ALCOHOL

SEOW | 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 alcohol 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 alcohol, 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	
Acute causes of alcohol related deaths	Acute causes include but are not limited to alcohol poisoning, fall injuries, motor-vehicle crashes, and fire arm injuries. For a full list see the Centers for Disease Control and Prevention: Alcohol-Related Disease Impact (ARDI).
Aggregate	A mathematical computation using a set of values rather than a single value.
Alcohol impaired driving	Drivers who tested at Blood Alcohol Content (BAC) at greater than or equal to .08
Alcohol use disorder	Alcohol Use Disorder is defined as meeting criteria for alcohol dependence or abuse. In 2016, dependence or abuse was based on definitions found in the 4th edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV). This included respondents who used alcohol on 6 or more days in the past 12 months and were defined as having dependence and or abuse.
Average	A calculated central value of a set of numbers
Binge drinking	The Behavioral Risk Factors Surveillance System (BRFSS) defines binge drinking as 4 or more drinks for a woman or 5 or more drinks for a man on an occasion during the past 30 days.
Chronic causes of alcohol related deaths	Chronic causes include but are not limited to alcoholic liver disease, chronic hepatitis, fetal alcohol syndrome, and liver cirrhosis. For a full list see the Centers for Disease Control and Prevention: Alcohol-Related Disease Impact (ARDI).
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.
Liquor Law Violations	Can include sale to minors, sale to intoxicated, and minor in possession. Liquor enforcement laws, rules, and regulations are published by the Office of the Secretary of State in the Colorado Code of Regulations.
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.
Significance	The probability is less than .05 that the difference or relationship happened by chance

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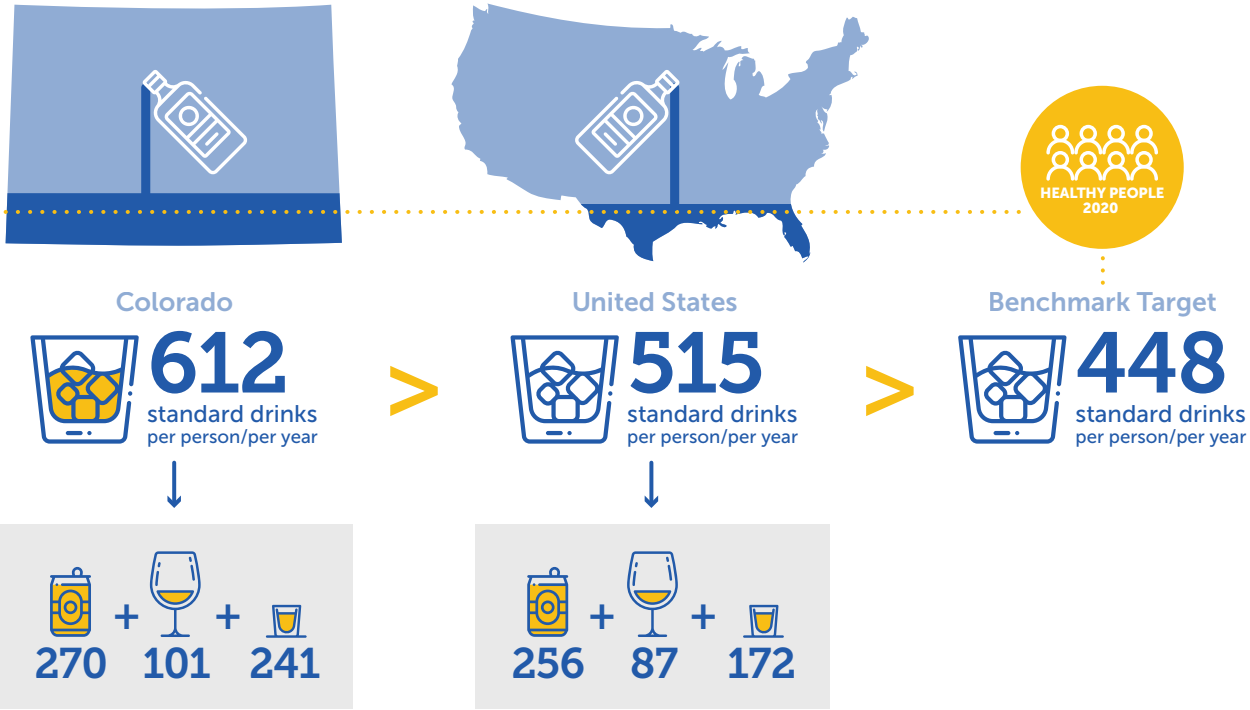
ADULT CONSUMPTION

For Coloradans over the age of 14 in 2016,

the per capita alcohol consumption was higher than the national average.



What is a standard drink?

12 fl oz REGULAR BEER
About 4.67% alcohol

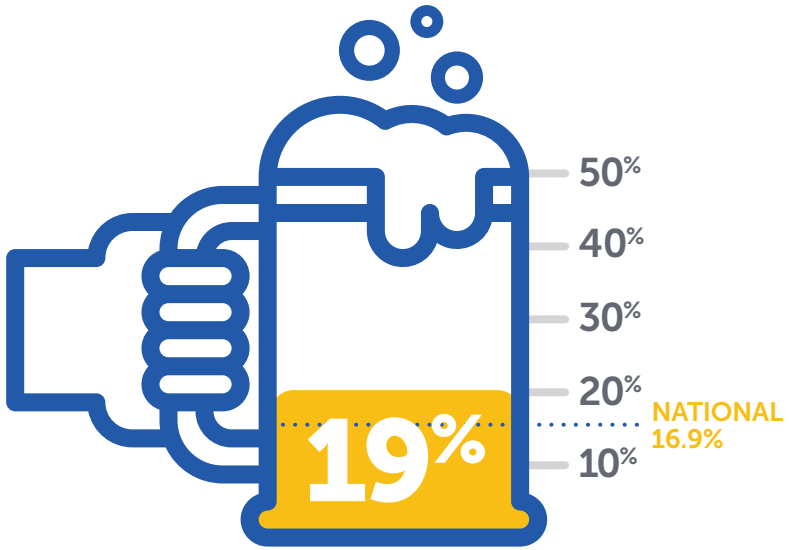
5 fl oz TABLE WINE
About 11.45% alcohol

1.5 fl oz DISTILLED SPIRITS
About 36.9% alcohol

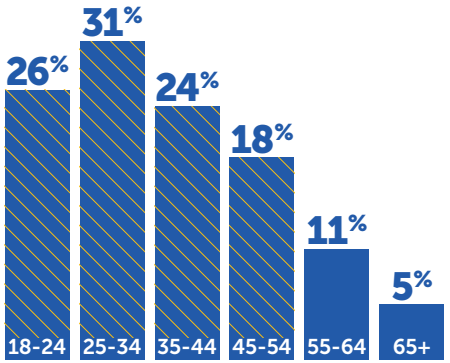
Each beverage portrayed above represents one standard drink of "pure" alcohol, defined in the United States as 0.6 fl oz or 14 grams of alcohol. The percent of pure alcohol, expressed here as alcohol by volume (alc/vol), varies within and across beverage types. Although the standard drink amounts are helpful for following health guidelines, they may not reflect customary serving sizes.

SOURCE: NATIONAL INSTITUTE ON ALCOHOL ABUSE AND ALCOHOLISM (NIAA), DIVISION OF EPIDEMIOLOGY AND PREVENTION RESEARCH, ALCOHOL EPIDEMIOLOGIC DATA SYSTEM (AEDS), 2016

19% of Coloradans over the age of 18 binge drink.*



In Colorado, binge drinking is **prevalent in multiple age groups** over the age of 18.



25–34 year olds had the highest prevalence of binge drinking, followed by 18–24 year olds.

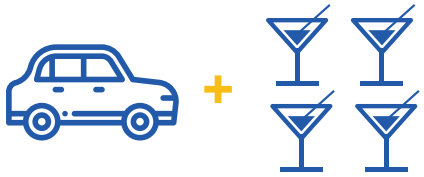
In Colorado, **men are more likely to binge drink than women.**

24% of men

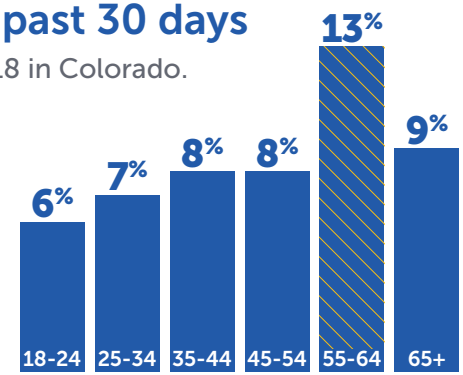
14% of women

55–64 year old binge drinkers drank and drove the most in the past 30 days

out of all the age groups over the age of 18 in Colorado.



This age group drank and drove over twice as much as 18–24 year olds did.



* Binge drinking is defined as four or more drinks for a woman or five or more drinks for a man on a single occasion during the past 30 days.

SOURCE: BEHAVIORAL RISK FACTORS SURVEILLANCE SYSTEM (BRFSS), 2016

Binge drinking occurs the most in Denver County (HSR 20).[1]

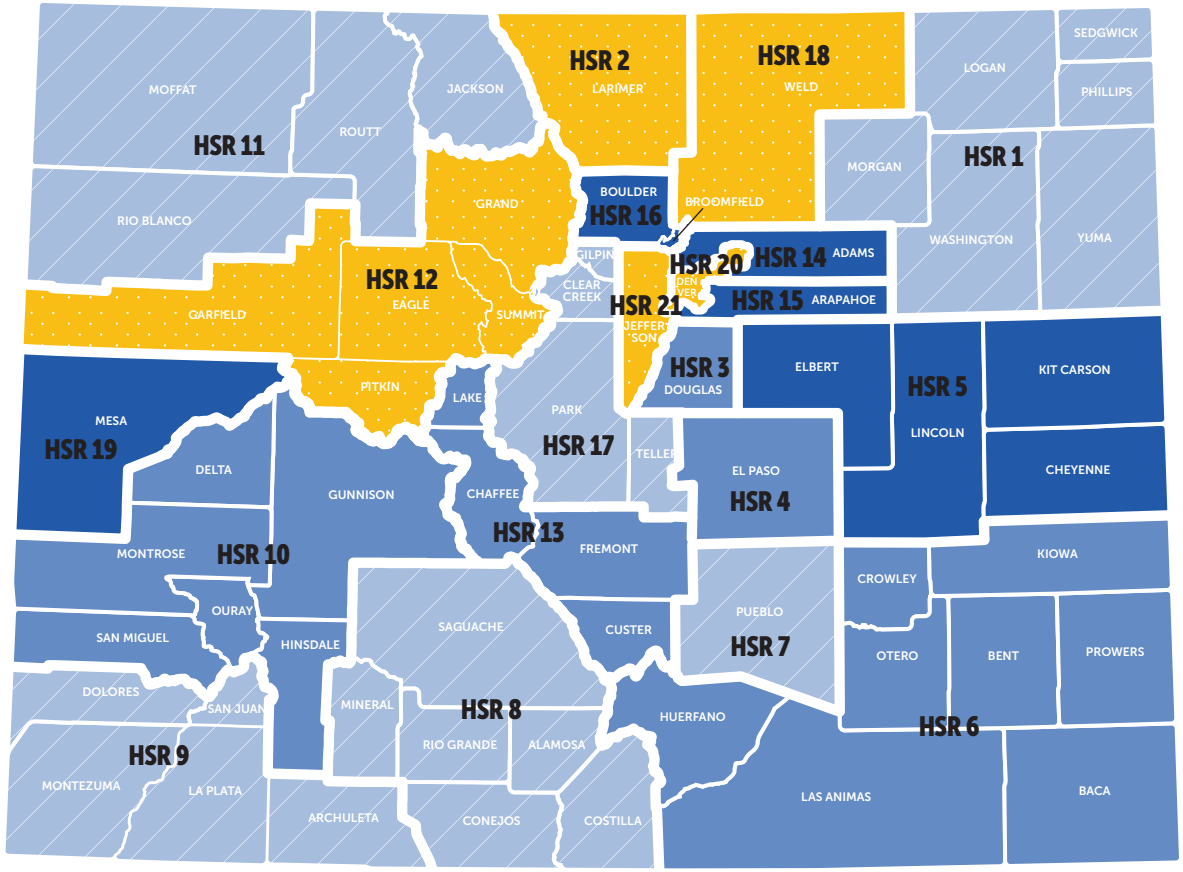
Denver county's lead in binge drinking is followed by Eagle, Garfield, Grand, Pitkin, Summit, Weld and Jefferson counties.

QUARTILE 1: 7.20% – 13.64%

QUARTILE 2: 13.65% – 17.41%

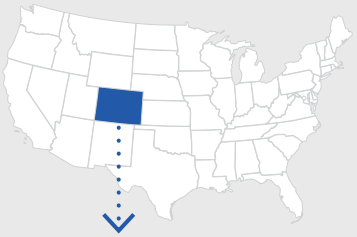
QUARTILE 3: 17.42% – 19.30%

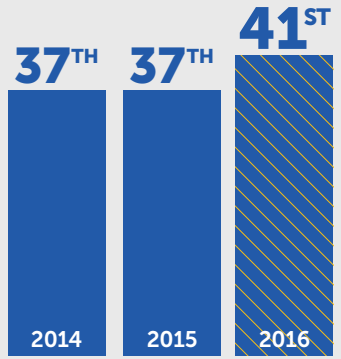
QUARTILE 4: 19.31% – 26.46%



State Ranking for Binge Drinking:

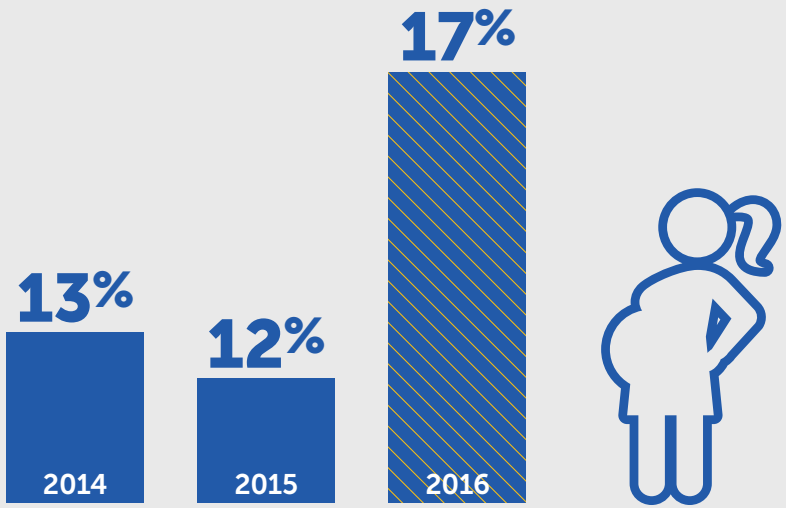
The prevalence of binge drinking in Colorado is one of the **highest** in the US.[2]



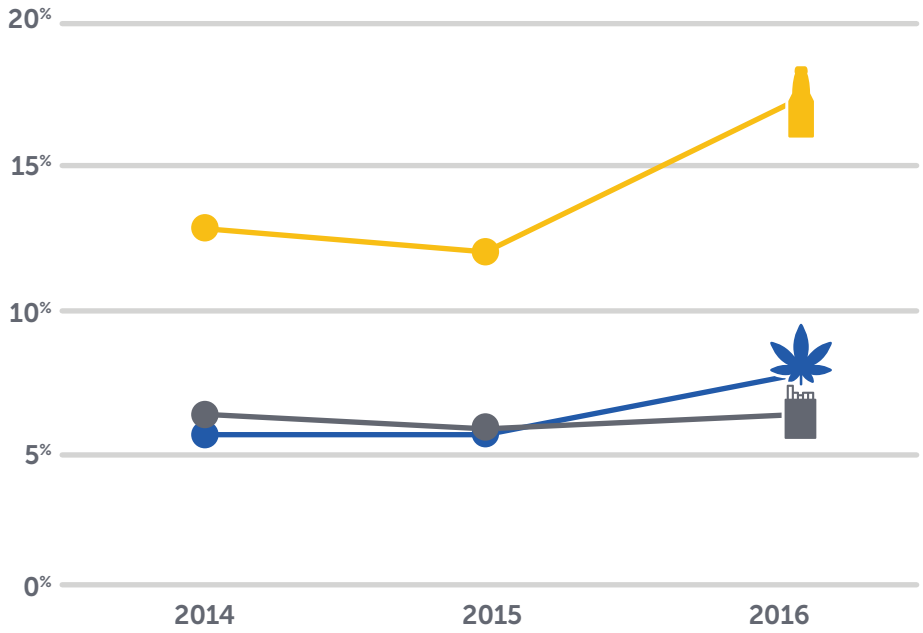


SOURCES: [1] BEHAVIORAL RISK FACTORS SURVEILLANCE SYSTEM (BRFSS), 2016
[2] UNITED HEALTH FOUNDATION, AMERICA'S HEALTH RANKING REPORTS, 2016

From 2014 to 2016 in Colorado, **alcohol use during the last 3 months of pregnancy** had a significant **increase.**



From 2014 to 2016, **alcohol use was significantly higher than marijuana or tobacco use** during pregnancy.



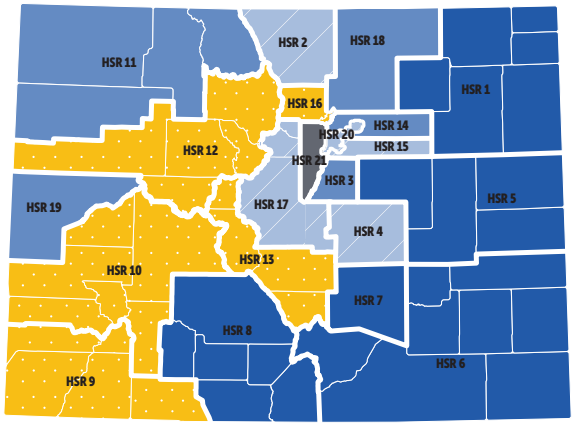
	Drank Alcohol During the Last 3 Months of Pregnancy	Used Tobacco During the Last 3 Months of Pregnancy	Used Marijuana During Pregnancy
2014	12.8%	6.4%	5.7%
2015	12.0%	5.9%	5.7%
2016	17.3%	6.4%	7.8%

SOURCE: PREGNANCY RISK ASSESSMENT MONITORING SYSTEM (PRAMS), 2014-2016

YOUTH CONSUMPTION

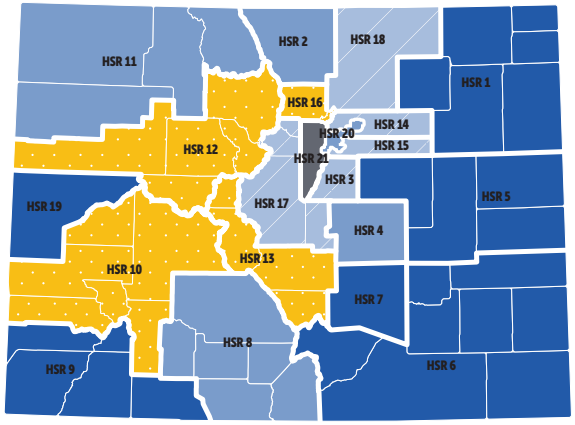
Two out of three high school age youth in Colorado did not consume alcohol in the past 30 days.

PERCENTAGE OF STUDENTS WHO BINGE DRANK** ON ONE OR MORE OF THE PAST 30 DAYS:



QUARTILE 1:	QUARTILE 2:	QUARTILE 3:	QUARTILE 4:
12.40% – 15.93%	15.94% – 18.15%	18.16% – 20.63%	20.64% – 25.80%

PERCENTAGE OF STUDENTS WHO HAD AT LEAST ONE DRINK OF ALCOHOL ON ONE OR MORE OF THE PAST 30 DAYS:



QUARTILE 1:	QUARTILE 2:	QUARTILE 3:	QUARTILE 4:
25.70% – 27.35%	27.36% – 30.90%	30.91% – 32.60%	32.61% – 38.80%

HSR KEY

HSR 1: Logan, Morgan, Phillips, Sedgwick, Washington, Yuma
HSR 2: Larimer
HSR 3: Douglas
HSR 4: El Paso
HSR 5: Cheyenne, Elbert, Kit Carson, Lincoln

= None reported

HSR 6: Baca, Bent, Crowley, Huerfano, Kiowa, Las Animas, Otero, Prowers
HSR 7: Pueblo
HSR 8: Alamosa, Conejos, Costilla, Mineral, Rio Grande, Saguache
HSR 9: Archuleta, Dolores, La Plata, Montezuma, San Juan

HSR 10: Delta, Gunnison, Hinsdale, Montrose, Ouray, San Miguel
HSR 11: Jackson, Moffat, Rio Blanco, Routt
HSR 12: Eagle, Garfield, Grand, Pitkin, Summit
HSR 13: Chaffee, Custer, Fremont, Lake
HSR 14: Adams
HSR 15: Arapahoe

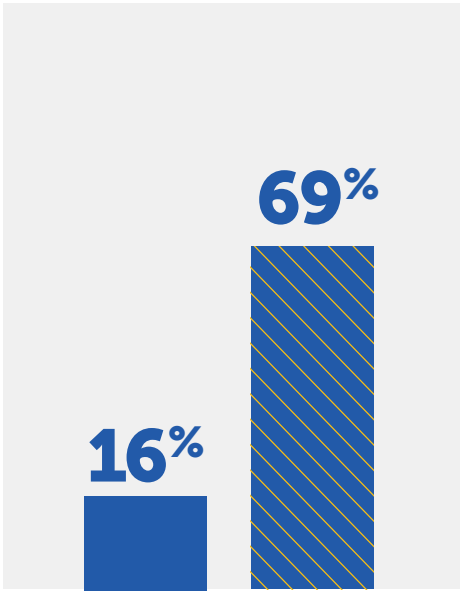
HSR 16: Boulder, Broomfield
HSR 17: Clear Creek, Gilpin, Park, Teller
HSR 18: Weld
HSR 19: Mesa
HSR 20: Denver
HSR 21: Jefferson

* Grades 9–12
** Binge drinking is defined as four or more drinks for females or five or more drinks for a male on occasion during the past 30 days.

SOURCE: HEALTHY KIDS COLORADO SURVEY (HKCS), 2017

High School Students* in Colorado have inaccurate perceptions about drinking amongst their peers.

ACTUAL STUDENT USE VS. STUDENT PERCEPTION OF PEERS' USE



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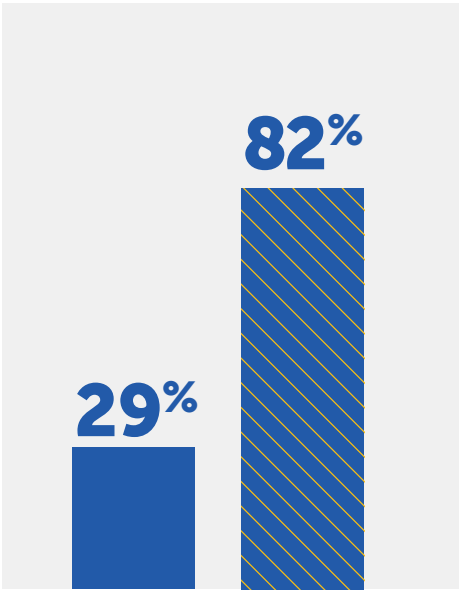


Early initiation:
13% of students* had their first drink of alcohol† before age 13.

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.

* Grades 9–12
† Other than a few sips

SOURCE: HEALTHY KIDS COLORADO SURVEY (HKCS), 2017

High school students in Colorado feel alcohol is easy to access.

EASY TO GET ALCOHOL
57.5%

More than half the students in Colorado (57.5%) feel it would be sort of easy or very easy to get alcohol if they wanted.

BELOW STATE AVERAGE	ABOVE STATE AVERAGE	
HSR 4 El Paso	HSR 1 Logan, Morgan, Phillips, Sedgwick, Washington, Yuma	HSR 10 Delta, Gunnison, Hinsdale, Montrose, Ouray, San Miguel
HSR 8 Alamosa, Conejos, Costilla, Mineral, Rio Grande, Saguache	HSR 2 Larimer	HSR 11 Jackson, Moffat, Rio Blanco, Routt
HSR 9 Archuleta, Dolores, La Plata, Montezuma, San Juan	HSR 3 Douglas	HSR 12 Eagle, Garfield, Grand, Pitkin, Summit
HSR 15 Arapahoe	HSR 5 Cheyenne, Elbert, Kit Carson, Lincoln	HSR 13 Chaffee, Custer, Fremont, Lake
HSR 17 Clear Creek, Gilpin, Park, Teller	HSR 6 Baca, Bent, Crowley, Huerfano, Kiowa, Las Animas, Otero, Prowers	HSR 16 Boulder, Broomfield
HSR 18 Weld	HSR 7 Pueblo	HSR 19 Mesa
HSR 20 Denver		

DRANK IN PUBLIC
11.3%

Among students who reported current alcohol use, 11.3% usually drank in a public setting, on school property, or riding in a car.

BELOW STATE AVERAGE	ABOVE STATE AVERAGE
HSR 2 Larimer	HSR 1 Logan, Morgan, Phillips, Sedgwick, Washington, Yuma
HSR 3 Douglas	HSR 5 Cheyenne, Elbert, Kit Carson, Lincoln
HSR 4 El Paso	HSR 6 Baca, Bent, Crowley, Huerfano, Kiowa, Las Animas, Otero, Prowers
HSR 7 Pueblo	HSR 8 Alamosa, Conejos, Costilla, Mineral, Rio Grande, Saguache
HSR 9 Archuleta, Dolores, La Plata, Montezuma, San Juan	HSR 11 Jackson, Moffat, Rio Blanco, Routt
HSR 10 Delta, Gunnison, Hinsdale, Montrose, Ouray, San Miguel	HSR 15 Arapahoe
HSR 12 Eagle, Garfield, Grand, Pitkin, Summit	HSR 16 Boulder, Broomfield
HSR 13 Chaffee, Custer, Fremont, Lake	HSR 17 Clear Creek, Gilpin, Park, Teller
HSR 18 Weld	HSR 20 Denver
HSR 19 Mesa	

ALCOHOL WAS GIVEN
42.6%

Among students who reported current alcohol use during the past 30 days, 42.6% usually got the alcohol they drank from someone who gave it to them.

BELOW STATE AVERAGE		ABOVE STATE AVERAGE
HSR 1 Logan, Morgan, Phillips, Sedgwick, Washington, Yuma	HSR 10 Delta, Gunnison, Hinsdale, Montrose, Ouray, San Miguel	HSR 2 Larimer
HSR 6 Baca, Bent, Crowley, Huerfano, Kiowa, Las Animas, Otero, Prowers	HSR 11 Jackson, Moffat, Rio Blanco, Routt	HSR 3 Douglas
HSR 7 Pueblo	HSR 12 Eagle, Garfield, Grand, Pitkin, Summit	HSR 4 El Paso
HSR 8 Alamosa, Conejos, Costilla, Mineral, Rio Grande, Saguache	HSR 13 Chaffee, Custer, Fremont, Lake	HSR 5 Cheyenne, Elbert, Kit Carson, Lincoln
HSR 9 Archuleta, Dolores, La Plata, Montezuma, San Juan	HSR 15 Arapahoe	HSR 16 Boulder, Broomfield
	HSR 17 Clear Creek, Gilpin, Park, Teller	HSR 18 Weld
	HSR 20 Denver	HSR 19 Mesa

NOTE: DATA NOT AVAILABLE FOR HSR 14 AND HSR 21

SOURCE: HEALTHY KIDS COLORADO SURVEY (HKCS), 2017

High school students who reported these protective factors were less likely to binge drink.

STUDENTS WHO REPORTED THINKING IT WAS IMPORTANT TO FINISH HIGH SCHOOL

were

59%

less likely to binge drink

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

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

were

58%

less likely to binge drink

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

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

were

51%

less likely to binge drink

than those who reported thinking their family doesn't have clear rules about alcohol and drug use.

STUDENTS WHO REPORTED PARTICIPATING IN EXTRACURRICULAR ACTIVITIES

were

17%

less likely to binge drink

than those who reported not participating in extracurricular activities.

STUDENTS WHO REPORTED HAVING SOMEONE TO TALK TO WHEN THEY WERE FEELING SAD

were

12%

less likely to binge drink

than those who reported not having anyone to talk to.

*For details on risk factors see demographics profile

SOURCE: HEALTHY KIDS COLORADO SURVEY (HKCS), 2017 ANALYZED BY COLORADO DEPTARTMENT PUBLIC HEALTH AND ENVIRONMENT (CDPHE)

HARMFUL EFFECTS

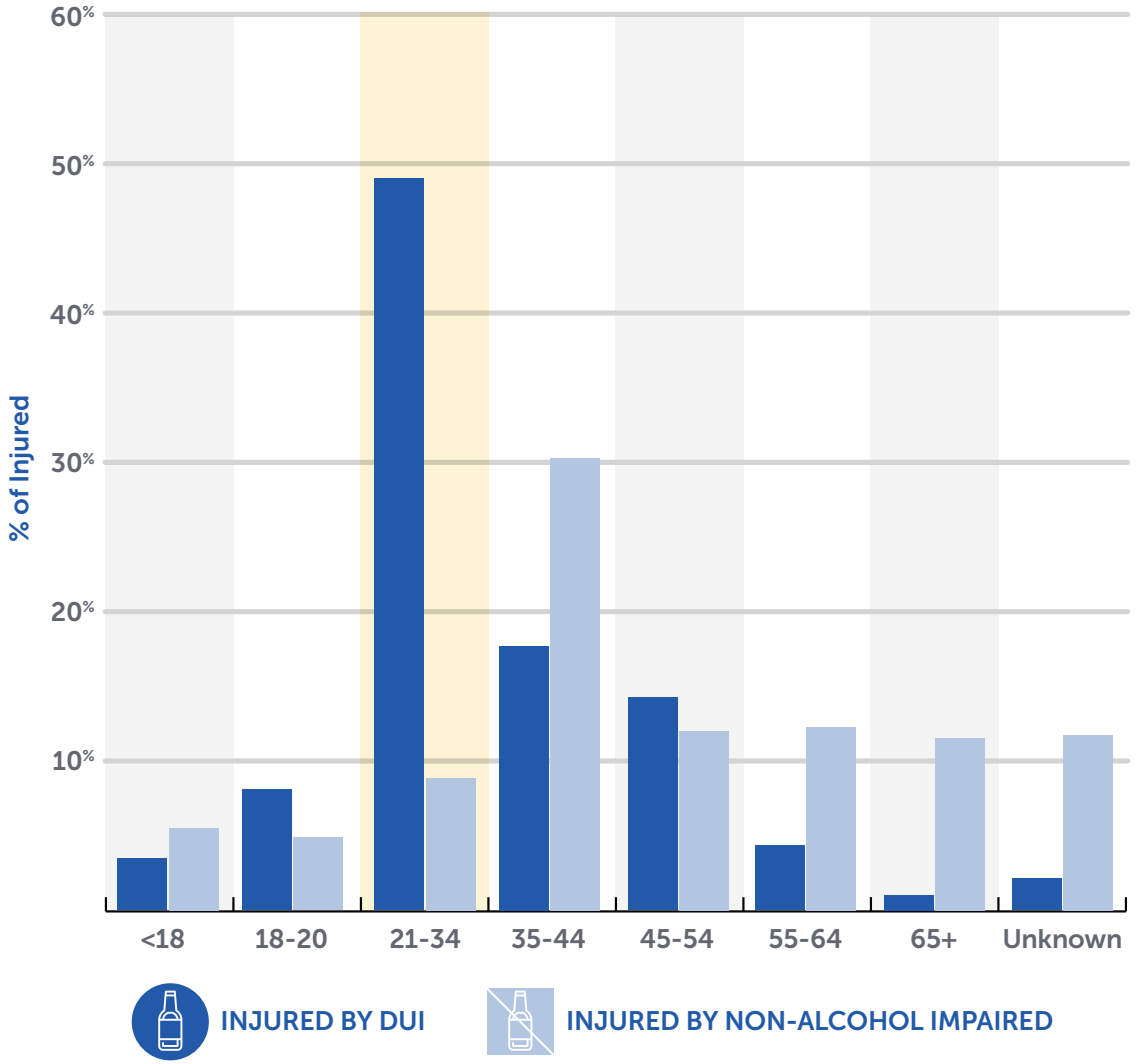
COLORADO 2016

2,232
=TOTAL NUMBER OF SERIOUS INJURIES[1]
caused by motor vehicle accidents in Colorado.

14.5%
= AMOUNT INVOLVING ALCOHOL
323 were caused by drivers suspected of being **under the influenceof alcohol.**

Drivers aged 21–34 are responsible[2] for the highest rate of motor vehicle crashes involving serious injury among crashes involving suspected alcohol impairment.

Percent of Motor Vehicle Serious Injuries by Alcohol-Impaired Driver:

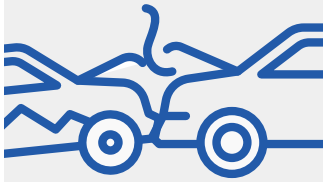


[1] Serious injury which, is also known as evident incapacitating injury, includes any injury, other than a fatal injury, that prevents the injured person from walking, driving, or normally continuing the activities they were previously capable of performing prior to being injured.

[2] Number of people seriously injured in a motor vehicle crash where the driver was suspected to be under the influence of alcohol. Alcohol impairment is Law Enforcement Officer opinion only - no test results were available at time of reporting crash.

SOURCE: CRASH REPORTS, COLORADO DEPARTMENT OF REVENUE, 2016

The greatest prevalence of fatalities caused by alcohol impaired drivers is among drivers ages 21–34.



In 2016 there were

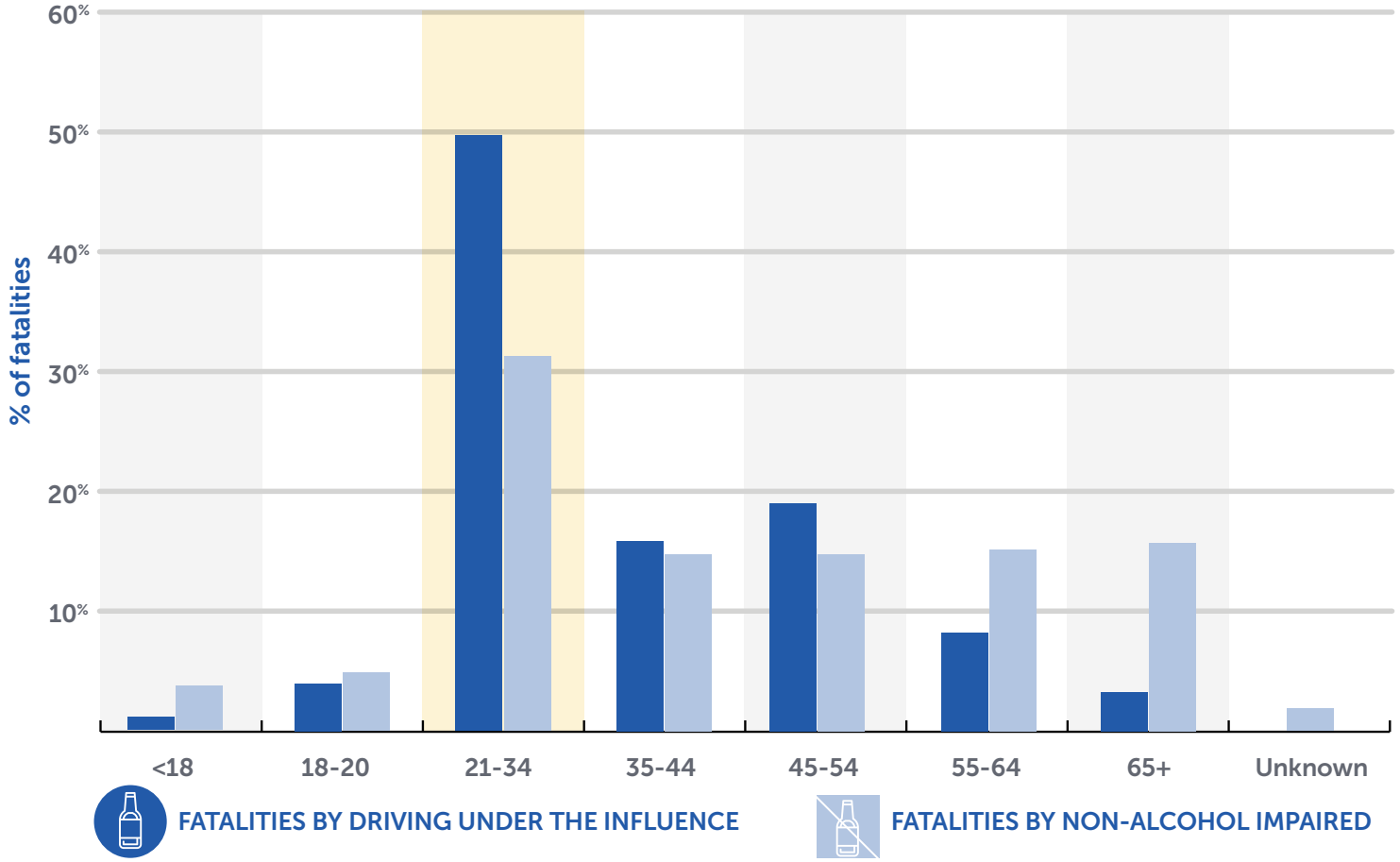
880

MOTOR VEHICLE **FATALITIES** in Colorado, and out of this total,

13.8%

MOTOR VEHICLE **FATALITIES** (121) were caused by **alcohol-impaired drivers.**

Percent of motor vehicle fatalities by alcohol-impaired driver*:



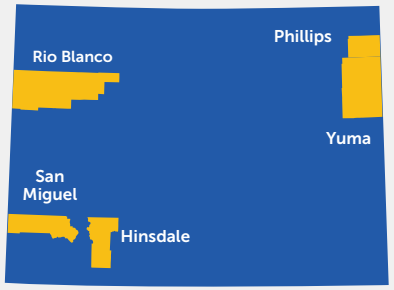
* Alcohol-impaired drivers include only those drivers who were tested and had a Blood Alcohol Content (BAC) ≥0.08.

SOURCE: FATALITY ANALYSIS REPORTING SYSTEM (FARS), NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION (NHTSA), 2016

In 2016, 7% of juvenile arrests were for Driving Under the Influence (DUI) or Liquor Law Violations (LLV).*

TOP FIVE COLORADO COUNTIES WITH HIGHEST PROPORTION OF JUVENILE ALCOHOL ARRESTS

(DUI + LLV) RELATIVE TO NUMBER OF ARRESTS IN THE COUNTY:



Juvenile Alcohol Arrests by Quartile:

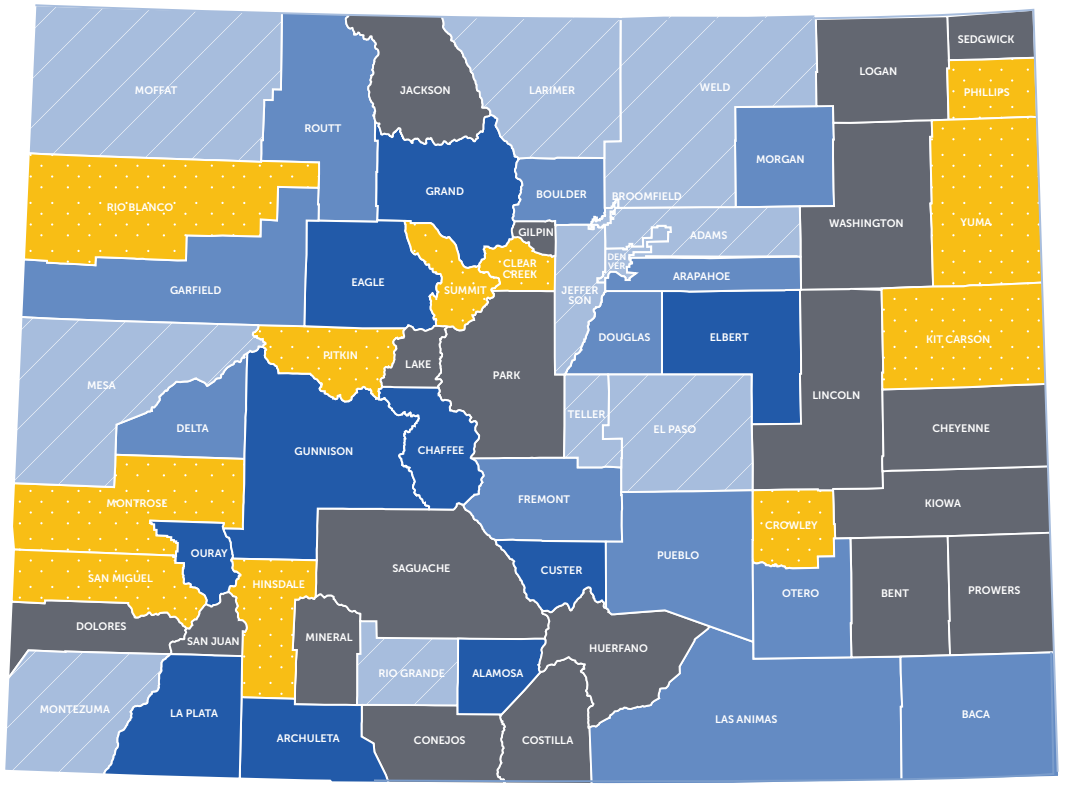
QUARTILE 1: .01% – 8.4%

QUARTILE 2: 8.5% – 16.1%

QUARTILE 3: 16.2% – 33.3%

QUARTILE 4: 33.4% – 100%

NONE REPORTED



*Among all arrest categories for juveniles, the two alcohol-related categories are DUI and LLV.

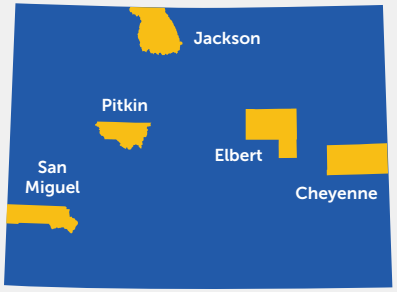
SOURCE: COLORADO BUREAU OF INVESTIGATIONS, CRIME IN COLORADO, 2016

In 2016,

13.4% of adult arrests were for Driving Under the Influence (DUI) or Liquor Law Violations (LLV).

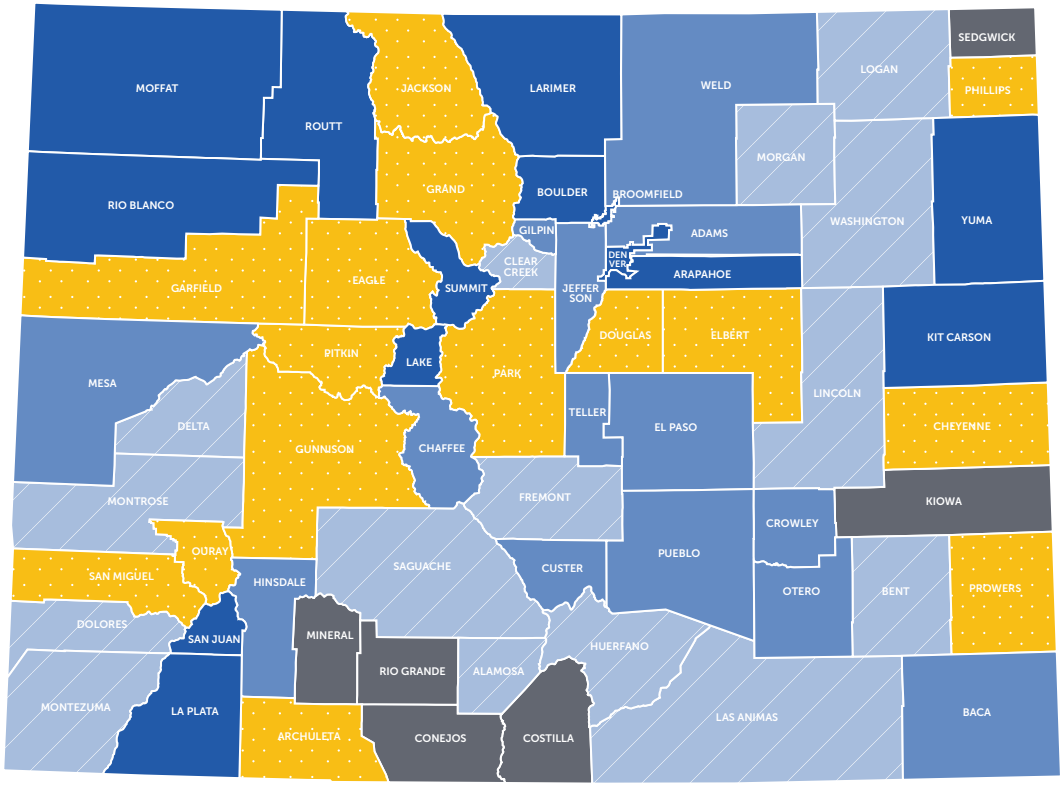
TOP FIVE COLORADO COUNTIES WITH HIGHEST PROPORTION OF ALCOHOL ARRESTS

(DUI + LLV) RELATIVE TO NUMBER OF ARRESTS IN THE COUNTY:



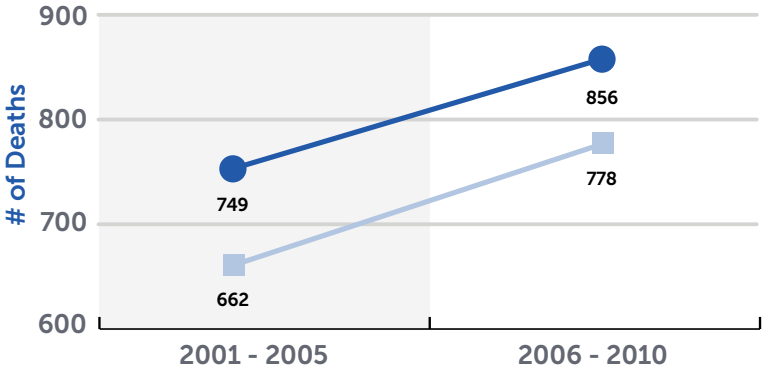
Adult Alcohol Arrests by Quartile:

- **QUARTILE 1:** .01% – 9.9%
- **QUARTILE 2:** 10.0% – 13.2%
- **QUARTILE 3:** 13.3% – 20.3%
- **QUARTILE 4:** 20.4% – 81.8%
- **NONE REPORTED**



SOURCE: COLORADO BUREAU OF INVESTIGATIONS, CRIME IN COLORADO, 2016

From 2001–2010 there was a 15.8% increase in alcohol-attributable deaths for chronic and acute causes in Colorado.



In Colorado, more than twice as many men as women die from alcohol-attributable causes, which is consistent with national trends.

COLORADO

1,113 men

522 women

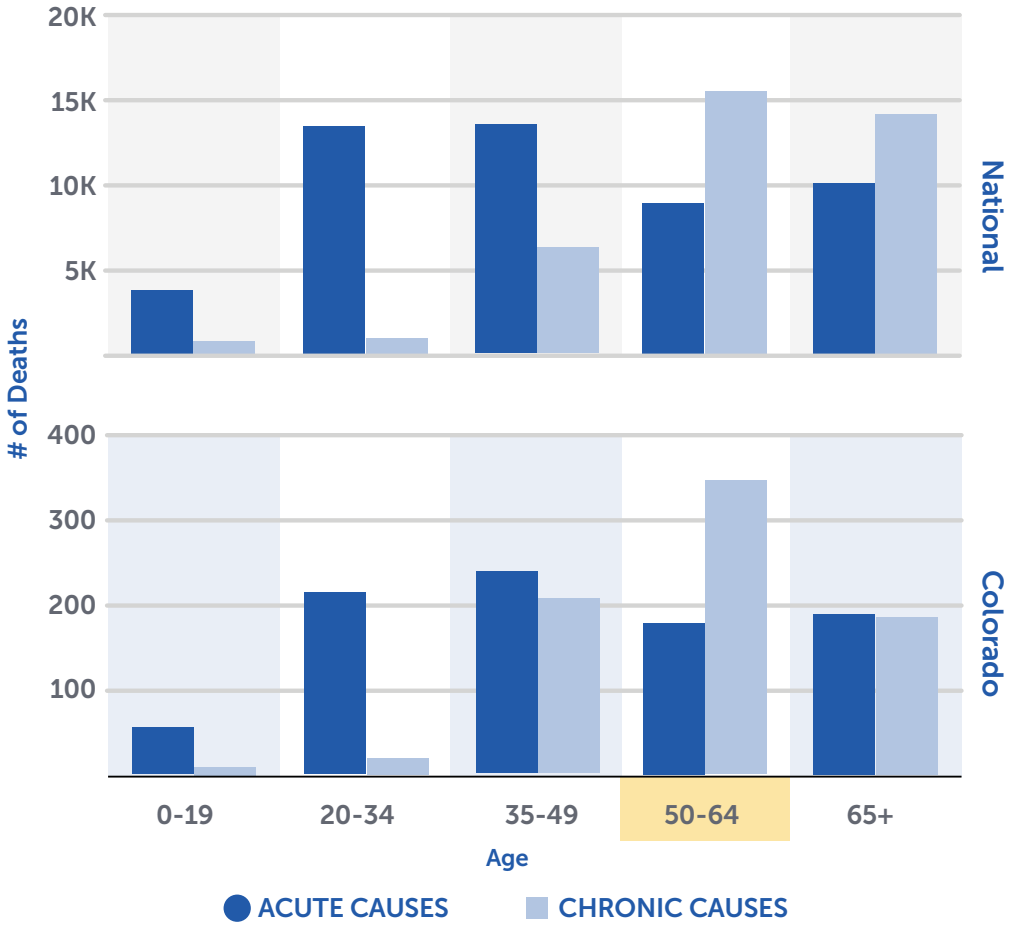
NATIONAL

62,437 men

25,987 women

Alcohol-attributable acute deaths in Colorado follow the national trend.

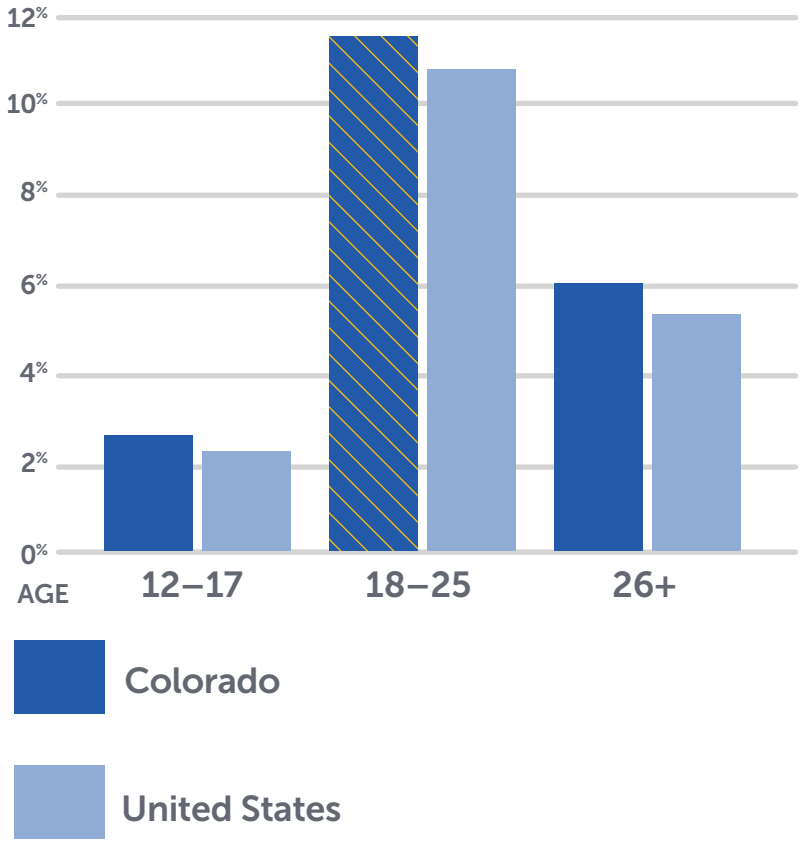
Nationally and in Colorado, alcohol-attributable chronic deaths are highest among ages 50–64.



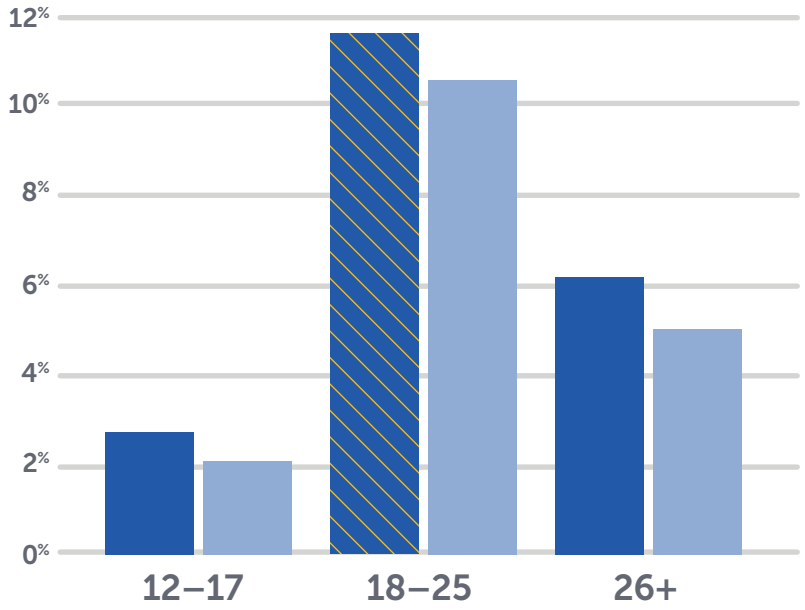
SOURCE: CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC), ALCOHOL-RELATED DISEASE IMPACT (ARDI), 2006-2010 AGGREGATE.

Colorado ranks higher than the national average for Alcohol Use Disorder* for all 12 and over age groups.

18–25 year olds have the highest prevalence of Alcohol Use Disorder:



18–25 year olds have the highest incidences of needing but not receiving treatment for Alcohol Use Disorder:

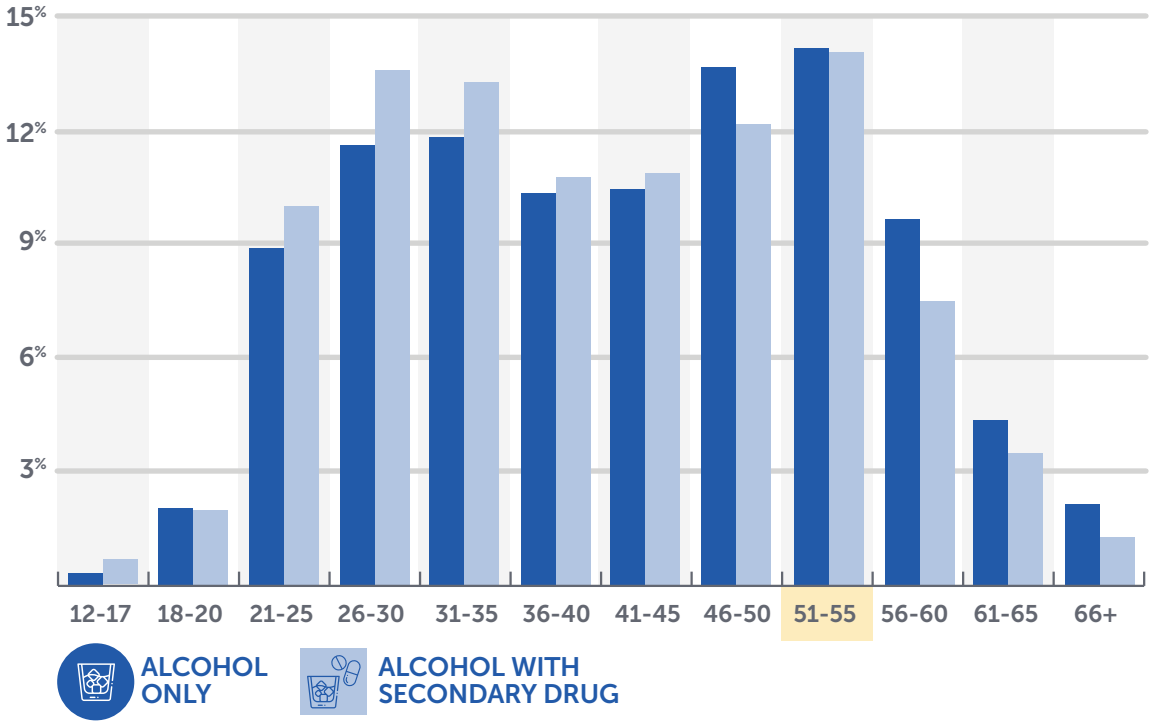


*Alcohol Use Disorder is defined as meeting criteria for alcohol dependence or abuse. Dependence or abuse is based on definitions found in the 4th edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV). This includes respondents who used alcohol on six or more days in the past 12 months and were defined as having dependence and/or abuse.

SOURCE: NATIONAL SURVEY ON DRUG USE AND HEALTH (NSDUH), 2015 AND 2016

In Colorado, more people seek out treatment* for alcohol than they do for any other type of substance.

63% of people seeking treatment in Colorado are **seeking treatment for alcohol.****



For those **admitted for substance abuse** treatment over the age of 12 in 2016,

78% were men

23% were women

51–55 year-olds had the highest frequency for seeking treatment for both alcohol and alcohol with a secondary drug.

*Treatment admissions are defined as clients aged 12 years and older admitted to treatment at facilities for alcohol and/or drug use. The Substance Abuse Mental Health Substance Administration Treatment Episode Data Set (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.

**Either alcohol alone or with another substance.

SOURCE: SUBSTANCE ABUSE AND MENTAL HEALTH SERVICES ADMINISTRATION (SAMHSA) TREATMENT EPISODE DATA SET (TEDS), 2016