent**

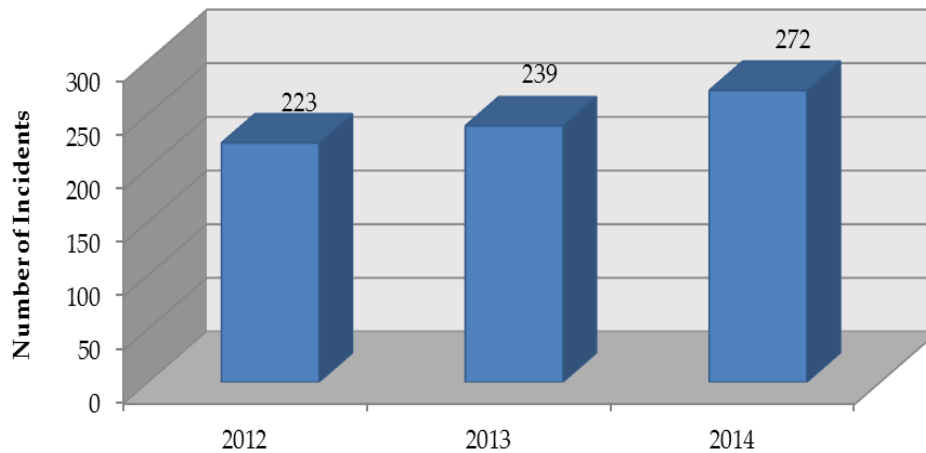
SOURCE: National Incident Based Reporting System definitions in the City and County of Denver, September 11, 2015

City and County of Denver Crime



SOURCE: City and County of Denver, Denver Police Department, Crime Statistics and Maps, September 10, 2015

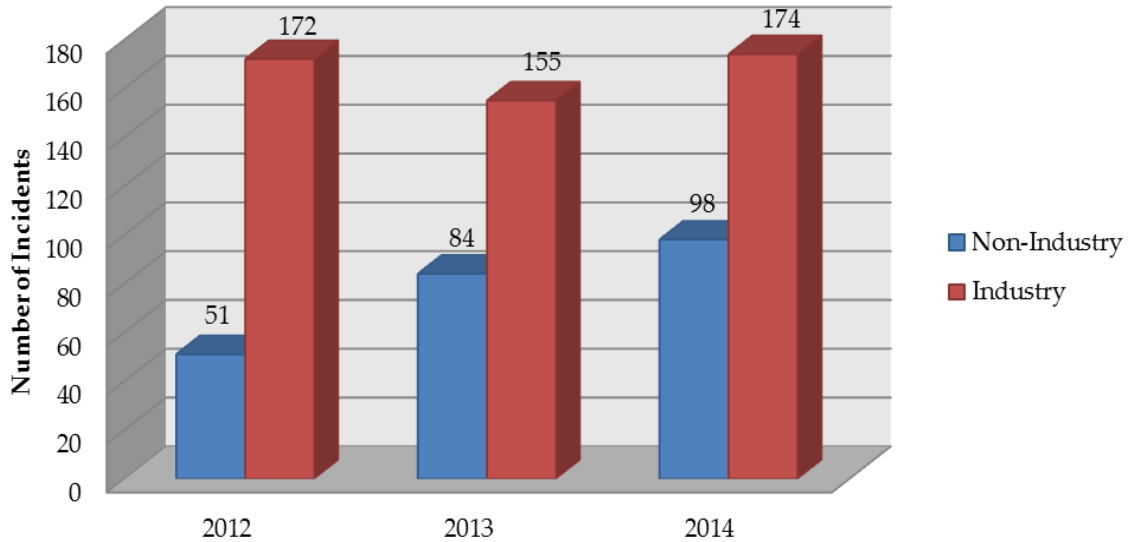
Total Marijuana-Related Crime for Denver City and County



SOURCE: City and County of Denver Open Source Data Catalog, July 2015

NOTE: "DATA ARE CRIMES REPORTED TO THE DENVER POLICE DEPARTMENT WHICH, UPON REVIEW, WERE DETERMINED TO HAVE CLEAR CONNECTIONS OR RELATION TO MARIJUANA. THESE DATA DO NOT INCLUDE POLICE REPORTS FOR VIOLATIONS RESTRICTING THE POSSESSION, SALE, AND/OR CULTIVATION OF MARIJUANA." - OPEN DATA CATALOG, MARIJUANA CRIME, DATA.DENVERGOV.ORG

Marijuana-Related Crime for Denver City and County

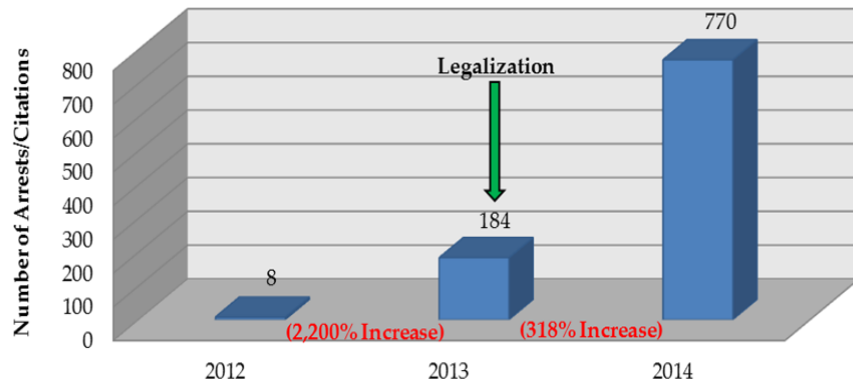


SOURCE: City and County of Denver Open Source Data Catalog, July 2015

- ❖ **The majority of marijuana-related crime was the burglary of licensed marijuana businesses.**

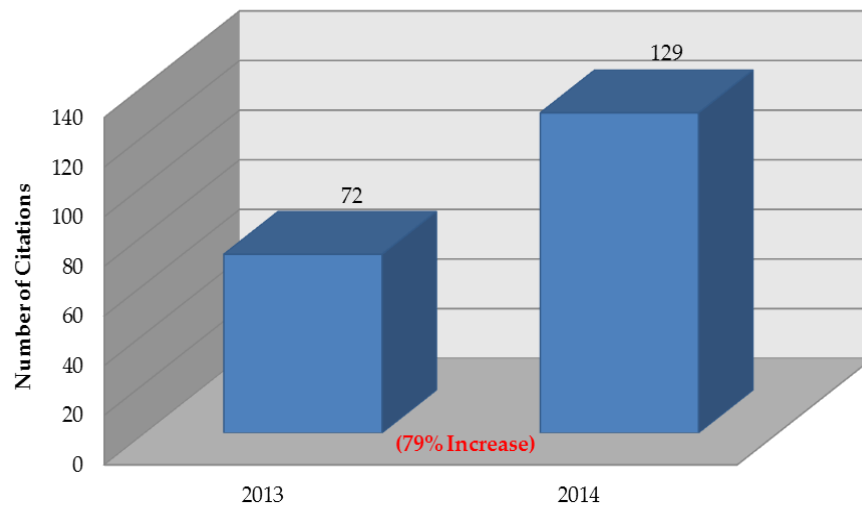
NOTE: "DATA ARE CRIMES REPORTED TO THE DENVER POLICE DEPARTMENT WHICH, UPON REVIEW, WERE DETERMINED TO HAVE CLEAR CONNECTIONS OR RELATION TO MARIJUANA. THESE DATA DO NOT INCLUDE POLICE REPORTS FOR VIOLATIONS RESTRICTING THE POSSESSION, SALE, AND/OR CULTIVATION OF MARIJUANA." - OPEN DATA CATALOG, MARIJUANA CRIME, DATA.DENVERGOV.ORG

Denver Police Department Unlawful Public Display/Consumption of Marijuana



SOURCE: Denver Police Department, Traffic Operations Bureau via Vice/Drug Bureau

Boulder Police Department Marijuana Public Consumption Citations



SOURCE: Boulder Police Department, Records and Information Services

NOTE: THE CITY OF BOULDER DID NOT HAVE A MUNICIPAL STATUTE SPECIFIC TO PUBLIC CONSUMPTION OF MARIJUANA UNTIL MID-2013.

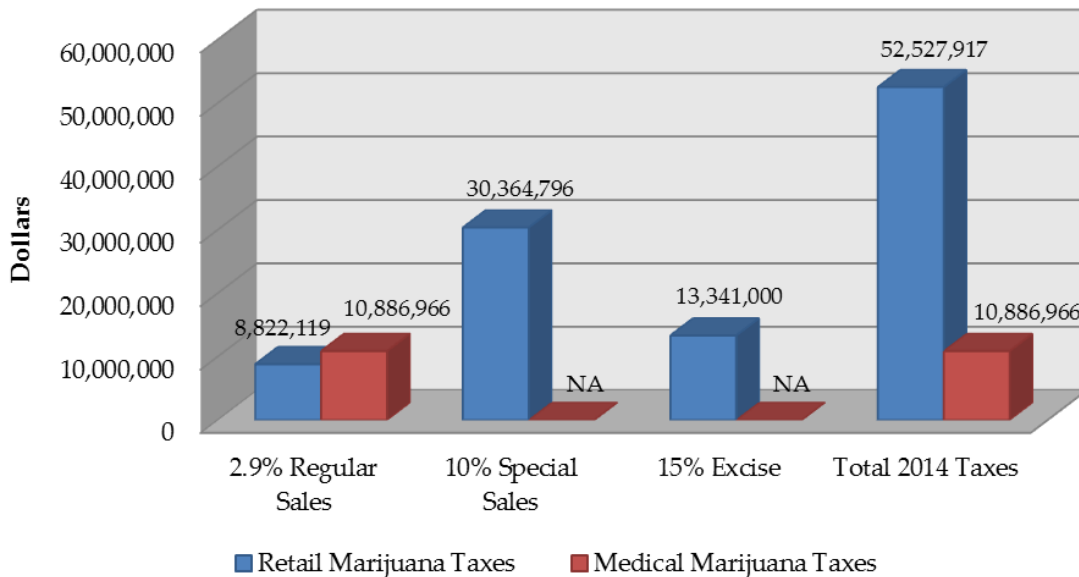
“City Leaders in Vail recently banned recreational marijuana stores, sighting (sic) the increase in crime and panhandling in other mountain towns that do allow sales, as a major factor their ban.”¹

Revenue

Question: How much revenue will the recreational marijuana industry generate in Colorado? Will the income exceed the cost related to the impact of legalization in Colorado?

Answer: No one knows for sure. It will take years of data collection to complete an analysis of whether marijuana legalization is economically positive or an economic disaster.

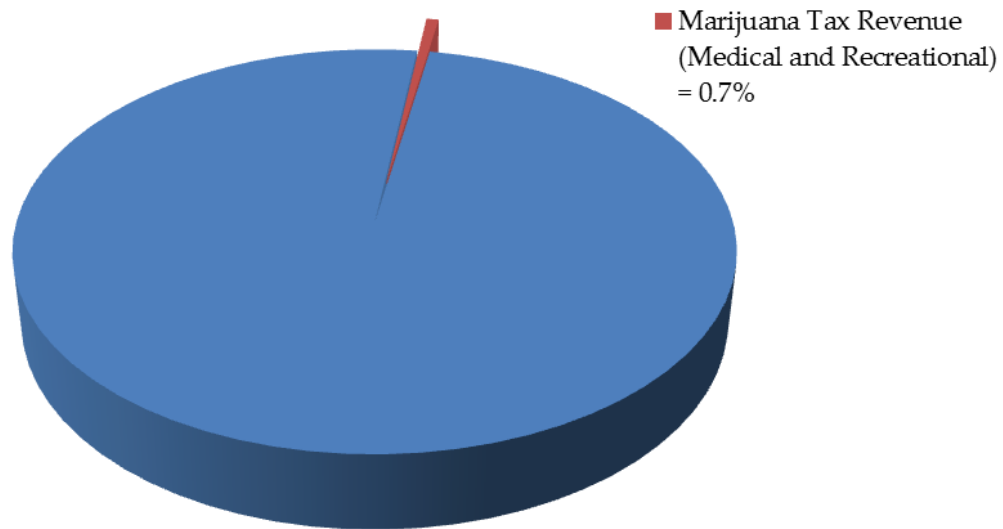
Total Revenue from Marijuana Taxes, Calendar Year 2014



SOURCE: Colorado Department of Revenue, Monthly Marijuana Taxes, Licenses and Fees Transfers and Distribution

NOTE: FIGURES DO NOT INCLUDE ANY CITY TAXES: THE STATE DOES NOT ASSESS OR COLLECT THOSE TAXES.

Colorado's Total General Fund Revenue, FY 2015*



*Preliminary Numbers based on June 2015 Forecast

SOURCE: Colorado Office of State Planning and Budgeting, June 2015 Forecast (eleven months of data)

- ❖ Total marijuana tax revenue (medical and recreational) for FY2015 comprises 7/10 of 1 percent (0.7%) of Colorado's total general fund revenue.

Some Costs Related to Marijuana Revenue for the State of Colorado FY2015/16²

\$13,000,728	Department of Revenue (includes the Marijuana Enforcement Division)
\$314,633	Department of Agriculture
\$3,292,643	Department of Public Health and Environment (primarily medical marijuana)
\$271,328	Department of Public Safety
\$190,097	Governor’s Office of Marijuana Coordination
\$436,766	Department of Law
\$1,168,000	Department of Law (Peace Officer Standards and Training)
\$320,388	Department of Public Health and Environment
\$2,150,000	Department of Public Health and Environment (Marijuana public education campaign)
\$212,369	Department of Local Affairs
\$21,806,952	TOTAL
\$6,600,000	Estimate distributed to local government (FY 2014/15)
\$29,900,000	Estimate collected for school construction (18 months, January, 2014 – June, 2015)

NOTE: THESE ARE BUDGETED AMOUNTS AND MAY NOT REPRESENT ACTUAL SPENDING. DOES NOT INCLUDE COSTS TO LOCAL GOVERNMENT NOR ANY COSTS ASSOCIATED WITH SOCIETAL IMPACTS SUCH AS TRAFFIC DEATHS AND EMERGENCY ROOM ADMISSIONS.

Articles

Colorado Weed Czar: Revenue Up in Smoke: According to Andrew Freedman, director of the Colorado Governor’s Office of Marijuana Coordination, most revenue generated from legal marijuana sales will be used to regulate the industry. “Freedman, who is tasked with keeping tabs on the regulation of Colorado’s retail and medical marijuana markets, said the tax dollars brought in largely go toward the ‘cost of legalization.’” He said, “You do not legalize for taxation. It is a myth. You are not

going to pave streets. You are not going to be able to pay teachers. The big red herring is the whole thing that the tax revenue will solve a bunch of crises. But it won't."³

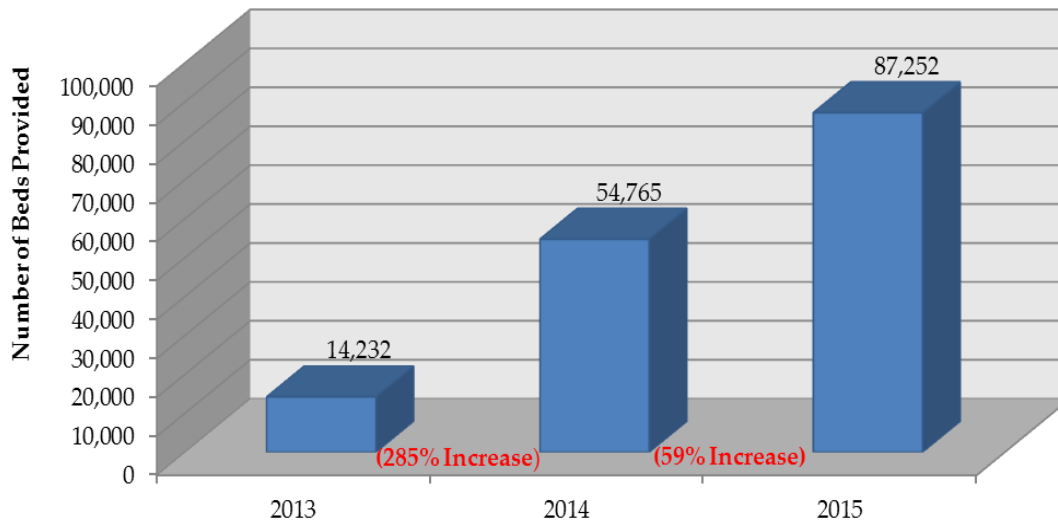
Tax Revenue Doesn't Measure Up: In February 2015, state officials released tax revenue figures from recreational and medical marijuana for 2014 at around \$63 million. "The 15 percent excise tax dedicated for schools – projected alone to raise \$40 million – has generated about one-third of the original estimates. Excise taxes totaled \$13.3 million from Jan. 1 through Dec. 31 according to data from the Colorado Department of Revenue." Colorado's governor had to drastically modify his \$100 million plan for tax revenue. "We ended up with much closer to a \$33.5 million budget for this fiscal year," said Andrew Freedman, director of the Governor's Office of Marijuana Coordination. Freedman said the first priority is to cover costs of regulation. Apparently about \$7.6 million is needed to enforce regulations and \$5.6 million for a statewide public education campaign.⁴

"Marijuana Taxes Won't Save State Budgets": Colorado Governor John Hickenlooper's office projected \$118 million in taxes from recreational marijuana and modified that projection down to \$69 million. The Colorado Department of Revenue commissioned report estimated 130 metric tons of marijuana would be consumed in Colorado, but just 77 metric tons were sold through medical or recreational retailers. The rest was sold through an unregulated and untaxed gray market and the black market.⁵

The False Promise of Marijuana Money in Education: This article cites a 2014 survey in which more than half the respondents said that the positive to legalization was tax revenue as the greatest benefit. The article goes on to point out that, of the \$40 million earmarked for schools, excise taxes have brought in about half of that.⁶

Homeless

Total Overnight Beds Provided, January Through June



SOURCE: The Salvation Army, Intermountain Division

Related Material

Denver Shelters Cite Legal Pot in Homeless Upswing:⁷ There are no records on how many homeless people came to Colorado because of “legal weed.” However, homeless centers are seeing an influx, straining their ability to meet the need.

- Director Brett Van Sickle of Denver’s Salvation Army Crossroads Shelter: “The older ones are coming for medical (marijuana), the younger ones are coming just because it’s legal.” An informal survey of around 500 new out-of-towners found as many as 30 percent relocated for pot.
- Executive Director Tom Luehrs of Denver’s Saint Francis Center has seen a big increase in new faces at the shelter and an increase of 50 people a day more in 2014 than 2013. He says many have said they were drawn to Colorado because of legal marijuana.
- Urban Peak, which provides services to those ages 15 to 25, saw a 152 percent increase at their drop-in center in just one year. Director Kim Easton said about one-third of the newcomers cite legal marijuana as a factor in moving to Colorado.

Legal Pot Blamed for Influx of Homeless:⁸

- Deputy Director Kendall Rames of Urban Peak said, “Of the new kids we’re seeing, the majority are saying they’re here because of the weed.”
- Director Melinda Paterson, of Father Woody’s Haven of Hope, said, “Typically, they have an attitude. But we are really strict here.” She said that normally in the summer Father Woody’s gets an increase of 50 people per month but this year more than 300 a month.
- The Salvation Army Denver shelter averages went from 225 men to about 300 per night. They are seeing a much larger number of 18 to 25-year-olds. An informal survey suggested about 25 percent of the increase was related to marijuana.
- St. Francis Center Executive Director Tom Luehrs says marijuana only trails looking for work among a list of reasons for coming to Colorado.

Legalized Recreational Marijuana Use Draws Homeless Texans to Colorado: An article about homelessness and marijuana, published on September 22, 2014 states, “Colorado is seeing a significant increase in the number of homeless people arriving from Texas and the head of two homeless shelters said a big reason for the increase is homeless people wanting to smoke pot.” One homeless female from Texas is quoted as saying, “It wasn’t the only reason but it was one of the main factors.” Another individual from Lubbock, Texas who went to Denver, Colorado says he meets homeless Texans every day that went to Colorado to smoke marijuana.

Murray Flagg, of the Salvation Army, said, “We were averaging 190 people a night. Now we are averaging 345 people a night.” He goes on to state, “We find about one in four people have come for some marijuana related issue.”⁹

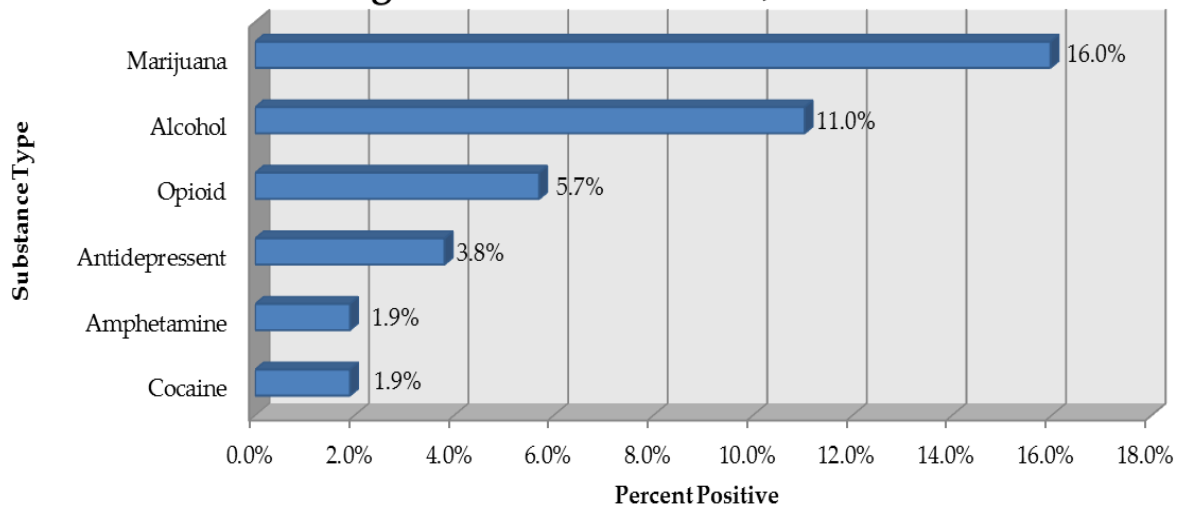
Homeless, Marijuana and Crime: Larimer County (Colorado) Sheriff Justin Smith has noted that, since marijuana was legalized, his agency is experiencing a significant spike in the homeless, transient and sheltered (HTS) population. HTS accounts for approximately 25 percent of county jail inmates. Many of those admit they came to Colorado because marijuana was legalized. The 121 homeless, transient and sheltered inmates generally have not been arrested for petty crime. In reviewing booking charges, it appears only 20 percent could be considered minor crime. Most were arrested for multiple crimes such as:¹⁰

- 28 percent – some kind of assault charge
- 26 percent – harassment or felony menacing charge
- 22 percent – some kind of theft, from burglary to auto theft charge
- 13 percent – resisting arrest charge

Suicide Data

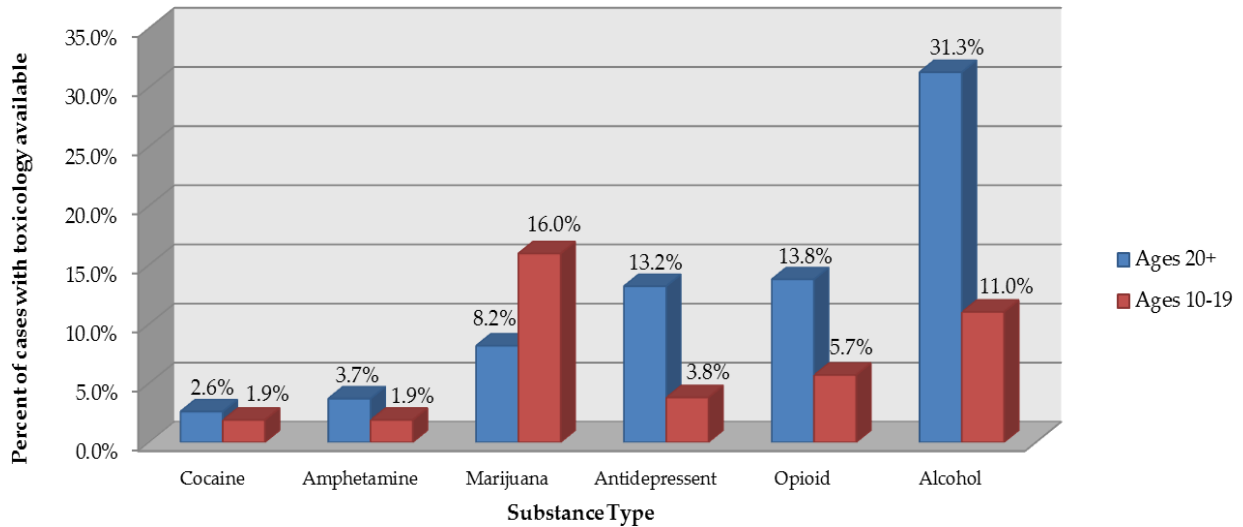
NOTE: ON AVERAGE, BETWEEN 2006 – 2013, 95 PERCENT OF ALL SUICIDES HAD TOXICOLOGY RESULTS OF WHICH 8 PERCENT WERE POSITIVE FOR MARIJUANA.³⁶

**Average Toxicology of Suicides Among Adolescents
Ages 10 to 19 Years Old, 2009-2013**



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

Average Toxicology Results by Age Group Colorado, 2009-2013



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

- ❖ **Marijuana is the only substance where youth ages 10 to 19 years old have a higher percent than adults ages 20 and older.**

Environmental Impact

Pesticides on “Legal” Marijuana Grows: Denver city officials quarantined marijuana plants at eleven legal grow facilities in May of 2015. This quarantine is based on hundreds of millions of dollars’ worth of marijuana believed to be contaminated with pesticides.¹¹

Water-Intensive Marijuana Cultivation: An article concerning marijuana cultivation in California, published in the journal *Bioscience*, revealed that marijuana is an extremely thirsty plant. “In the state’s north coast region, about 22 liters of water or more per plant per day is used during the growing season, which lasts from June through October.” A co-author pointed out that marijuana grown in the state of California uses nearly twice as much water as wine grapes.¹²

Side Effects of Legal Marijuana: “Damaged homes have become an epidemic nightmare for the realtors who manage rental properties, who have been left explaining

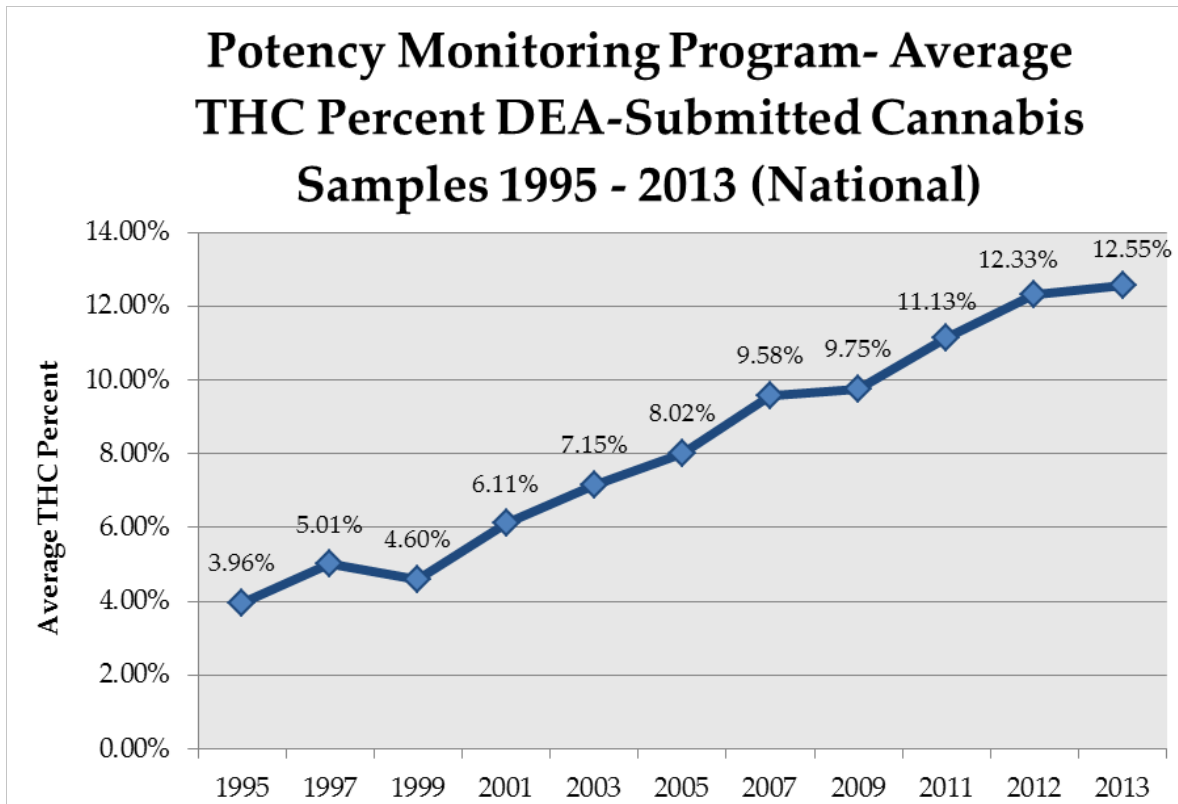
to homeowners why black mold has infested their income properties, why their sheetrock has been pulled out and makeshift watering systems installed. Every realtor seems to have a horror story about renting to seemingly fine tenants who are actually quick-profit-making pot entrepreneurs. No insurance company will cover damages from a grow establishment because it is still federally illegal.”¹³

Marijuana Stink Means Property Values Sink: Apparently neighbors in Pitkin County (Colorado) are infuriated by the stench that comes from a marijuana greenhouse.¹⁴

Marijuana Electric Demands: “Surging electricity consumption by Colorado’s booming marijuana industry is sabotaging Denver’s push to use less energy – just as the White House perfects a Clean Power Plan to curb carbon pollution.” Apparently Denver’s electricity rate is increasing at a rate of 1.2 percent per year and 45 percent of the increase comes from marijuana growing facilities. The growing facilities used 86 million kWh in 2012, 121 million in 2013 and 200 million in 2014.¹⁵

Pot Growers and Sky-High Power Bills: “The average indoor grow operation in Denver has a monthly electric bill of \$20,000 to \$50,000,” said Jay Czarkowski, a principal at Canna Advisors, a consulting firm in Boulder.” Colorado’s marijuana industry uses large amounts of energy for lighting and air conditioning. The owner of one of Colorado’s largest cannabis companies said that her utility bill is approximately \$40,000 a month. Ron Flax, a building sustainability expert in Boulder, said that the power demand for marijuana growing operations is five times higher than the typical monthly demand of comparable commercial buildings. Evan Mills, an energy analyst and scientist from the Lawrence Berkeley National Laboratory, wrote a paper entitled, “Energy Up in Smoke: The Carbon Footprint of Indoor Cannabis Production.” Her conclusion was that growing marijuana indoors requires four times more energy than a hospital on a per-square-foot basis and eight times more energy than a typical U.S. commercial building.¹⁶

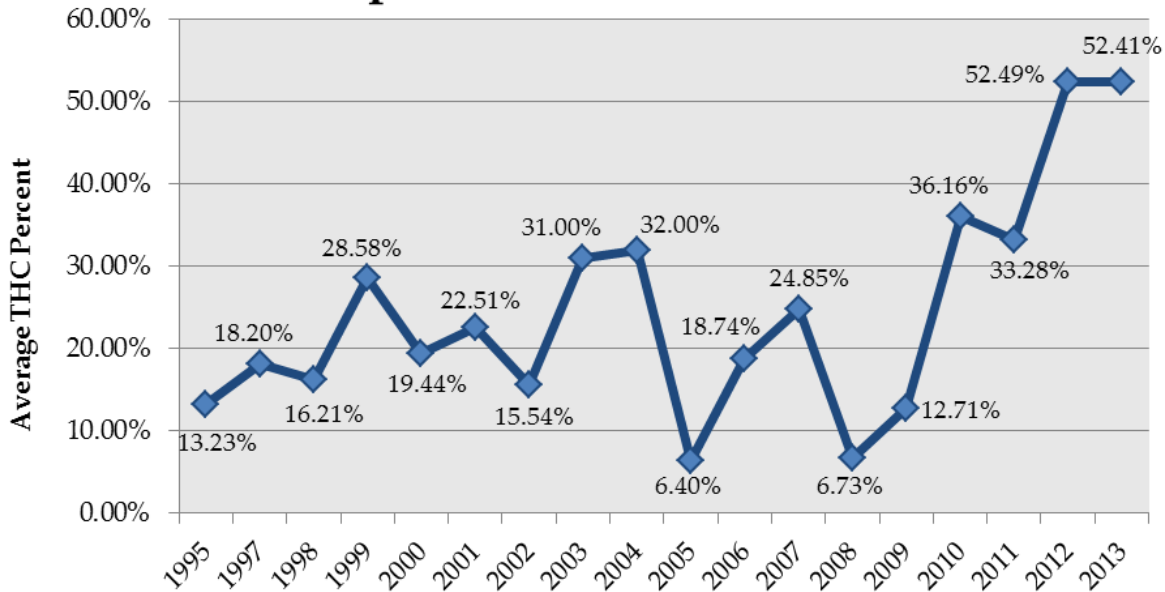
THC Potency



SOURCE: Potency Monitoring Program, Quarterly Report Number 123, National Center for Natural Products Research (NCNRP) at the University of Mississippi, under contract with the National Institute on Drug Abuse.

❖ The 2015 average THC percent for Colorado marijuana is 17.1 percent.¹⁷

Potency Monitoring Program- Average THC Percent All Submitted Hash Oil Samples 1995 - 2013 (National)



SOURCE: Potency Monitoring Program, Quarterly Report Number 123, National Center for Natural Products Research (NCNRP) at the University of Mississippi, under contract with the National Institute on Drug Abuse.

❖ The 2015 average THC percent for Colorado concentrate is 62.1 percent.¹⁷

Colorado Marijuana Study Finds Legal Weed Contains Potent THC Levels: “In old-school dope, levels of THC – the psychoactive chemical that makes people high – were typically well below 10 percent. But in Colorado’s legal bud, the average THC level is 18.7 percent, and some retail pot contains 30 percent THC or more...” A Denver lab licensed to analyze marijuana samples reports that after 600 samples provided by licensed growers and sellers, they detected little medical value and lots of contamination. “We have been finding some really dirty marijuana,” said Andy LaFrate, president of Charas Scientific. He cited fungi and solvents such as butane. He also stated that the 600-plus samples generally carried little or no CBD, the compound that makes medical marijuana “medical.” His study shows that the average CBD was 0.1 percent.¹⁸

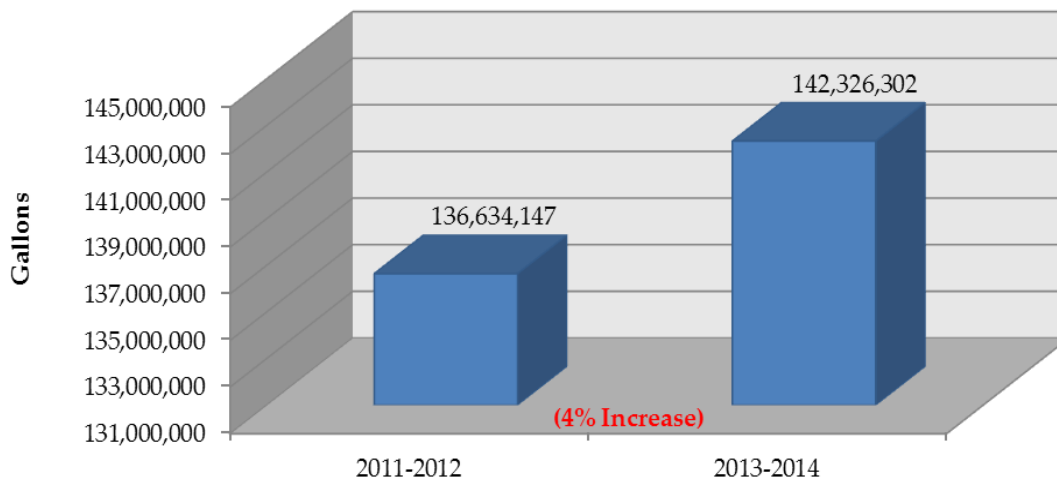
THC Concentrates and Youth: “Now the threat of THC concentrates pose to public health and safety loom large. A new study from researchers at Ohio’s Nationwide Children’s Hospital finds more American children are exposed to marijuana before reaching their fifth birthday. The report, published in the peer-reviewed journal *Clinical*

Pediatrics, found that, between 2006 and 2013, the marijuana exposure rate rose 147.5 percent among children age 5 and under. In that same period, the rate rose nearly 610 percent in states that sanctioned medical marijuana before 2000, the year Colorado followed suit.”¹⁹

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 Average Consumption of Alcohol in Gallons, Per Calendar Year



SOURCE: Colorado Department of Revenue, Colorado Liquor Excise Tax

Medical Marijuana Registry

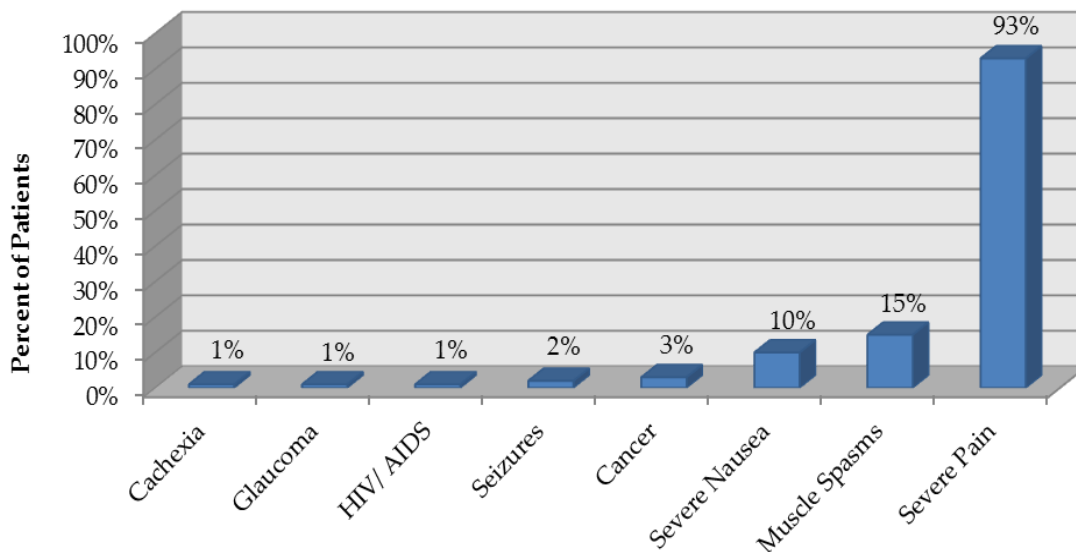
Medical Marijuana Registry Identification Cards²⁰

- 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

Profile of Colorado Medical Marijuana Cardholders:²⁰

- 65 percent male, with an average age of 41 years
- 23 percent between the ages of 21 and 30
- 66 percent under the age of 50
- 15 percent over the age of 61
- 93 percent reporting severe pain as the medical condition
- Only 5 percent reporting cancer, AIDS and glaucoma as the medical condition

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.

Colorado Licensed Marijuana Businesses as of January 2015

Medical Marijuana:²¹

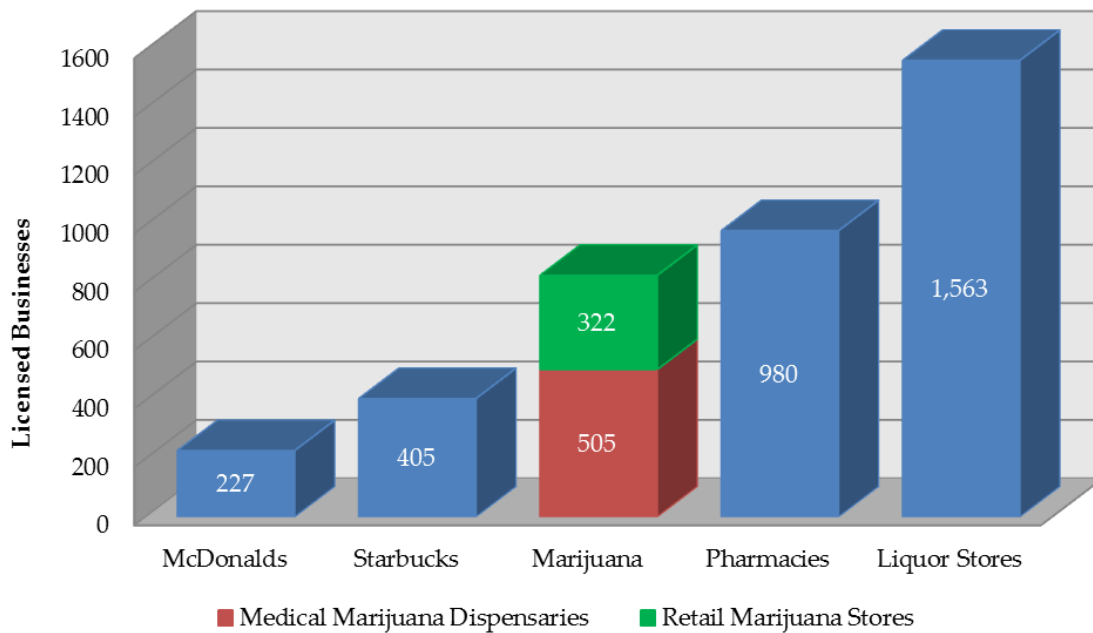
- 505 medical marijuana centers (“dispensaries”)
- 748 marijuana cultivation facilities
- 163 infused products (edibles) businesses

Recreational Marijuana:²²

- 322 marijuana retail stores
- 397 marijuana cultivation facilities
- 98 infused product (edibles) businesses
 - 16 testing facilities

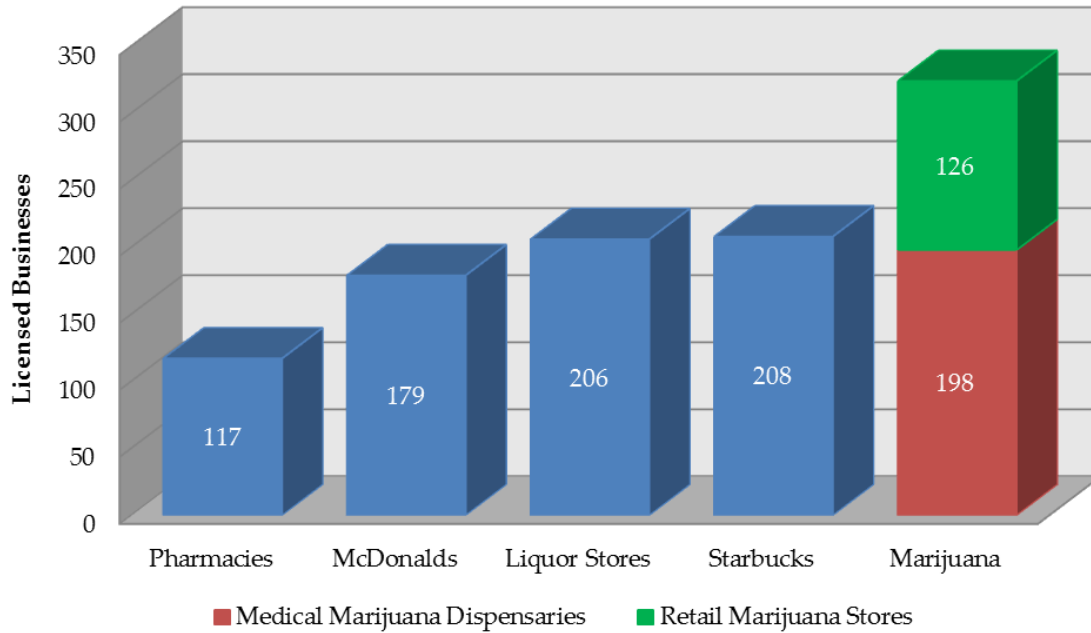
Business Comparisons, January 2015

Colorado Business Comparisons, January 2015



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

Denver Business Comparisons, January 2015



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

❖ **Denver:**

- 198 licensed medical marijuana centers (“dispensaries”)²²
- 117 pharmacies (as of February 12, 2015)²³

Demand and Market Size

The Colorado Department of Revenue published a report in July 2014 called, “Market Size and Demand for Marijuana in Colorado.”⁶ Some of the information included:

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.

2014 Reported Sales of Marijuana in Colorado¹⁷

- 109,578 pounds of medical marijuana flower
 - 36,600 pounds of recreational marijuana flower
 - 1,964,917 units of medical edible products
 - 2,850,733 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 strength.**

2014 Price of Marijuana¹⁷

	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

- 321 total local jurisdictions
 - 228 (**71 percent**) prohibit any medical or recreational marijuana businesses
 - 67 (**21 percent**) allow any medical and recreational marijuana businesses
 - 26 (**8 percent**) allow either medical or recreational marijuana businesses, not both

Polling

August 2015 Smith Johnson Research Poll
(Colorado Survey)

- In 2012: **51.5 percent** favored legalization
48.5 percent opposed legalization
- In 2015: **49.2 percent** now favor legalization (2.3 percent drop)
50.8 percent now oppose legalization

October 2014 Pew Research Center Poll

	Favor Legalized	Oppose Legalized	Unsure
February 2014	54 percent	42 percent	3 percent
October 2014	52 percent	45 percent	3 percent

October 2014 Gallup Poll

	Favor Legalized	Oppose Legalized	Unsure
2013	58 percent	39 percent	3 percent
2014	51 percent	47 percent	2 percent

September 2014 Suffolk University/USA Today Poll Colorado

- **46 percent** continue to support Amendment 64
- **50.2 percent** do not agree with Amendment 64 decision

SOURCE: Polling Report.com

Quinnipiac University Poll, February 2015:²⁵

- **58 percent** of Coloradoans polled still support legalizing marijuana for recreational use
 - **38 percent** are opposed
- ❖ **November 2012 Amendment 64 election results:**
- **55 percent** in favor
 - **45 percent** opposed

Lawsuits

Lawsuit Using Federal Racketeering Laws: In February 2015, the Safe Streets Alliance filed a lawsuit on behalf of a horse farm and mountain hotel against two licensed marijuana businesses. The lawsuit, claiming damages, is utilizing the federal Racketeer Influenced and Corruption Organizations (RICO) Act. The lawsuit says, “Marijuana businesses make bad neighbors. They drive away legitimate businesses’ customers, emit pungent, foul odors, attract undesirable visitors, increase criminal activity, increase traffic, and reduce property values.” Five months after the suit was filed one of the defendants, a medical marijuana retail store, closed.^{26, 27}

Colorado, Nebraska and Kansas Sheriffs and Prosecutors File Lawsuit: Twelve sheriffs and prosecutors from Colorado, Nebraska and Kansas have filed a lawsuit as a federal preemption challenge to Colorado’s recreational marijuana laws. The lawsuit puts Colorado sheriffs in the position of supporting Colorado’s marijuana law in violation of federal law and their oath of office. The out-of-state authorities are citing the challenges and issues of dealing with the diversion of Colorado marijuana into their states.²⁸

Colorado Lawsuit Claims Marijuana Edibles Caused People to ‘Overdose’: Seven people filed a suit in Denver after they became sick from eating THC-laced treats manufactured by a licensed edible business. The plaintiffs visiting the Pot Pavilion at the Denver County Fair claimed they were told the chocolates did not contain THC. “A few hours later, though, they were in hospitals complaining about rapid heart rates, passing out, tunnel vision, and other scary symptoms.” One of the plaintiffs became so sick that he uncontrollably vomited into his vehicle and was diagnosed at the emergency room as overdosing on THC.²⁹

Fifth Amendment Lawsuit: A pro-marijuana industry attorney, on behalf of several plaintiffs, filed a lawsuit in June of 2014 alleging the payment of sales and excise taxes on the sale of recreational marijuana in Colorado violates the plaintiff’s Fifth Amendment rights against self-incrimination.³⁰

Employers Rights to Drug Tests: An employee of Dish Network, LLC filed a lawsuit against the company for having been fired for failing to pass a drug test. The individual, a licensed medical marijuana cardholder, believes he should have the right to possess and use medical marijuana under limited circumstances without fear of being fired from his place of employment.³¹

Nebraska and Oklahoma Sue Colorado Over Pot: In 2014, the states of Nebraska and Oklahoma filed a lawsuit against Colorado for legalizing recreational marijuana. The lawsuit deals with the diversion of Colorado marijuana to the states of Nebraska and Oklahoma and the burden it places on the two states. Since this is a lawsuit in which a state is suing another state, it goes directly to the Supreme Court.³²

Other Issues

Too Many “Stoned” Employees: In the spring of 2015, Little Spider Creations’ owner is moving his company to South Carolina. The owner claims that, since Colorado legalized marijuana, too many of his employees were coming in high. He said the main reason they are leaving Colorado is that marijuana got into their industry and half of their sculptors would come to work high. He said, “We went through 25 sculptors. Only five of [our sculptors] either were quality or would show up unimpaired.” He says those employees coming to work high were not as productive and tended to have a “it’s good enough” attitude. The owner, a native Coloradoan, had 47 full-time employees.³³

Pot Stores Find Ways of Accepting Credit Cards: Fox31 News (Denver) found that 47 percent of medical marijuana centers polled are allowing the use of credit cards although technically illegal. Apparently these medical retail stores are using holding companies that have legitimate banking relationships. That prevents the banks from knowing they are doing business with marijuana retailers.³⁴

Edible Pot Labels Inaccurate: A study from John Hopkins University shows that more than 80 percent of product labels for marijuana edibles were inaccurate according to researchers. The study, published in the *Journal of the American Medical Association*, showed that only 17 percent of the labels were accurate to within 10 percent of the actual THC content.³⁵

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SECTION 11: Reference Materials

Reports

- ❑ ***ANNUAL UPDATE BY THE COLORADO DEPARTMENT OF REVENUE, ENFORCEMENT DIVISION – MARIJUANA, FEBRUARY 27, 2015***

This report includes information on the Marijuana Enforcement Division's activities related to medical and recreational marijuana businesses as well as data concerning cultivation and distribution of marijuana by licensed businesses in Colorado.

- ❑ ***MARKET SIZE AND DEMAND FOR MARIJUANA IN COLORADO PREPARED FOR THE COLORADO DEPARTMENT OF REVENUE BY THE MARIJUANA POLICY GROUP, MILES K. LIGHT ET AL***

This report provides estimates for the demand for marijuana and the characteristics of Colorado's market for marijuana.

- ❑ ***MARIJUANA EQUIVALENCY IN PORTIONS AND DOSAGE BY THE COLORADO DEPARTMENT OF REVENUE, AUGUST 2015***

This report is an assessment of physical and pharmacokinetic relationships in marijuana products and consumption in Colorado.

- ❑ ***MONITORING HEALTH CONCERNS RELATED TO MARIJUANA IN COLORADO: 2014, PUBLISHED BY THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT***

Based on legislative mandate, the Colorado Department of Health and Environment appointed a thirteen-member committee to review the scientific literature on the health effects of marijuana including Colorado-specific outcomes and use data. This report looks at changes in marijuana use in Colorado and also reviews literature on marijuana use and health effects. The committee, in reviewing the literature, judges the findings based on the evidence including categories such as substantial evidence, limited evidence, insufficient evidence, etc.

- ❑ ***COLORADO'S LEGALIZATION OF MARIJUANA AND IMPACT ON PUBLIC SAFETY: A PRACTICAL GUIDE FOR LAW ENFORCEMENT, PUBLISHED BY THE COLORADO ASSOCIATION OF CHIEFS OF POLICE AND THE POLICE FOUNDATION***

This report focuses on identifying “Colorado’s public safety challenges, solutions, and unresolved issues with legalized medical marijuana and recreational marijuana.”

- ❑ ***POST-LEGALIZATION OF RETAIL MARIJUANA: A STUDY FOCUSING ON EFFECTS OF CRIME, LIVABILITY AND PERCEPTIONS OF CRIME IN THE DENVER METRO AREA, EARLY SUMMER 2015 BY METROPOLITAN STATE UNIVERSITY***

This report examines crime in Denver and homelessness since the first recreational retail businesses went into effect January 1 2014.

- ❑ ***DENVER METRO AREA SENTINEL COMMUNITY EPIDEMIOLOGY REPORT #1, MAY 15, 2015 BY THE DENVER OFFICE OF DRUG STRATEGY, PREPARED BY BRUCE MENDELSON, MPA, DENVER METRO AREA SENTINEL COMMUNITY EPIDEMIOLOGIST***

This report includes “data collection, analysis, and discussions” regarding alcohol and drug abuse in Denver and the Denver Metro area.

- ❑ ***MARIJUANA DATA DISCOVERY AND GAP ANALYSIS SUMMARY REPORT, SEPTEMBER 4, 2014 BY REBOUND SOLUTIONS***

This report by Rebound Solutions for the state of Colorado analyzes available data to gauge the impact of the legalization of marijuana has on the state of Colorado. This report identifies data, the value of the data and the gaps involved in doing a complete assessment.

- ❑ ***HEALTHY KIDS COLORADO SURVEY 2013, SEPTEMBER 2014 PREPARED FOR THE COLORADO DEPARTMENT OF EDUCATION, COLORADO DEPARTMENT OF HUMAN SERVICES AND COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT BY THE UNIVERSITY OF COLORADO-DENVER COMMUNITY EPIDEMIOLOGY AND PROGRAM EVALUATION GROUP***

This report collected self-reported health information from Colorado middle to high school students related to a number of issues including drug abuse.

- ❑ ***FEDERAL PROPOSALS TO TAX MARIJUANA: AN ECONOMIC ANALYSIS, NOVEMBER 13, 2014 BY THE CONGRESSIONAL RESEARCH SERVICE, JANE G. GRAVELLE, ET AL***

This report “focuses solely on issues surrounding a potential federal marijuana tax.” It provides a brief overview of marijuana production, justification estimate levels of tax and possible marijuana tax designs.

- ❑ ***EXAMINING THE RELATIONSHIP BETWEEN MARIJUANA USE, MEDICAL MARIJUANA DISPENSARIES, AND ABUSIVE AND NEGLECTFUL PARENTING BY FREISTHLER, B., ET AL.***

This study examines whether and how current marijuana use, and the physical availability of marijuana, are related to child physical abuse, supervisory neglect, or physical neglect by parents while controlling a child, caregiver or family characteristics in a general population survey in California.

- ❑ ***WHAT WILL LEGAL MARIJUANA COST EMPLOYERS, 2014 BY NATIONAL FAMILIES IN ACTION***

This report covers the impact of legal marijuana on employers dealing with safety, litigation, compliance and productivity.

- ❑ ***I-502 EVALUATION PLAN AND PRELIMINARY REPORT ON IMPLEMENTATION BY WASHINGTON STATE INSTITUTE FOR PUBLIC POLICY, SEPTEMBER 2015***

- ❑ ***THE EFFECTS OF CANNABIS USE DURING ADOLESCENCE, 2015 BY THE CANADIAN CENTRE ON SUBSTANCE ABUSE***

This report covers the impact of marijuana use on youth including the brain, mental illness and addiction.

- ❑ ***'HIGH' ACHIEVERS? CANNABIS ACCESS AND ACADEMIC PERFORMANCE, BY OLIVIER MARIE AND ULF ZÖLITZ, INSTITUTE FOR THE STUDY OF LABOR, BONN, GERMANY, MARCH 2015***

This report investigates the impact of marijuana on student performance.

- ❑ ***RESULTS OF THE 2013-2014 NATIONAL ROADSIDE SURVEY OF ALCOHOL AND DRUG USE BY DRIVERS BY THE NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION, FEBRUARY 2015***

Articles

- ❑ ***AMERICAN ACADEMY OF PEDIATRICS REAFFIRMS OPPOSITION TO LEGALIZATION OF MARIJUANA FOR RECREATIONAL OR MEDICAL USE, JANUARY 26, 2015 BY THE AMERICAN ACADEMY OF PEDIATRICS***

This policy statement opposing the legalization of marijuana also has some recommendations from the American Academy of Pediatrics.

- ❑ **AMERICAN EPILEPSY SOCIETY PRESIDENT SAYS SIDE EFFECTS OF ARTISANAL CBD OILS CAN BE SO SEVERE NO PEDIATRIC NEUROLOGIST IN COLORADO WILL RECOMMEND THEM, FROM NATIONAL FAMILIES IN ACTION & PARTNERS, *THE MARIJUANA REPORT* E-NEWSLETTER, JUNE 24, 2015**

This article discusses medical marijuana related to CBD.

- ❑ **ANY DOSE OF ALCOHOL COMBINED WITH CANNABIS SIGNIFICANTLY INCREASES LEVELS OF THC IN BLOOD, AMERICAN ASSOCIATION FOR CLINICAL CHEMISTRY, MAY 27, 2015 AS REPORTED IN *ScienceDaily***

This article points to a study for the first time that the use of alcohol and marijuana produces a significantly higher blood concentration of THC than use of marijuana alone.

- ❑ **EVIDENCE LINKING MARIJUANA AND RISK OF STROKE GROWS, AMERICAN HEART ASSOCIATION/NEWSROOM, FEBRUARY 20, 2015**

This article reports that smoking marijuana may increase the chance of having a stroke.

- ❑ **MARIJUANA BY THE AMERICAN LUNG ASSOCIATION (WEBSITE)**

This report discusses the negative impact of marijuana on health and youth.

- ❑ **MARIJUANA AND MADNESS: CLINICAL IMPLICATIONS OF INCREASED AVAILABILITY AND POTENCY, ROBIN M. MURRAY, MD, PROFESSOR OF PSYCHIATRIC RESEARCH AT THE INSTITUTE OF PSYCHIATRY, KING'S COLLEGE LONDON, *PSYCHIATRIC TIMES*, APRIL 30, 2015**

In the *Psychiatric Times* this article discussed use and potency as well as cognitive impairment, psychosis, the developing brain and other implications.

- ❑ ***MARIJUANA Use DURING PREGNANCY AND LACTATION, JULY 2015* BY THE AMERICAN COLLEGE OF OBSTETRICIAN AND GYNECOLOGISTS, COMMITTEE ON OBSTETRIC PRACTICE**

This report discusses the use of marijuana while pregnant.

- ❑ **PROPORTION OF PATIENTS IN SOUTH LONDON WITH FIRST-EPIISODE PSYCHOSIS ATTRIBUTABLE TO USE OF HIGH POTENCY CANNABIS: A CASE-CONTROL STUDY, DEFORTI, ET AL, DEPARTMENT OF PSYCHOSIS STUDIES, INSTITUTE OF PSYCHIATRY, KING'S COLLEGE, LONDON, UK, *LANCET PSYCHIATRY 2015***

In the *Lancet Psychiatry 2015* this study investigates how frequent use of high-potency marijuana in south London is associated with psychotic disorders.

- ❑ **STUDY: SCANT EVIDENCE THAT MEDICAL POT HELPS MANY ILLNESSES, JUNE 23, 2015, AP MEDICAL WRITER LINDSEY TANNER, WITH HIGHLIGHTS FROM THE *JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION***

This article states, “Medical marijuana has not been proven to work for many illnesses that state laws have approved it for, according to the first comprehensive analysis of research on its potential benefits.”

- ❑ **MARIJUANA STUDY: MEDICAL POT ISN'T PROVEN, BY RICARDO BACA, *THE DENVER POST* BY RICARDO BACA, *THE DENVER POST*, JUNE 24, 2014**

This article discusses a study published in the *Journal of the American Medical Association* concerning an analysis involving 6,500 participants that shows marijuana’s efficacy regarding most related conditions is unproven.

- ❑ **TEEN CANNABIS USERS HAVE POOR LONG-TERM MEMORY IN ADULTHOOD, MARCH 12, 2015, NORTHWESTERN UNIVERSITY**

This article discusses heavy teenage marijuana users having abnormally-shaped brain hippocampus that affects long-term memory.

- ❑ **WHAT HAS RESEARCH OVER THE PAST TWO DECADES REVEALED ABOUT THE ADVERSE HEALTH EFFECTS OF RECREATIONAL CANNABIS USE?, WAYNE HALL, THE UNIVERSITY OF QUEENSLAND CENTRE FOR YOUTH SUBSTANCE ABUSE RESEARCH, HERSTON, AUSTRALIA, AUGUST 4, 2014, *Addiction*, 110. 19-35**

This study examines the adverse impact of marijuana on health.

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