AGENDA

REGULAR MEETING

PUBLIC SAFETY COMMISSION

City Hall – Large Conference Room

5211 SCHLUTER ROAD

Wednesday – February 24, 2016

6:00 P.M.

1. Call To Order

2. Roll Call

3. Approval Of Minutes
   a) January 27, 2016

4. Appearances

5. Unfinished Business
   a) Discussion/Action on Volunteer FD Staffing – Sullivan
   b) Discussion/Action on Junked Vehicles and Appliances on Private Property 10-5-8 - Holmquist (Item tabled 4/22/15)
   c) Discussion/Action on the Bray Study
   d) Discussion/Action on amending Possession of Controlled Substances; Marijuana 11-2-9

6. New Business
   a) Discussion/Action on Code Enforcement and Ordinance Recodification Project.

7. Review Monthly Financial Reports: Law Enforcement, Fire Protection, Emergency Communications and Ambulance

8. Discussion of future agenda items.

9. Reports
   a) Fire Department
   b) Police Department
   c) Building Inspection

10. Next meeting date: March 23, 2016

11. Adjournment

NOTE: Upon reasonable notice, the City of Monona will accommodate the needs of disabled individuals through auxiliary aids or services. For additional information or to request this service, contact Joan Andrusz at (608) 222-2525 (not a TDD telephone number), FAX: (608) 222-9225, or through the City Police Department TDD telephone number 441-0399.

It is possible that members of and a possible quorum of members of other governmental bodies of the municipality may be in attendance at the above stated meeting to gather information or speak about a subject, over which they have decision-making responsibility. Any governmental body at the above stated meeting will take no action other than the governmental body specifically referred to above in this notice.

CITY OF MONONA
PUBLIC SAFETY COMMISSION
Wednesday- January 27, 2016

MINUTES

1. **Call to Order:** Chair Holmquist called the meeting to order at 6:00 pm.

2. **Roll Call:**

Commissioners Present: Holmquist, Fadness, Hoelzel, Hanson, Bisbee, Fontaine, Reed and Kitslaar.

Commissioners Excused: Thomas.

Staff Present: Police Chief Ostrenga, Police Detective Sergeant Losby, Police Detective Bomkamp and Fire Chief Sullivan.

3. **Minutes:** A motion was made by Fadness and seconded by Fontaine to approve the minutes of the October 28, 2015 meeting. Motion approved unanimously.

4. **Appearances:** None for items not on the agenda.

5. **Unfinished Business**

a) Discussion/Action on Volunteer FD Staffing – Chief Sullivan updated the PSC on the status of the Fire Department. The department is up to 33 Paid on Call Volunteers, 7 Full Time and 1 Intern. They are currently in a hiring process for another full time member and will start recruiting interns once that is complete. The goal is to have another full time firefighter/paramedic on staff by March 1st. With the dissolution of the Blooming Grove FD, Monona has picked up 8-10 of their members; which has helped to bolster the Monona FD. Chief Sullivan advised that staffing levels are still the number one issue for the department, this commission and the City Council will need to find ways to fund the Paid-on-Premises program that the ad-hoc committee recommended.

b) Discussion/Action on Junked Vehicles and Appliances on Private Property 10-5-8
Chair Holmquist stated this should remain on the table.

c) Discussion/Action on the Bray Study
Chair Holmquist reported this was discussed at last week's Planning Commission meeting, as infrastructure issues are included in the Draft Comprehensive Plan.
Chief Ostrenga reminded the PSC that a historical summary dating back to 2011 was reviewed at the last meeting. Infrastructure issues were mentioned for Police, Dispatch and Fire in the Draft Comprehensive Plan.

On conclusion of discussion, topic would be addressed at future meetings.

6. New Business

a) Discussion/Action on amending Possession of Controlled Substances; Marijuana 11-2-9.

Appearances:

Nate Petreman, 612 Femrite Drive, Monona, spoke in favor of amending the Monona Ordinance to reduce possession in a public place to a $1 fine. He talked about the nonbinding polls that indicated the residents of Dane County and the City of Monona were in favor of decriminalizing possession of marijuana; how minorities are punished disproportionately more than whites on these types of offenses; and asked that this be sent to the common council for action.

The following all did not speak, but registered in favor of amending this ordinance: Greg Kinsler, 712 McClellan Drive, Madison; Karen Kinsler, 712 McClellan Drive, Madison; and Gary Storch, Pub 3410, Madison.

Chair Holmquist asked Detective Sergeant Losby to start the discussion on this proposal. He reported that in August of 2015, he had met with Petreman, along with Alderman Holmquist and Chief Ostrenga to discuss his proposal. During that meeting some of the items of concern were cleared up, as ordinance violations are considered civil forfeitures and not criminal offenses; possession of 25 grams or less of cannabis are not prosecuted criminally by the DA unless there are extenuating circumstances; Losby indicated there is a trend to legalize marijuana and Petreman had created a draft ordinance that would make it legal to possess marijuana in a private place and if they were using it in a public place it would be a $1 fine. Losby made some changes to that proposal, as it would not be proper for juveniles to use marijuana. After further consideration it might be better to have 21 as the cut off age to be in line with alcohol consumption. We don't send cases downtown for criminal charges unless they are serious cases, i.e., large amounts, trafficking, etc. It might be an option to just eliminate the ordinance all together for adults, as it would be a waste of resources for officers to write a ticket for $1, as it could also impact the municipal court.

Chief Ostrenga advised the PSC that there was a case last year where a person was successfully charged through the DA's office for a very small amount (11 grams), but that person was party to another crime that involved a shooting at a local business. Ostrenga provided hard copies of: #1: Current Ordinance; #2 Nates Proposal; and #3 Losby's Proposal. Information was obtained from the Dane County Executive's office with a listing of fines county-wide for possession of marijuana that range from $1,000 to less than $100. The trend with several communities is to reduce the fines to $1 for adults. Fitchburg recently reduced their fine from $1,000 down to $1, however they add court costs so the ticket would be $62.26 for 21 and older; the current fine in Monona is $200 plus court costs for a total of $313.

Ostrenga agreed the national trend seems to be moving towards decriminalization of marijuana, which has had an effect on Federal and State drug forfeiture cases. Based on this trend it might be time to examine this ordinance, but that should be a city council decision as he is not convinced the time is right to do away with it. It should not be about money, but the fiscal impact to consider is that in 2015 there were 77 citations issued,

which is equivalent to $24,101 in revenue the city would collect if they were all paid. If this ordinance were reduced to a $1 fine, that amount would be reduced to $77. Another concern is residents in apartment complexes. Without this ordinance we would not be able cite people smoking marijuana in their private residences, even when it is having a negative effect on their neighbors quality of life. Rather than have a separate Juvenile section, I think an adjustment to fines for over and under 21 would be more appropriate, as it would tie in with alcohol consumption.

Detective Bomkamp explained the current Madison ordinance, which allows possession of marijuana in a private residence.

After discussion of the Madison ordinance, (with the aid of Detective Bomkamp), drug paraphernalia, and children that might be present during usage, and court costs; the PSC would like to see some edits to the proposal to include the following:

Amend the ages to address under and over 21 years of age;
Amendment to the drug paraphernalia ordinance;
Amend the open intoxicant ordinance to include public use of marijuana; and
Example of fines being eliminated or defined.

Item to be under old business for the next meeting.

b) Discussion/Action on proposed Bridge Road signage – Ostrenga
Chief Ostrenga presented information to the PSC on proposed changes to the stop signs at Bridge and Winnequah and at Bridge and Frost Woods. The Public Works Committee is going to be discussing this at their meeting on February 6th.

There are two proposals for Bridge and Winnequah. One would create a two-way stop control with the elimination of the current stop sign for westbound Bridge. The other would be to create an all-way stop-control, by placing a stop sign on the eastbound approach and the southbound turn lane.

For the intersection of Bridge and Frost Woods there is a proposal to make this a 3-way stop-control by placing a new stop sign on southbound Bridge.

This discussion was for information only, as the authority for signs and street markings is with the Public Works Committee.

c) Discussion/Action on Resolution approval for Purchase of Police Squad Cars – Ostrenga
There was a motion by Hanson, seconded by Reed, to approve the purchase of two new squad cars. Motion approved unanimously.

7. Review Monthly Financial Reports: Law Enforcement, Fire Protection, Emergency Communications and Ambulance. Chief Ostrenga and Chief Sullivan summarized the end of year 2015 budget totals.

8. Discussion of future agenda items.
Chief Sullivan discussed issues with stored lawn mowers and snow blowers being allowed to run in the garage attached to the FD.
Member Hoelzel wanted to know the status of the house next to city hall, as it is extremely unsightly. Holmquist asked that Jeremy Small provide a report for the next PSC meeting with a status on code enforcement.
Member Reed would like to meet the new City Administrator.

9. Reports:
Fire: Chief Sullivan advised on 2015 call volume and how revenues can fluctuate based on the age of the patients. The new fire truck has been ordered and is expected to be delivered in October. The new Plymovent vehicle exhaust system is installed and crews will be trained on it the first week of February. The FD will be conducting Ice Rescue training the 2nd and 3rd Tuesdays of February and he invited all committee members to come out and watch or participate in the training if they are available.

Police: Chief Ostrenga advised the departments projects in the PD and Dispatch are complete. There is a potential contract settlement with the police union, whose contract expired on 12/31/15. Jon Fenrick resigned earlier this month and returned to the Wisconsin State Patrol. Heather Mielke has passed the background investigation and is scheduled to be sworn in at 9 am on 2/1/15. This brings staffing up to full strength, but 2 officers will be in field training.

Building Inspection: No Report

11. Next meeting date: The next scheduled meeting will be on February 24, 2016

12. Adjournment Motion was made by Fontaine and seconded by Fadness to adjourn. Motion approved unanimously at 7:44 pm.

DRAFT

PUBLIC SAFETY COMMISSION {Agenda Item 5D}

AGENDA ITEM:

Amending the ordinance on Possession of Controlled Substances; Marijuana 11-2-9

REQUESTED BY:

Walter J. Ostrenga, Chief of Police

POLICY ANALYSIS STATEMENT:

- **Brief Description of Proposal:**

The city was contacted by Nate Petreman in the Summer/Fall of 2015 about changing our current city ordinance. This proposal would continue to be an ordinance violation for an adult to possess marijuana, but it would only be for a public place and the fine would be $1.00.

After discussion at the 1/27/16 PSC meeting, attached are five (5) options:

1) Current: $200 fine with court costs (cc) $313.
2) Nate Proposal (discussed 1/27/16).
3) Ordinance with current fine for under 21 and $1 ($63.30 w/cc) fine for 21 and over.
4) Ordinance with current fine for under 21 and a sliding fine scale for 21 and over: 1st Offense, $50 ($124 w/cc); 2nd Offense $100 ($187 w/cc); and 3rd Offense $150 ($250 w/cc).
5) Ordinance with current fine for under 21 and no fine for 21 and over.

- **Current Policy or Practice:**

Currently it is an ordinance violation for adults or juveniles to possess 25 grams or less of marijuana in a public or private place with a fine amount of $313.00. Violations are considered a civil forfeiture and not a criminal offense. We use the ordinance violation as the DA will not prosecute criminal cases unless there are extenuating circumstances.

- **Impact of Adopting Proposal:**

The proposed change would essentially make it unenforceable for someone 21 or over to possess marijuana in a private place. Further, if an adult possessed marijuana in a public place, the fine would be $1.00 instead of $313.00. Nothing would change for juvenile possession.

- **Staff Recommendation:**

There is a nationwide trend to decriminalize the possession of small amounts of marijuana. In some states it has also become legal to possess marijuana for personal and/or medical use. Based on national and local trends, it might be time to examine amending this ordinance; however, there is a great concern that persons under 21 will have increased exposure to marijuana in private and public places.

If changes are going to be made, it is the staff recommendation to adopt option #4 with the sliding fine scale for 21 and over.

FISCAL IMPACT:

In 2015, the City of Monona Police Department wrote 77 marijuana possession citations with a fine amount of $313.00 each.

Reviewed By City Administrator
_____ Yes _____ No

Action Taken: _____
Approval: _____
Disapproval: _____
Tabled: _____
Committee Meeting Date: _____

CURRENT MARIJUANA ORDINANCE

Sec. 11-2-9 Possession of Controlled Substances; Marijuana.

(This section amended per Ordinance 08-09-605, adopted August 17, 2009.)

(a) **Possession of Controlled Substances**. It is unlawful for any person to possess a controlled substance, other than a controlled substance classified in schedule I and II which is a narcotic drug, unless the substance was obtained directly from, or pursuant to a valid prescription or order of, a practitioner while acting in the course of his professional practice, or except as otherwise authorized by this Code of Ordinances.

(b) **Possession of Marijuana.**

(1) No person shall possess twenty-five (25) grams or less of marijuana, as defined in the Wisconsin Statutes, unless it was obtained directly from, or pursuant to, a valid prescription or order of a practitioner while acting in the course of his or her professional practice, or except as otherwise authorized by the Wisconsin Statutes.

(2) For purposes of this Section, "practitioner" means:

a. A physician, dentist, veterinarian, podiatrist, scientific investigator or other person licensed, registered or otherwise permitted to distribute, dispense, conduct research with respect to, or administer a controlled substance in the course of professional practice or research in the State of Wisconsin.

b. A pharmacy, hospital or other institution licensed, registered or otherwise permitted to distribute, dispense, conduct research with respect to or administer a controlled substance in the course of professional practice or research in the State of Wisconsin.

(3) This Section does not apply to any person who is charged with possession of more than twenty-five (25) grams of marijuana.

State Law Reference: Section 66.051(4), Wis. Stats.

PROPOSED NORMAL NATE ORDIANCE

Sec. 11-2-9 Possession of Controlled Substances; Marijuana.

(This section amended per Ordinance 08-09-605, adopted August 17, 2009.)

(a) **Possession of Controlled Substances**. It is unlawful for any person to possess a controlled substance, other than a controlled substance classified in schedule I and II which is a narcotic drug, unless the substance was obtained directly from, or pursuant to a valid prescription or order of, a practitioner while acting in the course of his professional practice, or except as otherwise authorized by this Code of Ordinances.

(b) **Possession of Marijuana.**

(1) No person shall possess or casually exchange ~~twenty-five (25) grams or less of~~ marijuana, as defined in ~~the Wisconsin Statutes~~s. 961.01(14), Wis. Stats., subject to the exceptions in s. 961.41(3g), in a public place~~, unless it was obtained directly from, or pursuant to, a valid prescription or order of a practitioner while acting in the course of his or her professional practice, or except as otherwise authorized by the Wisconsin Statutes.~~

(2) For purposes of this Section, "practitioner" means:

a. A physician, dentist, veterinarian, podiatrist, scientific investigator or other person licensed, registered or otherwise permitted to distribute, dispense, conduct research with respect to, or administer a controlled substance in the course of professional practice or research in the State of Wisconsin.

b. A pharmacy, hospital or other institution licensed, registered or otherwise permitted to distribute, dispense, conduct research with respect to or administer a controlled substance in the course of professional practice or research in the State of Wisconsin.

~~(3) This Section does not apply to any person who is charged with possession of more than twenty-five (25) grams of marijuana.~~

(3) Any person who violates 11-2-9(b)(1), subject to exceptions in s. 59.54(25), shall forfeit not more than $1.00

(4) Violations of this ordinance are not a crime and shall not subject a person found in violation thereof to loss of civil rights or to other disabilities imposed upon a person convicted of a crime. No entry or other record may be made which indicates that a person alleged or found to have violated this ordinance has been arrested for, charged with, prosecuted for, or convicted of a crime.

(5) For purposes of this Section, "casually exchange" means:

a. Spontaneous passing of a small amount of a controlled substance

(6) For purposes of this Section, "public place" means:

a. A place which is in public ownership or a place to which the public has access; distinguished from a private place

(7) Separability Clause. If any subsection, sentence, clause, phrase, or portion of this ordinance is for any reason held invalid or unconstitutional by any court of competent jurisdiction, such portion shall be deemed a separate, distinct, and independent provision, and such holding shall not affect the validity of the remaining portions hereof.

State Law Reference: Section 66.051(4), Wis. Stats.

Proposed marijuana ordinance change WITH $1 penalty

Sec. 11-2-9 Possession of Controlled Substances; Marijuana.

(This section amended per Ordinance 08-09-605, adopted August 17, 2009.)

(a) **Possession of Controlled Substances**. It is unlawful for any person to possess a controlled substance, other than a controlled substance classified in schedule I and II which is a narcotic drug, unless the substance was obtained directly from, or pursuant to a valid prescription or order of, a practitioner while acting in the course of his professional practice, or except as otherwise authorized by this Code of Ordinances.

(b) **Underage Possession of Marijuana.**

~~(1)~~No person under the age of 21 years of age shall possess twenty-five (25) grams or less of marijuana, as defined in the Wisconsin Statutes, unless it was obtained directly from, or pursuant to, a valid prescription or order of a practitioner while acting in the course of his or her professional practice, or except as otherwise authorized by the Wisconsin Statutes.

(c) **Adult Possession of Marijuana.**

(1) No adult 21 years of age or older shall possess or casually exchange marijuana, as defined in 961.01(14), Wisconsin State Statutes, subject to the exceptions in 961.41(3g), in a public place.

(2) Any person who violates 11-2-9(c)(1), subject to exceptions in s. 59.54(25), shall forfeit not more than $1.00 plus court costs

(d) ~~(2)~~ For purposes of this Section, "practitioner" means:

(1) ~~a.~~ A physician, dentist, veterinarian, podiatrist, scientific investigator or other person licensed, registered or otherwise permitted to distribute, dispense, conduct research with respect to, or administer a controlled substance in the course of professional practice or research in the State of Wisconsin.

(2) ~~b.~~ A pharmacy, hospital or other institution licensed, registered or otherwise permitted to distribute, dispense, conduct research with respect to or administer a controlled substance in the course of professional practice or research in the State of Wisconsin.

(e) For the purpose of this section, "casually exchange" means:

(1) The spontaneous passing of a small amount of marijuana

(f) For the purpose of this section, "public place" means:

(1) A place which is in public ownership or a place to which the public has access; distinguished from a private place.

(g) Separability Clause. If any subsection, sentence, clause, phrase, or portion of this ordinance is for any reason held invalid or unconstitutional by any court of competent jurisdiction, such portion shall be deemed a separate, distinct, and independent provision, and such holding shall not affect the validity of the remaining portions hereof.

~~(3) This Section does not apply to any person who is charged with possession of more than twenty-five (25) grams of marijuana.~~

(h) **Possession of Marijuana Paraphernalia**

No person under the age of 21 years of age shall possess identifiable marijuana paraphernalia as defined in ss 961.571.

(i) **Use of Marijuana**

No person shall use, ingest, or inhale marijuana in a public place to include inside any motor vehicle.

State Law Reference: Section 66.051(4), Wis. Stats.

Proposed marijuana ordinance change WITH BRACKETED penalties

Sec. 11-2-9 Possession of Controlled Substances; Marijuana.

(This section amended per Ordinance 08-09-605, adopted August 17, 2009.)

(a) **Possession of Controlled Substances**. It is unlawful for any person to possess a controlled substance, other than a controlled substance classified in schedule I and II which is a narcotic drug, unless the substance was obtained directly from, or pursuant to a valid prescription or order of, a practitioner while acting in the course of his professional practice, or except as otherwise authorized by this Code of Ordinances.

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(1) No adult 21 years of age or older shall possess or casually exchange marijuana, as defined in 961.01(14), Wisconsin State Statutes, subject to the exceptions in 961.41(3g), in a public place.

(2) Any person who violates 11-2-9(c)(1), subject to exceptions in s. 59.54(25), shall forfeit $50.00 for 1st offense, $100.00 for 2nd offense, or $150.00 for 3rd or more offenses plus court costs.

(d) ~~(2)~~ For purposes of this Section, "practitioner" means:

(1) ~~a.~~ A physician, dentist, veterinarian, podiatrist, scientific investigator or other person licensed, registered or otherwise permitted to distribute, dispense, conduct research with respect to, or administer a controlled substance in the course of professional practice or research in the State of Wisconsin.

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(1) The spontaneous passing of a small amount of marijuana

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(1) A place which is in public ownership or a place to which the public has access; distinguished from a private place.

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No person shall use, ingest, or inhale marijuana in a public place to include inside any motor vehicle.

State Law Reference: Section 66.051(4), Wis. Stats.

Proposed marijuana ordinance change WITHOUT penalties

Sec. 11-2-9 Possession of Controlled Substances; Marijuana.

(This section amended per Ordinance 08-09-605, adopted August 17, 2009.)

(a) **Possession of Controlled Substances**. It is unlawful for any person to possess a controlled substance, other than a controlled substance classified in schedule I and II which is a narcotic drug, unless the substance was obtained directly from, or pursuant to a valid prescription or order of, a practitioner while acting in the course of his professional practice, or except as otherwise authorized by this Code of Ordinances.

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No person shall use, ingest, or inhale marijuana in a public place to include inside any motor vehicle.

State Law Reference: Section 66.051(4), Wis. Stats.

THE LEGALIZATION OF MARIJUANA IN COLORADO

THE IMPACT

Volume 3
September 2015

Rocky Mountain High Intensity
Drug Trafficking Area
www.rmhidta.org

PREPARED BY:
INTELLIGENCE ANALYST KEVIN WONG
INTELLIGENCE ANALYST CHELSEY CLARKE

Acknowledgements

Thank you to all who provided case examples and information for the "related materials" sections of this report.

Also, thanks to all the agencies that were so cooperative in providing data used in this report; specifically:

- El Paso Intelligence Center
- National Highway Traffic Safety Administration
- National Center for Natural Products Research
- Substance Abuse and Mental Health Services Administration
- United States Custom and Border Protection
- United States Postal Inspection Service
- Colorado Bureau of Investigation
- 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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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 percen**t) 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.

- 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 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 percen**t nationally. Colorado, ranked **5th** in the nation, was **86 percent** higher than the national average.

- Probationers age 18 to 25 and 26+ years old testing positive for marijuana 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 percen**t 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 percen**t 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 percen**t (674) of the 874 DUIDs involved marijuana

- **41 percent** (354) of the 874 DUIDs involved marijuana only

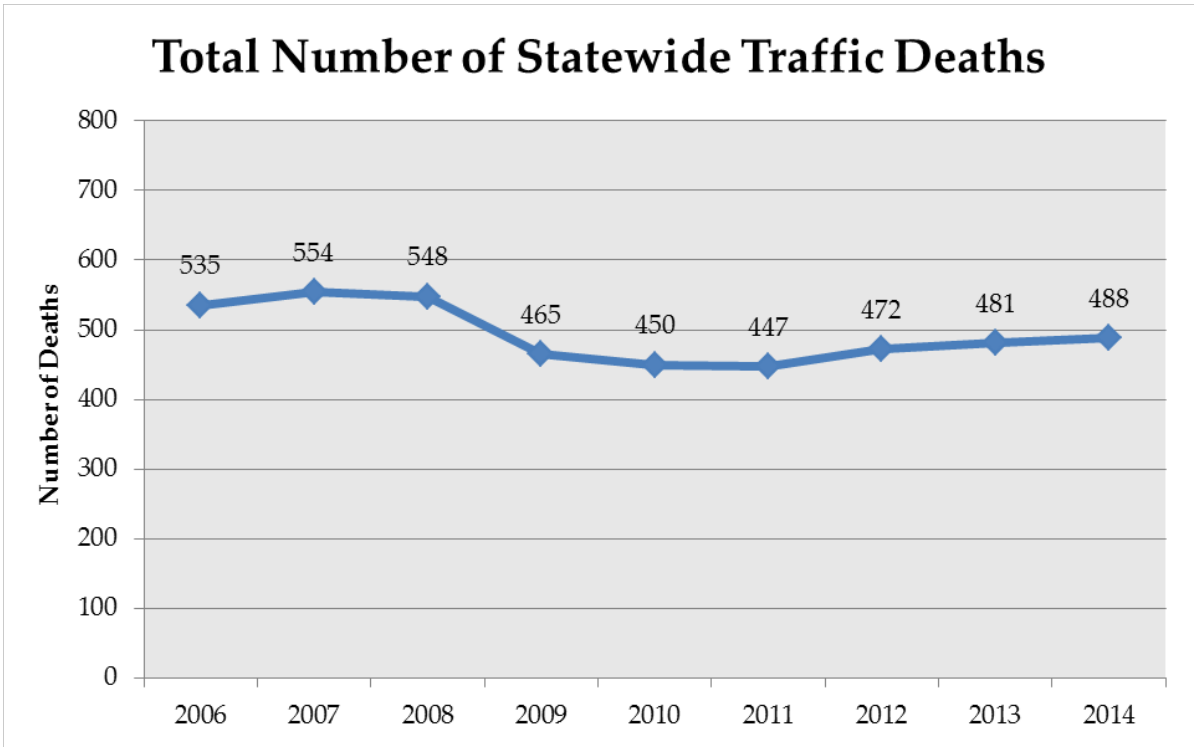
- Denver Police Department DUIDs involving marijuana increased **100 percent** from 2013 (33) to 2014 (66).

- 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 TRANSPORTATION 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.**

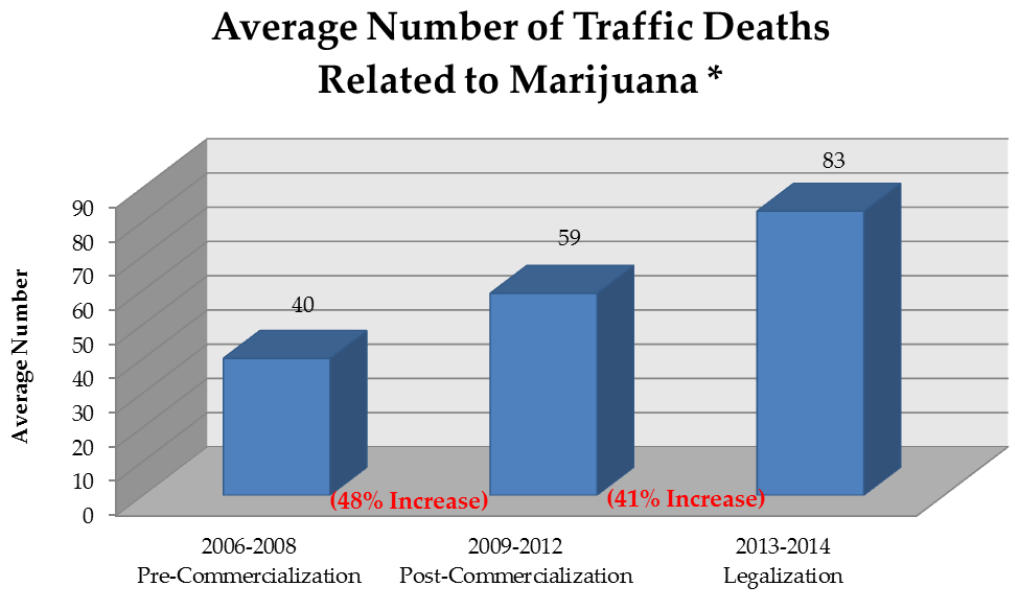


SOURCE: National Highway Transportation Safety Administration, Fatality Analysis Reporting System (FARS), 2006-2013 and CDOT/RMHIDTA 2014

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%

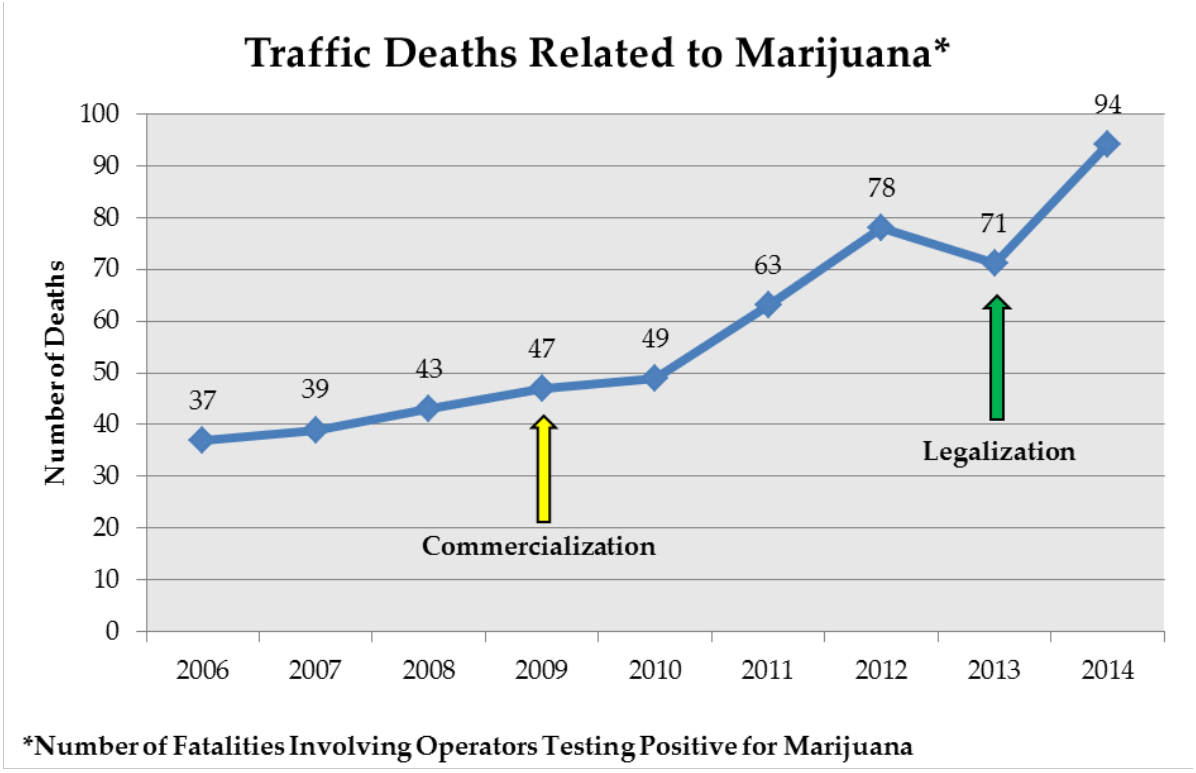
*Fatalities Involving Operators Testing Positive for Marijuana

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

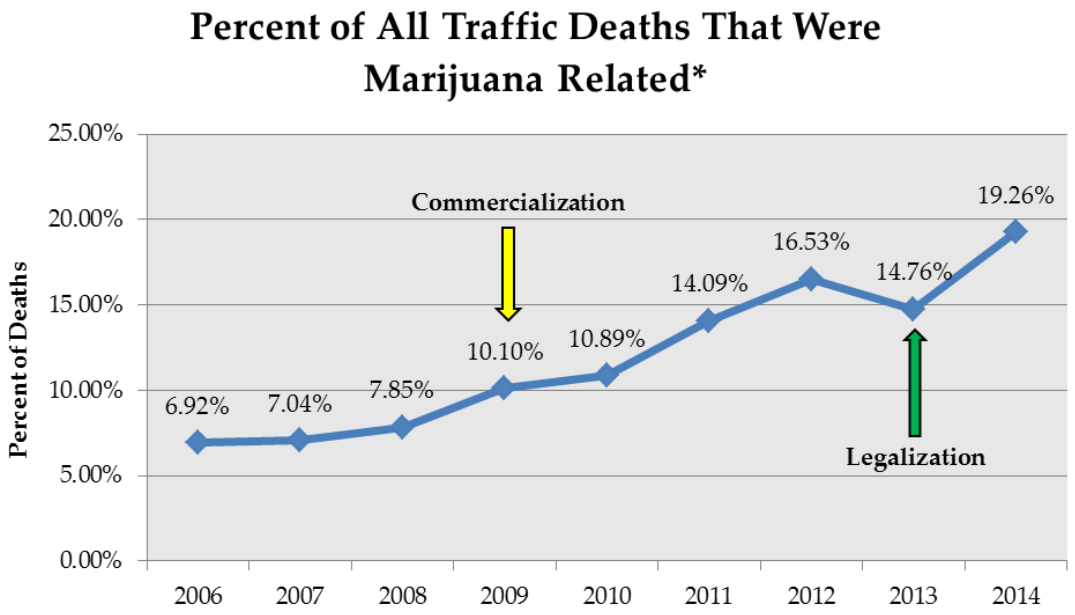


*Average Number of Fatalities when an Operator Tested Positive for Marijuana

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



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



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

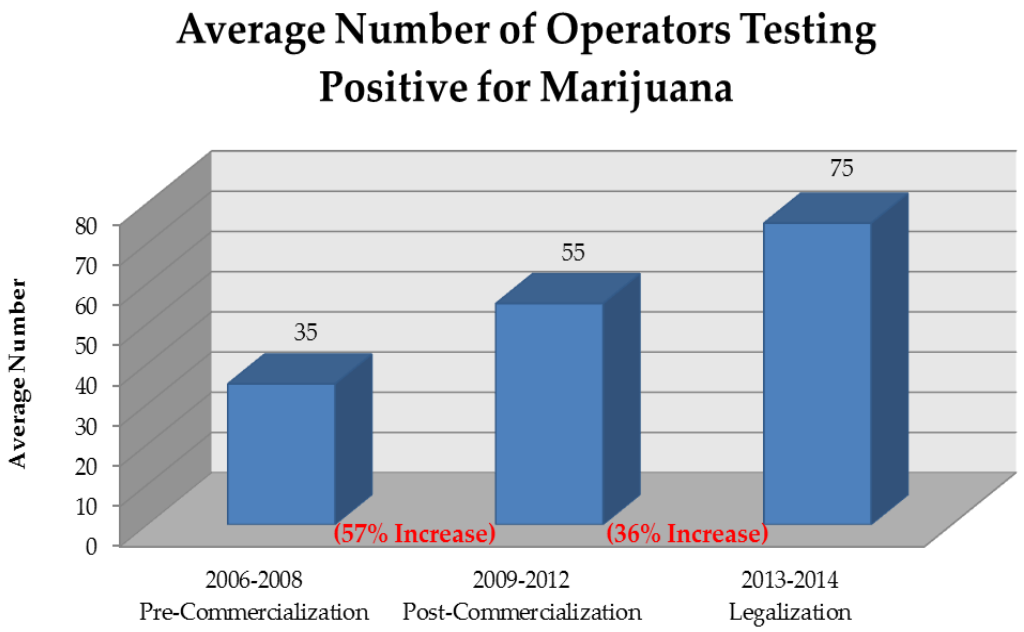
SOURCE: National Highway Transportation Safety Administration, Fatality Analysis Reporting System (FARS), 2006-2013 and CDOT/RMHIDTA 2014

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%

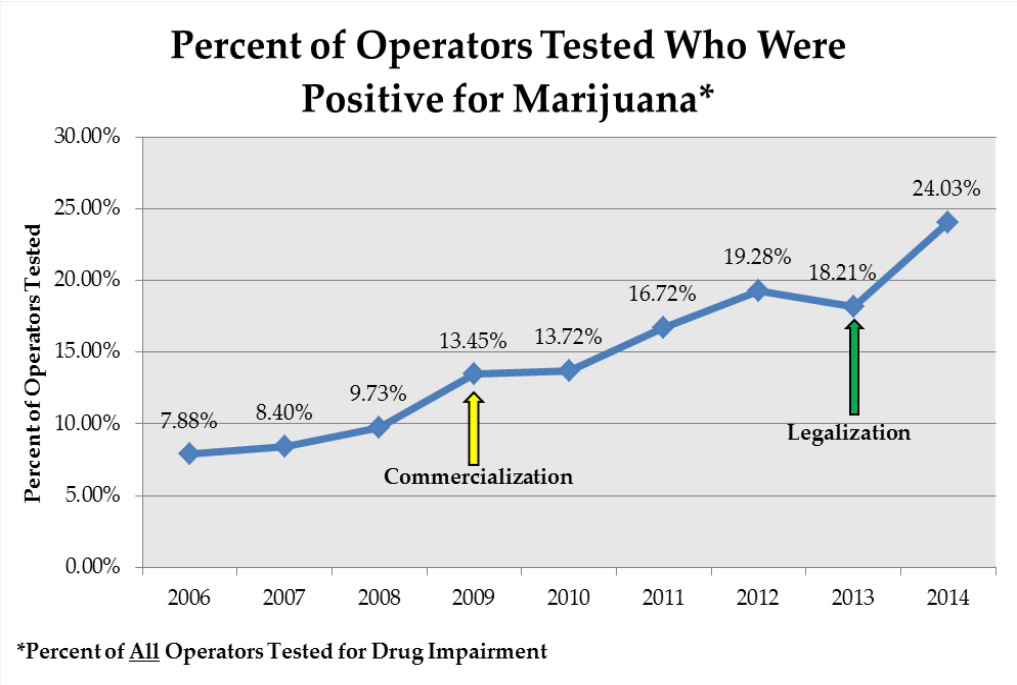
*Operators Involved in Fatalities Testing Positive for Marijuana

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

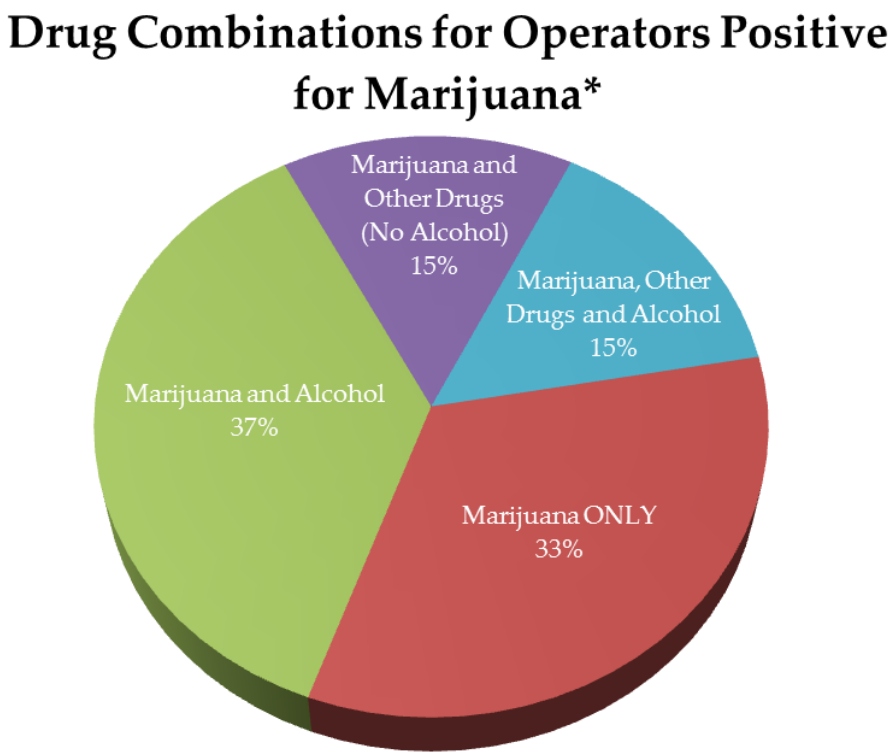
- **Consistent with the past, in 2014 still only 47 percent of operators involved in traffic deaths were tested for drug impairment.**



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



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

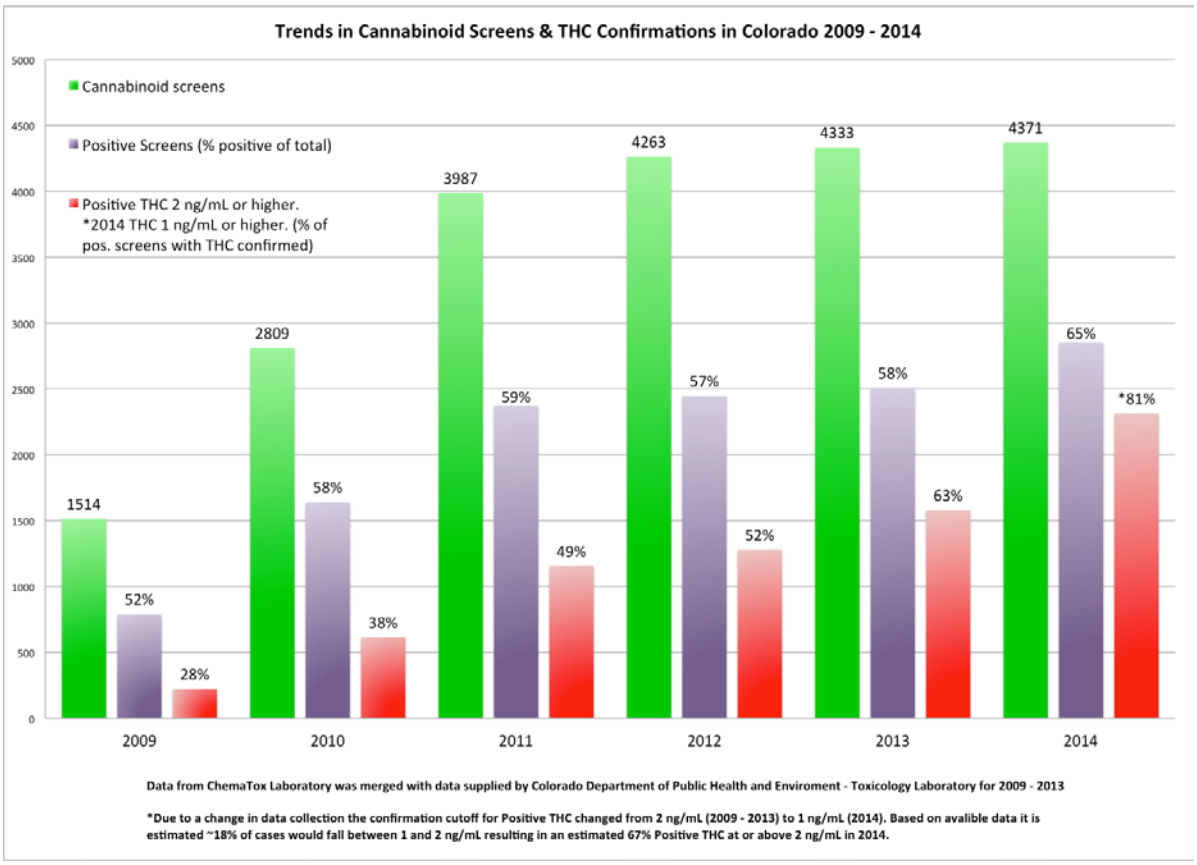


*Toxicology results for all substances present in individuals who tested positive for marijuana

- **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

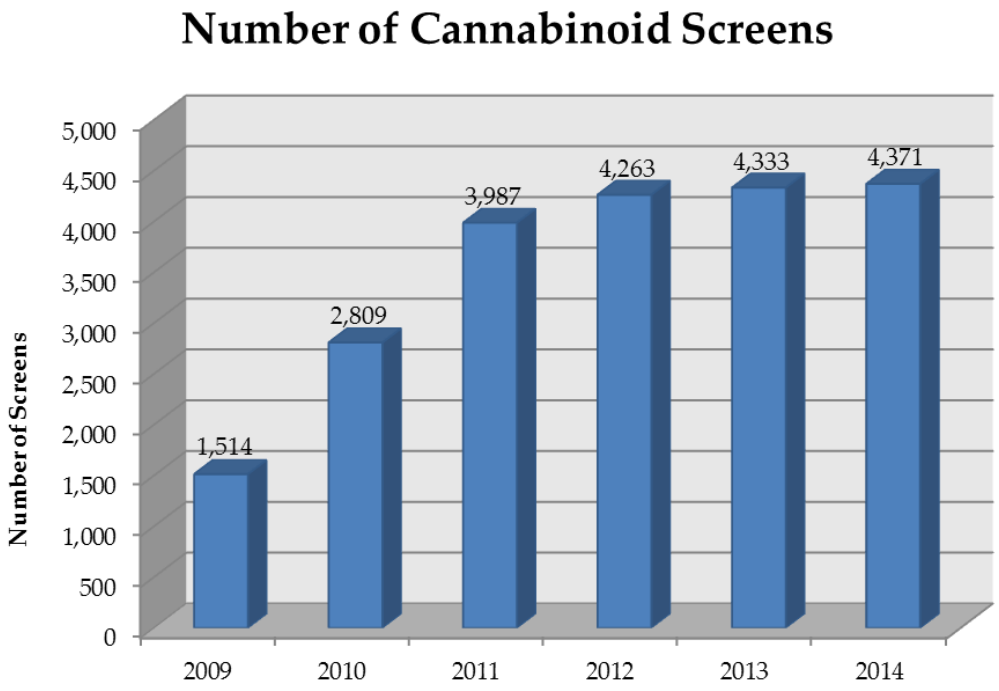
NOTE:	THE NUMBER OF DUID ARRESTS IS NOT REFLECTIVE OF THE TOTAL NUMBER OF PEOPLE ARRESTED FOR DRIVING UNDER THE INFLUENCE WHO ARE INTOXICATED ON NON-ALCOHOL SUBSTANCES. IF SOMEONE IS DRIVING BOTH INTOXICATED ON ALCOHOL AND INTOXICATED ON ANY OTHER DRUG (INCLUDING MARIJUANA), ALCOHOL IS ALMOST ALWAYS 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.



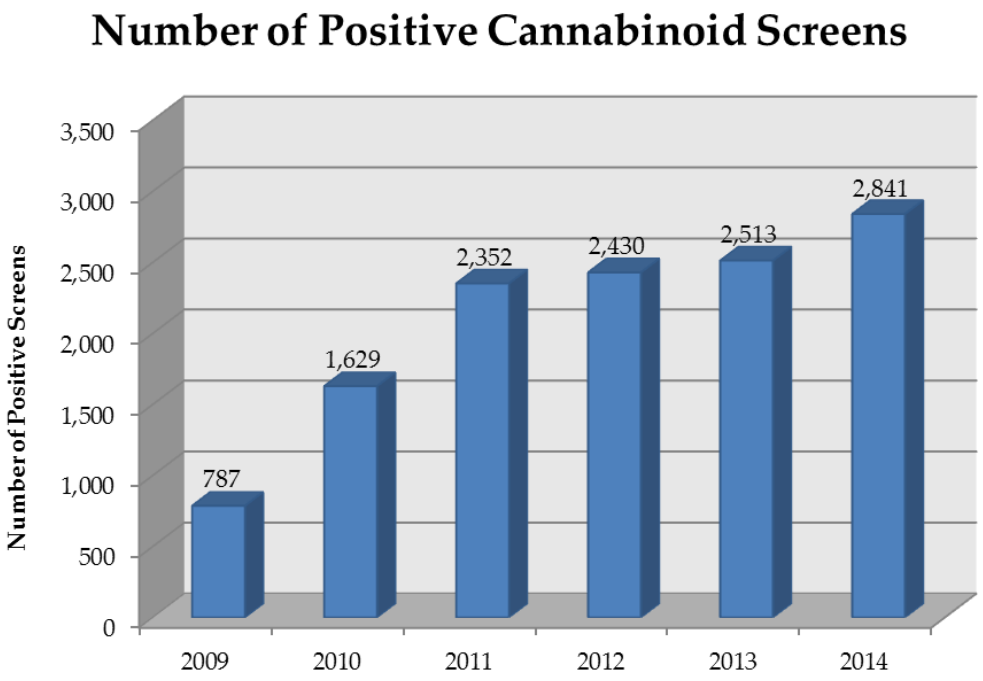
SOURCE: Sarah Urfer, M.S., D-ABFT-FT; ChemaTox Laboratory

Explanation of ChemaTox Graphs

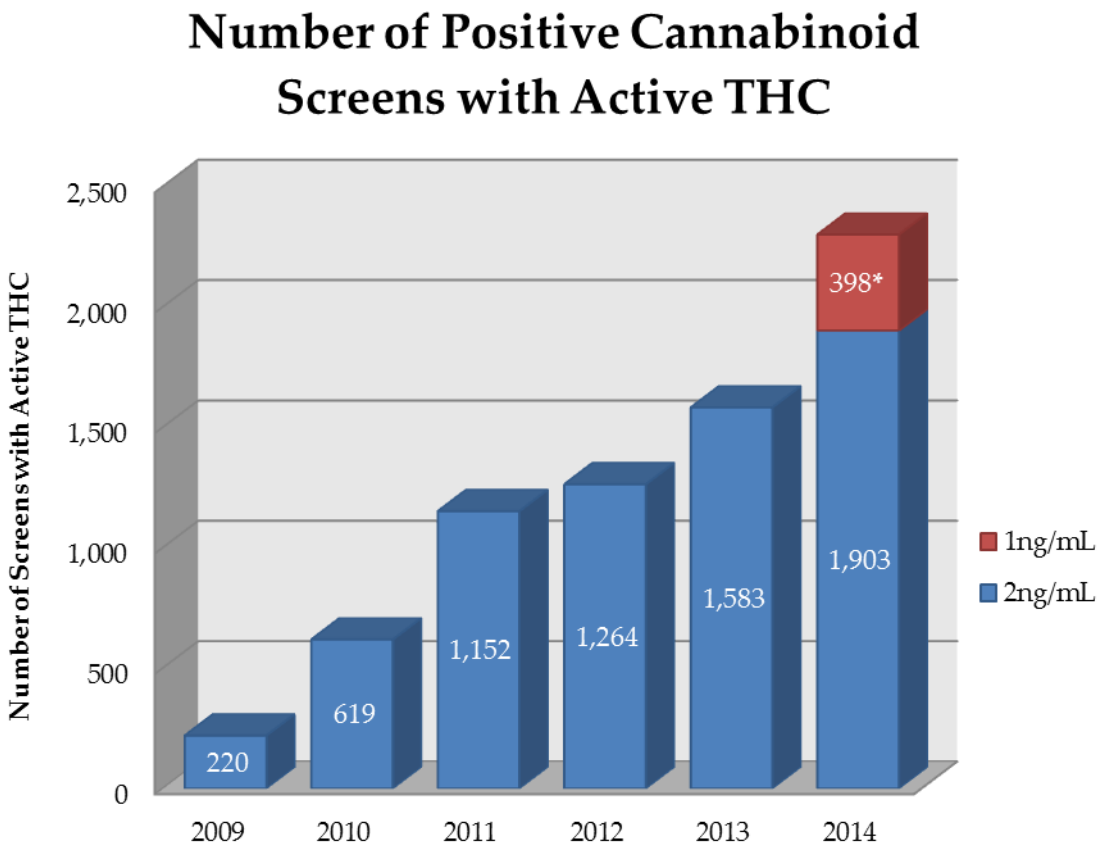
The below three graphs are Rocky Mountain HIDTA's conversation of ChemaTox data into raw numbers. The first graph represents the total number of drug screens that were tested for cannabinoids. Of those screens tested, the second graph represents the number of cannabinoid positive screens. The third graph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



SOURCE: **Rocky Mountain HIDTA**



SOURCE: **Rocky Mountain HIDTA**

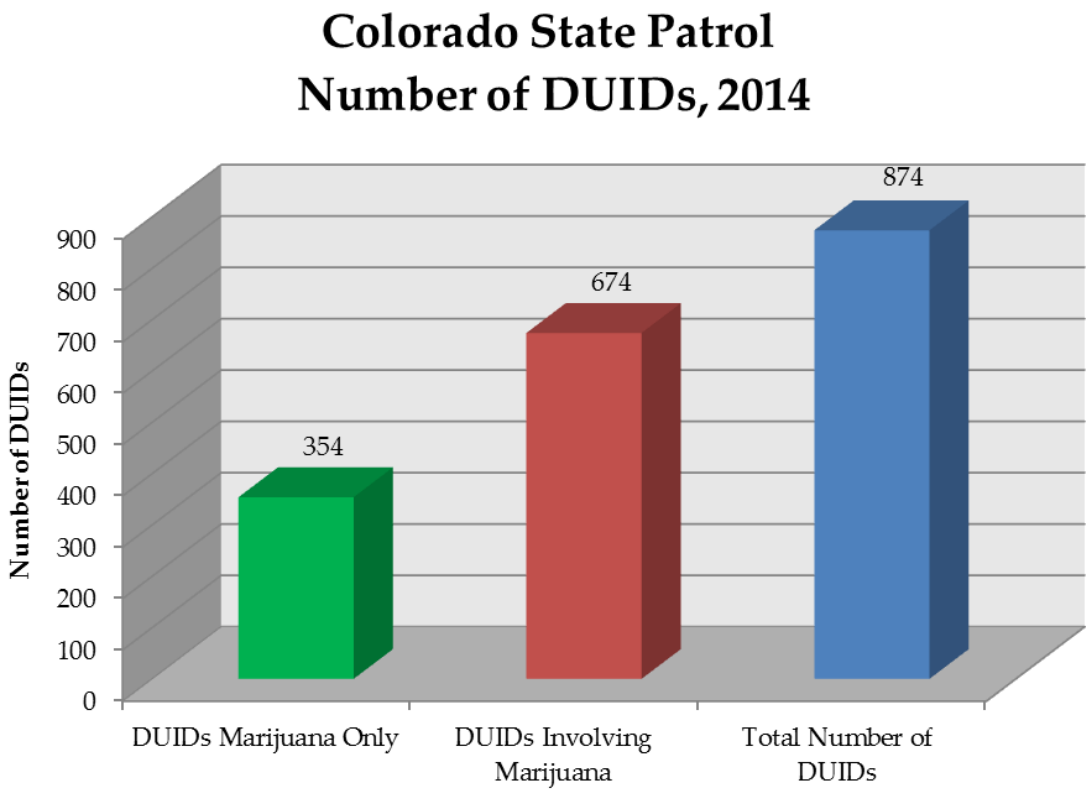


*"Due to a change in data collection, the confirmation cutoff for Positive THC changed from 2ng/mL (2009-2013) to 1 ng/mL (2014). Based on available data it is estimated ~18% of cases would fall between 1 and 2ng/mL resulting in an estimated 67% Positive THC at or above 2 ng/mL in 2014."[1]

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.

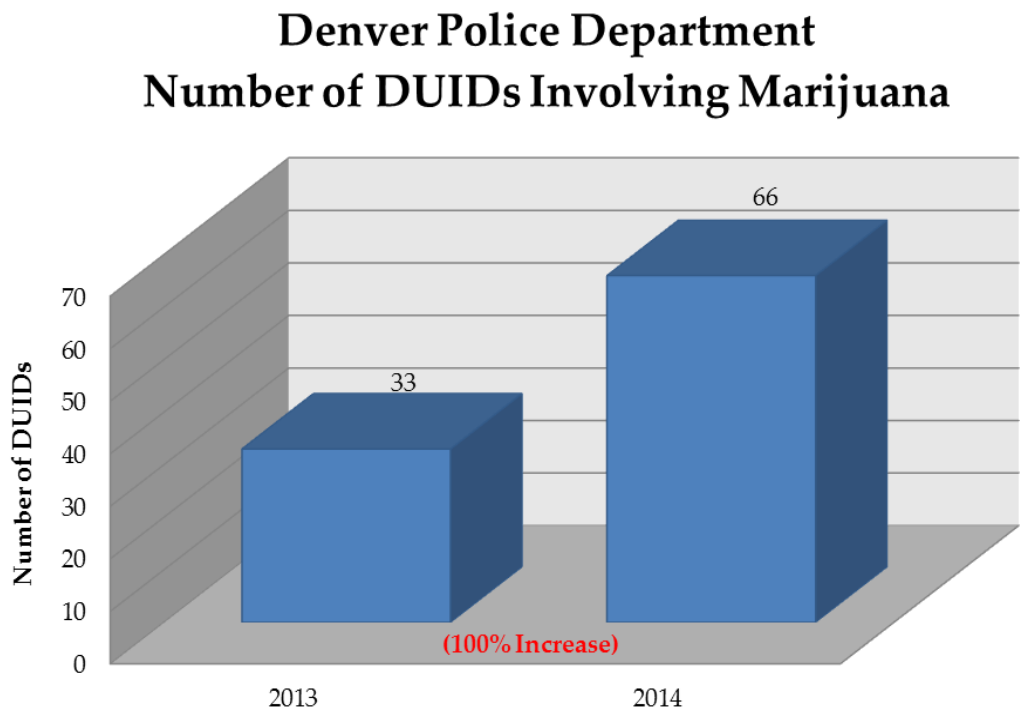
NOTE: COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT DISCONTINUED TESTING IN JULY 2013.



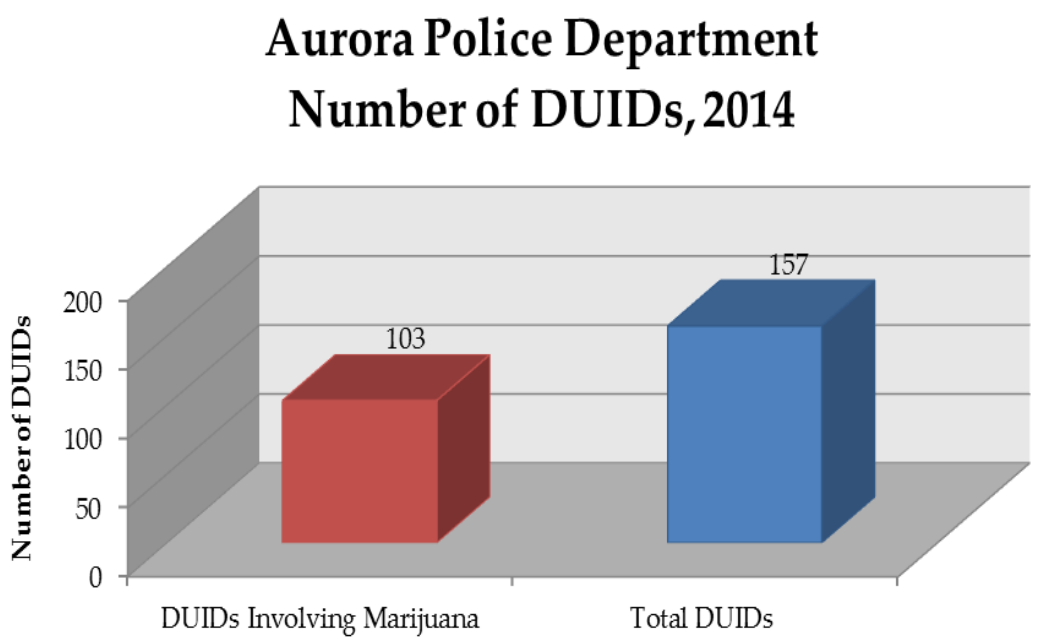
SOURCE: **Colorado State Patrol, CSP Citations for Drug Impairment by Drug Type, 2014**

- **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*

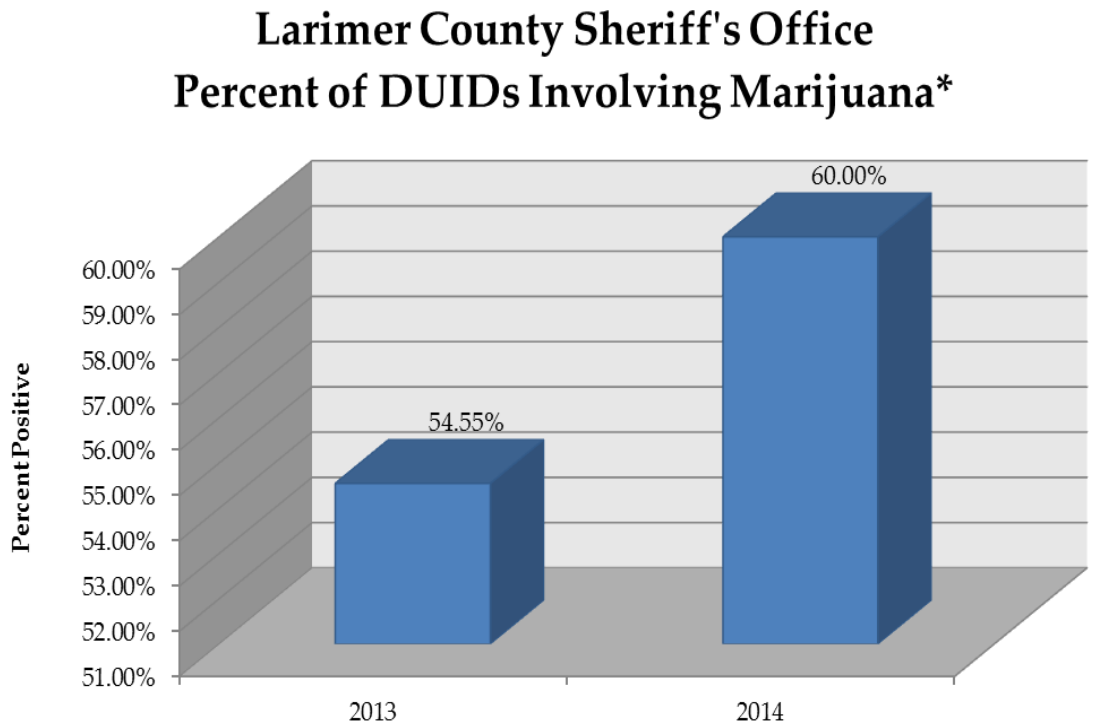


SOURCE: Denver Police Department, Traffic Investigations Bureau via Data Analysis Unit



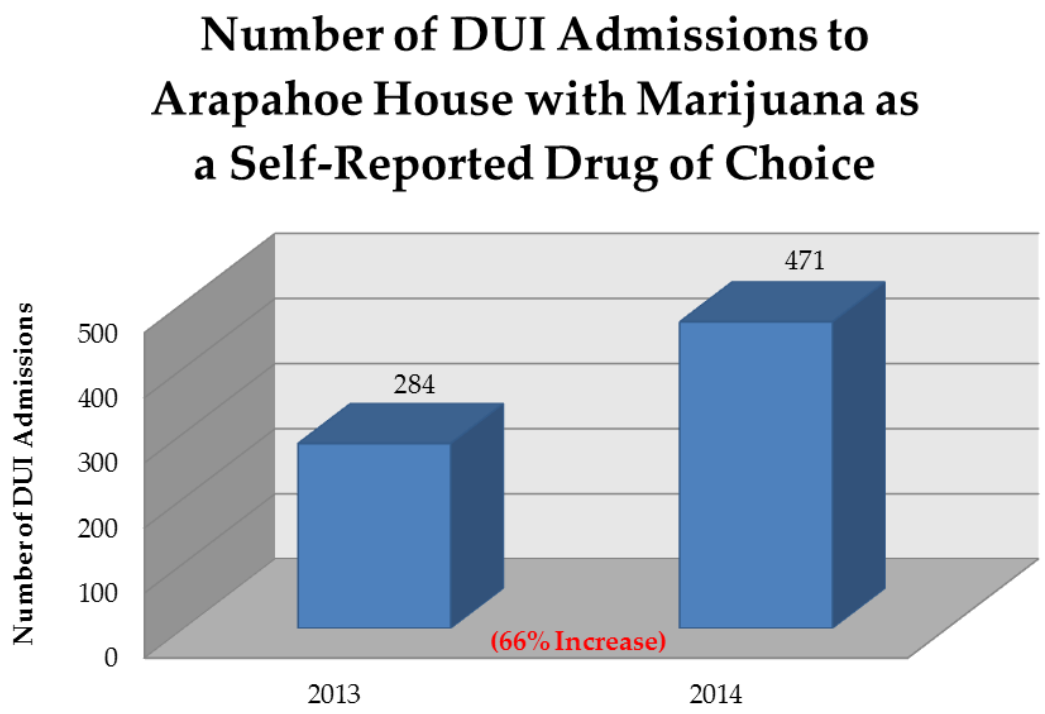
SOURCE: Aurora Police Department, Traffic Division

- **66 percent of total DUIDs involved marijuana.**

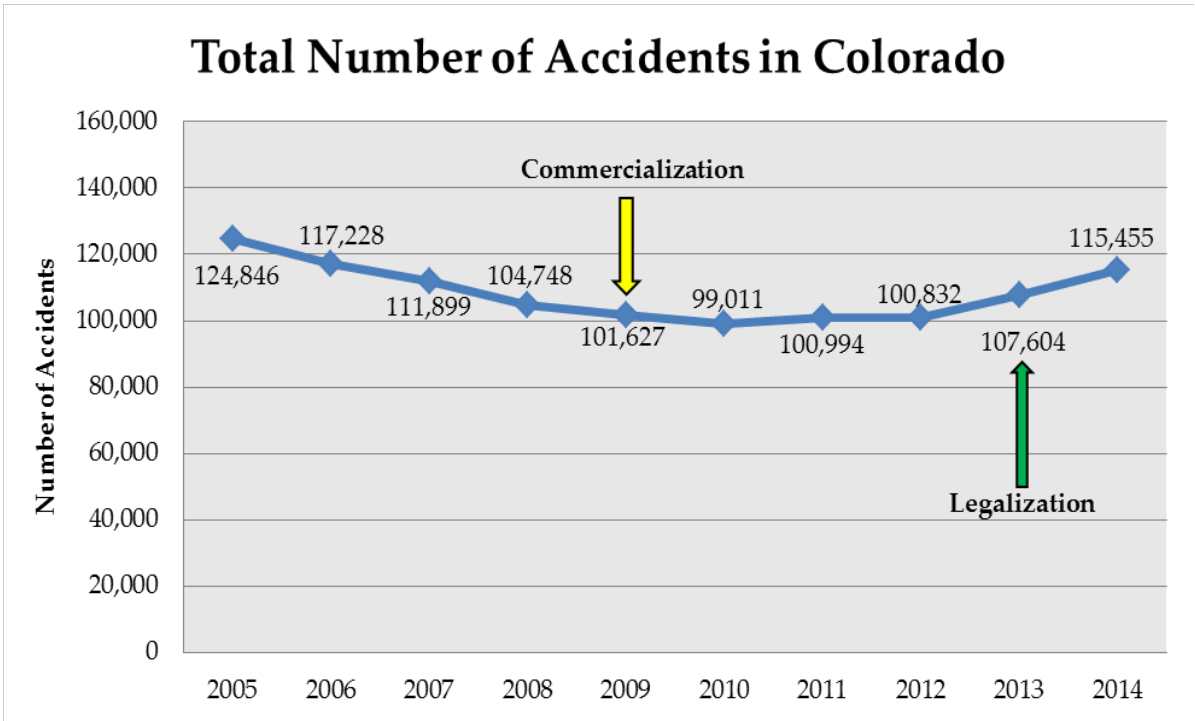


*Percent of all DUID blood samples submitted for drug testing

SOURCE: **Larimer County Sheriff's Office, Records Unit**



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 Chieftai*n 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: "More motorists are smoking marijuana on the road than ever before, according to new data released on Friday by the National Highway Traffic Safety Administration of the U.S. Department of Transportation. The agency stated that rates of driving while high have increased by 50 percent in the past seven years." "Researchers found that marijuana users are 25 times more likely to be in an accident than those that did not use the drug. By comparison, drunk drivers are four times more likely to crash than sober drivers." The survey did note that marijuana users are more than likely to be involved in accidents, but that the increased risk may be due in

part to the fact that marijuana users are more likely to be in a group of higher risk for crashes.[7, 18]

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.[19]

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."[20, 21]

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."[22]

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

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[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 Pos*t, "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] Amy Nordrum, International Business Times, February 6, 2015, "Drug Use On US Roads Rises As Drunken Driving Drops," <http://www.ibtimes.com/drug-use-us-roads-rises-drunken-driving-drops-1808714>, accessed February 7, 2015

[18] Gordon Trowbridge, public.affairs@dot.gov, February 6, 2015, "NHTSA Releases Two New Studies on Impaired Driving on U.S. Roads,"

<http://www.nhtsa.gov/About+NHTSA/Press+Releases/2015/nhtsa-releases-2-impaired-driving-studies-02-2015>, accessed February 7, 2015

[19] 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

[20] 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

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[22] Andrew Griffits, 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 percen**t 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.

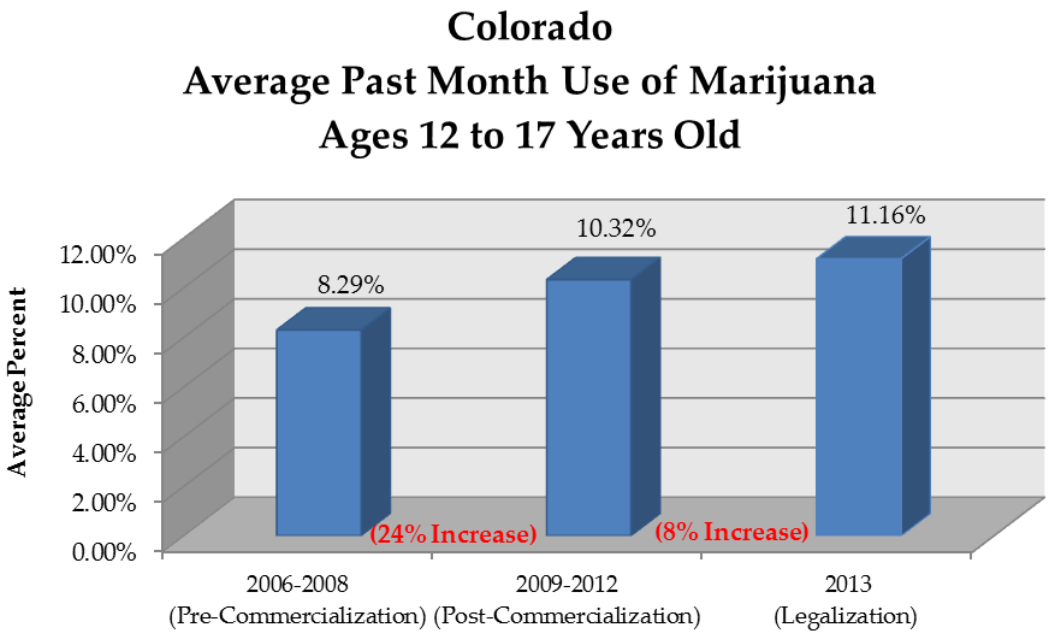
- There was a **40 percent** increase in drug-related suspensions and expulsions in Colorado from school year 2008/2009 to 2013/2014.

- 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.

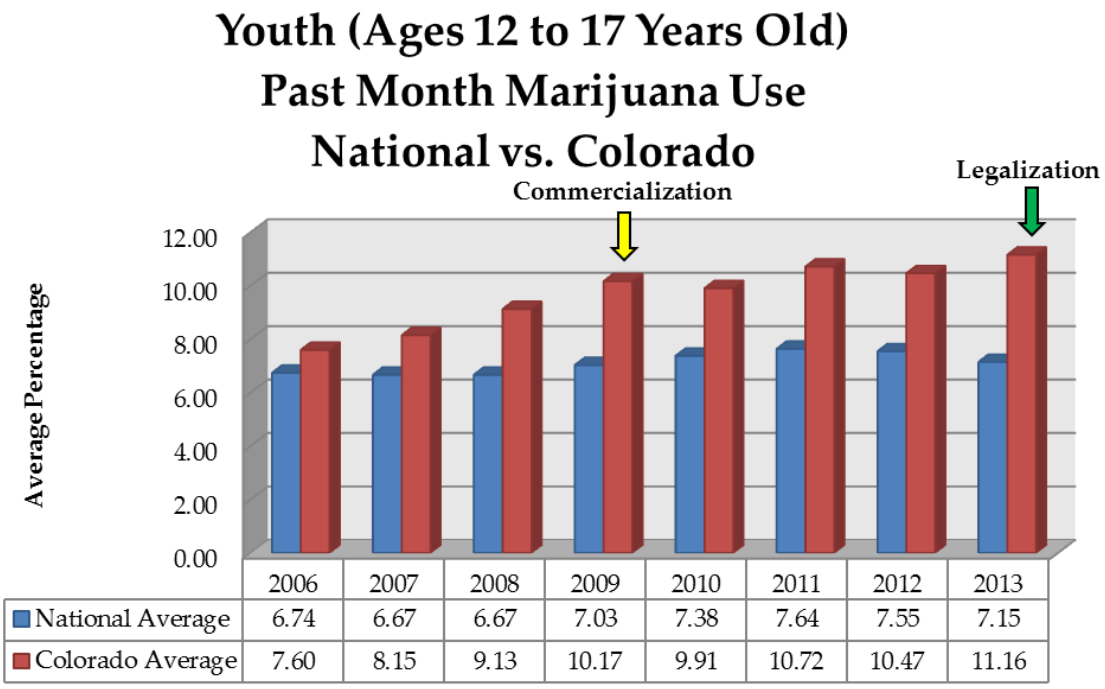
- A June, 2015 Rocky Mountain HIDTA survey of 95 Colorado school resource officers (SROs) and an August 2015 survey of 188 Colorado school counselors reveals:
  - The majority have experienced an increase in student marijuana-related incidents since recreational marijuana was legalized.
  - The most 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

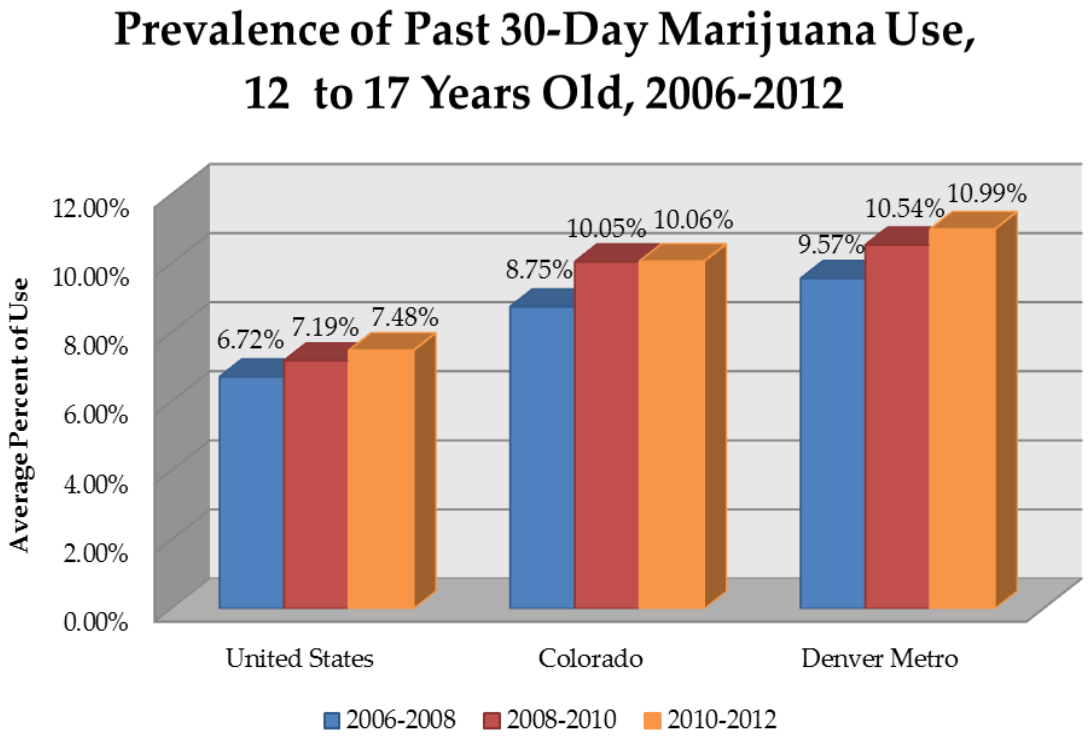


SOURCE: SAMHSA.gov, National Survey on Drug Use and Health 2012 and 2013

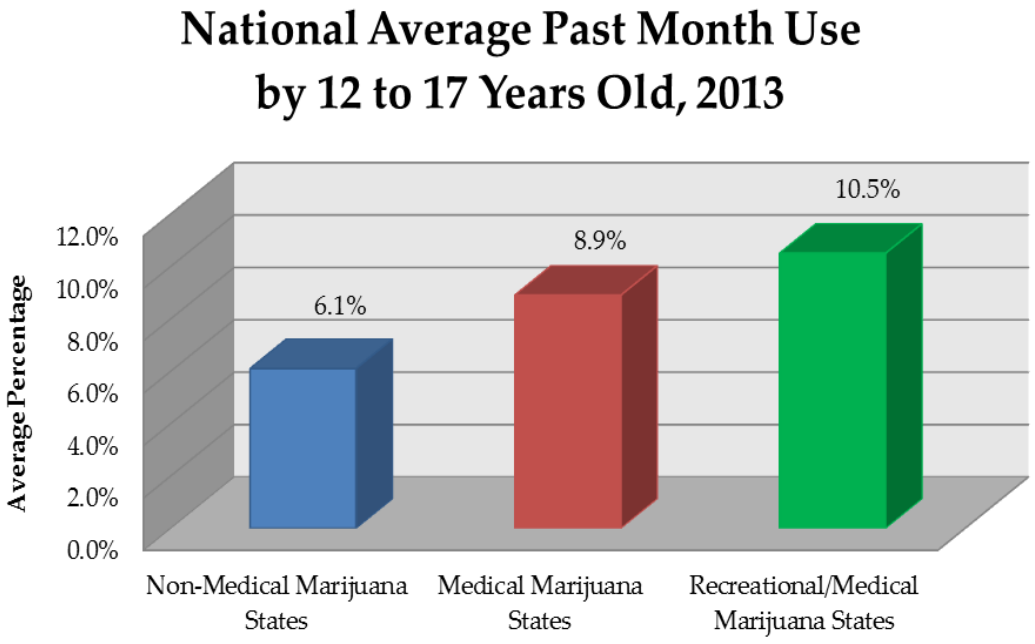


	2006	2007	2008	2009	2010	2011	2012	2013
National Average	6.74	6.67	6.67	7.03	7.38	7.64	7.55	7.15
Colorado Average	7.60	8.15	9.13	10.17	9.91	10.72	10.47	11.16

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

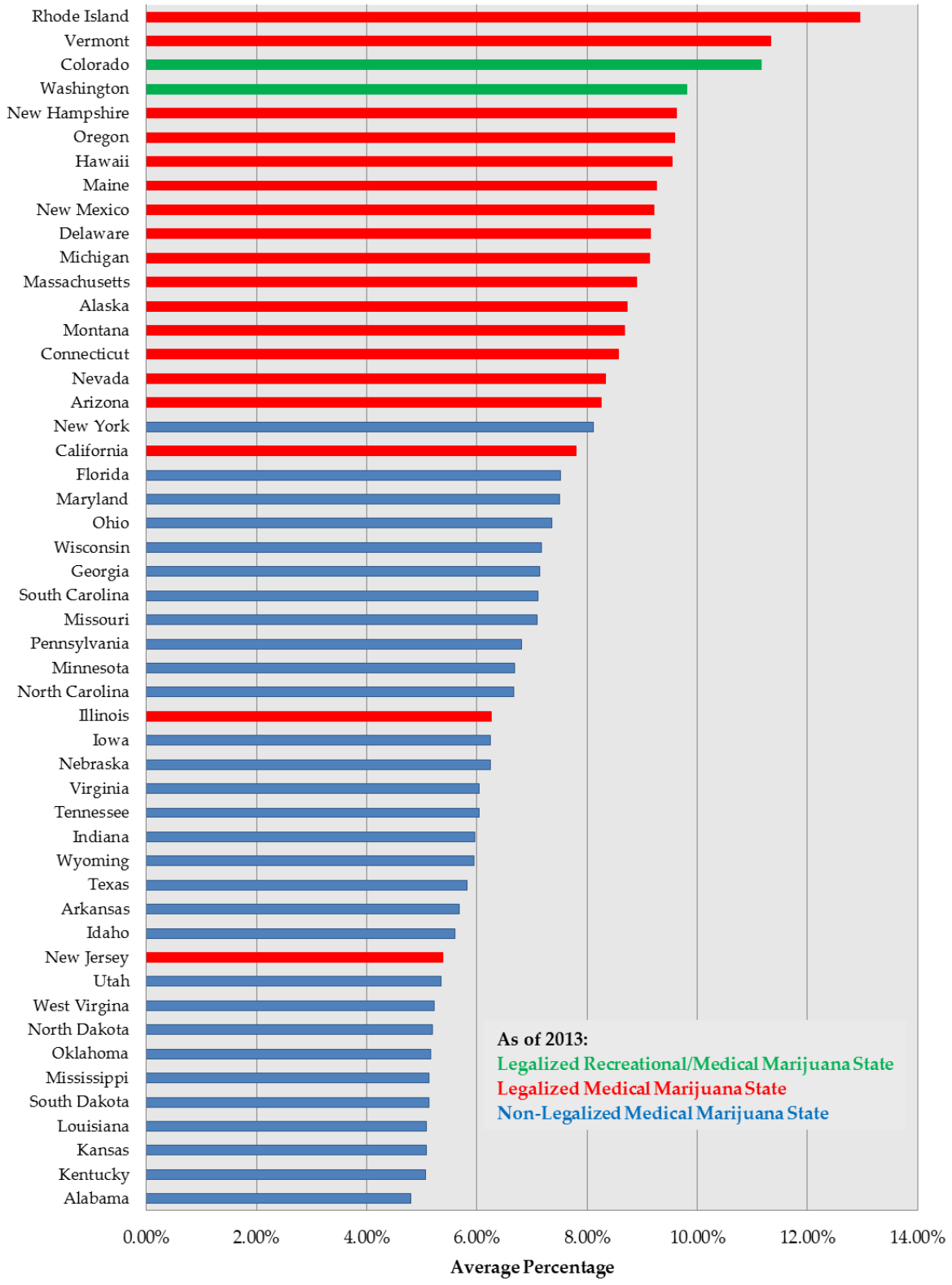


SOURCE: **Denver Epidemiology Working Group (DEWG), Denver Office of Drug Strategy, October 29, 2014 and National Survey of Drug Use and Health, Sub-state Estimates 2006 – 2012**



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

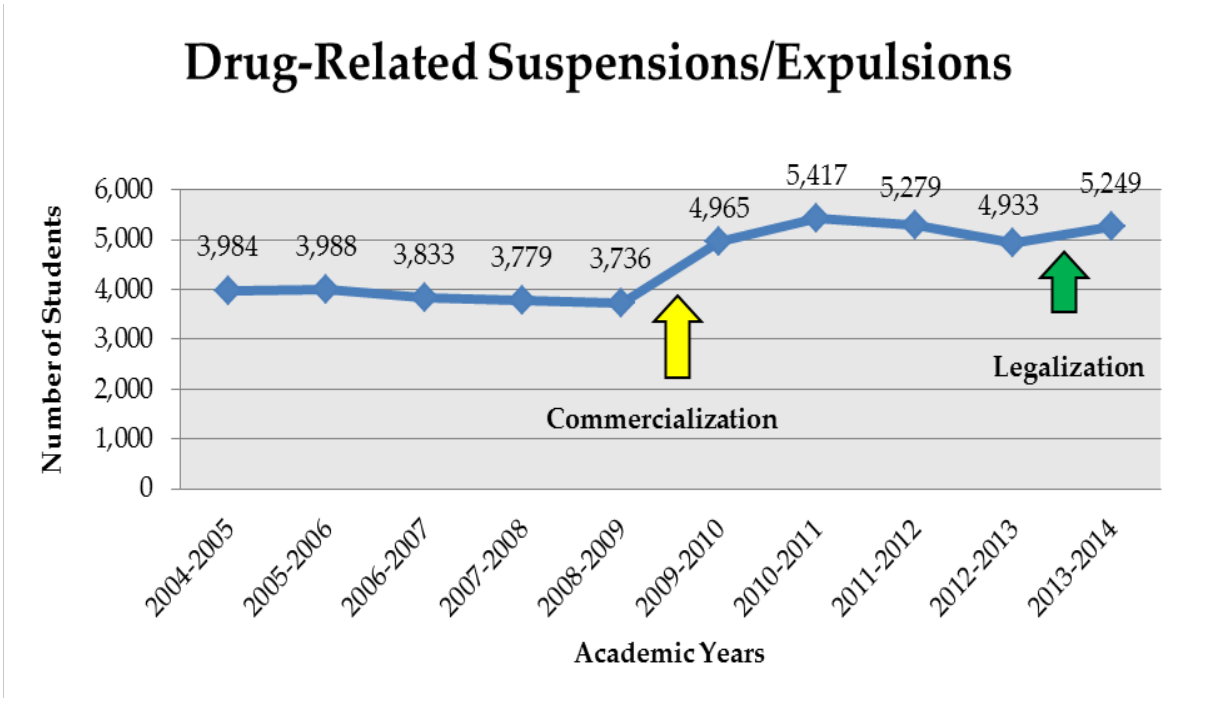


SOURCE: **SAMHSA.gov, National Survey on Drug Use and Health 2012 and 2013**

States for Past Month Marijuana Use Youth (12 to 17 Years Old), 2013[1]

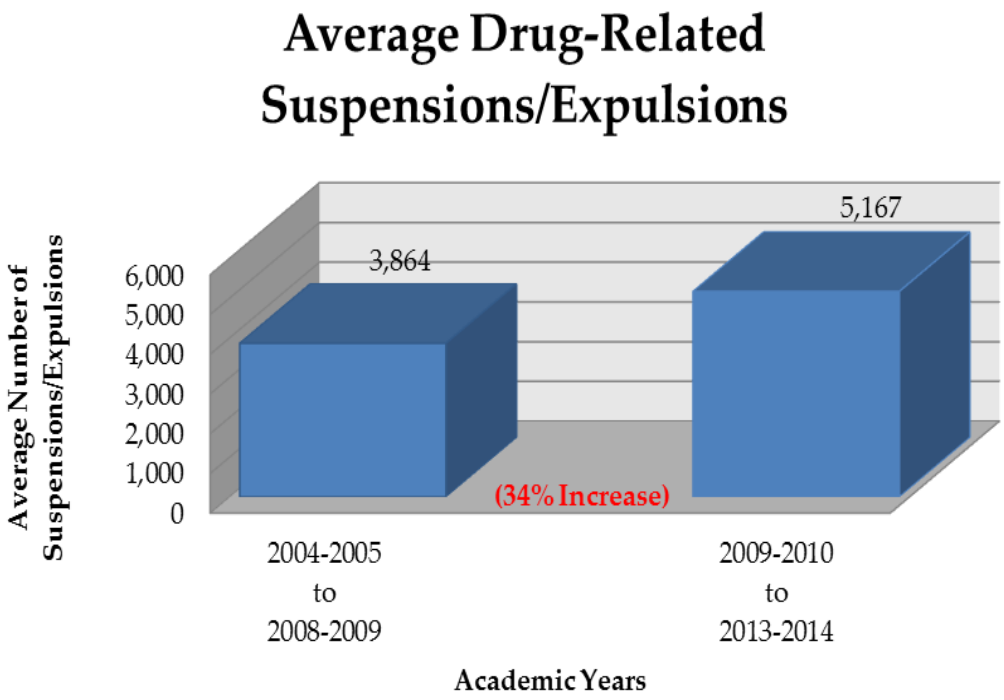
Top 10 (Medical Marijuana States in 2013)	***Bottom 10*** (Non-Medical Marijuana States in 2013)
National Rate = 7.15%	
1. Rhode Island – 12.95%	41. Utah – 5.35%
2. Vermont – 11.34%	42. West Virginia – 5.23%
3. ++Colorado – 11.16%	43. North Dakota – 5.19%
4. ++Washington – 9.81%	44. Oklahoma – 5.16%
5. New Hampshire – 9.62%	45. Mississippi – 5.13%
6. Oregon – 9.59%	46. South Dakota – 5.13%
7. Hawaii – 9.55%	47. Kansas – 5.09%
8. Maine – 9.26%	48. Louisiana – 5.09%
9. New Mexico – 9.22%	49. Kentucky – 5.07%
10. Delaware – 9.15%	50. Alabama – 4.81%

++ Legalized recreational marijuana in 2013

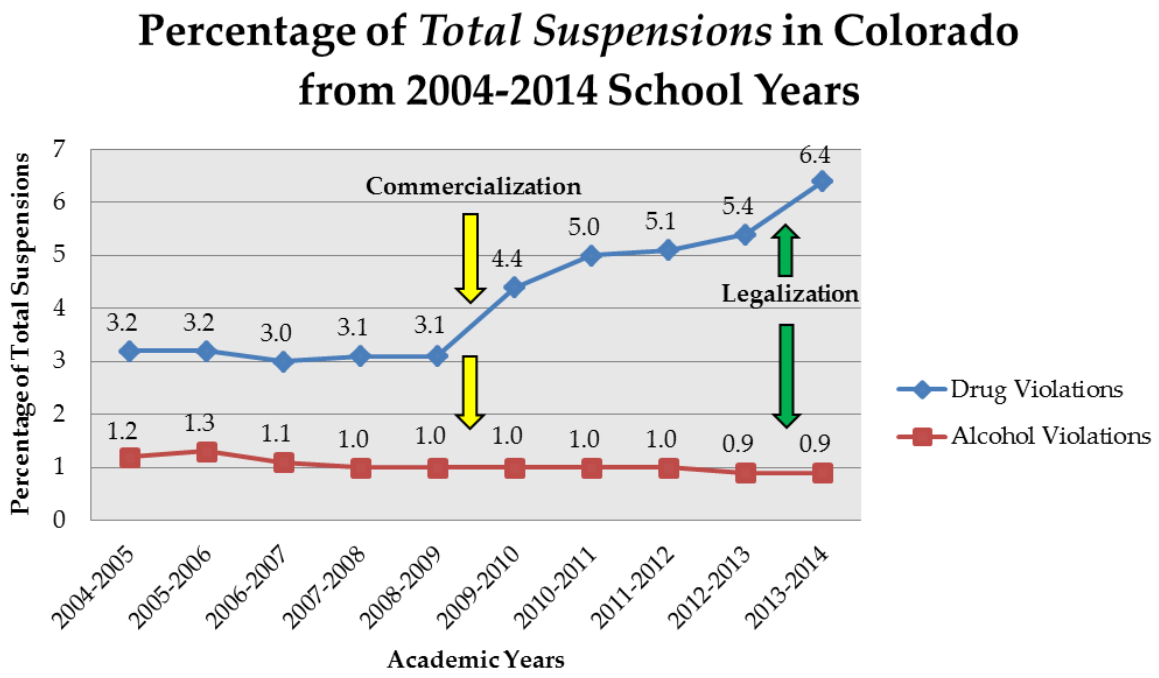


SOURCE: **Colorado Department of Education, 10-Year Trend Data: State Suspension and Expulsion Incident Rates and Reasons**

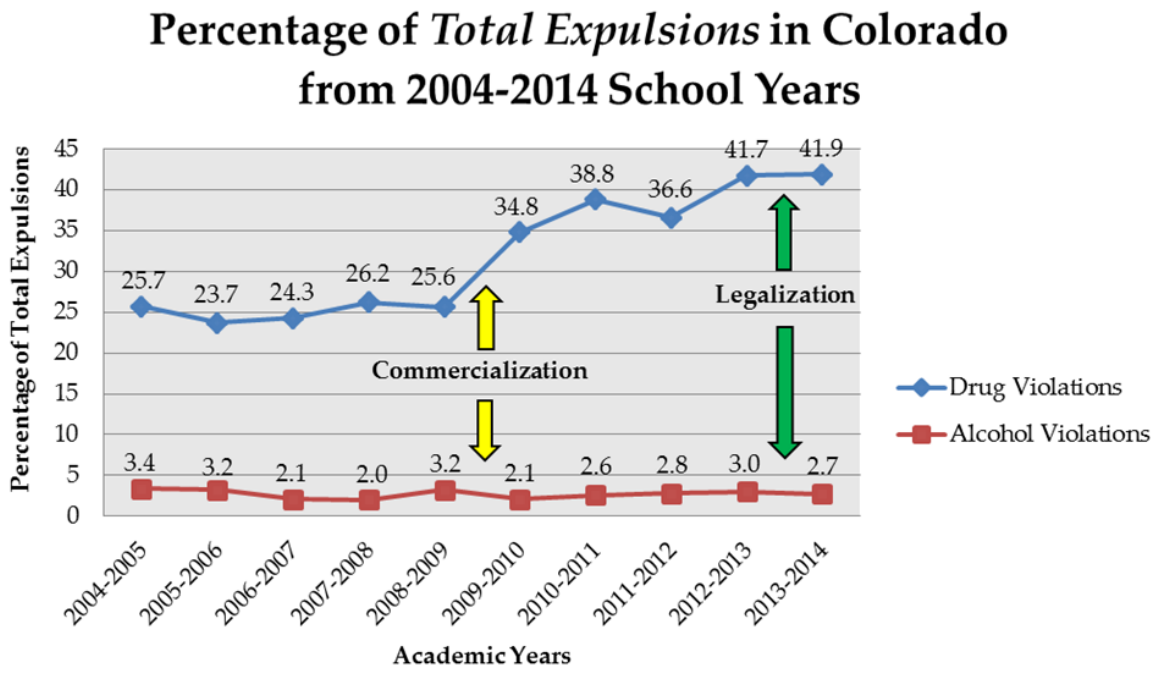
NOTE: THE COLORADO DEPARTMENT OF EDUCATION INCLUDED ALL DRUGS IN THIS DATASET. HOWEVER, DEPARTMENT OFFICIALS REPORTED THAT MOST DRUG-RELATED SUSPENSIONS/EXPULSIONS REPORTED SINCE THE 2008/2009 ACADEMIC YEAR HAVE BEEN RELATED TO MARIJUANA.[2]



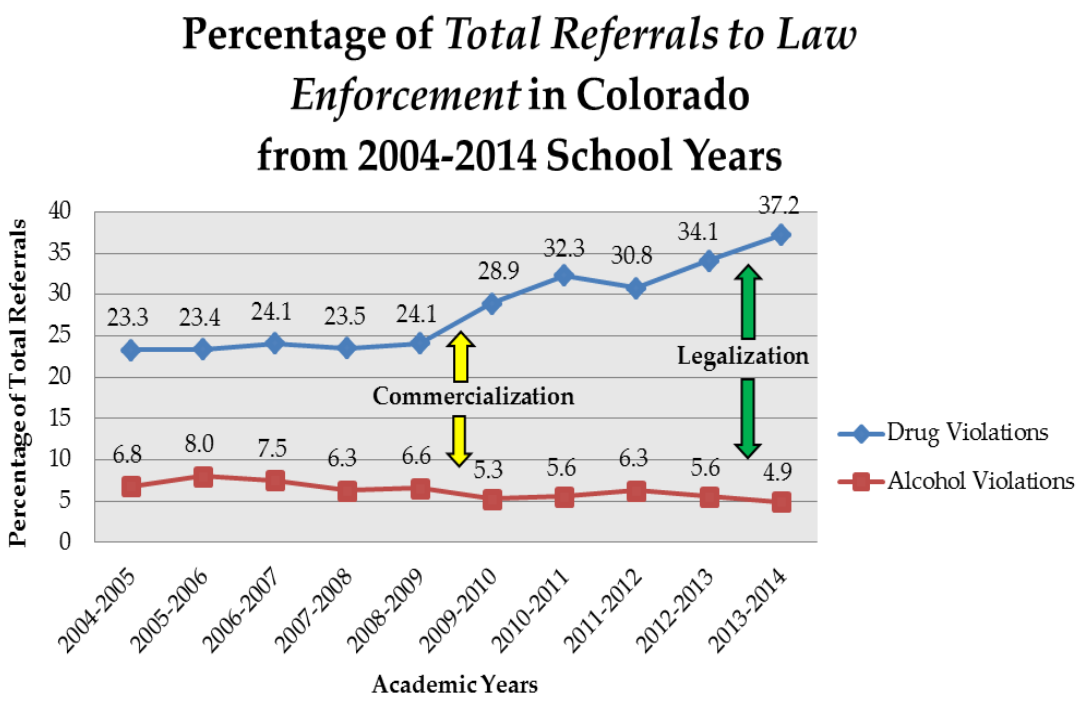
SOURCE: Colorado Department of Education, 10-Year Trend Data: State Suspension and Expulsion Incident Rates and Reasons



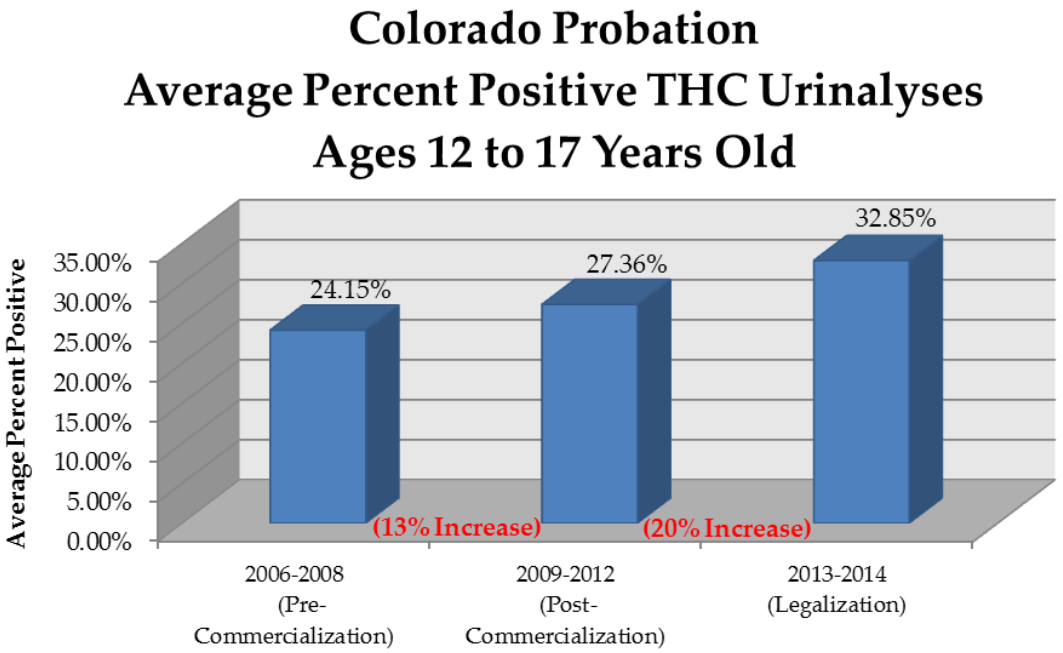
SOURCE: Colorado Department of Education, 10-Year Trend Data: State Suspension and Expulsion Incident Rates and Reasons



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



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



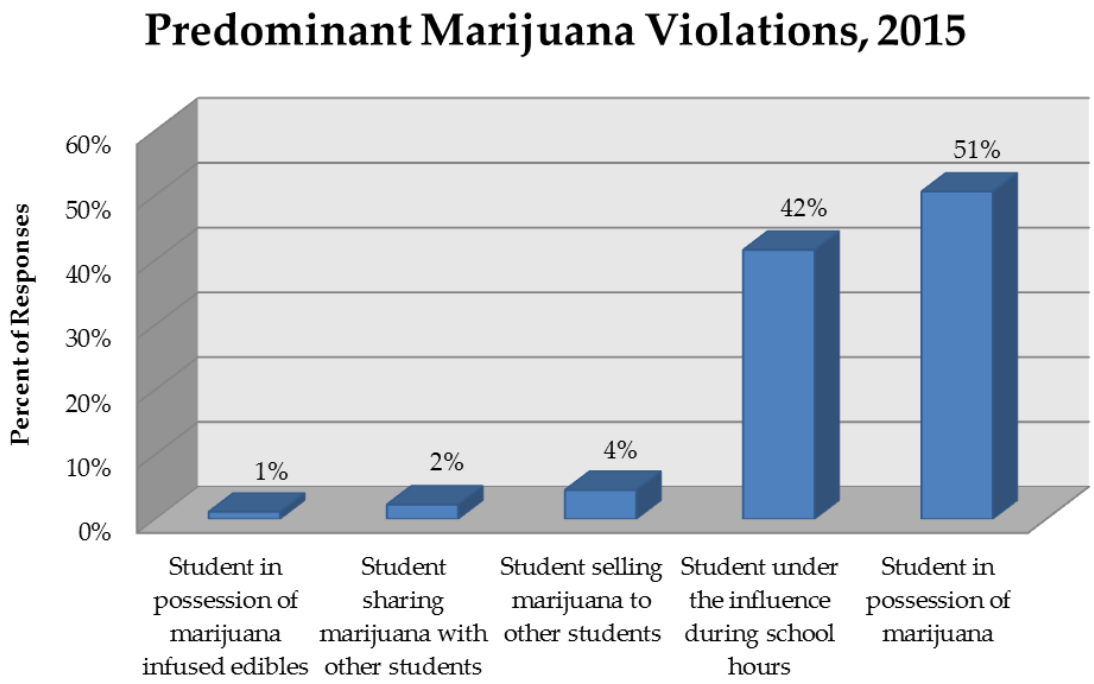
SOURCE: **State of Colorado Judicial Branch, Division of Probation Services**

Colorado School Resource Officer Survey[3]

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:

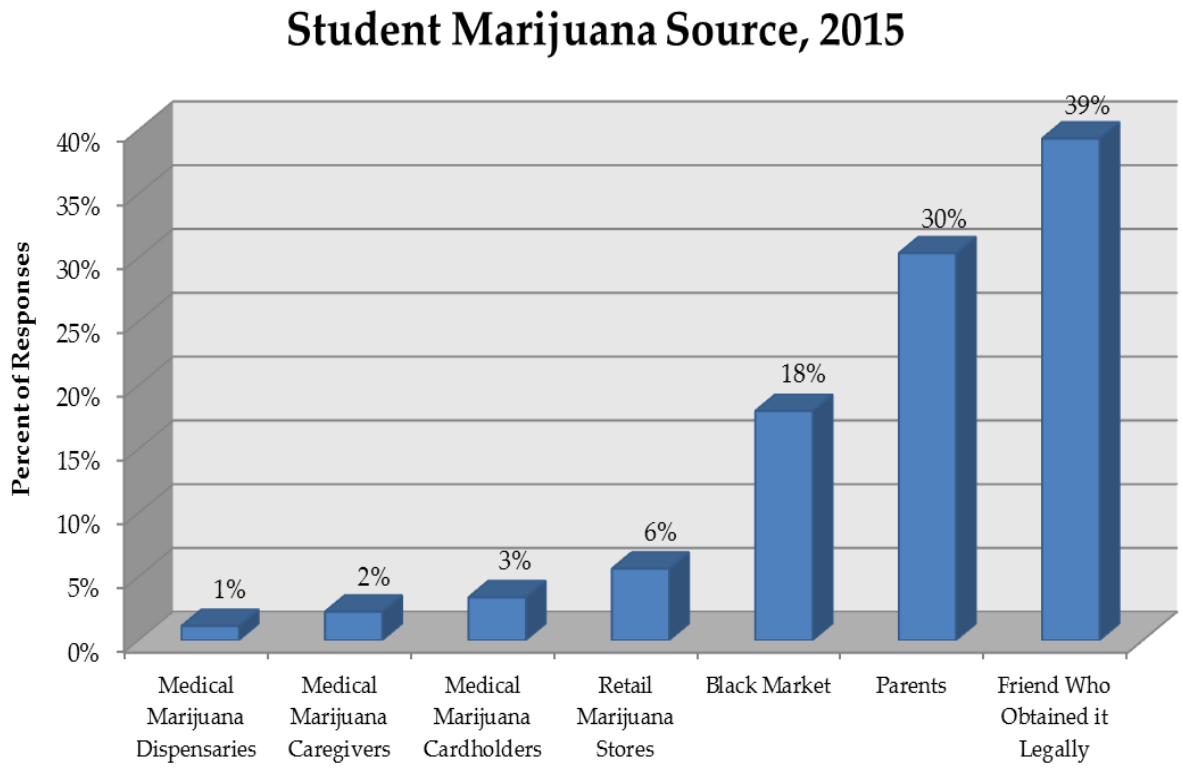
- Since the legalization of recreational marijuana, what impact has there been on marijuana-related incidents at your school?
  - 90 percent reported an increase in incidents
  - 9 percent reported no change in incidents
  - 1 percent reported a slight decrease in incidents

- 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



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



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 were (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."

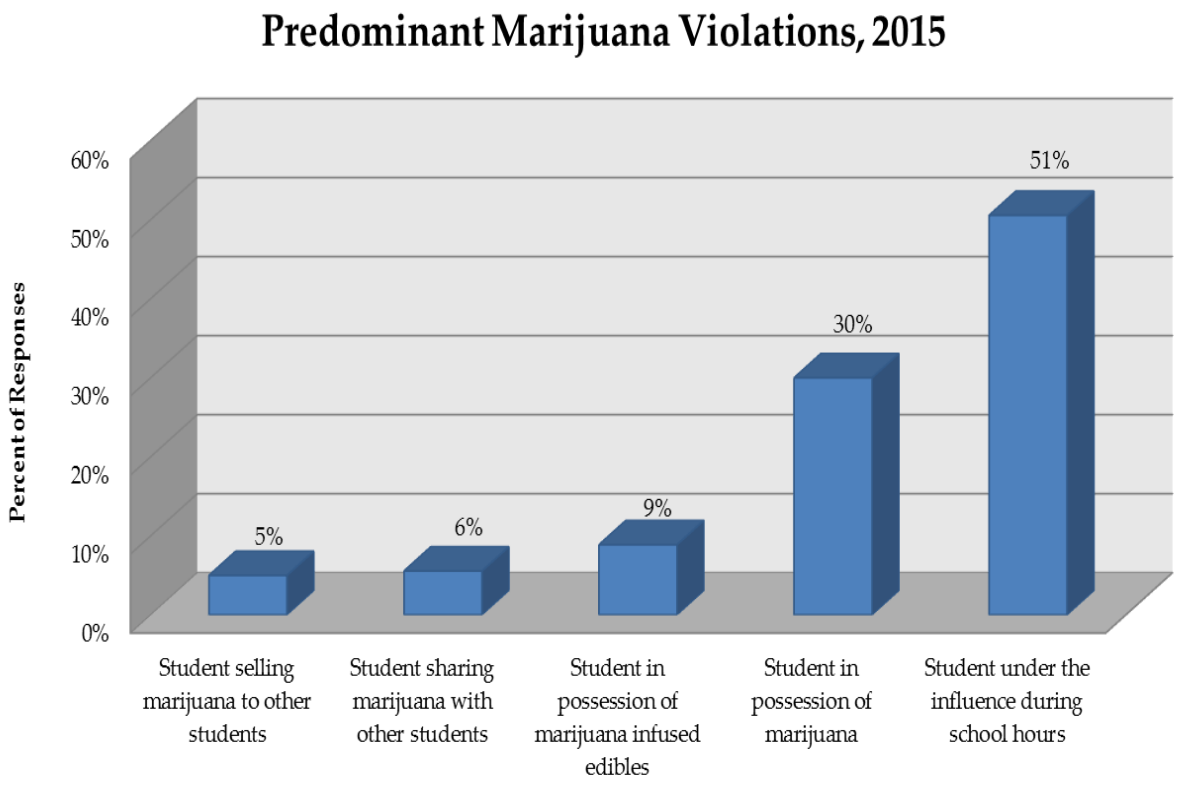
School Counselor Survey[4]

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:

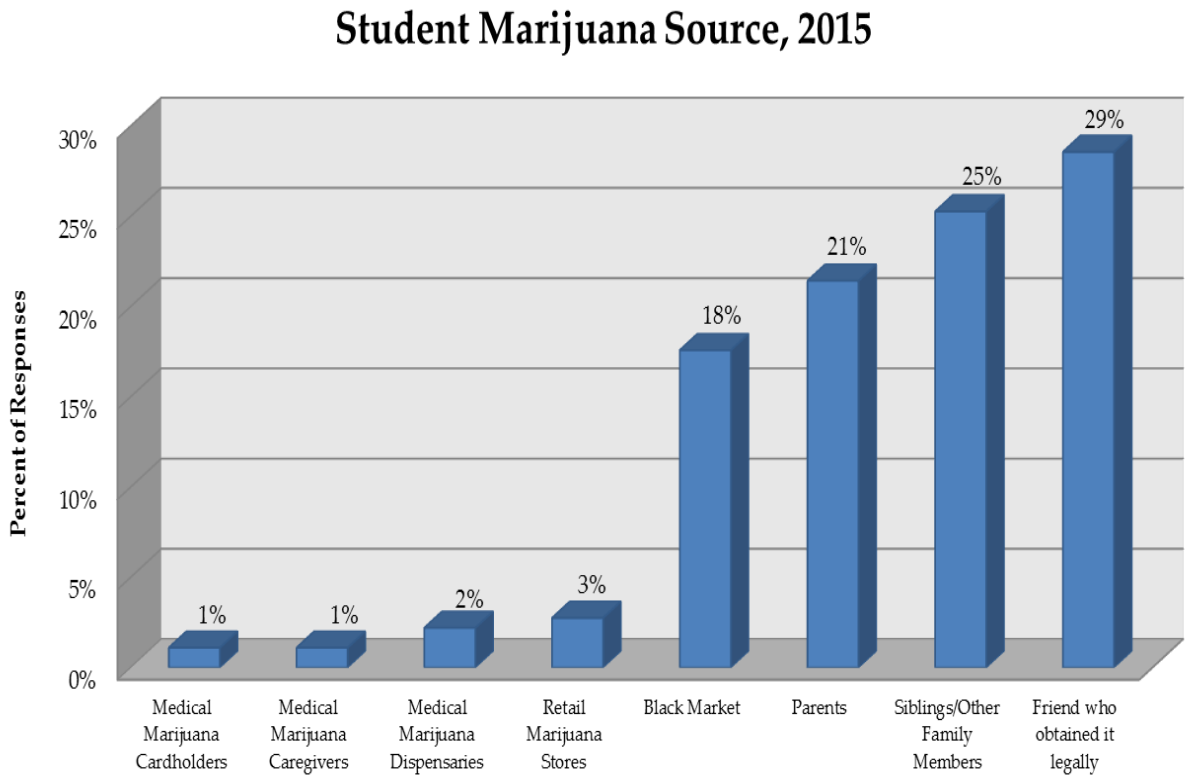
- Since the legalization of recreational marijuana, what impact has there been on marijuana-related incidents at your school?
  - 69 percent reported an increase in incidents
  - 30 percent reported no change in incidents
  - 2 percent reported a slight decrease in incidents

- 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



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



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:

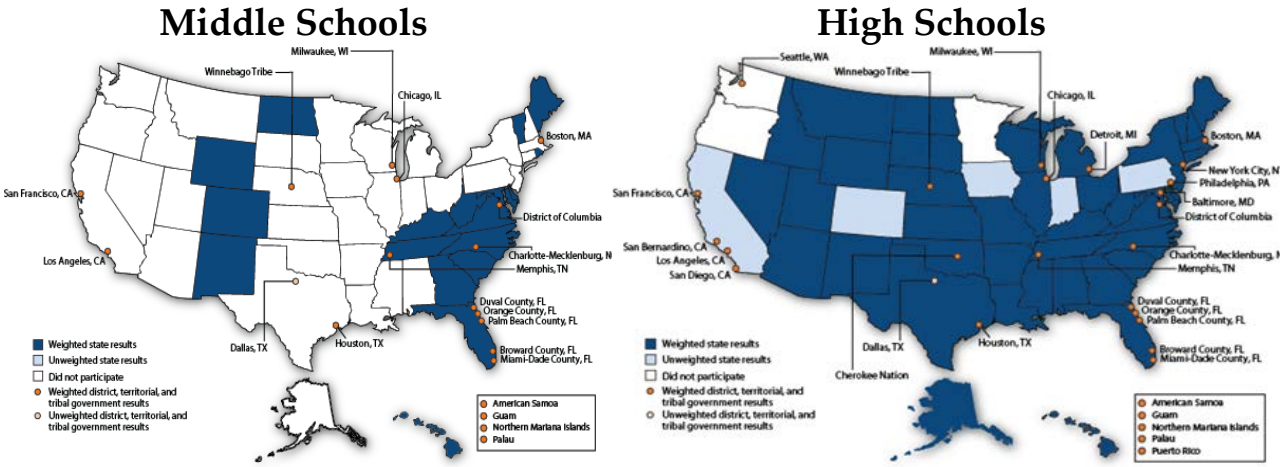
- "I would like to just offer that we need policy that allows for more use of drug dogs and not having to forewarn students or parents when these dogs will be present. Students and especially dealers, the ones we need to catch, are very vigilant in making adjustments when these resources are used."

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, YRBSS 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 Condreay 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 Associati*on 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-Gazett*e 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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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.

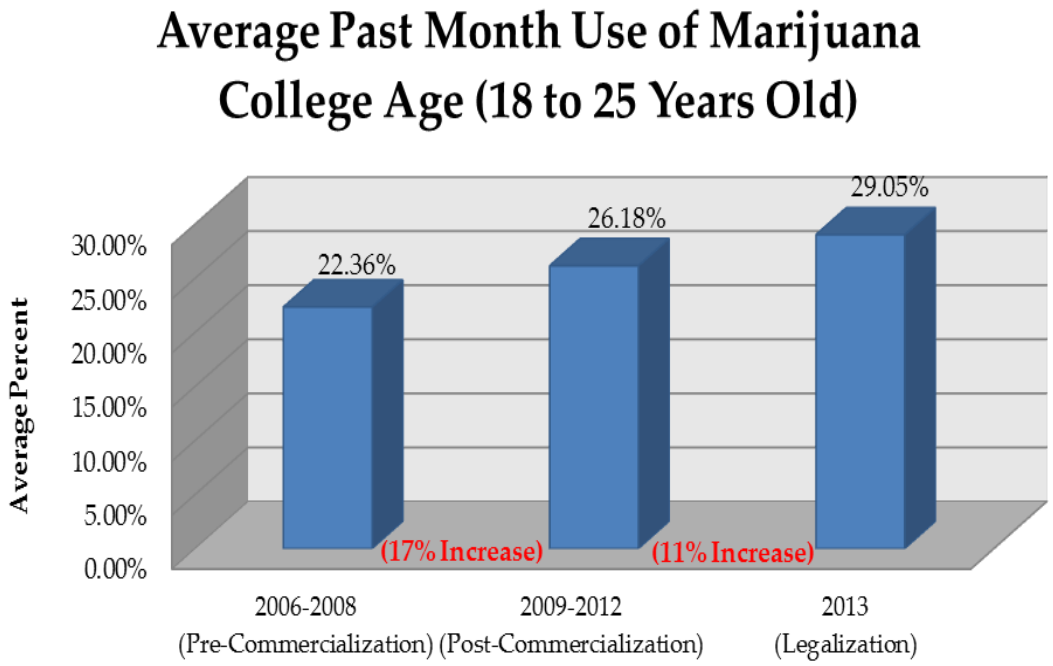
- The top ten states for the highest rate of current marijuana use were all medical-marijuana states.
  - College age rate (18 to 25 years old): Top ten states average of **26.31 percent** compared to national average of **18.91 percent**
  - Adult rate (26+ years old): Top ten states average of **9.28 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.

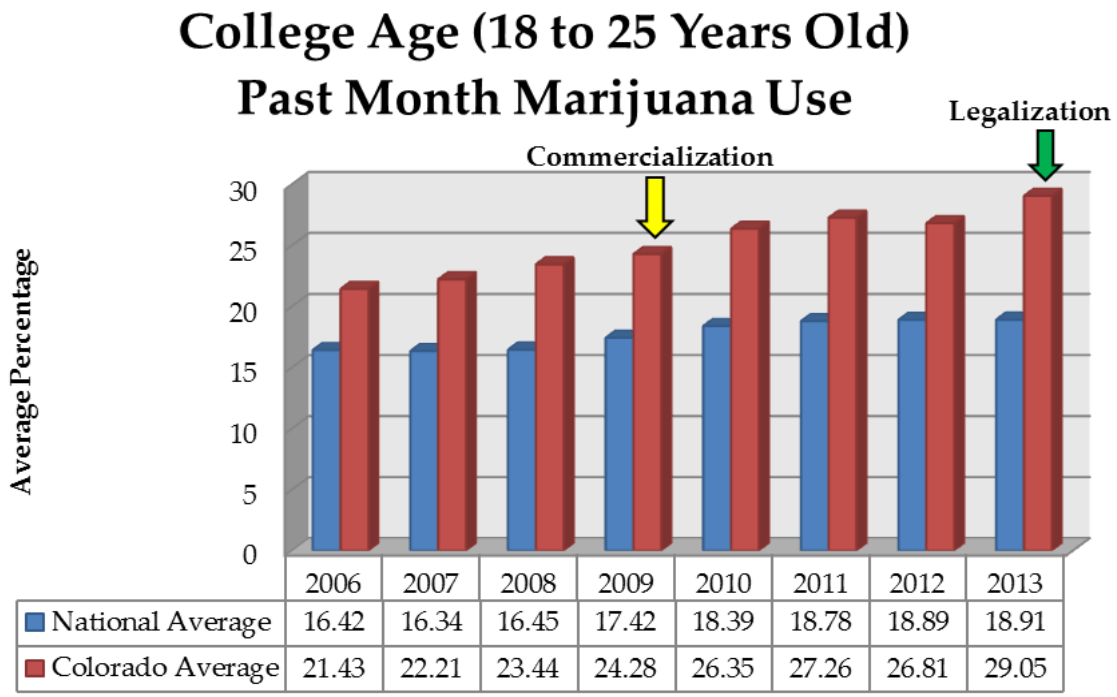
NOTE: SAMSHA RELEASED NATIONAL DATA ON DRUG USE FOR 2014 IN SEPTEMBER 2015. HOWEVER, STATE DRUG USE DATA FOR 2014 WILL NOT BE AVAILABLE UNTIL TOWARD THE END OF THE YEAR 2015.

Data

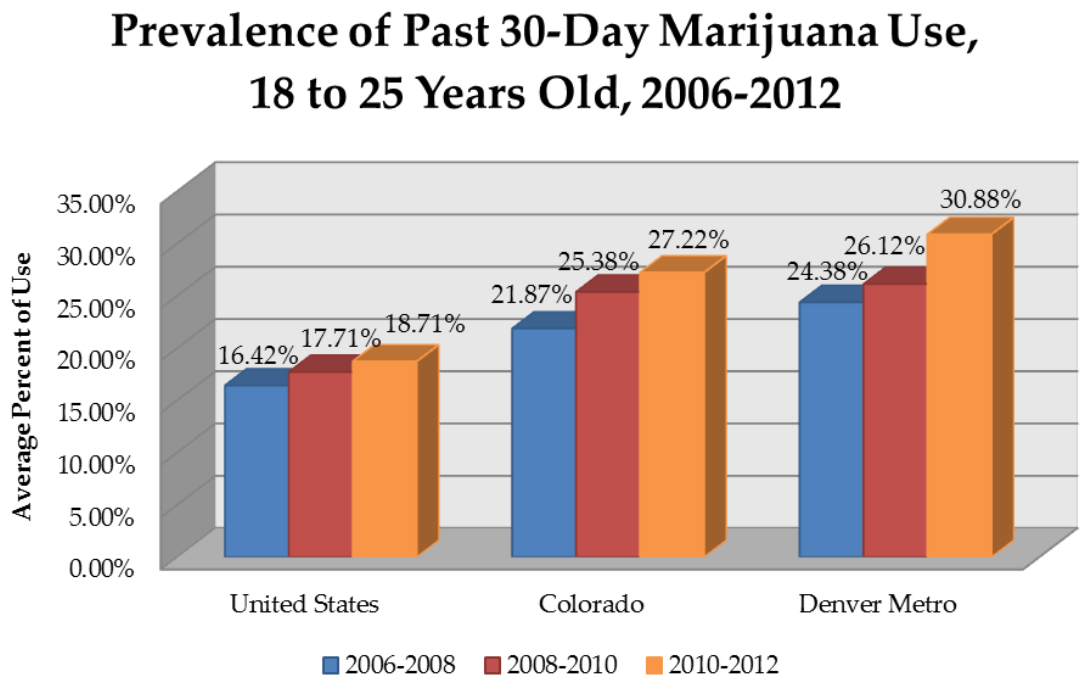
College Age (18 to 25 Years Old)



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



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



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**

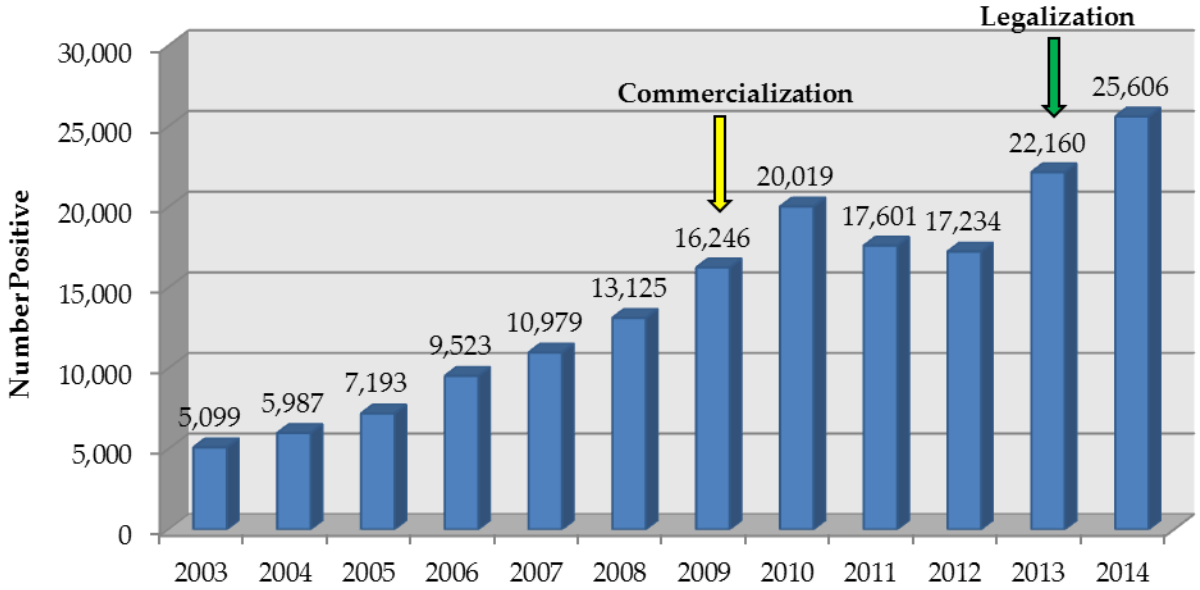
States for Past Month Marijuana Use College Age (18 to 25 Years Old), 2013[1]

Top 10 (Medical Marijuana States in 2013)	***Bottom 10*** (Non-Medical Marijuana States in 2013)
1. Rhode Island – 29.79%	41. Oklahoma – 14.43%
2. ++Colorado – 29.05%	42. Arkansas – 14.28%
3. Vermont – 28.74%	43. Wyoming – 14.12%
4. New Hampshire – 27.77%	44. Idaho – 14.05%
5. Massachusetts – 26.64%	45. North Dakota – 14.04%
6. ++Washington – 25.56%	46. Alabama – 13.93%
7. Maine – 24.71%	47. Texas – 13.88%
8. Connecticut – 24.41%	48. South Dakota – 12.68%
9. Oregon – 23.39%	49. Kansas – 12.23%
10. Montana – 23.04%	50. Utah – 10.91%

National Rate = 18.91%

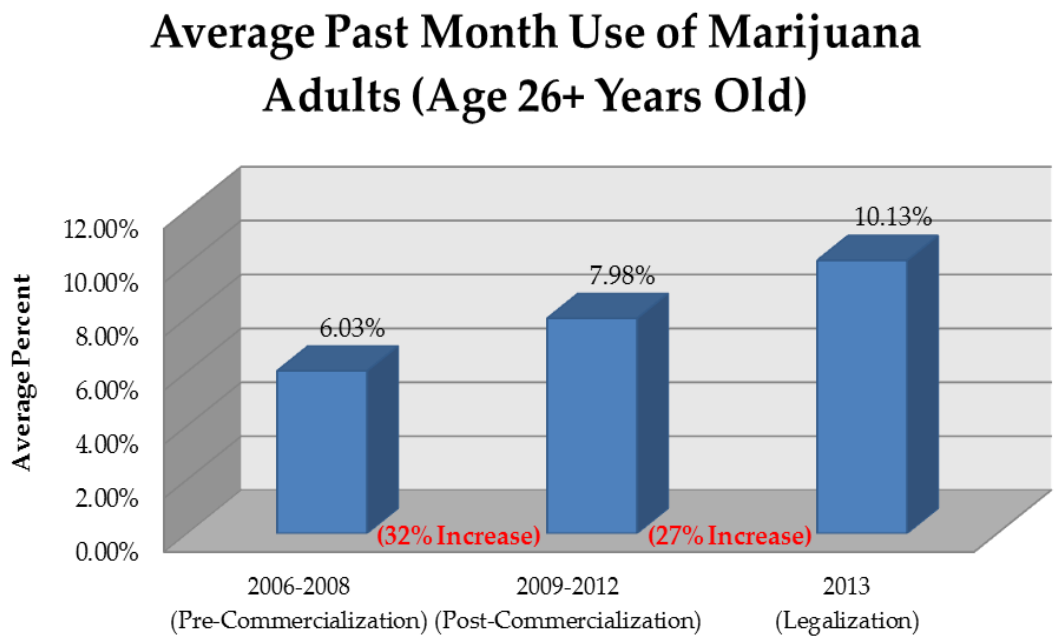
++ Legalized recreational marijuana in 2013

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

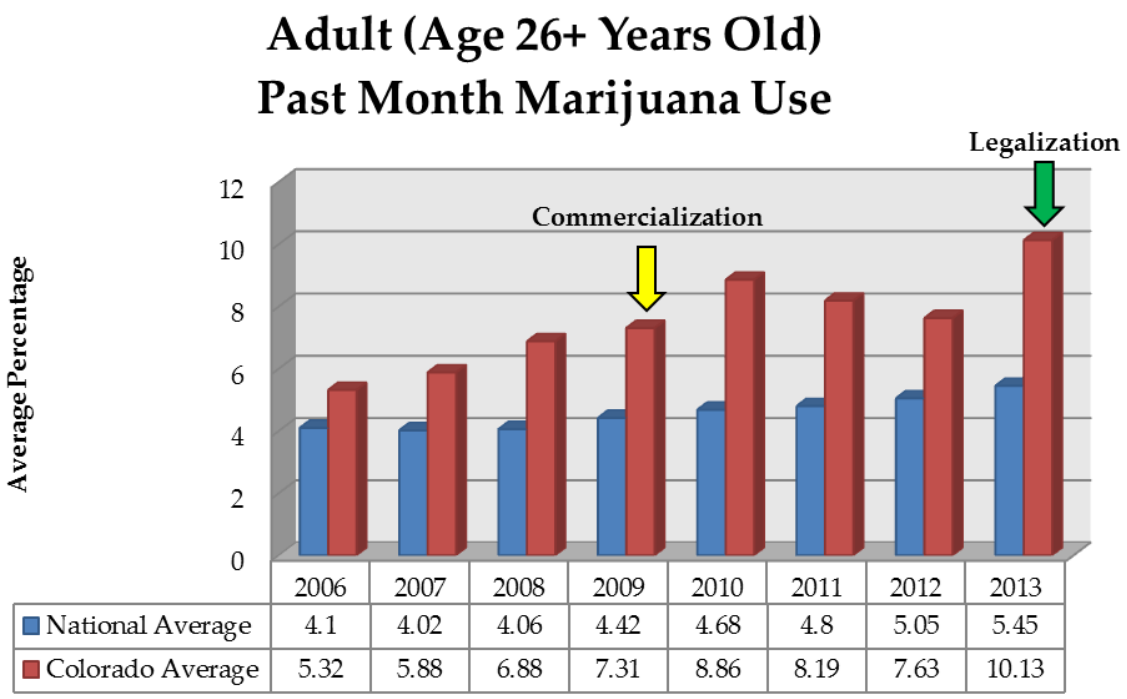


SOURCE: State of Colorado Judicial Branch, Division of Probation Services

Adults (26+ Years Old)

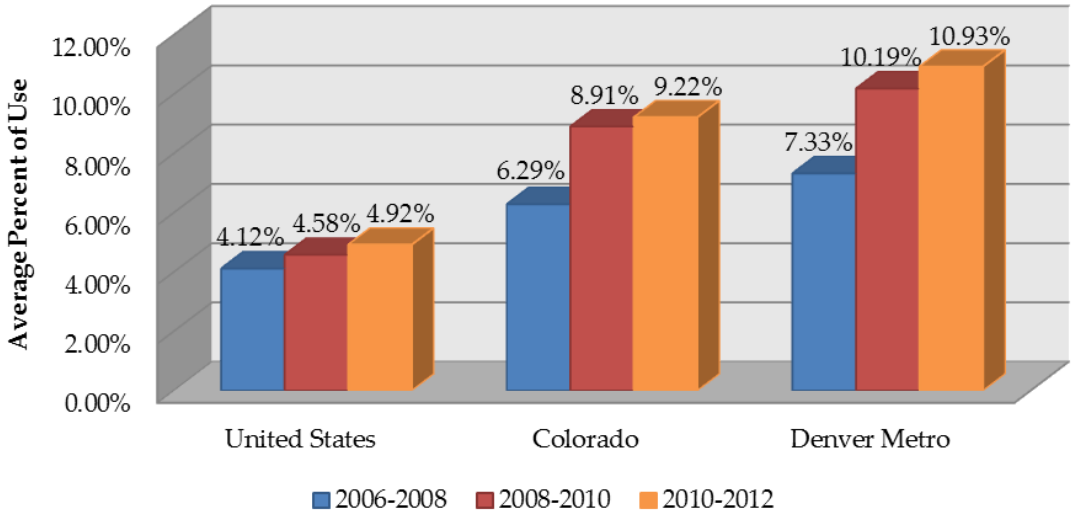


SOURCE: SAMHSA.gov, National Survey on Drug Use and Health, 2006-2013



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

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

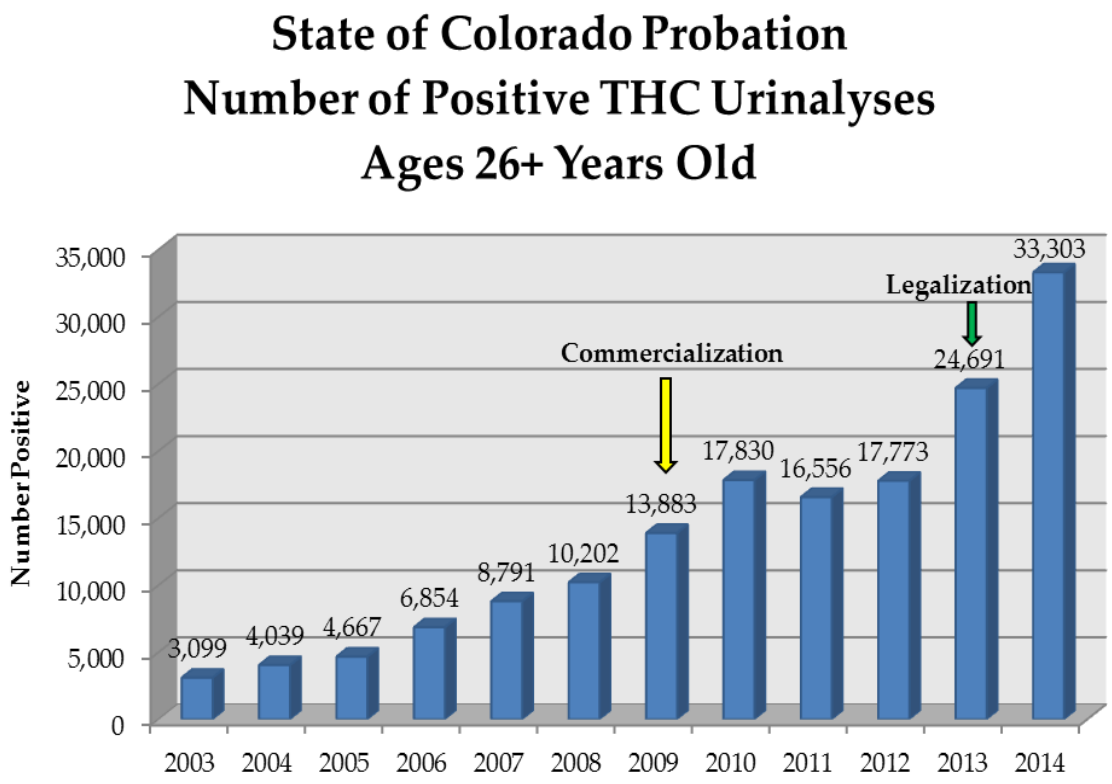


SOURCE: **Denver Epidemiology Workgroup (DEWG), Denver Office of Drug Strategy, October 29, 2014 and the National Survey of Drug Use and Health, Sub-state Estimates 2006-2012**

States for Past Month Marijuana Use Adults 26 Years Old and Older, 2013[1]

Top 10 (Medical Marijuana States in 2013)	***Bottom 10*** (Non-Medical Marijuana States in 2013)
National Rate = 5.45%	
1. Rhode Island – 11.18%	41. South Dakota – 3.67%
2. Alaska – 10.60%	42. **New Jersey – 3.64%
3. ++Washington – 10.39%	43. Texas – 3.62%
4. Oregon – 10.37%	44. West Virginia –3.57%
5. ++Colorado – 10.13%	45. Kentucky – 3.53%
6. Vermont – 8.88%	46. Alabama – 3.41%
7. Montana – 8.44%	47. Louisiana – 3.33%
8. Maine – 7.95%	48. Mississippi – 3.26%
9. Michigan – 7.64%	49. North Dakota – 3.26%
10. New Mexico – 7.23%	50. Kansas – 2.90%

++ Legalized recreational marijuana in 2013
**** First dispensary opened in December 2012**



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

Colorado Adult Marijuana Use Demographics[2]

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

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[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

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[8] Sophie Jane Evans, Dailymail.com, January 18, 2015, "Police called to comedian Ralphie 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

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[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.

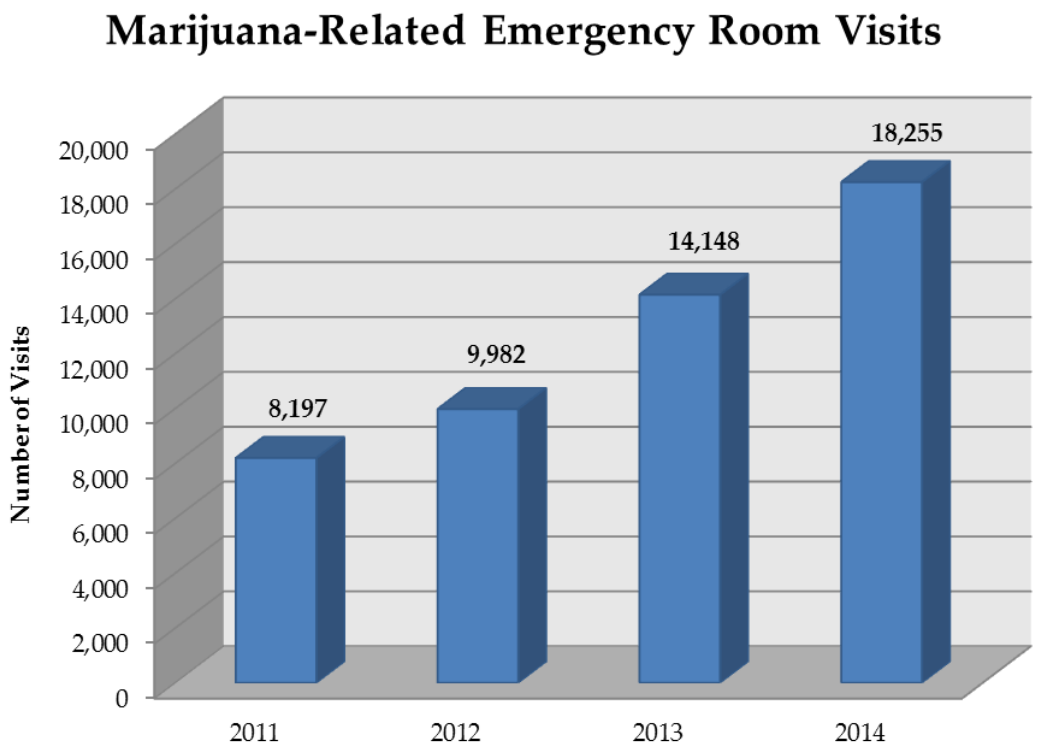
- In the three years after medical marijuana was commercialized, compared to the three years prior, there was a **46 percent** increase in hospitalization related to marijuana.

- 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.

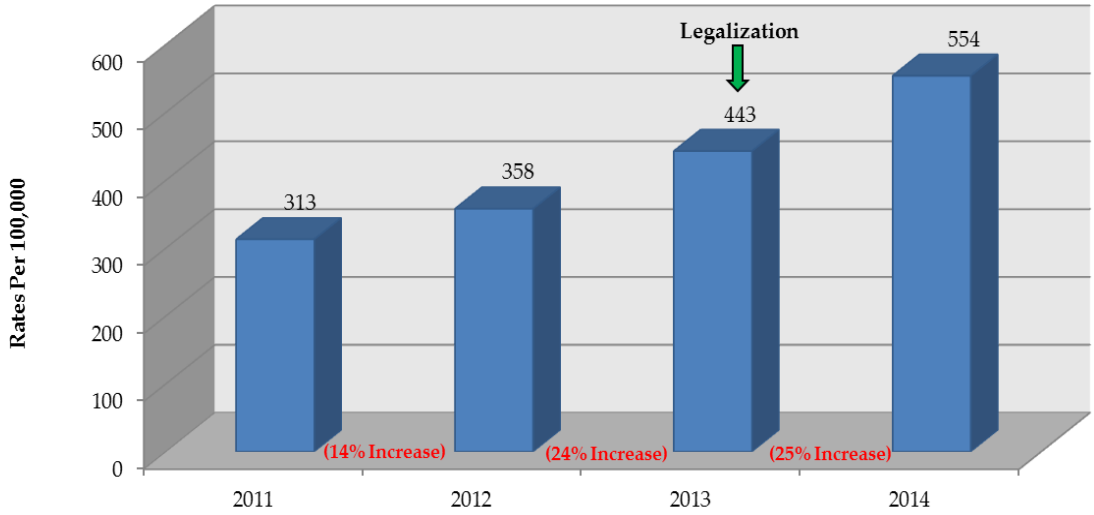
Data



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*

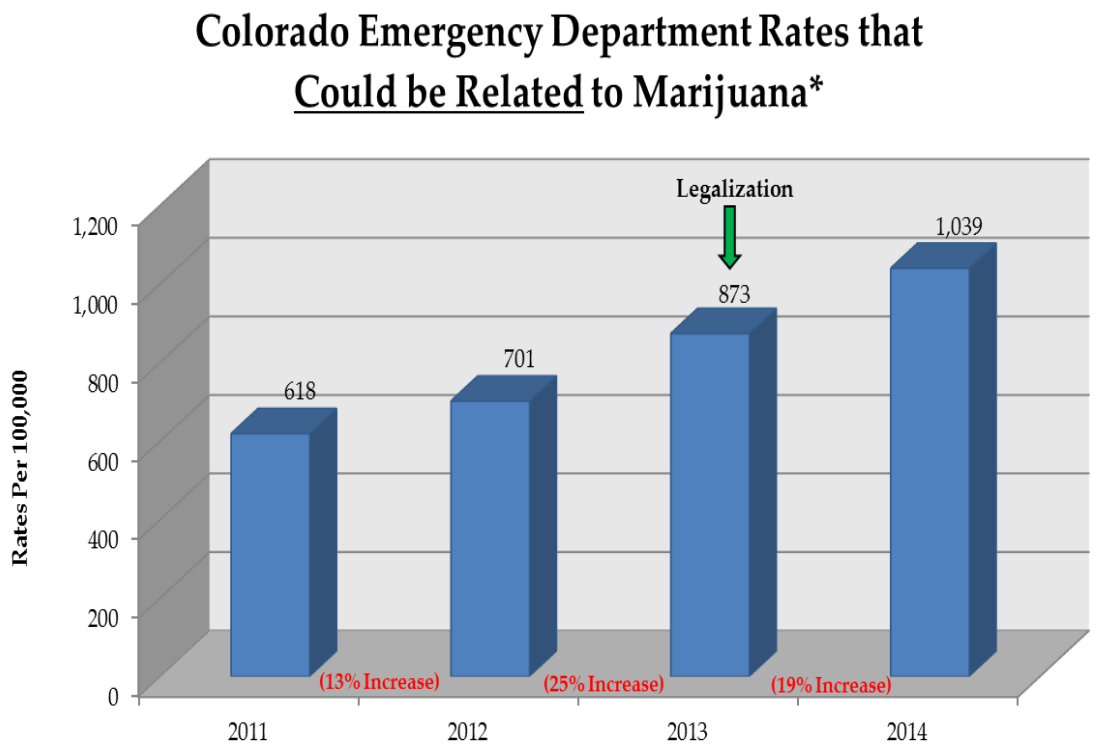


*Rates of Emergency Department (ED) Visits with Possible Marijuana Exposures, Diagnoses, or Billing Codes in the *First Three Diagnosis Codes* per 100,000 ED Visits by Year in Colorado

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.

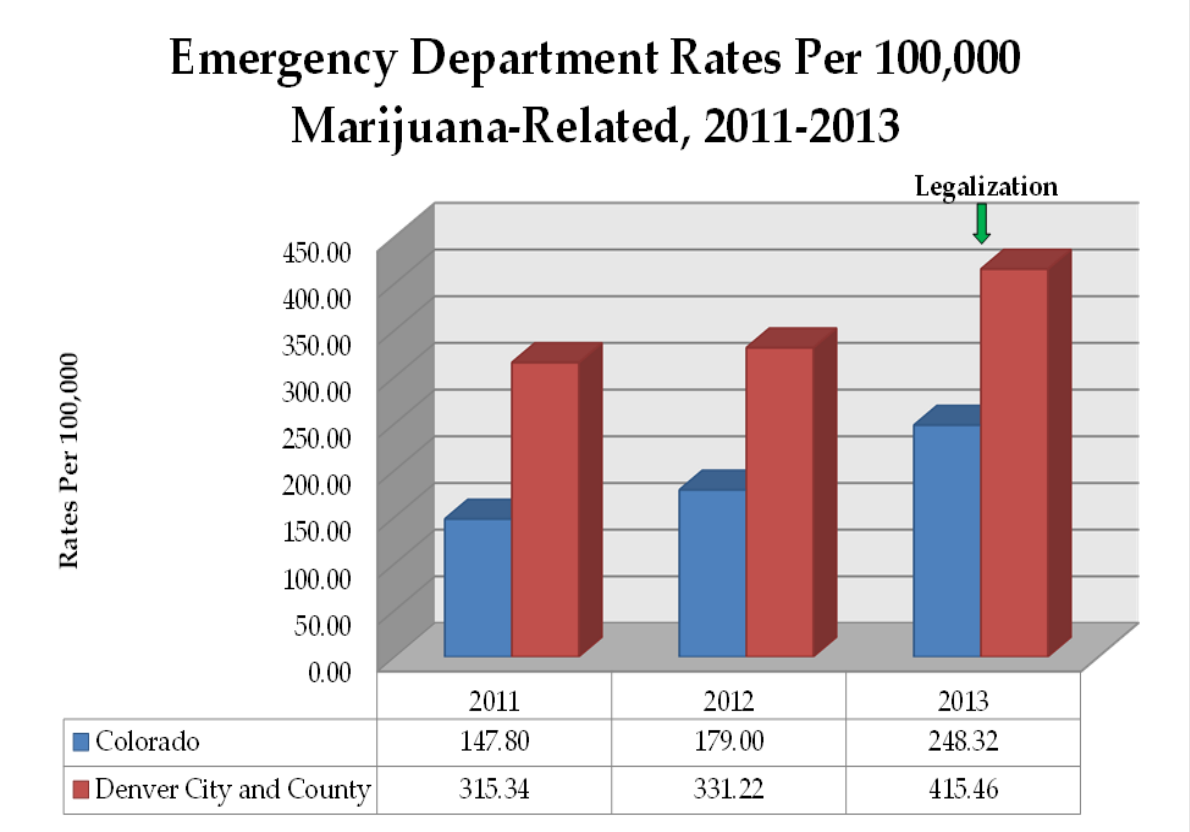


*Rates of Emergency Department (ED) Visits with Possible Marijuana Exposures, Diagnoses, or Billing Codes per

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***

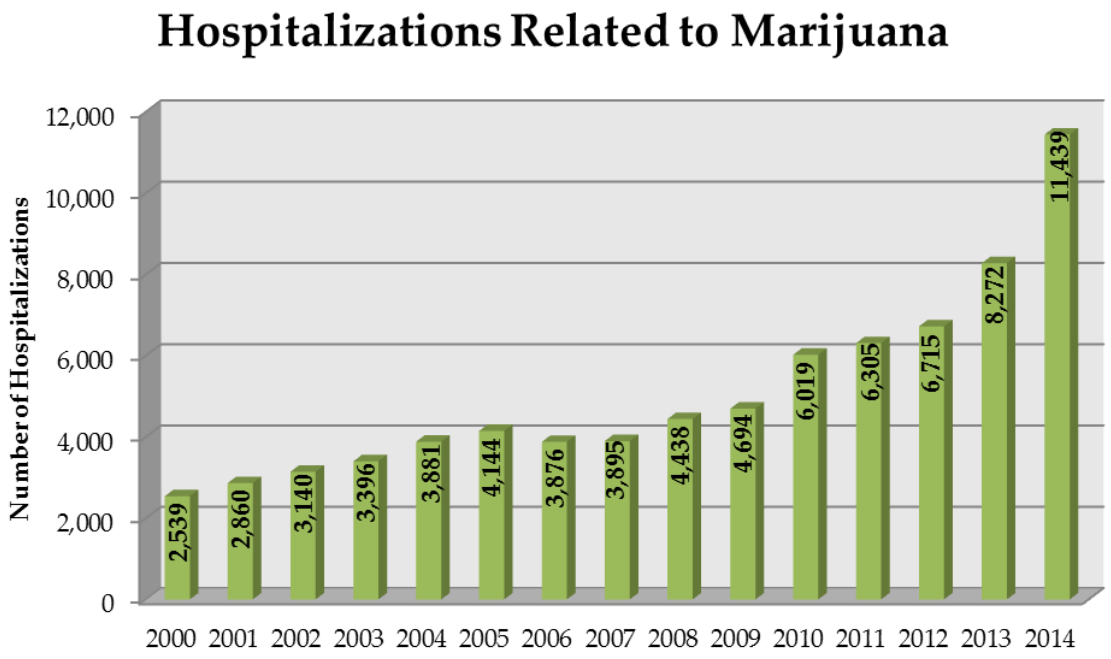
NOTE: **DATA NOT AVAILABLE PRE-2011.**



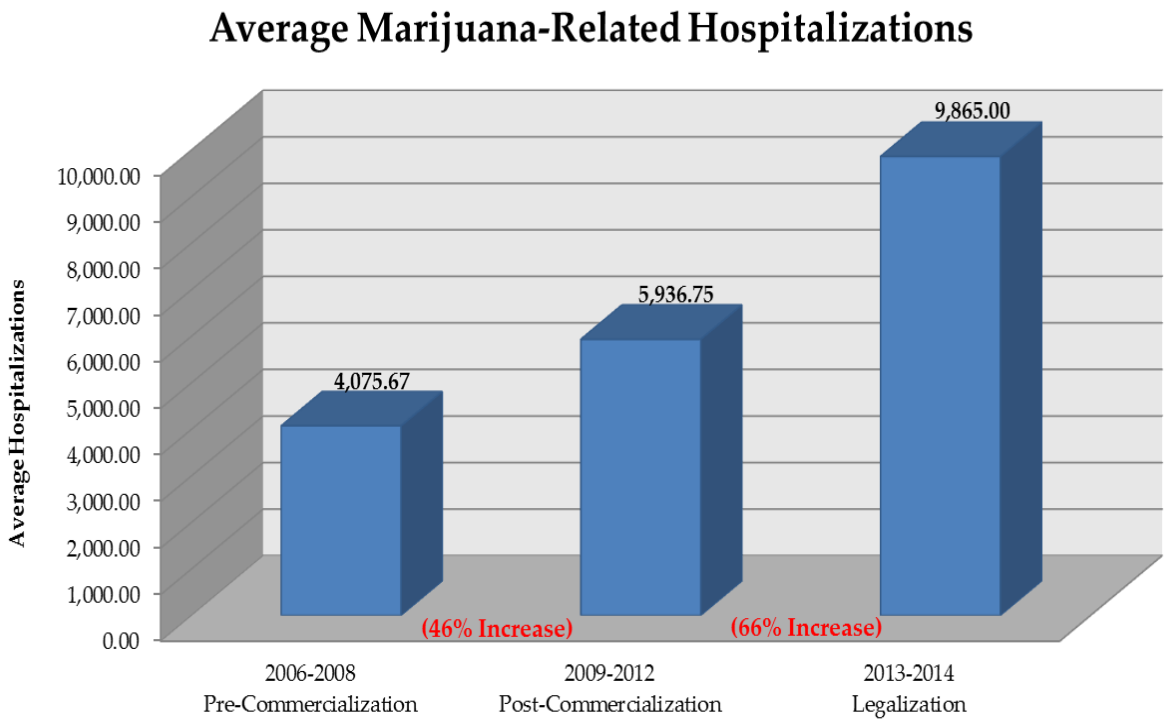
SOURCE: Denver Office of Drug Strategy, The Denver Drug Strategy Commission, *Proceedings of the Denver Epidemiology Work Group (DEWG)*, October 29, 2014

- **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.

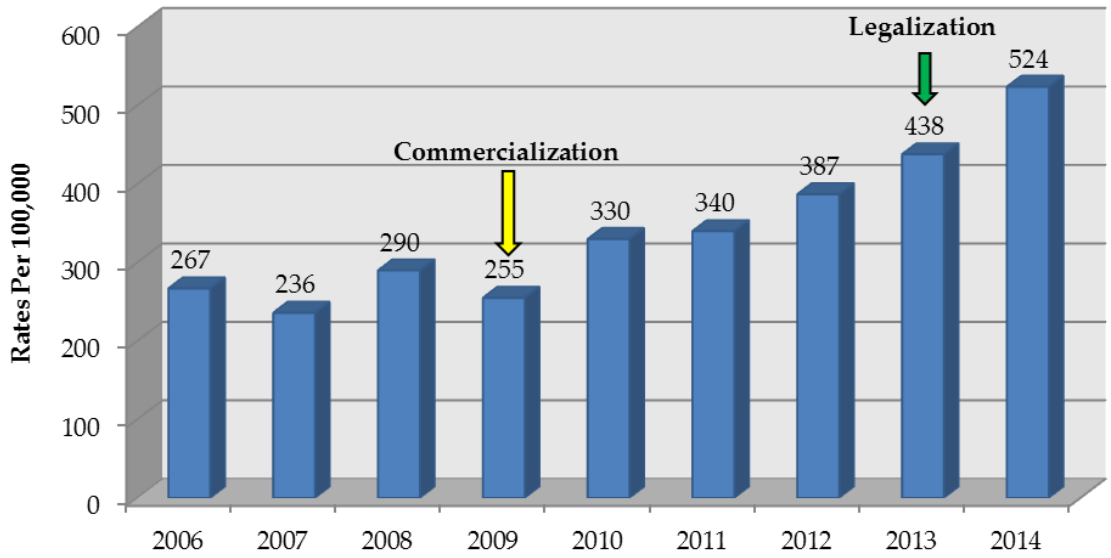


SOURCE: **Colorado Hospital Association, Hospital Discharge Dataset. Statistics prepared by the Health Statistics and Evaluation Branch, Colorado Department of Public Health and Environment**



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*

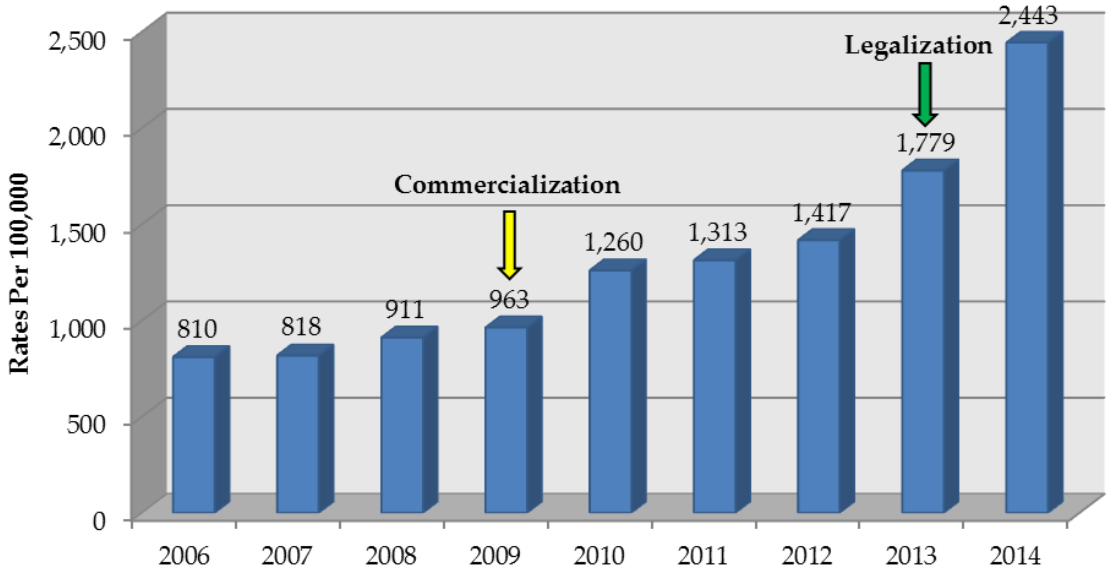


*Rates of Hospitalization (HD) Visits with Possible Marijuana Exposures, Diagnoses, or Billing Codes in the *First Three Diagnosis Codes* per 100,000 HD Visits by Year in Colorado

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*

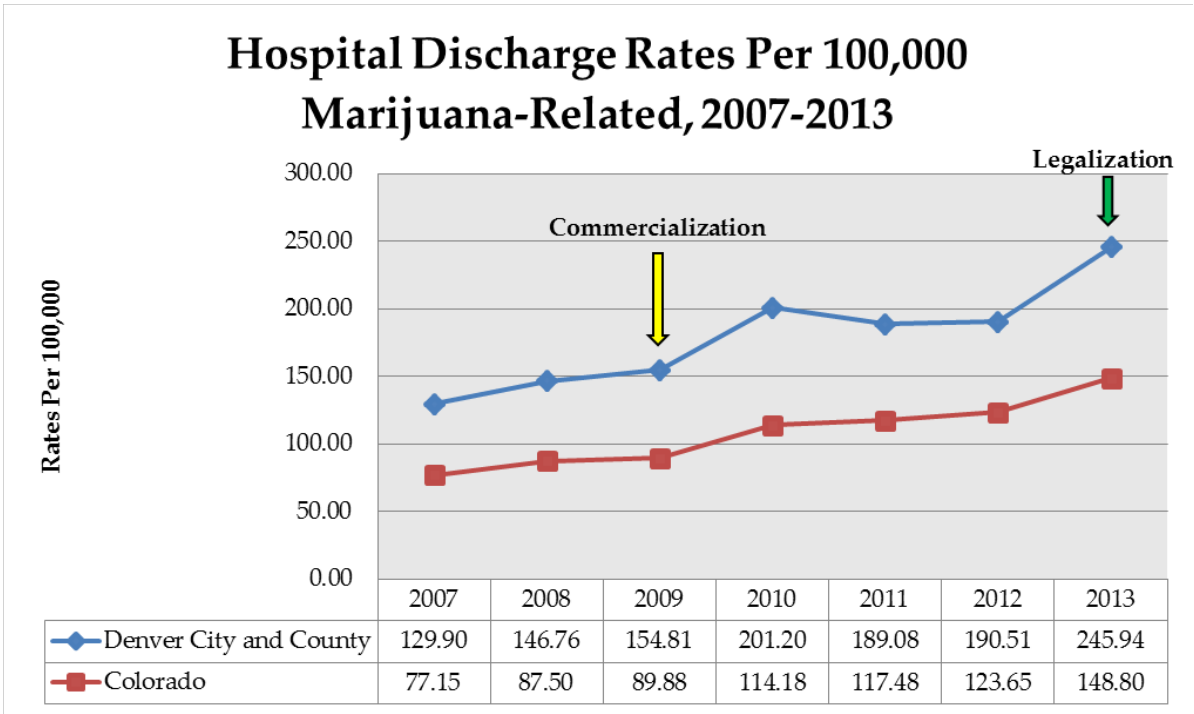
Colorado Hospitalization Rates that Could be Related to Marijuana*



*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*

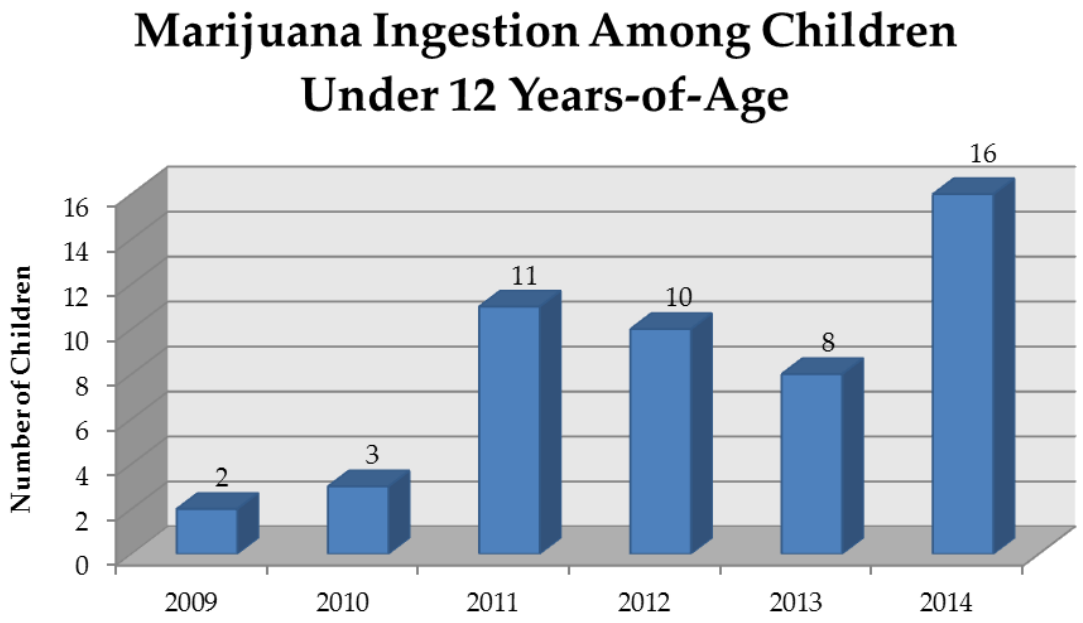
NOTE: "POSSIBLE MARIJUANA EXPOSURES, DIAGNOSES, OR BILLING CODES IN ANY OF LISTED DIAGNOSIS CODES: THESE DATA WERE CHOSEN TO REPRESENT THE HD AND ED VISITS WHERE MARIJUANA COULD BE A CAUSAL, CONTRIBUTING, OR COEXISTING FACTOR NOTED BY THE PHYSICIAN DURING THE HD OR ED VISIT. FOR THESE DATA, MARIJUANA 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.



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 J*ournal 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, Plops 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 perce**nt increase from prior years (2001 – 2008) average.

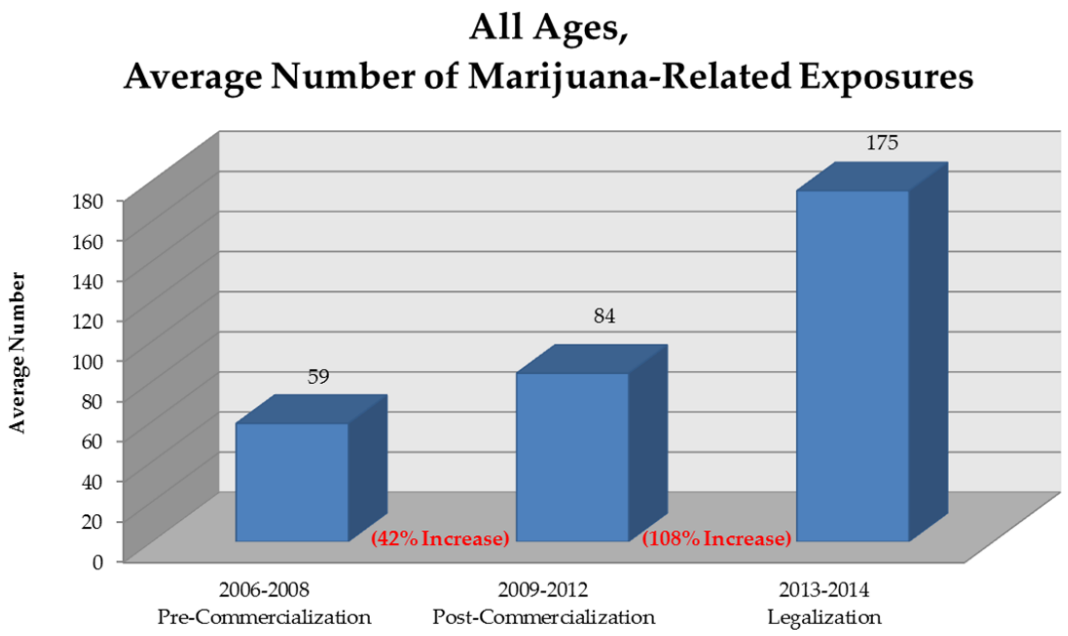
- All ages Colorado marijuana-related exposures:
  - During the years 2013 – 2014, the average number of all ages exposures was **175** per year.
    - Exposures for all ages **doubled** in Colorado after legalization.

- 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.

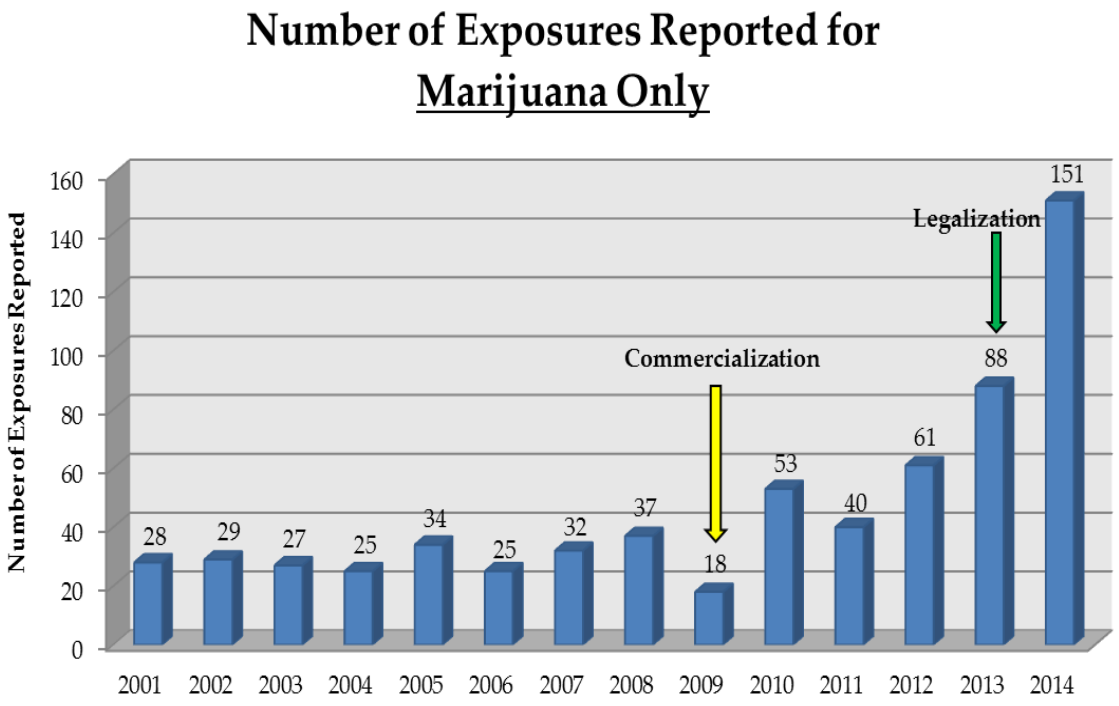
- Young children (ages 0 to 5 years old) marijuana-related exposures in Colorado:
  - During the years 2013 – 2014, the average number of children exposed was **31** per year.
    - This is a **138 percent** increase from the medical marijuana commercialization years (2009 – 2012) average which was a **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**

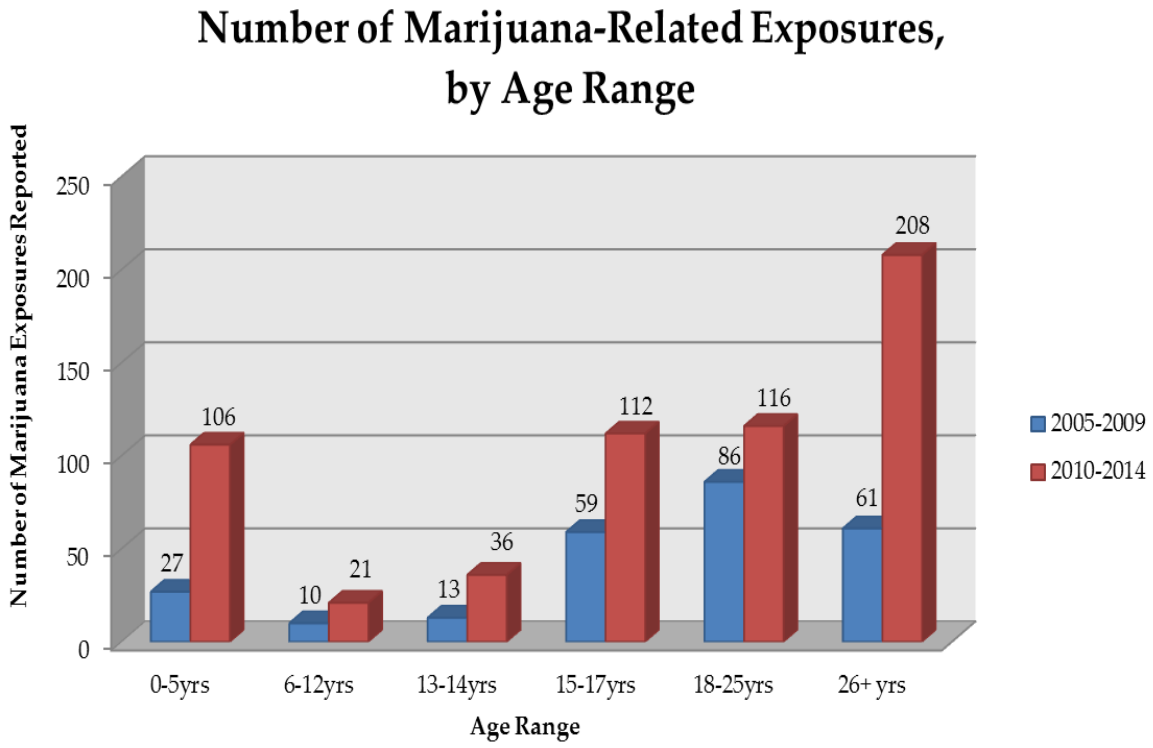
Data



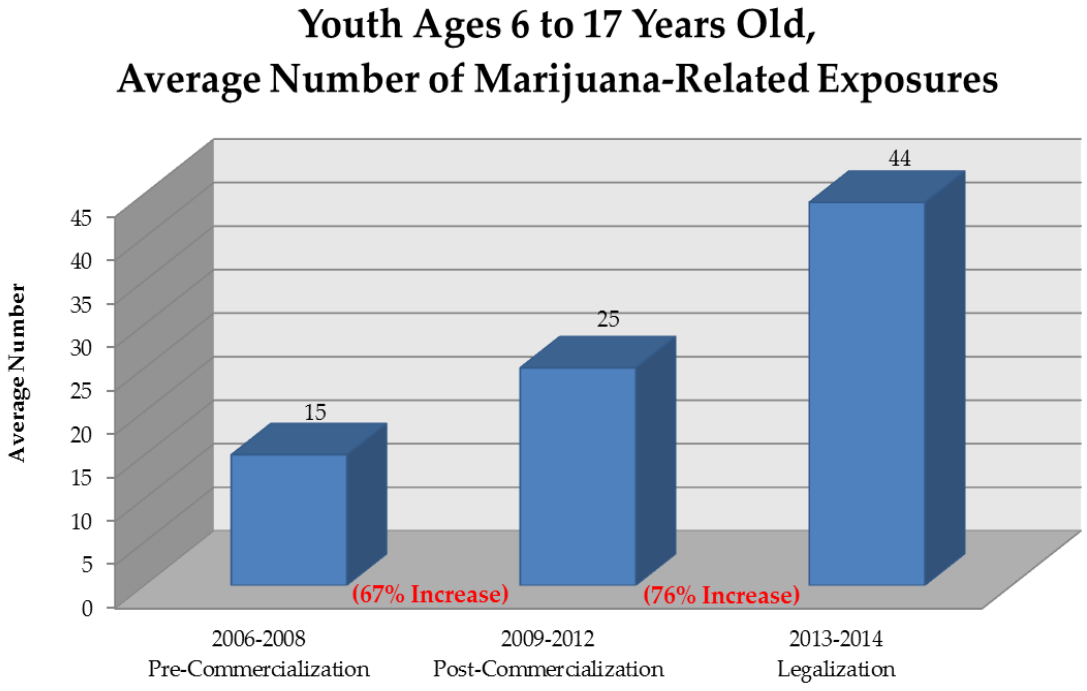
SOURCE: Rocky Mountain Poison and Drug Center



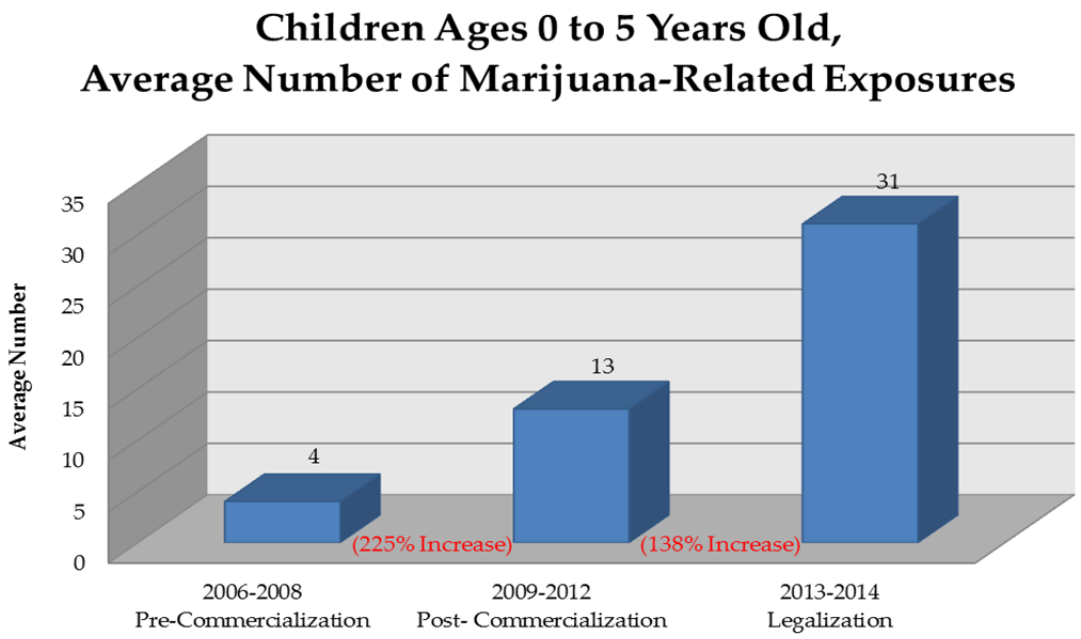
SOURCE: Colorado Department of Public Health and Environment, *Monitoring Health Concerns Related to Marijuana in Colorado: 2014* via Rocky Mountain Poison and Drug Center



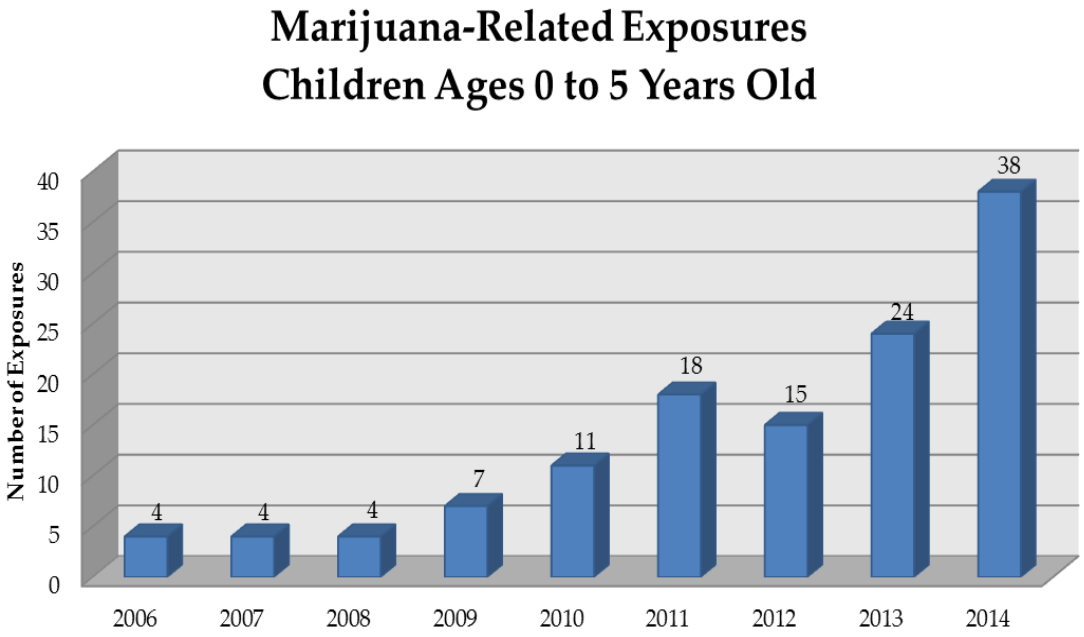
SOURCE: Rocky Mountain Poison and Drug Center



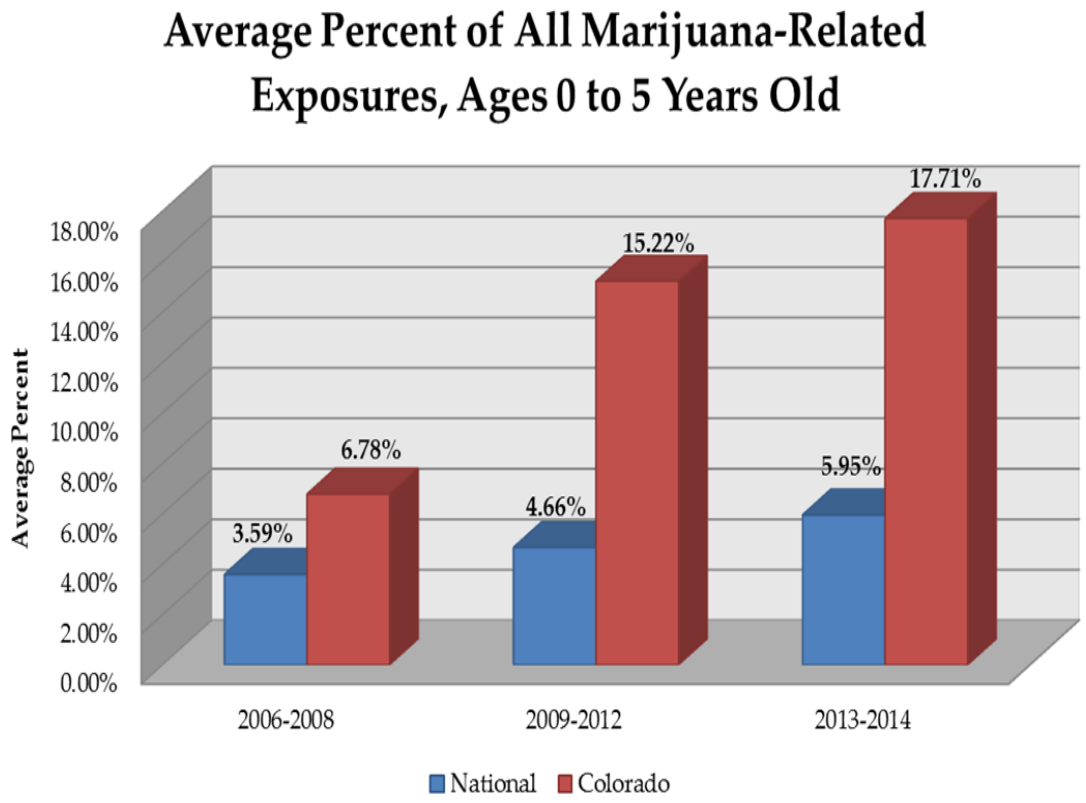
SOURCE: Rocky Mountain Poison and Drug Center



SOURCE: **Rocky Mountain Poison and Drug Center**



SOURCE: **Rocky Mountain Poison and Drug Center**



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.

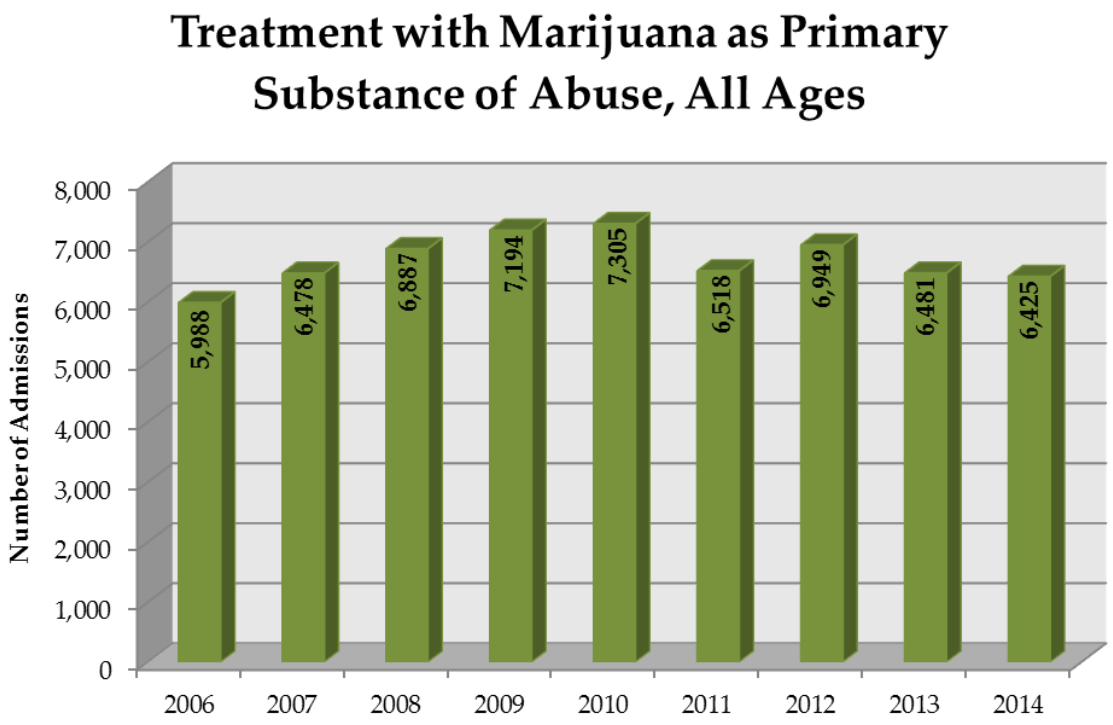
- **2013 – Current:** In November 2012, Colorado voters passed Constitutional Amendment 64 which legalized marijuana for recreational purposes for anyone over 21 years of age. The amendment also allowed for licensed marijuana retail stores, cultivation operations and edibles manufacturing.

Some Findings

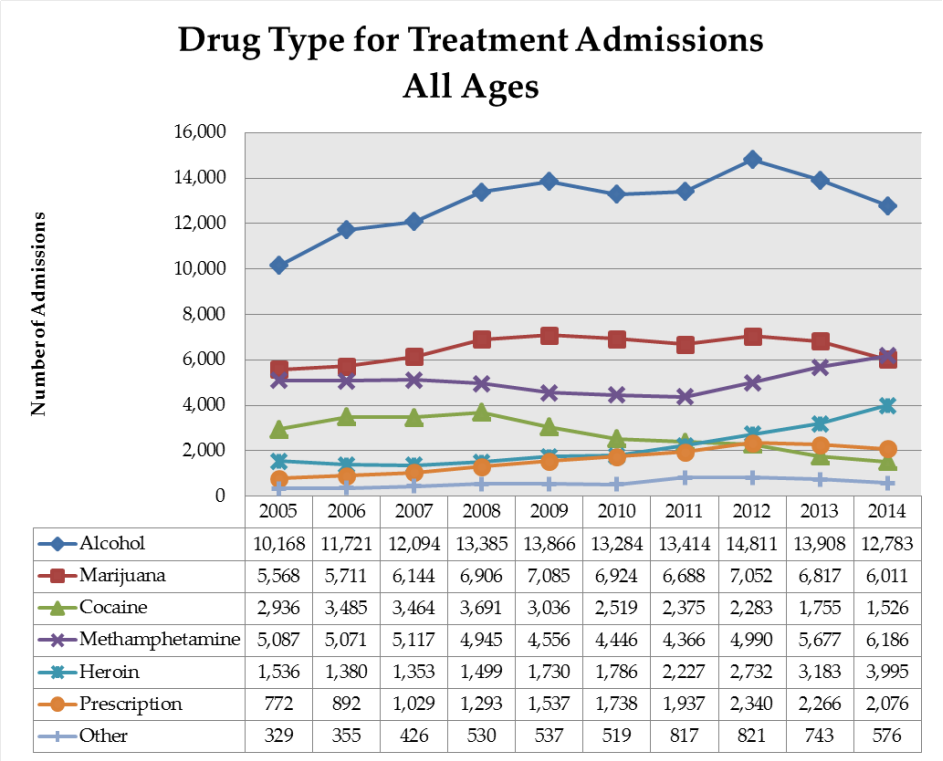
- Marijuana treatment data from Colorado in years 2005 – 2014 does not appear to demonstrate a definitive trend. Colorado averages approximately **6,500** treatment admissions annually for marijuana abuse.

- 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

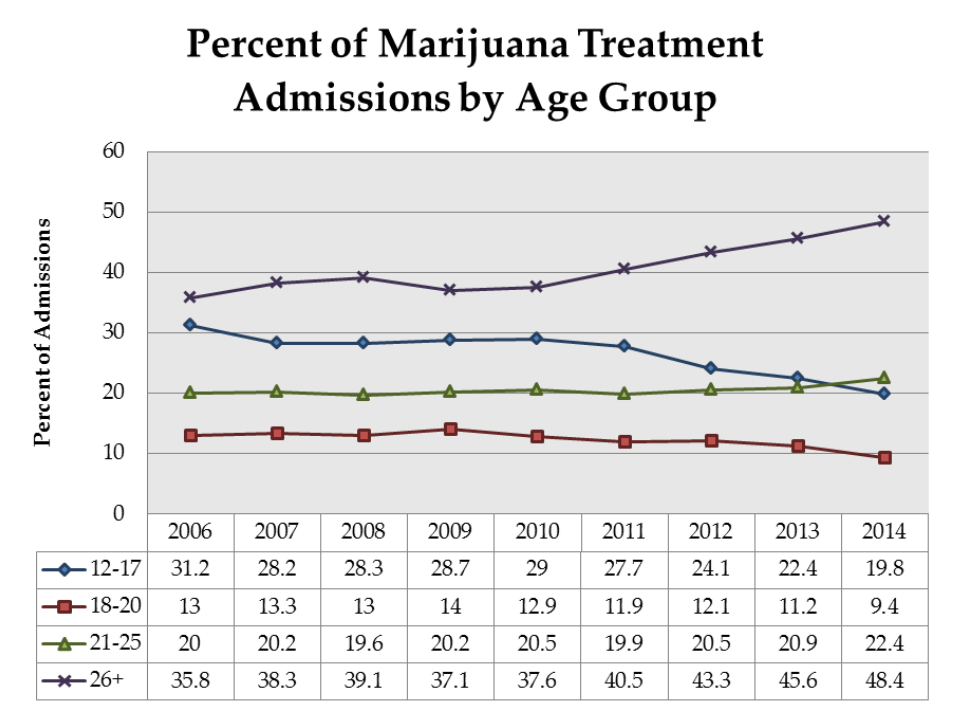


SOURCE: **Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration, Treatment Episode Data Set (TEDS) based on administrative data reported by states to TEDS through April 03, 2015**



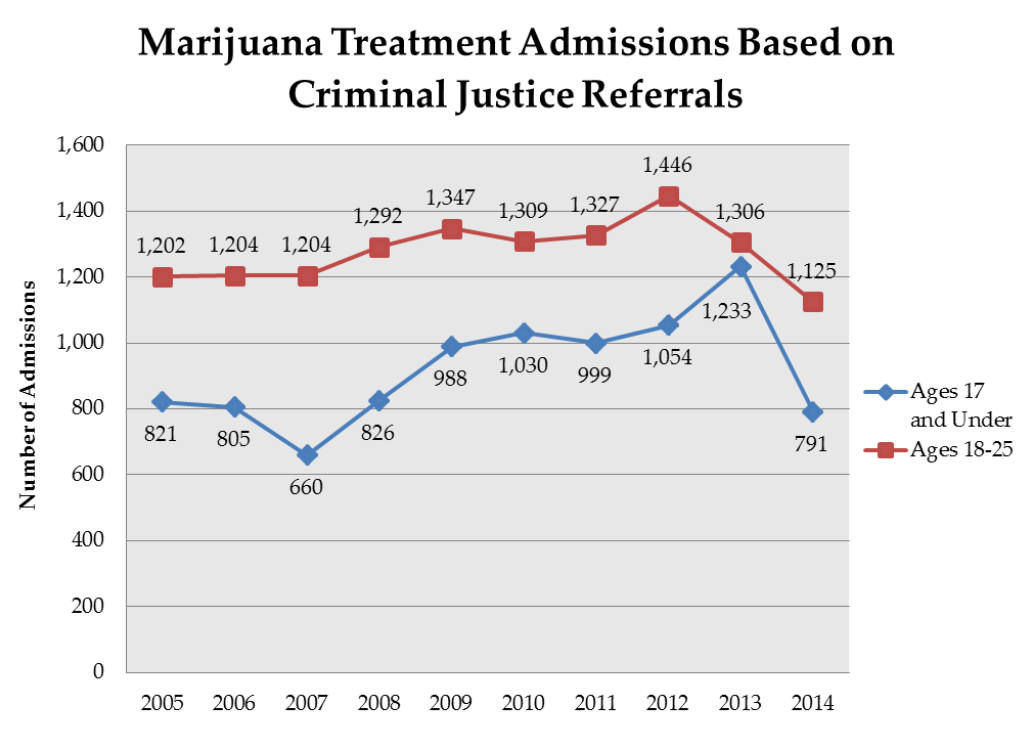
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Alcohol	10,168	11,721	12,094	13,385	13,866	13,284	13,414	14,811	13,908	12,783
Marijuana	5,568	5,711	6,144	6,906	7,085	6,924	6,688	7,052	6,817	6,011
Cocaine	2,936	3,485	3,464	3,691	3,036	2,519	2,375	2,283	1,755	1,526
Methamphetamine	5,087	5,071	5,117	4,945	4,556	4,446	4,366	4,990	5,677	6,186
Heroin	1,536	1,380	1,353	1,499	1,730	1,786	2,227	2,732	3,183	3,995
Prescription	772	892	1,029	1,293	1,537	1,738	1,937	2,340	2,266	2,076
Other	329	355	426	530	537	519	817	821	743	576

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



	2006	2007	2008	2009	2010	2011	2012	2013	2014
12-17	31.2	28.2	28.3	28.7	29	27.7	24.1	22.4	19.8
18-20	13	13.3	13	14	12.9	11.9	12.1	11.2	9.4
21-25	20	20.2	19.6	20.2	20.5	19.9	20.5	20.9	22.4
26+	35.8	38.3	39.1	37.1	37.6	40.5	43.3	45.6	48.4

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**.

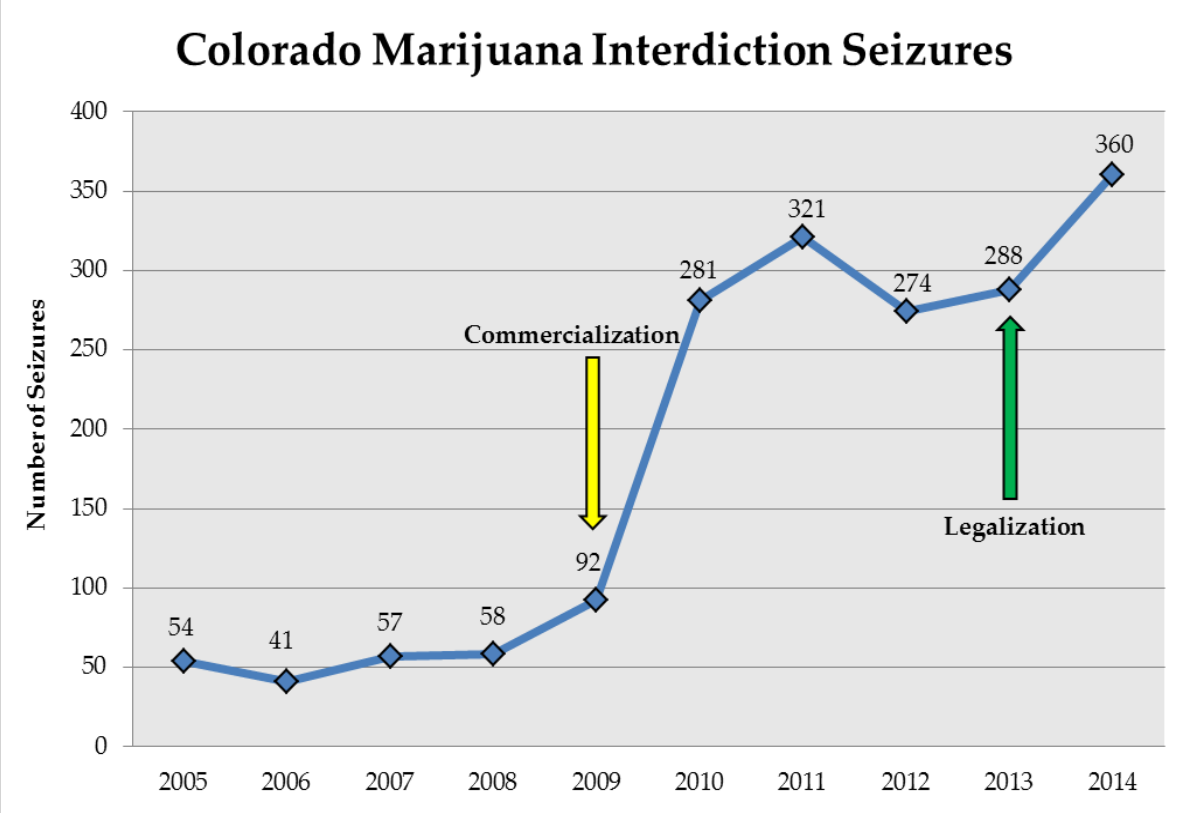
- Of the 360 seizures in 2014, there were **36** different states destined to receive marijuana from Colorado. The most common destinations identified were Kansas, Missouri, Illinois, Oklahoma and Florida.

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

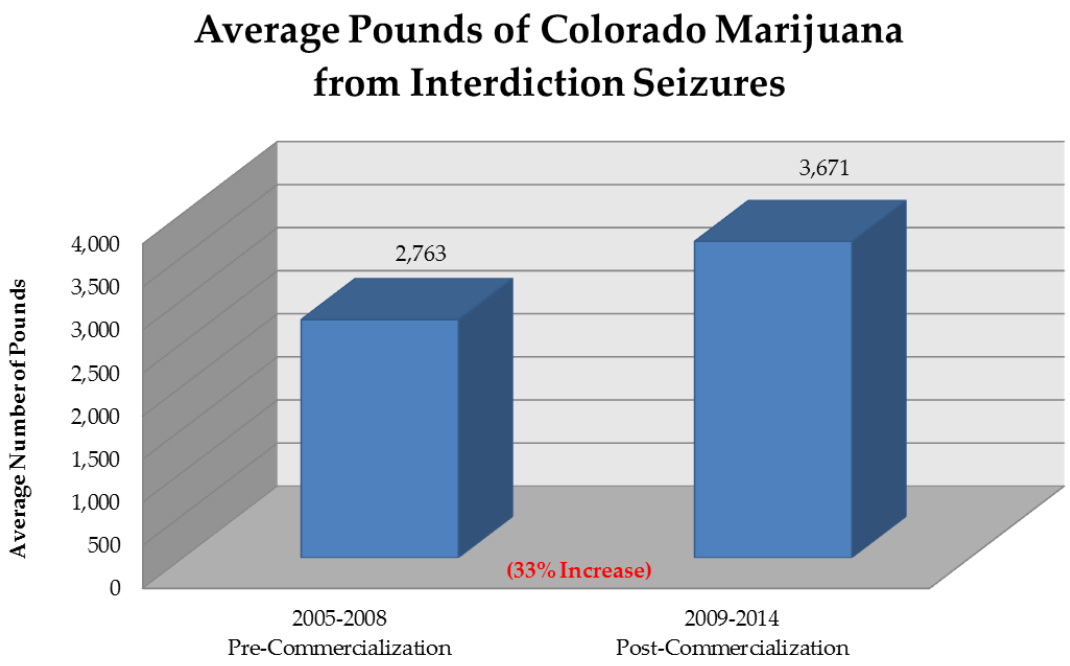
Data

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

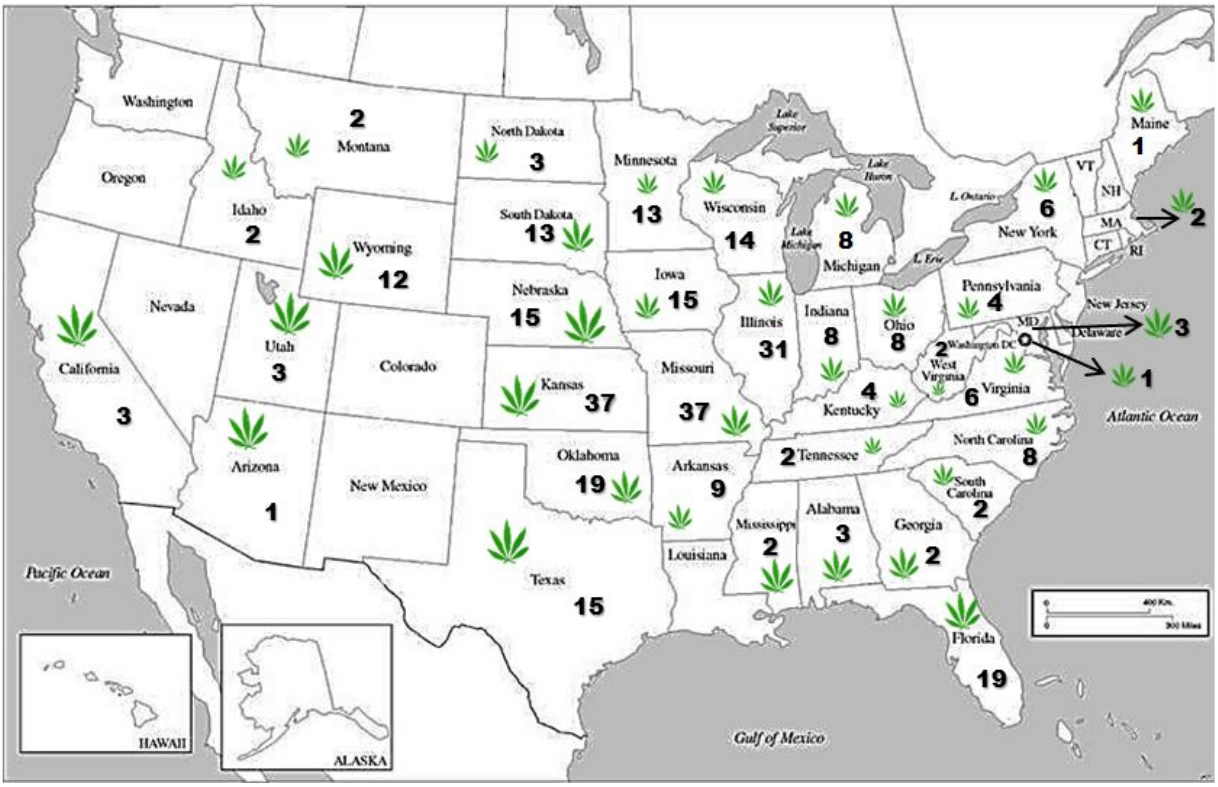


SOURCE: El Paso Intelligence Center, National Seizure System, as of March 20, 2015

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, Nebrask**a 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 Mexic**o.

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 Officers[27]

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 Counselors[28]

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.

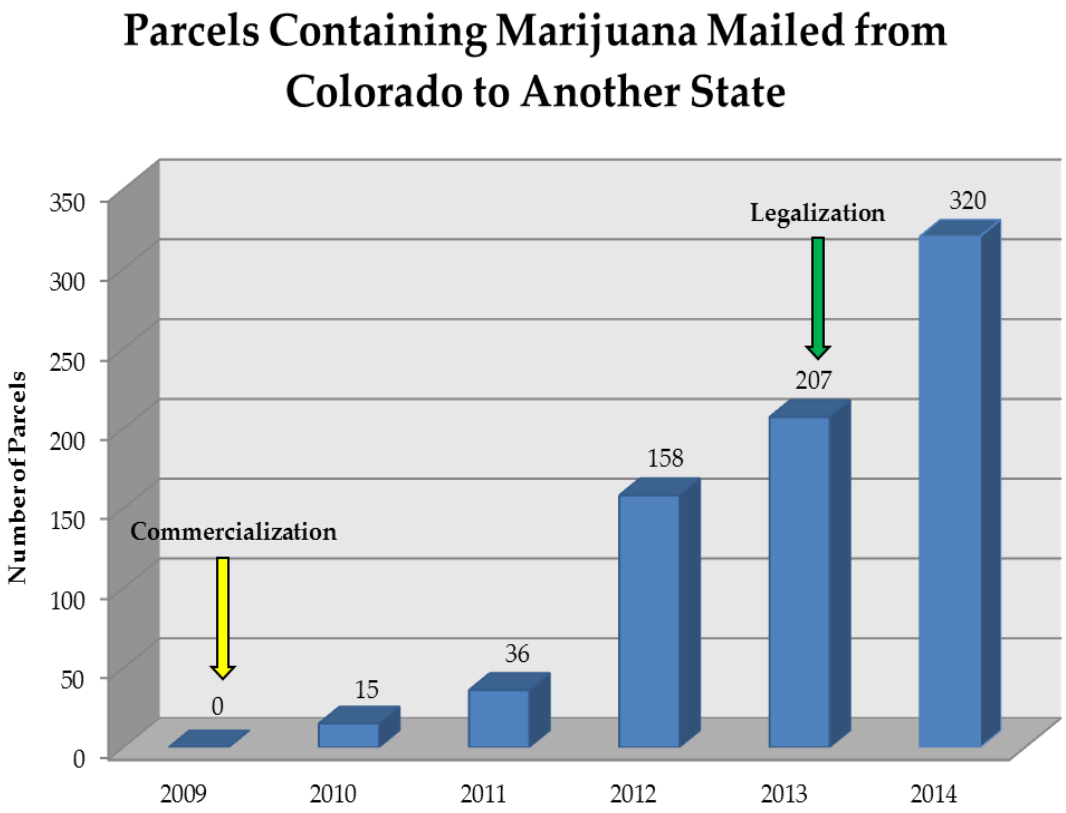
- From 2010 – 2014, the total pounds of marijuana seized from U.S. packages mailed from Colorado has increased **722 percent** from 57 to 470 pounds.

- 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**.

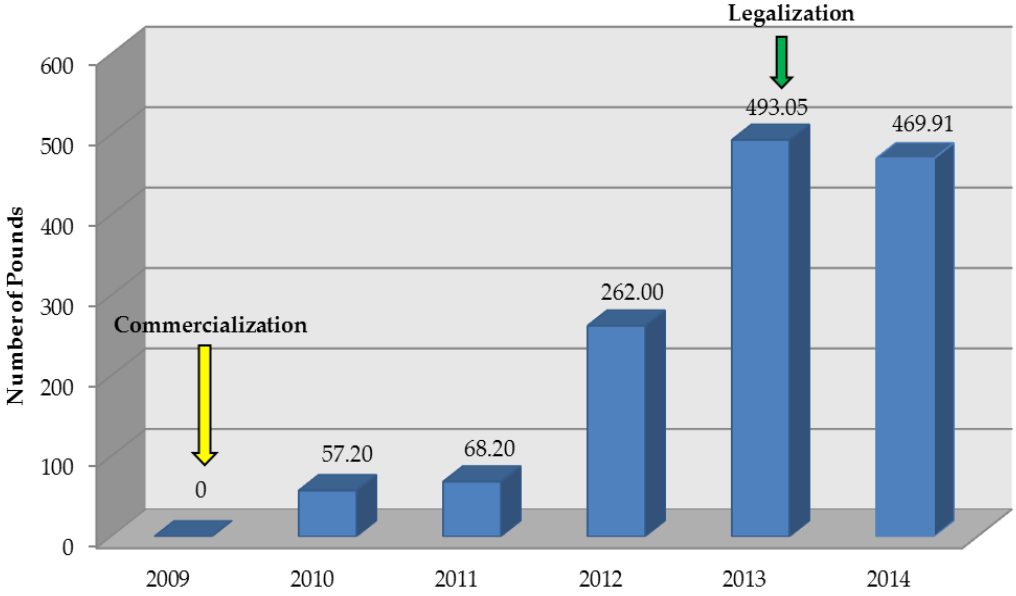
Data

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."



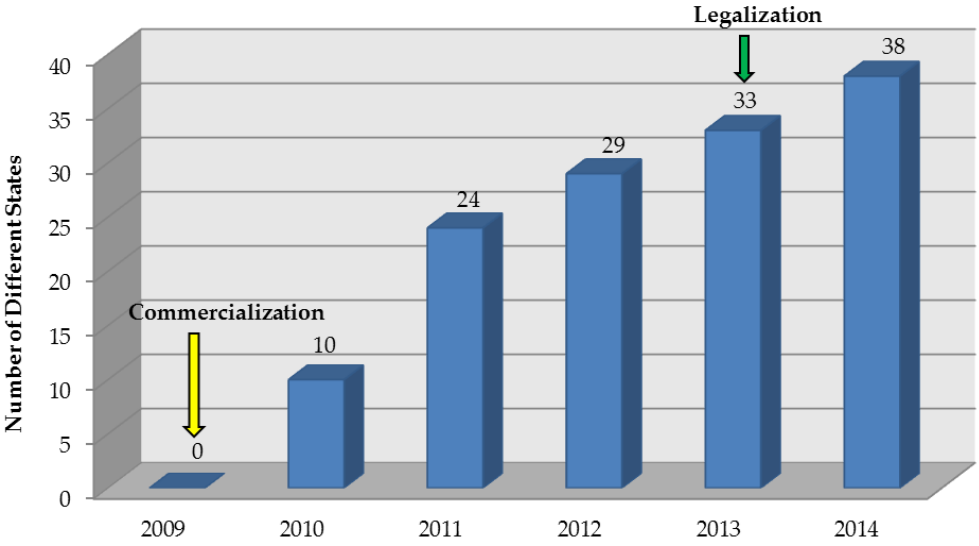
SOURCE: **United States Postal Inspection Service, Prohibited Mailing of Narcotics, as of January 21, 2015**

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



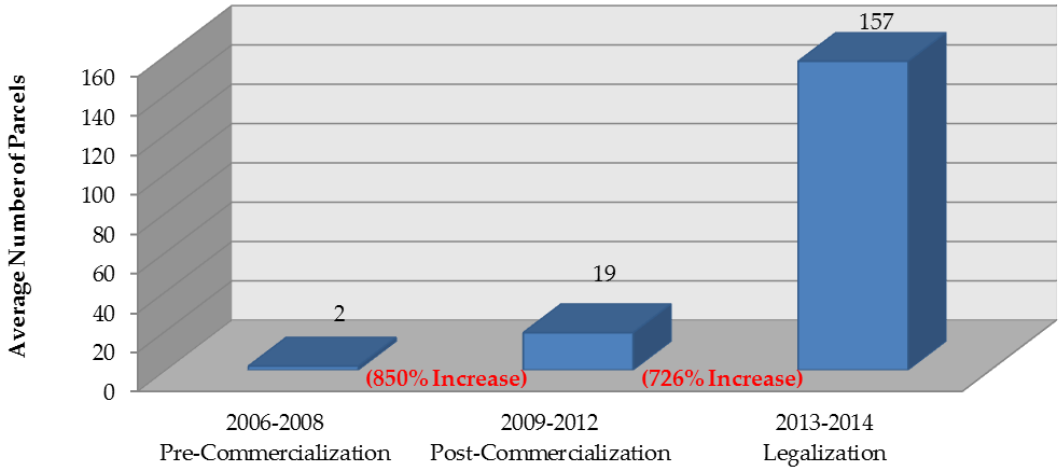
SOURCE: United States Postal Inspection Service, Prohibited Mailing of Narcotics, as of January 21, 2015

Number of States Destined to Receive Marijuana Mailed from Colorado



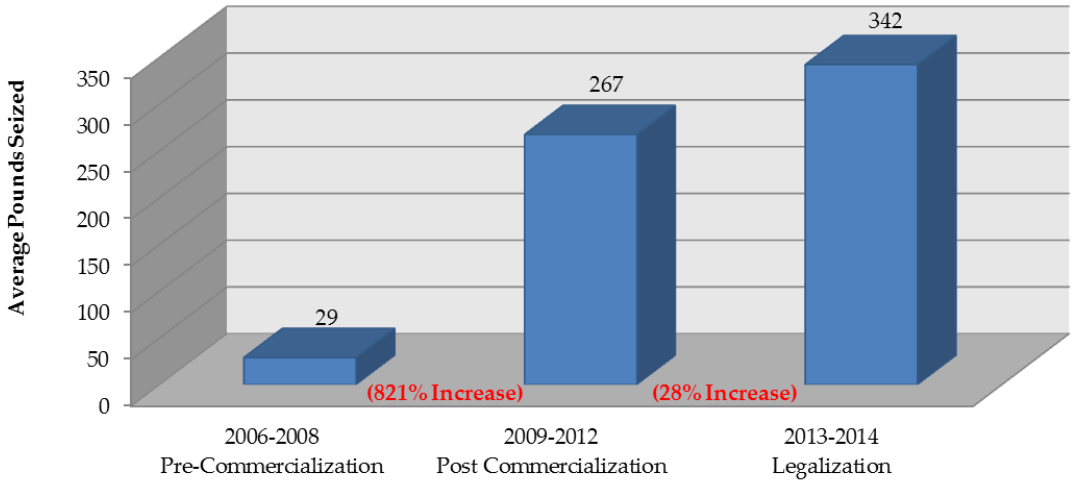
SOURCE: United States Postal Inspection Service – Prohibited Mailing of Narcotics

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, Iow**a 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

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[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

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[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 (CO_2), 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.

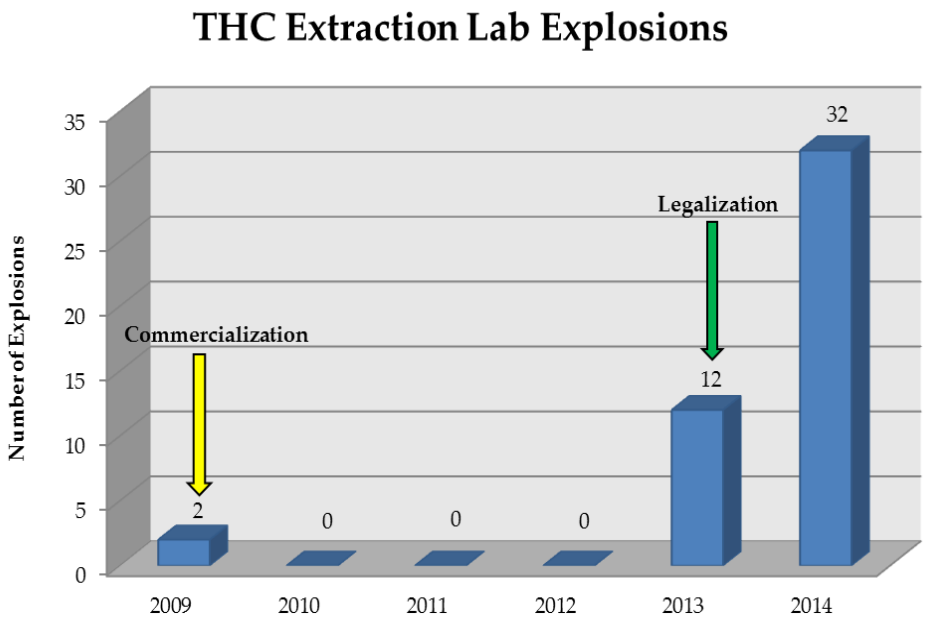
Butane is a very volatile and explosive solvent. Flash fire explosions have originated from the butane used in the extraction process. Several elements can spark a deadly explosion, such as static electricity, open flame from a cigarette lighter, or a simple electric switch. This process has sent several 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.

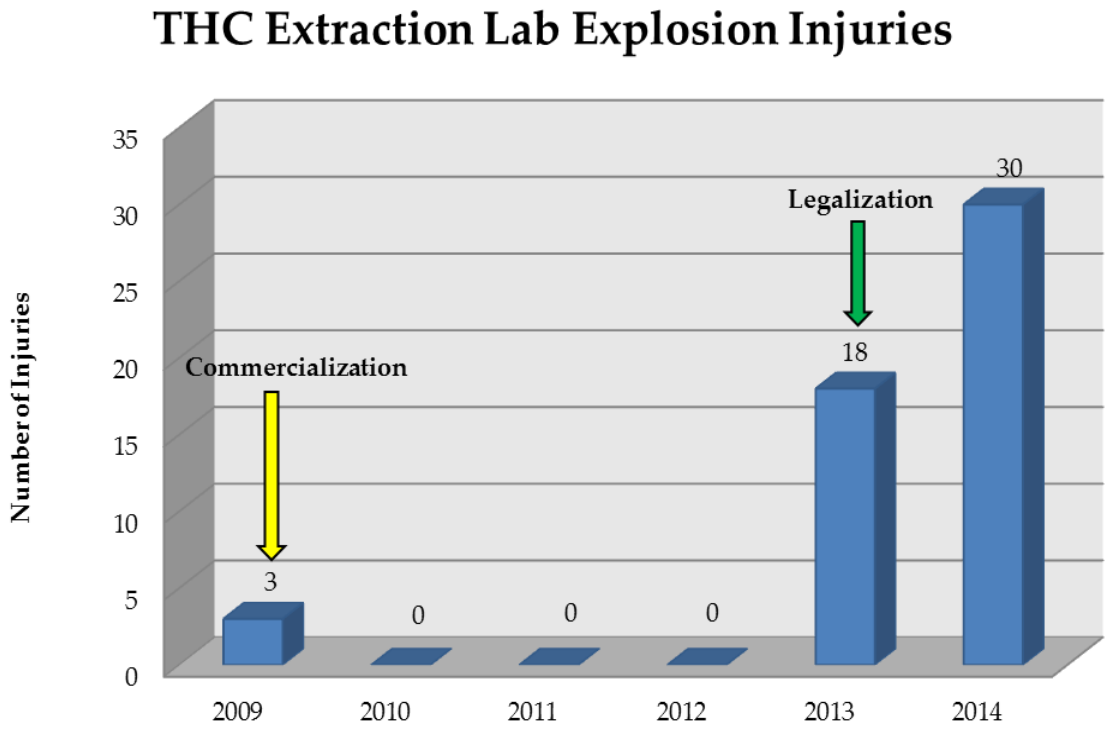
Some Findings

- 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.

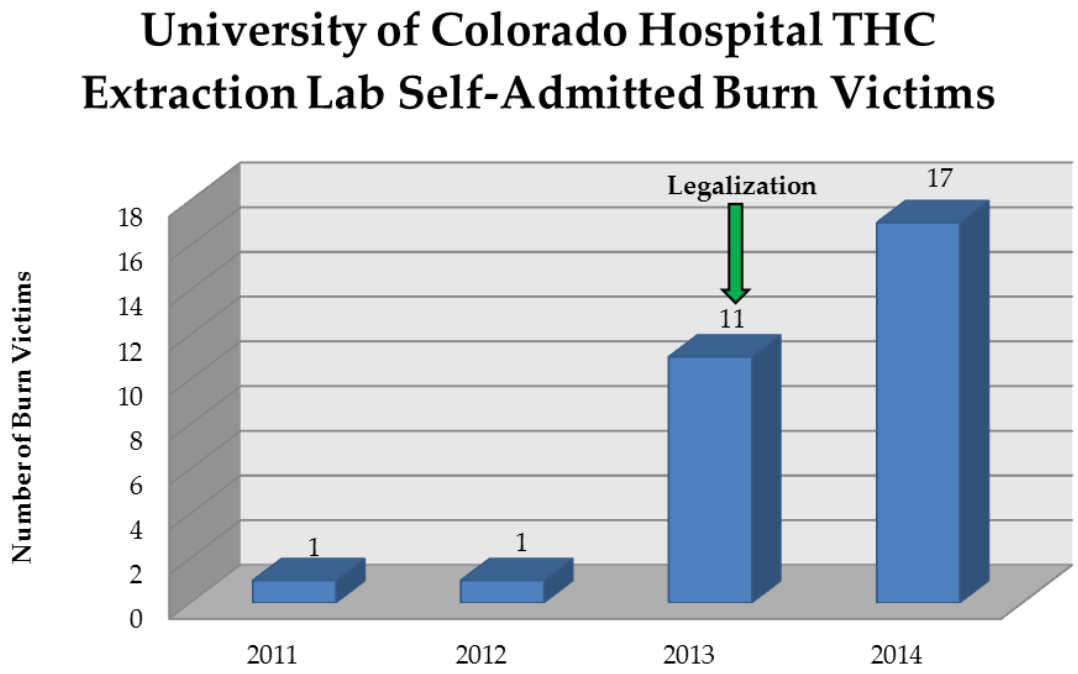
Data



SOURCE: **Rocky Mountain HIDTA, Investigative Support Center**



SOURCE: Rocky Mountain HIDTA, Investigative Support Center



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.

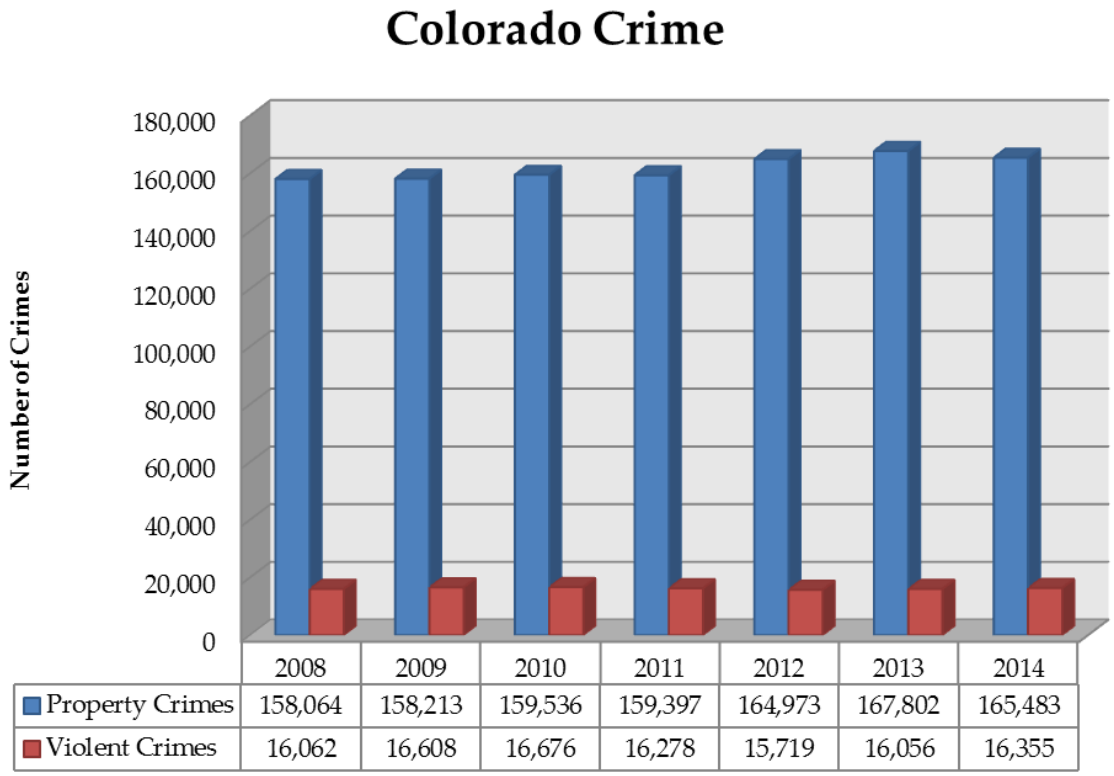
SECTION 10: Related Data

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.

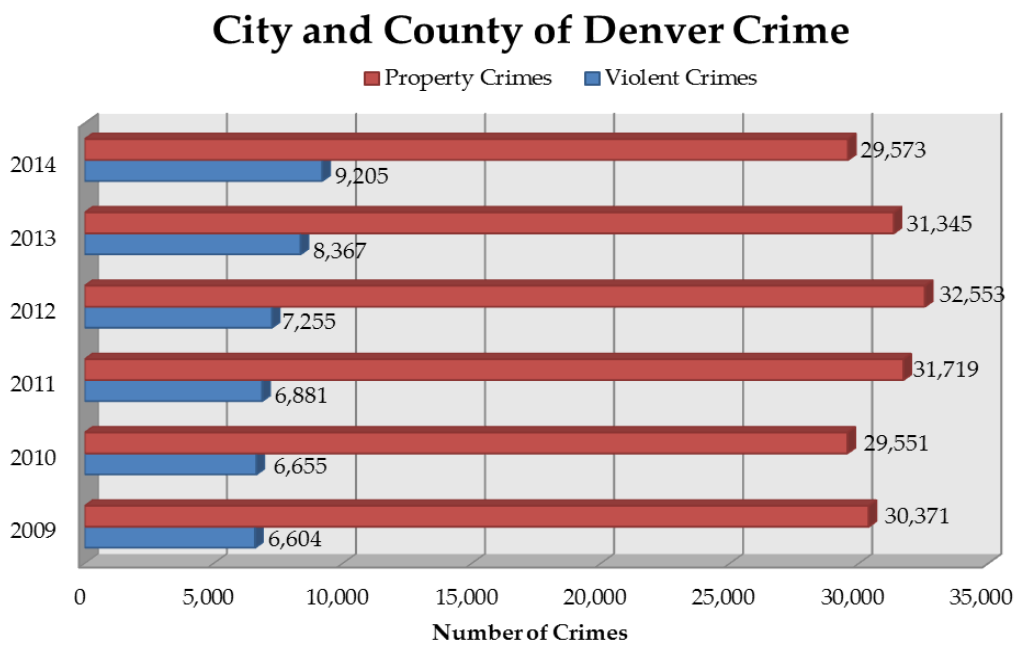


SOURCE: **Colorado Bureau of Investigation, http://crimeinco.cbi.state.co.us/**

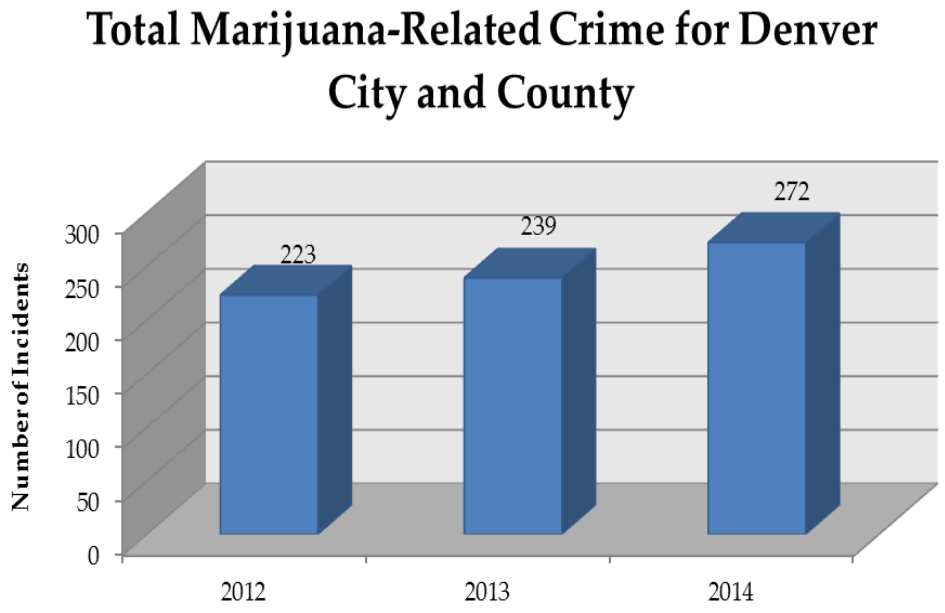
All Reported Crime in Denver		
2013	**2014**	
55,115 reported crimes	**60,788 reported crimes**	**5,391 reported crimes increase from 2013 to 2014 (10 percent increase)**

- 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**

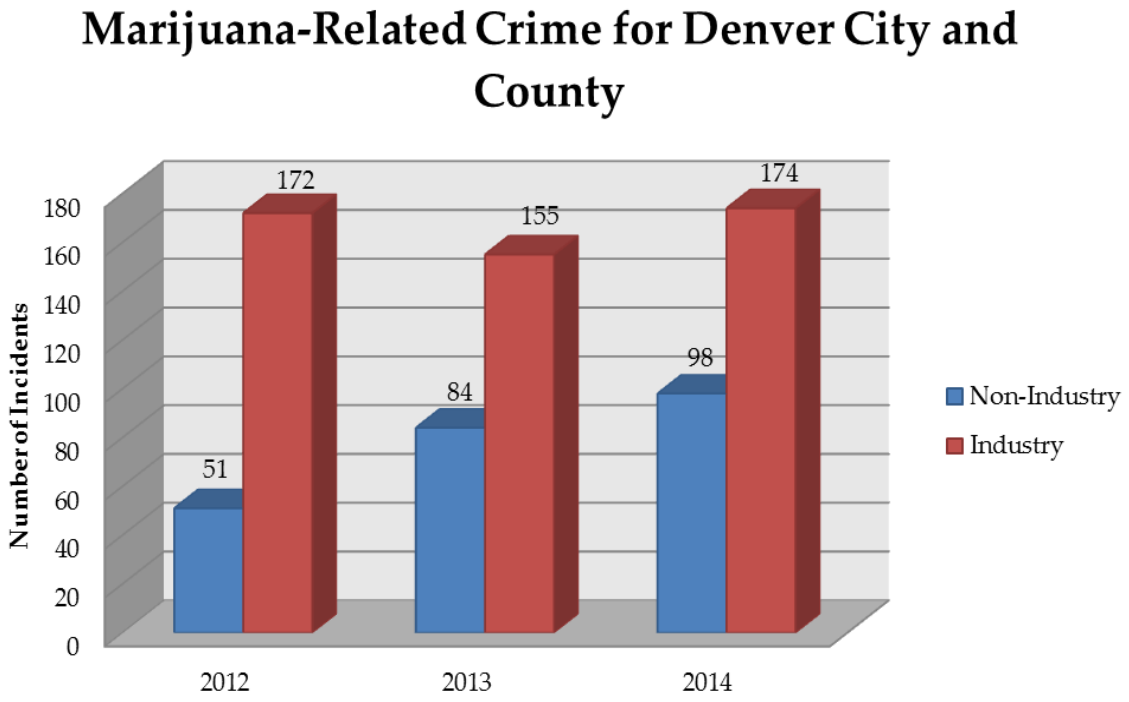


SOURCE: **City and County of Denver, Denver Police Department, Crime Statistics and Maps, September 10, 2015**



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

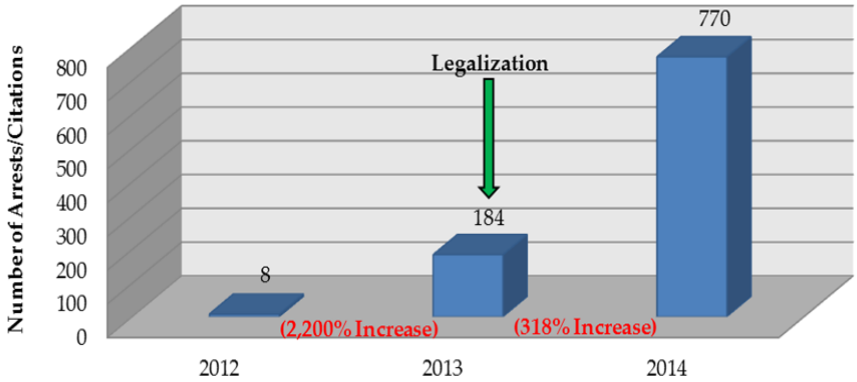


SOURCE: City and County of Denver Open Source Data Catalog, July 2015

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

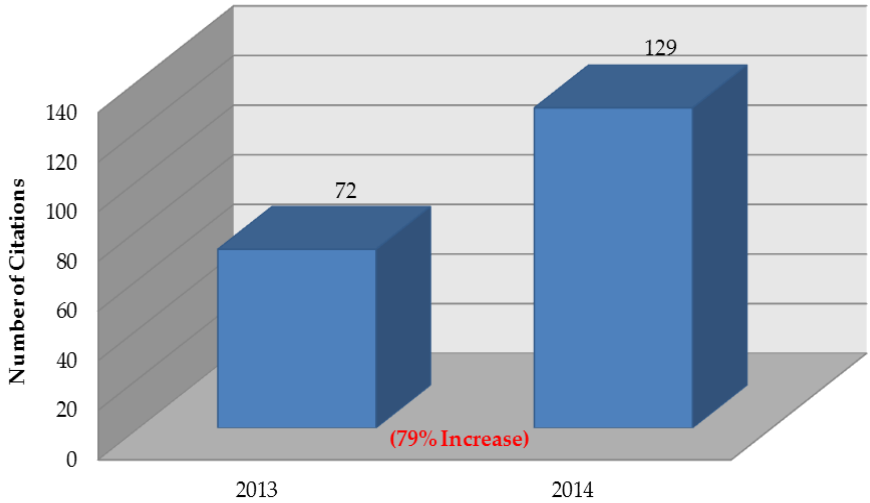
NOTE:	"DATA ARE CRIMES REPORTED TO THE DENVER POLICE DEPARTMENT WHICH, UPON REVIEW, WERE DETERMINED TO HAVE CLEAR CONNECTIONS OR RELATION TO MARIJUANA. THESE DATA DO NOT INCLUDE POLICE REPORTS FOR VIOLATIONS RESTRICTING THE POSSESSION, SALE, AND/OR CULTIVATION OF MARIJUANA." - OPEN DATA CATALOG, MARIJUANA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

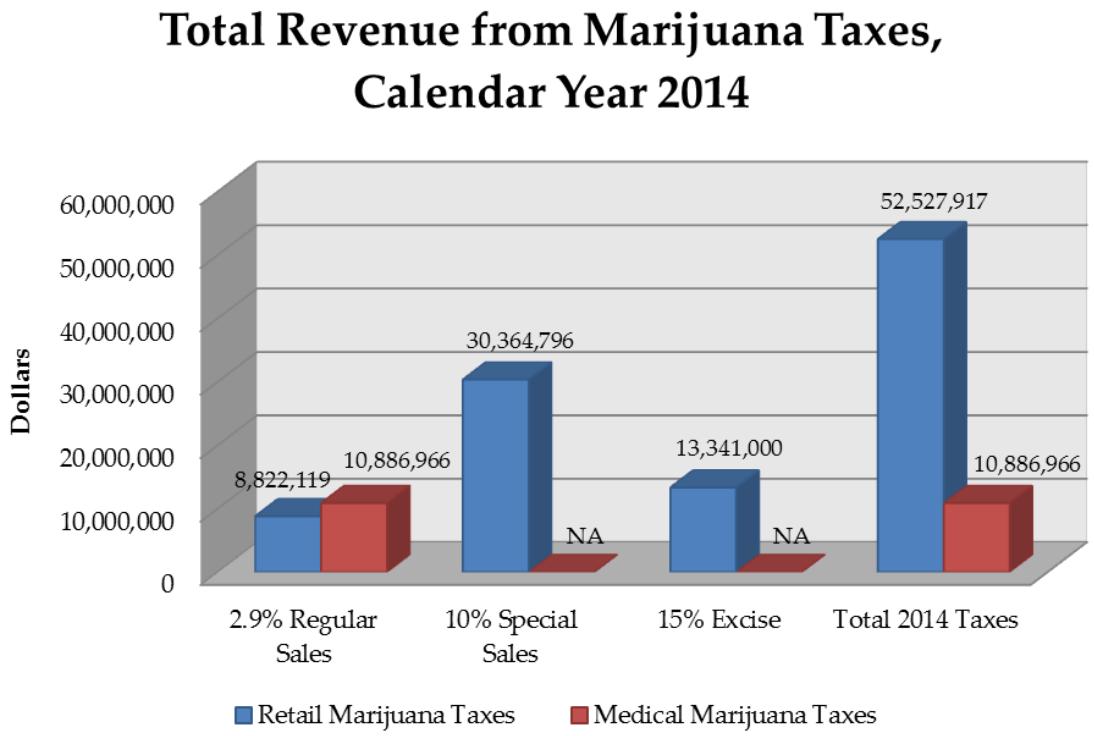
NOTE: THE CITY OF BOULDER DID NOT HAVE A MUNICIPAL STATUTE SPECIFIC TO PUBLIC CONSUMPTION OF MARIJUANA UNTIL MID-2013.

"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?

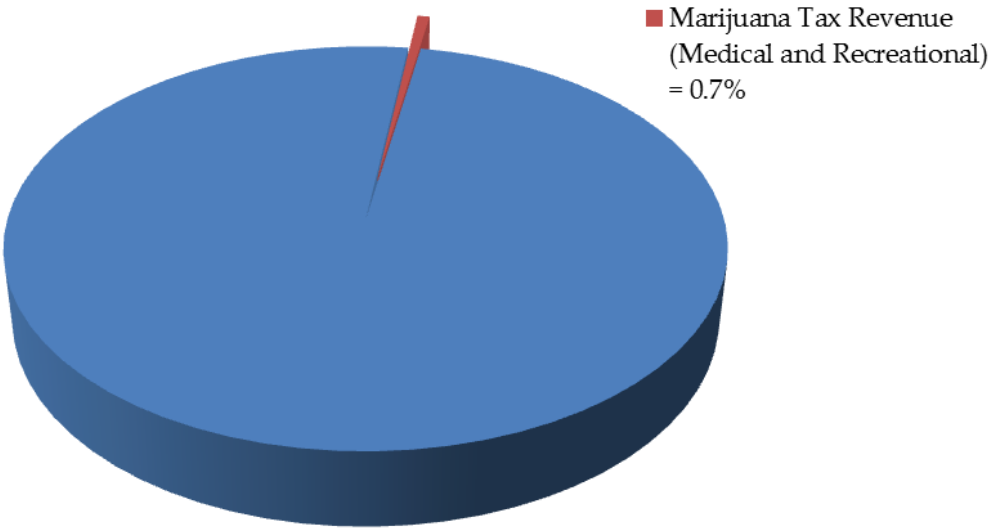
Answer: No one knows for sure. It will take years of data collection to complete an analysis of whether marijuana legalization is economically positive or an economic disaster.



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 FY2015/16[2]

$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

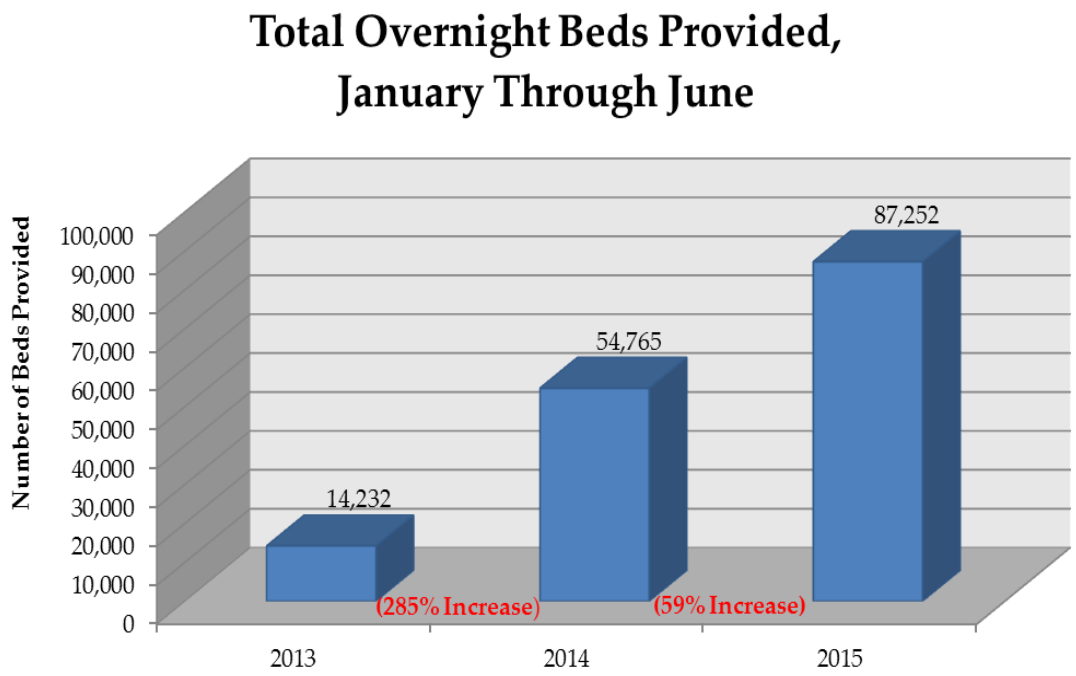
going to pave streets. You are not going to be able to pay teachers. The big red herring is the whole thing that the tax revenue will solve a bunch of crises. But it won't."[3]

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



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.

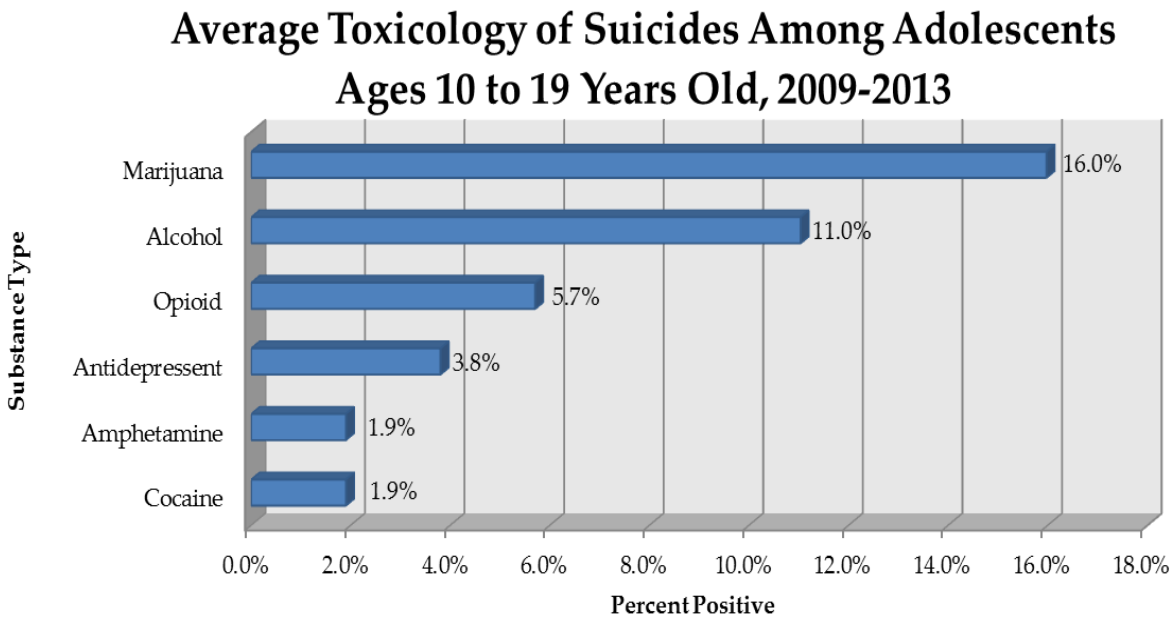
Murray Flagg, of the Salvation Army, said, "We were averaging 190 people a night. Now we are averaging 345 people a night." He goes on to state, "We find about one in four people have come for some marijuana related issue."[9]

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]

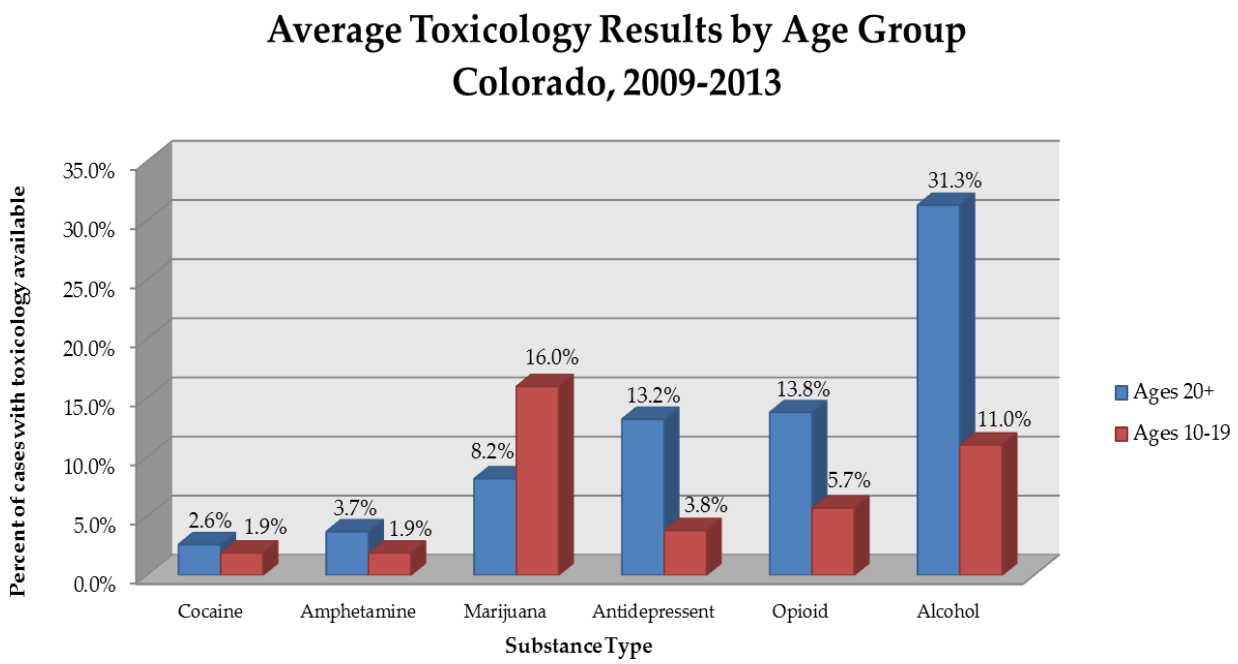
- 28 percent – some kind of assault charge
- 26 percent – harassment or felony menacing charge
- 22 percent – some kind of theft, from burglary to auto theft charge
- 13 percent – resisting arrest charge

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]



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



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

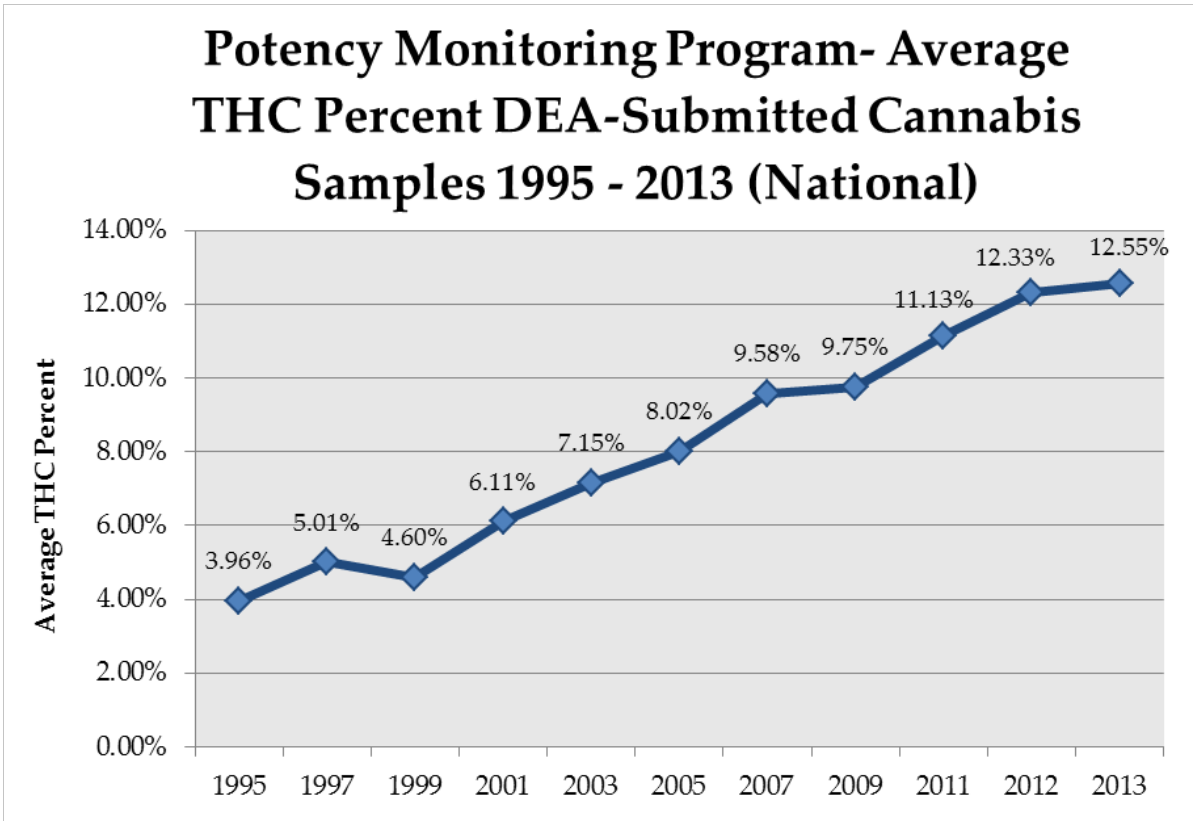
to homeowners why black mold has infested their income properties, why their sheetrock has been pulled out and makeshift watering systems installed. Every realtor seems to have a horror story about renting to seemingly fine tenants who are actually quick-profit-making pot entrepreneurs. No insurance 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]

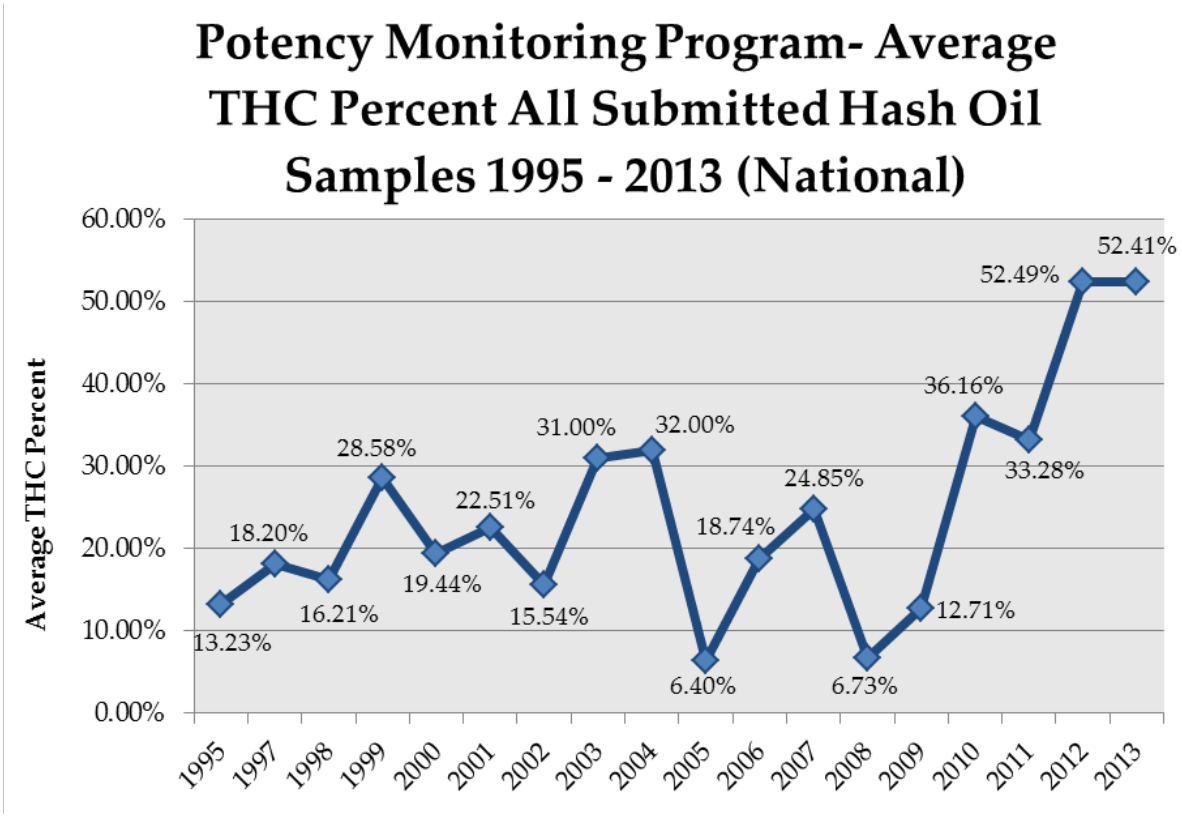
Pot Growers and Sky-High Power Bills: "The average indoor grow operation in Denver has a monthly electric bill of $20,000 to $50,000," said Jay Czarkowski, a principal at Canna Advisors, a consulting firm in Boulder." Colorado's marijuana industry uses large amounts of energy for lighting and air conditioning. 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]



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 <u>Colorado</u> concentrate is 62.1 percent.**[17]

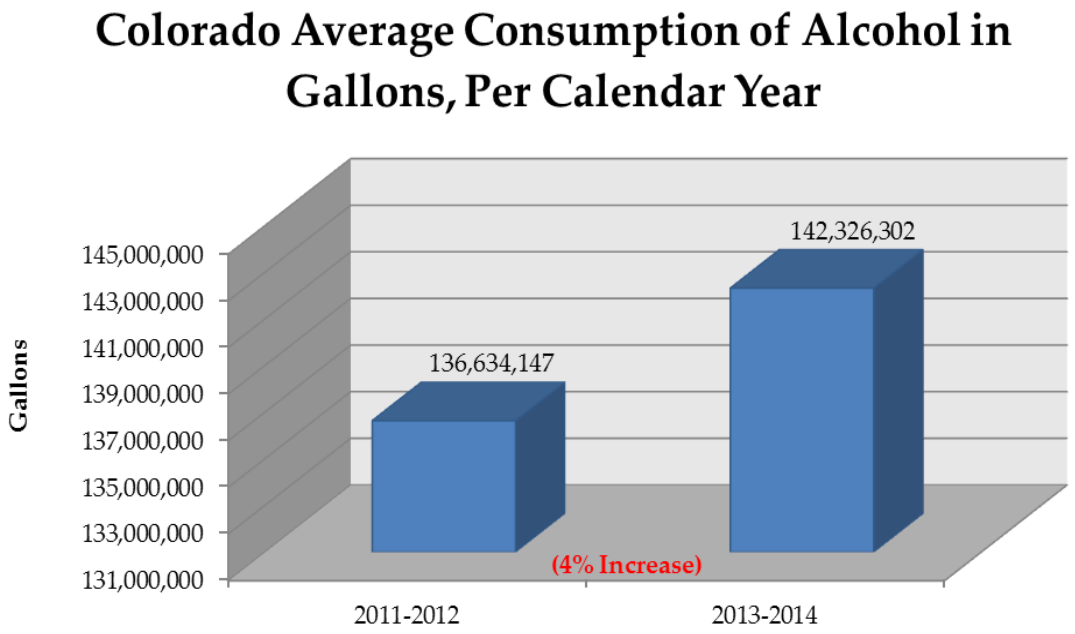
<u>Colorado Marijuana Study Finds Legal Weed Contains Potent THC Levels:</u> "In old-school dope, levels of THC – the psychoactive chemical that makes people high – were typically well below 10 percent. But in Colorado's legal bud, the average THC level is 18.7 percent, and some retail pot contains 30 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]

<u>THC Concentrates and Youth:</u> "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.



SOURCE: Colorado Department of Revenue, Colorado Liquor Excise Tax

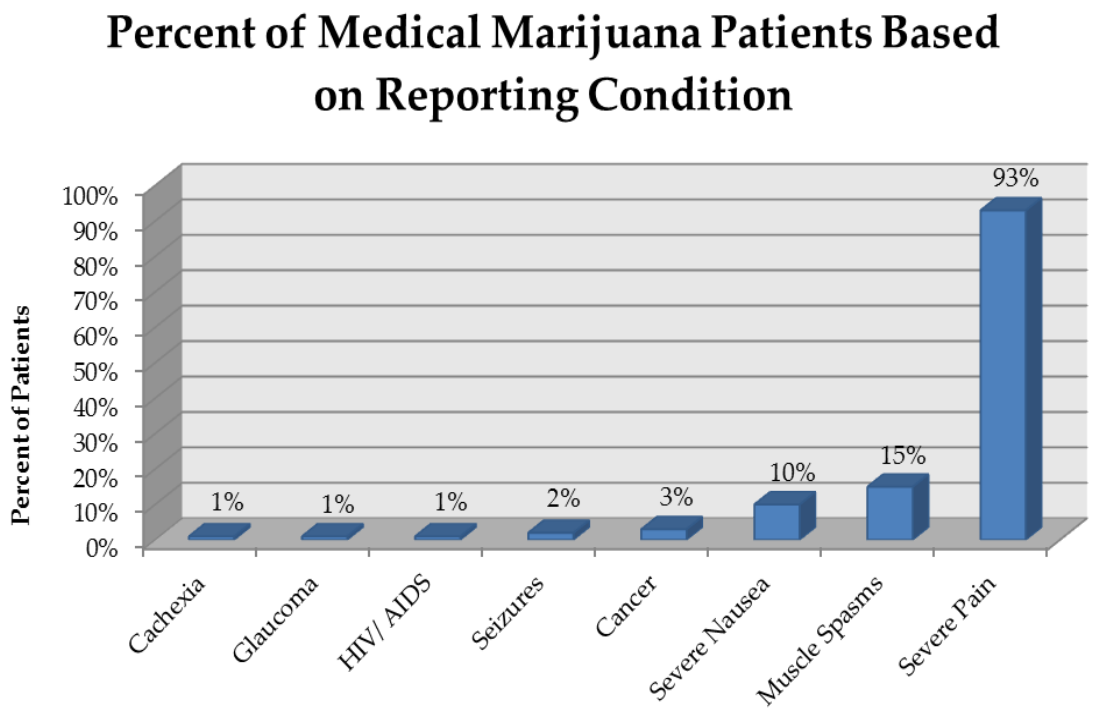
Medical Marijuana Registry

Medical Marijuana Registry Identification Cards[20]

- 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



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

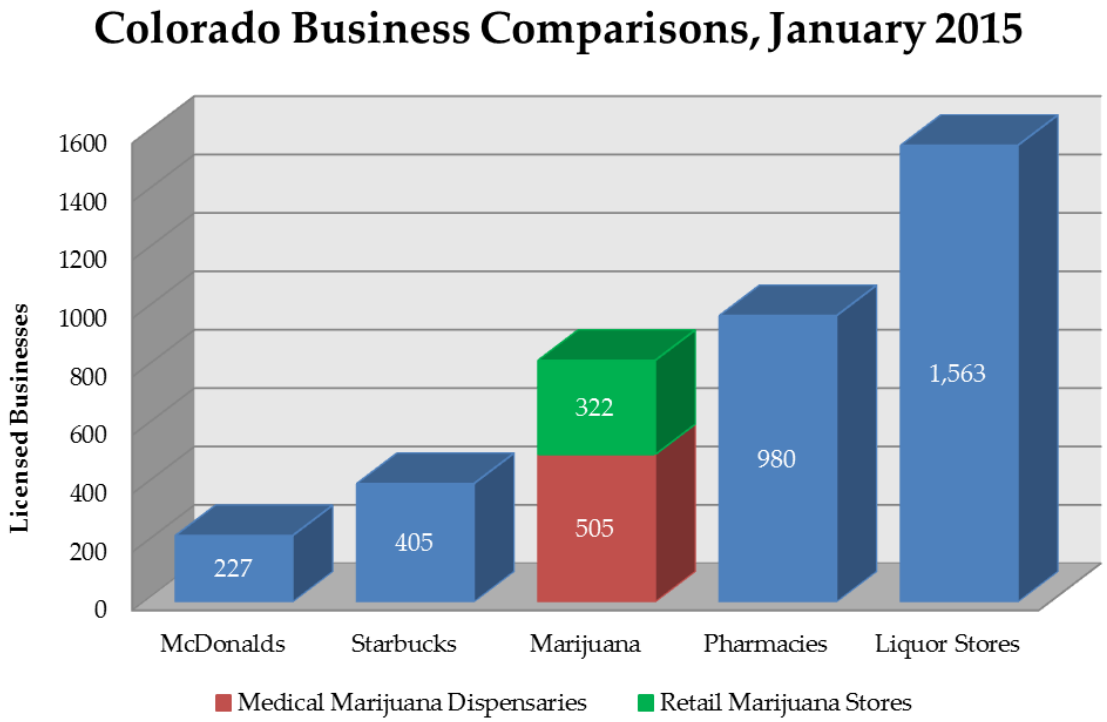
Medical Marijuana:[21]

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

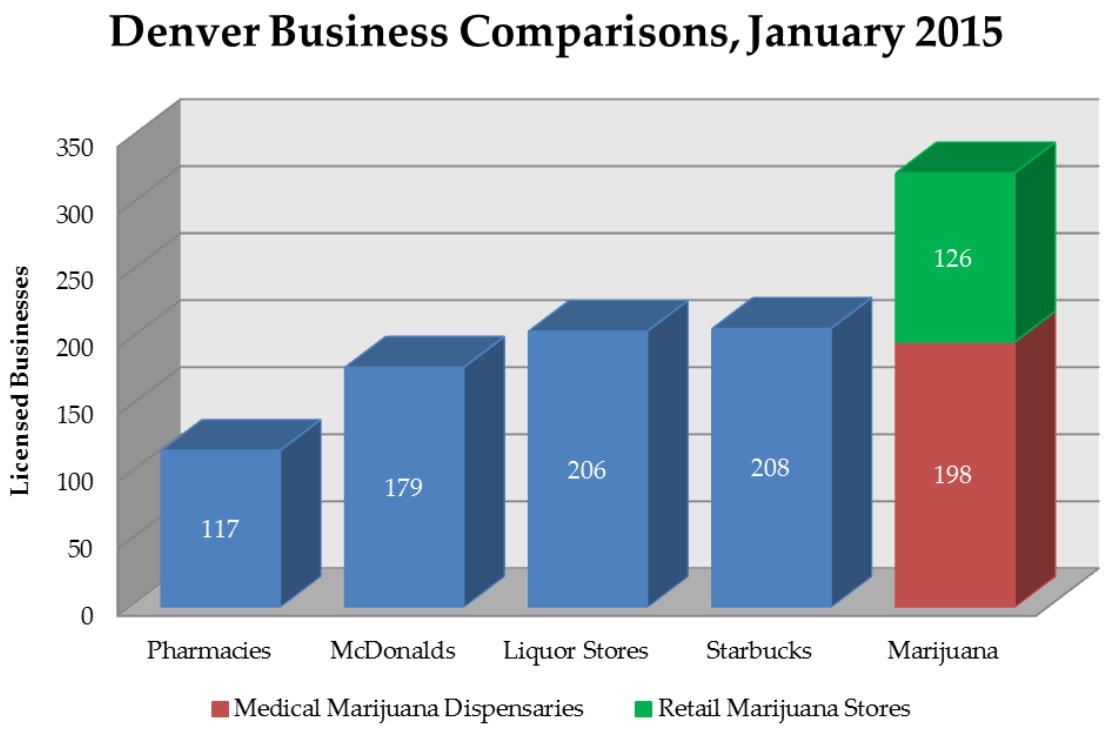
Recreational Marijuana:[22]

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

Business Comparisons, January 2015



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



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 Colorado[17]

- 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 Marijuana[17]

	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 Colorado[24]

- 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]

- **50 percent** of Coloradoans polled still support legalizing marijuana for recreational use
- **38 percent** are opposed

❖ **November 2012 Amendment 64 election results:**
- **54 percent** in favor
- **46 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-EPISODE 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 articles 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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MAGAZINE

ASAM Issues New Policy Statement on Marijuana, Cannabinoids and Legalization

by Susan Awad | September 25, 2015

On September 21, ASAM's Board of Directors approved a new Policy Statement on Marijuana, Cannabinoids and Legalization. The new statement is the result of a months-long research and writing process spearheaded by Drs. Michael Miller, Norm Wetterau and Jeff Wilkins, and overseen by ASAM's Public Policy Committee.

As more and more states move to legalize marijuana and other cannabis products for either "medicinal" or adult recreational use, and as Congress considers bills intended to facilitate research into the potential therapeutic effects of marijuana, it was clear that ASAM needed an updated policy statement that speaks to the broad public health and safety aspects of such measures. With legalization ballot initiatives expected in several states in 2016, the development of this new statement could not be more timely.

The new statement details the latest research on the health and public health effects of marijuana use, as well as the potential medicinal benefits of particular cannabinoids. It also discusses the political and social attitudes about marijuana that inform the current debate around legalization, and differentiates efforts to decriminalize marijuana use with efforts to legalize marijuana for commercial distribution and sale.

The policy recommends a balanced response to legalization efforts, offering support for decriminalization and access to treatment as well as detailing several public health and safety measures that should be instituted by jurisdictions that legalize marijuana to protect vulnerable populations. It also includes recommendations to encourage basic and health services research on marijuana and marijuana use, while reaffirming ASAM's support of our current research-based pharmaceutical development, approval and regulatory process.

To read the full policy statement, please click here.

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Ted L., LCSW | *Dec 03, 2015*
Great read and very informative! Thanks for keeping us updated with the relative politics on Cannabis!

Harold Bacchus, MD, FAAFP. | *Oct 30, 2015*

a most eloquent discourse, fact based, from triple boarded Dr. Rick Chavez.

Gerald Maloney DO | *Oct 19, 2015*
I am a new member to ASAM and a practicing medical toxicologist. I agree with the above statements about vote pandering leading the legalization effort. In the states that have legalized marijuana the number of ED-related visits have spiked. Some of the marijuana products that are out there resemble cookies or candy and have resulted in pediatric ingestions (data from WA state). There is a difference between decreasing criminal sanctions on use and allowing full legal use. I think we (ASAM, ACEP, ACMT, AMA, etc) need to be a clear voice stating the differences between medicinal use of marijuana and unfettered full legal use.

Lorne Cross, MD | *Oct 19, 2015*
Thank you to Dr. Chavez for the insightful response. I practice in Oregon and I am seeing a significant increase in patient problems related to marijuana use. It should be an area of concern for all physicians.

Mark Stevens, MD | *Oct 15, 2015*

I agree with Dr. Chavez that marijuana has become an untouchable subject politically. Everyone wants the youth vote and that is the demographic most apt to push for legalization. I am an

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addictionolgist and a family practitioner. I read extensively, as we all do, and I am tracking the debate and what studies are available. When the subject of marijuana comes up with my patients, I relate to them the story of "Howie" and a half a dozen similar characters from my childhood. Howie (and others) were daily pot smokers through highschool, probably before and beyond as well. At our 30th highschool reunion, Howie was delivering pizzas for a living. As I recall, the same job he had in highschool. 2 of the other folks were dead and a couple more were unemployed and/or disabled. I don't have to wait for the definitive studies to show that marijuana is damaging in the short and long-terms. We can all conjure an image of a "Howie" when we think about the term "pothead". We just need to convey that to the folks we serve and make it stick.

Jim Bean MD | *Oct 06, 2015*

I would prefer having DEA make it a controlled substance and only certified physicians could prescribe. That would better than what is happening, an addictive substance under no control.

RICK CHAVEZ, M.D. | *Oct 05, 2015*

We regulate opiates, and all controlled drugs, but why not marijuana? Marijuana is politically untouchable. Talking about It's impact on our society is like talking to people about politics and religion. The medical establishment, politicians, and even our free press are all afraid to talk about the potential negative impact of marijuana on our communities. As a pain medicine and addiction specialist I am required to balance the safe use of controlled medications with my patient's chronic pain clearly in their medical record. If I don't have a legitimate reason to prescribe a drug, and if I don't see my patient regularly, the medical board can remove my license to practice medicine. Yet the "doctors" who prescribe marijuana give it out like candy with a license to use for 1 year without follow up evaluation for seemingly minor complaints like hangnails,

anxiety, depression, and gastritis without any repercussions. Yet, believe it or not, as a certified pain and addiction physician I cannot prescribe it. Not that I believe that it is commonly beneficial. Only about 1-2 % of my patients get benefit from marijuana. I have an open discussion with my pain patients about ALL drugs available. If marijuana is beneficial in treating chronic pain, etc, then my patient is given the option, but the majority of my pain patients find insufficient benefit.

Currently, up to 10-20% of high school students have used marijuana in the last month. We know that 60% of regular users wont graduate, and a segment of users move on to gateway drugs. While marijuana is not a gateway drug necessarily, for 10% it is a gateway drug. The brain is still developing until age 25, and we know that IQ is reduced by up to 8% irreversibly in users under age 25. Additionally, it doubles the risk of schizophrenia, depression, and anxiety in the young (under 25). Few of my pain patients choose marijuana because it is a poor pain killer. Users always point to the windfall $58 million dollar tax revenue that COLORADO collects, yet no one reveals that this is just a drop in the bucket compared to the cost of treating
all the societal ills such as mental heath problems, unemployment, welfare, birth defects, addiction, high school dropout, crime, etc. All I know is that I have mothers in my office who are desperate because "little Johnny" no longer cares about anything else but their "bong."

Californians think our government will have it all under control despite the fact that currently AMERICANS consume 80% of all of the narcotics and controlled drugs in the world, yet we represent only 4% of the world's population. Americans are not like any other society on earth, Americans are a different breed. We shouldn't worry about China, terrorists, or Putin bringing our
society down, we are doing a terrific job of that ourselves.

I hope that ASAM has the courage to tell the truth and make sure that the discussion with our leaders recommends what we should do, after all, all of us have children and grand children and our leadership in this discussion will affect generations for decades. We know that THC / Cannibinoids

have a role in therapy, but I guarantee that when we create safe medications, the "bong" will still win out.

Most countries have decriminalized Marijuana, and that is good. Everyone should know that only 4 countries in the world have actually legalized Marijuana and they are 5 states in the U.S., Uruguay, North Korea, Spain, Bangladesh. The Netherlands restricts personal use but there is no widespread sales. The Point is that every other country in the world sees the dangers of widespread use and have chosen to decriminalize MARIJUANA, but we are going the route of legalization and that is dangerous for our children. ASAM should take on the leadership regarding this issue before it is too late.

Rick Chavez, M.D.

Board Certified by the American Board of Addiction Medicine, the American Board of Pain Medicine, and the American Board of Family Medicine. 10/04/2015

John J Verdon Jr MD FASAM DLFAPA | *Oct 04, 2015*

Mike Superb thank you and your crew

We are in your debt Jack Verdon

Dr Ahmed Omar Al Agib | *Oct 04, 2015*

Thank you for this fruitful information

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Public Policy Statement on Marijuana, Cannabinoids and Legalization

Background

In recent years, many states have considered or enacted policies to legalize cannabis use. As of this writing, Alaska, Colorado, Oregon, and Washington and Washington, D.C. have legalized cannabis use for adults, and 23 states and Washington, D.C. have legalized cannabis for non-FDA-approved medicinal uses under state law.[1] This expansion of access to legal cannabis use has occurred partly because of the perception among the public and lawmakers that marijuana use is harmless or that the harms are not significant, especially compared to the harms associated with the use of currently legal drugs, alcohol and tobacco. Indeed, the 2014 *Monitoring the Future* survey reported a five-year decline in the perceived harm of regularly smoking marijuana, from 52.4% of high school seniors to 36.1%.[2] However, as detailed below, recent research has revealed numerous medical harms associated with cannabis use, not the least of which is the likelihood of developing addiction[a] related to cannabis use. As such, this increasing public access to legal cannabis use calls for a response from the field of addiction medicine.

Cannabis is a plant that has been used as a psychoactive recreational drug for a century in the United States and for longer in other cultures. Its use for purported medicinal benefits also has a long recorded history around the globe, and its use for medical indications has recently expanded in the United States as a non-FDA-approved medical product. Botanical cannabis is usually referred to as marijuana but it also goes by various nicknames, among them “pot” or “weed.” The primary psychoactive compound in cannabis is delta-9-tetrahydrocannabinol (THC), which is a partial agonist at cannabinoid receptors in the body. The THC content in botanical marijuana sold illicitly for recreational use in America has increased from roughly 3.4% in 1993 to roughly 8.8% in 2008.[3] THC is also the active ingredient in many derivatives of cannabis, including hashish and hash oil, and it is more recently found combined with other substances in high-potency, harder-to-identify products. Other synthetic cannabinoid receptor agonists, such as JWH-018 and HU-210, have recently been gaining popularity as psychoactive substances. These synthetic substances are full agonists at cannabinoid receptors, are more potent than THC, and seem to have more intense and toxic clinical effects. They are used as alternatives to marijuana and some persons elect to use them since they can be obtained legally in many parts of the United States and are not detected by drug tests that solely analyze for THC.[4] Cannabis has been found to be the most frequently used drug in the U.S. after alcohol, tobacco and caffeine. Moreover, marijuana is the most widely used illegal drug in the United States and it is estimated that it is used by 61% of all persons suffering from a substance use disorder related to drugs other than alcohol.[5]

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[a] Addiction is a primary, chronic disease of brain reward, motivation, memory and related circuitry. Dysfunction in these circuits leads to characteristic biological, psychological, social and spiritual manifestations. This is reflected in an individual pathologically pursuing reward and/or relief by substance use and other behaviors.

Empirical evidence associates THC with cannabis dependence[b] (moderate to severe cannabis use disorder in *DSM-V*). In one study, 9.1% of users of cannabis developed cannabis dependence.[6] A more recent study confirmed the risk of developing cannabis dependence to be about 8%, and demonstrated that the likelihood of using alcohol, nicotine and illicit drugs is significantly higher for continuous cannabis users as well as ex-users of cannabis as compared to those who have never used cannabis.[7] The risk of developing addiction associated with cannabis use has been reported to increase to about 17% among those who start using marijuana in adolescence, and to 25-50% among those who smoke marijuana daily.[8] For example, a twin study found that individuals who used cannabis by age 17 were about twice as likely as their twin to develop cannabis abuse[c] or dependence, and 2.1 to 5.2 times as likely to use other drugs, develop alcohol dependence, or develop other drug abuse or dependence.[9] While the prevalence of past-year marijuana use among the U.S. adult population appears to have remained stable at about 4.0% from 1991-1992 to 2001-2002, the percentage of past-year marijuana smokers who displayed evidence of abuse or dependence rose from 30.2% to 35.6%; some have hypothesized that this is related to the increased concentration of THC in marijuana available in the United States in recent years.[10, 11, 12]

In addition to the risk of developing addiction, several other harmful long-term effects of marijuana use on health have been documented, including adverse psychiatric effects from its use. Specifically, the long-term effects of marijuana use include altered brain development and cognitive impairment, including impaired neural connectivity in specific brain regions, decreased activity in prefrontal regions, and reduced volumes in the hippocampus.[13] These effects have been found to be more profound in users who began marijuana use in adolescence or young adulthood.[14, 15] Other studies have found a correlation between the use of cannabis and the appearance of psychotic symptoms and the prevalence of psychotic disorders.[16] Moreover, even prenatal exposure to marijuana has been shown to be predictive of psychotic symptoms in young adulthood.[17] There is also evidence of a correlation between cannabis use and decreased academic performance, in addition to an increased likelihood of dropping out of school.[13] A review of multiple studies found consistent associations between cannabis use and lower educational attainment.[18] Another study found an association between cannabis use disorder and nonmedical use of prescription stimulants for studying, reduced class attendance and declining academic performance.[19] Along with lower educational attainment, research on employed individuals has found consistent associations between cannabis use and reduced workplace productivity.[20] Many of these studies await replication. However, collectively, these data are sufficient to suggest that children, pregnant women, and youth with still-developing brains should not use cannabis or cannabinoids due to a variety of neuropsychiatric health effects and impacts on cognitive functioning.

Cannabis is most commonly consumed through smoking, a route of drug delivery that predictably has a variety of negative effects on pulmonary function. Smoke from marijuana combustion has been shown to contain a number of carcinogens and cocarcinogens,[21] as well as many of the toxins, irritants, and carcinogens as tobacco smoke. [22] Additionally, marijuana smokers tend to inhale more deeply and hold their breath longer than cigarette smokers, which

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[b] *Marijuana dependence* is defined in the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV)* as increased tolerance, compulsive use, impaired control, and continued use despite physical and psychological problems caused or exacerbated by use.

[c] *Marijuana abuse* is defined in *DSM-IV* as repeated instances of use under hazardous conditions; repeated, clinically meaningful impairment in social/occupational/educational functioning, or legal problems related to marijuana use.

leads to a greater exposure per breath to “tar” (the carcinogenic solids in smoke).[23] Regular smoking of marijuana, in the absence of tobacco, produces visible and microscopic injury to the large airways.[24]

Short-term exposure to marijuana smoking is associated with bronchodilation, while long-term marijuana smoking is associated with increased respiratory symptoms suggestive of obstructive lung disease.[25] Yet, there is no clear link between marijuana smoking and obstructive pulmonary disease,[26] such as bronchitis and emphysema, and there is no conclusive evidence of marijuana smoking-induced lower respiratory tract infection.[27] Whereas evidence is mixed concerning possible carcinogenic risks of heavy, long-term marijuana smoking,[28] epidemiological findings to date do not suggest an increased risk for the development of either lung or upper airway cancer from light or moderate use. In fact, the findings of one study that had reported increased rates of lung, upper respiratory and digestive tract cancers in users who smoked the equivalent of no more than one joint or one pipeful of hashish per day were found to be not valid once cigarette smoking and other confounders were taken into account.[29]

An increasingly popular route of administration for THC has been the incorporation of marijuana into edible products, including baked goods, candies and marijuana-infused beverages, which are readily available at retail outlets in states that have legalized cannabis use. For example, in Colorado, marijuana-infused edibles account for 45% of the legal marijuana marketplace.[30] Given their appearance and current trends in packaging and product names, edibles are often particularly attractive to young adults and even children. The absence of any quality control, consumer labeling, or predictability in dosing in edibles has led to appropriate cautionary commentaries and calls for action to protect the public health.[31] The THC content of such products has a wide range, and a given edible can contain several individual doses-worth of THC. Importantly, research has found these products are not consistently labeled; in one study, of 75 products purchased, only 17% were accurately labeled.[32] In part because consumers may be unaware of the THC content in edibles, hospital emergency departments are treating more children and adults who develop paranoia, anxiety and/or psychosis following intentional or accidental ingestion of marijuana edibles.[33,34]

There are several potential medical and public health consequences of marijuana use that require further research. Still under investigation is the potential depressive effect of THC on the immune system.[35] More research is also needed on the impact of cannabis use on driving, motor vehicle collisions, and traffic injuries and fatalities. Evidence shows that marijuana use impairs cognitive function, reaction times, divided-attention tasks, and lane tracking,[36] all of which impact driving ability. A recent National Highway Transportation Safety Administration study found no significant increase in crash risk associated with the presence of marijuana when controlling for age, gender, ethnicity and alcohol use.[37] However, several other studies have reported increased crash and culpability risks, even after adjusting for such confounders as age, sex, risky behaviors, and polypharmacy.[37] Finally, it is worth noting the observed drop in opioid overdose death rates in states where marijuana use is legal for medicinal purposes. One study found that states with “medical marijuana” laws had a 24.8 percent lower average annual opioid overdose death rate compared to states without similar laws.[38] According to the study, in 2010 alone, that translated to about 1,729 fewer deaths than expected.

Marijuana contains at least 85 distinct cannabinoids,[39] several of which are being investigated for their potential therapeutic value. To date, the FDA has approved two pharmaceutical products for human use which contain active ingredients that are present or similar to those present in botanical marijuana: Marinol® and Cesamet®. Marinol®, a Schedule III drug whose active ingredient is a synthetic version of THC, is approved for the treatment of chemotherapy-

induced nausea and vomiting as well as anorexia associated with AIDS and increased intraocular pressure in cases of glaucoma.[40] Cesamet®, a Schedule II drug, contains the synthetic cannabinoid nabilone and is approved for the treatment of nausea and vomiting associated with chemotherapy.[41] Other cannabis-derived or cannabis-like drugs are being developed and have been approved for use in other countries. One example is Sativex®, a fast-acting non-synthetic oral-mucosal cannabinoid spray containing 50% THC and 50% cannabidiol, which is available in Canada, New Zealand, the United Kingdom, and several European countries to treat spasticity in multiple sclerosis (MS).[42] Cannabidiol (CBD), a non-psychoactive cannabinoid, is one of the main known active ingredients in marijuana besides THC that may have desirable medicinal effects.[43] CBD has been shown to have antipsychotic effects,[44] as well as anticonvulsant, neuroprotective and anti-inflammatory effects.[45] The medical literature contains only small and methodologically limited studies of CBD in human epilepsy, the results of which have been inconclusive; there is a clear need for further investigation into its potential in epilepsy and other neuropsychiatric disorders.[46] Pharmaceutical grade cannabidiol is being investigated, along with genetically modified strains of botanical marijuana which contain almost exclusively cannabidiol and essentially no THC,[47] and regulatory reform to facilitate research into the potential efficacy and safety of cannabidiol for possible medical uses has been proposed.[48] To date, 15 states have legalized limited access to marijuana products with low THC/high CBD content for medicinal purposes,[49] sometimes in response to reports in the popular media of benefits for neuropsychiatric conditions that are not yet substantiated by well-designed medical research studies.

Herbal marijuana is also increasingly sought out for its purported medicinal effects. However, unlike the above-mentioned regulated pharmaceuticals, which have been tested for safety and efficacy, the potency, purity, and effective does of herbal marijuana and cannabis-infused edible products are unknown. A recent review of cannabinoids for medical use has called into question the efficacy of these types of products, finding only moderate-quality evidence to support the use of cannabinoids for the treatment of chronic pain and spasticity, and only low-quality evidence suggesting cannabinoids were associated with improvements in chemotherapy-related nausea and vomiting, weight gain in HIV, sleep disorders and Tourette syndrome.[50] The review also confirmed cannabinoids were associated with an increased risk of short-term adverse events. Given the uncertain evidence to support the safety and efficacy of cannabis and cannabinoid-products in the treatment of medical conditions, ASAM and a number of other professional medical societies have advised that all cannabis-based medicinal products, like all other medicinal products, should be approved by FDA. And given the current state of medical evidence, the American Medical Association has gone so far as to advise that marijuana and cannabis-containing products such as edibles should be required to be labeled with the statement: “Marijuana has a high potential for abuse. It has no scientifically proven, currently accepted medical use for preventing or treating any disease process in the United States.”[51]

These various responses of professional and research entities to expanding knowledge of the health and public health aspects of marijuana and other cannabinoid use, and to the need for expanded knowledge via increased research, have developed in a larger sociological and political context in which approximately half of Americans support legalization. ASAM recognizes that an important factor in the changes in public attitudes about legalization, as well as philosophical positions held by physicians on such matters, is the perception that the current drug control policy which emphasizes criminalization ("The War on Drugs") hasn’t been effective, has expanded incarceration in our nation in non-salutary ways, and is biased against minority citizens. There are indeed public health aspects of criminalization, but these are beyond the scope of this policy statement.

One of the suggested solutions to the problems of criminalization is legalization. In its extreme, legalization includes legal commercialization, with for-profit entities manufacturing, distributing, marketing, and wholesaling cannabis and psychoactive cannabis products for retail sale. The image of major corporations entering "the business" of marijuana is disturbing in its similarity to the presence of major corporations in the promotion and sale of tobacco products. Quite different from a policy of legalization is a policy of decriminalization, in which possession and personal use of cannabis and cannabis products is not tied to criminal penalties. One version of decriminalization has criminal penalties for possession and personal use reduced to lesser offenses such as misdemeanors; but this still results in those convicted of possession having criminal records which can lead to lifelong discrimination against them. Another version of decriminalization would reduce penalties for possession and use to civil offenses only (non-criminal citations, "tickets," or fines), which could be linked to contingencies that would promote public health, such as mandatory clinical assessments, health education related to substance use and substance use disorders, and referral to addiction treatment when indicated. Common models of decriminalization retain criminal penalties for distribution or importation. The nation of Portugal has drawn attention for its drug policy reforms which strive to emphasize public health, including early identification of cases of addiction and referral to clinical interventions in lieu of criminal sanctions. Comparable models for drug policy reform can mandate follow-through with required clinical assessments and escalating civil penalties for individuals who fail to comply with medical recommendations or who become habitual offenders of civil regulations addressing cannabis possession and use. ASAM's intention in developing the current policy statement is to assist health care professionals and the general public, as well as policy makers and the media, to better appreciate current evidence about the biology and health aspects of the use of cannabis, cannabis products, and synthetic cannabinoids. The overall response of American society to cannabis use is undeniably relevant to the medical and public health communities as they address the health aspects of human use of such products.

In light of the evolving legal landscape surrounding cannabis in the United States, which is giving rise to increased availability and use of cannabis and cannabis products, ASAM's viewpoint is that it is imperative that Americans promote and adopt public policies that protect public health and safety as well as protect the integrity of our nation's pharmaceutical approval process, which is grounded in well-designed and executed clinical research. Currently, the legalization of cannabis in some states but not others provides a unique opportunity for a thorough investigation into the societal and public health impact of broader cannabis use. Such research is critical to inform other jurisdictions in how they can best protect and promote public health as they consider the legal status of marijuana use.

Recommendations:

A. Policy Recommendations

1. **ASAM supports the "decriminalization" of marijuana**, which would reduce penalties for marijuana possession for personal use to civil offenses linked to contingencies, such as mandated referral to clinical assessment, educational activities, and, when indicated, formal treatment for addiction or other substance-related disorders.
2. **ASAM does not support the legalization of marijuana and recommends that jurisdictions that have not acted to legalize marijuana be most cautious** and

not adopt a policy of legalization until more can be learned from the "natural experiments" now underway in jurisdictions that have legalized marijuana.

3. **ASAM recommends that jurisdictions that have already legalized marijuana or that may act to legalize it in the future implement the following public health and safety measures to minimize potential harms to vulnerable populations.** ASAM encourages addiction medicine physicians to champion the implementation of these safeguards in all jurisdictions where marijuana has been legalized or may be legalized in the future.
    a. Prohibit the legal sale of marijuana products to anyone younger than 25 years of age.
    b. Prohibit marketing and advertising to youth, akin to the current restrictions on tobacco product advertising.
    c. Require that products made available for retail sale be tested for potency and clearly labeled with THC content.
    d. Require rotating warning labels to be placed on all marijuana and marijuana products not approved by the U.S. Food and Drug Administration (FDA) which are offered for sale in retail outlets, stating, "Marijuana use increases the risk of serious problems with mental and physical health, including addiction," or "Marijuana should not be used by pregnant women or persons under age 25," or "Marijuana should not be used by persons prior to operating motor vehicles and heavy machinery."
    e. Require that marijuana products (such as edibles and beverages) be sold only in child-proof packaging and be accompanied by the mandatory distribution of educational flyers regarding the risks of overdose and poisoning in cases of accidental ingestion by children or household pets.
    f. Earmark taxes placed on marijuana and marijuana product sales, wholesale or retail, such that a majority of tax revenues are required to be devoted to public education about addiction, prevention of addiction, health effects of cannabis and synthetic cannabinoid use, prevention of initiation of cannabis and cannabinoid use by youth, addiction treatment, or research on the health risks and potential benefits of marijuana, "natural" cannabinoids, and synthetic cannabinoids.
    g. Limit marijuana and marijuana product sales to state-operated outlets, akin to Alcohol Beverage Control regulations existing in several states and Canadian provinces, which preserve both public access and the potential for governmental revenues linked to sales, while limiting the broad commercialization of public sale of potentially harmful but brain-rewarding products.
    h. Implement public awareness campaigns which highlight the risks of marijuana use to discourage vulnerable populations, including youth (i.e., adolescents and young adults), individuals with mental illness, and those with a history of addiction involving alcohol or other drugs, from using marijuana products.

4. **ASAM supports the use of cannabinoids and cannabis for medicinal purposes only when governed by appropriate safety and monitoring regulations, such as those established by the FDA research and post-marketing surveillance processes.**
    a. ASAM supports the medicinal use of pharmaceuticals that contain cannabinoids that have gone through the FDA-approval process.
    b. ASAM asserts that cannabis, cannabis-based products, and cannabis delivery devices should be subject to the same safety and efficacy standards that are applicable to other prescription medications and medical devices.[52] Such products should not be distributed or otherwise provided to patients unless and until they have received marketing approval from the FDA.
    c. In general, any product purported to be medicine should have the appearance of medicine, such as a pill, capsule or wafer, and should not appear to be candy or food.
    d. Physicians who recommend marijuana use to patients should do so within the context of a patient-physician relationship that includes the creation of a medical record, and follow-up visits to assess the results of physician-recommended clinical interventions so that treatment plans can be amended, as indicated.
    e. ASAM rejects smoking as a means of drug delivery.
5. **ASAM does not support the legalization of synthetic cannabinoid receptor agonists.** ASAM supports the establishment of legal controls on the manufacture and sale of synthetic cannabinoid receptor agonist compounds within the framework of controlled substances laws for other highly addictive compounds.

B. Clinical Recommendations

1. **ASAM recommends that addiction medicine physicians and other clinicians educate their patients about the known medical risks of marijuana use,** including the use of and accidental exposure to edible products, and the risks of use of synthetic cannabinoid receptor agonists.
2. **ASAM recommends a significant expansion of opportunities for youth with cannabis use disorder to receive medically necessary treatment** as well as for youth to receive appropriate clinical preventive services related to cannabis use, and that private and public insurance coverage be available for youth to be able to access such services.
3. **ASAM supports the consensus of most addiction professionals that clinicians should counsel persons suffering from addiction about the need for abstinence from marijuana and synthetic cannabinoids and the role of cannabis and cannabinoid use in precipitating relapse,** even if the original drug involved in their addiction is a substance other than marijuana.

4. **ASAM supports the expanded establishment of clinical entities such as Student Assistance Programs in middle schools, high schools, and post-secondary schools, including professional schools,** which offer health promotion approaches and support services to persons, especially youth, who have been identified as having cannabis or cannabinoid use disorder or other unhealthy use of such substances.
5. **ASAM recommends that medical professional societies educate the public, the media, and public policy makers that there is no such thing as a legal "prescription" for marijuana and that laws enacted to date provide for physicians to authorize "permits" for use and possession and nothing more.**

C. Professionalism Recommendations

1. **ASAM asserts that in states where physicians are placed in the gate-keeping role of authorizing marijuana use permits, professional licensure authorities should take steps to ensure that physicians who choose to discuss the medical use of cannabis and cannabis-based products with patients:**
    a. Are able to have good-faith discussions with patients without conversations on such topics between clinicians and patients being considered illegal or unprofessional acts.
    b. Adhere to the established professional tenets of proper patient care, including
        i. History-taking and good faith examination of the patient;
        ii. Development of a treatment plan with clinical objectives;
        iii. Provision of informed consent, including discussion of potential adverse drug effects from use;
        iv. Periodic review of the treatment's efficacy;
        v. Consultation, as necessary, with other clinical colleagues; and
        vi. Proper record keeping that supports the clinical decision to recommend the use of cannabis.
    c. Have a *bona fide* patient-physician relationship with the patient, i.e., should establish an ongoing relationship with the patient as a treating physician when there is not a pre-existing relationship, and should offer recommendations regarding the use of marijuana within the context of other indicated treatment for the patient's condition; they should not offer themselves to the public as solely a permit-authorizing individual;
    d. Ensure that the issuance of "recommendations" is not a disproportionately large aspect of their practice;
    e. Have adequate training in identifying addiction and unhealthy substance use.

D. Research Recommendations

1. **ASAM supports research on marijuana, the various cannabinoids present in marijuana, and synthetic cannabinoid agonists and**

antagonists, including both basic science and applied clinical studies, as well as the development of pharmaceutical-grade cannabinoids. The mechanisms of action of marijuana and its constituent compounds, its effect on the human body, its addictive properties, and any appropriate medical applications should be investigated, and the results made known for clinical and policy applications. Research should be expanded on functional impairments associated with use of cannabis and related substances including effects on driving, how to distinguish impaired driving due to cannabinoids from impaired driving due to other factors, and effects on educational and occupational performance.

a. Research should receive increased funding and appropriate access to marijuana for study.
    i. ASAM recognizes that research into the medical benefits of marijuana is not within the remit of the National Institute on Drug Abuse (NIDA) and encourages other NIH institutes to sponsor additional research on the potential medicinal properties of cannabis and cannabinoids related to specific disease states.
    ii. ASAM supports the expansion of NIH-approved research sites to grow different strains of marijuana with varying composition and concentration of specific cannabinoids. Thus, ASAM believes NIH should be able to grant multiple contracts to grow marijuana for research purposes.

2. **ASAM recommends that the federal and state governments establish robust health surveillance related to marijuana use.** The data should be made available to public health and health policy researchers to understand the public health impact of marijuana use as well as the relative effectiveness of different policy levers to discourage use among vulnerable populations, especially adolescents and young adults, persons with mental illness, and persons with pre-existing substance use disorders.

Adopted by the ASAM Board of Directors September 21, 2015.

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ADVOCACY

White Paper on State-Level Proposals to Legalize Marijuana

Adoption Date:

July 25, 2012

PDF

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I. Introduction

Marijuana legalization has been featured widely across the United States in both national and local media. At the same time, increasing rates of marijuana use among youth and adults in the United States have made headlines and the prevalence of substance use disorders associated with marijuana use remains a serious medical issue. In the last decade, the number of state initiatives aimed at changing the legal status of marijuana has dramatically increased, initially focused on legalization of marijuana use for "medical" purposes, but more recently focused on legalization of any marijuana use by adults. Public opinion on marijuana has changed over time with recent increases in support for both "medical" marijuana and legalization.[1][2]

Much of this support has arisen from well designed and effective public relations campaigns. It has been suggested that the public health consequences of the legal substance alcohol are more severe than those arising from marijuana use. In this view the costs and consequences of "prohibition" cause more harm than the use of marijuana and fuel violence in the illicit markets. Support for marijuana legalization based on belief in these arguments is fortified by the promise of tax dollars plentiful enough to banish deficits and/or fuel the expansion of substance abuse prevention and treatment. The current high prevalence of lifetime marijuana use by young people is presented as evidence of failed marijuana control strategies. These opinions converge to promote marijuana legalization.

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It is against this backdrop of recent calls for change and current state-level marijuana legalization proposals that in April 2012, the American Society of Addiction Medicine (ASAM), the largest association of physicians specializing in addiction, established a Writing Committee to Develop a Response to State-Level Proposals to Legalize Marijuana for approval by the ASAM Board of Directors. Its intent is to inform ASAM members and other physicians about marijuana legalization and to make available to the public and to public policymakers the judgment of ASAM.

This White Paper extends ASAM's previous White Paper, The Role of the Physician in "Medical" Marijuana,[3] and its companion Public Policy Statement.[4] These documents reviewed the extensive research on the potential therapeutic uses of marijuana concluding that smoked marijuana is not, and cannot be, a medicine. ASAM recommended that any chemicals in marijuana shown to be effective and recognized as safe for use as treatments for any illness should be made available as standardized and characterized products, approved by the Food and Drug Administration (FDA), and dispensed by professional pharmacies like all other medicines.

ASAM's concern about possible legalization of marijuana is heightened by the fact that marijuana is the most widely used illegal drug in the United States. Marijuana is the drug used by an estimated 61% of all Americans suffering from a substance use disorder (abuse or dependence) related to drugs other than alcohol.[5]

In order to discuss both the goals and the negative effects of marijuana legalization, a crucial distinction must be made between the terms "legalization" and "decriminalization." Marijuana decriminalization at the state level generally removes criminal penalties for the possession and use of marijuana while the production and sale of the drug remain illegal. Full legalization, in contrast, embraces the commercialization of production, sale and use of marijuana. As of July 2012, three states will have proposals to legalize marijuana on their November 2012 ballots.

This White Paper does not review general "drug policy;" rather, it assesses the goals and consequences of state-based marijuana legalization and specifically expresses the conclusions of ASAM based on its bedrock commitment to science and to the nation's public health. As outlined in its recommendations here, ASAM does not support proposals to legalize marijuana anywhere in the United States, including the current state-based legalization proposals which will appear on the November, 2012 ballots.

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II. Background and Significance

Marijuana use has many serious, negative health effects which are of deep concern to the ASAM. Marijuana can lead to tolerance to the effects of delta-9-tetrahydrocannabinol (THC), as well as to addiction.[6] [7] Marijuana dependence is the most common type of drug dependence in many parts of the world (including the U.S., Canada, and Australia) after tobacco and alcohol. It is estimated that 9% of people who try marijuana become dependent.[8] Those who begin using the drug in their teens have approximately a one in six risk of developing marijuana dependence.[9] Many marijuana users who try to quit experience withdrawal symptoms that include irritability, anxiety, insomnia, appetite disturbance, and depression.[10] A U.S. study that dissected the National Longitudinal Alcohol Epidemiologic Survey (conducted from 1991 to 1992 with 42,862 participants) and the National Epidemiologic Survey on Alcohol and Related Conditions (conducted from 2001 through 2002 with more than 43,000 participants) found that the number of marijuana users remained roughly unchanged over that period of time while the number of dependent users increased 20%—from 2.2 million to 3 million.[11] This study's authors speculated that higher potency marijuana may have been a cause of this increase. Additionally, the National Institute on Drug Abuse (NIDA) found that in 1993, marijuana use resulted in approximately 7% of all state-funded treatment admissions;[12] by 2009 that number had increased to 18%.[13] In Western and Central Europe, marijuana is a significant public health concern. It has been reported as the primary drug of abuse in 21% of cases in addiction treatment services offered in Western and Central Europe, and 14% of cases in addiction treatment services offered in Eastern and Southeast Europe.[14] Further, among all drug treatment patients ages 15-19, 83% were in treatment for primary marijuana use.[15]

Young people are especially susceptible to marijuana addiction. Research from treatment centers in the U.S. indicates that the earlier marijuana use is initiated, the higher the risk for drug abuse and dependence. In 2009, 12.6% of adults 18 and older who first tried marijuana at age 14 or younger were classified with illicit drug abuse or dependence compared to 2.1% of adults who had first used marijuana at age 18 or older.[16] As noted, the early use of more potent marijuana may be driving the increase of admissions for treatment of marijuana abuse. In 2009, 86% of state-funded treatment admissions of individuals between ages 12 and 17 involved marijuana. Indeed, 70% of all treatment admissions involving children aged 12 to 14 and 72%

of admissions of children age 15 to 17 years cited primary marijuana abuse. From 1992 to 2006, rates of admission for children and teens under age 18 for marijuana as the primary substance of abuse increased by 188% while other drugs remained steady.[17] [18] Data in the U.S. is corroborated with data from other countries. In the European Union, the percentage of individuals seeking treatment for primary marijuana use increased by 200% from 1999 to 2006 and currently stands at around 30% of all admissions.[19]

Addiction is not the only health problem related to marijuana use of concern to ASAM. While extensive reviews of the other negative health effects of marijuana use can be found in many other publications,[20] ASAM focuses on some key areas:

The brain: Marijuana intoxication causes short-term effects on the brain related to memory, verbal fluency, attention, learning, perception of time, sensory perception, with variation among chronic and naïve users.[21] There is evidence that chronic marijuana use has varying long-term effects, some of which may not improve over time. Of greatest concern regarding the brain is use of marijuana during adolescence—a time of ongoing brain development. Research evaluating the neurocognitive effects of marijuana provides evidence that heavy marijuana users persistently show decreases in neurocognitive performance[22] and worse neurocognitive effects among individuals who began marijuana use early.[23]

Mental health: The National Institute on Drug Abuse (NIDA) summarizes the research that the use of marijuana is associated with "increased rates of anxiety, depression, and schizophrenia. Some of these studies have shown age at first use to be an important risk factor, where early use is a marker of increased vulnerability to later problems…High doses of marijuana can produce an acute psychotic reaction; in addition, use of the drug may trigger the onset or relapse of schizophrenia in vulnerable individuals."[24] Research indicates an association exists between early marijuana use and the development and worsening of symptoms of schizophrenia.[25]

Prenatal/perinatal: Research has yielded contradictory outcomes of prenatal exposure to marijuana, with some studies suggesting no

adverse effects but other studies have linked prenatal marijuana exposure to reduction in fetal growth, including birth weight, length, head circumference, and gestational age.[26] Reported long-term effects also vary at different ages and include later deficits in intelligence, depression, and later marijuana use.[27]

Respiratory/pulmonary: The respiratory and pulmonary effects of marijuana use are not fully researched. It is well known that marijuana smoke contains carbon monoxide, tar, and more carcinogens than tobacco smoke.[28] The California's Office of Environmental Health Hazard Assessment added marijuana smoke to its official list of known carcinogens in 2009.[29] Marijuana users generally smoke marijuana cigarettes less often than tobacco cigarettes but they also inhale greater volume and hold the marijuana smoke in for longer periods of time.[30] Marijuana cigarettes can deposit as much as four times the amount of tar to the lungs compared to tobacco cigarettes.[31] Although a recent study suggested that there is limited harm to pulmonary function from occasional marijuana smoking,[32] it is clear that chronic smoking is harmful to the lungs.[33] Research indicates that chronic marijuana smokers are more prone to bullous lung disease than cigarette smoking counterparts and at much younger ages.[34] The lack of available conclusive research on the extensive short- and long-term effects of smoking marijuana may be informed by the history of research on the effects of tobacco which was conducted and collected over many decades.

The serious adverse health effects of marijuana use—including addiction—outlined here are a brief summary, making clear that marijuana use adversely affects both users and their families. ASAM is concerned that much of the current discussion of changes in marijuana policy focuses only on the goals of marijuana "reform" proposals, ignoring the serious adverse health and safety effects of marijuana use. The negative health effects of marijuana must play a significant role in the decision-making process of developing a marijuana policy to promote the public health.

III. Goals of Marijuana Legalization

Marijuana legalization has been promoted as a public health and safety measure, as a way to decrease drug-related crime, and as a solution to the harms caused by marijuana criminalization, including incarceration, among others. In particular, those who advocate for the legalization of marijuana commonly argue that marijuana legalization will significantly reduce the illegal trade of marijuana and the crime associated with that illegal trade. They further anticipate that legal

marijuana will be a significant source of tax revenue, and it will reduce the high costs related to law enforcement. These claims have not been validated, in part because the full consequences of marijuana legalization remain unknowable; however there exists valuable, independent, but limited, prospective research on the likely outcomes of state-based marijuana legalization in the U.S.

The RAND Corporation analyzed the prospective effects of legalized marijuana under passage of California's Proposition 19 in 2010 with the continued federal prohibition of marijuana.[35] Researchers concluded that rates of marijuana use in that state would substantially increase. Prohibition of drugs, including marijuana, currently increases the cost of doing business because of the many risks it places on producers and sellers. Under state legalization, the price of marijuana would drop significantly—up to 80%—with the market price for users depending on taxes and regulation. A "gray market" would still exist for non-taxed, unregulated marijuana.[36] The black market potential for marijuana is great, as the United States has learned from tobacco which is smuggled illegally over the Canada-U.S. border. The specific design of state legalization would dramatically impact projected taxes collected and rates of use, including how high a tax is used, differences in taxes and regulation of potency, home cultivation of the drug, advertising, and the development and management of the regulatory system put in place.[37] This would be in conflict with federal law under which marijuana still would be illegal.

Another RAND study concluded that marijuana legalization in California would not significantly reduce Mexican drug trafficking organizations' (DTOs') gross revenue, nor would it significantly reduce drug-related violence in Mexico.[38] Researchers noted that "the only way Prop 19 could importantly cut DTO drug *export* revenues is if California-produced marijuana is smuggled to other states at prices that outcompete current Mexican supplies"(p. 3).[39] Diverted marijuana from legal production in one state has implications for all others, as it would undercut marijuana prices across the country.[40]

The price elasticity of marijuana under a legalization scheme is complicated because addictive substances do not behave in the market the same way non-addictive substances do. Demand for marijuana changes from a perceived luxury with first-time use to a virtual necessity for those users who have marijuana dependence. For the non-dependent marijuana user, demand is sensitive to changes in price.[41] [42] Marketing to customers has potential under both legalization and decriminalization scenarios to drive up the market. Should the legalization of commercial sales of marijuana be accompanied by

legalization of advertising of commercially sold marijuana, the evidence that tobacco cigarette advertising increases consumption[43] suggests that the same effect on demand may be true for marijuana. Levels of exposure to cigarette advertising impact adolescent smoking behaviors, with high exposure to cigarette advertising increasing the likelihood of smoking.[44] There is also evidence that alcohol advertising increases alcohol consumption, and separately, that bans against advertising alcohol have varying effects on reducing use.[45]

ASAM recognizes that while the studies of prospective marijuana legalization described here relate specifically to California, the findings are likely applicable to other states, should legalization initiatives pass and be implemented. If marijuana were legalized in any state, there would likely be changes—both expected and unexpected—in price, taxes, and marketing within that state and in surrounding states.

In addition to collecting revenues, state-based marijuana legalization initiatives seek to mitigate the harmful effects of current criminal justice sanctions related to marijuana, as there is a widely held perception that the public health harms of criminal justice interventions are greater than their benefits. The United States has one of the highest rates of incarceration in the world, with 7.2 million people under supervision of the criminal justice system,[46] of which a 5.5 million people are on probation and parole.[47] In a sample of male arrestees from ten sites in the U.S., more than half tested positive for illicit drugs at the time of arrest, ranging from 64-81%,[48] demonstrating the ongoing connection between crime and drug use. Drug use often continues after release and is tied to high rates of recidivism while under community supervision. Marijuana was the most common drug identified among offenders with 36-56% testing positive.[49] In terms of the role of marijuana sale in incarceration, the majority of individuals in state and federal prison for marijuana offenses are neither “unambiguously low-level” nor are they “kingpins” in the drug trade.[50] Further study confirmed that an estimated 0.5% of all incarcerated individuals served time for their marijuana use; the vast majority of individuals incarcerated for marijuana possession were involved in distribution.[51] Similarly, analysis by the National Center on Addiction and Substance Abuse at Columbia University (CASA) showed that only 2% of all incarcerated persons in the nation’s prisons and jails were incarcerated due to a marijuana charge as the controlling offense.[52] Controlling offenses of marijuana possession accounted for 1.1% of all incarcerated persons while 0.9% of all inmates were incarcerated for marijuana possession as their only offense.

Arrests for marijuana possession account for 45.8% of all drug-related

arrests,[53] totaling 750,000 arrests in 2010. Based on the number of people serving time for marijuana offenses compared to the number of sellers, researchers have concluded that, despite the many arrests for possession, "marijuana toughness" is low in the U.S.[54] The likelihood that at present, marijuana sellers will spend time incarcerated is very low compared to sellers of other illicit drugs such as cocaine and heroin; therefore, "easing up on toughness" of marijuana laws would not substantially reduce incarceration rates and its substantial costs, though it is unclear what would be the full impact of marijuana legalization on this population.[55] Removing criminal penalties for marijuana possession (i.e. marijuana decriminalization) could substantially reduce the large number of marijuana possession arrests depending upon laws regarding limitations on possession, use, transportation, etc. Likewise, under marijuana legalization, marijuana possession arrests would likely plummet in those states; however, under both circumstances, other marijuana-related arrests would still be made (see **IV. Negative Consequences of Marijuana Legalization**).

IV. Negative Consequences of Marijuana Legalization

Any state considering changing the legal status of marijuana should consider the negative health consequences of such changes, as well as the benefits of maintaining the criminalization of marijuana sale and use.

Advocates for marijuana legalization often promote as a reason to legalize marijuana the fact that the costs of alcohol and tobacco far outweigh those of marijuana. ASAM recognizes that at present, legal drugs like alcohol and tobacco are more widely used and cause substantial—and significantly more, in many cases—harm than marijuana and in some cases, more harm than all of the illegal drugs combined. The nonmedical[56] use of prescription drugs is now the fastest growing drug problem in the United States.[57] [58] These legal drugs provide evidence that drug use itself—not its illegality—is a national public health threat. Legal drugs currently wreak havoc on public health, producing substantial financial and health burdens. The White House Office of National Drug Control Policy (ONDCP) affirmed that, "The healthcare and criminal justice costs associated with alcohol and tobacco far surpass the tax revenue they generate, and little of the taxes collected on these substances is contributed to the offset of their substantial social and health costs."(p.23)[59] The annual social cost in the US of alcohol is estimated at between $185[60] and $235 billion [61] and for tobacco at $200 billion. [62]

Those costs vastly exceed the value of US tax revenue from the sale of these two substances ($14 billion for alcohol[63] and $25 billion for tobacco[64]). The same would likely be true for legal marijuana. The College on Problems of Drugs and Dependence (CPDD) acknowledges, "At present levels of use, the health costs [illegal drugs] impose on users and on society are dwarfed...by those attributable to tobacco (nicotine) and alcohol. The health costs of illicit drugs might well approach or exceed those of tobacco and alcohol if their legal status were changed and their use increased sharply."(p. 2).[65]

Revenues from taxes on alcohol and tobacco currently do not approach the costs of prevention and treatment. It is also unclear how significant would be the cost of setting up a regulatory scheme for legal marijuana. Although a possible goal of state-based marijuana legalization could be to increase funding for addiction prevention and treatment through taxation of commercial activities associated with legalized marijuana, such an outcome is far from likely to be achieved as can be seen from the use of tax revenue from legal alcohol and tobacco; moreover, the negative health effects of increased marijuana use (as outlined in **II. Background and Significance**) would substantially escalate.

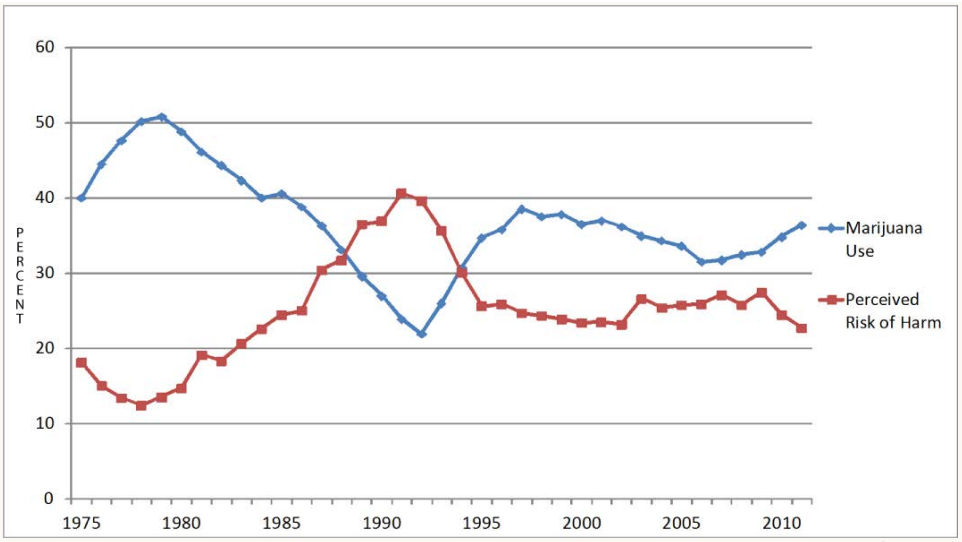
There is great uncertainty of anticipated federal government involvement in enforcing federal marijuana laws should marijuana be legalized at the state level. Nationally, there are an estimated 2.7 million alcohol-related arrests each year[66] compared to 750,000 annual marijuana possession arrests.[67] If marijuana use increased, as can be expected under legalization, it is likely that there would be an increase in the number of arrests at the state level for marijuana-related incidents such as public use violations, violations in laws regulating age limits, and marijuana-related arrests for driving under the influence (DUI).

Currently, marijuana is the most common drug involved in drugged driving—a significant cause of highway crashes, injury, and death.[68] New research from meta-analyses shows that marijuana use doubles the risk of a crash;[69] [70] habitual marijuana use is associated with increased risk of crash injury.[71] Among all fatally injured drivers in the U.S. in 2009 for which drug test results were available, 8.6% were positive for marijuana.[72] A study of fatally injured drivers in Washington State showed that 12% were positive for marijuana.[73] A study of seriously injured drivers in Maryland showed that 26.9% were positive for marijuana; 50% of drivers under age 21 were positive for marijuana.[74] Increases in rates of drugged driving due to marijuana would raise the costs resulting from crashes, injuries, and lost lives.

Thus, decreases in highway safety constitute an easy-to-predict negative consequence of the legalization of marijuana use by adults.

Advocates of marijuana legalization commonly support the use of an age limit of 21 for marijuana use, production, and sales, similar to standards for alcohol. Rates of youth drug use instruct youth prevention needs. The relationship between "perceived harm" from use of a drug and rates of drug use has been well established by public health researchers. A recent report by the United States Senate Caucus on International Narcotics Control, released in June 2012, expressed serious concern over recent increases in national rates of marijuana use, particularly noting more favorable attitudes of youth regarding marijuana use.[75] The Monitoring the Future (MTF) study from the University of Michigan importantly has shown an inverse relationship between the perception of risk of harm from use of a drug and the rate of the use of that drug.[76] This study has shown consistently over decades that when the perception of harm from marijuana use was high, marijuana use was low and when the perception of harm from marijuana use was low, the use was high (See Figure 1). After a decline in marijuana use among 8th, 10th and 12th graders in the U.S., marijuana use increased over the past four years, with significant increases seen from 2009 to 2010 for lifetime, past year, past 30 day, and daily use across all grades[77] and continued increases among 10th and 12th graders in 2011. [78] Daily marijuana use, defined as use on 20 or more occasions in the past month, increased from 2010 to 2011 for all grades, with a statistically significant increase from 2007.[79] In 2011, daily marijuana use among 12th graders reached a 30-year high of 6.6% or 1 in 15.[80] (It is important to note that the MTF study does not capture the attitudes and drug using behaviors of school-aged persons who have dropped out of school or have been expelled.)

Figure 1. Past Year Marijuana Use and Perceived Risk of Harm of Occasional Marijuana Use Among 12th Graders, 1975-2011



[a] Source: Monitoring the Future Study, www.monitoringthefuture.org .

As a comparison, cigarette use among high school students has continued to decline since the mid to late 1990s while marijuana use remained steady until its recent upswing since the mid 2000s. Rates of past month marijuana use exceeded those of past month cigarette use across all grades: 7.2% vs. 6.1% of 8th graders, 17.6% vs. 11.8% of 10th graders, and 22.6% vs. 18.7% of 12th graders, used marijuana vs. cigarettes, respectively. Research has also indicated an association between early marijuana use and later illicit drug use,[81] as well as later tobacco use and nicotine dependence.[82]

The American Academy of Pediatrics (AAP) suggests that based on the experiences of alcohol and tobacco, "legalization of marijuana would have a negative effect on youth"(p. e636).[83] The AAP predicts that if marijuana were legalized, perceived risk of harm would likely decrease in conjunction with increases in use.[84] ASAM concurs with the AAP that legalization would have the unintended consequences of decreasing the perceived harm associated with marijuana use and thus, would be associated with increases in rates of marijuana use. The legalization of marijuana would produce serious public health harms, including increased marijuana use, among youth.

The Senate Caucus on International Narcotics Control noted that along with changes in marijuana use rates and corresponding changing attitudes about marijuana use, legal changes have been made at the state level regarding the status of marijuana, stating that "the increasing trend in marijuana production in states with permissive medical marijuana laws cannot be ignored given the considerable danger domestic cultivation poses to changing attitudes among American youth."(p. 14)[85] And yet, when considering alternatives to the federal scheduling of cannabis under the Controlled Substances Act

(CSA), the Senate Caucus stated, “We believe focusing resources on alternative medicine development through an approved Federal Drug Administration (FDA) process, rather than the legalization of marijuana, is the best route to explore.”(p. 15)[86]

The College on Problems of Drugs and Dependence (CPDD), in its public policy statement on drug policy, makes the point that that rates of consumption of a drug in a population correlate directly with availability: “The more available a drug of abuse, the more people use it, the more is consumed by the user, and the higher is the number of users who encounter problems caused by heavy use. Therefore, legal controls (including but not necessarily limited to prohibitions) that restrict availability are effective means of reducing consumption, reducing drug-induced problems, and discouraging initial use by children and adolescents.”(p.2)[87]

A 2008 publication from the Marijuana Policy Project (MPP), an organization that seeks to legalize marijuana, suggested that “medical” marijuana laws do not increase teen marijuana use, showing that rates of teen marijuana use in the years of law passage in the mid to late 1990s were higher than those in the mid 2000s[88] but analysis has shown that from 2002 to 2008, rates of marijuana use among adolescents in “medical” marijuana states were higher than youth in states without those laws.[89] Although research is unclear as to why rates of marijuana use were different among youth in these states, it does not follow that making marijuana more accessible at the state level would reduce marijuana use among youth. ASAM has stated that it clearly “opposes any changes in law and regulation that would lead to a sudden significant increase in the availability of any dependence-producing drug (outside of a medically-prescribed setting for therapeutic indications”(p.3).[90] The availability of marijuana would surely increase under state-based legalization and a substantial marijuana industry would emerge under legalization, as has begun to happen with the legalization of “medical” marijuana.

Many in support of marijuana legalization disregard concerns about the potential increases in the availability of marijuana and/or increases in marijuana use should such laws be passed. The negative health effects of marijuana use often are overlooked or unknown. However, a clear-cut negative health consequence of legalization of marijuana sale and use would be an increase in the number of persons, including youth, in need of treatment services for cannabinoid or marijuana addiction. ASAM, as an organization devoted to the science of addiction

medicine, is particularly concerned about this potential rise in population-level addiction rates.

V. International Context

Those in favor of legalizing marijuana in the United States sometimes turn to the experiences of other nations with less restrictive approaches to drug policy, particularly the Netherlands and Portugal, to inform their cause. As noted, no country has legalized marijuana use and sale. In the Netherlands, the use, possession, and sale of marijuana all remain illegal. The laws which would typically ban marijuana "coffee shops" (where marijuana is sold) and marijuana users within these shops are not enforced is a policy of "toleration." Historically, Dutch coffee shops have been permitted to sell marijuana under simple, but strict conditions such as without advertisement, in limited amounts (5 grams) per person each day, only to adults age 18 and older, and without "cause of nuisance."[91] The marijuana sold in these shops has been and continues to be illegally grown and/or imported.

The potency (i.e. concentrations of delta-9-tetrahydrocannabinol, THC) of marijuana and hashish sold in coffee shops has significantly increased over time.[92] As a result of increases in international drug tourism and drug trade, commercialization of the marijuana industry, and stronger links to organized crime,[93] the drug policy of the Netherlands is now changing. The Dutch government states that in order "to combat the nuisance and crime associated with coffee shops and the trade in drugs," "coffee shops must become smaller and easier to control." [94] *De facto* decriminalization has and will remain intact for all "soft" drugs, including marijuana and hashish in the Netherlands; however, marijuana with THC content of 15% or more is now considered a "hard" drug and is banned from sale. Coffee shops are no longer public; they are private clubs with limited membership for persons 18 and older who can prove they are residents of the Netherlands and they must be located at a distance from any schools. These and related changes are currently underway and will all be in place by January 1, 2013.

In recent years, Portugal has been promoted as an example of a successful drug decriminalization scheme.[95] Portugal has decriminalized the use and possession of a 10-day supply of any illicit drug, including marijuana, changing it from a criminal offense to an administrative one. Like the Netherlands, all drug sales and manufacturing—including marijuana—remain illegal in Portugal and are met with criminal sanctions. The implementation of decriminalization for drug possession changed the way in which drug

users are handled in Portugal. Rather than being subject to arrest, drug users are summoned by the police to their local district's Commission for the Dissuasion of Drug Abuse (CDT), three-member groups in charge of evaluating and ruling on the drug possession offense. CDTs dispense administrative punishments for most drug users, some of which are suspended if treatment is obtained, though there is no monitoring mechanism to ensure treatment participation or completion. The large majority of CDT cases involve only marijuana. There is limited evidence to identify the effects of Portugal's drug policy changes, and particularly to separate the effects of decriminalization from other changes recently made and the relevance of these changes for any other country, including the United States.[96]

Most recently, there is a proposal in Uruguay for the government to sell limited amounts of marijuana to its citizens.[97] The future of this proposed law is murky. Moreover, if passed, Uruguay may be censured and/or penalized by the United Nations International Narcotics Control Board (INCB) for violating the United Nations Single Convention of 1961.[98]

ASAM encourages the rigorous study and evaluation of various drug policies and programs, including those outside the U.S., to inform future strategies that focus on promoting the public health.

VI. 2012 State-Level Marijuana Legalization Proposals

Colorado, Washington, and Oregon will each have proposals on their November, 2012 ballots proposals to legalize marijuana. Colorado's Amendment 64, known as the Regulate Marijuana Like Alcohol Act, if passed, would legalize the possession, use, display, purchase and transport of limited amounts of marijuana by persons age 21 and older.[99] Persons of age also could legally possess, process, and transport a limited number of marijuana plants for personal use. The state would be required to provide regulation and oversight of the marijuana industry through licensure of cultivation, manufacturing, and testing facilities and retail stores. Further, the state would develop requirements for security of marijuana establishments for prevention of sale and distribution to minors, and for health and safety of employees that cultivate and manufacture marijuana. The general assembly would enact an excise tax on wholesale sales of marijuana, with the first $40 million in revenue raised annually to be credited to the public school and capital construction fund. Driving under the influence of marijuana and selling, distributing, or transporting marijuana to minors would remain illegal.

The Washington State Initiative Measure No. 502 (I-502) [100] has been promoted predominately throughout the state by New Approach Washington. The organization asserts that I-502, if passed, "would license and regulate marijuana production, distribution, and possession for persons over twenty-one; remove state-law criminal and civil penalties for activities that it authorizes; tax marijuana sales; and earmark marijuana-related revenues. This measure would remove state-law prohibitions against producing, processing, and selling marijuana, subject to licensing and regulation by the liquor control board; allow limited possession of marijuana by persons aged twenty-one and over; and impose 25% excise taxes on wholesale and retail sales of marijuana, earmarking revenue for purposes that include substance-abuse prevention, research, education, and healthcare. Laws prohibiting driving under the influence would be amended to include maximum thresholds for THC blood concentration." [101] New Approach Washington estimates the state would collect a tax revenue of one half billion dollars and would designate an estimated $350 million collected in revenue to expanding state spending on drug education, prevention and treatment.[102]

Measure 80, the Oregon Cannabis Tax Act, if passed, would create the Oregon Cannabis Commission (OCC) to regulate the sale and cultivation of marijuana for persons age 21 and older.[103] The OCC would provide licensure to individuals for the cultivation and processing of marijuana for sale through retail stores run by the OCC. The cultivation and possession of marijuana for personal use by persons age 21 and older would not require license or registration. The OCC would, with the State Board of Pharmacy, establish psychoactive concentrations of cannabinoids and set standards, conduct testing, grade potency and oversee labeling of contents. The OCC and Board of Pharmacy would also accredit research facilities to conduct research on marijuana, including specifically the harms of marijuana use and marijuana-related impairment, and research on the development of impairment standards for drivers. The Act does not specify expected revenue, but proponents estimate that it will generate over $140 million annually in taxes.[104]

It is important to note that revenue estimates for the state proposals have not been substantiated by independent economists. Many marijuana advocates employ tax revenue methodology that is, in the words of the Co-Director of RAND's Drug Policy Research Center, "based on a series of assumptions that are in some instances subject to tremendous uncertainty and in other cases not valid."[105]

The passage of any of these three marijuana legalization proposals

would permit at the state level everything from personal possession, to personal and commercial cultivation, to retail and wholesale distribution, tax collection, and commercial processing of marijuana.[106] Marijuana is not fully legal anywhere in the world.[107] Because no model for legalization exists in practice, the full effects of marijuana legalization are unpredictable. As CPDD states, "Any changes in national drug policy should be based on scientific evidence, and -- difficult though it is -- research should attempt to evaluate the effects of any policy changes." (p. 3)[108]

VII. Conclusions

In order to think clearly about proposals to change the legal status of marijuana at the state level, it is important first to consider the current public health consequences of marijuana use and then to consider the health consequences of significantly increased marijuana use which would be created by expanded availability and commercialization under marijuana legalization.

While entering the current debate over state initiatives to legalize marijuana, ASAM is focusing on the scientific evidence of the potential for a major, multi-dimensional negative impact of escalated use of marijuana on the nation's public health and public safety that would result from legalization. ASAM has a well-earned and long-established reputation of approaching drug policy issues from its unique position as the leading organization of physicians and experts in addiction with knowledge of the risks associated with the use of substances with high abuse potential. ASAM physicians have informed drug policy generally, and marijuana policy specifically, for decades based on its thoughtful, evidence-based approach.

The ASAM Public Policy Statement on National Drug Policy, first adopted by the ASAM Board of Directors in 1994, asserts, “ASAM opposes any changes in law and regulation that would lead to a sudden significant increase in the availability of any dependence-producing drug (outside of a medically-prescribed setting for therapeutic indications). Any changes should be gradual and carefully monitored.”(p.3)[109] The marijuana legalization initiatives in Colorado, Washington, and Oregon would significantly increase

marijuana use by lowering its costs and by making this widely abused drug more available and more acceptable. Given the significant adverse health consequences of marijuana use, and in particular, its addiction potential, it is not in the interest of public health to make marijuana more widely available and more acceptable.

ASAM's views on marijuana are well-established [110] and are based on the science that cannabinoids are potent psychoactive drugs which are associated with addiction. Cannabinoids act on specific receptors in the brain and reinforcement derives from stimulation of those receptors. Reward circuitry in the brain experiences increased activity involving the neurotransmitter dopamine in response to human exposure to a variety of drugs associated with addiction, including nicotine, opioids, stimulants, and cannabinoids. The psychoactive effects of increased activity by cannabinoid receptor agonists are not all pleasant or salutary.[111] The use of marijuana is associated with increased activation of reward circuitry and related circuitry due to the reality that marijuana contains many psychoactive cannabinoid compounds.[112] In fact, the use of marijuana would not be pleasurable to some persons and repeated use would not be reinforcing were it not for the reward-stimulating cannabinoids in the marijuana plant. Marijuana is not a safe and harmless substance and its use is not health-promoting (though as acknowledged by ASAM, the use of some cannabinoids prepared in a standardized manner in well-tested pharmaceutical products can alleviate specific diseases and distress in specific patients and is supportable[113]). ASAM policy on marijuana is based on the scientific fact that marijuana is a drug with distinct effects on the brain and behavior and the fact that addiction to cannabinoids and to marijuana is a significant health problem.

The ASAM Public Policy Statement on Marijuana, first adopted in 1987 and since revised, asserts that, "Marijuana dependent persons, like other drug dependent people, should be offered treatment rather than punishment for their illness. Treatment of marijuana dependence should be part of the plan for rehabilitation of any person convicted of a drug-related offense, including driving under the influence of alcohol and/or drugs, who is found to be marijuana dependent."(p. 1)[114] This statement makes no reference to supporting the legalization of marijuana use, sale, or distribution but rather, it encourages the treatment of individuals suffering marijuana dependence. Of course, not all persons who use marijuana experience clinical marijuana dependence or addiction; however, the frequency of marijuana addiction among regular users of marijuana is comparable to the frequency of regular users of sedative-hypnotic pharmaceuticals and

alcohol who develop addiction and is greater than the frequency of regular users of psychostimulant pharmaceuticals who develop addiction.[115]

In reviewing the significant role the criminal justice system plays in reducing marijuana use, ASAM recognizes that an improved link is needed between the systems of criminal justice and health care with the additional goals of reducing criminal recidivism and reducing incarceration. Given the fact that the large majority of arrests for marijuana are made at the state level, ASAM emphasizes that states have the power and the incentive to improve their individual state drug policies in the interest of the health and the well-being of their residents. Programs that have successfully improved the link between the criminal justice system and health care, including Drug Courts[116] and HOPE Probation, [117] and conversely, California's Proposition 36 (which has fallen short of achieving the outcomes envisioned by many of its original supporters),[118] each provide useful (and cautionary) lessons for states.

VIII. Recommendations

ASAM opposes proposals to legalize marijuana anywhere in the United States, including the current state-based legalization proposals which will appear on the November 2012 ballots. The analyses on the possible outcomes–both intended and unintended—of the state-based marijuana legalization proposals in Colorado, Washington and Oregon suggest that risks are unacceptable. No modification of these proposals would make them acceptable.

ASAM asserts that the anticipated public health costs of marijuana legalization are significant and are not sufficiently appreciated by the general public or by public policymakers. Physicians and other health professionals must become more aware of the anticipated undesirable outcomes of marijuana legalization and encourage public education on these facts. ASAM's conclusion that marijuana legalization would not be in the interest of public health is based on the following:

- Marijuana use is neither safe nor harmless. Marijuana contains psychoactive cannabinoids which produce a sense of pleasure in many users and a sense of discomfort and even paranoid thoughts in other users. Cannabinoids interact with brain circuits in comparable ways to opioids, cocaine and other addictive drugs.
- Substance use disorders resulting from marijuana use are a serious and widespread health problem.

- Marijuana use is associated with adverse health consequences, including damage to specific organs and tissues and impairments in behavioral and neurological functioning. Among these are acute impairments in the performance of complex tasks such as driving a motor vehicle.
- Marijuana-related crashes, deaths and injuries are currently a major highway safety threat in the United States.
- Legalization of marijuana would likely lead the general public and, in particular, young people, to view marijuana as less harmful than it is now viewed. Decreases in "perceived harm" associated with marijuana use would result in increased rates of marijuana use and increased rates of marijuana-related substance use disorders, including addiction.
- Marijuana use is associated with increased rates and worsening symptoms of psychosis. Population-wide increases in availability of and access to high-potency marijuana would be associated with increased rates of marijuana use and could result in increased rates of psychotic illnesses.
- Increased incidence and prevalence of marijuana-related substance use disorders, including marijuana addiction, would lead to increased demand for treatment services. Today treatment systems are inadequate for meeting the current treatment needs in our nation.
- Revenues projected to be generated from taxation of legal marijuana would be far lower than the costs associated with increased marijuana use and would be unlikely to be targeted to these needs, as tobacco and alcohol revenues are not targeted to the health costs of the use of these drugs.

In summary, ASAM recommends against the approval of state initiatives to legalize marijuana. ASAM strongly supports efforts to improve state policies to reduce the use of marijuana and other illegal drugs as well as the nonmedical use of prescription drugs. Further, specifically focusing on state proposals to legalize marijuana, ASAM recommends:

1. That physicians lead efforts to oppose legislative or ballot initiatives that would result in the legalization of marijuana production, distribution, marketing, possession and use by the general public, and that all physicians incorporate screening and intervention for risky substance use including marijuana use as well as diagnosis, treatment and disease management for addiction into their routine medical practice;

2. That public education campaigns be undertaken to inform the public that addiction associated with cannabinoids is a significant public health threat, and that marijuana is not a safe product to use, especially, but not only, by smoking;

3. That parents be informed that the marijuana their children are exposed to today is of much higher potency than the marijuana that was widely available in the 1960s through the 1980s, and that the potential for the development of addiction and for the development and progression of psychotic conditions are enhanced when high-potency marijuana products are used by adolescents because of the unique vulnerability of the adolescent brain;

4. That when cases of marijuana-related substance use disorders are identified and the diagnosis confirmed by professional assessment, carefully monitored treatment to establish abstinence be offered to afflicted persons and such treatment and insurance coverage for it be readily available;

5. That drugged driving associated with marijuana use be subject to additional epidemiological research and research on the treatment needs of drivers. Increased efforts are needed to prevent its occurrence which should include substantial legal consequences at the level of the consequences for drunk driving;

6. That, given the significant role the criminal justice system plays in discouraging marijuana use, states promote programs that enhance linkages between the criminal justice system and the addiction treatment system, using models such as Drug Courts and HOPE Probation.

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Hurst, D., Loeffler, G., & McLay, R. (2011). Psychosis associated with synthetic cannabinoid agonists: A case series. [Letter to the editor]. *American Journal of Psychiatry, 168*(10), 1119-1119.
Seely, K.A., Lappoint, J., Moran, J.H., & Fattore, L. (2012). Spice drugs are more than harmless herbal blends: A review of the pharmacology and toxicology of synthetic cannabinoids. *Progress in Neuro-psychopharmacology and Biological Psychiatry* [e-pub ahead of print].
Mir, A., Obafemi, A., Young, A., & Kane, C. (2011). Myocardial infarction associated with use of the synthetic cannabinoid K2.

Pediatrics, 128(6), e1622-e1627.
Forrester, M. B., Kleinschmidt, K., Schwartz, E., & Young, A. Synthetic cannabinoid exposures reported to Texas poison centers. *Journal of Addictive Diseases, 30*(4), 351-358.

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Urada, D, & Longshore, D. (2007). SACPA offenders. In Evaluation of the Substance Abuse and Crime Prevention Act: Final report. California Department of Alcohol and Drug Programs. Sacramento.
Hawken, A. (2010). Behavioral triage: A new model for identifying and

treating substance-abusing offenders. *Journal of Drug Policy Analysis, 3*(1), 1-5.

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md | *Nov 04, 2015*
Based on theory and confounded pseudoscience. Would love to see updated policy based on reflections from the states that legalized recreational marijuana...where's the uptick in crime and disease?

Deborah P. Johnson | *Nov 20, 2014*
I find all of these comments very interesting, indeed. As a physician who has treated many addicts through the years, and dealt with multiple patients with cognitive problems, I cannot understand the reasoning behind so many readers' comments pushing for legalization of marijuana...as if we need yet another burden on our society. One thing that has NOT been mentioned, though, is the toll that substances of abuse take on one's spiritual health. "Spiritual health?" you may ask. Yes, SPIRITUAL HEALTH! Argue all you want about "science," but one's spiritual health--which has quite a bit to do with how one views him- or herself in the world as well as in the future--can be greatly affected adversely by marijuana, tobacco, alcohol, and other drugs that are abused. Why do you think AA, NA, etc. talk about God, or a "Higher Power?" It's true that some may use these substances and never have problems of addiction or dependency--but how do you know you WON'T if you use it the first time? I've never met anyone who said, "I think I'll become an alcoholic today," or "I think it's a great day to get hooked on weed or tobacco." NO. Just as Satan cleverly twisted God's Word to Adam and Eve, causing them to doubt God and ultimately to sin in the Garden of Eden, he still is deceiving people right and left, telling them that this is "good" for them and that they "need" it. To those who love money and make it their idol, Satan tells them of the "wealth" they will obtain--albeit at others' expense--with the legalization of drugs like marijuana. Ask any recovering addict and he or she will tell you of the shame endured when lying to others about why they don't have money for gas or groceries (because they've

already blown it on their substances of choice) or why they wound up losing their kids (because they were too drunk or high to care). If you really want to cry, talk to some of these kids whose parents cared more for their drinks, cigarettes, or drugs than they did their own children. Many feel dead emotionally, if not physically. Speaking of death, I did once have a teenaged patient tell me that he and his buddy were "smoking weed," when his friend jumped up, acting silly, and then suddenly collapsed--DEAD. My patient was shocked--and too scared to call for help, but apparently his friend died rather suddenly, and even calling 911 wouldn't have helped. Yet, for years he had carried around the survivor's guilt and had rejected the rehab's 12-Step "God" as being appropriate for him, because he thought his buddy was probably in "hell." He was angry, confused, and had fantasies about re-joining his friend in the afterlife--never realizing that there was peace, healing, and salvation in the LORD Jesus Christ until we talked about it. Years later this same boy looked me up after I'd moved from one practice to another, and thanked me for helping him. He was on the path to a much better, safer life. And I hear this a lot, too: "God made 'weed,' and it's an herb--so it's OK." Well, God made quicksand, too, but only a fool would go jump in it! We simply must do all we can to protect vulnerable young people in any way possible, and I am highly in favor of ASAM's position.

Claire | *Aug 30, 2014*

I have smoked for over 40 years with NO HEALTH problems. I take NO PHARMACEUTICAL DRUGS at all and I am over 60. I started in the 70s after high school because Zumwalt was testing only under 29 year olds for pot and my husband, then in the Navy, got mad. He said "If they are going to give me the name, I am going to play the game and find out what pot is about." He would never have tried it otherwise.

My GPA in college (I have a Masters in Science) was 3.85 until I quit "to focus on school". My GPA DROPPED ONE FULL GRADE POINT! So I went back to smoking and it WENT BACK UP!

My question here is: Has anyone on the ASAM committee ever used marijuana themselves? (Of course they have, they went to college didn't they?) Or are they only reading other people's research and making assessments based upon what they have read? This seems to be a great problem with researchers today -- no real field work! Isaac Asimov disapproved of this kind of "science" (pseudoscience) in the 1950s. I was taught to read other research in order to find areas where further research was needed. Today, journal articles are all we need to

make definitive statements and recommend actions. I cringe at what is deemed good science today.

Marijuana studies are very flawed. Why? 1) most people are not honest is how much they use and when they started (potential legal issues). 2) all research is based upon assumptions (not verifiable). 3) Infectious respiratory ailments (ie, bronchitis) are NOT CAUSED by smoking marijuana per se but rather BECAUSE THEY SHARE A UTENSIL TO SMOKE IT (virus and/or bacteria in the saliva left on the pipe/joint/etc. -- duh!) If they cannot even address this issue, how valid can the results be? and lastly, 4) many studies are paid for by organizations that are looking to prove consequences not find the truth.

5000 years of recorded use, not one death EVER recorded! But you can't make money if you can't patent the compound!

Sheila Festa | *Jul 10, 2014*

Do not think it is a good idea to legalize, but we see other drugs like tobacco and alcohol being sold legally, possibly because they have support from industries that gain from this

JAMS | *Mar 25, 2014*

In this view the costs and consequences of “prohibition” cause more harm than the use of marijuana and fuel violence in the illicit markets.

spbo | *Jan 18, 2014*

Another RAND study concluded that marijuana legalization in California would not significantly reduce Mexican drug trafficking Thanks..

NotPhd | *Sep 11, 2013*

Dan Litov - You say that if the ASAM opposed marijuana they must oppose alcohol... why? I think most of us could agree the world would theoretically be a better place without alcohol, so therefore anything that is not quite as bad as alcohol should be permitted? That certainly doesn't make any sense. You're falling for the relative privation fallacy - until we can solve the most important problems, we shouldn't solve any. The fact that there are starving children doesn't mean that you need to eat your horrible food, the fact that alcohol is worse than marijuana doesn't mean that marijuana shouldn't be

addressed.

Robert Rust, MD | *Oct 30, 2012*

Please add me to the list of ASAM members who favor legalization of all addicting substances. Marijuana is the most commonly used illicit drug only because we finally had the wisdom to make alcohol legal.The stance above completely ignores our historical experience prohibiting alcohol, a much more dangerous and addicting substance as admitted by the committee. The reduction of addiction and crime in the Portugal experience is ignored, rather "research" is quoted that addiction will increase. Did that happen after Prohibition was repealed? Make penalties stiffer for any felony including DUI, committed under the influence, and also for distribution to minors. (If you can go to war when your are 18, you should be able to make your own choices about voting and substances, though my preference would be 19, outside high school age).

The committee's assessment of the medical consequences of addicting substances is quite accurate, but ASAM and its members need to concentrate on public education and treatment, eschewing policies like the War on Drugs, that not only don't work, but bring more harm to society.

Bill Sinton | *Oct 08, 2012*

Thank you for taking a stand. Marijuana is addictive and based on some of the previous comments, it is apparently linked to disordered thinking.

http://www.marijuana-is-addictive.com

Rick Steeb | *Aug 05, 2012*

A nation with thriving tobacco and alcoholic beverage industries lacks moral authority to issue a stern look at Cannabis use. I have personally found it to be useful and have enjoyed it daily since 1968.

The prohibition of Earth's most widely beneficial plant species is a crime against humanity. It shall NOT stand.

Chris | *Aug 03, 2012*

My 16 year old son is sitting in (day 2) an in-patient rehab center because marijuana was so readily available to him. He couldn't say no, most teenagers can't no matter how many times we teach them to walk away. Imagine if it wasn't so readily available to our children. Not as many children would be so negatively affected. The numbers are high enough. We legalize this and the number of children affected is through the roof! It's already out of control and we are asking for it to be completely out of our control. I encourage many who support the legalization to tour some D & A in-patient facilities for teens and then attempt to come back and type out your comments supporting the legalization of marijuana? Do we care about or children and their future? I do! These teenagers are a part of our society; these teenagers are driving on the same roads that you, me, grandparent and infants are driving on also. We are asking for it. Stay focused and look at the big picture. Look at the numbers. The real problem starts with accessibility to youth and then it grows from there. I have a 5 year old daughter wondering why her big brother sleeps so much, why he just stays in his room, why are we upset with him all the time? Why can't he go golf after we found marijuana in his golf bag? Now the 5 year old wants to know where her big brother is? We reply, "He's at a boys camp." She misses him dearly. She doesn't understand. She is 5! He is 16 and the effects of marijuana have turned our once happy home upside down!

Dan Litov, PhD | *Jul 31, 2012*

I think it is unfortunate that ASAM has ignored the moral/ethical issues involved in advocating prohibition, in advocating for a government 'nanny state' position, not allowing people the freedom to make their own choices, and accept personal responsibility for those choices. This is a fundamental American moral position, and prohibition completely undercuts this basic philosophy. Both conservative and Liberal philosophies often overlap and agree on this point. This is a civil liberty matter.

Based on ASAM's position here, they should be calling for the criminalization of Alcohol, which they admit is a FAR far greater

public health issue. For ASAM to be intellectually and morally consistent, that would have to be the case. Not surprisingly, I don't see a white paper for that. Alcohol prohibition led to the creation of the Chicago mob and an extremely violent period in American culture. Current drug policies similarly prop up organized crime causing death across the streets of America, and create a hugely unfair and costly criminal system affecting millions of American individuals and their families, robbing them of their time, liberty and property.

There are many things human beings can choose to do that are dangerous to their bodies. Poor diet, lack of sleep, lack of exercise. It is not up to a government to tell us how to live, unless we are talking about prohibitions on blatant behavior that directly violate another's life, liberty and property, such as theft of another's property and physical violence. As a civilization we have every right to protect our citizens from physical harm by another's hand, and as such, to enforce DUI laws, etc. However, assuming that people need a 'nanny state' is not only a condescending stance, it is, in my humble opinion, amoral and contrary to the founding principles of our great country.

John Edgcomb | *Jul 31, 2012*

I have been a member of ASAM for over 20 years but will probably quit after seeing this white paper.It is quite informative, but I disagree with the conclusions.Marijuana is indeed a dangerous, powerful drug and smoking "medical marijuana ", or any other drug is an oxy-moron. All drugs are dangerous if abused, both addictive and others.People and other organisms with the right neurotransmitters have been getting high since pre-historic times and will continue to do so.About 10%,(pick your %) are addicts.They need treatment if willing, if not harm reduction.A sane approach would be to let people have safe access to getting high at the same time strongly discouraging the promotion of drug and alcohol use that we are bombarded with every day in the media by the liquor and pharmaceutical industry.I will support this white paper when ASAM decides that alcohol and tobacco should be illegal with or without "de-criminalization."Prohibition was tried and it was not very beneficial except for the bootleggers.Perhaps ASAM should look at who is profiting from addiction including those that sell drugs, alcohol and tobacco, both legally and illegally.

Malcolm Kyle | *Jul 31, 2012*

No person of any age, in all of recorded history, has

ever died from marijuana, marijuana is nontoxic. Many have died from marijuana prohibition and tens of millions have been caged or otherwise seriously harmed. The US arrests someone on marijuana charge every 38 seconds. In 2010, 52.1% of the 1,638,846 total arrests for prohibition violations were for marijuana -- making a calculated total of 853,839. Would you rather have your kid locked up with killers and child molesters or would you prefer to do your own proper parenting? http://www.drugwarfacts.org/cms/Marijuana#Total

The World Health Organization Documents Failure of U.S. Drug Policies - according to the world's leading substance abuse researchers, the US has the highest rates of marijuana and cocaine use. http://www.alternet.org/drugreporter/90295/

Cannabis Reduces Infant Mortality: http://www.salem-news.com/articles/june272010/marijuana-infants-sc.php - The "cannabis" infants have a mortality rate almost half of what the "No drugs" infants have!

Here's a documentary about marijuana curing cancer. There are 7 parts: http://www.youtube.com/watch?v=pjhT9282-Tw

If you still doubt that marijuana is good medicine then kindly check out Granny Storm Crow's Amazing MMJ Reference List: http://www.letfreedomgrow.com/cmu/GrannysList-Jan2011.pdf

It’s more like a library than a list!

MARIJUANA CURES CANCER:

http://www.cancer.gov/cancertopics/pdq/cam/cannabis/healthprofession

http://www.nowpublic.com/thc_marijuana_helps_cure_cancer_says_har

http://patients4medicalmarijuana.wordpress.com/2010/01/04/marijuana-cures-cancer-us-government-has-known-since-1974/

http://www.rawstory.com/rawreplay/2011/08/pbs-documentary-sheds-

light-on-marijuanas-cancer-killing-properties/

Marijuana promotes brain cell growth by 40% and protects it from damage:
http://www.sciencedaily.com/releases/2005/10/051016083817.htm

Marijuana promotes healthy lungs:
http://dailycollegian.com/2012/02/01/marijuana-health-claims-go-up-in-smoke/

Marijuana when used by HIV patients Inhibits virus replication:
http://www.sciencedaily.com/releases/2012/03/120320195252.htm

Mothers who use cannabis during pregnancy have healthier smarter kids:
http://patients4medicalmarijuana.wordpress.com/2009/12/20/marijuana-cannabis-use-in-pregnancy-dr-melanie-dreher/

MARIJUANA HALVES MORTALITY RATE IN PEOPLE WITH SCHIZOPHRENIA AND RELATED DISORDERS:

http://www.ncbi.nlm.nih.gov/pubmed/22595870

Peer-Reviewed Studies on Marijuana
http://medicalmarijuana.procon.org/view.resource.php?resourceID=000884

Dean Becker | *Jul 30, 2012*
In response to the authors and footnotes. Sadly, the "long arm of the law" has probed deep into ASAM. Why must the position of the DEA and ONDCP be so front and center in the stance taken? ASAM has fallen down on the job, face first. Depending on a federal agency whose only, ONLY position is everlasting drug war, for an opinion, is laziness/ignorance/complicity incarnate. Shame on you ASAM, shame on you!

Brad Forrester | *Jul 30, 2012*

"ASAM has brought to bear its commitment to science and public health in taking a strong position against marijuana legalization," said Robert DuPont, M.D., the report co-author, who is a former White House Drug Czar and former director of the National Institute on Drug Abuse (NIDA).

Sure looks like Dr. DuPont is trying to protect the prohibition fiefdom. By the way, is Dr. DuPont related to the DuPont family that colluded with Hearst, Mellon and Anslinger to make hemp and cannabis illegal? Sorry Bob, we don't buy the lies anymore.

Dean Becker | *Jul 30, 2012*

No surprise here, that doctors who make millions from marijuana addiction whether real or reefer madness would be opposed to marijuana legalization. This objection to the lack of science is a revelation of the failure of these same doctors and scientists to do the studies in the 40 years since the declaration of eternal drug war by Richard Nixon. Insofar as potential harms to users this study displays a glaring and ugly lack of recognition of the harms of the drug war itself. Because of ASAM's failure to actually do their job, more than 20 million Americans have been arrested and their futures fractured for smoking marijuana like their President and his "Choom Gang" did in their youth. Claims of harm from marijuana use to the young and to the populace in general are frivolous at best and downright ugly when compared to the massive health problems of alcohol and tobacco use. Ignorance can only serve ASAM for so long and the end of reefer madness is fast approaching. Best get on the side of truth or your "stature" is soon to disappear.

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ASAM

American Society of Addiction Medicine

White Paper on State-Level Proposals to Legalize Marijuana

Adopted by the ASAM Board of Directors July 25, 2012

ASAM Writing Committee to Develop a Response to State-Level Proposals to Legalize Marijuana

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ASAM White Paper on State-Level Proposals to Legalize Marijuana

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I. Introduction

Marijuana legalization has been featured widely across the United States in both national and local media. At the same time, increasing rates of marijuana use among youth and adults in the United States have made headlines and the prevalence of substance use disorders associated with marijuana use remains a serious medical issue. In the last decade, the number of state initiatives aimed at changing the legal status of marijuana has dramatically increased, initially focused on legalization of marijuana use for "medical" purposes, but more recently focused on legalization of any marijuana use by adults. Public opinion on marijuana has changed over time with recent increases in support for both "medical" marijuana and legalization.[1] [2]

Much of this support has arisen from well designed and effective public relations campaigns. It has been suggested that the public health consequences of the legal substance alcohol are more severe than those arising from marijuana use. In this view the costs and consequences of "prohibition" cause more harm than the use of marijuana and fuel violence in the illicit markets. Support for marijuana legalization based on belief in these arguments is fortified by the promise of tax dollars plentiful enough to banish deficits and/or fuel the expansion of substance abuse prevention and treatment. The current high prevalence of lifetime marijuana use by young people is presented as evidence of failed marijuana control strategies. These opinions converge to promote marijuana legalization.

It is against this backdrop of recent calls for change and current state-level marijuana legalization proposals that in April 2012, the American Society of Addiction Medicine (ASAM), the largest association of physicians specializing in addiction, established a Writing Committee to Develop a Response to State-Level Proposals to Legalize Marijuana for approval by the ASAM Board of Directors. Its intent is to inform ASAM members and other physicians about marijuana legalization and to make available to the public and to public policymakers the judgment of ASAM.

This White Paper extends ASAM's previous White Paper, The Role of the Physician in "Medical" Marijuana,[3] and its companion Public Policy Statement.[4] These documents reviewed the extensive research on the potential therapeutic uses of marijuana concluding that smoked marijuana is not, and cannot be, a medicine. ASAM recommended that any chemicals in marijuana shown to be effective and recognized as safe for use as treatments for any illness should be made available as standardized and characterized products, approved by the Food and Drug Administration (FDA), and dispensed by professional pharmacies like all other medicines.

ASAM's concern about possible legalization of marijuana is heightened by the fact that marijuana is the most widely used illegal drug in the United States. Marijuana is the drug used

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[1] Newport, F. (2011, October 17). Record-high 50% of Americans favor legalizing marijuana use. Gallup. Available: http://www.gallup.com/poll/150149/record-high-americans-favor-legalizing-marijuana.aspx

[2] Mendes, E. (2010, October 28). New high of 46% of Americans support legalizing marijuana. Gallup. Available: http://www.gallup.com/poll/144086/New-High-Americans-Support-Legalizing-Marijuana.aspx

[3] President's Action Committee on Medical Marijuana of the American Society of Addiction Medicine (ASAM). (2011). The Role of the Physician in "Medical" Marijuana. Chevy Chase, MD: American Society of Addiction Medicine. Available: http://www.asam.org/advocacy/find-a-policy-statement/view-policy-statement/public-policy-statements/2011/11/28/the-role-of-the-physician-in-medical-marijuana

[4] American Society of Addiction Medicine (ASAM). (2010). Public Policy Statement on Medical Marijuana. Chevy Chase, MD: American Society of Addiction Medicine. Available: http://www.asam.org/advocacy/find-a-policy-statement/view-policy-statement/public-policy-statements/2011/12/15/medical-marijuana

by an estimated 61% of all Americans suffering from a substance use disorder (abuse or dependence) related to drugs other than alcohol.[5]

In order to discuss both the goals and the negative effects of marijuana legalization, a crucial distinction must be made between the terms "legalization" and "decriminalization." Marijuana decriminalization at the state level generally removes criminal penalties for the possession and use of marijuana while the production and sale of the drug remain illegal. Full legalization, in contrast, embraces the commercialization of production, sale and use of marijuana. As of July 2012, three states will have proposals to legalize marijuana on their November 2012 ballots.

This White Paper does not review general "drug policy;" rather, it assesses the goals and consequences of state-based marijuana legalization and specifically expresses the conclusions of ASAM based on its bedrock commitment to science and to the nation's public health. As outlined in its recommendations here, ASAM does not support proposals to legalize marijuana anywhere in the United States, including the current state-based legalization proposals which will appear on the November, 2012 ballots.

II. Background and Significance

Marijuana use has many serious, negative health effects which are of deep concern to the ASAM. Marijuana can lead to tolerance to the effects of delta-9-tetrahydrocannabinol (THC), as well as to addiction.[6] [7] Marijuana dependence is the most common type of drug dependence in many parts of the world (including the U.S., Canada, and Australia) after tobacco and alcohol. It is estimated that 9% of people who try marijuana become dependent.[8] Those who begin using the drug in their teens have approximately a one in six risk of developing marijuana dependence.[9] Many marijuana users who try to quit experience withdrawal symptoms that include irritability, anxiety, insomnia, appetite disturbance, and depression.[10] A U.S. study that dissected the National Longitudinal Alcohol Epidemiologic Survey (conducted from 1991 to 1992 with 42,862 participants) and the National Epidemiologic Survey on Alcohol and Related Conditions (conducted from 2001 through 2002 with more than 43,000 participants) found that the number of marijuana users remained roughly unchanged over that period of time while the number of dependent users increased 20%—from 2.2 million to 3 million.[11] This study's authors speculated that higher potency marijuana may have been a cause of this increase. Additionally, the National Institute on Drug Abuse (NIDA) found that in 1993,

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[5] Substance Abuse and Mental Health Services Administration. (2011). Results from the 2010 National Survey on Drug Use and Health: Summary of National Findings. NSDUH Series H-41, HHS Publication No. (SMA) 11-4658. Rockville, MD: Substance Abuse and Mental Health Services Administration.

[6] Budney, A.J., & Moore, B.A. (2002). Development and Consequences of Cannabis Dependence. *Journal of Clinical Pharmacology*, 42, 28S-38S.

[7] The following two paragraphs on addiction are derived from the following document: Sabet, K. A., Cohen, M. & Thau, S. (in press). Cannabis: A Short Review. Vienna: United Nations.

[8] Anthony, J., Warner, L., & Kessler, R. (1994). Comparative epidemiology of dependence on tobacco, alcohol, controlled substance and inhalants: Basic findings from the National Comorbidity Survey. *Experimental and Clinical Psychopharmacology, 2*(3), 244–268.

[9] Wagner, F.A. & Anthony, J.C. (2002). From first drug use to drug dependence; developmental periods of risk for dependence upon marijuana, cocaine, and alcohol. *Neuropsychopharmacology, 26*, 479-488.

[10] Budney, A. J., Vandrey, R. G., Hughes, J. R., Thostenson, J. D., & Bursac, Z. (2008). Comparison of cannabis and tobacco withdrawal: Severity and contribution to relapse. *Journal of Substance Abuse Treatment, 35*(4), 362-368.

[11] Compton, W., Grant, B., Colliver, J., Glantz, M., Stinson, F. Prevalence of Marijuana Use Disorders in the United States: 1991-1992 and 2001-2002. *Journal of the American Medical Association, 291,* 2114-2121.

marijuana use resulted in approximately 7% of all state-funded treatment admissions;[12] by 2009 that number had increased to 18%.[13] In Western and Central Europe, marijuana is a significant public health concern. It has been reported as the primary drug of abuse in 21% of cases in addiction treatment services offered in Western and Central Europe, and 14% of cases in addiction treatment services offered in Eastern and Southeast Europe.[14] Further, among all drug treatment patients ages 15-19, 83% were in treatment for primary marijuana use.[15]

Young people are especially susceptible to marijuana addiction. Research from treatment centers in the U.S. indicates that the earlier marijuana use is initiated, the higher the risk for drug abuse and dependence. In 2009, 12.6% of adults 18 and older who first tried marijuana at age 14 or younger were classified with illicit drug abuse or dependence compared to 2.1% of adults who had first used marijuana at age 18 or older.[16] As noted, the early use of more potent marijuana may be driving the increase of admissions for treatment of marijuana abuse. In 2009, 86% of state-funded treatment admissions of individuals between ages 12 and 17 involved marijuana. Indeed, 70% of all treatment admissions involving children aged 12 to 14 and 72% of admissions of children age 15 to 17 years cited primary marijuana abuse. From 1992 to 2006, rates of admission for children and teens under age 18 for marijuana as the primary substance of abuse increased by 188% while other drugs remained steady.[17] [18] Data in the U.S. is corroborated with data from other countries. In the European Union, the percentage of individuals seeking treatment for primary marijuana use increased by 200% from 1999 to 2006 and currently stands at around 30% of all admissions.[19]

Addiction is not the only health problem related to marijuana use of concern to ASAM. While extensive reviews of the other negative health effects of marijuana use can be found in many other publications,[20] ASAM focuses on some key areas:

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[12] Substance Abuse and Mental Health Services Administration. (1998). Treatment Episode Data Set (TEDS): 1993-1998, National Admissions to Substance Abuse Treatment Services. Rockville, MD: Department of Health and Human Services, Office of Applied Sciences. Available: http://www.samhsa.gov/data/DASIS/teds98/1998_teds_rpt.pdf

[13] Substance Abuse and Mental Health Services Administration. (2009). Office of Applied Studies. *Treatment Episode Data Set (TEDS): 2009 Discharges from Substance Abuse Treatment Services*, DASIS.

[14] United Nations Office on Drugs and Crime. (2011). The World Drug Report, The Marijuana Market. Vienna: UNODC. Available: http://www.unodc.org/documents/data-and-analysis/WDR2011/The_cannabis_market.pdf

[15] Ibid.

[16] Center for Substance Abuse Research (2010, October 25). Early marijuana use related to later illicit drug abuse and dependence. *CESAR Fax, 19*(11). Available: http://www.cesar.umd.edu/cesar/cesarfax/vol19/19-41.pdf

[17] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2008). CASA analysis of the Treatment Episode Data Set (TEDS), 1992-2006 (Concatenated), 2006 [Data file]. Rockville, M.D.: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies.

[18] Center on Addiction and Substance Abuse at Columbia University. (2011). Non-medical marijuana: Rite of passage or Russian roulette? New York, NY: CASA Columbia.

[19] Room, R., Fischer, B., Hall, W., Lenton, S. and Reuter, P. (2010). *Marijuana Policy: Moving Beyond Stalemate*, Oxford, UK: Oxford University Press.

[20] See, among others:
Hall, W., & Degenhardt, L. (2009). Adverse health effects of non-medical cannabis use. *The Lancet, 374*(9698), 1383-1391.
Hall, W. & Solowij, N. (1998). Adverse effects of cannabis. *The Lancet, 352*(9140), 1611-1616.
Danovitch, I. (2012). Sorting through the science on marijuana: Facts, fallacies, and implications for legalization. In: Symposium: The Road to Legitimizing Marijuana: What Benefit at What Cost? *McGeorge Law Review, 43*(1), 91-108.
California Society of Addiction Medicine. (n.d.) The Adverse Effects of Marijuana (for healthcare professionals). San Francisco, CA: California Society of Addiction Medicine. Available: http://www.csam-asam.org/adverse-effects-marijuana-healthcare-professionals

The brain: Marijuana intoxication causes short-term effects on the brain related to memory, verbal fluency, attention, learning, perception of time, sensory perception, with variation among chronic and naïve users.[21] There is evidence that chronic marijuana use has varying long-term effects, some of which may not improve over time. Of greatest concern regarding the brain is use of marijuana during adolescence—a time of ongoing brain development. Research evaluating the neurocognitive effects of marijuana provides evidence that heavy marijuana users persistently show decreases in neurocognitive performance[22] and worse neurocognitive effects among individuals who began marijuana use early.[23]

Mental health: The National Institute on Drug Abuse (NIDA) summarizes the research that the use of marijuana is associated with "increased rates of anxiety, depression, and schizophrenia. Some of these studies have shown age at first use to be an important risk factor, where early use is a marker of increased vulnerability to later problems…High doses of marijuana can produce an acute psychotic reaction; in addition, use of the drug may trigger the onset or relapse of schizophrenia in vulnerable individuals."[24] Research indicates an association exists between early marijuana use and the development and worsening of symptoms of schizophrenia.[25]

Prenatal/perinatal: Research has yielded contradictory outcomes of prenatal exposure to marijuana, with some studies suggesting no adverse effects but other studies have linked prenatal marijuana exposure to reduction in fetal growth, including birth weight, length, head circumference, and gestational age.[26] Reported long-term effects also vary at different ages and include later deficits in intelligence, depression, and later marijuana use.[27]

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[21] See, among others:
Iversen, L. (2003). Cannabis and the brain. *Brain*, *126*(6), 1252-70.
Crean, R. D., Crane, N. A., Mason, B. J. (2011). An evidence-based review of acute and long-term effects of cannabis use on executive cognitive functions. *Journal of Addictive Medicine, 5*(1),1-8.
Jager, G., & Ramsey, N.F. (2008). Long-term consequences of adolescent cannabis exposure on the development of cognition, brain structure and function: An overview of animal and human research. *Current Drug Abuse Reviews, 1*(2), 114-123.
[22] Bolla, K. I., Brown, K., Eldreth, D., Tate, K., & Cadet, J. L. (2002). Dose-related neurocognitive effects of marijuana use. *Neurobiology, 59*(9), 1337-1343.
[23] Gruber, S.A., Sagar, K.A., Dahlgren, M.K., Racine, M,. & Lukas, S.E. (2011). Age of onset of marijuana use and executive function. *Psychology of Addictive Behaviors*. [Epub ahead of print]
[24] National Institute on Drug Abuse. (2010, November). *NIDA Facts.* Rockville, MD: U.S. Department of Health & Human Services, National Institutes of Health, National Institute on Drug Abuse. Available: http://www.drugabuse.gov/sites/default/files/marijuana_0.pdf
[25] See, among others:
Zammit, S., et al. (2002). Self-reported cannabis use as a risk factor for schizophrenia in Swedish conscripts of 1969: historical cohort study. *British Medical Journal, 325*, 1199-1201.
Foti, D.J., Kotov, R., Guey, L.T., Bromet, E.J. (2010). Cannabis use and the course of schizophrenia: 10-year follow up after first hospitalization. *The American Journal of Psychiatry, 167*(8), 987-93.
Fergusson, D.M., Horwood, L.J., & Ridder, E.M. (2005). Tests of causal linkages between cannabis use and psychotic symptoms. *Addiction, 100*(3), 354-366.
[26] Gray, T. R., Eiden, R. D., Leonard, K. E., Connors, G. J., Shisler, S., & Huestis, M. A. (2010). Identifying prenatal cannabis exposure and effects of concurrent tobacco exposure on neonatal growth. *Clinical Chemistry, 56*(9), 1442-1450.
Hatch, E. E., & Bracken, M. B. (1986). Effect of marijuana use in pregnancy on fetal growth. *American Journal of Epidemiology, 124*(6), 986-993.
El Marroun, H., Tiemeier, H., Steegers, E. A. P., Jaddoe, V. W. V., Hofman, A., Verhulst, F. C., et al. (2009). Intrauterine cannabis exposure affects fetal growth trajectories: The Generation R Study. *Journal of the American Academy of Child Adolescent Psychiatry, 4*8(12), 1173-1181.
[27] Goldschmidt, L., Richardson, G., Willford, J., & Day, N. (2008). Prenatal marijuana exposure and intelligence test performance at age 6. *Journal of the American Academy of Child Adolescent Psychiatry, 47*(3), 254–63.
Gray, K. A., Day, N. L., Leech, S., Richardson, G. A. (2005). Prenatal marijuana exposure: effect on child depressive symptoms at ten years of age. *Neurotoxicology and Teratology, 27*(3), 439-448.

Respiratory/pulmonary: The respiratory and pulmonary effects of marijuana use are not fully researched. It is well known that marijuana smoke contains carbon monoxide, tar, and more carcinogens than tobacco smoke.[28] The California's Office of Environmental Health Hazard Assessment added marijuana smoke to its official list of known carcinogens in 2009.[29] Marijuana users generally smoke marijuana cigarettes less often than tobacco cigarettes but they also inhale greater volume and hold the marijuana smoke in for longer periods of time.[30] Marijuana cigarettes can deposit as much as four times the amount of tar to the lungs compared to tobacco cigarettes.[31] Although a recent study suggested that there is limited harm to pulmonary function from occasional marijuana smoking,[32] it is clear that chronic smoking is harmful to the lungs.[33] Research indicates that chronic marijuana smokers are more prone to bullous lung disease than cigarette smoking counterparts and at much younger ages.[34] The lack of available conclusive research on the extensive short- and long-term effects of smoking marijuana may be informed by the history of research on the effects of tobacco which was conducted and collected over many decades.

The serious adverse health effects of marijuana use—including addiction—outlined here are a brief summary, making clear that marijuana use adversely affects both users and their families. ASAM is concerned that much of the current discussion of changes in marijuana policy focuses only on the goals of marijuana "reform" proposals, ignoring the serious adverse health and safety effects of marijuana use. The negative health effects of marijuana must play a significant role in the decision-making process of developing a marijuana policy to promote the public health.

III. Goals of Marijuana Legalization

Marijuana legalization has been promoted as a public health and safety measure, as a way to decrease drug-related crime, and as a solution to the harms caused by marijuana

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Day, N., Goldschmidt, L., Thomas, C. (2006). Prenatal marijuana exposure contributes to the prediction of marijuana use at age 14. *Addiction, 101*(9), 1313–22.

[28] American Lung Association. (2012). Health hazards of smoking marijuana. Available: http://www.lung.org/stop-smoking/about-smoking/health-effects/marijuana-smoke.html

[29] Tomar, R. S., Beaumont, J., & Hsieh, J. C. Y. (2009). Evidence on the Carcinogenicity of Marijuana Smoke. California Environmental Protection Agency. Reproductive and Cancer Hazard Assessment Branch, Office of Environmental Health Hazard Assessment. Available: http://oehha.ca.gov/prop65/hazard_ident/pdf_zip/FinalMJsmokeHID.pdf; Corresponding slides available: http://www.oehha.ca.gov/prop65/public_meetings/pdf/cicslides060509.pdf

[30] Joy, J. E., Watson, Jr., S. J., & Benson, J. A. (Eds). (1999). *Marijuana and medicine: assessing the science base*. Washington, D.C.: National Academy Press.

[31] Wu, T.C., Tashkin, D.P., Djahed, B., & Rose, J. E. (1998). Pulmonary hazards of smoking marijuana as compared with tobacco. *New England Journal of Medicine, 318*(6), 347-351.

[32] Pletcher, M. J., Vittinghoff, E., Kalhan, R., Richman, J., Safford, M., Sidney, S., et al. (2012). Association between marijuana exposure and pulmonary function over 20 years. *Journal of the American Medical Association, 307*(2),173-181.

[33] See, among others:
Tashkin, D. P. (2005). Smoked marijuana as a cause of lung injury. *Monaldi Archives for Chest Disease, 63*(2), 93-100.
Diplock , J. & Plecas, D. (2009). Clearing the Smoke on Cannabis: Respiratory Effects of Cannabis smoking. Ottawa, ON: Canadian Centre on Substance Abuse. Available: http://www.ccsa.ca/2009%20CCSA%20Documents/ccsa-11797-2009.pdf

[34] Hii, S.W., Tam, J.D., Thompson, B.R., Naughton, M.T. (2008). Bullous lung disease due to marijuana. *Respirology*, *13*(1), 122-127.

criminalization, including incarceration, among others. In particular, those who advocate for the legalization of marijuana commonly argue that marijuana legalization will significantly reduce the illegal trade of marijuana and the crime associated with that illegal trade. They further anticipate that legal marijuana will be a significant source of tax revenue, and it will reduce the high costs related to law enforcement. These claims have not been validated, in part because the full consequences of marijuana legalization remain unknowable; however, there exists valuable, independent, but limited, prospective research on the likely outcomes of state-based marijuana legalization in the U.S.

The RAND Corporation analyzed the prospective effects of legalized marijuana under passage of California's Proposition 19 in 2010 with the continued federal prohibition of marijuana.[35] Researchers concluded that rates of marijuana use in that state would substantially increase. Prohibition of drugs, including marijuana, currently increases the cost of doing business because of the many risks it places on producers and sellers. Under state legalization, the price of marijuana would drop significantly—up to 80%—with the market price for users depending on taxes and regulation. A "gray market" would still exist for non-taxed, unregulated marijuana.[36] The black market potential for marijuana is great, as the United States has learned from tobacco which is smuggled illegally over the Canada-U.S. border. The specific design of state legalization would dramatically impact projected taxes collected and rates of use, including how high a tax is used, differences in taxes and regulation of potency, home cultivation of the drug, advertising, and the development and management of the regulatory system put in place.[37] This would be in conflict with federal law under which marijuana still would be illegal.

Another RAND study concluded that marijuana legalization in California would not significantly reduce Mexican drug trafficking organizations' (DTOs') gross revenue, nor would it significantly reduce drug-related violence in Mexico.[38] Researchers noted that "the only way Prop 19 could importantly cut DTO drug *export* revenues is if California-produced marijuana is smuggled to other states at prices that outcompete current Mexican supplies"(p. 3).[39] Diverted marijuana from legal production in one state has implications for all others, as it would undercut marijuana prices across the country.[40]

The price elasticity of marijuana under a legalization scheme is complicated because addictive substances do not behave in the market the same way non-addictive substances do. Demand for marijuana changes from a perceived luxury with first-time use to a virtual necessity for those users who have marijuana dependence. For the non-dependent marijuana user,

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[35] Kilmer, B., Caulkins, J. P., Pacula, R. L., MacCoun, R. J., & Reuter, P. H. (2010). Altered State? Assessing How marijuana Legalization in California Could Influence Marijuana Consumption and Public Budgets. Santa Monica, CA: RAND Drug Policy Research Center. Available: http://www.rand.org/content/dam/rand/pubs/occasional_papers/2010/RAND_OP315.pdf

[36] Ibid.

[37] Caulkins, J. P., Kilmer, B., MacCoun, R. J., Pacula, R. L. & Reuter, P. (212). Design considerations for legalizing cannabis: Lessons inspired by analysis of California's Proposition 19.*Addiction*. doi: 10.1111/j.1360-0443.2011.03561.x

[38] Kilmer, B., Caulkins, J. P., Bond, B. M., & Reuter, P. H. (2010). Reducing Drug Trafficking Revenues and Violence in Mexico: Would Legalizing Marijuana in California Help? Santa Monica, CA: RAND International Programs and Drug Policy Research Center. Available: http://www.rand.org/content/dam/rand/pubs/occasional_papers/2010/RAND_OP325.pdf

[39] Ibid.

[40] Caulkins, J. P., & Bond, B. M. (2012). Marijuana price gradients: Implications for exports and export-generated tax revenue for California after legalization. *Journal of Drug Issues, 42*(1), 28-45.

demand is sensitive to changes in price.[41] [42] Marketing to customers has potential under both legalization and decriminalization scenarios to drive up the market. Should the legalization of commercial sales of marijuana be accompanied by legalization of advertising of commercially sold marijuana, the evidence that tobacco cigarette advertising increases consumption[43] suggests that the same effect on demand may be true for marijuana. Levels of exposure to cigarette advertising impact adolescent smoking behaviors, with high exposure to cigarette advertising increasing the likelihood of smoking.[44] There is also evidence that alcohol advertising increases alcohol consumption, and separately, that bans against advertising alcohol have varying effects on reducing use.[45]

ASAM recognizes that while the studies of prospective marijuana legalization described here relate specifically to California, the findings are likely applicable to other states, should legalization initiatives pass and be implemented. If marijuana were legalized in any state, there would likely be changes—both expected and unexpected—in price, taxes, and marketing within that state and in surrounding states.

In addition to collecting revenues, state-based marijuana legalization initiatives seek to mitigate the harmful effects of current criminal justice sanctions related to marijuana, as there is a widely held perception that the public health harms of criminal justice interventions are greater than their benefits. The United States has one of the highest rates of incarceration in the world, with 7.2 million people under supervision of the criminal justice system,[46] of which a 5.5 million people are on probation and parole.[47] In a sample of male arrestees from ten sites in the U.S., more than half tested positive for illicit drugs at the time of arrest, ranging from 64-81%,[48] demonstrating the ongoing connection between crime and drug use. Drug use often continues after release and is tied to high rates of recidivism while under community supervision. Marijuana was the most common drug identified among offenders with 36-56% testing positive.[49] In terms of the role of marijuana sale in incarceration, the majority of individuals in state and federal prison for marijuana offenses are neither "unambiguously low-level" nor are they "kingpins" in the drug trade.[50] Further study confirmed that an estimated 0.5% of all incarcerated individuals served time for their marijuana use; the vast majority of individuals

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[41] Jacobson, M. (2004). Baby booms and drug busts: trends in youth drug use in the United States, 1975-2000. *Quarterly Journal of Economics, 119*(4), 1,481-1,512.
[42] Williams, J. (2004). The effects of price and policy on marijuana use: What can be learned from the Australian experience? *Health Economics, 13*(2), 123-137.
[43] Tye, J. B., Warner, K. E., & Glantz, S. A.. (1987). Tobacco advertising and consumption: Evidence of a causal relationship. *Journal of Public Health Policy 8*(4), 492-508.
[44] Botvin, G. J., Goldberg, C. J., Botvin, E. M., & Dusenbury, L. (1993). Smoking behavior of adolescents exposed to cigarette advertising. *Public Health Reports, 108*(2), 214-224.
[45] Saffer, H. (2002). Alcohol advertising and youth. *Journal of Studies on Alcohol, Suppl. 14*(2), 173-181.
[46] Bureau of Justice Statistics. (2012). Key facts at a glance. Washington, DC: Office of Justice Programs, Bureau of Justice Statistics. Available: http://bjs.ojp.usdoj.gov/content/glance/corr2.cfm
[47] Bonczar, T. P., & Glaze, L. E. (2011, November 21). Probation and Parole in the United States, 2010. Washington, DC: U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics. Available: http://bjs.ojp.usdoj.gov/content/pub/pdf/ppus10.pdf
[48] Office of National Drug Control Policy. (2012). ADAM II: 2011 Annual Report, Arrestee Drug Abuse Monitoring Program. Washington, DC: Office of National Drug Control Policy. Available: http://www.whitehouse.gov/sites/default/files/email-files/adam_ii_2011_annual_rpt_web_version_corrected.pdf
[49] Center for Substance Abuse Research. (2012, May 21). Marijuana most commonly detected drug among male arrestees tested by ADAM II in ten U.S. sites. *CESAR Fax, 21*(20). Available: http://www.cesar.umd.edu/cesar/cesarfax/vol21/21-20.pdf
[50] Sevigny, E., & Caulkins, J. P. (2004). Kingpins or mules? An analysis of drug offenders incarcerated in federal and state prisons. *Criminology and Public Policy, 3*(3):401–434.

incarcerated for marijuana possession were involved in distribution.[51] Similarly, analysis by the National Center on Addiction and Substance Abuse at Columbia University (CASA) showed that only 2% of all incarcerated persons in the nation's prisons and jails were incarcerated due to a marijuana charge as the controlling offense.[52] Controlling offenses of marijuana possession accounted for 1.1% of all incarcerated persons while 0.9% of all inmates were incarcerated for marijuana possession as their only offense.

Arrests for marijuana possession account for 45.8% of all drug-related arrests,[53] totaling 750,000 arrests in 2010. Based on the number of people serving time for marijuana offenses compared to the number of sellers, researchers have concluded that, despite the many arrests for possession, "marijuana toughness" is low in the U.S.[54] The likelihood that at present, marijuana sellers will spend time incarcerated is very low compared to sellers of other illicit drugs such as cocaine and heroin; therefore, "easing up on toughness" of marijuana laws would not substantially reduce incarceration rates and its substantial costs, though it is unclear what would be the full impact of marijuana legalization on this population.[55] Removing criminal penalties for marijuana possession (i.e. marijuana decriminalization) could substantially reduce the large number of marijuana possession arrests depending upon laws regarding limitations on possession, use, transportation, etc. Likewise, under marijuana legalization, marijuana possession arrests would likely plummet in those states; however, under both circumstances, other marijuana-related arrests would still be made (see **IV. Negative Consequences of Marijuana Legalization**).

IV. Negative Consequences of Marijuana Legalization

Any state considering changing the legal status of marijuana should consider the negative health consequences of such changes, as well as the benefits of maintaining the criminalization of marijuana sale and use.

Advocates for marijuana legalization often promote as a reason to legalize marijuana the fact that the costs of alcohol and tobacco far outweigh those of marijuana. ASAM recognizes that at present, legal drugs like alcohol and tobacco are more widely used and cause substantial—and significantly more, in many cases—harm than marijuana and in some cases, more harm than all of the illegal drugs combined. The nonmedical[56] use of prescription drugs is now the fastest growing drug problem in the United States.[57] [58] These legal drugs provide

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[51] Caulkins, J.P. & Sevigny, E. (2005). How many people does the U.S. incarcerate for drug use, and who are they? *Contemporary Drug Problems, 32*(3):405–428.

[52] National Center on Addiction and Substance Abuse at Columbia University. (2010). Behind Bars II: Substance Abuse and America's Prison Population. New York, NY: CASA Columbia. Available: http://www.casacolumbia.org/articlefiles/575-report2010behindbars2.pdf

[53] Federal Bureau of Investigation. (2011). Crime in the United States, 2010. *Uniform Crime Reports.* U.S. Department of Justice, Federal Bureau of Investigation, Criminal Justice Information Services Division. Available: http://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2010/crime-in-the-u.s.-2010/persons-arrested

[54] Caulkins, J.P. & Reuter, P. (2010). How drug enforcement affects drug prices. In: M. Tonry (E.d.), *Crime and Justice: A Review of Research, Volume 39* (213–72). Chicago, IL: University of Chicago Press.

[55] Ibid.

[56] "Nonmedical use of prescription drugs" refers to use of a drug without a prescription and/or misuse of a drug such as overuse or abuse. All "nonmedical" drug use includes use of any illegal drugs.

[57] Maxwell, J. C. (2011). The prescription drug epidemic in the United States: A perfect storm. *Drug and Alcohol Review, 30*(3), 264-270.

[58] Centers for Disease Control and Prevention. (2012, January 13). CDC grand rounds: Prescription drug overdoses – a US epidemic. *Morbidity and Mortality Weekly Report, 61*(1), 10-13. Available: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6101a3.htm

evidence that drug use itself—not its illegality—is a national public health threat. Legal drugs currently wreak havoc on public health, producing substantial financial and health burdens. The White House Office of National Drug Control Policy (ONDCP) affirmed that, "The healthcare and criminal justice costs associated with alcohol and tobacco far surpass the tax revenue they generate, and little of the taxes collected on these substances is contributed to the offset of their substantial social and health costs."(p.23)[59] The annual social cost in the US of alcohol is estimated at between $185[60] and $235 billion[61] and for tobacco at $200 billion.[62] Those costs vastly exceed the value of US tax revenue from the sale of these two substances ($14 billion for alcohol[63] and $25 billion for tobacco[64]). The same would likely be true for legal marijuana. The College on Problems of Drugs and Dependence (CPDD) acknowledges, "At present levels of use, the health costs [illegal drugs] impose on users and on society are dwarfed...by those attributable to tobacco (nicotine) and alcohol. The health costs of illicit drugs might well approach or exceed those of tobacco and alcohol if their legal status were changed and their use increased sharply."(p. 2).[65]

Revenues from taxes on alcohol and tobacco currently do not approach the costs of prevention and treatment. It is also unclear how significant would be the cost of setting up a regulatory scheme for legal marijuana. Although a possible goal of state-based marijuana legalization could be to increase funding for addiction prevention and treatment through taxation of commercial activities associated with legalized marijuana, such an outcome is far from likely to be achieved as can be seen from the use of tax revenue from legal alcohol and tobacco; moreover, the negative health effects of increased marijuana use (as outlined in **II. Background and Significance**) would substantially escalate.

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[59] Office of National Drug Control Policy. (2011). *National Drug Control Strategy 2011.* Washington, DC: Office of National Drug Control Policy. Available: http://www.whitehouse.gov/sites/default/files/ondcp/ndcs2011.pdf

[60] Harwood, H. (2000). *Updating Estimates of the Economic Costs of Alcohol Abuse in the United States: Estimates, Update Methods and Data*. Report prepared by The Lewin Group for the National Institute on Alcohol Abuse and Alcoholism.

[61] Rehm, J., Mathers, C., Popova, S., Thavorncharoensap, M., Teerawattananon, Y., & Patra, J. (2009). Global burden of disease and injury and economic cost attributable to alcohol use and alcohol-use disorders. *Lancet, 373*, 2223–2233.

[62] Centers for Disease Control and Prevention. (2011). Tobacco Use: Targeting the Nation's Leading Cause of Death, At a Glance 2011. Available: http://www.cdc.gov/nccdphp/publications/aag/osh.htm

[63] Statement from ONDCP Director R. Gil Kerlikowske: Why Marijuana Legalization Would Compromise Public Health and Public Safety, Annotated Remarks. Delivered at the California Police Chiefs Association Conference, San Jose, CA, March 4, 2010. Available: http://www.whitehouse.gov/sites/default/files/ondcp/issues-content/directors_cal_chiefs_remarks.pdf; Tax Policy Center. (2010). Alcohol tax revenue: State and local alcohol beverage tax revenue, selected years, 1977-2008. Urban Institute and Brookings Institution. Retrieved November 15, 2011 from http://www.taxpolicycenter.org/taxfacts/displayafact.cfm?DocID=399&Topic2id=90&Topic3id=92

[64] Statement from ONDCP Director R. Gil Kerilkowske: Why Marijuana Legalization Would Compromise Public Health and Public Safety, Annotated Remarks. Delivered at the California Police Chiefs Association Conference, San Jose, CA, March 4, 2010. Available: http://www.whitehouse.gov/sites/default/files/ondcp/issues-content/directors_cal_chiefs_remarks.pdf; Talley, L. A., (2002, January 10). Federal Excise Taxes on Tobacco Products: Rates and Revenues. CRS Report for Congress. Available: http://www.policyarchive.org/handle/10207/bitstreams/3314.pdf; Saul, S. (2008, August 30). Government gets hooked on tobacco tax billions. *New York Times,* p. WK3. Available: http://www.nytimes.com/2008/08/31/weekinreview/31saul.html?em; Campaign for Tobacco Free Kids. Toll of tobacco in the United States of America, See "smoking-caused costs" on p. 2: http://www.tobaccofreekids.org/research/factsheets/pdf/0072.pdf
Tax Policy Center. (2010). Tobacco tax revenue: State and local tobacco tax revenue, selected years, 1977-2008. Urban Institute and Brookings Institution. Retrieved November 15, 2011 from http://www.taxpolicycenter.org/taxfacts/displayafact.cfm?DocID=403&Topic2id=90&Topic3id=92

[65] College on Problems of Drug Dependence. (1997). Statement on National Drug Policy. Philadelphia, PA: College on Problems of Drug Dependence. Available: http://www.cpdd.vcu.edu/Media/FactSheets/national.pdf

There is great uncertainty of anticipated federal government involvement in enforcing federal marijuana laws should marijuana be legalized at the state level. Nationally, there are an estimated 2.7 million alcohol-related arrests each year[66] compared to 750,000 annual marijuana possession arrests.[67] If marijuana use increased, as can be expected under legalization, it is likely that there would be an increase in the number of arrests at the state level for marijuana-related incidents such as public use violations, violations in laws regulating age limits, and marijuana-related arrests for driving under the influence (DUI).

Currently, marijuana is the most common drug involved in drugged driving—a significant cause of highway crashes, injury, and death.[68] New research from meta-analyses shows that marijuana use doubles the risk of a crash;[69] [70] habitual marijuana use is associated with increased risk of crash injury.[71] Among all fatally injured drivers in the U.S. in 2009 for which drug test results were available, 8.6% were positive for marijuana.[72] A study of fatally injured drivers in Washington State showed that 12% were positive for marijuana.[73] A study of seriously injured drivers in Maryland showed that 26.9% were positive for marijuana; 50% of drivers under age 21 were positive for marijuana.[74] Increases in rates of drugged driving due to marijuana would raise the costs resulting from crashes, injuries, and lost lives. Thus, decreases in highway safety constitute an easy-to-predict negative consequence of the legalization of marijuana use by adults.

Advocates of marijuana legalization commonly support the use of an age limit of 21 for marijuana use, production, and sales, similar to standards for alcohol. Rates of youth drug use instruct youth prevention needs. The relationship between "perceived harm" from use of a drug and rates of drug use has been well established by public health researchers. A recent report by the United States Senate Caucus on International Narcotics Control, released in June 2012, expressed serious concern over recent increases in national rates of marijuana use, particularly noting more favorable attitudes of youth regarding marijuana use.[75] The Monitoring the Future (MTF) study from the University of Michigan importantly has shown an inverse relationship

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[66] Office of National Drug Control Policy. (2011). Marijuana Legalization. Fact Sheet. Washington, DC: Author. Available: http://www.whitehouse.gov/sites/default/files/ondcp/Fact_Sheets/marijuana_legalization_fact_sheet_3-3-11.pdf

[67] Federal Bureau of Investigation. (2011). Crime in the United States, 2010. Arrests. Uniform Crime Reports. Washington, DC: Author. Available: http://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2010/crime-in-the-u.s.-2010/persons-arrested

[68] DuPont, R.L., Logan, B.K., Shea C.L., Talpins, S.K., Walsh, J.M., & Voas, R.B. (2011). Drugged Driving: A White Paper. Institute for Behavior and Health Drugged Driving Committee. Rockville, MD: National Institute on Drug Abuse. Available: http://www.whitehouse.gov/sites/default/files/ondcp/issues-content/drugged-driving/nida_dd_paper.pdf

[69] Li, M., Brandy, J. E., DiMaggio, C. J., Lusardi, A. R., Tzong, K. Y., Li, G. (2012). Marijuana use and motor vehicle crash. *Epidemiological Reviews, 175*(2), 89-90.

[70] Ashbridge, M. & Cartwright, J. L. (2012). Acute cannabis consumption and motor vehicle collision risk: Systematic review of observational studies and meta-analysis. *British Medical Journal, 344*, 344:e536 doi: 10.1136/bmj.e536

[71] Blows, S., Ivers, R.Q., Connor, J., Ameratunga, S., Woodward, M., & Norton, R. (2005). Marijuana use and car crash injury. *Addiction*, 100(5), 605-611.

[72] Compton, R., & Berning, A. (2009). Results of the 2007 National Roadside Survey of Alcohol and Drug Use by Drivers. *Traffic Safety Facts*. DOT HS 811 175. Washington, DC: National Highway Traffic Safety Administration.

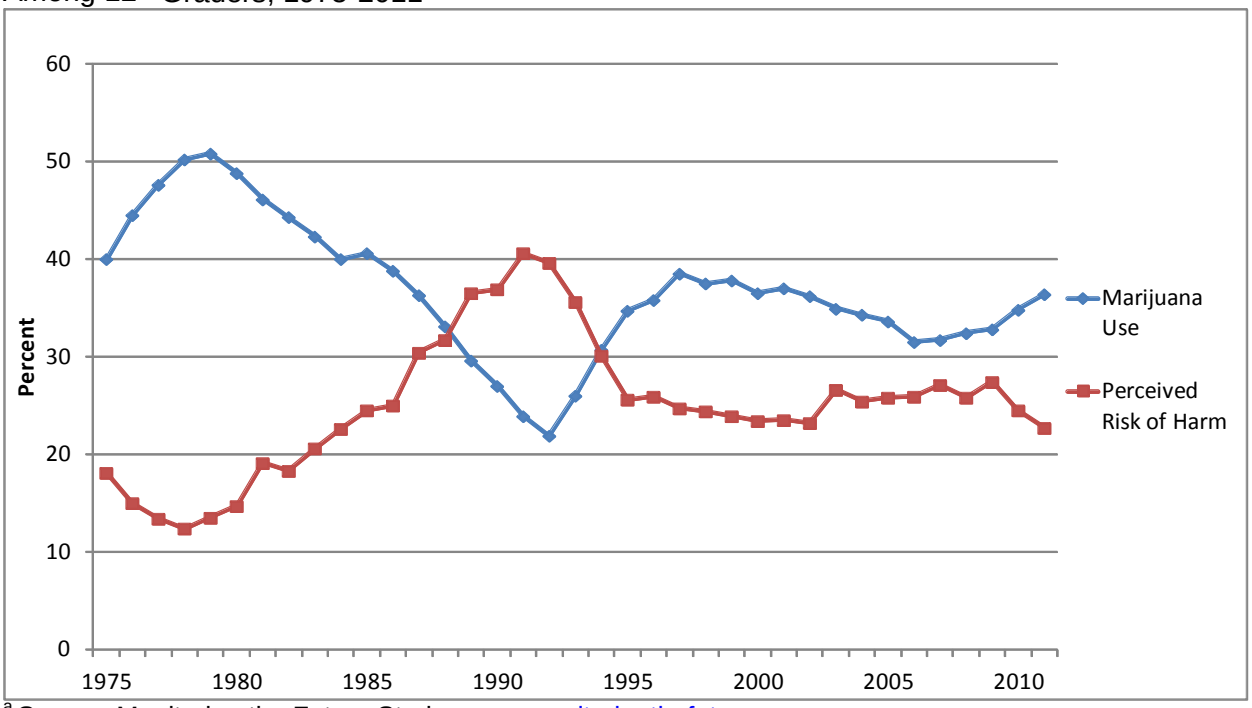
[73] Schwilke, E.W., Sampaio dos Santos, M.I., & Logan, B.K. (2006). Changing patterns of drug and alcohol use in fatally injured drivers in Washington State. *Journal of Forensic Sciences*, *51*(5), 1191-1198.

[74] Walsh, M., Flegel, R., Atkins, R., Cangianelli, L.A., Cooper, C., Welsh, C., Kerns, T.J. (2005). Drug and alcohol use among drivers admitted to a Level-1 Trauma Center. *Accident Analysis and Prevention*, *37*(5), 894-901.

[75] United States Senate Caucus on International Narcotics Control. (2012). Reducing the U.S. Demand for Illegal Drugs: A Report by the United States Senate Caucus on International Narcotics Control. Washington, DC: 112th Congress, 2nd Session.

between the perception of risk of harm from use of a drug and the rate of the use of that drug.[76] This study has shown consistently over decades that when the perception of harm from marijuana use was high, marijuana use was low and when the perception of harm from marijuana use was low, the use was high (See Figure 1). After a decline in marijuana use among 8th, 10th and 12th graders in the U.S., marijuana use increased over the past four years, with significant increases seen from 2009 to 2010 for lifetime, past year, past 30 day, and daily use across all grades[77] and continued increases among 10th and 12th graders in 2011.[78] Daily marijuana use, defined as use on 20 or more occasions in the past month, increased from 2010 to 2011 for all grades, with a statistically significant increase from 2007.[79] In 2011, daily marijuana use among 12th graders reached a 30-year high of 6.6% or 1 in 15.[80] (It is important to note that the MTF study does not capture the attitudes and drug using behaviors of school-aged persons who have dropped out of school or have been expelled.)

Figure 1. Past Year Marijuana Use and Perceived Risk of Harm of Occasional Marijuana Use Among 12th Graders, 1975-2011



[a] Source: Monitoring the Future Study, www.monitoringthefuture.org.

As a comparison, cigarette use among high school students has continued to decline since the mid to late 1990s while marijuana use remained steady until its recent upswing since

[76] Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2012). Monitoring the Future, National Results on Adolescent Drug Use: Overview of Key Findings, 2011. Ann Arbor, MI: Institute for Social Research, The University of Michigan. Available: http://monitoringthefuture.org/pubs/monographs/mtf-overview2011.pdf

[77] Meyer, P. (2010). Marijuana use rising; Ecstasy use beginning to rise; alcohol use declining among U.S. teens. Record Update, Office of the Vice President for Communications. University of Michigan, institute for Social Research. Available: http://www.ur.umich.edu/update/archives/101215/mtfdrugs15

[78] Johnston, L. D., O'Malley, P. M., Bachman, J. G., Schulenberg, J. E. (2012). Monitoring the Future: National Results on Adolescent Drug Use, Overview of Key Findings, 2011. Ann Arbor, MI: Institute for Social Research, The University of Michigan. Available: http://monitoringthefuture.org/pubs/monographs/mtf-overview2011.pdf

[79] Meyer, P. (2011). Marijuana use up among U.S. teens; alcohol use this historic lows. Record Update, Office of the Vice President for Communications. University of Michigan, Institute for Social Research. Available: http://www.ur.umich.edu/update/archives/111215/mtfmain

[80] Ibid.

the mid 2000s. Rates of past month marijuana use exceeded those of past month cigarette use across all grades: 7.2% vs. 6.1% of 8th graders, 17.6% vs. 11.8% of 10th graders, and 22.6% vs. 18.7% of 12th graders, used marijuana vs. cigarettes, respectively. Research has also indicated an association between early marijuana use and later illicit drug use,[81] as well as later tobacco use and nicotine dependence.[82]

The American Academy of Pediatrics (AAP) suggests that based on the experiences of alcohol and tobacco, "legalization of marijuana would have a negative effect on youth"(p. e636).[83] The AAP predicts that if marijuana were legalized, perceived risk of harm would likely decrease in conjunction with increases in use.[84] ASAM concurs with the AAP that legalization would have the unintended consequences of decreasing the perceived harm associated with marijuana use and thus, would be associated with increases in rates of marijuana use. The legalization of marijuana would produce serious public health harms, including increased marijuana use, among youth.

The Senate Caucus on International Narcotics Control noted that along with changes in marijuana use rates and corresponding changing attitudes about marijuana use, legal changes have been made at the state level regarding the status of marijuana, stating that "the increasing trend in marijuana production in states with permissive medical marijuana laws cannot be ignored given the considerable danger domestic cultivation poses to changing attitudes among American youth."(p. 14)[85] And yet, when considering alternatives to the federal scheduling of cannabis under the Controlled Substances Act (CSA), the Senate Caucus stated, "We believe focusing resources on alternative medicine development through an approved Federal Drug Administration (FDA) process, rather than the legalization of marijuana, is the best route to explore."(p. 15) [86]

The College on Problems of Drugs and Dependence (CPDD), in its public policy statement on drug policy, makes the point that that rates of consumption of a drug in a population correlate directly with availability: "The more available a drug of abuse, the more people use it, the more is consumed by the user, and the higher is the number of users who encounter problems caused by heavy use. Therefore, legal controls (including but not necessarily limited to prohibitions) that restrict availability are effective means of reducing consumption, reducing drug-induced problems, and discouraging initial use by children and adolescents."(p.2)[87]

A 2008 publication from the Marijuana Policy Project (MPP), an organization that seeks to legalize marijuana, suggested that "medical" marijuana laws do not increase teen marijuana

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[81] Swift, W., Coffey, C., Degenhardt, L., Carlin, J. B., Romaniuk, H., & Patton, G. C. (2011). Cannabis and progression to other substance use in young adults: Findings from a 13-year prospective population-based study. *Journal of Epidemiology and Community Health*. doi:10.1136/jech.2010.129056

[82] Patton, G. C., Coffey, C., Carlin, J. B., Sawyer, S. M., & Lynskey, M. (2005). Reverse gateways? Frequent cannabis use as a predictor of tobacco initiation and nicotine dependence. *Addiction, 100*(10), 1518-1525.

[83] Joffe, A., Yancy, S., American Academy of Pediatrics Committee on Substance Abuse, and Committee on Adolescence. (2004). Legalization of marijuana: Potential impact on youth. *Pediatrics, 113,* e632-e638. Available: http://pediatrics.aappublications.org/content/113/6/e632.full

[84] Ibid.

[85] United States Senate Caucus on International Narcotics Control. (2012). Reducing the U.S. Demand for Illegal Drugs: A Report by the United States Senate Caucus on International Narcotics Control. Washington, DC: 112th Congress, 2nd Session.

[86] Ibid.

[87] College on Problems of Drug Dependence. (1997). Statement on National Drug Policy. Philadelphia, PA: College on Problems of Drug Dependence. Available: http://www.cpdd.vcu.edu/Media/FactSheets/national.pdf

use, showing that rates of teen marijuana use in the years of law passage in the mid to late 1990s were higher than those in the mid 2000s[88] but analysis has shown that from 2002 to 2008, rates of marijuana use among adolescents in "medical" marijuana states were higher than youth in states without those laws.[89] Although research is unclear as to why rates of marijuana use were different among youth in these states, it does not follow that making marijuana more accessible at the state level would reduce marijuana use among youth. ASAM has stated that it clearly "opposes any changes in law and regulation that would lead to a sudden significant increase in the availability of any dependence-producing drug (outside of a medically-prescribed setting for therapeutic indications"(p.3).[90] The availability of marijuana would surely increase under state-based legalization and a substantial marijuana industry would emerge under legalization, as has begun to happen with the legalization of "medical" marijuana.

Many in support of marijuana legalization disregard concerns about the potential increases in the availability of marijuana and/or increases in marijuana use should such laws be passed. The negative health effects of marijuana use often are overlooked or unknown. However, a clear-cut negative health consequence of legalization of marijuana sale and use would be an increase in the number of persons, including youth, in need of treatment services for cannabinoid or marijuana addiction. ASAM, as an organization devoted to the science of addiction medicine, is particularly concerned about this potential rise in population-level addiction rates.

V. International Context

Those in favor of legalizing marijuana in the United States sometimes turn to the experiences of other nations with less restrictive approaches to drug policy, particularly the Netherlands and Portugal, to inform their cause. As noted, no country has legalized marijuana use and sale. In the Netherlands, the use, possession, and sale of marijuana all remain illegal. The laws which would typically ban marijuana "coffee shops" (where marijuana is sold) and marijuana users within these shops are not enforced is a policy of "toleration." Historically, Dutch coffee shops have been permitted to sell marijuana under simple, but strict conditions such as without advertisement, in limited amounts (5 grams) per person each day, only to adults age 18 and older, and without "cause of nuisance."[91] The marijuana sold in these shops has been and continues to be illegally grown and/or imported.

The potency (i.e. concentrations of delta-9-tetrahydrocannabinol, THC) of marijuana and hashish sold in coffee shops has significantly increased over time.[92] As a result of increases in international drug tourism and drug trade, commercialization of the marijuana industry, and

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[88] O'Keefe, K., Earleywine, M., Mirken, B., & Hurst, Z. (2008). Marijuana Use by Young People: The Impact of State Medical Marijuana Laws. Washington, DC: Marijuana Policy Project. Available: http://www.mpp.org/assets/pdfs/library/Teen-Use-FINAL.pdf

[89] Wall, M. M., Poh, E., Cerda, M., Keyes, K., Galea, S., & Hasin, D. S. (2011). Adolescent marijuana use from 2002 to 2008: Higher in states with medical marijuana laws, cause still unclear, *Annals of Epidemiology, 21*(9), 714-716,

[90] American Society of Addiction Medicine. (1994). Public Policy Statement on National Drug Policy. Chevy Chase, MD: American Society of Addiction Medicine. Available:

[91] Government of the Netherlands. (n.d.). Alcohol and drugs: Drugs. Available: http://www.government.nl/issues/alcohol-and-drugs/drugs

[92] Pijilman, F. T., Rigter, S. M., Hoek, J., Goldschmidt, H. M., & Niesink, R. J. (2005). Strong increase in total delta-THC in cannabis preparations sold in Dutch coffee shops. *Addiction Biology, 10*(2), 171-180. Available: http://ukcia.org/research/IncreaseInTHCInCoffeeshops.pdf

stronger links to organized crime,[93] the drug policy of the Netherlands is now changing. The Dutch government states that in order "to combat the nuisance and crime associated with coffee shops and the trade in drugs," "coffee shops must become smaller and easier to control." [94] *De facto* decriminalization has and will remain intact for all "soft" drugs, including marijuana and hashish in the Netherlands; however, marijuana with THC content of 15% or more is now considered a "hard" drug and is banned from sale. Coffee shops are no longer public; they are private clubs with limited membership for persons 18 and older who can prove they are residents of the Netherlands and they must be located at a distance from any schools. These and related changes are currently underway and will all be in place by January 1, 2013.

In recent years, Portugal has been promoted as an example of a successful drug decriminalization scheme.[95] Portugal has decriminalized the use and possession of a 10-day supply of any illicit drug, including marijuana, changing it from a criminal offense to an administrative one. Like the Netherlands, all drug sales and manufacturing—including marijuana—remain illegal in Portugal and are met with criminal sanctions. The implementation of decriminalization for drug possession changed the way in which drug users are handled in Portugal. Rather than being subject to arrest, drug users are summoned by the police to their local district's Commission for the Dissuasion of Drug Abuse (CDT), three-member groups in charge of evaluating and ruling on the drug possession offense. CDTs dispense administrative punishments for most drug users, some of which are suspended if treatment is obtained, though there is no monitoring mechanism to ensure treatment participation or completion. The large majority of CDT cases involve only marijuana. There is limited evidence to identify the effects of Portugal's drug policy changes, and particularly to separate the effects of decriminalization from other changes recently made and the relevance of these changes for any other country, including the United States.[96]

Most recently, there is a proposal in Uruguay for the government to sell limited amounts of marijuana to its citizens.[97] The future of this proposed law is murky. Moreover, if passed, Uruguay may be censured and/or penalized by the United Nations International Narcotics Control Board (INCB) for violating the United Nations Single Convention of 1961.[98]

ASAM encourages the rigorous study and evaluation of various drug policies and programs, including those outside the U.S., to inform future strategies that focus on promoting the public health.

VI. 2012 State-Level Marijuana Legalization Proposals

Colorado, Washington, and Oregon will each have proposals on their November, 2012 ballots proposals to legalize marijuana. Colorado's Amendment 64, known as the Regulate

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[93] Government of the Netherlands. (n.d.). Alcohol and drugs: Drugs. Available: http://www.government.nl/issues/alcohol-and-drugs/drugs
[94] Ibid.
[95] Greenwald, G. (2009). Drug Decriminalization in Portugal: Lessons for Creating Fair and Successful Drug Policies. Washington, DC: The CATO Institute.
[96] Office of National Drug Control Policy. (2010, August). Drug decriminalization in Portugal: Challenges and limitations. Washington, DC: Office of National Drug Control Policy. Available: http://www.whitehouse.gov/sites/default/files/ondcp/Fact_Sheets/portugal_fact_sheet_8-25-10.pdf
[97] Moffet, M., & Kaplan, E. (2012, June 22). Uruguay considers selling marijuana. *Wall Street Journal,* p. A12. Available: http://online.wsj.com/article/SB10001424052702304898704577480764220930718.html
[98] United Nations International Narcotics Drug Control Board. (1972). United Nations Single Convention of 1961 (as amended by the 1972 Protocol). Available: http://www.incb.org/incb/convention_1961.html

Marijuana Like Alcohol Act, if passed, would legalize the possession, use, display, purchase and transport of limited amounts of marijuana by persons age 21 and older.[99] Persons of age also could legally possess, process, and transport a limited number of marijuana plants for personal use. The state would be required to provide regulation and oversight of the marijuana industry through licensure of cultivation, manufacturing, and testing facilities and retail stores. Further, the state would develop requirements for security of marijuana establishments for prevention of sale and distribution to minors, and for health and safety of employees that cultivate and manufacture marijuana. The general assembly would enact an excise tax on wholesale sales of marijuana, with the first $40 million in revenue raised annually to be credited to the public school and capital construction fund. Driving under the influence of marijuana and selling, distributing, or transporting marijuana to minors would remain illegal.

The Washington State Initiative Measure No. 502 (I-502)[100] has been promoted predominately throughout the state by New Approach Washington. The organization asserts that I-502, if passed, "would license and regulate marijuana production, distribution, and possession for persons over twenty-one; remove state-law criminal and civil penalties for activities that it authorizes; tax marijuana sales; and earmark marijuana-related revenues. This measure would remove state-law prohibitions against producing, processing, and selling marijuana, subject to licensing and regulation by the liquor control board; allow limited possession of marijuana by persons aged twenty-one and over; and impose 25% excise taxes on wholesale and retail sales of marijuana, earmarking revenue for purposes that include substance-abuse prevention, research, education, and healthcare. Laws prohibiting driving under the influence would be amended to include maximum thresholds for THC blood concentration." [101] New Approach Washington estimates the state would collect a tax revenue of one half billion dollars and would designate an estimated $350 million collected in revenue to expanding state spending on drug education, prevention and treatment.[102]

Measure 80, the Oregon Cannabis Tax Act, if passed, would create the Oregon Cannabis Commission (OCC) to regulate the sale and cultivation of marijuana for persons age 21 and older.[103] The OCC would provide licensure to individuals for the cultivation and processing of marijuana for sale through retail stores run by the OCC. The cultivation and possession of marijuana for personal use by persons age 21 and older would not require license or registration. The OCC would, with the State Board of Pharmacy, establish psychoactive concentrations of cannabinoids and set standards, conduct testing, grade potency and oversee labeling of contents. The OCC and Board of Pharmacy would also accredit research facilities to conduct research on marijuana, including specifically the harms of marijuana use and marijuana-related impairment, and research on the development of impairment standards for drivers. The Act does not specify expected revenue, but proponents estimate that it will generate over $140 million annually in taxes.[104]

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[99] Yes on 64: Campaign to Regulate Marijuana Like Alcohol. (2012). Amendment 64: The Regulate Marijuana Like Alcohol Act of 2012. Available: http://www.regulatemarijuana.org/s/regulate-marijuana-alcohol-act-2012

[100] New Approach Washington. (2011). Initiative Measure No. 502. Available: http://newapproachwa.org/sites/newapproachwa.org/files/I-502%20bookmarked.pdf

[101] New Approach Washington. (n.d.). Yes on I-502, Initiative. Available: http://newapproachwa.org/content/initiative

[102] New Approach Washington. (2012, March 30). Yes on I-502: A New Approach to Marijuana. Factsheet, Overview of the Key Features of I-502. Available: http://www.newapproachwa.org/sites/newapproachwa.org/files/I-502%20Factsheet%20-%20Key%20Features%20-%20033012.pdf

[103] The Oregon Cannabis Tax Act. Available: http://cannabistaxact.org/downloads/octa2012-text.pdf

[104] Measure 80 – The Oregon Cannabis Tax Act. (2012). About the legislation. Available: http://octa2012.org/about-the-legislation/

It is important to note that revenue estimates for the state proposals have not been substantiated by independent economists. Many marijuana advocates employ tax revenue methodology that is, in the words of the Co-Director of RAND's Drug Policy Research Center, "based on a series of assumptions that are in some instances subject to tremendous uncertainty and in other cases not valid."[105]

The passage of any of these three marijuana legalization proposals would permit at the state level everything from personal possession, to personal and commercial cultivation, to retail and wholesale distribution, tax collection, and commercial processing of marijuana.[106] Marijuana is not fully legal anywhere in the world.[107] Because no model for legalization exists in practice, the full effects of marijuana legalization are unpredictable. As CPDD states, "Any changes in national drug policy should be based on scientific evidence, and -- difficult though it is -- research should attempt to evaluate the effects of any policy changes." (p. 3)[108]

VII. Conclusions

In order to think clearly about proposals to change the legal status of marijuana at the state level, it is important first to consider the current public health consequences of marijuana use and then to consider the health consequences of significantly increased marijuana use which would be created by expanded availability and commercialization under marijuana legalization.

While entering the current debate over state initiatives to legalize marijuana, ASAM is focusing on the scientific evidence of the potential for a major, multi-dimensional negative impact of escalated use of marijuana on the nation's public health and public safety that would result from legalization. ASAM has a well-earned and long-established reputation of approaching drug policy issues from its unique position as the leading organization of physicians and experts in addiction with knowledge of the risks associated with the use of substances with high abuse potential. ASAM physicians have informed drug policy generally, and marijuana policy specifically, for decades based on its thoughtful, evidence-based approach.

The ASAM Public Policy Statement on National Drug Policy, first adopted by the ASAM Board of Directors in 1994, asserts, "ASAM opposes any changes in law and regulation that would lead to a sudden significant increase in the availability of any dependence-producing drug (outside of a medically-prescribed setting for therapeutic indications). Any changes should be gradual and carefully monitored."(p.3)[109] The marijuana legalization initiatives in Colorado, Washington, and Oregon would significantly increase marijuana use by lowering its costs and by making this widely abused drug more available and more acceptable. Given the significant

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[105] Pacula, R. (2009). Legalizing Marijuana: *Issues to Consider Before Reforming California State Law.* Santa Monica, CA: RAND Corporation. Available: http://www.rand.org/pubs/testimonies/2009/RAND_CT334.pdf

[106] Heinze College Policy Workshop. (2012, Spring). 2012 State-Level Marijuana Legalization Initiatives: A Comparative Analysis. Carnegie Mellon University, Heinz College.

[107] As discussed, this is not to say there is not considerable variation in marijuana policy worldwide. For a discussion of marijuana policy, see Sabet, K. A., Cohen, M. & Thau, S. (in press). Cannabis: A short review. Vienna: United Nations.

[108] College on Problems of Drug Dependence. (1997). Statement on National Drug Policy. Philadelphia, PA: College on Problems of Drug Dependence. Available: http://www.cpdd.vcu.edu/Media/FactSheets/national.pdf

[109] American Society of Addiction Medicine. (2005). Public Policy on National Drug Policy. Chevy Chase, MD: American Society of Addiction Medicine. Available: http://www.asam.org/docs/publicy-policy-statements/1national-drug-policy-4-94.pdf

adverse health consequences of marijuana use, and in particular, its addiction potential, it is not in the interest of public health to make marijuana more widely available and more acceptable.

ASAM's views on marijuana are well-established[110] and are based on the science that cannabinoids are potent psychoactive drugs which are associated with addiction. Cannabinoids act on specific receptors in the brain and reinforcement derives from stimulation of those receptors. Reward circuitry in the brain experiences increased activity involving the neurotransmitter dopamine in response to human exposure to a variety of drugs associated with addiction, including nicotine, opioids, stimulants, and cannabinoids. The psychoactive effects of increased activity by cannabinoid receptor agonists are not all pleasant or salutary.[111] The use of marijuana is associated with increased activation of reward circuitry and related circuitry due to the reality that marijuana contains many psychoactive cannabinoid compounds.[112] In fact, the use of marijuana would not be pleasurable to some persons and repeated use would not be reinforcing were it not for the reward-stimulating cannabinoids in the marijuana plant. Marijuana is not a safe and harmless substance and its use is not health-promoting (though as acknowledged by ASAM, the use of some cannabinoids prepared in a standardized manner in well-tested pharmaceutical products can alleviate specific diseases and distress in specific patients and is supportable[113]). ASAM policy on marijuana is based on the scientific fact that marijuana is a drug with distinct effects on the brain and behavior and the fact that addiction to cannabinoids and to marijuana is a significant health problem.

The ASAM Public Policy Statement on Marijuana, first adopted in 1987 and since revised, asserts that, "Marijuana dependent persons, like other drug dependent people, should be offered treatment rather than punishment for their illness. Treatment of marijuana dependence should be part of the plan for rehabilitation of any person convicted of a drug-related offense, including driving under the influence of alcohol and/or drugs, who is found to be marijuana dependent."(p. 1)[114] This statement makes no reference to supporting the legalization of marijuana use, sale, or distribution but rather, it encourages the treatment of individuals suffering marijuana dependence. Of course, not all persons who use marijuana experience clinical marijuana dependence or addiction; however, the frequency of marijuana addiction among regular users of marijuana is comparable to the frequency of regular users of

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[110] Ibid.

[111] See, among others, references on the effects of synthetic cannabinoids:
Hoyte, C.O., Jacob, J., Monte, A.A., Al-Jumaan, M., Bronstein, A.C., & Heard, K.J. (2012). A characterization of synthetic cannabinoid exposures reported to the National Poison Data System in 2010. *Annals of Emergency Medicine*. [e-pub ahead of print].
Hurst, D., Loeffler, G., & McLay, R. (2011). Psychosis associated with synthetic cannabinoid agonists: A case series. [Letter to the editor]. *American Journal of Psychiatry, 168*(10), 1119-1119.
Seely, K.A., Lappoint, J., Moran, J.H., & Fattore, L. (2012). Spice drugs are more than harmless herbal blends: A review of the pharmacology and toxicology of synthetic cannabinoids. *Progress in Neuro-psychopharmacology and Biological Psychiatry* [e-pub ahead of print].
Mir, A., Obafemi, A., Young, A., & Kane, C. (2011). Myocardial infarction associated with use of the synthetic cannabinoid K2. *Pediatrics, 128*(6), e1622-e1627.
Forrester, M. B., Kleinschmidt, K., Schwartz, E., & Young, A. Synthetic cannabinoid exposures reported to Texas poison centers. *Journal of Addictive Diseases, 30*(4), 351-358.

[112] Welch, S. P. (2009). The pharmacology of cannabinoids. In D. A. Fiellin, S. C. Miller & R. Saitz. (Eds.) *Principles of Addiction Medicine* (pp. 193-214). Philadelphia, PA: Lippincott Williams & WIlkins.

[113] President's Action Committee on Medical Marijuana of the American Society of Addiction Medicine (ASAM). (2011). The Role of the Physician in "Medical" Marijuana. Chevy Chase, MD: American Society of Addiction Medicine. Available: http://www.asam.org/advocacy/find-a-policy-statement/view-policy-statement/public-policy-statements/2011/11/28/the-role-of-the-physician-in-medical-marijuana

[114] American Society of Addiction Medicine. (2006). Public Policy on Marijuana. Chevy Chase, MD: American Society of Addiction Medicine. Available: http://www.asam.org/docs/publicy-policy-statements/1marijuana-5-062.pdf?sfvrsn=0

sedative-hypnotic pharmaceuticals and alcohol who develop addiction and is greater than the frequency of regular users of psychostimulant pharmaceuticals who develop addiction.[115]

In reviewing the significant role the criminal justice system plays in reducing marijuana use, ASAM recognizes that an improved link is needed between the systems of criminal justice and health care with the additional goals of reducing criminal recidivism and reducing incarceration. Given the fact that the large majority of arrests for marijuana are made at the state level, ASAM emphasizes that states have the power and the incentive to improve their individual state drug policies in the interest of the health and the well-being of their residents. Programs that have successfully improved the link between the criminal justice system and health care, including Drug Courts[116] and HOPE Probation,[117] and conversely, California's Proposition 36 (which has fallen short of achieving the outcomes envisioned by many of its original supporters),[118] each provide useful (and cautionary) lessons for states.

VIII. Recommendations

ASAM opposes proposals to legalize marijuana anywhere in the United States, including the current state-based legalization proposals which will appear on the November 2012 ballots. The analyses on the possible outcomes—both intended and unintended—of the state-based marijuana legalization proposals in Colorado, Washington and Oregon suggest that risks are unacceptable. No modification of these proposals would make them acceptable.

ASAM asserts that the anticipated public health costs of marijuana legalization are significant and are not sufficiently appreciated by the general public or by public policymakers. Physicians and other health professionals must become more aware of the anticipated undesirable outcomes of marijuana legalization and encourage public education on these facts. ASAM's conclusion that marijuana legalization would not be in the interest of public health is based on the following:

- Marijuana use is neither safe nor harmless. Marijuana contains psychoactive cannabinoids which produce a sense of pleasure in many users and a sense of discomfort and even paranoid thoughts in other users. Cannabinoids interact with brain circuits in comparable ways to opioids, cocaine and other addictive drugs.

- Substance use disorders resulting from marijuana use are a serious and widespread health problem.

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Hawken, A. (2010). Behavioral triage: A new model for identifying and treating substance-abusing offenders. *Journal of Drug Policy Analysis, 3*(1), 1-5.

- Marijuana use is associated with adverse health consequences, including damage to specific organs and tissues and impairments in behavioral and neurological functioning. Among these are acute impairments in the performance of complex tasks such as driving a motor vehicle.

- Marijuana-related crashes, deaths and injuries are currently a major highway safety threat in the United States.

- Legalization of marijuana would likely lead the general public and, in particular, young people, to view marijuana as less harmful than it is now viewed. Decreases in "perceived harm" associated with marijuana use would result in increased rates of marijuana use and increased rates of marijuana-related substance use disorders, including addiction.

- Marijuana use is associated with increased rates and worsening symptoms of psychosis. Population-wide increases in availability of and access to high-potency marijuana would be associated with increased rates of marijuana use and could result in increased rates of psychotic illnesses.

- Increased incidence and prevalence of marijuana-related substance use disorders, including marijuana addiction, would lead to increased demand for treatment services. Today treatment systems are inadequate for meeting the current treatment needs in our nation.

- Revenues projected to be generated from taxation of legal marijuana would be far lower than the costs associated with increased marijuana use and would be unlikely to be targeted to these needs, as tobacco and alcohol revenues are not targeted to the health costs of the use of these drugs.

In summary, ASAM recommends against the approval of state initiatives to legalize marijuana. ASAM strongly supports efforts to improve state policies to reduce the use of marijuana and other illegal drugs as well as the nonmedical use of prescription drugs. Further, specifically focusing on state proposals to legalize marijuana, ASAM recommends:

1) That physicians lead efforts to oppose legislative or ballot initiatives that would result in the legalization of marijuana production, distribution, marketing, possession and use by the general public, and that all physicians incorporate screening and intervention for risky substance use including marijuana use as well as diagnosis, treatment and disease management for addiction into their routine medical practice;

2) That public education campaigns be undertaken to inform the public that addiction associated with cannabinoids is a significant public health threat, and that marijuana is not a safe product to use, especially, but not only, by smoking;

3) That parents be informed that the marijuana their children are exposed to today is of much higher potency than the marijuana that was widely available in the 1960s through the 1980s, and that the potential for the development of addiction and for the development and progression of psychotic conditions are enhanced when high-potency

marijuana products are used by adolescents because of the unique vulnerability of the adolescent brain;

4) That when cases of marijuana-related substance use disorders are identified and the diagnosis confirmed by professional assessment, carefully monitored treatment to establish abstinence be offered to afflicted persons and such treatment and insurance coverage for it be readily available;

5) That drugged driving associated with marijuana use be subject to additional epidemiological research and research on the treatment needs of drivers. Increased efforts are needed to prevent its occurrence which should include substantial legal consequences at the level of the consequences for drunk driving;

6) That, given the significant role the criminal justice system plays in discouraging marijuana use, states promote programs that enhance linkages between the criminal justice system and the addiction treatment system, using models such as Drug Courts and HOPE Probation.

Adopted by the ASAM Board of Directors July 25, 2012.

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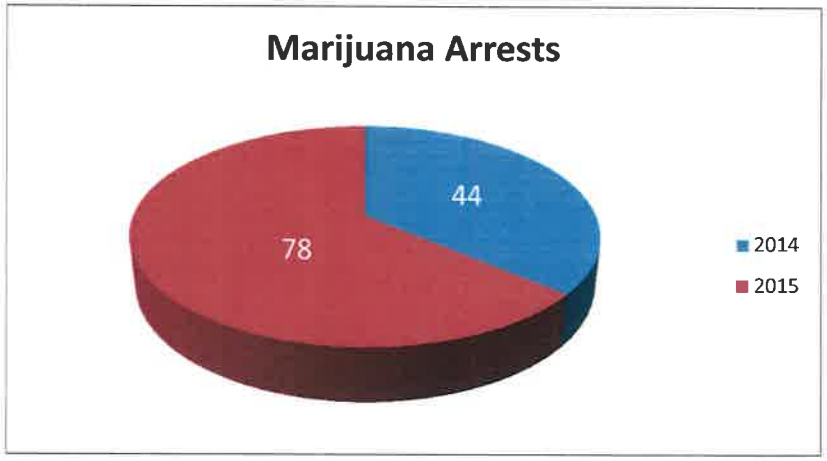
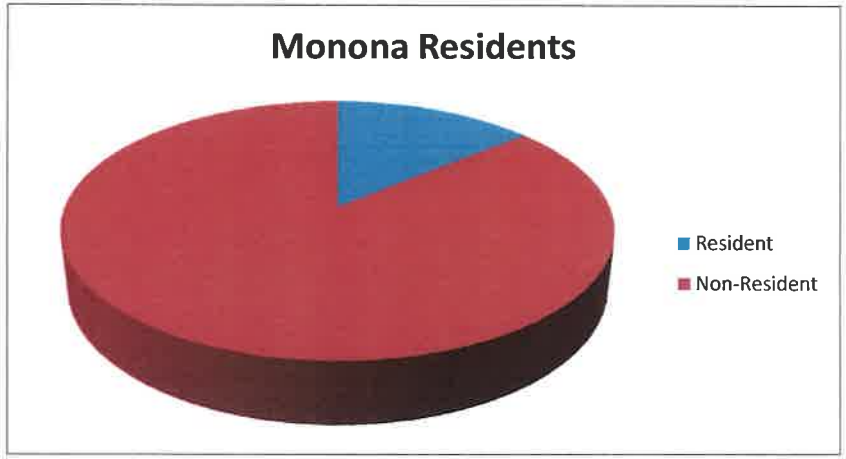
Marijuana Arrests

2014	44
2015	78



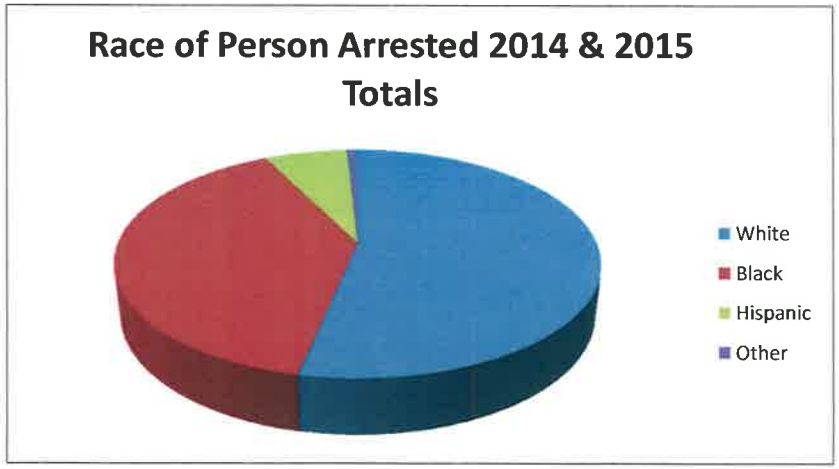
Monona Residents

Resident	17
Non-Resident	105

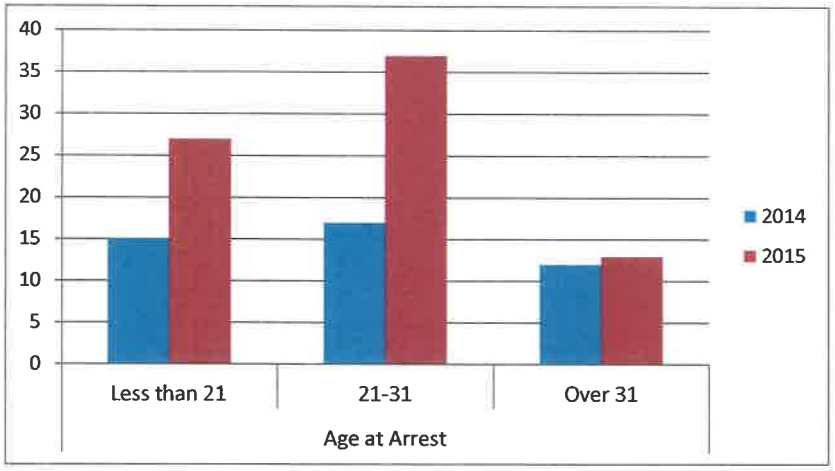


Race of Person Arrested 2014 & 2015 Totals

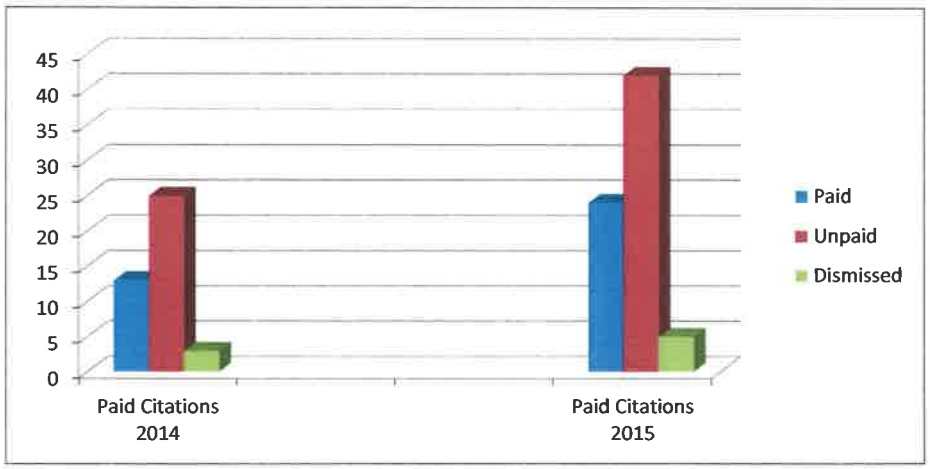
White	65
Black	48
Hispanic	8
Other	1



	Age at Arrest		
	Less than 2	21-31	Over 31
2014	15	17	12
2015	27	37	13



	Paid Citations 2014	Paid Citations 2015
Paid	13	24
Unpaid	25	42
Dismissed	3	5



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Marijuana decriminalization spreads across WI

Lauren French and Sari Lesk, Gannett Central Wisconsin Media

3:59 p.m. CDT August 31, 2015

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(Photo: Sargent)

Editor's note: Corrects amount of marijuana cited Madison's ordinance.

STEVENS POINT – Cities across Wisconsin have been slowly decriminalizing marijuana over the past several years by adopting local ordinances that levy only fines against those caught with small amounts of pot.

State law says anyone caught with even a little marijuana can be charged with a misdemeanor crime punishable by jail time and a permanent criminal record. But municipalities, for a variety of reasons, have been adopting local rules that allow first-time offenders to be charged with ordinance violations similar to traffic citations that carry only fines as penalties and don't show up in Internet crime records.

A Gannett Central Wisconsin Media review of ordinances across Wisconsin found that nine of the state's 10 largest cities have decriminalized simple marijuana possession.

Municipalities in central Wisconsin have followed a similar trend, with Stevens Point being the most recent to adopt and then modify its marijuana ordinance. This month, the city cut the fine for first-offense possession to $100.

Related: Cancer survivor sparks city's marijuana reform

What has emerged is a patchwork of laws and ordinances; a person caught with a few marijuana cigarettes can face anything from six months in jail in some Wisconsin cities s Madison.

ls and prosecutors, who believe users to harder drugs, such as heroin or methamphetamine.

But advocates say the decriminalization movement treats those caught with the drug the same way other minor offenders are treated, and at least one state lawmaker is trying to get Wisconsin to join Washington state, Colorado and other places across the country that have completely legalized the drug for medicinal or recreational use.

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Decriminalization spreads

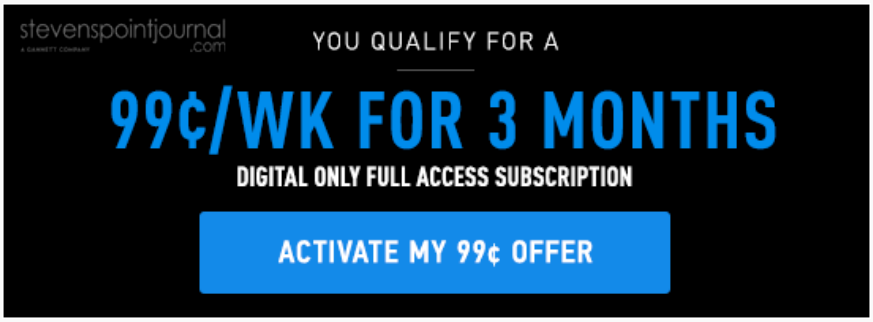
Madison and Milwaukee were among the first cities in Wisconsin to decide that those caught with small amounts of marijuana should not be treated like criminals.

Madison adopted its ordinance in 1977 and today, those caught in a home with up to 28 grams of marijuana — enough to make a handful of marijuana cigarettes — have no fear of any punishment. Those caught with marijuana in a public place are fined up to $100 and sent on their way.

Milwaukee soon followed with its own rules that say those caught at home with 25 grams or less of marijuana have to fork over only $50, or up to $500 if they light up in public.

Today, officials from both those cities stand by the changes, though for different reasons.

Madison's Chief of Police, Michael Koval, told Gannett Central Wisconsin Media he's glad Madison has its ordinance in place. He said the police department's energy is better spent focusing on hard drugs rather than recreational marijuana users.



Last year, Madison police had to administer heroin antidote drugs to 154 people who overdosed, Koval said. That's a public health crisis in which cops often are first responders charged with saving lives. In that context, marijuana and its "benign qualities" that are no worse than alcohol barely registers as a police problem, Koval said; tying up officers over possession of small amounts isn't a priority.

"Unless you are doing something that is creating a disturbance ... it's no major point of emphasis for us to get involved in that situation here in Madison," Koval said. "Unless your use is leading to some sort of abject behavior that is contrary to law."

Koval said he isn't "thrilled" about arresting anyone for drug use — not to be confused with suspects who make and sell drugs — because the arrest and conviction record will live with that person forever.

"Is that fair for anyone who hasn't done anything wrong for a decade or more?" Koval said.

Milwaukee City Council member Nik Kovac said Milwaukee's recent decision to reduce its marijuana fine to $50 stemmed from discussions on racial disparity. Of 1,500 citations issued last year for simple possession, he said, 1,250 were issued to African-Americans. Kovac said it's not acceptable to target only minorities in a city with a population that is roughly half black and half white.

A study by the U.S. Department of Health and Human Services indicates that in 2013, about 9.5 percent of whites and 10.5 percent of blacks were using illicit drugs, numbers that hardly explain why the overwhelming majority of those cited in Milwaukee are black.

After offenders are prosecuted under Milwaukee's local ordinance once, the district attorney can decide to charge repeat offenders with felonies. Kovac said he hopes a smaller fine amount will eventually drive police to stop issuing citations at all so that recreational marijuana users aren't saddled with a lifelong felony conviction that can prevent them from voting, owning guns or holding some jobs.

"If we never issue a first offense," Kovac said, "it never gets to that second offense."

Milwaukee lowered its fine to $50 in June, and Kovac said it's too early to tell if the change has had any effect on the community.

In central Wisconsin, Stevens Point recently reduced fines for first offenders caught with a small amount of marijuana. Supporters of the idea said cutting the fine from $300 to $100 brought the punishment more in line with severity of the offense.

Wisconsin Native American tribes are starting to address the issue as well. An advisory vote by members of the Menominee Indian Tribe earlier this month endorsed the legalization for both medical and recreational uses on their reservation. A final decision on the matter now is in the hands of tribal legislators.

Although local marijuana policies give police the option to file only citations against offenders, that doesn't mean officers have to follow that course. The ordinances are an additional tool that give police discretion over how to handle individual cases, advocates said.

Many cities still charge offenders with crimes, and police everywhere in Wisconsin retain that option. For example, someone who is caught with marijuana during an arrest on other charges might face criminal marijuana charges, too.

Some cities resist movement

Police officers in some cities choose to charge all offenders with crimes, even when they have the option to give someone a citation.

The city of Marshfield, for example, has a marijuana ordinance, but police rarely use it, said Officer Jim Cramm. The city wants to take a strong stance against marijuana, and officers want to ward people off from moving on to harder drugs, he said.

"It's a gateway," Cramm said. "They dabble in that, then they feel kind of less inhibition to maybe move on to something more interesting, more exciting, more powerful."

He said charging offenders with crimes also gives police more leverage as they pressure users to help them track down and prosecute drug dealers. Offenders may

help police with their investigations and be rewarded with a reduction or dismissal of charges.

A similar stance is taken in Wausau, where City Attorney Anne Jacobson said she hasn't prosecuted any municipal violations for marijuana possession.

Some citations may be issued, she said, but people may pay those fines without going to court.

Not every municipality has joined the local-level movement. The city of Wisconsin Rapids, for example, doesn't have a marijuana ordinance, though that may soon change, according to Wisconsin Rapids Police Chief Kurt Heuer.

"Our mindset has always been we don't want to see decriminalization," he said. "However, we are in discussion in regards to the realities of having an ordinance available."

Heuer said he is concerned about where marijuana use can lead for people and has seen it lead to the use of harder substances.

"I still just don't want to see the decriminalization," he said. "If there's a tool for lesser amount, personal use, that makes sense, we're exploring that."

Making the punishment fit the offense

Officials in places that have decriminalized pot can't agree on the penalties that offenders should face, which creates that patchwork of differing punishments across the state.

Stevens Point, for example, adopted rules in 2014 that allow police to issue citations to first offenders caught with up to 5 grams of marijuana — the equivalent of a few joints.

When it was adopted, the ordinance mandated that anyone guilty of violating the rule be fined $300 plus court fees. This month, the City Council opted in a 7-4 decision to slash that forfeiture to $100, making the penalty similar to a first offense for underage drinking.

Supporters said the $100 fine made the punishment fit the offense. Opponents said they worried the stance was too soft.

Former Stevens Point Police Chief Kevin Ruder, who brought the ordinance forward in October before his retirement, said he's worried about the signal the reduced fine sends to residents.

"Lowering the fine not only lowers the deterrent, but it also sends a message that it's not as much of a concern from this side of the community, and I don't think that's a good message to send," Ruder said.

Marijuana is still illegal in this state, he said, and people who are found in possession are demonstrating that they're not afraid of the ramifications for breaking the law.

Illegal for now

Marijuana is indeed still illegal in Wisconsin. But as municipalities across the state continue to codify piecemeal decriminalization, one state lawmaker is looking to decriminalize some possession for both recreational and medicinal purposes across the state.

State Rep. Melissa Sargent has introduced a bill for the second time that would allow people who are at least 21 years old to possess up to a quarter-ounce of marijuana if they are from outside the state, and up to half ounce if they live in Wisconsin.

The bill prohibits use of marijuana in public.

Sargent, who represents a portion of Madison, said the change in law would make communities safer because it would take marijuana sales out of the shadows.

The bill, in large part, aims to eliminate some racial disparities in the state, she said, referring to data that show African-Americans in Wisconsin to be much more likely to be arrested for simple marijuana possession than Caucasians.

“I continue to believe that it’s a civil rights issue,” she said. “I’m looking at our state and where we are and trying to figure out where we’ve gone wrong.”

Wisconsin Attorney General Brad Schimel said he supports decriminalization at local levels for young people and first-time offenders, and has no issue with the way municipalities are taking steps in that direction.

But he said he can’t get on board with statewide marijuana legalization. Schimel said young people make mistakes and should be able to take advantage of a first-offence local ordinance, but that legalizing marijuana would do them a “disservice.”

Schimel *(Photo: AP)*

“I can’t support this (legalization),” Schimel said. “It’s a more dangerous drug than it was in the past. It’s a more addictive drug than it was in the past, and the consequences are going to be a deeper scar.”

The proposed law has had largely a partisan reaction, with only Democrats signing on. Sargent said she is trying to get a committee hearing scheduled on the proposal.

Sargent said the bill is a response to a turning of the tides in the United States. If the bill became law, the state would join about half the country in allowing medical marijuana use, and become the fifth state to allow recreational use.

“There is a desire of people to start having this thoughtful and pragmatic conversation,” she said. “The prohibition of marijuana does not work. It has not worked.”

Municipality **Grams** **Maximum fine**** **Effective since *****

Madison	28	$100	1977
Wausau	N/A*	$500	1984
Kenosha	28	$750	1985
Milwaukee	25	$50	1997
Eau Claire	25	$500	2002
Racine	25	$225	1990
Marshfield	N/A*	$500	2010
La Crosse	7	$338	2010
Stevens Point	5	$100	2014
Appleton	25	$200	1965
Waukesha	N/A*	$500	N/A*
Green Bay	25	$1,000	N/A*

*Attempts to reach officials for details not spelled out in ordinances were unsuccessful.

**For ordinance violations, generally first offenses, not including court fees.

***Dates reflect most recent changes to ordinances or when the rules first were adopted.

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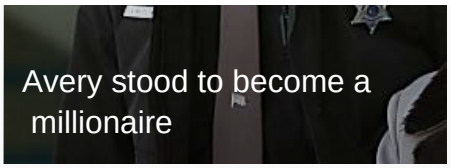

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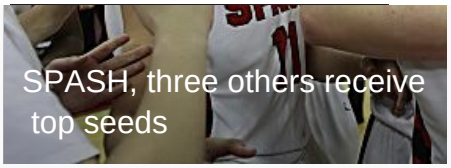

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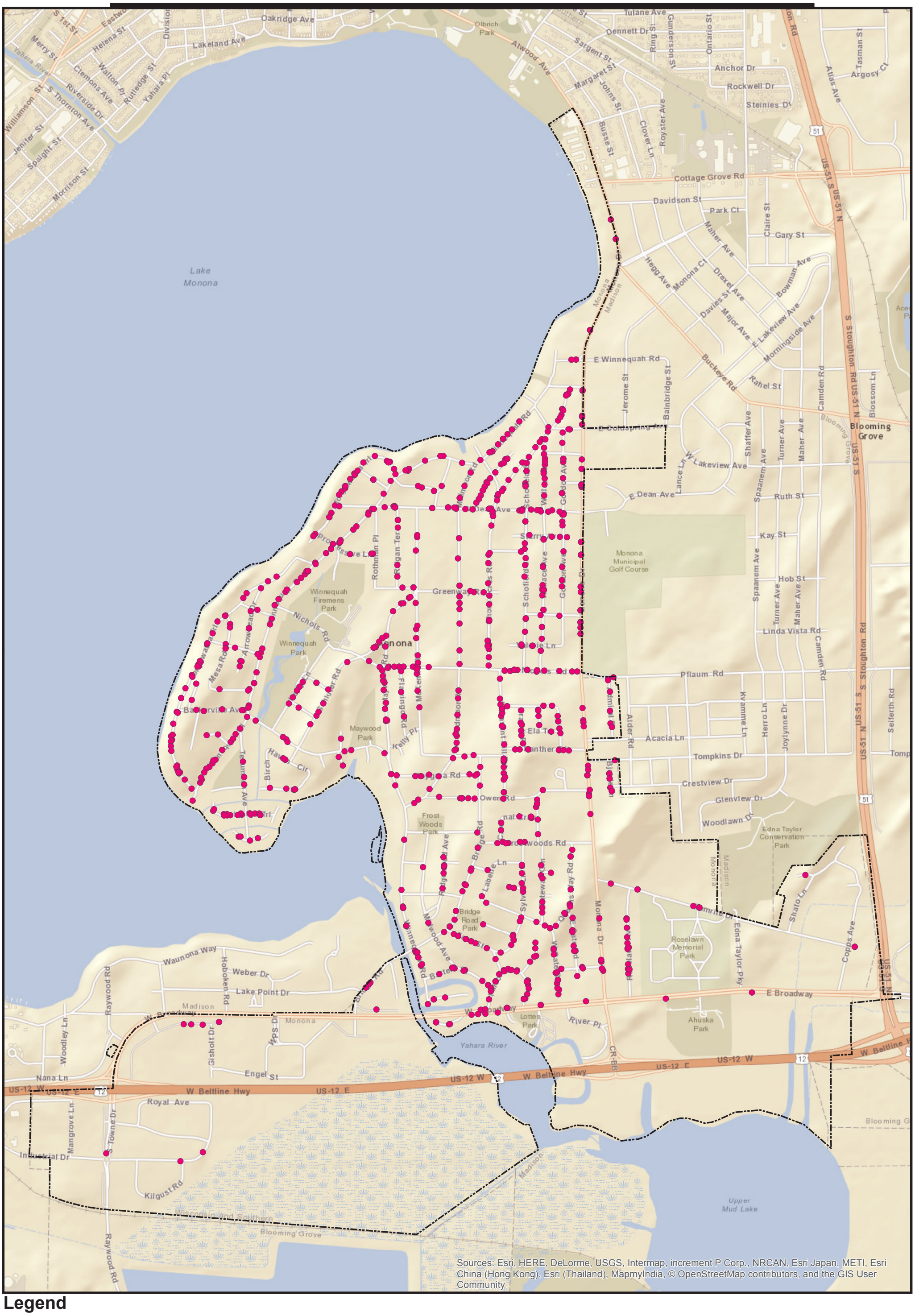
2015 Code Enforcement Violations



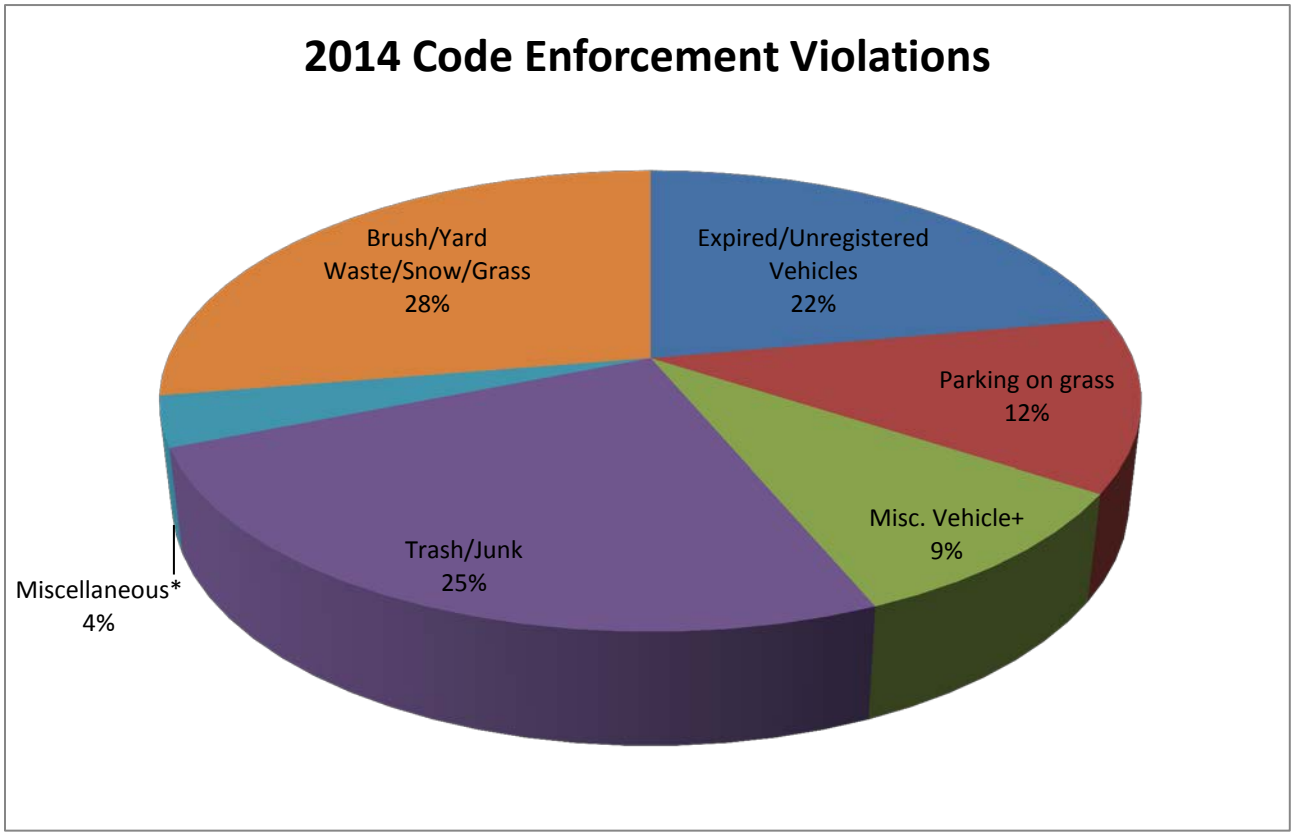
Legend

● Locations of Violations

---------- Municipal Boundary

Date: 1/29/2016

A total of 1,391 ordinance violations were documented on 1,174 properties in the city during the year. The clearance rate for 2014 was 99%, with 9 citations issued and resolved. The remaining 1% will be carried over and resolved early in 2015. The makeup of those violations is as follows.



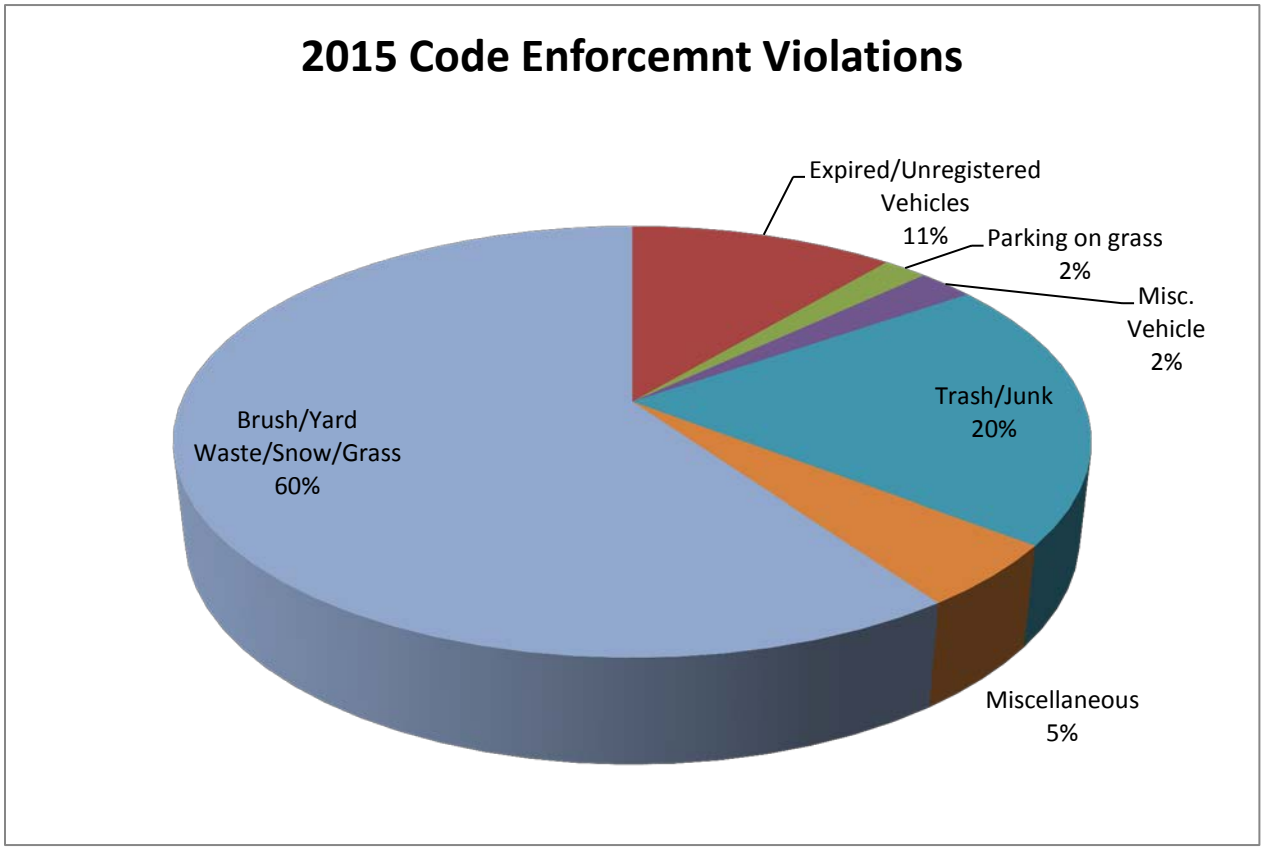
Expired/Unregistered Vehicles	308
Parking on grass	168
Misc. Vehicle	132
Trash/Junk	350
Miscellaneous	49
Brush/Yard Waste/Snow/Grass	384

The following violations dealing with parking on grass range from properties lacking the space in the garage or driveway for regularly used vehicles, to those that are stored “off” season or permanently.

*= Sign violations, property maintenance issues, neighbor tree and animal complaints, etc…

+= Inoperable vehicles, too many vehicles parked on the property, junked vehicles stored on the premises

A total of 1,401 ordinance violations were documented on 1,359 properties in the city during the year. The clearance rate for 2015 was 97%, with 9 citations issued and resolved. The remaining 3% will be carried over and resolved early in 2016. The makeup of those violations is as follows.

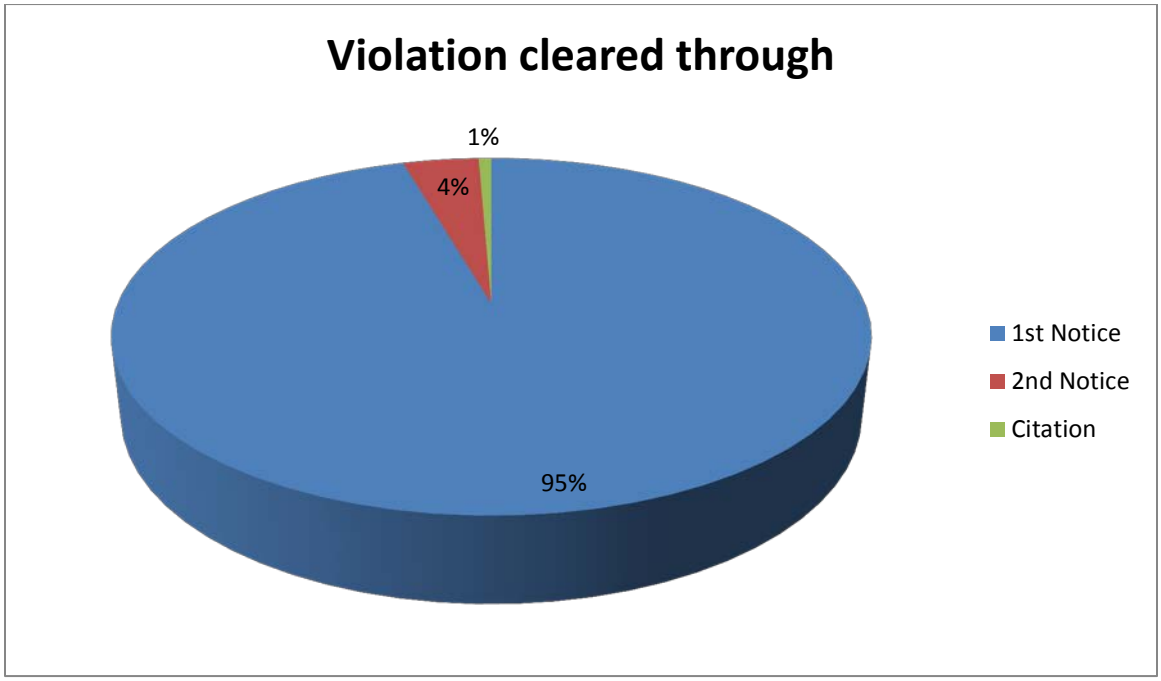
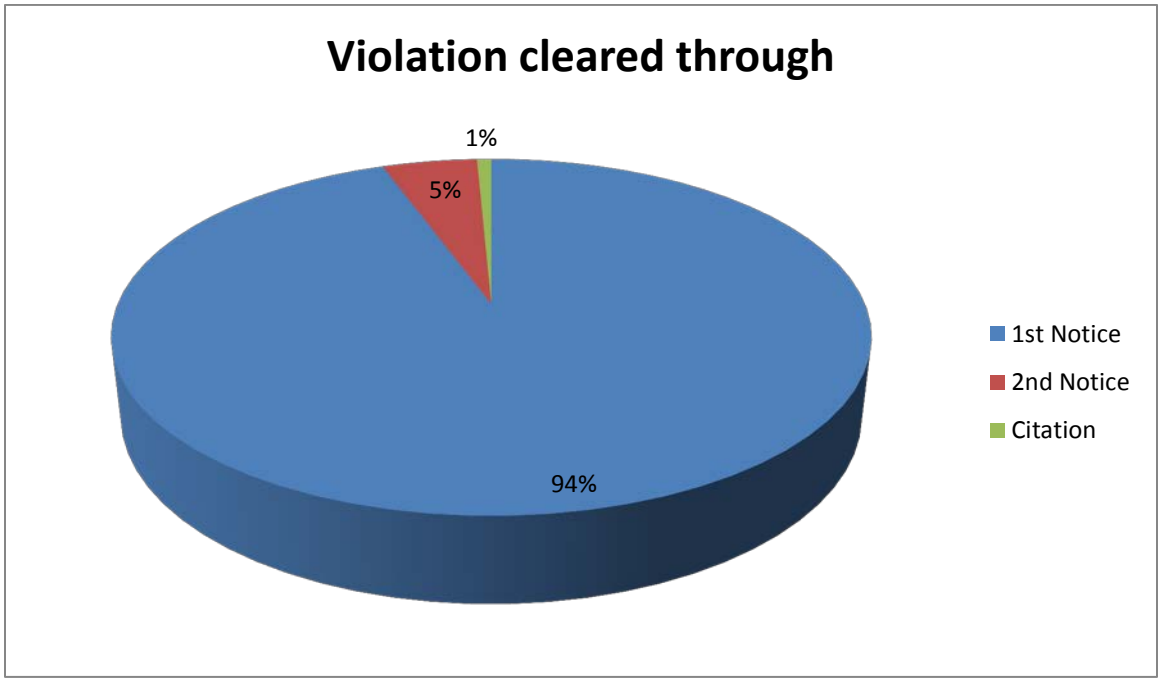


Expired/Unregistered Vehicles	165
Parking on grass	26
Misc. Vehicle	33
Trash/Junk	282
Miscellaneous	67
Brush/Yard Waste/Snow/Grass	837

*= Sign violations, property maintenance issues, neighbor tree and animal complaints, etc…

+= Inoperable vehicles, too many vehicles parked on the property, junked vehicles stored on the premises

Of the 1,401 recorded violations, 1,338 (95%) were resolved through a 1st notice, either by mail, email, phone call or face to face interaction. Fifty-four violations (4%) required a 2nd notice via certified mail or a door notice posting. The remaining 9 (1%) of the violations were cleared as the result of a citation being issued to the property owner.



Of the 1,390 recorded violations, 1,174 (94%) were resolved through a 1st notice, either by mail, email, phone call or face to face interaction. Sixty violations (5%) required a 2nd notice via certified mail or a door notice posting. The remaining 9 (1%) of the violations were cleared as the result of a citation being issued to the property owner.