Substance Use Screening and Brief Intervention (SBI) in Older Adult Populations

A BRIEF REPORT PREPARED BY OMNI INSTITUTE FOR SBIRT COLORADO, FEBRUARY 2017

The proportion of older adults[i] in the US population is growing and this population is becoming more and more racially and ethnically diverse.[ii] In addition, in this population, rates of substance use, misuse and abuse are increasing.[iii] Although older adults generally have lower rates of substance misuse than other age groups, they are particularly vulnerable to the negative effects of substance use due to physiological changes that occur when the body ages.[iv] For example, the same amount of alcohol can lead to higher levels of blood alcohol concentration and greater impairment in older adults than in younger populations. Furthermore, misconceptions of substance use in older persons, and difficulties distinguishing symptoms of substance use from the normal aging process, can lead to missed opportunities to identify and treat problematic use.[v] Because older adults see primary and specialty care physicians more often than other age groups, health care providers are particularly well positioned to identify and intervene with older adults who are misusing substances.[vi] Furthermore, existing research suggests that brief interventions with older adults are effective at reducing alcohol consumption, and that compared to younger adults, older adults respond as well or better to treatment.[vii]

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 were 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 examined screening data for patients aged 50 and older and sought to answer the following evaluation questions:

1. What proportion of older adults screened through the SBIRT Colorado initiative screened positive for alcohol, cannabis, or other substances? How much of these substances did older adults use?
2. What demographic factors predicted a positive screen in older adult populations?
3. Have positive screens increased over time, and if so, did increases differ for persons aged 50 to 64 compared to persons aged 65 and older?

METHODS

Grant-funded sites used a brief screen to identify patients who were engaging in unhealthy substance use, and when a brief screen was positive, health educators administered the ASSIST[viii] tool to identify the degree to which patients were engaging in risky use across different substance categories. When the process yielded a positive screen, health educators provided brief interventions and/or referrals to additional services as needed. Screening data were entered into an online, centralized data system.

Based on guidelines set by the World Health Organization, ASSIST scores were used to determine positive screens. In addition, using data from the brief screen, patients who indicated binge drinking in the past 3 months were coded positive.[ix]

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). Health educators screened for medical and recreational cannabis use.

STUDY SAMPLE

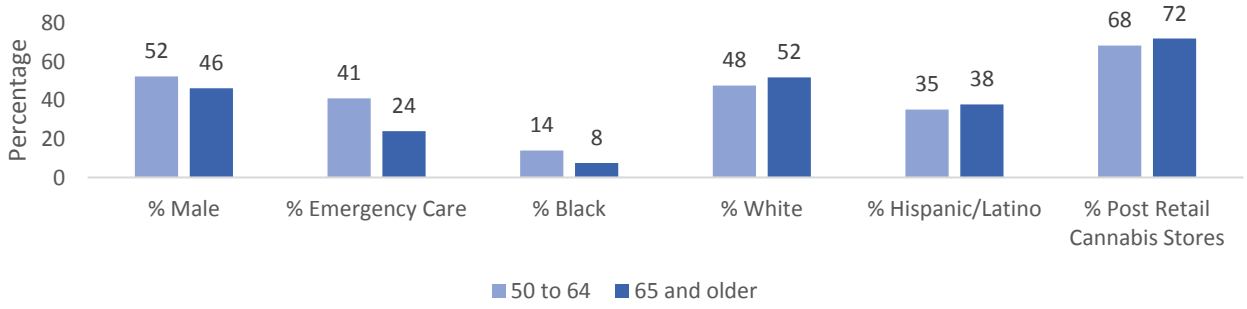
During the five-year grant, 59,513 patients were screened, 22,851 (38.4%) of whom were aged 50 or older. Of the 22,851 older adults screened, 16,290 (71%) were aged 50 to 64 and 6,561 (29%) were aged 65 or over.

Individuals 50 and older screened by SBIRT Colorado had the following demographic characteristics:

- 51% were male; 49% were female
- 45% identified as non-Hispanic White; 33% identified as Hispanic/Latino; 11% identified as Black; and 3% identified as multi-racial or of another racial group (8% were missing race/ethnicity).
- 64% were screened in primary care; 36% were screened in emergency care.

Patients aged 50 to 64 were demographically different from patients who were 65 and older. Figure 1 shows the demographic characteristics of older adults screened by SBIRT Colorado,. Compared to individuals in the 50-to-64 group, those in the 65-and-older group were less likely to be male, less likely to be screened in emergency care, less likely to be Black and more likely to be White or Hispanic/Latino, and more likely to be screened post retail cannabis stores. Thus, when comparing patterns of use by age group, it will be important to control for sex, location of screening, and race/ethnicity.

FIGURE 1. CHARACATERISTICS OF PATIENTS AGED 50 TO 64 AND AGED 65 AND OLDER



FINDINGS

POSITIVE SCREENS

Figure 2 provides the proportion of individuals screened through SBIRT Colorado who screened positive for alcohol, cannabis, and illicit drugs by age group. Illicit drugs included positive screens for stimulants, cocaine, hallucinogens, opioids, sedatives, or 'other' substance on the ASSIST. The ASSIST instructs patients to answer about prescription medications that have been taken other than as prescribed and positive screens for prescription drug misuse (e.g., opioids) are included in the rates for illicit drugs.

Figure 2 shows that rates of positive screens were dramatically higher in emergency than primary care settings, but that in both settings, **rates of positive screens were notably lower for persons over age 65** compared to other age groups.

FIGURE 2. PERCENTAGE OF ADULTS WHO SCREENED POSITIVE BY SETTING, AGE, AND SUBSTANCE

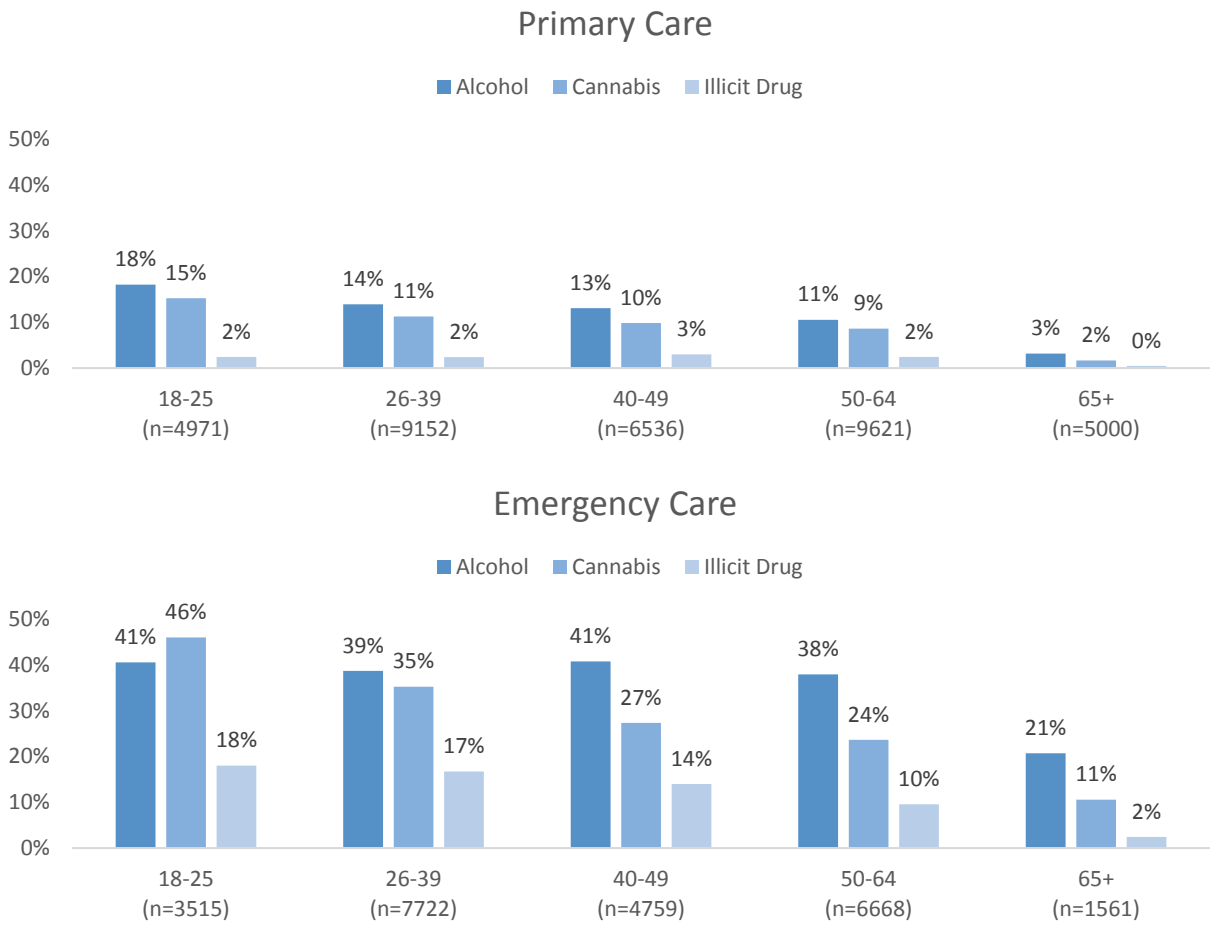
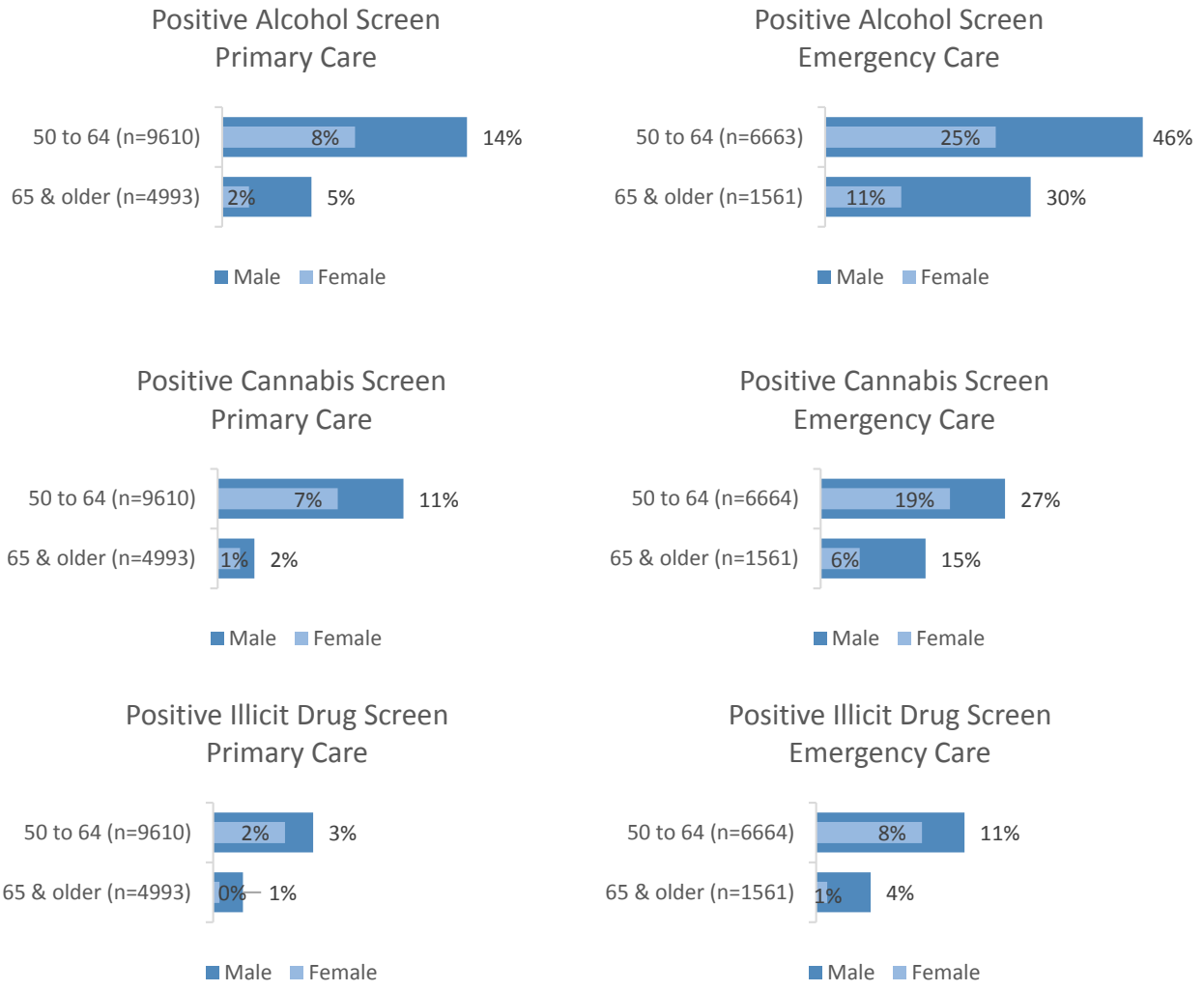


Figure 3 provides additional information on the rates of positive screens for older adults who are aged 50 to 64 and aged 65 and older. Results for patients screened in primary care are presented on the left and results for patients screened in emergency care are presented on the right. Consistent with previous analyses of SBIRT Colorado data examining other age groups, patients screened in emergency care had much higher rates

of positive screens across all substances than patients screened in primary care. In addition, male patients had higher rates than female patients. Finally, these data suggest that **patients over the age of 65 have much lower rates of screening positive for alcohol, cannabis or illicit drugs than adults aged 50 to 64**.

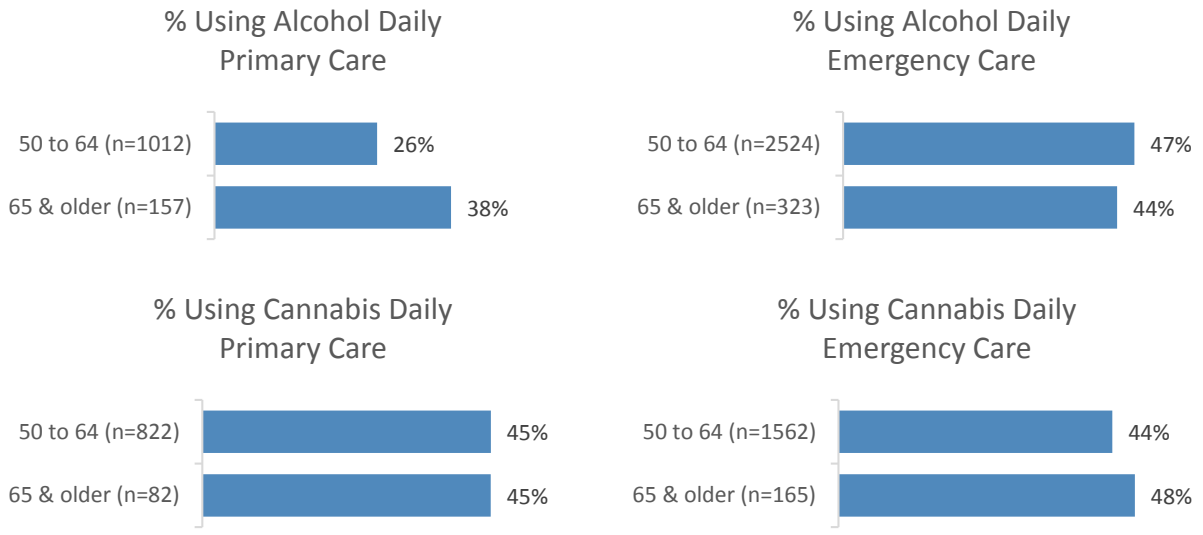
FIGURE 3. PERCENTAGE OF OLDER ADULT PATIENTS WHO SCREENED POSITIVE BY SUBSTANCE, GENDER, LOCATION, AND AGE GROUP



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.[x] For both substances, a notable proportion reported using it daily or near daily (25 to 30 days in the past 30; see Figure 4). Due to small sample sizes in some groups, we examined daily use only by setting and by age group. As shown previously in Figure 3, a smaller proportion of individuals aged 65 and older screened positive for alcohol and cannabis than individuals aged 50 to 64. However, among individuals who screened positive, as shown in Figure 4, daily use of alcohol and cannabis was generally similar for both age groups.

FIGURE 4. PERCENTAGE OF OLDER ADULTS WHO SCREENED POSITIVE FOR ALCOHOL OR CANNABIS THAT USED IT DAILY BY LOCATION AND AGE GROUP



PREDICTORS OF SUBSTANCE USE

We conducted logistic regression analyses to examine predictors of alcohol, cannabis, and illicit drug use in adults aged 50 and older. Findings are stated under the condition of controlling for all other variables in the model.[xi] Significant findings are summarized below.

ALCOHOL USE

- Males were about 2 times more likely to screen positive for alcohol than females. Males who screened positive were about 1.4 times more likely to use alcohol daily than females who screened positive.
- Older adults screened in emergency care were about 4.6 times more likely to screen positive for alcohol than older adults screened in primary care. Older adults who screened positive in emergency care were also about 2 times more likely to use alcohol daily than older adults who screened positive in primary care.
- Black older adults were about 1.4 times more likely to screen positive for alcohol than White or Hispanic older adults. However, of individuals who screened positive for alcohol, White older adults were about 1.5 times more likely to use alcohol daily than Black or Hispanic/Latino older adults.
- Older adults who were 50 to 64 were 2.5 times more likely to screen positive for alcohol than adults 65 and over. For older adults who screened positive for alcohol, there was not a significant difference in daily use by age group.

CANNABIS USE

- Males were about 1.6 times more likely to screen positive for cannabis than females.

- Older adults screened in emergency care were about 3 times more likely to screen positive for cannabis than older adults screened in primary care.
- Older adults who identified as Black were more likely to screen positive for cannabis than older adults who identified as White, who in turn, were more likely to screen positive for cannabis than older adults who identified as Hispanic/Latino.
- Older adults who were screened post access to legal cannabis were about 1.5 times more likely to screen positive for cannabis than older adults who were screened prior to access to legal cannabis.
- Older adults aged 50 to 64 were 3.2 times more likely to screen positive for cannabis than older adults aged 65 and older.
- Among individuals who screened positive for cannabis, there were no significant predictors of daily use (i.e., daily use was similar by location of screening, gender, age group, race, and access to retail cannabis).

ILLICIT DRUG USE

- Males were about 1.5 times more likely to screen positive for illicit drugs than females.
- Older adults screened in emergency care were about 3.5 times more likely to screen positive for illicit drugs than older adults screened in primary care.
- Older adults who identified as Black were most likely to screen positive for illicit drugs, followed by older adults who identified as Hispanic/Latino, who in turn, were more likely to screen positive for illicit drugs than older adults who identified as White.
- Older adults who were 50 to 64 were 4.3 times more likely to screen positive for illicit drugs than older adults aged 65 and older.

TRENDS IN USE OVER TIME

Using data from 2013 to 2016,[xii] logistic regression analyses were conducted to examine whether 1) rates of alcohol, cannabis, and illicit drug positive screens increased over time in the older adult population and 2) whether rates increased to a greater or lesser degree for persons aged 50 to 64 compared to persons aged 65 and older. Separate models were run for individuals screened in primary and emergency care and all models controlled for race/ethnicity and sex.

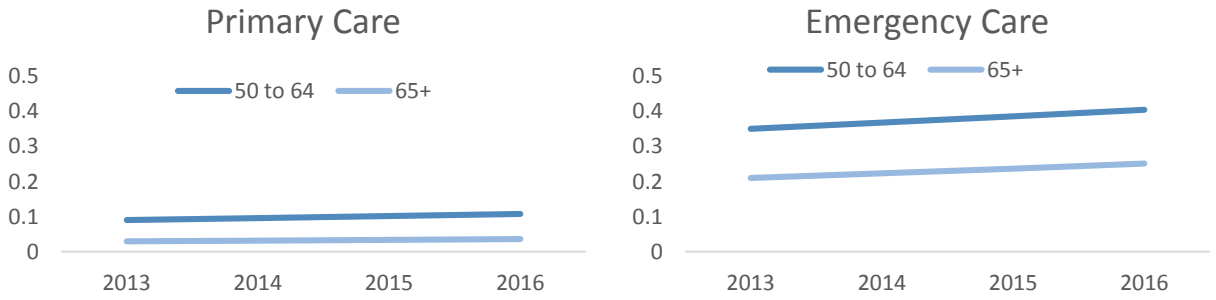
ALCOHOL USE

- In primary care, rates of positive alcohol screens were similar over time.
- In emergency care, there was a significant increase in positive alcohol screens over time.
- In both settings, 50 to 64 year olds had higher rates of positive alcohol screens than individuals 65 and over, but there were no significant differences in rates of change by age group.

Using findings from the logistic regression analyses, Figure 5 graphs the predicted probability of a positive alcohol screen by setting and age group. For example, controlling for race and gender, in 2013 in primary care, the predicted probability of a positive alcohol screen for an individual aged 50 to 64 and aged 65 and older was

.09 and .03, respectively. In 2016, in primary care, these rates were .11 and .04, respectively. In emergency care, in 2013, the predicted probability of a positive alcohol screen for individuals aged 50 to 64 and 65 and older was .35 and .21, respectively, and in 2016, these increased to .40 and .25, respectively.

FIGURE 5. PREDICTED PROBABILITY OF A POSTIVE ALCOHOL SCREEN BY SETTING AND BY AGE GROUP

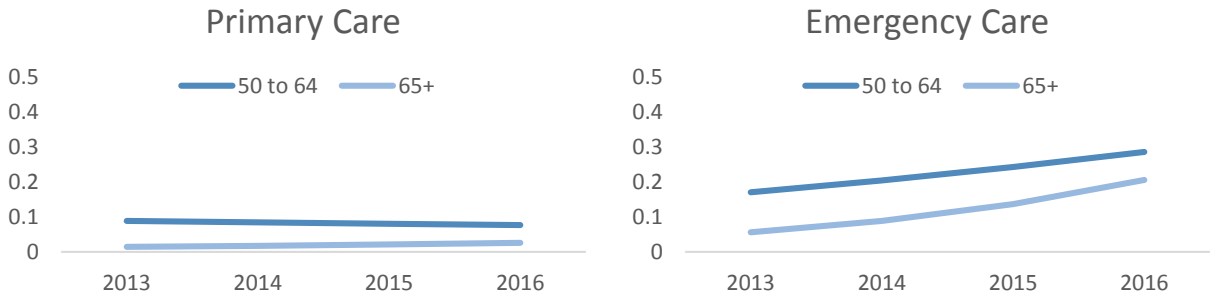


CANNABIS USE

- In primary care, there was a small, but statistically significant interactive effect - rates of positive cannabis screens increased at a faster rate for individuals aged 65 and older than for individuals aged 50 to 64 (but each group's individual change was not statistically significant).
- In emergency care, rates of positive cannabis screens increased over time for both age groups, with rates increasing at a greater rate for individuals aged 65 and older.

Using findings from the logistic regression analyses, Figure 6 graphs the predicted probability of a positive cannabis screen by setting and age group. For example, controlling for race and gender, in 2013 in primary care, the predicted probability of a positive cannabis screen for an individual aged 50 to 64 and aged 65 and older was .08 and .01, respectively. In 2016, in primary care, these rates were .07 and .03, respectively. In 2013 in emergency care, the predicted probability of a cannabis positive screen for an individual aged 50 to 64 and aged 65 and older was .17 and .06, respectively, and in 2016, these rates increased to .29 and .21, respectively.

FIGURE 6. PREDICTED PROBABILITY OF A CANNABIS SCREEN BY SETTING AND BY AGE GROUP



ILLICIT DRUG USE

- In primary care, contrary to expectations, there was a small, but statistically significant decrease in positive illicit drug screens over time.
- In emergency care, rates of positive screens for illicit drugs did not change over time.
- These trends are not graphed due to very small probabilities of older adults screening positive for illicit drugs.

CONCLUSIONS

We sought to identify the proportion of older adults screened through SBIRT Colorado who screened positive for alcohol, cannabis, or an illicit substance (including misuse of a prescription medication); the demographic factors that predicted a positive screen in this population; and whether rates of positive screens increased from 2013 to 2016. When examining the results, it is important to distinguish findings for individuals screened in primary versus emergency care. Rates of positive screens were dramatically higher in emergency than in primary care settings. It is possible that this is due, at least in part, to the high proportion of patients in emergency care who were screened in a large, urban safety net emergency department that cares for a vulnerable population.[xiii]

In both settings, individuals aged 50 to 64 had higher rates of positive screens than individuals aged 65 and older. Individuals aged 50 to 64 may especially benefit from SBIRT services – these individuals are using substances at somewhat similar rates as individuals in their 40s, yet they are beginning the transition to older adulthood and may benefit from education on substance use and aging. Individuals may believe that they can continue to use the same amounts of alcohol as they get older, and health care providers are in a strategic place to educate and inform patients about how changes in the body will affect reactions to alcohol as they age. Furthermore, older individuals take more prescription medications than other age groups. Health care providers can educate individuals about the potential dangers of consuming alcohol when using prescription medications.

Interestingly, of those who screened positive for alcohol or cannabis, there were very few differences between individuals who used daily versus non-daily. Among individuals who used cannabis, just under half (from 44 to 48%) used it daily and the pattern was similar across age group, setting, gender, and race/ethnicity. Findings were more varied for individuals who screened positive for alcohol - anywhere from 26% to 47% used it daily. When interpreting findings on the proportion of older adults using daily, it is important to note that the number of adults aged 65 and older with a positive screen was small. Nonetheless, findings suggest that daily use of alcohol or cannabis is not uncommon among older adults who use these substances.

Results of trend analyses were somewhat inconsistent. Overall rates of positive alcohol and cannabis screens increased over time in emergency but not in primary care. Furthermore, when examining cannabis, rates of positive screens increased at a greater rate for individuals 65 and older than for individuals 50 to 64. Although positive cannabis screens were very low in the 65 and older population in general, it is possible that this group

is increasingly accessing cannabis as an alternative to other treatments. Finally, the very slight decline in positive screens for illicit drugs in primary care was unexpected. It is difficult to interpret this finding because 1) rates of positive illicit drug screens were very low in this population in primary care, and 2) due to small sample sizes, it was not possible to distinguish between type of substance – a positive illicit drug screen may have been due to, for example, use of heroin, cocaine, or misuse of prescription opioids. Per ASSIST guidelines, health educators were instructed to include the following introductory language when administering the tool: "*Some of the substances listed may be prescribed by a doctor (like amphetamines, sedatives, pain medications). For this interview, we will not record medications that are used as prescribed by your doctor. However, if you have taken such medications for reasons other than prescribed or taken them more frequently or at higher does than prescribed, please let me know.*" However, it is not known how consistently the introductory language was used in the screening process, or how well the tool captures misuse of prescription medications in older adults.

As the number of older adults in the US population increases, it will be critical for the health care industry to play a key role in the identification and intervention of older adult substance use and misuse.

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

[i] Different definitions of older adults exist in the literature; however, 65 and older is most common. For the purposes of this topic summary, we included adults aged 50 and older who were screened through the SBIRT Colorado initiative in grant-funded partner sites, and we then examine patterns of use in the 50-to-64-year-old group compared to the 65-and-older group.

[ii] Ortman, Jennifer M., Victoria A. Velkoff, and Howard Hogan. An Aging Nation: The Older Population in the United States, Current Population Reports, P25-1140. U.S. Census Bureau, Washington, DC. 2014. https://www.census.gov/prod/2014pubs/p25-1140.pdf

[iii] Han B, Gfroerer JC, Colliver JD, Penne MA. Substance use disorder among older adults in the United States in 2020. Addiction. 2009; 104(1):88-96. doi: 10.1111/j.1360-0443.2008.02411.x; Black P, Joseph LJ. Still dazed and confused: midlife marijuana use by the baby boom generation. Deviant Behavior. 2014; 35(10):822-841. doi: 10.1080/01639625.2014.889994

[iv] Kuerbis A, Sacco P, Blazer DG, Moore AA. Substance abuse among older adults. Clin Geriatr Med. 2014; 30(3):629-654. doi: 10.1016/j.cger.2014.04.008.

[v] Sorocco KH, Ferrell SW. Alcohol use among older adults. Journal of General Psychiatry. 2006;133(4):453-467.

[vi] Blow FC, Barry KL. Substance misuse and abuse in older adults: what do we need to know to help? Journal of the American Society on Aging. 2014; 38(3):53-67.

[vii] Satre DD, Chi FW, Mertens JR, Weisner CM. Effects of age and life transitions on alcohol and drug treatment outcome over nine years. *J Stud Alcohol Drugs*. 2012; 73(3):459-468; Kuerbis A, Sacco P, Blazer DG, Moore AA. Substance abuse among older adults. Clin Geriatr Med. 2014; 30(3):629-654. doi: 10.1016/j.cger.2014.04.008.

[viii] Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST) developed for the World Health Organization (WHO) - http://www.who.int/substance_abuse/activities/assist/en/. Although the ASSIST has been validated only for patients aged 18 to 60, it was preferable to other screening tools because it assesses various substance types and it has been used successfully with older adult populations in other SBIRT grants (see Schonfeld et al., 2015 - http://ajph.aphapublications.org/doi/abs/10.2105/AJPH.2013.301859)

[ix] For females and for males over age 65, four or more drinks per day indicated binge drinking; for males aged 18 to 65, five or more drinks per day indicated binge drinking.

[x] When patients screened positive for an illicit substance, they also were asked number of days used in the past 30. However, this variable was not analyzed due to small numbers of older adults screening positive for illicit substances.

[xi] Older 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.

[xii] We excluded data from 2012 as the program was becoming established and new sites were coming on board at different times during that period. Also, data from 2016 do not represent a full year of program implementation as screening for the grant ended in August 2016.

[xiii] It is also possible that in this busy emergency department some negative screens were not entered into the SBIRT Colorado database for analyses, leading to overestimates of positive screens in this location.