

Maternal and Child Health Issue Brief

December 2014 №8

Substance Abuse among Youth in Colorado

Why is substance abuse an issue among youth?

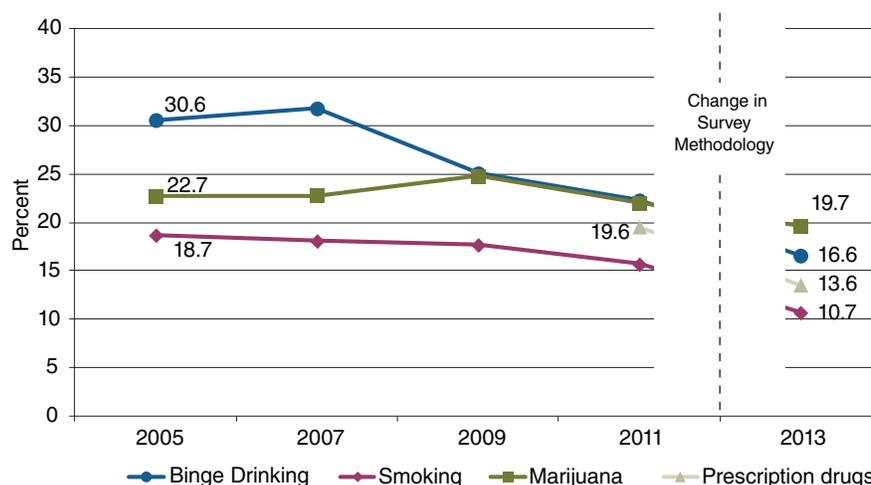


Substance abuse among youth is defined as using alcohol, tobacco, or marijuana, or misusing prescription drugs. Abuse begins to appear among middle school (grades 6-8) students and becomes common among high school (grades 9-12) students.¹ The definition of youth in this brief refers to ages 11 through 18 years.

Substance abuse among youth can lead to drug dependence, addiction, and substance use disorders which often have detrimental effects on health. Each year, underage drinking leads to the death of some 5,000 youth under the age of 21 nationwide.² The health effects from smoking have been widely publicized and include cancer, cardiovascular disease, and chronic obstructive pulmonary disease among others. While the health effects of marijuana use are still being studied, current evidence shows that marijuana use among youth is associated with impaired memory and learning; future high-risk use of alcohol, tobacco, and other drugs; and the development of psychotic disorders in adulthood.³ Prescription drug abuse can also have damaging effects on the brain, including addiction, and can lead to death as a result of overdose.⁴

In addition to direct health effects, substance abuse is associated with other potentially harmful behaviors such as risky sexual activity, reckless driving, and delinquency.⁵ Youth substance abuse can have social and educational consequences, leading to poor performance in school, difficulties with social and professional relationships and diminished career aspirations and achievement. Therefore, preventing and reducing substance abuse among youth is key to the wellbeing and success of the current generation as well as future generations.

Figure 1. Substance abuse among Colorado high school youth, 2005-2011⁶ and 2013.¹



Note: Binge drinking is defined as having five or more drinks of alcohol in a row, within a couple of hours, on one or more of the past 30 days. Cigarette smoking and marijuana use is defined as use one or more times during the past 30 days. Data related to marijuana reflect illegal use through 2011 and underage (illegal) use of marijuana in 2013. Prescription drug abuse is reported use of a prescription drug (e.g., OxyContin, Percocet, Vicodin, Codeine, Adderall, Ritalin, or Xanax) ever without a doctor's prescription.

What is the prevalence of substance abuse among youth?

In 2013, the Healthy Kids Colorado Survey revealed that an estimated 16.6 percent of Colorado high school youth reported binge drinking, 10.7 percent reported cigarette smoking, and 19.7 percent reported marijuana use in the 30 days prior to the survey (Figure 1).¹ As many as 13.6 percent abused prescription drugs at some point in their lives. Data for 2005 to 2011 show a downward trend in the prevalence of substance abuse among youth, but changes and improvements to the 2013 survey methodology prohibit comparison with data from earlier years.

Of note, the 2013 prevalence of Colorado high school youth ever having used other illicit drugs ranged between 2.7 percent for heroin and 7.3 percent for inhalants. Methamphetamine use was reported as 3.2 percent; cocaine, 5.8 percent; and Ecstasy, 6.7 percent.¹

Healthy People 2020 Goals⁷

By 2020, reduce the proportion of adolescents in the past month who were:

- smoking cigarettes to 16.0 percent
- binge drinking to 8.6 percent
- using marijuana to 6.0 percent

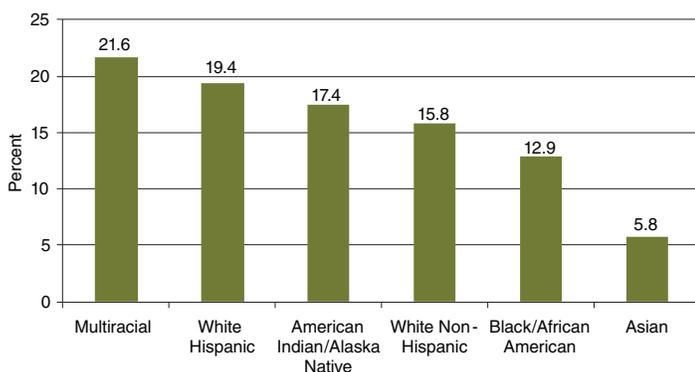
Colorado Goal⁸

By 2015, reduce the proportion of people age 12 and older in the past month who were:

- misusing prescription drugs to 5.5 percent

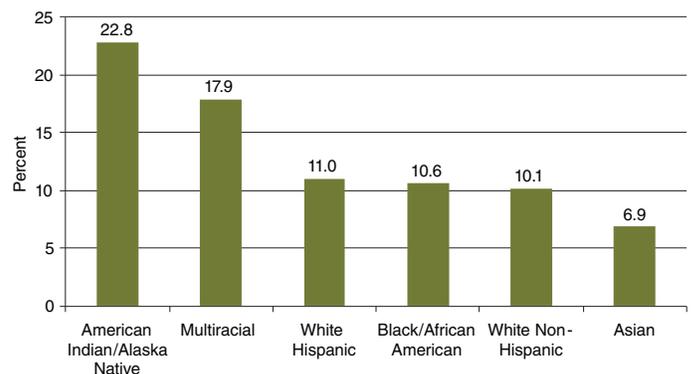
Social health disparities

Figure 2. Prevalence of binge drinking among Colorado high school youth by race/ethnicity, 2013¹



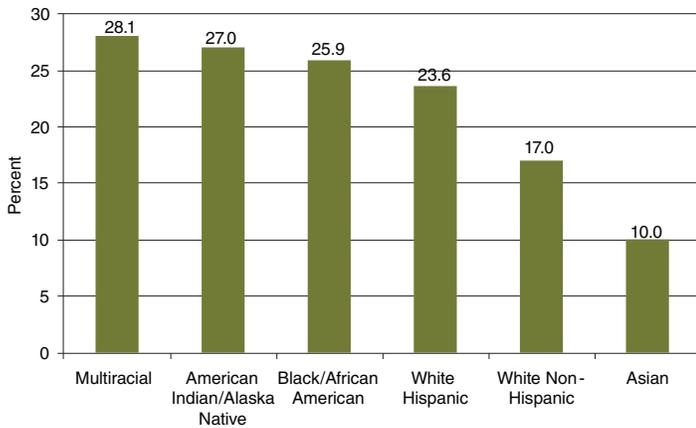
One in 5 multiracial (21.6 percent) and White Hispanic (19.4 percent) high school students reported binge drinking (five or more drinks within a couple of hours) in the past month, significantly different from White non-Hispanic students (15.8 percent). There was also a significant difference between Asian students (5.8 percent) and White non-Hispanic students. The prevalence of binge drinking among Black/African American students was not significantly different from White non-Hispanic students.

Figure 3. Prevalence of cigarette smoking among Colorado high school youth by race/ethnicity, 2013.¹



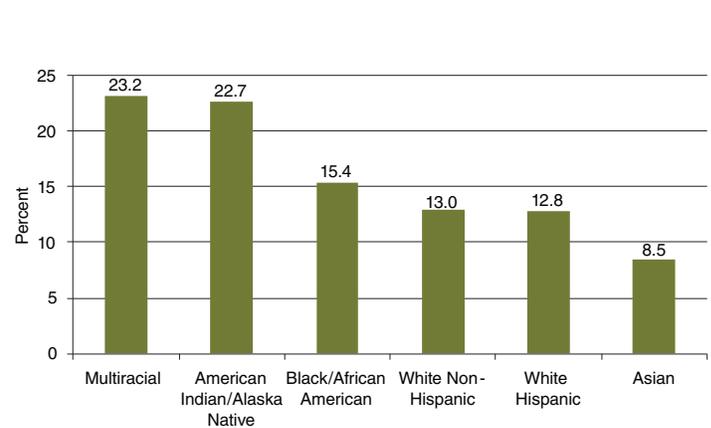
In 2013, approximately 1 in 5 (22.8 percent) American Indian/Alaska Native and 1 in 6 (17.9 percent) multiracial high school students was a current (past month) smoker, significantly different from White non-Hispanic students (10.1 percent). The prevalence of smoking among Asian high school students (6.9 percent) was significantly different from White non-Hispanic students, while the prevalence of smoking among Black/African American students was similar to White non-Hispanic students.

Figure 4. Prevalence of marijuana use among Colorado high school youth by race/ethnicity, 2013.¹



The prevalence of marijuana use in the last month among multiracial (28.1 percent), American Indian/Alaska Native (27.0 percent), Black/African American (25.9 percent), and White Hispanic (23.6 percent) high school students was significantly different from White non-Hispanic high school students (17.0 percent). Asian high school students had the lowest prevalence (10.0 percent) of current marijuana use, significantly different from all other racial and ethnic groups. Marijuana use was the most commonly used substance among high school students across all racial/ethnic groups.

Figure 5. Prevalence of prescription drug abuse among Colorado high school youth by race/ethnicity, 2013.¹



The prevalence of prescription drug abuse (defined as ever having misused a prescription drug) was highest among multiracial (23.2 percent) and American Indian/Alaska Native students (22.7 percent) and lowest among Asian students (8.5 percent), similar to the pattern of other substance use across racial and ethnic groups. The differences for these groups were significant compared to White non-Hispanic students (13.0 percent), while Black/African American (15.4 percent) and White Hispanic (12.8 percent) were not different.

Who else is more likely to abuse substances?

Gay, lesbian, and bisexual (GLB) students reported significantly higher prevalences for cigarette smoking, marijuana use, binge drinking and prescription drug abuse compared to heterosexual students, with prevalence rates that were often double or triple.¹ For example, current cigarette use among GLB students was 30.8 percent in 2013 compared to 9.1 percent among heterosexual students.¹

Male high school students reported significantly higher prevalences for cigarette smoking and marijuana use than female high school students. There were no differences between males and females for binge drinking and prescription drug abuse.¹



Substance Abuse among Middle School Youth

The prevalences of binge drinking, cigarette smoking, and marijuana use are substantially lower among middle school youth compared to high school youth (not shown).¹ For example, the prevalence of binge drinking was 1.3 percent among White non-Hispanic middle school students compared to 15.8 percent among White non-Hispanic high school students.

Racial and ethnic patterns of use among middle school students, for the most part, were similar to patterns of use among high school students, with the highest prevalences among multiracial and American Indian/Alaska Native students.

What contributes to substance abuse among youth?

Substance abuse among youth is a complex issue with many potentially contributing factors that include an individual's biology, family and peer influence, and the social context in which use occurs.⁹ Adolescence is characterized as a period of substantial growth and development, and during this stage, the changes that occur in the brain make it particularly vulnerable to the effects of addictive drugs.¹⁰ Research shows an estimated 9.0 percent of adolescent marijuana users will become addicted.¹¹ Substance abuse is also associated with poor mental health,¹¹⁻¹³ and in Colorado 60.1 percent of high school students reported poor mental health on one or more days in the past month.¹

Family and peer influence can contribute substantially to substance use or abuse; examples of familial risk factors include child neglect and abuse, parental marital status, substance use among family members, and family socioeconomic status.¹⁰ Perhaps even more influential are social risk factors including deviant peer relationships, peer pressure, bullying, and gang affiliation.¹⁰

The social context in which substance use occurs can also influence which substances youth select to use.⁹ For example, high school students may use alcohol and marijuana at parties, while they typically misuse prescription drugs alone and at home.⁹ Youth perceptions about drug availability, potential risk/harm, and parental and neighbor opinion about certain substances can influence their choices to use.¹⁴ The supply or availability of alcohol or illegal drugs also leads to increased use.¹⁴ The majority of Colorado high school students felt it would be "sort of easy" or "very easy" to get cigarettes (60.8 percent), alcohol (58.6 percent), and marijuana (54.9 percent).¹



How can substance abuse among youth be minimized?

Substance abuse among youth can be minimized by educating and intervening with youth, strengthening caring adult relationships and providing treatment to those who need it. The majority of students (81 percent) reported having someone to go to for help with a serious problem.¹

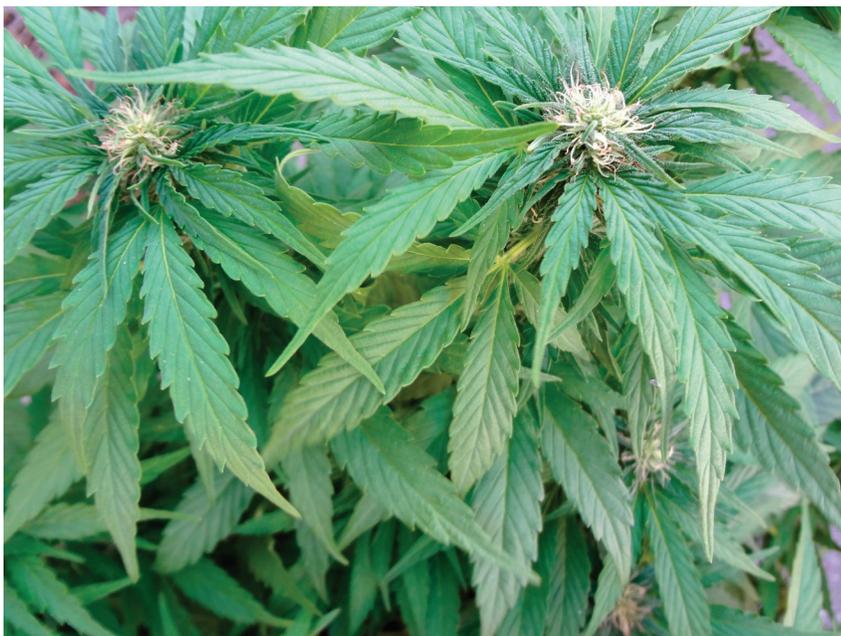
A variety of factors have been shown to be protective against youth substance use. For example, national data show an inverse relationship between the perception of risk and substance use. As the percentage of adolescents perceiving a great risk of harm from binge drinking increases over time, the prevalence of binge drinking decreases, and as the perceived risk of harm from smoking marijuana decreases over time, use increases.¹⁵

In Colorado, a greater percentage of female high school students perceived substance users were at moderate/great risk of harming themselves compared to males in the same grades, and a greater percentage of male students reported substance use.¹ Therefore, targeted education and interventions can raise awareness of the potential harms associated with substance use during adolescence.¹⁶ Another important component relates to family support and structure. Parent-family connectedness (feeling cared for and loved) is protective against a number of adolescent health risk behaviors including substance use.¹⁷ The majority (78.1 percent) of Colorado high school students said they could ask their parents/guardians for help with a personal problem.¹ Lastly, providing evidence-based treatment that is tailored to the specific needs of each adolescent has been shown to be effective in treating youth addiction and dependence.¹¹ However, challenges remain for many adolescents seeking treatment, since national data indicate that fewer than one in 10 (9.1 percent) youth ages 12 to 17 who needed treatment at a specialty facility were able to obtain treatment in 2013.²



What are the implications of legalized marijuana?

Colorado decriminalized marijuana use for medicinal purposes in 2000, and in November of 2012 became one of the first two states to legalize recreational marijuana for adults age 21 and over. Carefully examining the potential impacts of recreational marijuana on the health and safety of youth is a high priority.



Colorado has stated a goal of holding steady the percentage of youth that report past 30-day use of marijuana at 2011 levels of 22 percent as measured by the Healthy Kids Colorado Survey. In order to hold the rate of youth use steady despite increased availability, Colorado is funding various state and local agencies to implement a number of strategies; three are described below.

The first strategy is to restrict youth access to marijuana products. Colorado is implementing this strategy by increasing enforcement, monitoring compliance with point-of-sale regulations, and strengthening local marijuana-related ordinances and policies to align with best practices policies learned from alcohol and tobacco prevention. Some local level policy strategies include support for local taxes to fund local prevention work, increased enforcement of marijuana laws and implementing strict marketing regulations. In addition, other strategies include passing marijuana-

free multi-unit housing ordinances for secondhand marijuana smoke exposure prevention, strengthening restricted hours of operation for stores and increasing store setbacks from schools, playgrounds and other youth-oriented locations. State and local partners are working together to educate the general public on the retail marijuana laws in Colorado and the importance of safe storage for all marijuana products. Colorado also adopted a marijuana-free schools law to restrict use of marijuana products on all school property.

The second strategy is to increase youth knowledge about marijuana and increase perceptions of risk of underage use. State and local stakeholders are working together to educate the general public about marijuana laws and the effects of marijuana on health, and educational campaigns are targeting youth with prevention messages. Stakeholders are encouraging the implementation of effective curricula that address health education standards and incorporate a shared risk and protective factor approach using a positive youth development framework.

Finally, Colorado agencies are working together to increase screening for teen use of marijuana and access to treatment by providing funding for schools and community-based organizations. The funding will support more highly trained professionals who can effectively identify, treat and refer students with marijuana-related concerns, expanding the availability of substance abuse treatment services for youth across the state.

More information and resources about retail marijuana in Colorado can be found at <http://www.colorado.gov/marijuana>.

References

1. Healthy Kids Colorado Survey (HKCS), Colorado Department of Public Health and Environment.
2. Substance Abuse and Mental Health Services Administration. Results from the 2013 national survey on drug use and health: summary of national findings. NSDUH Series H-48, HHS Publication No. (SMA) 14-4863. <http://www.samhsa.gov/atod>. Published September 2014. Accessed December 4, 2014.
3. Retail Marijuana Public Health Advisory Committee. Marijuana use among adolescents and young adults and unintentional poisoning findings summary. Colorado Department of Public Health and Environment website. https://www.colorado.gov/pacific/sites/default/files/DC_MJ_Approved-Use-Among-Adolescents-Young-Adults-Unintentional-Poisonings-Findings-Summary.pdf. Accessed December 15, 2014.
4. Prescription and over-the-counter medications. National Institute of Health (NIH) National Institute on Drug Abuse website. <http://www.drugabuse.gov/publications/drugfacts/prescription-over-counter-medications>. Updated November 2014. Accessed December 4, 2014.
5. Office of Juvenile Justice and Delinquency Prevention. Drug identification and testing in the juvenile justice system. National Criminal Justice Reference Service website. <https://www.ncjrs.gov/html/ojjdp/167889/contents.html>. Accessed December 16, 2014.
6. Colorado Youth Risk Behavior Survey (YRBS), Colorado Department of Public Health and Environment.
7. Healthy People 2020 topics and objectives. U.S. Dept. of Health and Human Services website. <http://www.healthypeople.gov/2020/topics-objectives/topics/substance-abuse/objectives>. Accessed October 30, 2014.
8. Violence and Injury Prevention-Mental Health Promotion Branch, Prevention Services Division, Colorado Department of Public Health and Environment.
9. McCabe SE, West BT, Veliz P, Frank KA, Boyd CJ. Social contexts of substance use among u.s. high school seniors: A multicohort national study. *J Adolesc Health*. 2014;55(6):842-844. Accessed December 4, 2014.
10. Whitesell M, Bachand A, Peel J, Brown M. Familial, social, and individual factors contributing to risk for adolescent substance use. *J Addict*. 2013;2013:579310. Accessed December 4, 2014.
11. National Institute of Health (NIH) National Institute on Drug Abuse. Principles of adolescent substance use disorder treatment: a research-based guide. NIH publication 14-7953. <http://www.drugabuse.gov/publications/principles-adolescent-substance-use-disorder-treatment-research-based-guide/acknowledgements>. Accessed December 8, 2014.
12. Prevention of substance abuse and mental illness. Substance Abuse and Mental Health Services Administration website. <http://www.samhsa.gov/prevention/>. Updated October 3, 2014. Accessed December 8, 2014.
13. Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality. The NSDUH report: substance use and mental health estimates from the 2013 national survey on drug use and health: overview of findings. <http://store.samhsa.gov/shin/content//NSDUH14-0904/NSDUH14-0904.pdf>. Published September 4, 2014. Accessed December 4, 2014.
14. Common risk and protective factors for alcohol and drug use. Substance Abuse and Mental Health Services Administration, Prevention Training and Technical Assistance website. <http://captus.samhsa.gov/access-resources/common-risk-and-protective-factors-alcohol-and-drug-use>. Accessed December 4, 2014.
15. The NSDUH report: trends in adolescent substance use and perception of risk from substance use. Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality website. <http://www.samhsa.gov/data/sites/default/files/NSDUH099a/NSDUH099a/sr099a-risk-perception-trends.pdf>. Published January 3, 2013. Accessed December 4, 2014.
16. The teen brain: behavior, problem solving, and decision making. Facts for families pages, American Academy of Child and Adolescent Psychiatry website. http://www.aacap.org/AACAP/Families_and_Youth/Facts_for_Families/Facts_for_Families_Pages/The_Teen_Brain_Behavior_Problem_Solving_and_Decision_Making_95.aspx. Accessed December 4, 2014.
17. Resnick MD, Bearman PS, Blum RW, et al. Protecting adolescents from harm. findings from the national longitudinal study on adolescent health. *JAMA*. 1997;278(10):823-832. Accessed December 4, 2014.

This project was supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) under grant number H18MC00006, State Systems Development Initiative (SSDI) for \$95,374. This information or content and conclusions are those of the author and should not be construed as the official position or policy of, nor should any endorsements be inferred by HRSA, HHS or the U.S. Government.

Maternal and Child Health Program, Prevention Services Division
Telephone: 303-692-2503
www.mchcolorado.org



Colorado Department
of Public Health
and Environment