

Alcohol and Cannabis Screening and Brief Intervention (SBI) in Young Adult Populations

A BRIEF REPORT PREPARED BY OMNI INSTITUTE FOR SBIRT COLORADO, NOVEMBER 2016

Underage drinking contributes to a wide range of costly health and social problems, including injury and death from motor vehicle crashes, interpersonal violence, unintentional injuries, brain impairment, risky sexual activity, and alcohol and drug poisoning.ⁱ Prolonged alcohol dependence in young adulthood (before age 30) can have negative health impacts late in life, even when drinking is minimized in mid-life.ⁱⁱ The brain continues to mature into the mid- to late-twenties, and underage alcohol use can impair the developing brain by altering its structure and functioning.ⁱⁱⁱ Young drinkers tend to consume alcohol less often than adults, however, when they drink, they drink more heavily.ⁱⁱⁱ In 2013, underage current drinkers (ages 12-20) were more likely than current alcohol users aged 21 or older to use illicit drugs, most commonly marijuana, within 2 hours of alcohol use on their last reported drinking occasion (19.9 vs. 5.7 percent).^{iv} Furthermore, early-onset, long-term marijuana use can lead to addiction and have negative effects on brain development, educational outcomes, and life satisfaction and achievement.^v Thus, effective interventions targeting young adults are needed to counter the substantial social, health, and economic impacts of substance use in this population.

Since 2006, Colorado has disseminated screening and brief intervention (SBI) in health care settings across the state through a SAMHSA-funded screening, brief intervention, and referral to treatment (SBIRT) grant. Patients aged 18 and older are screened in primary and emergency care settings for harmful patterns of substance use. In this brief report, utilizing data collected from the SBIRT Colorado initiative, we examine screening data for patients aged 18 to 25 and sought to answer the following evaluation questions:

1. What proportion of young adults screened through the SBIRT Colorado initiative screen positive for alcohol or cannabis, or both? How much of these substances are being used by young adults?
2. Does use differ for young adults who can and cannot legally purchase alcohol or cannabis (i.e., aged 18 to 20 versus 21 to 25)?

METHODS

Grant-funded sites use a brief screen to identify patients who may be engaging in unhealthy substance use, and when a brief screen is positive, health educators administer the ASSIST^{vi} tool to identify the degree to which patients are engaging in risky use across different substance categories. When the process yields a positive screen, health educators provide brief interventions and/or referrals to additional services as needed. Screening data are entered into an online, centralized data system.

Based on guidelines set by the World Health Organization, ASSIST scores were used to determine positive screens (11+ for alcohol; 4+ for cannabis). In addition, using data from the brief screen, patients who indicated binge drinking in the past 3 months (consuming 4/5 or more drinks for females/males in one day, respectively),

or any use of alcohol for patients who were under 21 (i.e., a 1 or higher on the question, *How many drinks do you have per week?*), were coded positive.

In November 2012, Colorado voters passed legislation that allowed for the recreational use of cannabis for adults aged 21 and over (medical cannabis was approved by voters in Colorado in November 2000). On January 1, 2014, the first retail stores opened. A variable was created to determine whether a screen was conducted pre or post access to cannabis via retail stores (i.e., screen date before or after January 1, 2014).

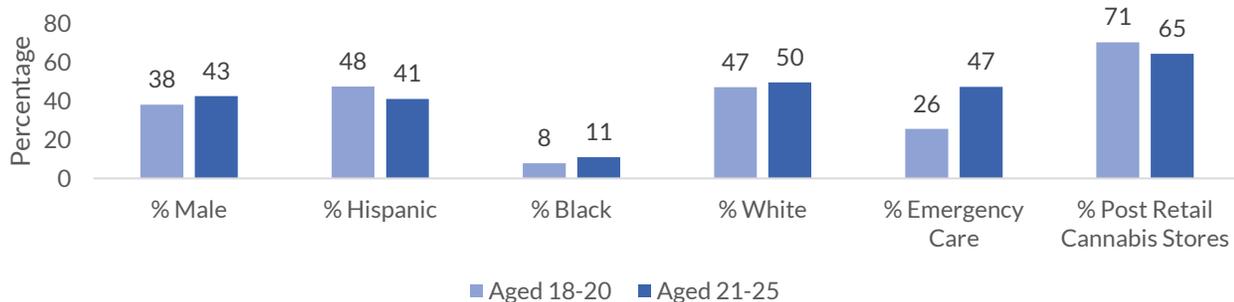
STUDY SAMPLE

During the five-year grant, 59,558 patients were screened, 8,486 (14.2%) of whom were aged 18 to 25. Of the 8,486 young adults screened, 27.4% were under 21.

Compared to patients aged 21 to 25, **underage patients were:**

- less likely to be male ($\chi^2(1, N=8474)=3.7, p<.001$),
- more likely to identify as Hispanic/Latino ($\chi^2(1, N=8392)=30.5, p<.001$),
- less likely to identify as Black ($\chi^2(1, N=8374)=16.4, p<.001$),
- less likely to identify as White ($\chi^2(1, N=8410)=4.01, p<.05$),
- less likely to be screened in emergency care settings ($\chi^2(1, N=8486)=331.5, p<.001$), and
- more likely to be screened post access to retail cannabis stores ($\chi^2(1, N=8486)=27.0, p<.001$).

FIGURE 1. CHARACTERISTICS OF PATIENTS AGED 18 TO 20 AND AGED 21 TO 25



The underage population that was screened was different in many ways from those who were 21 or over.^{vii} Thus, it is important to control for these factors when looking at patterns of use for those with and without legal access to alcohol and cannabis.

FINDINGS

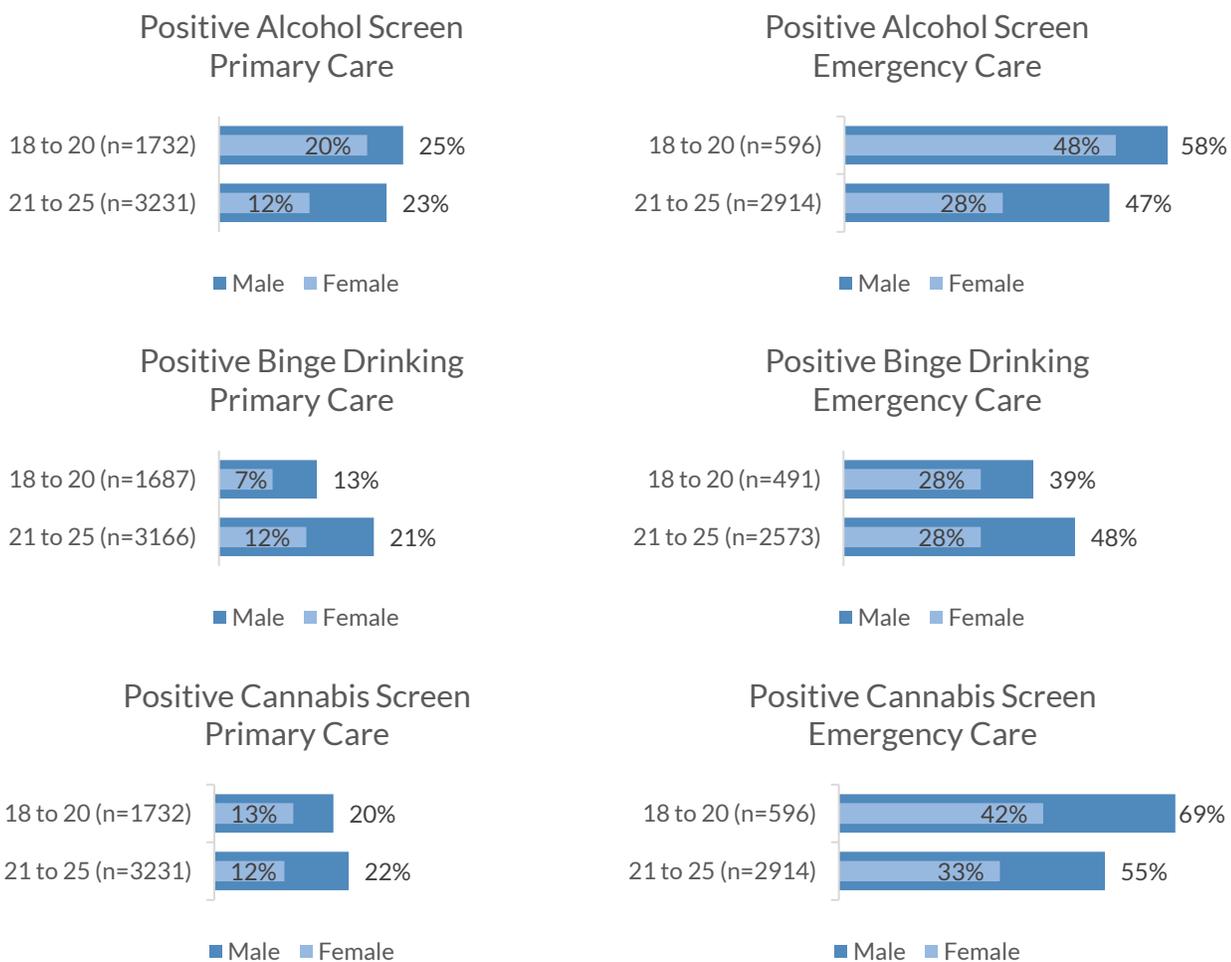
POSITIVE SCREENS

- In primary care, **27% of young adults screened positive for alcohol and/or cannabis** (11% for alcohol only, 8% for cannabis only, and 7% for both alcohol and cannabis).

- In emergency care, **64% of young adults screened positive for alcohol and/or cannabis** (18% for alcohol only, 23% for cannabis only, and 23% for both alcohol and cannabis).

As shown in Figure 2, the proportion of patients who screened positive for alcohol, binge drinking or cannabis was much higher in emergency than in primary care and was also higher for males than for females. A higher proportion of underage patients screened positive for alcohol than patients of legal age (*likely due at least in part to different criteria for a positive alcohol screen by age group*) but a lower proportion of underage patients reported a binge drinking episode in the past three months. A surprisingly high percentage (69%) of male, underage patients screened in emergency care screened positive for cannabis use.

FIGURE 2. PERCENTAGE OF YOUNG ADULT PATIENTS WHO SCREENED POSITIVE FOR ALCOHOL, BINGE DRINKING AND CANNABIS BY GENDER, LOCATION, AND AGE GROUP

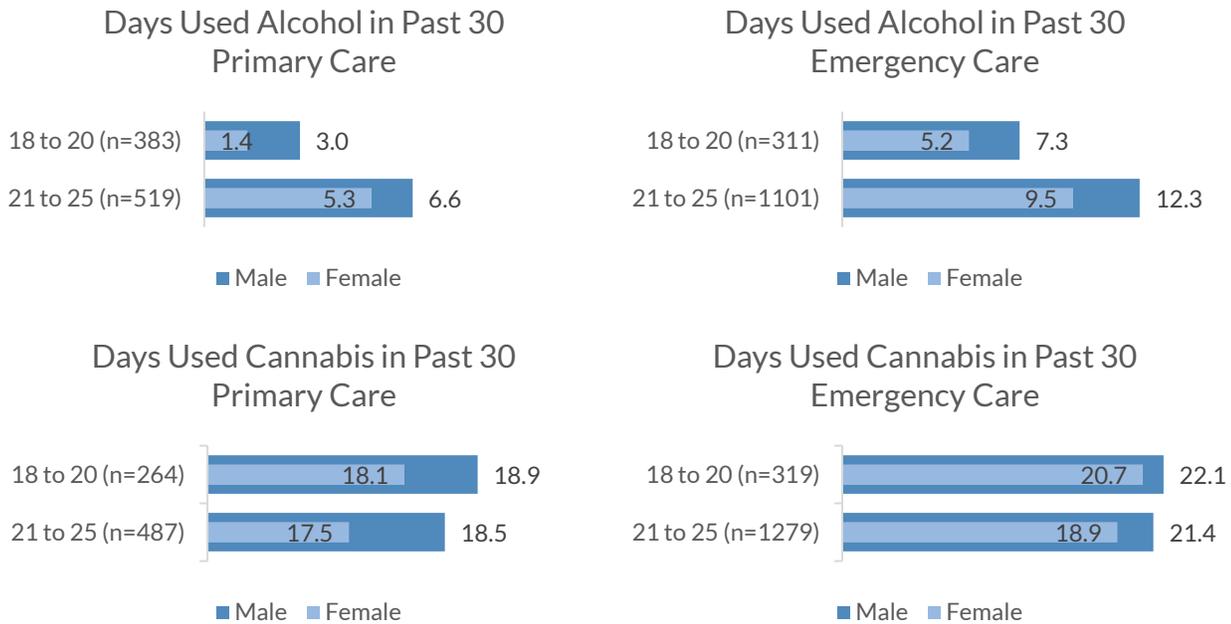


PAST 30-DAY ALCOHOL AND CANNABIS USE

Patients who screened positive for alcohol or cannabis were asked how many days in the past 30 that they had used alcohol or cannabis, respectively. As shown in Figure 3, young adults tended to use cannabis on more

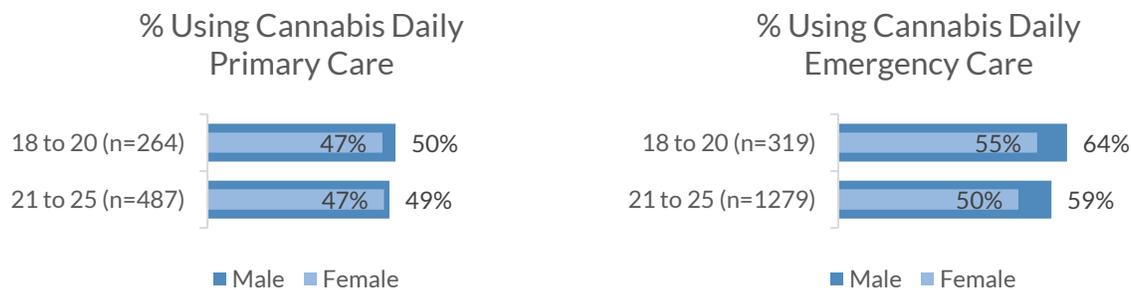
days in the past 30 than alcohol and underage patients used alcohol less frequently than patients aged 21 to 25 but had similar rates of past 30 day cannabis use as patients aged 21 to 25.

FIGURE 3. AVERAGE NUMBER OF DAYS USED ALCOHOL AND CANNABIS IN PAST 30 FOR PATIENTS WHO SCREENED POSITIVE FOR EACH SUBSTANCE BY GENDER, LOCATION, AND AGE GROUP



Young adults who screened positive for cannabis and reported using it 25 or more days in the past 30 were coded as using daily (or nearly daily). Figure 4 shows that just under half of young adults who screened positive for cannabis use in primary care were using daily – the percentages of young adults using daily were even higher in emergency care.

FIGURE 4. PERCENTAGE OF YOUNG ADULTS WHO SCREENED POSITIVE FOR CANNABIS THAT USED IT DAILY BY GENDER, LOCATION, AND AGE GROUP



PREDICTORS OF ALCOHOL AND CANNABIS USE

We conducted logistic and multiple regression analyses to examine predictors of alcohol and cannabis use. Findings are stated under the condition of controlling for all other variables in the model.^{viii} Significant findings are summarized and include the following:

ALCOHOL USE

- Males were about 2 times more likely to screen positive for alcohol, or to binge drink, than females. Males who screened positive used alcohol more days in the past 30 than females who screened positive.
- Young adults screened in emergency care were about 3 times more likely to screen positive for alcohol, or to binge drink, than young adults screened in primary care. Young adults who screened positive in emergency care also used alcohol more days in the past 30 than young adults who screened positive in primary care.
- Young adults who identified as White were 1.2 times more likely to screen positive than young adults who identified as Black. White young adults also were 1.2 and 1.4 times more likely to binge drink than Hispanic and Black young adults, respectively. Young adults who screened positive and identified as Hispanic/Latino used alcohol fewer days in the past 30 than young adults who screened positive and identified as White.
- Young adults who were under 21 were 1.6 times more likely to screen positive for alcohol but were less likely to binge drink than young adults aged 21 to 25.^{ix} Young adults under 21 who screened positive also used alcohol on fewer days in the past 30 than young adults aged 21 to 25 who screened positive.^x

CANNABIS USE

- Males were about 2.2 times more likely to screen positive for cannabis than females. Males who screened positive were about 1.3 times more likely to be daily users of cannabis than females who screened positive.
- Young adults screened in emergency care were about 4.6 times more likely to screen positive for cannabis than young adults screened in primary care. Young adults who screened positive in emergency care also were about 1.4 times more likely to be daily users of cannabis than young adults who screened positive in primary care.
- Young adults who identified as Black were more likely than young adults who identified as White to screen positive, and Whites were more likely to screen positive than young adults who identified as Hispanic.
- Young adults who were screened post access to legal cannabis were about 1.4 times more likely to screen positive than young adults who were screened prior to access to legal cannabis.
- Young adults aged under 21 were 1.3 times more likely to screen positive for cannabis than young adults aged 21 to 25. For young adults who screened positive, there were no differences by age group in daily use of cannabis.

CONCLUSIONS

Substance use screening in healthcare settings can be an effective strategy to identify and intervene with young adults who are misusing alcohol^{xi} or cannabis.^{xii} Although across the lifespan young adults are one of the least likely age groups to access healthcare, many still seek primary or emergency care.^{xiii} In primary care, 27% of young adults screened through SBIRT Colorado were misusing alcohol and/or cannabis, and this percentage jumped to 64% when young adults were screened in emergency care. This is particularly concerning given that alcohol consumption is typically underreported by underage drinkers on self-report measures.^{xiv} Most emergency care screens were conducted in an urban, safety-net emergency department, indicating that many young adults seeking care in this type of setting will benefit from alcohol or cannabis interventions. Furthermore, anywhere from 47 to 64% of young adults who screened positive for cannabis were using it daily (or near daily), which can lead to negative health outcomes.^{xv}

A focus of this topic summary was to compare underage versus legal-age patterns of alcohol and cannabis use in a state in which both substances can be legally purchased at age 21 or older. For alcohol, underage young adults were more likely to screen positive than those of legal age; however, this is likely explained by different criteria for a positive screen, with 18-to-20 year olds screening positive when they mentioned any use, and 21-to-25 year olds screening positive only when they exceeded the daily/weekly limits. Overall, the pattern of alcohol use was more severe for young adults of legal age. Specifically, legal-aged young adults were more likely to binge drink than their underage counterparts, and for young adults who screened positive, legal-aged individuals used alcohol on more days than those who were underage. Contrary to expectations, for cannabis, underage individuals were more likely to screen positive than their legal-age counterparts. Further research is needed to better understand this finding.

This topic summary also examined demographic predictors of alcohol and cannabis use in young adults. Aligned with national data,^{iv} young adult males were more likely to screen positive for alcohol and cannabis than females. Also consistent with national data,^{iv} patients who were White were more likely to screen positive for alcohol use and to binge drink than patients who were not White. Race/ethnicity also was associated with screening positive for cannabis use, with Blacks most likely to screen positive, followed by Whites, followed by Hispanics. Other research finds that African Americans are more likely to report marijuana use disorders than Whites whereas Whites are more likely to report alcohol use disorders than African Americans.^{xvi} This suggests that prevention efforts should consider socio-cultural factors that may influence the types of substance that are used by young adults.

In view of the high rates of substance use in this age group, healthcare sites are a key setting for detection and early intervention. Alcohol and cannabis should be a part of conversations between healthcare providers and their young adult patients to promote positive health outcomes.

SBIRT Colorado is funded by the Substance Abuse and Mental Health Services Administration (SAMHSA) and is an initiative of the State of Colorado, Office of the Governor. It is implemented and managed by Peer Assistance Services, Inc., and administered by the Colorado Department of Human Services, Office of Behavioral Health. For more information, see www.improvinghealthcolorado.org.

END NOTES

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- ^{vi} Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST) developed for the World Health Organization (WHO) - http://www.who.int/substance_abuse/activities/assist/en/
- ^{vii} Less than 3% of young adults identified as Asian, Native Hawaiian or other Pacific Islander, Alaska Native, or American Indian – too few to examine separately.
- ^{viii} Young adults could select more than one race and selected Hispanic/Latino ethnicity (yes/no) as a separate question. Sufficient samples sizes were only available for the following three racial groups for predictive models: White, non-Hispanic/Latino; Black; and Hispanic/Latino. Multi-race and young adults of other racial groups were not included in predictive models.
- ^{ix} Recall that there were different criteria for positive alcohol screens by age: underage patients screened positive for any indication of weekly alcohol use whereas 21 to 25 year olds had to exceed the daily/weekly limits to screen positive.
- ^x We looked at the sample of any positive alcohol screen as well as a sample who had a positive screen for binge drinking - in both samples, the under 21 group who used alcohol used it on fewer days in the past 30 than the 21 to 25 group.
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