

# Pelago



## The Complications and Challenges of Cannabis Use Disorder

## Introduction

Changes in cannabis use policy and laws are dramatically impacting consumption as well as attitudes toward health impacts and treatment.

Those trying to understand the facts about cannabis are faced with conflicting information on the drug's purported health benefits, its risks, and evolving legal status throughout the U.S. Unfortunately, these mixed messages have made it easier to minimize and rationalize its problematic use.

Regular or heavy uses of cannabis can lead to a diagnosis of cannabis use disorder (CUD), a progressive loss of control over the use of cannabis and a problematic pattern of use that leads to clinically-defined impairment or stress. Among the various sectors of society affected by the complications and challenges of cannabis use, the U.S. workforce stands out as one of the most profoundly impacted.

CUD is having a deleterious effect on employee health and employers' bottom lines, resulting in lower productivity, increased workers' compensation and unemployment insurance claims, and high turnover. As employers increasingly prioritize access to mental health and substance use disorder (SUD) services, more than half of those who stopped testing for THC—the primary psychoactive ingredient in cannabis—have observed a rise in cannabis-related incidents or concerns about workplace performance.

After alcohol and tobacco, cannabis is the most commonly used psychoactive substance (meaning a substance that affects one's mind or mental state) in the U.S. and the world, especially among young people. Despite its current designation as an illegal

Schedule I controlled substance at the federal level, state cannabis laws are rapidly changing. To date, 24 states and Washington, DC have legalized cannabis for recreational use, and in 38 states and DC, the drug is now legal for medical use.

The changes in many states' drug policies have driven a shift in the public's attitudes and perceptions toward cannabis. As cannabis continues to gain greater societal acceptance, so too, does the view among both adolescents and adults that cannabis is a relatively harmless drug. But as more people have begun using cannabis over the past few decades, there has been a substantial change in the rate at which users are experiencing related symptoms and problems. The stats tell the story:

- Approximately 17.7 million U.S. adults 18+ (6.9 percent) have a CUD, a 15 percent year-over-year increase.
- 11.7 million U.S. adult workers 18+ (16.5 percent) have a CUD, an 18 percent year-over-year increase.
- 3 million U.S. adolescents use cannabis illicitly and 1.3 million (5.1 percent) have a CUD, a figure that has remained consistent year-over-year.

And, in states with legalized cannabis (medical and recreational), only 1.8 percent of those that need treatment receive specialized CUD care, down nearly 30 percent from the prior 10 years.

Cannabis consumption poses various physical and mental health risks, with effects that can be particularly damaging for younger people whose brains are still developing. In those who consume cannabis before age 18, it can lead to irreversible brain damage and long-term impacts on cognitive skills. Underage cannabis use can also affect educational success and career motivation.

Overall, more than one-fifth (21.3 percent) of those who use cannabis struggle with dependency or problematic use, according to a study published in *JAMA Network Open*. Other studies identify cannabis as one of the strongest preventable sources of risk for a later diagnosis of chronic psychotic illness.

## An inflection point

The U.S. is at a critical inflection point, with the number of adults and adolescents who use cannabis increasing every year, while the number of those seeking specialized treatment for CUD is declining.

Compounding the challenge of CUD is easier access to cannabis, relaxed consumption laws, and the promotion of cannabis' purported therapeutic benefits—all of which have led to a lower perceived need for treatment.

Without a doubt, education is essential to understanding the facts about cannabis use, its health and safety risks (especially among regular and heavy users), and its potential therapeutic benefits.

As a health and wellness provider whose substance use solutions are deployed in workplaces across the U.S., Pelago understands it is both necessary and prudent to communicate the facts about cannabis, including:

- Its physical and mental health effects and risks
- Its addictive, withdrawal and gateway drug capabilities
- Its impact on workplace health and safety
- The increasing need for specialized CUD treatment

## What is cannabis?

Cannabis, also known as weed or marijuana, is derived from the dried flower of the cannabis sativa plant. The plant contains over 500 chemical compounds called cannabinoids.

The primary psychoactive ingredient in cannabis, which acts on the brain to modify mood or consciousness, is delta-9-tetrahydrocannabinol, or THC. Another active compound, cannabidiol (or CBD) by itself does not cause a “high” like THC does.

Cannabis is consumed in several ways:

- By smoking or vaping and inhaling it—THC and other chemicals pass from the bloodstream, which quickly carries these substances throughout the body and brain, causing an immediate effect.
- Via tea, baked goods, candies, and other edible means – when ingesting cannabis, the drug and its chemical compounds must first pass through the digestive system. It can take between 30 and 60 minutes before any effects are felt.

Part of the appeal of vaping is that it doesn't produce the detectable pungent odor associated with smoking cannabis. The concern, however, is that extracts of cannabis such as hash oil or wax can be four to 30 times stronger than dried cannabis. And, not only does consuming cannabis with a greater potency pose a higher risk of developing an addiction, there is a greater likelihood of experiencing adverse physical and/or psychological effects.

## Changes in cannabis potency

Cannabis potency has evolved over the past several decades, which is particularly relevant to its addictive potential.

Over the last several decades, the THC content of cannabis has risen substantially. In 1995, for example, the average THC content in cannabis seized by the Drug Enforcement Administration (DEA) was about four percent. By 2017, it had risen to 17 percent and continues to increase. Today, the THC content of cannabis sold in dispensaries ranges from 25 percent to 35 percent.<sup>1</sup> Beyond the dried plant flower, an array of cannabis products with an even higher THC content (e.g., oils and some edibles) are available, with potency as high as 90 percent.

## Proposed schedule change

In May 2024, the U.S. Attorney General initiated a proposal to reclassify cannabis from a Schedule I to a Schedule III drug under the Controlled Substances Act (CSA). Cannabis has been a Schedule I drug since Congress enacted the CSA in 1970, along with heroin, LSD, ecstasy, and magic mushrooms.

Current Schedule III drugs include products that contain less than 90 milligrams of codeine per dosage unit (e.g., Tylenol with codeine), as well as ketamine, anabolic steroids and testosterone.

Cannabis will remain a Schedule I controlled substance during this process until a final ruling is published.



## Cannabis vs. alcohol use

While many more people drink alcohol on occasion rather than use cannabis, daily or near-daily cannabis use grew by 269% from 2008 to 2022, according to new research published in the journal Addiction. This major shift in cannabis consumption led to a major milestone: the daily use of cannabis of any kind surpassed the daily use of alcohol for the first time, with the survey recording nearly 18 million people aged 12+ using cannabis daily or near daily in 2022, compared with about 15 million who said they used alcohol with the same frequency.

Attitudes and perceptions toward alcohol and cannabis also are changing. According to an American Addiction Centers survey, attitudes toward cannabis are significantly more negative than those for alcohol; however, respondents expressed more concern about the dangers of alcohol and were much more troubled by its addictive properties.

## Cannabis health risks

### Physical health effects / risks

According to “*Addiction: What Everyone Needs to Know™*” by Dr. Suzette Glasner (2024),<sup>2</sup> the physical health effects and risks of cannabis use include the following:

- Irritation of the lungs by smoking or vaping, which can lead to frequent symptoms such as coughing and phlegm along with a higher risk of lung infections and illnesses.
- Acute, short-term effects on blood pressure, which can increase heart attack risk by 25 percent and stroke risk by 42 percent, even if there is no prior history of heart disease and the person never smoked or vaped tobacco.
- Dizziness when standing, increasing the risk of feeling faint or falling.
- An increased risk of testicular cancer in young adult male adolescents.

Glasner also notes that the health risks and complications associated with cannabis use become more likely with heavy and frequent use,<sup>2</sup> leading to:

- Reversal of some of the beneficial effects of use, such as anti-nausea effects. Instead, the user becomes severely and persistently nauseous.
- Progressively more intense and harmful effects on the brain and behavior.

### Mental health effects/risks

Long-term cannabis use is linked to certain mental health problems,<sup>3</sup> including depression, anxiety, and psychosis.

Those with a genetic or other predisposition to mental health problems are at an especially high risk of experiencing psychiatric illnesses. In addition to psychosis, long-term users can experience hallucinations and paranoia, which can progress to delusions. These conditions affect behavior and one's ability to function in important ways. And, adolescents who use cannabis have two to three times the risk for developing schizophrenia compared to non-users.<sup>5</sup>

Many people with anxiety and depression self-medicate with cannabis. A 2019 study found that 50 percent of medical cannabis users consume it to alleviate anxiety while 34 percent use it for depression. Unfortunately, there are few studies that explore the connection between cannabis use and anxiety or depression.

Relative to cannabis use and depression, one 2018 review found that those with clinical depression and bipolar depression disorder are more likely to develop CUD with frequent cannabis use. Another review found a strong correlation between those with major depression and CUD.

In fact, those with CUD are three times more likely to have major depression or generalized anxiety disorder.

Cognitive and brain effects include impairments in judgment, motor coordination, and reaction time, which can affect the ability to drive safely. In fact, recent research shows that while trends in fatalities involving alcohol have remained stable, cannabis use or cannabis co-involved with alcohol doubled the risk of motor vehicle accident fatalities between 2000 and 2018.

## Cannabis use disorder

Approximately three in 10 people who use cannabis have cannabis use disorder. Those who start using prior to age 18 are particularly vulnerable to developing a CUD, with the CDC reporting that the risk of developing cannabis use disorder is stronger in people who start using cannabis during youth or adolescence and who use cannabis more frequently. Comparatively, while substance use disorders for drugs and alcohol increased 4.7 percent from 2021 to 2022, CUD increased significantly—by 15.4 percent—during the same time period, according to the Substance Abuse and Mental Health Services Administration (SAMHSA) 2022 National Survey on Drug Use and Health (*calculated from detailed tables, [table 5.1a](#)*).

A 2023 study in *JAMA Network Open* reported that cannabis users who experience more severe dependency tended to be recreational users, whereas less severe but still problematic use was associated roughly equally with medical and recreational use. The most common symptoms among both groups included increased tolerance, craving, and uncontrolled escalation of cannabis use.

While many cannabis users have mild or moderate CUD symptoms, the lives of those whose symptoms are severe can be profoundly impacted and many lose the ability to function in any important life role, including work. Among the 19 million people who had a past-year cannabis use disorder, most (55.1 percent) had a mild disorder compared to 17.3 percent with a severe disorder.

Through epidemiological research (studies the incidence, patterns, and causes of disease conditions), scientists have noted strong similarities between those with a CUD and those with other substance use disorders, such as:

- Experiencing problems similar to those who use other addictive drugs
- Enrolling in treatment at rates similar to those observed for other drugs
- Experiencing rates of relapse comparable to those treated for other substance use disorders



A 2021 [Nature Reviews disease primer](#) on cannabis use found that, as with other substance use disorders, substance withdrawal syndrome impacts frequent cannabis users attempting to cut back or stop consumption. The disease primer authors also reported that the co-use of tobacco and cannabis is associated with a higher risk of CUD, a greater number of withdrawal symptoms, and lower rates of cessation than those who use cannabis without tobacco. Furthermore, three in four of those undergoing CUD treatment also have another SUD.

The Diagnostic and Statistical Manual of Mental Disorders (DSM-5) has included [diagnostic criteria](#) for cannabis withdrawal. [Cannabis withdrawal symptoms](#) typically begin 24 - 48 hours after cessation, peak within the first week and last for 1-2 weeks. A meta-analysis of observational studies reported in [JAMA Network Open](#) found that cannabis withdrawal syndrome affects 47 percent of regular cannabis users.

[Symptoms of cannabis withdrawal](#) can include:

- Grouchiness or irritability
- Anxiety
- Insomnia
- Low appetite
- Restlessness
- Depressed mood
- Abdominal pain
- Sweating
- Fever
- Chills
- Headache

Some symptoms, particularly depression and anxiety, may make quitting difficult, which is partially why users relapse when trying to cut back or stop altogether.

Symptoms are usually the most intense during the first week after stopping but can last up to a month. Typically, CUD withdrawal symptoms are not as severe as those suffered by withdrawal from opioids or alcohol, for example, because THC is stored in fat cells and leaves the body slowly.



## Cannabis addiction

While regular or heavy use of cannabis can lead to a diagnosis of CUD, the notion of cannabis addiction may not be intuitive. Unlike other drugs commonly associated with addiction such as alcohol, cocaine, or opioids, cannabis is typically not perceived as a “hard drug.”

According to [Yale Medicine](#), about one in 10 people who use cannabis will become addicted. When cannabis use starts before age 18, the rate of addiction rises to [one in six](#). Within a year of trying cannabis for the first time, nearly [10.7 percent](#) of adolescents between 12 and 17 met the criteria for cannabis addiction.

## CUD treatment

Treatment rates for cannabis use disorder remain low, primarily because of the likelihood that those with CUD do not recognize their symptoms and need for treatment. As cannabis strains become more potent and accessible, and as the perceived need for treatment decreases, the risk of CUD will continue to increase unless symptoms are recognized and seeking treatment is emphasized, especially in the workplace.

A study by researchers at Columbia University's Mailman School of Public Health found that among those with cannabis use disorder, only 4.2 percent to 6.4 percent reported any CUD treatment, while only 2.1 percent to 2.9 percent reported specialized CUD treatment. The study also found that:

- Treatment for CUD has decreased since 2004, particularly in states with medical cannabis dispensaries.
- Specialty treatment for CUD remains low, and actually fell in states with cannabis dispensaries. It also declined among those reporting a past-year CUD—a clinical indicator of the need for treatment. The study noted that this translates to growing unmet treatment needs across the U.S.
- Few people from the study perceived a need for CUD treatment, most likely the result of more relaxed state-by-state cannabis laws and the growing perception that cannabis is not a harmful drug.

What is needed to support those with CUD is:

- Education about what CUD is, including its symptoms and risks. It is crucial that those most in need of treatment recognize and take action to treat their CUD symptoms or, at the very least, explore their relationship with cannabis based on an understanding that cannabis misuse and CUD exist.
- Access to specialized CUD treatment, which provides the highest potential for successful outcomes. Pelago offers a comprehensive, specialized CUD treatment program that is described later in this document.





## Cannabis and the workplace

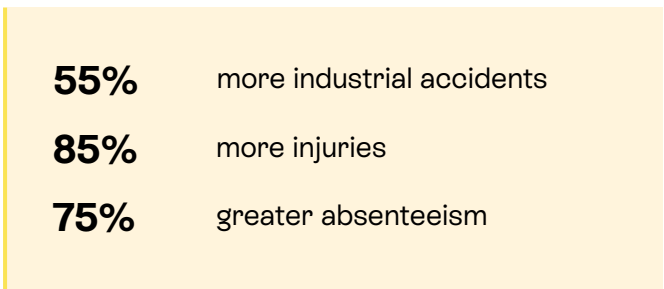
Today, cannabis is the most frequently used illicit substance in the U.S. and the most detected in workplace drug testing, creating unplanned expenses for employers as a result of:

- Depleted employee productivity and outputs
- Inefficient health care claims
- Escalation in potential liabilities

The physical and cognitive effects of cannabis use in the workplace have major job safety implications, including negative impacts on:

- Depth perception, reaction time, coordination, and other motor skills, which creates sensory distortion for someone operating machinery, driving a forklift, or delivering products in a vehicle.
- Judgment, reflexes and cognitive skills, which increase the risk of injury both on the job and behind the wheel.

According to a study from the National Institute on Drug Abuse (NIDA), employees who tested positive for cannabis (compared to those who tested negative) had:



And, a survey by the National Safety Council (NSC) revealed that:

- One-third of employees have seen cannabis being consumed during work hours
- While most employers believe employees would feel comfortable telling their supervisors if they were too impaired to work, less than half of employees would feel comfortable doing so
- Less than half of organizations have a written cannabis policy

### What employers can do

To maintain and improve safety standards and help eliminate concerns related to cannabis use in the workplace, employers can set and embrace cannabis impairment, usage, and possession policies at work, regardless of cannabis laws in their respective states. For example, while carrying small amounts of recreational cannabis in public may be legal in some states, employers are not obligated to allow it in their workplace, even if an employee does not intend to partake during business hours. Employers should:

- Keep current on changing cannabis laws and the shifting cannabis landscape
- Know the risks associated with cannabis use and develop and enforce consistent workplace policies to control those risks
- Adapt drug-free workplace policies to changing laws and circumstances
- Ensure workers in safety-sensitive positions remain impairment-free

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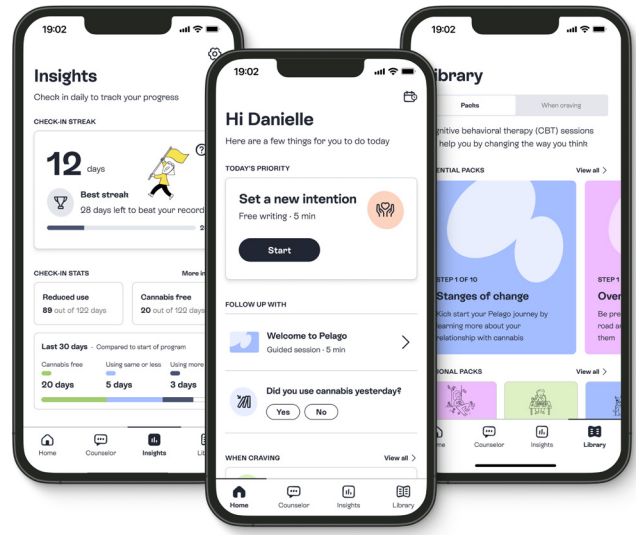
- Educate both managers and workers on cannabis issues and effects to minimize misinformation in the workplace
- Train supervisors to recognize signs of impairment and take the appropriate actions commensurate with company policies
- Offer non-stigmatizing, evidence-based treatment in a recovery-ready workplace environment

## Pelago's cannabis use program

Pelago is the first substance use provider to offer a nationwide specialized digital cannabis use treatment program, an important addition to the company's dedicated substance use management offerings that deliver improved health outcomes and demonstrated cost savings to employers and health plans.

Pelago's specialized CUD treatment program uses behavioral support strategies that include:

- **Cognitive Behavioral Therapy (CBT)** – teaches strategies to identify and change thought and behavioral patterns that contribute to the cycle of problematic cannabis use.
- **Motivational interviewing (MI)** – helps prepare individuals for change and strengthens motivation to overcome cannabis consumption habits while improving treatment adherence.



- **Motivational Enhancement Therapy (MET)** – based on the principles of MI, this brief intervention involves structured sessions focused on increasing motivation to change addictive behaviors through personalized feedback and goal-setting.
- **Personalized Tracking** – provides tools to help members track personal triggers, consumption, and progress.
- **Contingency Management (CM)** – involves frequent monitoring of a target behavior (e.g., cannabis use) and employs objective methods of managing it. (coming soon)
- **Dedicated Core Team** – offers access to qualified counselors and coaches who help members every step of the way and guide them on their recovery journey.

## Conclusion

Rapidly changing laws governing cannabis have led to easier access and increased use for recreational and medical purposes. Unfortunately, the liberalization of cannabis has driven misinformation about its short-term and long-term effects on physical and mental health and well-being. It has complicated how the drug is perceived and managed among regular and heavy users, as well as in the workplace. The result: a growing number of adults—and younger, more vulnerable populations—believe that cannabis is a relatively harmless substance, unaware of the potentially serious risks associated with its use.

The U.S. is at a critical inflection point of increasing cannabis use with decreasing treatment:

- The number of adults and adolescents using cannabis—and suffering from CUD—is increasing every year.
- Those receiving treatment for cannabis misuse and CUD—particularly specialized treatment—is decreasing.
- The negative impacts can be devastating for those who are not seeking treatment.

Awareness, education, and support are needed to inform cannabis users and employers about the potentially harmful, dangerous, and costly effects of the substance. Evidence-based substance use treatment is urgently needed to guide individuals on the journey to recovery.



### Cannabis: A gateway drug?

Some studies have shown that cannabis use is likely to precede the use of and/or addiction to other substances.

Though cannabis use can precede experimenting with “harder” drugs, the concept of cannabis as a gateway drug is more complicated. Cannabis is not the only drug that leads to other addictive substances.

While cannabis is one contributor to the subsequent problematic use of alcohol and/or other substances, it must be viewed through the lens of:

- Being in a social environment where others are using alcohol or drugs
- Psychological problems such as trauma
- Family history
- Genetic vulnerability to addiction