Prevalence of Cannabis Use Among US Workers in 15 States, 2016–2020

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Objectives. To examine the prevalence of cannabis use among US workers using data from the US Behavioral Risk Factor Surveillance System (BRFSS) during 2016 to 2020.

Methods. We analyzed past 30-day cannabis use among US workers. We calculated weighted prevalence and adjusted prevalence ratios (APRs) of cannabis use for working adults by industry groups, occupation groups, and sociodemographic characteristics (e.g., sex, education, age, race/ethnicity).

Results. During the 5-year survey period, the weighted prevalence of past 30-day cannabis use among adult US workers from the 15 states included in the BRFSS was 10.7%. The industry group with the highest weighted prevalence of use was accommodation and food services (20.7%), and the highest-ranking occupation group was food preparation and service (21.9%). The industry group with the highest APR was accommodation and food services (APR = 1.31; 95% confidence interval [CI] = 1.10, 1.55), and the occupation group with the highest APR was arts, design, entertainment, sports, and media (APR = 1.91; 95% CI = 1.52, 2.41).

Conclusions. Cannabis use among US workers varied widely by sex, age, race, education, industry groups, and occupation groups. A more accurate understanding of this variation can help guide research, focus policy discussions, and prioritize health messaging. (*Am J Public Health*. 2024;114(S8):S645–S653. https://doi.org/10.2105/AJPH.2024.307788)

Although it remains federally illegal, many US states have legalized cannabis for nonmedical or medicinal use.[1] In 2021, approximately 18.7% of people in the United States (about 52.5 million people) aged 12 years or older reported using cannabis in the past year.[2] The number of states legalizing cannabis products fosters the perception of an increased social acceptance of cannabis use. However, this normalization creates a conundrum for researchers. The potential detrimental physical and social implications, along with the claimed medicinal effects and lack of large cohort studies, make it challenging for public health practitioners to minimize the negative effects and stigmatization of cannabis use. Questions remain regarding cannabis benefits, chronic versus short-term use, dosage, method of consumption, product type (e.g., flower, vape cartridge, hash oil), and the potential for cannabis use to exacerbate pre-existing conditions.[3]

From the workers' perspective, there can be confusion around the implications of a positive cannabis test for employability. In some states, employers generally are prohibited from testing current and prospective employees for cannabis.[4,5] In other states, employers can legally implement zero-tolerance drug policies and prohibit individuals from working based on a positive test.[6] While state laws can vary, employers also have to decide how to ensure compliance with federal laws.[7] For example, having a drug-free workplace policy of any kind is not required for most employers, but there are exceptions to this, such as for federal contractors and grantees, as well as safety- and security-sensitive industries and positions.[8] All of these factors complicate how employers and employees should approach cannabis use in the workplace.

CANNABIS, HEALTH EFFECTS, AND WORKPLACE SAFETY

While many studies of cannabis use in the United States have focused on personal health, the impact of cannabis use on workplace safety warrants

further investigation.[9] Cannabis can impact thinking, attention, memory, emotion, decision-making, coordination, reaction time, and time perception, as well as cause dependence and affect brain development, all of which could impact workplace safety and health.[10–17] In situations such as operating vehicles or machinery, or using heavy equipment or sharp objects, there is a concern that cannabis impairment could lead to otherwise preventable workplace injuries.[9] However, the evidence to date has been mixed regarding an association between cannabis use and workplace injury.[18]

PREVALENCE OF CANNABIS USE AMONG WORKERS

Several international studies have assessed cannabis use in workers. In a 2022 study, roughly 9% of workers in Canada reported using cannabis before or at work in the past year.[19] A 2022 study in Australia estimated prevalence of cannabis use among workers at 11.5% in 2010, increasing to 13.5% in 2019.[20] In the United States, national surveys have measured cannabis use in the general population, but relatively few have evaluated cannabis use in the workforce. A study from 2002 to 2003, prior to any state legalization of nonmedical cannabis, estimated prevalence of past-year cannabis use at 11.3% for workers overall.[21] More recently, an analysis of Behavioral Risk Factor Surveillance System (BRFSS) data from 2016 to 2017 estimated that 9.1% of employed adults had used cannabis in the past month.[22] The most recent BRFSS study of cannabis use by industry and occupation in the United States was published using data from the state of Colorado between 2014 and 2015.[23] An updated focus on cannabis use in the US workforce is warranted.

PURPOSE OF THE STUDY

The purpose of this study was to compare self-reported past 30-day cannabis use in US workers across defined industry and occupational categories. It is imperative to understand which industry and occupation groups tend to have a higher or lower prevalence of cannabis use to inform future studies.

METHODS

The BRFSS is designed by BRFSS state coordinators and Centers for Disease Control and Prevention (CDC) staff (https://bit.ly/3Sd4yE0). The purpose of this system is to collect information on health conditions, health-related risk behaviors, and use of preventive services of noninstitutionalized adult US residents. All 50 states, as well as the District of Columbia and 3 US territories, can participate in the survey. The survey comprises 3 parts: (1) the core component, (2) optional modules, and (3) state-added questions. In 2016, 2 questions related to cannabis use (frequency of cannabis use over the past 30-days and method of consumption) were added as an optional module.[22] In 2017, a question was added about reason for consumption (medical use, nonmedical use, or both).

In 2013, the National Institute for Occupational Safety and Health (NIOSH) created the optional Industry and Occupation (IO) module.[24] This module contains 2 questions asked of survey participants who report being employed for wages, self-employed, or out of work for less than 1 year at the time of their interview: (1) "What kind of business or industry do you work in, for example, hospital, elementary school, clothing manufacturing, restaurant?" (industry); (2) "What kind of work do you do, for example, registered nurse, janitor, cashier, auto mechanic?" (occupation).

Study Population

We included data for any state that administered both the IO and cannabis use modules to their entire population from 2016 to 2020. The population of interest for this study was adults (18 years of age or older) employed for wages, self-employed, or out of work for less than 1 year. Of the 2 193 981 BRFSS participants nationwide, 639 527 resided in the 15 states included in this study. Of those, 229 769 completed the BRFSS IO module. In the final analysis, 128 615 participants were in the population of interest, completed the cannabis use and IO modules, and provided data codable to the North American Classification System (NAICS) or Standard Occupational Classification (SOC) codes by the NIOSH BRFSS team.

Industry and Occupation

Free text responses for industry and occupation were coded to standardized industry and occupation numeric codes by NIOSH using the NIOSH Industry and Occupation Computerized Coding System (NIOCCS)[25] and human coders. Responses were first coded to 2010 US Census Bureau codes and then into 2007 NAICS, 2010 SOC, and 2012 National Health Interview Survey simple and detailed recodes.[26] For the purposes of this study, we analyzed 2- and 3-digit NAICS and SOC groups to maintain statistical power for comparisons among IO groups. NIOSH creates separate survey weights for the optional IO module.

Cannabis Use

The first BRFSS marijuana use module question was recoded to create a summary cannabis use variable (any cannabis use in the past 30 days). If a participant self-reported any amount of cannabis use in the past 30 days, they were classified as using cannabis. Responses coded as "refused to answer" or "Don't know/Not sure" were recoded as missing. The nonresponse rate for the first BRFSS marijuana use module question was less than 2% for every industry group, occupation group, and state.

Statistical Analysis

We accounted for the survey's complex design by using the sample weights and survey procedures in STATA version 14 (StataCorp; College Station, TX). Counts, weighted prevalence, and 95% confidence intervals (CIs) for cannabis use responses were calculated by sex, education level, age, race/ethnicity, and NAICS and SOC code at the 2- and 3-digit level. Weighted prevalence was also calculated by state and reason for cannabis consumption. Significant differences in cannabis use among industry and occupation groups were identified using the χ^2 test. Adjusted prevalence ratios were calculated using log-binomial regression to evaluate differences in cannabis use among industry groups and occupation groups. Covariates included age, sex, race/ethnicity, state, and education level. Reference groups were selected using the industry or occupation group with the closest weighted prevalence to the mean for all workers.

To maintain statistical power, the age, education, and race/ethnicity variables were grouped into summary categories. Education was categorized as some schooling, high school graduate, some college, and college graduate. Age was categorized into 18 to 24 years, 25 to 34 years, 35 to 44 years, 45 to 54 years, 55 to 64 years, and 65 years or older. Race/ethnicity categories included non-Hispanic Black, White, Multiracial, Hispanic, Asian, American Indian/Alaska Native, Native Hawaiian, and Other. Because of the low number of participants, the final 4 categories listed were grouped under the Other category to preserve statistical power.

RESULTS

From 2016 to 2020, there were 2 193 981 BRFSS participants from all states. The Marijuana Use and IO modules were distributed to a total of 128 615 BRFSS participants from 15 states (Alaska, Colorado, Florida, Georgia, Idaho, Illinois, Maryland, Minnesota, Mississippi, Montana, New Hampshire, North Dakota, Rhode Island, South Carolina, and Tennessee). After weighting, the sample represented approximately 18 million employed US workers among the 15 states surveyed. Among all participants that were offered the marijuana module, response rates for the first question were greater than 98% for all industry groups, occupation groups, and states. Table 1 shows the unweighted counts and weighted prevalence of cannabis use by demographic characteristics. Overall, approximately 10.7% of US workers reported using cannabis in the past 30 days. Thirteen percent of men reported cannabis use, compared with 8% of women. Those with college degrees (10.7%) had the lowest prevalence of cannabis use compared with workers without a high school degree (14.9%). Larger differences were seen in prevalence of cannabis use by age, ranging from 23.8% among 18- to 20-year-old workers to 3.2% among workers aged 65 years and older. The lowest prevalence was seen in workers self-reporting race as "Other, non-Hispanic"; the highest prevalence was among participants self-reporting as "multi-racial, non-Hispanic." Weighted prevalence among non-Hispanic White participants was nearly identical compared with all other races combined (data not shown).

The BRFSS cannabis use module questions, overall unweighted frequency, and prevalence of cannabis use for the sample are reported in Table A (available as a supplement to this article at https://ajph.org). Using unweighted prevalence for US workers, 3.2% reported using cannabis 1 to 5 days per month and 2.6% reported using cannabis every day. Among those reporting cannabis use, the most common method of consumption was by smoking (72.3%), followed by ingesting edible products (8.8%) and vaporizing (8.2%). The highest overall prevalence of consumption was in Rhode Island (16.0%); the lowest was in North Dakota (7.3%). Generally, the weighted prevalence of cannabis use was higher in states that had legalized medical and nonmedical cannabis, and lower in states that legalized cannabis for medical use only or not at all (data not shown). The majority of cannabis users stated that they used cannabis nonmedically (47.0%), followed by both medicinally and nonmedicinally (32.2%), and only medicinally (20.8%).

Table 2 shows the unweighted counts, weighted prevalence, and adjusted prevalence ratio (APR) of cannabis use by industry (at the 2-digit NAICS level). The average weighted prevalence for all industries was 10.8%. The 3 industry groups with the highest

TABLE 1— Past 30-Day Cannabis Use Among Employed People by Sex, Education, Age, Race/Ethnicity in 15 US States: 2016–2020

	Cannabis Use, No. (Weighted %)	
	No	Yes
Total	118 416 (89.3)	10 199 (10.7)
Sex		
Male	58 506 (87.0)	6 598 (13.0)
Female	59 856 (92.0)	3 597 (8.0)
Education		
Some schooling	4 905 (85.1)	640 (14.9)
High school graduate	26 470 (87.5)	2 902 (12.5)
Some college	33 044 (88.1)	3 278 (11.9)
College graduates	53 703 (92.7)	3 367 (10.7)
Age, y		
18–24	5 942 (76.2)	1 591 (23.8)
25–34	16 143 (83.7)	2 802 (16.3)
35–44	21 361 (89.6)	2 113 (10.4)
45–54	27 683 (93.7)	1 642 (6.3)
55–64	31 120 (94.3)	1 579 (5.7)
≥ 65	14 502 (96.8)	426 (3.2)
Race/ethnicity		
Non-Hispanic Multiracial	1 512 (83.5)	292 (16.5)
Non-Hispanic Black	9 490 (87.0)	936 (13.0)
Non-Hispanic White	94 027 (89.5)	7 787 (10.5)
Hispanic	7 590 (90.4)	648 (9.6)
Non-Hispanic Other race	4 096 (91.7)	393 (8.3)

Note. States reported by the Behavioral Risk Factor Surveillance System (BRFSS) were Alaska, Colorado, Florida, Georgia, Idaho, Illinois, Maryland, Minnesota, Mississippi, Montana, New Hampshire, North Dakota, Rhode Island, South Carolina, and Tennessee.

prevalence were accommodation and food services (20.7%); arts, entertainment, and recreation (17.5%); and construction (15.9%). The 3 industry groups with the lowest prevalence were management of companies and enterprises (5.4%); public administration (3.7%); and utilities (3.4%). Each industry group was compared with professional, scientific, and technical services (NAICS 54). The industry group with the highest APR was accommodation and food services (APR = 1.31; 95% CI = 1.10, 1.55). The industry group with the lowest APR was utilities (APR = 0.27; 95% CI = 0.18, 0.41).

Table 3 shows the unweighted counts, weighted prevalence, and APR for cannabis use by occupation (at the 2-digit SOC level). The average prevalence of cannabis use for all occupation groups was 10.8%. The 3 occupation groups with the highest prevalence were food preparation and serving related (21.9%); arts, design, entertainment, sports, and media (17.0%); and construction and extraction (15.5%). The 3 occupation groups with the lowest prevalence were education, training, and library (5.7%); health care practitioners and technical (4.7%); and protective services (4.4%). Each occupation group was compared with transportation and material moving. The occupation group with the highest APR was arts, design, entertainment, sports, and media (APR = 1.91; 95% CI = 1.52, 2.41). The occupation group with the lowest significant APR was protective services (APR = 0.40; 95% CI = 0.24, 0.65).

Unweighted counts and weighted prevalence for cannabis use by industry group (at the 3-digit NAICS level) are shown in Table C (available as a supplement to this article at https://www.ajph.org). Unweighted counts and weighted prevalence for cannabis use by occupation group (at the 3-digit SOC level) are shown in Table D (available as a supplement to this article at https://www.ajph.org) The NAICS and SOC codes for the industry groups and occupation groups are provided in Table E (available as a supplement to this article at https://www.ajph.org).

DISCUSSION

The overall weighted prevalence of past 30-day cannabis use in 15 states was approximately 10.7% for workers aged 18 years or older. This is similar to Dai et al.'s (2019) estimate of 9.1% of employed adults, using data from 14 states,[22] but lower than Smith et al.'s (2018) estimate of 14.6% of employed adults, using data from Colorado alone.[23] Our estimates generally comport with estimates from the 2021 National Survey of Drug Use and Health (NSDUH), which reported past-month use at 13.0% among US residents aged 12 years and older.[2] Our lower estimates might be a result of restricting the analysis to employed (or recently employed) adults. Furthermore, the NSDUH sample included 19 states that had legalized cannabis for nonmedical

TABLE 2— Counts, Weighted Prevalence, and Adjusted Prevalence Ratio for Past-30-Day Cannabis Use by Industry (2-Digit NAICS Level): 15 US States, 2016–2020

	Cannabis Use = Yes (n = 9694)	
	No. (Weighted %)	APR[a] (95% CI)
All Industry Groups	9644 (10.8)	
Accommodation and food services	1023 (20.7)	1.31 (1.10, 1.55)
Arts, entertainment, and recreation	270 (17.5)	1.23 (0.97, 1.57)
Construction	1249 (15.9)	1.04 (0.74, 1.23)
Administrative and support and waste management and remediation services	453 (15.5)	1.15 (0.94, 1.42)
Retail trade	1046 (14.2)	1.02 (0.86, 1.20)
Other services	602 (13.7)	1.14 (0.94, 1.37)
Information	206 (12.9)	1.04 (0.81, 1.33)
Real estate and rental and leasing	244 (12.9)	1.25 (0.97, 1.60)
Wholesale trade	152 (12.2)	0.91 (0.67, 1.22)
Professional, scientific, and technical services	595 (10.7)	1 (Ref)
Manufacturing	867 (9.9)	0.80 (0.67, 0.96)
Finance and insurance	375 (9.5)	0.90 (0.73, 1.10)
Mining, quarrying, and oil and gas extraction	33 (8.6)	0.52 (0.27, 0.99)
Agriculture, forestry, fishing and hunting	252 (7.9)	0.60 (0.46, 0.77)
Transportation and warehousing	293 (7.5)	0.58 (0.46, 0.77)
Health care and social assistance	1065 (6.9)	0.69 (0.58, 0.81)
Educational services	613 (6.4)	0.71 (0.59, 0.86)
Management of companies and enterprises	6 (5.4)	0.42 (0.14, 1.27)
Public administration	291 (3.7)	0.34 (0.27, 0.42)
Utilities	59 (3.4)	0.27 (0.18, 0.41)

Note. CI = confidence interval; NAICS = North American Industry Classification System. States, reported by the Behavioral Risk Factor Surveillance System (BRFSS), were AK, CO, FL, GA, ID, IL, MD, MN, MD, MN, NH, ND, RI, SC, and TN.
[a]Adjusted for sex, education, age, race, state.

use. Only 2 of 15 states in our sample had legalized nonmedical cannabis during the full study period.[1]

The legal and social landscape for cannabis is changing rapidly in the United States, with implications for workplace expectations related to cannabis. This study provides baseline data on cannabis use by industry and occupation, which can help frame future policy discussions and research. Data indicate that nearly 30% of workers in some occupations use cannabis (Table D). This could have implications for the effectiveness of workplace policies, such as zero-tolerance policies.[27] Efforts could focus on reducing adverse impacts in the workplace and providing accurate information to employers and workers informed by an understanding of current consumption trends. As states implement new polices, such as legalization of nonmedical cannabis,[1] allowance of workers' compensation insurance reimbursement for medical cannabis,[28] or restrictions on employers' use of cannabis test results in personnel decisions,[29] it will be helpful to have a point of reference with which to evaluate subsequent changes in cannabis use in defined segments of the workforce.

Cannabis Use Across Industries and Occupations

We found wide variation in cannabis use across industries and occupations, ranging from 0.5% among law enforcement workers to 29.7% among tour and travel guides (Table D). At the higher-level industry and occupation groupings, distribution of cannabis use across employment settings was broadly comparable to Smith et al.'s results, except that cannabis use was almost universally higher in Colorado workers than in our 15-state sample.[23] Both studies identified 4 of the same industry

TABLE 3— Counts, Weighted Prevalence, and Adjusted Prevalence Ratio for Past-30-Day Cannabis Use by Occupation (2-Digit SOC Level): 15 US States, 2016–2020

	Cannabis Use = Yes (n = 9357)	
	No. (Weighted %)	APR[a] (95% CI)
All Occupation Groups	9357 (10.8)	
Food preparation and serving related	676 (21.9)	1.74 (1.43, 2.11)
Arts, design, entertainment, sports, and media	286 (17.0)	1.91 (1.52, 2.41)
Construction and extraction	1014 (15.5)	1.23 (1.02, 1.48)
Sales and related	1125 (14.7)	1.44 (1.20, 1.72)
Personal care and service	356 (12.5)	1.41 (1.11, 1.78)
Installation, maintenance, and repair	455 (12.5)	1.04 (0.84, 1.28)
Building and grounds cleaning and maintenance	477 (12.3)	1.22 (0.98, 1.52)
Production	475 (11.1)	1.08 (0.87, 1.34)
Transportation and material moving	458 (10.8)	1 (Ref)
Management	972 (9.9)	1.21 (1.01, 1.46)
Business and financial operations	405 (9.8)	1.29 (1.03, 1.62)
Farming, fishing, and forestry	85 (9.8)	0.84 (0.59, 1.21)
Health care support	191 (9.5)	1.04 (0.78, 1.38)
Computer and mathematical	275 (9.3)	0.99 (0.77, 1.27)
Office and administrative	747 (9.1)	1.20 (0.98, 1.47)
Life, physical, and social science	117 (8.6)	1.12 (0.81, 1.56)
Legal	101 (7.7)	1.17 (0.85, 1.60)
Architecture and engineering	188 (6.7)	0.71 (0.53, 0.95)
Community and social services	130 (6.7)	0.95 (0.63, 1.44)
Education, training, and library	375 (5.7)	0.84 (0.66, 1.07)
Health care practitioners and technical	358 (4.7)	0.65 (0.51, 0.83)
Protective services	91 (4.4)	0.40 (0.24, 0.65)

Note. CI = confidence interval; SOC = Standard Occupational Classification. States reported by the Behavioral Risk Factor Surveillance System (BRFSS) were AK, CO, FL, GA, ID, IL, MD, MN, MD, MN, NH, ND, RI, SC, and TN.
[a]Adjusted for sex, education, age, race, state.

groups in the top 5 (accommodation and food services; real estate and rental and leasing; arts, entertainment, and recreation; other services) for cannabis use prevalence. Similarly, both studies reported 4 of the same industry groups in the bottom 5 (utilities; public administration; mining, quarrying, and oil and gas extraction; transportation and warehousing) for cannabis use prevalence. Protective services, health care practitioners and technical, and education, training and library were found to be in the bottom 5 occupation groups for cannabis prevalence use in both studies. The explanation for this clustering of cannabis use (or nonuse) may be straightforward for sectors with a strong tradition of employer drug testing. Some occupations not traditionally associated with drug tests also had low levels of cannabis use. Social norms, perception of health or legal risks,[30] use for medical purposes,[31] or other sociocultural factors are likely to influence these patterns.

We found above-average prevalence of cannabis use in several industry and occupation groups that historically have high rates of injuries and fatalities,[32] such as forestry and logging (15.8%); fishing, hunting, and trapping (16.1%); and construction of buildings (17.0%; Table C). Despite mixed evidence for an association between cannabis and work-related injury in the literature,[18] potential safety risks related to cannabis use are still a concern, especially for safety-sensitive occupations or tasks such as driving.[17] More research is needed to understand factors driving cannabis use in high-risk

industries and occupations. Additionally, more information is needed to discern how much of the measured cannabis use results in impairment on the job, since for many workers, some or all cannabis use may occur away from work.[19] It is also important to recognize that a sizeable fraction of workers who use cannabis, roughly 21%, report using it for medicinal purposes (Table B, available as a supplement to this article at https://www.ajph.org). However, employers and employees should work together to ensure that workplace impairment resulting from cannabis use does not result in injuries. Examples could include outlining expectations around cannabis use in proximity to work generally, establishing a list of high-risk job tasks that should not be done at any level of impairment, or establishing a level of workplace trust and security so that workers can voluntarily opt out of performing certain tasks if they do not think they can do them safely. The primary goal for both employers and employees should be to limit the risk of injury while maintaining productivity.

Frequency and Method of Cannabis Use

Approximately 3% of respondents in our overall sample reported using cannabis daily or nearly daily, defined as using on 21 to 29 days or more in the past month (Table A). Among those reporting cannabis use, participants largely fell into 1 of 2 categories: daily users (33.3%), or infrequent users who reported consuming only 1 to 5 days per month (40.0%). Notably, among those who did report cannabis use in our study, 38.4% reported using either daily (33.3%) or nearly daily (21-29 days per month or every day: 5.1%; unweighted results). By comparison, Frone (2006), analyzing weighted data from 2002 to 2003, reported only 13% of employed past-year cannabis consumers used it at a similar frequency (6-7 days per week; or 24–28 days per month).[21] Our results add to a growing body of literature[33–35] suggesting that although the proportion of working people who use cannabis may not have shifted dramatically in the past 20 years, the intensity of use among those who consume cannabis may have increased substantially. This aspect of cannabis use should be explored more fully, as some patterns of consumption may have more serious physical or mental health implications.

Strengths and Limitations

This study has several limitations. BRFSS data are self-reported, and responses could reflect desirability bias. This has the potential to skew results, particularly if response accuracy varies by industry, occupation, age group, or state. However, prior research has shown that self-reported substance use by employees can be considered and verified as valid.[36] Cannabis use has become more socially acceptable based on a review of survey results.[37] Thus, it is unlikely that desirability bias strongly skewed results. Participants' industry and occupation could have been misclassified in some cases, during the NIOCCS auto-coding process or by human coders, but this would be unlikely to skew prevalence estimates much at the 2- or 3- digit NAICS or SOC level.

Considering sample size, we bundled NAICS and SOC groups at the 2- and 3-digit levels to preserve statistical power for comparing cannabis outcomes among groups. This necessarily obscured potential variation in more granular industry and occupation categories. Additionally, this analysis only included participants from 15 states, which may limit generalizability to the full US workforce.

Importantly, this study did not assess timing of cannabis use in relation to work, so prevalence estimates reported here cannot be used as a proxy for likelihood of cannabis impairment in any group of workers. Furthermore, the sampling frame for the study included people who have been out of work for less than 1 year. Data could, to a minor extent, reflect use among people not currently employed at the time of the survey. Finally, many cannabis products are commercially available including some with little to no psychoactive effect; this study did not ascertain potency of the product(s) used. More study is needed, including more detailed survey questions, to assess the potential burden of cannabis impairment in workplaces.

This study also has several strengths. BRFSS is a large health survey designed to be representative of the entire US population. The assessment of use in the past 30 days decreases potential recall bias. Information about frequency of use allows differentiation between more casual use and heavy use. Using standardized industry and occupation categories increases reproducibility and comparability with future studies. This facilitates monitoring of cannabis consumption patterns in specific industries and occupations as BRFSS continues to collect data over the coming years.

Conclusions

This study provides a benchmark for cannabis consumption in the workforce as laws, policies, and social attitudes

toward cannabis continue to evolve. We found above-average prevalence in some traditionally high-risk industries and occupations. Additionally, these results suggest a relatively high proportion of people who use cannabis daily or nearly daily. This information can help guide future research and tailor messaging and outreach more purposefully to workers who are more likely to use cannabis. Research is needed to understand reasons for cannabis use in sectors of the workforce with high prevalence, types of products consumed, and timing of use in relation to work. Further work is needed to refine windows of impairment following use, and to establish what constitutes problematic use in terms of health impacts and the ability to carry out one's job safely. AJPH

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R. Evoy conceptualized the study, cleaned the data, conducted the analyses, and wrote the article. T. Victoroff interpreted the analyses, helped write the article, and critically reviewed and commented on the article.

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CONFLICTS OF INTEREST

The authors of this manuscript have no potential or actual conflicts of interest to disclose.

HUMAN PARTICIPANT PROTECTION

The CDC institutional review board determined this study to be exempt research activity (protocol #2988.0 under 45 CFR 46.101(b)(2)).

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