

MARIJUANA



Colorado
State Epidemiological
Outcomes Workgroup

In early 2019, the Colorado State Epidemiological Outcomes Workgroup (SEOW) published this four-part document as an overview of opioid, marijuana, and alcohol consumption and consequences in Colorado. Each substance is presented in its own profile, with a Demographics profile provided for additional state context. These epidemiological profiles were designed to be readily usable to all people working in substance use prevention. They cross many data sources and aim to present the most actionable findings.

This profile is a snapshot of marijuana consumption and health effects among Coloradoans. Data are presented for adults and youth, with a special section on youth perceptions of use among peers, access to marijuana, and protective factors against marijuana use.

Certain considerations were taken into account in compiling these data, including timeframe and the intended audience. First, the profiles contain all publicly available data. This ensures that persons can access the original source data for more information on any data point in the profiles. It was also important to use a timespan in which the most complete data could be found within and across substances. Lag-time for data to become publicly available can vary widely. While the profiles were in development during the summer and fall of 2018, the most complete data were found for calendar year 2016. With few exceptions, 2016 data are used consistently throughout the profiles. The exceptions include 2017 Healthy Kids Colorado Survey (HKCS) results and aggregate data when no one year yields a large enough sample size for researchers to make definitive statements. The 2017 HKCS was not administered in Adams and Jefferson Counties. When questions were an exact match to those in the HKCS, data from the Adams County Youth Initiative (ACYI) survey were used as a substitute. All HKCS data presented is for high school students, grades 9th - 12th only. For data that was accessed via websites, the citation applies to what was posted during the time span of June 2018 - October 2018.


These profiles were also compiled with deliberate attention to the intended audience. They were designed to be practical and useful for all Coloradoans who are interested in talking to others in their communities about substance use and prevention. This can include anyone from youth groups and community organizations to school superintendents and state legislators. The four profiles can be used as stand-alone products or in conjunction with each other, as hard copy hand-outs or as a power point presentation. We hope that these profiles will facilitate conversation among Coloradoans about the state of our state. For this reason, these profiles eliminate traditional barriers such as the use of estimates and confidence intervals and introduce easily relatable use of benchmarks, such as national comparisons. The SEOW partnered with The Evaluation Center – University of Colorado Denver on the content for these profiles. Graphic design was provided by Zeto Creative.

For more information, contact Sharon Liu at the Colorado Department of Human Services, Office of Behavioral Health.

Key terms	
Aggregate	A mathematical computation using a set of values rather than a single value.
Average	A calculated central value of a set of numbers.
Cisgender	Denoting a person whose sense of personal identity and gender corresponds with their assigned birth sex.
Dabbing	A method of marijuana use where a small amount of marijuana concentrate is place on a pre-heated surface, creating a concentrated marijuana vapor to be inhaled.
Edible	Short for marijuana edible; any product containing tetrahydrocannabinol (THC) that is fit to be eaten.
Health Statistics Region	A geographic grouping based on demographic profiles and statistical criteria. Colorado has 21 Health Statistics Regions which correspond with existing county boundaries.
Legalization	Recreational marijuana use became legal in Colorado in 2014. https://www.colorado.gov/marijuana
Per capita	Per person
Prevalence	The proportion of a population who have specific characteristics in a given time period. Prevalence may be reported as a percentage (5%, or 5 people out of 100), or as the number of cases per 10,000 or 100,000 people.
Proportion	Two ratios that have been set equal to each other.
Protective Factors	Characteristics within the individual or conditions in the family, school or community that help someone cope successfully with life challenges.
Quartile	A group that contains 25% of the data set.
Ranking	Relative position
Rate	The ratio between two related quantities.
Risk Factors	Characteristics within the individual or conditions in the family, school, or community that increase the likelihood someone will engage in unhealthy behaviors.
Safe storage	Storing in a childproof container or packaging.
Significance	The probability is less than .05 that the difference or relationship happened by chance.
Vaping	A method of marijuana use where marijuana vapor, rather than smoke is inhaled.

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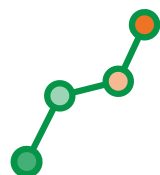
ADULT CONSUMPTION

In 2017, **15.5%**



of adults in Colorado used marijuana in the past 30 days.

While use remained stable from 2014-2016, **past 30-day use significantly increased** in 2017.

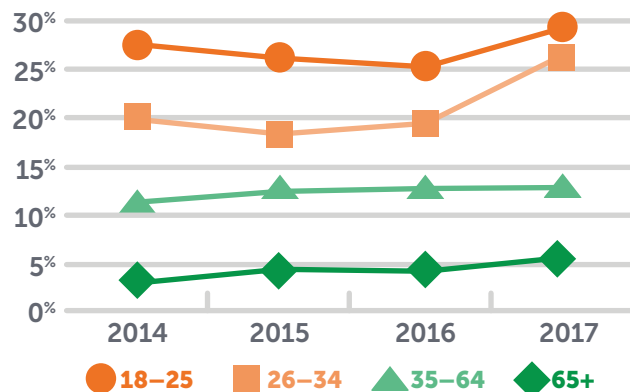


FROM 2016 TO 2017

the rate of current **marijuana users** in Colorado that report using marijuana daily or near-daily increased from

43.6% to **49.4%**

Past 30-day use is highest among younger adults, age 18-25.

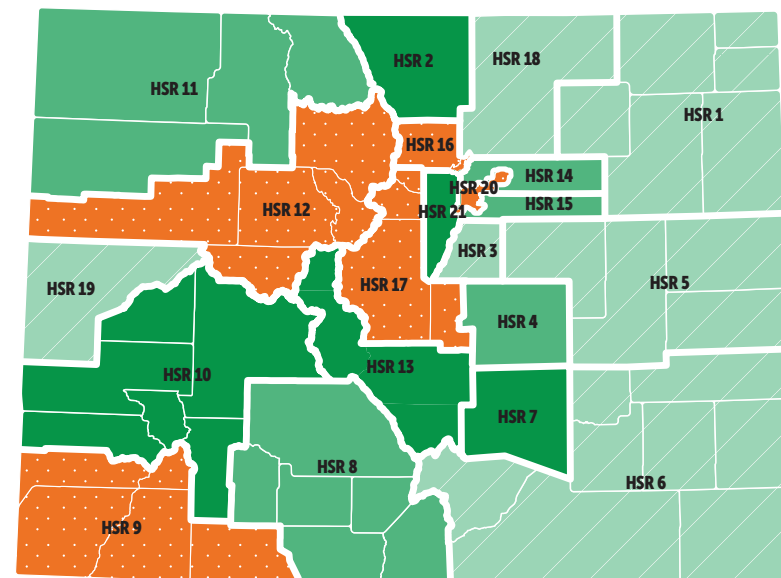


Prevalence of use decreases across older age groups.

Use among ages **26-34** and **65+** increased significantly from 2016 to 2017.

Past 30 day use 2014-2016

STATE AVERAGE 13.5%



QUARTILE 1:
5.30% – 11.50%

HSR 1
Logan, Morgan, Phillips, Sedgwick, Washington, Yuma

HSR 3
Douglas

HSR 5
Cheyenne, Elbert, Kit Carson, Lincoln

HSR 6
Baca, Bent, Crowley, Huerfano, Kiowa, Las Animas, Otero, Prowers

HSR 18
Weld

HSR 19
Mesa

QUARTILE 2:
11.51% – 13.00%

HSR 4
El Paso

HSR 8
Alamosa, Conejos, Costilla, Mineral, Rio Grande, Saguache

HSR 11
Jackson, Moffat, Rio Blanco, Routt

HSR 14
Adams

HSR 15
Arapahoe

QUARTILE 3:
13.01% – 15.00%

HSR 2
Larimer

HSR 7
Pueblo

HSR 10
Delta, Gunnison, Hinsdale, Montrose, Ouray, San Miguel

HSR 13
Chaffee, Custer, Fremont, Lake

HSR 21
Jefferson

QUARTILE 4:
15.01% – 18.90%

HSR 9
Archuleta, Dolores, La Plata, Montezuma, San Juan

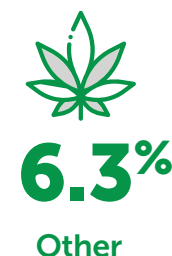
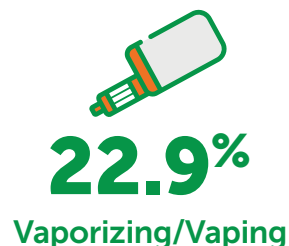
HSR 12
Eagle, Garfield, Grand, Pitkin, Summit

HSR 16
Boulder, Broomfield

HSR 17
Clear Creek, Gilpin, Park, Teller

HSR 20
Denver County

In 2016,
of adults who used marijuana in the past 30 days, **smoking** was the most common method,
a consistent trend since 2014.



In 2017, there was a **significant increase** in
Eating/Drinking (39.3%)
Vaporizing/Vaping (29.1%)
Dabbing (21.1%)
as reported methods of use.

VAPORIZING/VAPING¹: A method of marijuana use where marijuana vapor, rather than smoke is inhaled. Marijuana flower or concentrate is heated in a vaporizing device (vaporizer) to a temperature below the point of combustion, to produce vapor. Vaporizers heat marijuana to release THC, the active ingredient in marijuana, and the vapor is inhaled.

DABBING²: A method of marijuana use where a "dab" (small amount) of marijuana concentrate is placed on a pre-heated surface, creating concentrated marijuana vapor to be inhaled. According to the National Institute on Drug Abuse (NIDA), smoking THC-rich resins extracted from the marijuana plant is on the rise. People call this practice dabbing. These extracts come in various forms, such as:

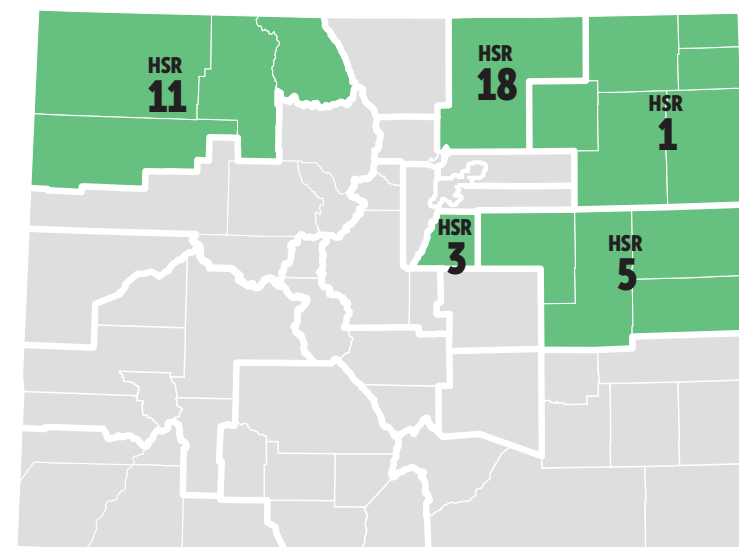
1) **hash oil or honey oil** - a gooey liquid 2) **wax or budder** - a soft solid with a texture like lip balm 3) **shatter** - a hard, amber-colored solid. These extracts can deliver extremely large amounts of THC to the body, and their use has sent some people to the emergency room. Another danger is in preparing these extracts, which usually involves butane (lighter fluid). A number of people have caused fires and explosions and have been seriously burned from using butane to make extracts at home.

SOURCE: RESPONSIBILITYGROWHERE.COM

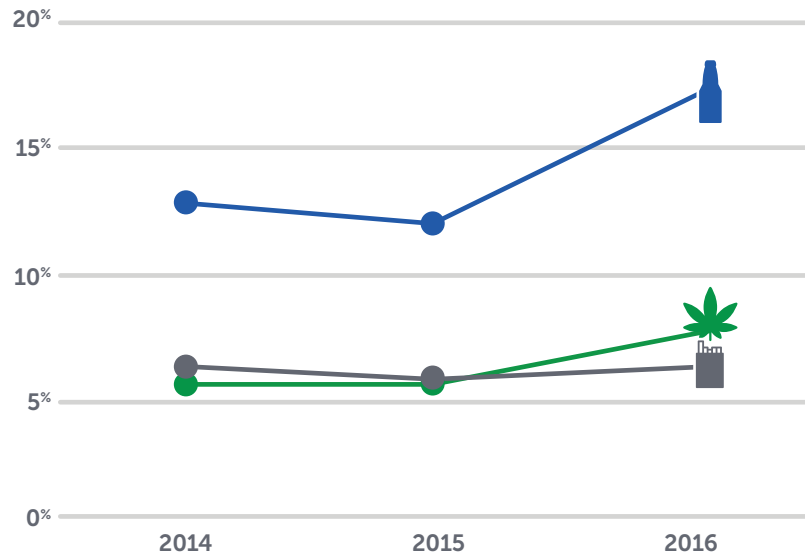
2016 **40.7%** of Coloradans believe that daily or near-daily use of marijuana **poses little or no risk of harm.**

Perception of risk of harm from
daily or near-daily use is **highest**
in these five
HEALTH REGIONS:

HSR 1	HSR 3	HSR 5	HSR 11	HSR 18
Logan Morgan Phillips Sedgwick Washington Yuma	Douglas	Cheyenne Elbert Kit Carson, Lincoln	Jackson Moffat Rio Blanco Routt	Weld



Since Colorado's legalization of marijuana in 2014, there have been **no statistically significant changes** in the proportions of women using marijuana during pregnancy or breastfeeding.



Marijuana use by breastfeeding women

2014

4.5%

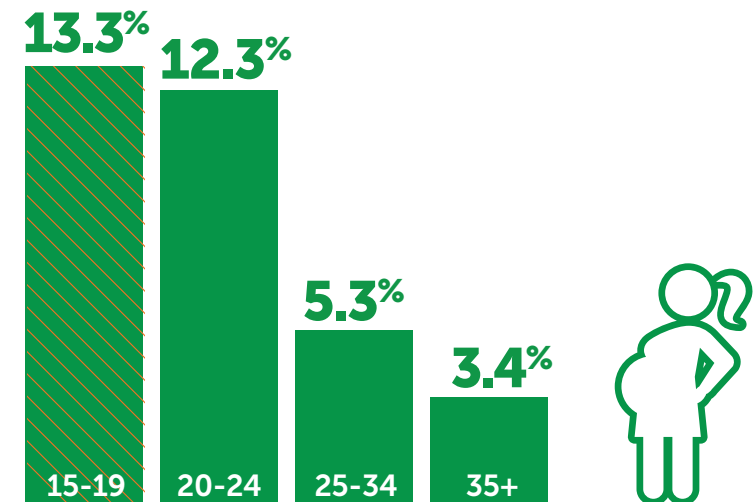
2015

5.7%

2016

6.8%

While use during pregnancy was statistically higher among younger women than those over age 24, this proportion is lower than what is found in the general population for these age groups.



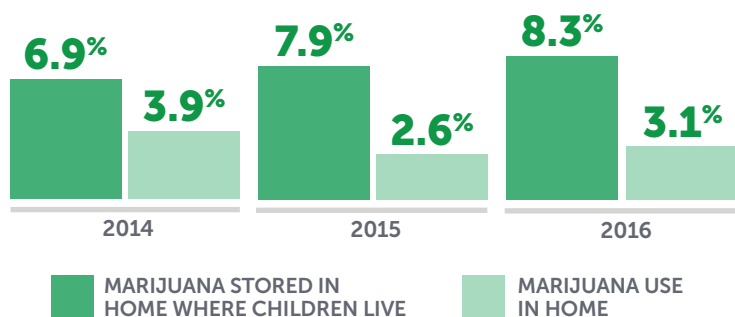
Maternal Use During Pregnancy by Maternal Age, 2014–2016 Combined

There were no statistical differences based on race and ethnicity.

From 2014–2016,

while marijuana use in the home remained stable,
unsafe storage in the home increased.

Marijuana storage and use in homes



In 2016, among homes with children ages 1–14 it is estimated that

8.3%

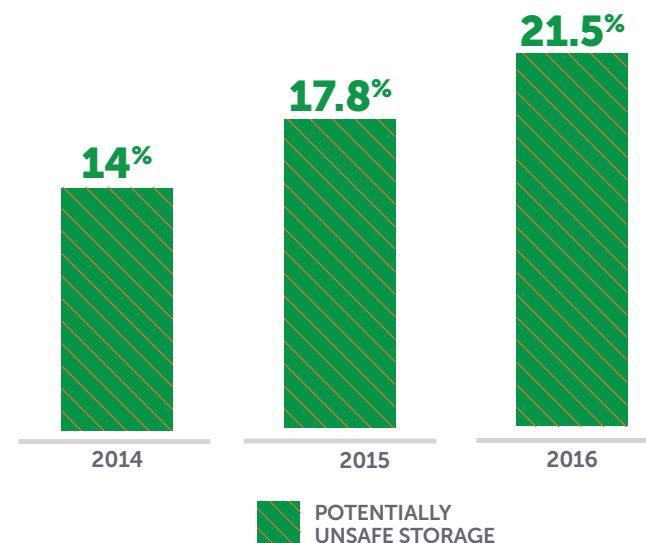
had marijuana present in or around the home, which is not statistically different from 2014-2015 (since legalization).

Safe storage in homes

In 2016, of the 8.3% of adults who said they store marijuana in a home where children live,

21.5%

of respondents reported potentially unsafe storage of their marijuana in their home.

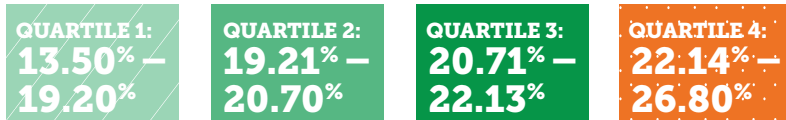
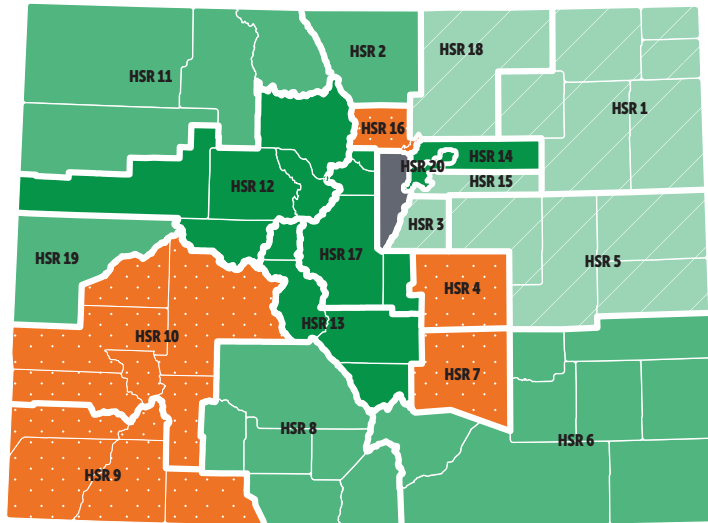


Safe storage of marijuana: Indicating storing marijuana 'in a childproof container or packaging,' 'in a locked container such as a cabinet, drawer, or safe' or 'in a location your child cannot access.' The response 'someplace else' was considered potentially unsafe storage and a risk for unintentional ingestion by children.



YOUTH CONSUMPTION

PERCENTAGE OF STUDENTS
WHO USED MARIJUANA ON ONE
OR MORE OF THE PAST 30 DAYS:



HSR 1
Logan, Morgan,
Phillips, Sedgwick,
Washington, Yuma

HSR 3
Douglas

HSR 5
Cheyenne, Elbert,
Kit Carson, Lincoln

HSR 15
Arapahoe

HSR 18
Weld

HSR 2
Larimer

HSR 6
Baca, Bent, Crowley,
Huerfano, Kiowa,
Las Animas, Otero,
Prowers

HSR 8
Alamosa, Conejos,
Costilla, Mineral,
Rio Grande, Saguache

HSR 11
Jackson, Moffat, Rio
Blanco, Routt

HSR 19
Mesa

HSR 12
Eagle, Garfield,
Grand, Pitkin,
Summit

HSR 13
Chaffee, Custer,
Fremont, Lake

HSR 14
Adams*

HSR 17
Clear Creek, Gilpin,
Park, Teller

HSR 20
Denver

HSR 4
El Paso

HSR 7
Pueblo

HSR 9
Archuleta, Dolores,
La Plata, Montezuma,
San Juan

HSR 10
Delta, Gunnison,
Hinsdale, Montrose,
Ouray, San Miguel

HSR 16
Boulder, Broomfield

NO DATA

High school students in Colorado have inaccurate perceptions about marijuana use amongst their peers.

Students think their peers are using marijuana more than they actually are.

PERCEPTION

Statewide

78.9%

of students think a typical student used marijuana on one or more of the past 30 days.

REALITY

Statewide

19.4%

of high school students actually used marijuana on one or more of the past 30 days.

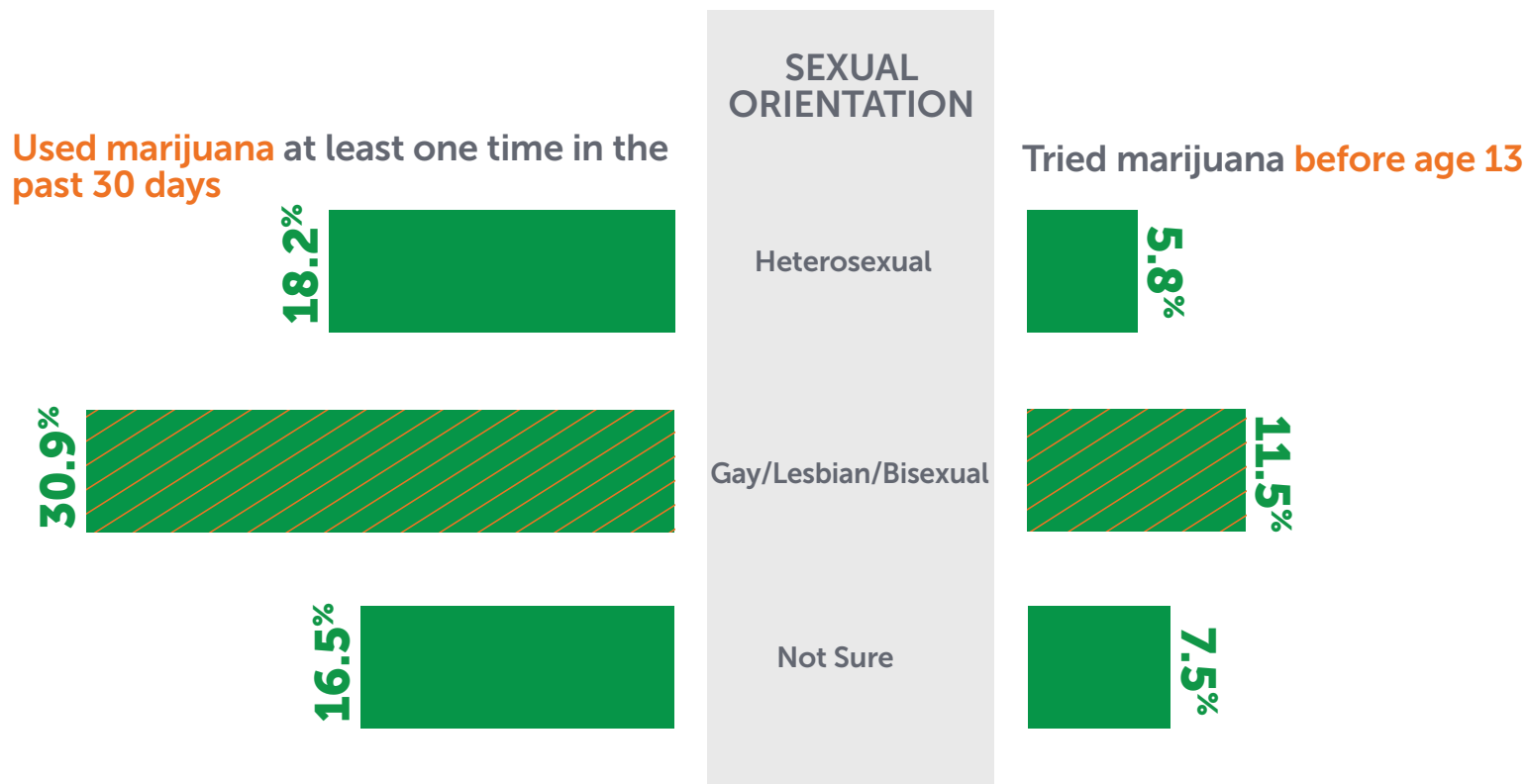
Statewide use is consistent with the national rate of 19.8%.

In the past 30 days,
5% of high school students used marijuana **20 or more times.**

*The Adams County Youth Initiative administers the Adams County Student Survey (ACSS) in place of the Healthy Kids Colorado Survey (HKCS). For this question, ACSS asks the same question as HKCS on the English version of the survey; therefore, ACSS data is used in place of HKCS. The responses to the Spanish version of the survey which were not included in this percentage amounted to 1.68% of the total survey responses.

Individuals that are a sexual minority, or identify as lesbian, gay, bisexual, transgender, or queer (LGBTQ) are at a **higher risk for substance misuse** than heterosexual individuals.¹

The 2017 Healthy Kids Colorado Survey shows that lesbian, gay, and bisexual youth are **more likely to use marijuana** than heterosexual youth.²

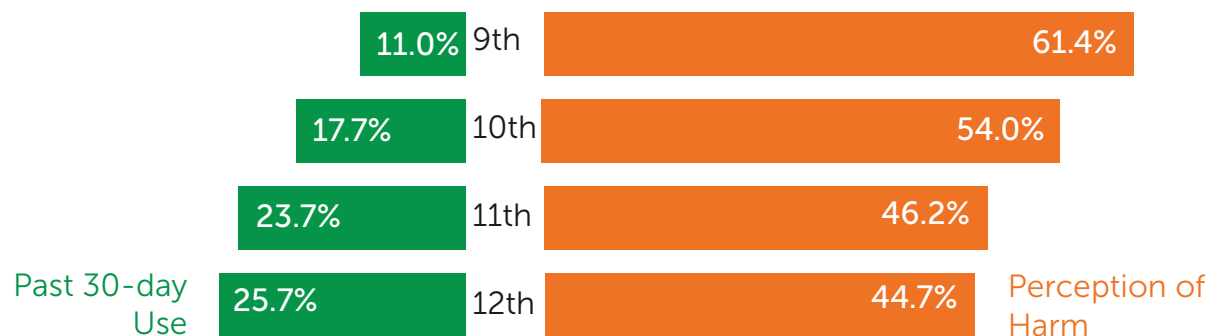


About half of high school students,

51.8%

believe that regular marijuana use is harmful.

While rates of past 30-day marijuana use increase by grade, perception of harm decreases as students get older.

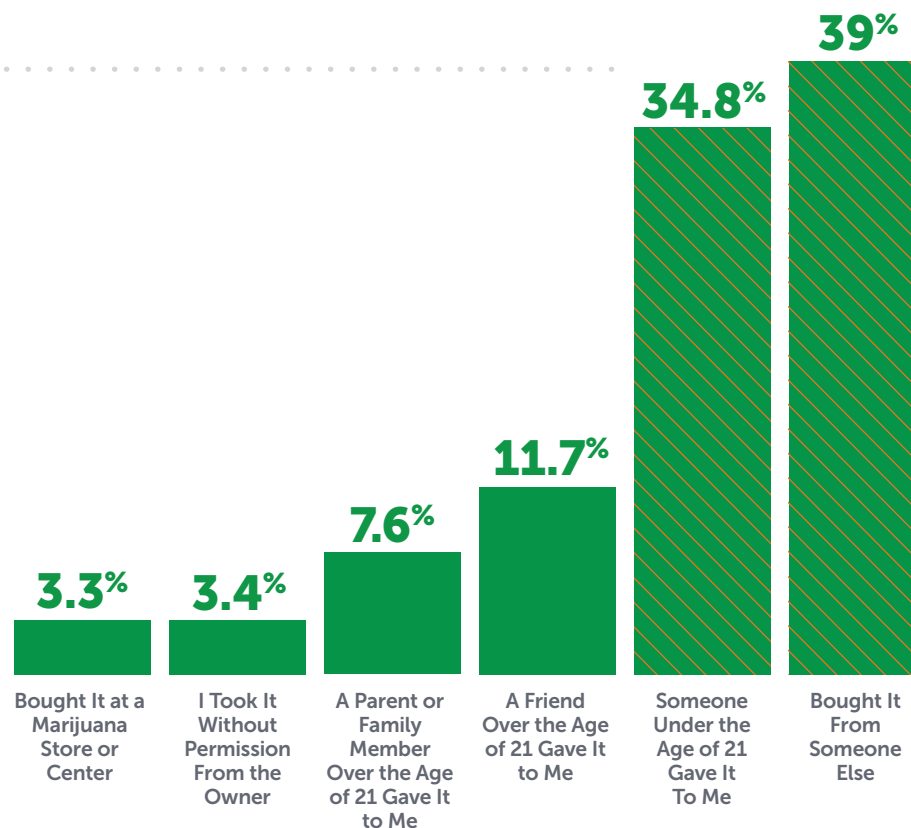


Youth Access to Marijuana

Few students receive it from a parent, adult family member, or adult friend and even fewer report stealing marijuana.

3.3% of students report buying the marijuana at a store or center

Most high school students report accessing marijuana by buying it from someone else or getting it from someone who is under 21.



High school students who reported these protective factors were less likely to use marijuana.



STUDENTS WHO REPORTED THINKING IT WAS IMPORTANT TO FINISH HIGH SCHOOL

were

64%

less likely to use marijuana

than those who reported thinking it was not important to finish high school.



STUDENTS WHO REPORTED THAT THEIR PARENTS/ GUARDIANS KNOW WHERE AND WHO THEY ARE WITH WHEN NOT AT HOME

were

57%

less likely to use marijuana

than those who reported their parents did not know where and who they were with when not at home.



STUDENTS WHO REPORTED THINKING THEIR FAMILY HAS CLEAR RULES ABOUT ALCOHOL AND DRUG USE

were

53%

less likely to use marijuana

than those who reported thinking their family does not have clear rules about alcohol and drug use.



STUDENTS WHO REPORTED PARTICIPATING IN EXTRACURRICULAR ACTIVITIES

were

33%

less likely to use marijuana

than those who reported not participating in extracurricular activities.



STUDENTS WHO REPORTED HAVING AN ADULT TO GO TO FOR HELP WITH A SERIOUS PROBLEM

were

30%


less likely to use marijuana

than those who reported not having an adult to go to for help with a serious problem.


* FOR DETAILS ON RISK FACTORS, SEE DEMOGRAPHIC PROFILE

SOURCE: HEALTHY KIDS COLORADO SURVEY (HKCS), 2017, ANALYZED BY COLORADO DEPARTMENT OF PUBLIC HEALTH & ENVIRONMENT

In 2017, a majority of high school students who used marijuana in the past 30-days reported **smoking marijuana** as their method of consumption. However, almost half of students used multiple methods.



88.4%
Smoking



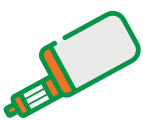
48.7%
Multiple Ways



35.6%
Eating



34.4%
Dabbing



20.3%
Vaporizing



7.3%
Other

2015
27.8%

2015
28.0%

While other methods are viturally unchanged since 2015, eating and dabbing have seen a greater increase.

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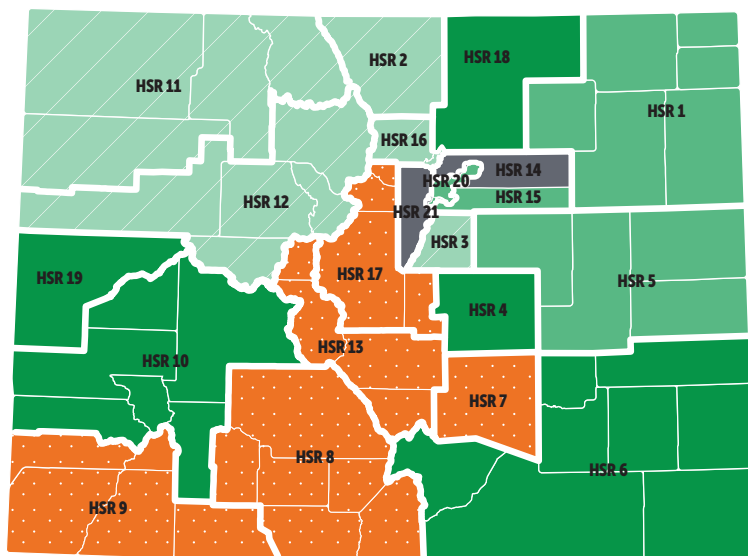
DABBING²: A method of marijuana use where a "dab" (small amount) of marijuana concentrate is placed on a pre-heated surface, creating concentrated marijuana vapor to be inhaled. According to the National Institute on Drug Abuse (NIDA), smoking THC-rich resins extracted from the marijuana plant is on the rise. People call this practice dabbing. These extracts come in various forms, such as:

1) **hash oil or honey oil** - a gooey liquid 2) **wax or budder** - a soft solid with a texture like lip balm 3) **shatter** - a hard, amber-colored solid. These extracts can deliver extremely large amounts of THC to the body, and their use has sent some people to the emergency room. Another danger is in preparing these extracts, which usually involves butane (lighter fluid). A number of people have caused fires and explosions and have been seriously burned from using butane to make extracts at home.

SOURCE: RESPONSIBILITYGROWHERE.COM

According to the National Institute on Drug Abuse, research suggests that adolescence (at about age 13) is **a risky period for drug abuse** due to the challenges youth face at this age, coupled with the greater exposure to drugs.

PERCENTAGE OF STUDENTS WHO TRIED MARIJUANA FOR THE FIRST TIME BEFORE AGE 13:



QUARTILE 1:
3.30% – 6.25%

HSR 3
Douglas
HSR 2
Larimer
HSR 11
Jackson, Moffat, Rio Blanco, Routt
HSR 12
Eagle, Garfield, Grand, Pitkin, Summit
HSR 16
Boulder, Broomfield

NO DATA

QUARTILE 2:
6.26% – 8.19%

HSR 1
Logan, Morgan, Phillips, Sedgwick, Washington, Yuma
HSR 5
Cheyenne, Elbert, Kit Carson, Lincoln
HSR 15
Arapahoe
HSR 20
Denver

QUARTILE 3:
8.20% – 9.10%

HSR 4
El Paso
HSR 6
Baca, Bent, Crowley, Huerfano, Kiowa, Las Animas, Otero, Prowers
HSR 10
Delta, Gunnison, Hinsdale, Montrose, Ouray, San Miguel
HSR 18
Weld
HSR 19
Mesa

QUARTILE 4:
9.11% – 11.40%

HSR 7
Pueblo
HSR 8
Alamosa, Conejos, Costilla, Mineral, Rio Grande, Saguache
HSR 9
Archuleta, Dolores, La Plata, Montezuma, San Juan
HSR 13
Chaffee, Custer, Fremont, Lake
HSR 17
Clear Creek, Gilpin, Park, Teller

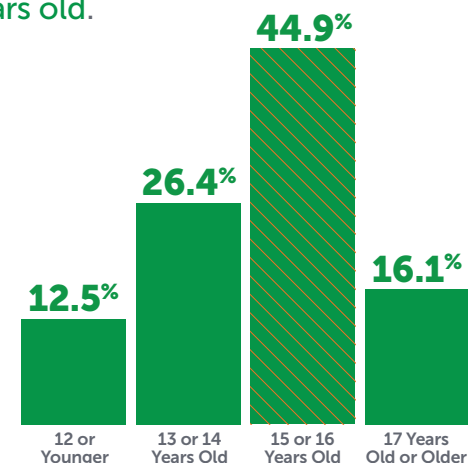
STATEWIDE AVERAGE:

6.5%

of all high school students tried marijuana for the first time before the age of 13.

Students in HSRs 3 and 16 reported the **lowest rates** of students using for the first time before age 13.

AMONG 12TH GRADERS WHO REPORTED EVER USING MARIJUANA most (71.3%) tried marijuana between 13–16 years old.



12.5% indicated they first tried marijuana before the age of 13. According to the Child Health Survey a similar proportion of homes (12.3%) had children ages 10 to 14 where the parent/caregiver reported **having not talked to their children** about the risk of using marijuana.

High school students who reported thinking their **family has clear rules about alcohol and drug use** were **53% less likely to use marijuana** than those who reported thinking their family does not have clear rules about alcohol and drug use.



HARMFUL EFFECTS

The Retail Marijuana Public Health Advisory Committee found **substantial evidence*** of the following health impacts of marijuana use among **9–17 year-old adolescents and 18–24 year-old young adults:**



WEEKLY USE**

is associated with:

impaired learning, memory, math, and reading - even 28 days after last use

..... AND

failure to graduate from high school

..... AND

may be associated with failure to attain a college degree.



DAILY USE

is associated with:

developing a psychotic disorder, such as schizophrenia, in adulthood.



OVERALL USE

is associated with:

being more likely to experience psychotic symptoms as adults, such as hallucinations, paranoia, delusional beliefs, and feeling emotionally unresponsive

..... AND

future tobacco and illicit drug use, and high-risk use of alcohol

..... AND

users can develop addiction to marijuana.

The committee also found strong evidence that:



Marijuana smoke contains many of the same cancer-causing chemicals found in tobacco smoke.



It can take up to four hours after consuming an edible marijuana product to reach the peak THC blood concentration and feel the full effects.



Using alcohol and marijuana together increases impairment and the risk of a motor vehicle crash more than using either substance alone.



Daily or near-daily marijuana users are more likely to have impaired memory lasting a week or more after quitting.

*Retail Marijuana Public Health Advisory Committee definition of substantial evidence indicates robust findings that support an association between marijuana use and the outcome.

**Marijuana use 1–4 days a week.

7% of all treatment admissions were related to marijuana as

THE PRIMARY SUBSTANCE OF ABUSE.



Compared to other substances, most marijuana treatment admissions occur at a younger age:

22.3% of those admitted to treatment for marijuana are

12–17 YEARS OLD,

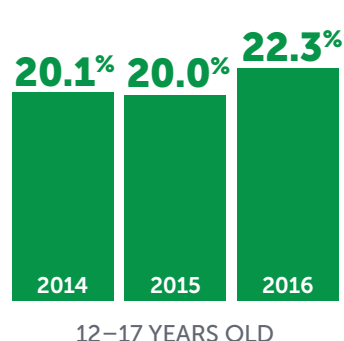
compared to .4% of alcohol treatment admissions and 1% of treatment admissions for other substances, in the same age group.

From 2014–2017 men sought **3x as many men** sought treatment as women.

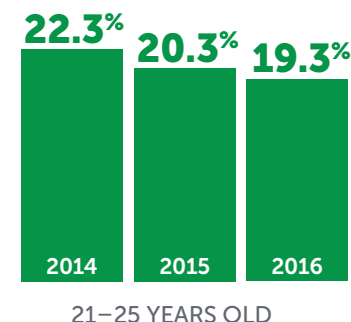
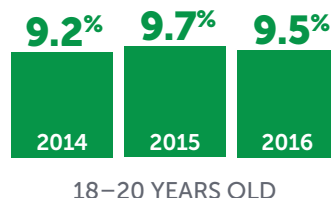


MARIJUANA TREATMENT ADMISSIONS IN COLORADO by age 25 and under

..... Interestingly, there is a



drop in marijuana treatment admissions among **18–20 YEAR-OLDS**



..... followed by a

marked increase in marijuana admissions for **21–25 YEAR OLDS.**



This trend is consistent across 2014 to 2016.

* Treatment admissions are defined as clients ages 12 years and older admitted to treatment at facilities for alcohol and/or drug use. SAMHSA TEDS only tracks treatment admissions at facilities that are licensed or certified by a state substance abuse agency to provide care for people with a substance use disorder (or facilities that are administratively tracked for other reasons). Generally, facilities reporting SAMHSA TEDS data are those that receive state alcohol and/or drug agency funds (including federal block grant funds) for the provision of alcohol and/or drug treatment services.