Substance Abuse and Services Child and Youth Mentor Training

Claire L. Williams - © Pikes Peak Respite Services 2025

Introduction

Every addiction, no matter what it is, is the result of trying to escape from something by going in the direction of a need that is currently not being met. In order to move past our addiction, we have to figure out what we are trying to use our addiction to get away from and what need we are trying to meet. -Teal Swan

North America has experienced national and regional drug epidemics of heroin, powder cocaine, crack cocaine, methamphetamine, and prescription drugs (especially pain relievers) over the last 40 years (Bluthenthal et al., 2017). While the population that Pikes Peak Respite Services works with is not necessarily prone to drug addiction, it can still happen. Because of this it is important to be aware of the signs of drug addiction as well as the differences between the most commonly abused drugs in the United States. We will also discuss psychedelics in this training, while recognizing that psychedelics are not one of the commonly abused drugs in the United States.

The role of psychosocial factors in addiction recovery is becoming increasingly important. A 2022 study by Green et al. highlighted the effectiveness of social support networks in maintaining recovery for individuals with substance use disorders. Their findings suggest that individuals with strong community ties and social support are 25% more likely to complete their treatment programs successfully. This emphasizes the need for programs that focus not only on clinical care but also on building strong community networks.

According to the Substance Abuse and Mental Health Services Administration, in 2018, 7.4% of people in the United States had a Substance Use Disorder (SUD) in the past year. A 2010 study of 90,922 members of Kaiser Permanente Northern California (KPNC) found that individuals with SUDs (particularly those using opioids) were more likely than those without SUDs to be diagnosed with 19 major medical conditions, to have a higher number of medical comorbidities, and higher overall disease burden (E Rudolph et al., 2020). Substance abuse is a serious disorder that can impact many different facets of an individual's life, and it is important to be understanding and offer support to individuals who have an addiction/are seeking treatment. Maintaining continuous contact with emerging adults in treatment for DUD, who are at high risk of dropout, is a prerequisite for treatment staff being able to provide qualified help and assistance, even if only a minority of the clients become abstinent (Pederson et al., 2021)

Substance use disorders (SUDs) are associated with numerous negative outcomes, including lost productivity, decreased life expectancy, and increased risk of many serious medical conditions (E Rudolph et al., 2020). Not only can substance abuse lead to serious long term negative outcomes, but it can also cause many short term effects on the brain that could prove to be negative. The table listed below will discuss some of the most commonly used drugs in the United State (with the exception of heroin) and the short term effects that those drugs have on the brain.

Drug	**Facts**	**Short Term Effects on the Brain**
Inhalants	Inhalants spread toxic chemicals throughout the body, and can cause blackouts and hearing loss as well as liver, kidney, and bone marrow damage	-Slurred Speech -Drunk, Dizzy, or Dazed Appearance -Inability to Coordinate Movement -Hallucinations and Delusions -Hostility -Apathy -Impaired Judgement -Unconsciousness
Methamphetamine	Methamphetamine can cause cardiac damage, elevated heart rate, and convulsions, and can also lead to diseased gums and teeth, known as “meth mouth”	-Loss of Appetite -Increased Heart Rate, Blood Pressure, Body Temperature -Dilation of Pupils -Disturbed Sleep Patterns -Bizarre, Erratic, Sometimes Violent Behavior -Hallucinations, Hyper Excitability, Irritability -Panic and Psychosis -Convulsions, Seizures and Death from High Doses

Cocaine	Physically it arouses key receptors (nerve ending that sense changes in the body) within the brain that in turn, generates a euphoria to which users quickly develop a tolerance. Only higher dosages and more regular use can bring about the same effect. Cocaine has been associated to strokes and heart attacks, as well as increased susceptibility to infection	-Loss of Appetite -Increased Heart Rate, Blood Pressure, Body Temperature -Contracted Blood Vessels -Increased Rate of Breathing -Dilated Pupils -Disturbed Sleep Patterns -Nausea -Hyper Stimulation -Bizarre, Erratic, Sometimes Violent Behavior -Hallucinations, Hyper Excitability -Tactile Hallucination that Creates the Illusion of Bugs Burrowing Under the Skin -Intense Euphoria -Anxiety and Paranoia -Depression -Intense Drug Craving -Panic and Psychosis -Convulsions, Seizures, and
		Sudden Death from High Doses (Even One Time)
Marijuana	Almost 44% of teens have tried marijuana by the time they graduate from high school	-Slurred Speech -Heightened Sensory Perception -Euphoria -Drowsiness/Relaxation -Impaired Short-Term Memory, Attention, Judgement, Coordination, and Balance -Increased Heart Rate -Increased Appetite
Prescription Drugs	Unlike some illicit drugs and alcohol, stimulants are used at equal or greater frequency by young females vs. males. Use is often to lose weight, stay awake to study, or perform better or exams	-Increased Alertness, Attention, Energy -Irregular Heartbeat -Potential for Cardiovascular Failure or Seizures

(Visually, 2021)

Substance use among emerging adults is a serious public health problem that contributes considerably to loss of quality-adjusted life years. Previous research has shown a relationship between early onset of substance use and increased risk for later development of substance use disorders (SUDs). In addition, a large body of evidence suggests that substance use is a risk factor for other problems, including disruptive behavior, school dropout, poverty, and crime

(Pederson et al., 2021). Individuals typically begin experimenting with drugs as adolescents, starting as early as middle school. Youth and Young Adults (YYA) are generally more impressionable and prone to impulsive behavior, leaving them at a high risk of using and abusing drugs. Abusing drugs as a YYA can increase the chance of high school dropouts as well as poor outcomes later on in life. In addition, individuals who start abusing drugs at a young age and drop out of high school due to that have an increased chance of dropping out of treatment for substance abuse. Individual client factors, such as young age, lower education, and race/ethnicity, have consistently has been associated with dropout from treatment, although young teenagers who still live at home may be more likely to engage in treatment compared to older teenagers. As for program factors, studies show that engaging young people in treatment requires that services be youth-friendly, inclusive, and confidential and that services are provided by welcoming staff with appropriate communication and counseling skills (Pederson et al., 2021).

An important part of recovery from drug abuse is making sure that you have the right people in your social sphere. Interacting with individuals who are still abusing drugs and are not planning on attending treatment could decrease the chance of successful treatment for the individual who is trying to recover. One study showed that individuals whose friends encouraged SUD treatment were more likely to attend both 12-step programs and receive methadone maintenance therapy. Associating with fewer friends who use drugs has also been linked with increased entry into methadone maintenance therapy. Interventions that utilize an individual's social network or aid in creating a network that is more supportive of abstinence have been effective in reducing substance use as well as successfully used for health interventions to reduce smoking, enhance mental health, and reduce HIV-related risk behaviors (E Rudolph et al., 2020). Having positive supports is so important while in treatment for substance abuse, as lack of support could decrease the chance of a successful treatment for that individual. There are several possible explanations for this: (1) social norms or social influence with respect to SUD treatment uptake, (2) emotional support and/or encouragement from peers to enroll in SUD treatment, and (3) homophily (i.e., those enrolled in SUD treatment may have more opportunities to meet others who are also enrolled in SUD treatment) (E Rudolph et al., 2020)

It is also important to remember that drug users are not one specific type of person. Anyone has the potential to have this disorder and become addicted to methamphetamine, heroin, cocaine, etc. In a study on PWID by Bluthenthal et al. (2017) respondents were racially and ethnically diverse with 33% of subjects being white, 30% being African American, and 25% being Hispanic. The sample was 26% female, 74% male, and 15% gay, lesbian, or bisexual. Respondents were very low-income with 62% reporting being

homeless and 81% reporting a monthly income below $1351. Mean age was 48.1 and mean years of drug injection were 27.9 (Bluthenthal et al., 2017) Another study by Schneider et al (2020) showed that poverty, a lack of health services, and geographical isolation are barriers to injection-related infectious disease prevention in rural areas. . Stigmatization of PWID can disincentivize persons from engaging in positive health-seeking behaviors. In addition, in rural communities it may be difficult for PWID to remain anonymous when accessing health services, thus potentially obstructing healthcare and HIV risk reduction services utilization (Schneider et al., 2020).

Sharing injection equipment with someone of unknown or positive HIV status continues to be a core driver of HIV transmission among PWID. Research has shown that polysubstance use, or the use of multiple drugs over a given period, is one factor in sharing injection equipment. Although polysubstance use has been linked to high-risk injection behaviors, little research has connected specific profiles of polysubstance use to HIV risk behaviors. Resources such as harm reduction services, syringe service programs, sterile injection equipment, HIV/STD testing, referrals to primary care, and linkage to substance use disorder treatment (Schneider et al., 2020) could greatly decrease the level of risk for individuals with substance abuse disorders in rural areas. In addition, more services like this in suburban and urban areas could benefit individuals in those areas that are facing similar challenges.

Marijuana

Also Known As: Bud, Cannabis, Ganja, Hemp, Kush, Mary Jane, Pot, Reefer, Weed

Marijuana is one of the most commonly used psychoactive substances in the world. Although some individuals may use marijuana without serious consequences, use is associated with impaired functioning, vehicular accidents, psychiatric symptoms, and addiction. Marijuana use often begins in adolescence, when heavy use is associated particularly with poor outcomes, including altered brain development, and decreased educational attainment (Sarvet et al., 2018). Living in the state of Colorado, marijuana is not often talked about as being a “dangerous” drug and has been legalized for recreational and medical use. Many other states have followed suit in regard to the legalization of marijuana. However, it is important to recognize how the use of marijuana might effect adolescents as well as individuals who do not use marijuana in a safe and responsible way.

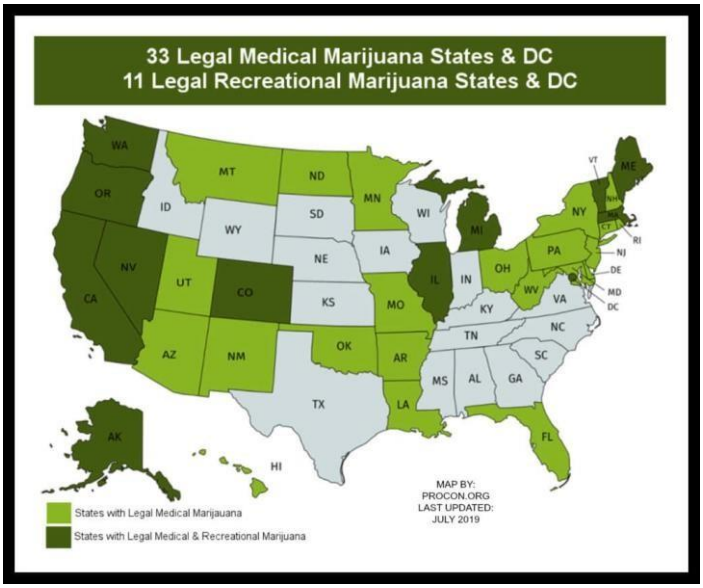
Cannabis has been used in the United States since the 1800s, with public attitudes toward its acceptability and potential harmfulness varying over time. Since 1996, US state laws about the legal use of cannabis for medical and recreational purposes have changed, as have public attitudes about the safety and acceptability of cannabis use (Hasin, 2018). When cannabis first started being used in the United States in the 1800s, it was widely accepted and often used in medicines in the form of an extract. In fact, laws did not start being put in place in regard to marijuana until well into the Twentieth Century. Views on marijuana began to change dramatically starting in 1996 and have continued changing since then as more studies are being done regarding the benefits and downsides of legalizing marijuana, as well as the safety of marijuana

One of the more common reasons that individuals start using marijuana is that it helps with pain. Chronic pain is common in U.S. adults. Despite problems associated with medical marijuana (cognitive/motor impairments, side effects, no standard product formulations) its advantages (lack of fatal overdose, or transition from heroin) have led to professional calls to substitute medical marijuana for opioids, although this debate continues. Many medical marijuana patients use it for pain relief, some as a partial or complete substitute for opioids, and others continuing to use or abuse prescription opioids (Hasin, 2018). Marijuana also has the potential to help with seizures/epilepsy, anxiety/depression, difficulties sleeping, cancer, and neuropathy.

> "Personal and anecdotal testimonies suggest that cannabis (medical or otherwise) is effective in treating symptoms of depression and anxiety. Consistent with this, surveys of medical marijuana patients show that many of them use marijuana to treat these symptoms. Although theoretical reasons suggest that synthetic oral cannabinoids may be helpful for some aspects of PTSD, scientific reviews of studies to date find no evidence for the efficacy of cannabinoids in the treatment of depression or anxiety disorders." (Hasin, 2018)

There are some who argue against the benefit and legality of medical and recreational marijuana. The concern is primarily for adolescents, as the legalization of marijuana (to individuals over the age of 21) has the potential to make marijuana easier for adolescents to illegally access. Medical Marijuana Laws (MMLs), like Recreational Marijuana Laws (RMLs), loosen the restrictions on the availability and legality of marijuana use, which raises a concern that marijuana may be diverted from legal medical use to illegal adolescent use. However, several methodologically rigorous studies suggest that MMLs are not associated with an increase in adolescent marijuana use (Brooks-Russell et al., 2019).

> "A pre-post study among Colorado high school students did not detect a change in ever or current marijuana use rates after retail marijuana sales became legally available to adults. Specifically, we did not find an indication of change in past 30-day marijuana use from 2013 to 2015 (20.9 vs. 21.2%), or for any demographic group (i.e., by grade level, sex, or race/ ethnicity). The time period of the study coincides with the 2014 implementation of retail marijuana sales in Colorado." (Brooks-Russell et al., 2019)



Concern has also been voiced about the risks of the regular use of cannabis. At one point some individuals were claiming that the use of marijuana would kill a significant number of brain cells. However, the perception that regular use of cannabis is risky declined substantially. Since 2004–2005 rates of decline ranged from 50 to 80%. In 2016, only ~ 30% of twelfth graders perceived such risk. The perception that cannabis use is risky also declined among adults. (Hasin, 2018). There is some danger in the use of marijuana, as the operation of a motor vehicle while under the influence of marijuana could prove to be detrimental. This risk should still be considered and advised against, especially now that the use of marijuana is more common.

Marijuana Facts

-66% of Americans favor legalizing recreational marijuana
-55 Million US citizens who are cannabis users
-Colorado had $1.56 billion in marijuana sales in 2020/2021
-9,397 – the number of active licenses for legalized cannabis business as of 2017
-Women now use cannabis more than men, with 53% having tried it compared to just 42% of men. 6% of female respondents said they have used cannabis daily.
-71% of surveyed consumers said they use cannabis for wellness purposes. 53% of them claimed that they reduce their over-the-counter (OTC) pain treatment, while 18% said they stopped completely (Forbes, 2019)
- $500 to $2,500 annually – The average amount a marijuana consumer spends annually on cannabis products (Cova, 2020).
- It is expected that the cannabis industry will generate an additional 250,000 full-time jobs between 2020 and 2024 (Marijuana Business Factbook, 2020).

Methamphetamine

Also Known As: Batu, Bikers Coffee, Black Beauties, Chalk, Chicken Feed, Crank, Crystal, Glass, Go-Fast, Hiropon, Ice, Meth, Methlies Quick, Poor Man's Cocaine, Shabu, Shards, Speed, Stove Top, Tina, Trash, Tweak, Uppers, Ventana, Vidrio, Yaba, and Yellow Bam.

Methamphetamine (MA) is a highly addictive stimulant substance with deep historical roots. Originally, MA was synthesized by Nagayoshi Nagai in Japan in 1893. During the Second World War, the substance received political and military interest because of its disinhibiting effect and, above all, because it increased vigilance. At that time, the enormous potential of addiction to this substance became evident (Rommel et al., 2016). MA is still a commonly used drug in the

United States today (2021) and constitutes a major public health problem, associated with high rates of attrition, crime, relapse, and mortality (London et al, 2014).

The use of MA is rapidly spreading, and MA is widely abused with approximately 35 million MA abusers around the globe. In many parts of the United States, MA seems to be replacing marijuana and crack cocaine as "the drug of choice". In Europe, MA is quickly expanding under the scene name of "Crystal" or "Crystal Meth" (CM) (Rommel et al., 2016). MA is dangerous and addictive and can have a wide range of toxicity ranging from mild (i.e., nausea, sweating, headache, etc.) to potentially fatal (i.e., acute cardiac failure, repeated seizures, extreme hyperthermia, etc.).

Chronic abuse of methamphetamine is often associated with a constellation of behavioral problems, including mood disturbances, persistent craving, and psychosis. Cognitive deficits are also common among individuals with a history of methamphetamine abuse, particularly involving executive functions (e.g., mental flexibility, self-control), which are important for suppressing habitual behavior (London et al., 2014). Due to the inconsistency of the quality and toxicity of MA, it is extremely easy to overdose, making methamphetamine one of the more dangerous illicit substances. In 2017, about 15 percent of all drug overdose deaths involved the methamphetamine category, and 50 percent of those deaths also involved an opioid, with half of those cases related to the synthetic opioid fentanyl. (CDC Wonder Multiple Causes of Death—see #42 on Meth RR.). The chance of overdose will also increase based off of the intensity of the use, (1) Occasional or Low-Intensity Use – the individual ingests MA pills or inhales powder to achieve "highs" or weight loss; (2) Uncontrolled Use - the individual smokes or inject MA to achieve rapid, intense effects, triggering essentially psychological addiction; (3) High-Intensity Use - the individual ("speed freak") is psychologically and physically addicted, demanding higher and higher doses (De-Carolis et al., 2015).

Methamphetamine (MA) belongs to the amphetamine type stimulant (ATS) class of substances which includes two categories: drugs like amphetamine, methamphetamine, and their correlates such as fenetylline, methylphenidate, phenmetrazine, cathinone and so on and "ecstasy-type" drugs like MDMA, MDA and MDEA. MA is a colorless, insoluble volatile oil. Although it may be inhaled or injected, it is usually smoked, swallowed as a pill, or dissolved in a drink because of its bitter taste (De-Carolis et al., 2015). One of the main dangers of MA is that individuals can make it at home with common household items using recipes that are readily available on the internet (Bostwick, n.d.). It is easy to make and relatively easy to access, however, it is not safe and there have been a significant number of "meth lab" accidents and overdoses. Methamphetamine users and producers are frequently one and the same, resulting in both physical and environmental consequences. Users experience emergent, acute, subacute, and chronic injuries to neurologic, cardiac, pulmonary, dental, and other systems (Bostwick, n.d.).

Methamphetamine does have temporary positive effects on the individual who is using the drug. Consumption of MA causes euphoria, subjectively stimulates performance, and increases a person's sense of self-esteem. The need for sleep and for assuaging hunger and thirst is reduced, whereas sexual desire and the flow of words are increased. (Rommel et al., 2016) It gives a false sense of well-being, energy and over-estimation of physical and mental capacities and leads to a state of collapse once its effect is over (De-Carolis et al., 2015).

Table 3. Clinical signs and symptoms of acute methamphetamine toxicity.

Mild	Nausea, vomiting, abdominal pain, diarrhoea, palpitations, tremors, hyperreflexia, mydriasis, flushing or pallor, sweating, headache, restlessness, irritability, insomnia, xerostomia, bad taste, bruxism, trismus
Moderate	Hyperactivity, confusion, aggression, anxiety, hallucinations, muscle rigidity, tachycardia, hypertension, chest tightness, tachypnea, dyspnoea, mild pyrexia, dehydration
Severe	Delirium, hallucinations, paranoia, hyperpyrexia (>40°C), hypertension or hypotension, cardiac dysrhythmias, seizures, coma, renal failure associated with rhabdomyolysis
Potentially fatal	Ventricular fibrillation, myocardial infarction, acute cardiac failure, cerebrovascular accident (usually cerebral haemorrhage), extreme hyperthermia (may precipitate disseminated intravascular coagulation), repeated seizures, cerebral oedema with brainstem compression secondary to hypoxia or hyponatremia

Source: modified from Hamamoto and Rhodus (2).

The longer that an individual uses MA, the more serious the effects will be. The MA becomes less "effective" over time, and when that happens the individual that is using the drug will have to increase doses to continue to feel the same type of high. Prolonged use leads to addiction in a series of stages which are characteristically described as the "rush" i.e. the effect of smoked or injected MA which is associated with tachycardia, sweating and increased blood pressure for about 30 minutes; "high", i.e. a hyper-reactive, arrogant attitude lasting for several hours; "binge" i.e. a long period of 3 to 15 days during which the addict tries to maintain a constant "high" by ingesting higher and higher MA doses; "tweaking" or "itch" which develops at the end of a binge, when high MA doses no longer produce a "rush" or a "high" (De-Carolis et al., 2015). During a binge or at the end of a binge, it can be exceedingly easier to overdose as an individual is trying to keep a consistent high and is increasing doses. At this point, the individual would start to experience the "potentially fatal" signs and symptoms listed in the table above. It is increasingly easy to overdose on methamphetamine, especially now that some individuals are being given MA that is laced with Fentanyl without their knowledge. Per BLVD Treatment Centers (2021) methamphetamine is (1) 3X as addictive as cocaine and nearly impossible to quit without help; (2) the cause of 1,388 drug overdose deaths in 2010 and the cause of 3,724 deaths in 2014 and; (3) the addiction of 1.2 million individuals in the United States.

Recent studies into the treatment of methamphetamine addiction have highlighted the effectiveness of contingency management in improving treatment retention and outcomes. A 2022 study by Thomas et al. found that patients who participated in contingency management programs, which provide incentives for abstinence, were 40% more likely to remain in treatment for 6 months compared to those who did not. This method has shown promise in addressing the high relapse rates associated with methamphetamine addiction.

Methamphetamine Facts

-Methamphetamine increases the amount of dopamine in the brain, which is involved in movement, motivation, and reinforcement of rewarding behaviors (NIDA, 2019).

-Methamphetamine can be highly addictive. When people stop taking it, withdrawal symptoms can include anxiety, fatigue, severe depression, psychosis, and intense drug cravings (NIDA, 2019)

- The most effective treatments for methamphetamine addiction so far are behavioral therapies. There are currently no government-approved medications to treat methamphetamine addiction (NIDA, 2019).
- Methamphetamine (meth) is a stimulant. The FDA approved brand-name medication is Desoxyn ® (DEA, 2020)
- Methamphetamine is a Schedule II stimulant under the Controlled Substances Act, which means that it has a high potential for abuse and a currently accepted medical use (in FDA-approved products) (DEA, 2020) - It is available only through a prescription that cannot be refilled (DEA,2020).
- Has very limited use in the treatment of obesity and attention deficit hyperactivity disorder (ADHD) (DEA,2020)

Cocaine

Also Known As: Blow, Coca, Coke, Crack, Flake, Snow, and Soda Cot

Cocaine is one of the most used recreational drugs in the western world: Rates of problematic use are more difficult to estimate, but referrals for treatment for cocaine use in England were slightly over 10,000 in 2014 and over 900,000 individuals in the USA met criteria for abuse or dependence in the same year (Blanco-Presas et al., 2018). The prevalence of pastyear cocaine use was highest for young adults, while cocaine-involved overdose deaths were concentrated in relatively older, or middle-aged, groups. Although prevalence of past-year cocaine use did not significantly differ by race/ethnicity, the age-adjusted cocaine-involved overdose mortality rate among NH (non-Hispanic) Blacks was significantly higher than in any other racial/ethnic group and was double the rate in NH Whites (Cano et al., 2020)

Cocaine is one of the most used, and most abused, drugs in the United States. If an individual does ingest too much cocaine (or ingests some cocaine and has an adverse reaction), they may fall victim to a range of negative physical consequences (e.g., seizures, cardiovascular, and cerebrovascular events), adverse psychological consequences (e.g., psychosis, etc.) and impairment of cognitive functioning (Blanco-Presas et al., 2018). While cocaine is fairly dangerous on its own, many cocaine users have been found to abuse alcohol as well. Alcohol abuse is very common in cocaine users, with 89% of inpatients with cocaine abuse/dependence also being found to qualify for other alcohol and drug dependence diagnoses in one study (Blanco-Presas et al., 2018). This combination has resulted in more accidents and health risks and makes it more difficult for health care professionals to determine which substance is causing which symptom. As an example, both of these substances can lead to impaired cognitive

function. Impaired cognitive function, however, is not the worst potential side effect of cocaine abuse. Cocaine usage is associated with both acute and chronic cardiovascular diseases such as (1) ischemia and infarction; (2) ventricular hypertrophy; (3) systolic dysfunction; (4) arrhythmias; (5) endocarditis and; (6) aortic dissection. Cocaine has cardio-toxic effects on the

Cocaine use continues to be a major public health issue, with recent studies indicating that even occasional use can lead to long-term cardiovascular damage. A 2023 study by Lee et al. showed that even short-term use of cocaine can cause significant disruptions to heart function, particularly by increasing the risk of arrhythmias and myocardial infarction. These findings underscore the need for more immediate interventions and public education on the risks associated with cocaine use.

(1) sympathetic nervous system; (2) cardiomyocytes; (3) vasculature; (4) endothelium and; (5) platelet system. In combination, these effects simultaneously increase blood oxygen demand while decreasing myocardial oxygen supply. Therefore, regular cocaine use is associated with an increased likelihood of myocardial infarction in younger adults (Radunski et al., 2017).

Adverse Effects of Cocaine

Category	Adverse Response
Behavior	(1) Losing Touch with Reality (2) Confused or Disoriented Behavior (3) Violence (4) Aggressiveness
Brain	(1) Brain Matter Atrophy (2) Decreased Glucose Metabolism in the Frontal and Temporal Lobes (3) Prevents Reuptake of Dopamine, Leading to a "Crash" (4) Impaired Brain Functioning
Body Responses	(1) Increased Heart Rate (2) Increased Blood Pressure (3) Increased Body Temperature (4) Dilated Pupils (5) Increased Light Sensitivity (6) Constriction of Peripheral Blood Vessels (7) Rapid Speech (8) Abnormality of Impairment of Movement (9) Nausea and Vomiting
Psychology	(1) Drug Craving and Compulsion (2) Depression (3) Paranoia or Fear (4) Irritability
General Health	(1) Chronic Illness or Risk of Infection (2) Psychotic Episodes (3) Danger to the Reproductive System (4) Dysphoria or General Dissatisfaction
Work	(1) Under Performance (2) Neglect Responsibilities and Duties (3) Increased Risk for Job Loss (4) Work Drug Testing Failure
Relationships	(1) Lack of Trust (2) Stereotyped Behaviors (3) Unable to Control Anger (4) Secretive Actions
Sex and Sexuality	(1) Inhibited Ejaculation (2) Decreased Libido (3) Risky Sexual Behaviors (4) Menstrual Irregularity

(AddictionBlog, 2014)

One misconception in regard to cocaine is that it is not dangerous, however, if used irresponsibly, cocaine could prove to be lethal. Unfortunately, cocaine being a "safer drug" is a common misconception, leading to reckless use of the drug and, therefore, higher rates of addiction and mortality. In 2018, more than one in five fatal drug overdoses in the United States (US) involved cocaine, representing 14,666 deaths. Cocaine-involved overdose mortality has recently surged in the US, with mortality rates more than tripling from 2012 to 2018. Cocaineinvolved overdose mortality is projected to continue escalating, with the potential to approach levels comparable to recent rates of opioid overdose deaths (Cano et al., 2020). While the mortality rate has increased considerably in the past six years, not all credit can be given to the quantity of the substance that an individual ingests. Availability and affordability are also important contributing factors to the increased mortality rate. This drug being so easily accessible and inexpensive can lead to an increased number of users and, therefore, an increased number of overdoses.

Additionally, increases in cocaine-involved overdose mortality rates may be partially explained by increased risk associated with using cocaine, often related to polysubstance use and exposure to the synthetic opioid fentanyl, which is highly potent and lethal even in miniscule quantities. Some individuals who use cocaine are exposed to fentanyl through co-use of cocaine and heroin (Cano et al., 2020). In the use of almost all illegal substances, fentanyl exposure is a risk, and even the most minimal amount of fentanyl can prove to be fatal.

Cocaine Facts

- Cocaine is a powerfully addictive stimulant drug made from the leaves of the coca plant native to South America (NIDA, 2021)
- Street dealers often mix it with things like cornstarch, talcum powder, or flour to increase profits (NIDA, 2021)
-They may also mix it with other drugs such as the stimulant amphetamine or the synthetic opioid fentanyl (NIDA, 2021)
- In 2018, 2% or 5.5 million persons in the US reported having used cocaine in the past year (Bustamante, 2021) - Nearly 1 in 5 drug overdose deaths in 2017 were cocaine-related, with the highest rate of cocaine-related overdoses and deaths occurring among non-Hispanic black populations (Bustamante, 2021)
- Between 2012 and 2018, the rate of cocaine-related overdose deaths increased from 1.4% to 4.5%. (Bustamante, 2021)
- Most cocaine is sourced from Columbia which produces 90% of cocaine powder sold in the US, predominantly entering the country through Mexico (Bustamante, 2021)
- Almost 5 million Americans reported current cocaine use in 2016, which is almost 2% of the population (CDC, 2021) - The largest rate increases in cocaine-involved overdose death rates were in the Midwest region from 2016-2017. Overall, the 2017 rate was highest in the Northeast region; however, the highest death rates were in Washington D.C. and Ohio. (CDC, 2021)
- The name "crack" cocaine comes from the "crackling" sound that is created when impure cocaine is heated (Lehnardt, 2019)
- More than 400,000 babies are born addicted to cocaine each year in the U. S (Lehnardt, 2019)
- Because cocaine is popular among middle to upper-class communities, it is known as the "rich man's drug." (Lehnardt, 2019

- Cocaine overdose is the most common reason for drug-related visits to the emergency department in the U.S., causing 31% of such visits. In 1978, cocaine accounted for only 1% of drug-related emergency room visits (Lehnardt, 2019)
- The United States consumes approximately 37% of the world's cocaine, although they only make up less than 5% of the world's population. Europe and South America round out the top three cocaine consumers (Lehnardt, 2019)
- The illegal market for cocaine is between $100 and $500 billion each year globally (Lehnardt, 2019)
- Cocaine has been described as the "perfect heart attack drug" because it increases blood pressure, stiffens arteries, and thickens heart muscle walls. These abnormalities persist long after the effects of cocaine have worn off, even in recreational users (Lehnardt, 2019)

Pharmaceutical Drugs & Opioids

The Rx drug abuse epidemic is fueled by opioid prescribing. Nearly three out of four overdoses are caused by opioid pain relievers, and these deaths have quadrupled since 1999 (Grecu et al., 2019). The opioid epidemic has been making headlines for years with stories about the personal and societal dangers of opioid abuse. However, opioids are not the only type of prescription drugs that are being abused. Diversion of prescription (Rx) drugs for non-medical purposes is a serious public health concern, with over 50 million individuals or about 20 percent of the population (ages 12 and above) having misused Rx drugs in their lifetime (Grecu et al., 2019). PDM (prescription drug misuse) may be especially problematic in adolescents (12–17 years) and young adults (18–25 years), as they consistently have elevated past-year PDM prevalence rates from the most commonly misused medication classes: opioids, stimulants, sedatives, and tranquilizers (Schepis et al., 2018). Many of these adolescents and young adults may have been prescribed these more addictive drugs temporarily to combat pain or other health issues and became addicted after the prescription had expired.

Opioid overdose mortality rates have dramatically increased in the US and in several other countries in the last decade. In the last few years, fentanyl-related mortality among people who use opioids (PWUO) has skyrocketed. Between 2015 and 2016, the fatal overdose rates attributed to synthetic opioids more than doubled. (Latkin et al., 2019). Opioids, however, are not always takin on their own, or even with the user's knowledge. The inclusion of opioids in other drugs (e.g., heroin, cocaine, methamphetamine, etc.), more specifically, the use of fentanyl in other drugs, has greatly increased the opioid-caused mortality rate in the United States. Synthetic opioids can be included by the drug manufacturer as a "filler", as well as for a variety of other reasons.

There are a variety of way that individuals can obtain pharmaceutical drugs/opioids aside from the utilization of a dealer. Individuals can obtain Rx drugs for non-medical use through several channels including theft, street purchases, from a friend or relative, and "doctor shopping." The latter refers to patients obtaining prescriptions for controlled Rx drugs from multiple providers without the prescribers being aware of the other prescriptions (Grecu et al., 2019). Essentially, an individual could have multiple prescriptions for the same drug at multiple pharmacies, and unless this was drawn to the attention of a professional, this misuse could continue indefinitely. The current nonmedical use of opiate prescription drugs has been characterized by significant increases in overdose deaths, increased mortality, at least one

significant HIV/HCV outbreak, and a substantial rise in the number of heroin users. Another potential consequence of this trend is changes in injection drug use patterns (Bluthenthal et al., 2017)

> "To combat these problems, a popular state-level initiative has been to implement Prescription Drug Monitoring Programs (PDMP), electronic databases that track the prescribing and dispensing of controlled Rx drugs. PDMPs can provide critical information on the patient's prescription history to physicians and pharmacies helping identify patients who may be doctor shopping, misusing Rx substances, and are at high risk of an overdose and would benefit from timely interventions. Currently, 49 states have an operational PDMP; however, in many of these states provider access and database queries are voluntary. Policymakers at the federal and state levels have recommended the implementation of PDMPs and have specifically mandated their use by healthcare providers." (Grecu et al., 2019)

The use of opioids can potentially lead to the use of other illicit drugs. Heroin use has returned to levels not seen since the 1970s, and many heroin users now in treatment report beginning with Rx opioids (Grecu et al., 2019). In some situations, heroin, or other such drugs, might be more accessible and individuals will move to those drugs because of that. Due to resources such as PDMPs, opioids are more and more difficult to come by outside of a prescription, so the next move is often to move to another illicit drug that can mimic the effect of the opioid. The opioid crisis has increased risks for injection drug use (IDU)–associated HIV outbreaks throughout the United States as polysubstance use and syringe sharing are common among rural people who inject drugs (PWID) (Schneider et al., 2020).

Adverse Effects of Opioids

Category	Adverse Effect
Behavior	(1) Changes in Mood (2) Disoriented Movements (3) Irritability (4) Restlessness
Body Responses	(1) Loss of Appetite (2) Slowed Heart Rate (3) Drowsiness (4) Slowed Breathing
Brain	(1) Sleep Disturbances (2) Seizures (3) Sensory Alterations (4) Cognitive Impairments (5) Dependence (6) Concentration Disorders
General Health	(1) Swelling of the Mouth and Tongue (2) Dry Mouth (3) Heart Problems (4) Problems with Urination

Psychology	(1) Anxiety (2) Risk of Psychiatric Disorders (3) Personality Disturbances
Sex and Sexuality	(1) Sexual Dysfunction (2) Decreased Libido (3) Hypogonadism (4) Decreased Sperm Motility (5) Irregular Menstrual Cycle (6) Erectile Dysfunction
Serious Adverse Side Effects	(1) Coma (2) Overdose (3) Death (4) Hallucination

Since drug abuse typically starts in adolescents, treatment and education for adolescents should be a primary objective. Identifying adolescents in school engaged in PDM may limit both direct and indirect PDM consequences, which could include HS dropout. Outreach to adolescents not in school requires community-based efforts, including parental education about medication storage and disposal, as family is a key source for PDM (Schepis et al., 2018). There is also a need for expansion of evidence-based treatment, particularly maintenance treatment with methadone and buprenorphine, as well as new treatment delivery models for young opioid users (Guarino et al., 2018). One of the key issues now that is young people do not seek help until it is too late, and they are already addicted to opioids and/or they have started using heroin. It is important to offer young individuals who are addicted to prescription drugs/PO and try to make effective change that can enable that individual to complete high school and discontinue use of the drug.

Although a significant majority (70%) reported a history of drug treatment, treatment was not typically accessed until age 19.8, on average – about 3 years after initiation of nonmedical PO use, 1½ years after progression to regular PO misuse and 5 months after first heroin use. Among those who had ever been in drug treatment, a broad range of modalities was represented, with approximately 30% of participants, respectively, reporting current or prior enrollment in either buprenorphine or methadone maintenance treatment (Guarino et al., 2018). It is important to remember that just because a drug was prescribed to an individual it may not be safe for continued use and should not be used out of the prescribing professional's direction and supervision. Elevated stimulant-PDM mirrored elevated rates of any stimulant use, with this positive relationship between any use and PDM seen broadly across subgroups and medication classes. (Schepis et al., 2018).

Fentanyl

Fentanyl-related mortality has skyrocketed among people who use opioids (PWUO) in North America (Latkin et al., 2019). One of the most dangerous drugs that can find its way into another drug is Fentanyl. This drug is not typically taken on its own as it can only be taken in small doses without being lethal. If another illicit drug is laced with Fentanyl, more often than not the individual who is using the drug is not aware that it is laced. Findings also suggest that

PWID (people who inject drugs) who used both opioids and stimulants were among the most vulnerable to fentanyl exposure (Hayashi et al., 2018)

Some polysubstance users (i.e., those using both opioids and stimulants), if not many, may have been exposed to fentanyl through stimulants. Individuals consuming stimulants combined with fentanyl may be at an elevated risk for overdose, as they may be less likely to expect being exposed to fentanyl. Future research should investigate the possibility of stimulants-fentanyl mixture being sold as stimulants on the market (Hayashi et al., 2018). In a study by Hayashi et al. (2018) it was discovered that the majority of individuals that tested positive for Fentanyl were PWID and those who did have recent exposure to Fentanyl also tested positive for other substances. Seeing as this is a fairly common occurrence, it is important that future research further investigates this issue and gets Fentanyl out of illicit drugs permanently.

The opioid epidemic has intensified in recent years with the rise of synthetic opioids like fentanyl. A study by Wang et al. (2023) examined the impact of fentanyl-adulterated heroin on overdose mortality rates and found that fentanyl has contributed to a 200% increase in overdose deaths. This highlights the urgent need for policies that address the proliferation of fentanyl and improve access to naloxone and harm reduction services.

Drug	Fentanyl	Non-Fentanyl
Acetylfentanyl	X	
Alpha-Methylfentanyl	X	
3-Methylfentanyl	X	
Butyrylfentanyl	X	
p-Fluorofentanyl	X	
Valerylfentanyl	X	
Beta-Hydroxythiofentanyl	X	
Furanylfentanyl	X	
Carfentanil	X	
Norfentanyl	X	
U-47700		X
U-50488		X
AH-7921		X
MT-45		X

(Griswold et al., 2018)

Opioid/ Pharmaceutical Drug Facts

- Naturally sourced opioids are derived from poppies (Papaver somniferum) (Bustamante, 2021)
- Synthetic opioids are created in laboratories, including methadone, fentanyl, and meperidine (Bustamante, 2021) - Semi-synthetic opioids are synthesized from naturally occurring opium products and include morphine, codeine, heroin, oxycodone, hydrocodone, and hydromorphone (Bustamante, 2021)
- Fentanyl is a synthetic opioid drug approved by the FDA as an anesthetic and for pain relief. It is also one of the most abused and dangerous narcotics today (Bustamante, 2021)
- Their non-medical use, prolonged use, misuse and use without medical supervision can lead to opioid dependence and other health problems (WHO, 2021)

-The medication naloxone can prevent death from an opioid overdose if administered in time (WHO, 2021) -There are effective treatment interventions for opioid dependence that can decrease the risk of overdose, yet less than 10% of people who need such treatment are receiving it (WHO, 2021)

-Worldwide, about 0.5 million deaths are attributable to drug use. More than 70% of these deaths are related to opioids, with more than 30% of those deaths caused by overdose (WHO, 2021)

- Opioids bind to mu-opioid receptors on the nerve cells in the brain and body to reduce pain and suppress coughs when used legitimately but can also cause intense euphoria or intense high that can lead to dependence and/or addiction, whether the drug ingested is heroin or a legally prescribed drug (DoJ, 2020).
- Opioid overdose effects include severe depression of the respiratory system, potentially causing respiratory arrest, coma, and death. Opioid dependence and withdrawal is characterized by constricted nausea, mental confusion, drowsiness, severe sweats, and constipation (DoJ, 2020).
- Fentanyl, an opioid that is practically and effectively 50 and 100 times more potent than heroin or prescription opioids, is often used to adulterate heroin, cocaine, methamphetamine and other “street drugs.” (DoJ, 2020). - Fentanyl derivatives such as carfentanil, which is used to anesthetize elephants, is also being used to adulterate heroin, causing cluster overdose deaths (DoJ, 2020).

Heroin

Also Known As: Big H, Black Tar, Hell Dust, Horse, Smack, Thunder

Since the 1990s, U.S. heroin consumers have been divided from the full range of available products: east of the Mississippi River, Colombian-sourced powder heroin (PH) dominates the market while, to the west, Mexican-sourced “black tar” (BTH) is the main heroin available (Mars et al., 2016). Some serious public health risks have been linked to BTH, including infections such as (1) wound botulism; (2) necrotizing fasciitis; (3) tetanus; (4) other skin and soft tissue infections. Because the U.S. heroin market is geographically segmented, the distribution of these health risks and problems may also reflect users’ locations. Black tar heroin has also been known increase the likelihood of HIV transmission in situations of needle sharing as well as the likelihood of venous scarring (Mars et al., 2016).

Over the past decade, 18–25 year-olds had the highest rate of heroin use of any age group, with their rate of heroin use more than doubling during this period (Guarino et al., 2018). A significant amount of young people will be prescribed PO (pharmaceutical opioids) and then move to heroin once they are no longer to access the PO due to the prescription expiring or if an PDMP (Prescription Drug Monitoring Program) catches the individual “doctor shopping.” While heroin and opioids are both equally bad in their own ways, the purchase and use of “street heroin” can pose some additional risks. The adulteration of heroin with nonpharmaceutical fentanyl is not new. What is new, however, is the broad geographical scale of heroin adulteration

with nonpharmaceutical fentanyl, and the number of other distinct, high-potency, clandestine opioids being added to heroin (Griswold et al., 2018).

The opioid epidemic has continued to expand, driven by recent increases in heroin use and heroin-related overdose deaths. From 2010 to 2015, the percentage of overdose deaths involving heroin tripled from 8% to 25% nationwide, while in the same period, overdose deaths involving opioid analgesics decreased from 29% to 24% (Guarino et al., 2018). Street heroin, like most street drugs, is unpredictable, and there is a high probability of purchasing heroin that is laced with fentanyl (synthetic opioid). The amount of fentanyl required to kill a 70 kg adult is equivalent to a few grains of salt; even less is needed to produce lethal overdose once mixed with illicit opioids, such as heroin (Guarino et al., 2018). The high probability of an individual who is using heroin to purchase heroin that is unknowingly laced with fentanyl is extremely concerning and dangerous. Nonpharmaceutical fentanyl is hypothesized to fuel the striking increase in heroin overdose deaths. Indistinguishable from pharmaceutical material, nonpharmaceutical fentanyl produces nearly immediate onset of opioid effects, including cessation of respiratory effort. (Griswold et al., 2018) . Unfortunately, in most cases, there is no way to know if the heroin was mixed with fentanyl until it is already to late, making street heroin one of the more dangerous and inconsistent illicit drugs.

Street heroin is well known to vary in purity and adulterants. Since the 1990s, consumers on the East Coast have been almost exclusively offered Colombian-sourced powder heroin (PH). Those on the West Coast encounter Mexican-sourced “black tar” heroin and, more recently, “gunpowder” heroin (GPH), as well as an unidentified white powder (Mars et al., 2016). Seeing as black tar heroin has the most potential for adverse side effects, it is difficult to see why individuals are still deciding to that specific type of heroin. When asked to define the “best” heroin, individuals stated that heroin that produced extreme intoxication and gave the longest duration of relief from withdrawal symptoms was the best. With drugs such as alcohol, tobacco, and marijuana, a culture of taste or connoisseurship has grown up in which smell, appearance, taste, plant variety, and country of origin are often important parts of the experience of consumption. However, in this study, smell and appearance were generally only noted in terms of what they indicated about potency (Mars et al., 2016)

Heroin use continues to have devastating health effects, with new research indicating that heroin-induced brain damage may be more severe than previously understood. A 2022 study by Patel et al. found that chronic heroin use leads to permanent damage in areas of the brain associated with memory and decision-making. These findings suggest that recovery from heroin addiction requires long-term brain rehabilitation alongside traditional treatment methods.

Category	**Adverse Effects**
Behavior	(1) Drastic Violent Episodes (2) Hyperactivity Followed by Fatigue (3) Shift in Core Values (4) Difficulty with Responsibility

Body Responses	(1) Analgesia and Pain Modulation (2) Respiratory Depression (3) Drowsiness (4) Nausea (5) Mental Clouding (6) Enlarged Pupils (7) Runny Nose (8) Sedation
Brain	(1) Damage to Brain Stem or Cerebral Cortex (2) Delusions or Hallucinations (3) Delayed Verbal Memory (4) Slurred and Hard to Understand Speech
General Health	(1) Lowered Immune Response (2) Malnutrition (3) Risk of Infectious Disease (4) Pneumonia and Respiratory Difficulties
Psychology	(1) Suicidal Ideation (2) High Risk of Addiction (3) Dysphoria or General Dissatisfaction (4) Ruins Self Esteem
Fetal Development	(1) Premature Labor or Birth (2) Miscarriage (3) Still Birth (4) Brain Damage (5) Neonatal Abstinence Syndrome (6) Decreased Immunity and Chronic Sickness (7) Unexplained Seizures (8) Sudden Death
Relationships	(1) Breakups (2) Estrangement (3) Lack of Trust (4) Abandonment

(AddictionBlog, 2021)

Heroin Facts

- People inject, sniff, snort, or smoke heroin. Some people mix heroin with crack cocaine, a practice called *speedballing* (NIDA, 2021)
- Prescription opioid pain medicines such as OxyContin® and Vicodin® have effects similar to heroin. Research suggests that misuse of these drugs may open the door to heroin use (NIDA, 2021)
- Heroin can be a white or brown powder, or a black sticky substance known as black tar heroin (NIDA, 2021)
- Heroin enters the brain rapidly and binds to opioid receptors on cells located in many areas, especially those involved in feelings of pain and pleasure and in controlling heart rate, sleeping, and breathing (NIDA, 2021)

- Long-term effects may include collapsed veins, infection of the heart lining and valves, abscesses, and lung complications (NIDA, 2021)
- Heroin can lead to addiction, a form of substance use disorder. Withdrawal symptoms include severe muscle and bone pain, sleep problems, diarrhea and vomiting, and severe heroin cravings (NIDA, 2021)

-24.6 Million people age or over suffer from some kind of addiction or dependency (SegalTrials, 2016)

-1.9 Million people suffer from prescription opioid addiction, considered the gateway to heroin addiction (SegalTrials, 2016)

-8,200 people die annually from heroin overdose (SegalTrials, 2016)

Psychedelics

Types: Naturally Occurring, Serotonin Releasers, Cannabinoids, Dissociatives Also Known As: Hallucinogens

Psychedelics are not necessarily considered to be a "dangerous" drug (of course, all drugs are dangerous in their own way), however, they still have the same legal classification as drugs with high abuse toxicity (e.g., heroin, cocaine, etc.). Statements about the consequences of psychedelics use often seem to have their basis in implicit assumptions about the relative size of various segments of the user population. These assumptions may be based on the relative visibility of different user segments to various professions (Johnstad, 2021). Experienced drug users, however, rank psilocybin as being one of the least harmful (perceived harm) psychoactive substances. Nutt et al.'s (2010) multicriteria decision analysis (MCDA) placed mushrooms at the bottom of a list of 20 psychoactive substances ranked on their relative harm (evidence-based harm, based on 16 criteria, relating to harm to self as well as harm to others) (Roberts et al.,

2021). Preclinical work suggests psilocybin has weak, transient reinforcing effects, in comparison to drugs of high abuse potential, resulting in sporadic self-administration, and no evidence of dependence or withdrawal (Roberts et al., 2021). Essentially, psilocybin has not been proven to be an addictive substance (such as heroin or cocaine) and there is considerably less concern regarding abuse of psychedelics. Psilocybin mushrooms, known colloquially as 'magic mushrooms', have been used for millennia in various shamanic cultures as entheogens and for divinatory purposes (Roberts et al., 2021). There are also shamanic retreats that are based around the use of psychedelics in order to help the individuals grow spiritually and personally. These, however, despite being fairly well supervised by Shaman, can still be dangerous due to the quantity of psychedelics being used.

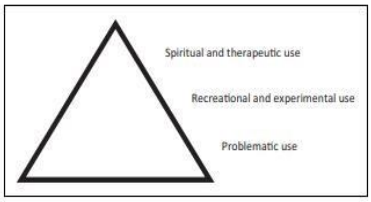


Figure 1. Pessimistic model of the psychedelics usage pattern distribution.

Recent years have seen a substantial increase in knowledge about the consequences of psychedelic drug use. Preliminary results indicate therapeutic effects from psychedelics on conditions including depression, anxiety, and substance dependence. (Johnstad, 2021). Multiple individuals have stated that they felt less depressed after using "magic mushrooms"/LSD, as the experience allegedly provided them with further insight in regard to who they are. Individuals have reported having "epiphanies" will using psychedelics that have set them on a new path. Previous experience of magic mushroom use is associated with more positive expectation effects, whereas use naivety is associated with greater negative intoxication expectation effects. Intoxication effect expectancies are also different in people who report different motivations for use (Roberts et al., 2021)

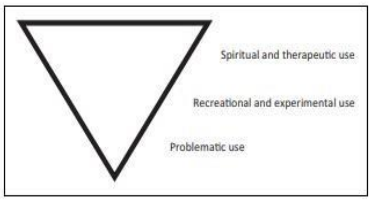


Figure 2. Optimistic model of the psychedelics usage pattern distribution.

We have evidence indicating that some people use psychedelics quite frequently with hedonistic and escapist motivations, and that such use may be damaging to one's cognitive abilities and mental health. We also have evidence indicating that some people use psychedelics in moderation for therapeutic or spiritual reasons, and that such use may be beneficial (Johnstad, 2021)

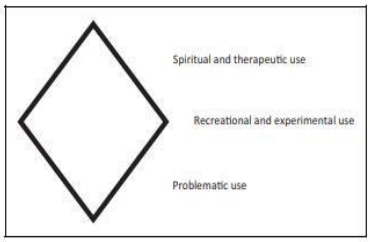


Figure 3. Recreational model of the psychedelics usage pattern distribution.

Psychedelic substances, particularly psilocybin, have gained attention in recent years for their therapeutic potential in treating substance use disorders. A recent trial by Fitzgerald et al. (2023) demonstrated that psilocybin-assisted therapy resulted in a 60% reduction in alcohol cravings and consumption in participants with alcohol use disorder. These findings support the growing body of research that psychedelics, when used in controlled settings, can have positive outcomes in addiction treatment.

Type of Psychedelic	**Definition**
LSD (Lysergic Acid Diethylamide)	Made from a Substance Found in Ergot, Which is a Fungus that Infects Rye.

Psilocybin	Naturally Occurring Substance Found in Mushrooms and is Found in Many Parts of the World
Mescaline	Derived from the Mexican Peyote and San Pedro Cactus and Produces Similar Effects to LSD
DMT (Diemethyltryptamine)	Structurally Similar to Psilocin, an Alkaloid Found in Psilocybin Mushrooms. In can be Synthesized in the Laboratory but is also a Naturally Occurring Component of Several Plants
DOM	A Member of the Dox Family of Compounds which are Known for Their High Potency, Long Duration, and Mixture of Psychedelic and Stimulant Effects
2C-B (4-Bromo-2,5dimethoxyphenethylamine)	Psychedelic Drug First Synthesized in 1974. 2C-B is Considered both a Psychedelic and a Mild Entactogenic. 'Entactogen' Means 'Touching Within' and is a Term Used by Psychiatrists to Classify MDMA and Related Drugs
Peyote (Lophophora williamsii)	The Most Well Known and Psychedelic Cactus, Although the Smallest and Slowest Growing. Instead of Growing Upward from a Column, it Grows as 'Buttons' Low to the Ground. It has Been Used by Native Americans for Over 5,000 Years
25[-x]-NBOMe-NBOMe (Nmethoxybenzyl)	A Series of Drugs that Have Psychedelic Effects. Reports Indicate that there are a Number of Different Versions of NBOMe Available – All with Differing Effects

(ADF, 2020)

Psychedelics Facts

- Hallucinogens include ketamine, mushrooms (Psilocybin), LSD, and MDMA (ecstasy) (Bustamante, 2021). - It is difficult to predict the strength and effects of psychedelics (even if they have been taken before), as the strength and potency can vary from batch to batch (ADF, 2021)
- Taking psychedelics in a familiar environment in the company of people who are known and trusted may alleviate any unpleasant emotional effects. Anxiety can be counteracted by taking deep, regular breaths while sitting down (ADF, 2020).

-Use of psychedelics is likely to be more dangerous when:

i. taken in combination with alcohol or any other drugs, particularly stimulants such as methamphetamine.

ii. driving or operating heavy machinery iii. judgment or motor condition is required iv. alone (in case medical assistance is required)

v. the person has mental health issues (ADF, 2020)

- Most psychedelics produce tolerance rapidly and psychological dependence can occur in some people. The development of physical dependence is not well supported by evidence and there are no withdrawal symptoms even after chronic use (ADF, 2020)

General Drug Facts

-Illicit drug users make over 527,000 expensive emergency room visits each year for drug related complications (Visually, 2021)
- One dollar out of every $14 of the nation's health care bill is spent to treat those suffering from smoking-related illnesses (Visually, 2021)
- Drug offenders account for more than one-third of the growth in the state prison population and more than 80% of the increase in the number of federal prison inmates since 1985 (Visually, 2021)
- More than 75% of domestic violence victims report that their assailant had been drinking or using illicit drugs at the time of the incident (Visually, 2021)
- Drug abuse is linked to the top U.S. medical problems, including heart disease, cancer, HIV/AIDS, and mental illness (Visually, 2021)
- Behavior Problems linked to drug abuse include, but are not limited to, paranoia, hallucinations, aggressiveness, addiction, impaired judgement, impulsiveness, and loss of self-control (Visually, 2021)
- 53 million or 19.4% of people 12 and over have used illegal drugs or misused prescription drugs within the last year (Bustamante, 2021)
- If alcohol and tobacco are included, 165 million or 60.2% or of Americans aged 12 years or older currently abuse drugs (i.e., used within the last 30 days). (Bustamante, 2021)
- 11.7% of Americans 12 and over use illegal drugs. (Bustamante, 2021)
- 22% of males and 17% of females used illegal drugs or misused prescription drugs within the last year. (Bustamante, 2021)
- Drug use is highest among persons between the ages of 18-25 at 39% compared to persons aged 26-29, at 34%.(Bustamante, 2021)
- 70% of users who try an illegal drug before age 13 develop a substance abuse disorder within the next 7 years compared to 27% of those who try an illegal drug after age 17. (Bustamante, 2021)

Substance Abuse Hotlines

Recent research indicates that improving access to helplines and treatment services is crucial for individuals struggling with substance use disorders. A 2022 study by Martinez et al. showed that regions with more accessible 24/7 helplines had higher rates of individuals entering treatment and lower rates of overdose deaths. Expanding access to these services is essential in addressing the substance abuse crisis.

Colorado Crisis Services
Phone Number: 844-493-8255
Text "Talk" to 38255

DrugRehab.com Hotline
Phone Number: 855-789-9197
Hours: 24/7
Call our 24-hour hotline to learn about evidence-based treatment options for drug and alcohol addiction, eating disorders and co-occurring mental health disorders. We can connect you with a treatment center and answer your questions about admissions, costs, insurance, and other important topics.

SAMHSA's National Helpline
Phone Number: 800-662-4357
Hours: 24/7

The Substance Abuse and Mental Health Services Administration's helpline offers information in English and Spanish to people facing addiction, substance abuse problems and mental health concerns. Callers from the United States and U.S. territories can get free help finding nearby physicians and treatment centers specializing in addiction and mental health disorders.

NCADD Hope Line
Phone Number: 800-622-2255
Hours: 24/7
The National Council on Alcoholism and Drug Dependence and its network of affiliate organizations provide assistance to people struggling with substance use disorders, such as alcoholism and opioid addiction. NCADD can help you assess your situation and provide information on treatment options. The Hope Line can connect you with a nearby treatment center and other helpful resources in your community.

Substance Abuse Services In Colorado Springs, Monument, Fountain, Pueblo, & Denver

Center For Recovery – 2121 S Oneida St #412, Denver, 80224
Phone Number: 303-694-7492
Who They Serve: All
Treatment Programs Offered:

- Dual Diagnosis Intensive Outpatient Treatment Program
- Individual Counseling
- Family Counseling
- Intensive Outpatient Group Counselling Treatment

Crossroads Turning Points – 509 E 13th St, Pueblo, 81001
Phone Number: 719-546-6666
Who They Serve: All
Treatment Programs Offered:

- STAR_TC (Sisterhood Teaching Alternatives for Recovery – Therapeutic Community) ○ 5-9 Month Residential Treatment for Women
- Outpatient Treatment

Intensive Outpatient Treatment
Adolescent Outpatient
Methadone

- Family Center and Women's Residential Treatment IRT & TRT
- Men's Residential Treatment IRT & TRT

Drug and Alcohol Rehab and Detox Centers – 6660 Camden Blvd, Fountain, 80817
Phone Number: 833-731-1158 Who
They Serve: All
Treatment Programs Offered:

- Detox Facilities
- Residential Rehabilitation Programs
- Partial Hospitalization Treatment Options
- Intensive Outpatient Programs
- Sober Living Communities

Fountain Opioid Addiction Treatment – 8038 Fountain Mesa Rd #175, Fountain, 80817
Phone Number: 866-469-0954 Who
They Serve: All
Treatment Programs Offered:

- Drug Rehabilitation
- Alcohol Rehabilitation
- Cocaine Rehabilitation
- Opiates Rehabilitation

Harbor House Clinic – 2010 E Bijou St, COS, 80909
Phone Number: 719-473-5557
Who They Serve: Individuals in Recovery, Individuals Experiencing Homelessness, Families of Individuals in Distress
Treatment Programs Offered:

- Women Specific Services ○ Child Care Assistance ○ Healthy Mom and Baby Classes ○ Encouragement of Positive Parenting Lifestyles ○ Family Reunification Programs ○ Free Counseling for Pregnant Women with Substance Use Issues
- Outpatient
- Holistic Recovery

Mountain Springs Recovery – 1865 Woodmor, Monument, 80132
Phone Number: 888-241-3433 Who
They Serve: All
Treatment Programs Offered:

- Medication Assisted Treatment
- Drug/Alcohol Detox

Drug/Alcohol Rehab
Dual Diagnosis Treatment
Non-12 Step Programs

- 12 Step Program
- SMART Recovery
- 30/60/90 Day Rehab Program

Parkview Chemical Dependency Programs – 58 Club Manor Dr, Pueblo, 81008
Phone Number: 719-584-4457
Who They Serve: All Treatment
Programs Offered:

- Solution Focused Brief Therapy
- Structured Program
- Individual, Group, and Family Therapy
- Medical Workup and Monitoring of Medical Needs
- Medication Evaluation, Management, and Education

Peaks Recovery Centers – 2270 La Montana Way, COS, 80918
Phone Number: 865-333-4636
Who They Serve: Men, Women, Families Treatment
Programs Offered:

- Alcohol and Drug Detox
- Impatient Drug and Alcohol Rehab
- Holistic Rehab

Pueblo Alcohol Treatment Center – 122 W Abriendo Ave Ste 447, Pueblo, 81004
Phone Number: 888-298-3655
Who They Serve: All Treatment
Programs Offered:

- Not Listed On Website

Sandstone Center – 5731 N Academy Blvd, COS, 80918
Phone Number: 719-445-3260
Who They Serve: Young Adults and Teens Treatment
Programs Offered:

- Medical Detox
- Day Treatment (PHP)
- Intensive Outpatient
- Extended Residential Care
- Sober Living

The Raleigh House of Hope – 6870 W 52nd Ave Ste 103, Arvada, 80002

Phone Number: 720-891-4657 Who
They Serve: All
Treatment Programs Offered:

Detox
Residential Treatment
Outpatient Treatment and Sober Living

The Recovery Village at Palmer Lake – 443 S. Highway 105, Palmer Lake (Monument), 80133
Phone Number: 719-602-0914 Who
They Serve: All
Treatment Programs Offered:

- Medical Detox
- Inpatient Rehab
- Partial Hospitalization Program
- Intensive Outpatient Program
- Outpatient Treatment
- Aftercare Programs
- Multidisciplinary Approach
- Family Programs
- Co-Occurring Disorders

Citation

Addiction Blog. (2014). *Adverse Effects of Cocaine.* AddictionBlog.Org. https://addictionblog.org/blackforest/wpcontent/uploads/2014/10/Adverse-Effects-ofCocaine.jpg.

ADF. (2021). *Psychedelics.* Psychedelics - Alcohol and Drug Foundation. https://adf.org.au/drugfacts/psychedelics/.

Blanco-Presas, L., Moreno-Alcázar, A., Alonso-Lana, S., Salvador, R., Pomarol-Clotet, E., & McKenna, P. (2018). Cognitive impairment associated with cocaine use: The role of co-existent alcohol abuse/dependence. *Drug and Alcohol Dependence, 189*, 70–75. https://doi.org/10.1016/j.drugalcdep.2018.03.054

Bluthenthal, R., Wenger, L., Chu, D., Bourgois, P., & Kral, A. (2017). Drug use generations and patterns of injection drug use: Birth cohort differences among people who inject drugs in Los Angeles and San Francisco, California. *Drug and Alcohol Dependence, 175*, 210–218. https://doi.org/10.1016/j.drugalcdep.2017.04.001

Bostwick. (n.d.). Methamphetamine Abuse: A Perfect Storm of Complications. *Mayo Clinic Proceedings, 81*(1), 77–84. https://doi.org/info:doi/

Brooks-Russell, A., Ma, M., Levinson, A. H., Kattari, L., Kirchner, T., Anderson Goodell, E. M., & Johnson, R. M. (2019). Adolescent Marijuana Use, Marijuana-Related Perceptions, and Use of Other Substances Before and After Initiation of Retail Marijuana Sales in Colorado (2013–2015). *Prevention Science, 20*(2), 185–193. https://doi.org/10.1007/s11121-018-0933-2

Bustamante, J. (2021, March 28). *Substance Abuse and Addiction Statistics [2021].* NCDAS. https://drugabusestatistics.org/.

Cano, M., Oh, S., Salas-Wright, C. P., & Vaughn, M. G. (2020). Cocaine use and overdose mortality in the United States: Evidence from two national data sources, 2002–2018. *Drug and Alcohol Dependence, 214*, 108148–108148. https://doi.org/10.1016/j.drugalcdep.2020.108148

CDC. (2021, January 26). *Other DrugsCD.* Centers for Disease Control and Prevention. https://www.cdc.gov/drugoverdose/data/otherdrugs.html#cocaine.

DEA. (2020). *Drug Fact Sheet: Methamphetamine.* Department of Justice/Drug Enforcement Administration. https://www.dea.gov/sites/default/files/202006/Methamphetamine-2020_0.pdf.

De-Carolis, C., Boyd, G.-A., Mancinelli, L., Pagano, S., & Eramo, S. (2015). Methamphetamine abuse and "meth mouth" in Europe. *Medicina Oral, Patología Oral y Cirugía Bucal, 20*(2), e205–e210. https://doi.org/10.4317/medoral.20204

E Rudolph, A., Fernau, D., Tobin, K., & Latkin, C. (2020). Individual and social network correlates of recent treatment for substance use disorders among persons who use drugs in Baltimore, MD (2014 – 2017). *Drug and Alcohol Dependence, 217*, 108278–108278. https://doi.org/10.1016/j.drugalcdep.2020.108278

Grecu, A., Dave, D., & Saffer, H. (2019). Mandatory Access Prescription Drug Monitoring Programs and Prescription Drug Abuse. *Journal of Policy Analysis and Management, 38*(1), 181–209. https://doi.org/10.1002/pam.22098

Griswold, M. K., Chai, P. R., Krotulski, A. J., Friscia, M., Chapman, B., Boyer, E. W., Logan, B. K., & Babu, K. M. (2018). Self-identification of nonpharmaceutical fentanyl exposure following heroin overdose. *Clinical Toxicology (Philadelphia, Pa.), 56*(1), 37–42. https://doi.org/10.1080/15563650.2017.1339889

Guarino, H., Mateu-Gelabert, P., Teubl, J., & Goodbody, E. (2018). Young adults' opioid use trajectories: From nonmedical prescription opioid use to heroin, drug injection, drug treatment and

overdose. *Addictive Behaviors, 86*, 118–123. https://doi.org/10.1016/j.addbeh.2018.04.017

Hasin, D. S. (2018). US Epidemiology of Cannabis Use and Associated Problems. *Neuropsychopharmacology (New York, N.Y.), 43*(1), 195–212. https://doi.org/10.1038/npp.2017.198

Hayashi, K., Milloy, M., Lysyshyn, M., DeBeck, K., Nosova, E., Wood, E., & Kerr, T. (2018). Substance use patterns associated with recent exposure to fentanyl among people who inject drugs in Vancouver, Canada: A cross-sectional urine toxicology screening study. *Drug and Alcohol Dependence, 183*, 1–6. https://doi.org/10.1016/j.drugalcdep.2017.10.020

Latkin, C. A., Dayton, L., Davey-Rothwell, M. A., & Tobin, K. E. (2019). Fentanyl and Drug Overdose: Perceptions of Fentanyl Risk, Overdose Risk Behaviors, and Opportunities for Intervention among People who use Opioids in Baltimore, USA. *Substance Use & Misuse, 54*(6), 998–1006. https://doi.org/10.1080/10826084.2018.1555597

London, E. D., Kohno, M., Morales, A. M., & Ballard, M. E. (2014). Chronic methamphetamine abuse and corticostriatal deficits revealed by neuroimaging. *Brain Research, 1628*(Pt A), 174–185. https://doi.org/10.1016/j.brainres.2014.10.044

Narconon International. (2021). *Marijuana History - America.* Narconon International. https://www.narconon.org/druginformation/marijuana-historyamerica.html#:~:text=In%20the%20late%201800s%2C%20cannabis%20began%20to%20be,the%20Twentieth%20Century.%20Medicines%20that%20contained%20cannabis%20extracts%3A.

Mars, S. G., Bourgois, P., Karandinos, G., Montero, F., & Ciccarone, D. (2016). The Textures of Heroin: User Perspectives on "Black Tar" and Powder Heroin in Two U.S. Cities. *Journal of Psychoactive Drugs, 48*(4), 270–278. https://doi.org/10.1080/02791072.2016.1207826

NIDA. (2021, April 8). *Cocaine DrugFacts.* Retrieved from https://www.drugabuse.gov/publications/drugfacts/cocaine on 2021, June 9

NIDA. (2021, June 1). *Heroin DrugFacts.* Retrieved from https://www.drugabuse.gov/publications/drugfacts/heroin on 2021, June 10

NIDA. (2019, May 16). *Methamphetamine DrugFacts.* Retrieved from https://www.drugabuse.gov/publications/drugfacts/methamphetamine on 2021, June 8

Nutt, D. J., King, L. A., and Phillips, L. D. (2010). Drug harms in the UK: A multicriteria decision analysis. *Lancet, 376*, 1558-1565.

Pedersen, M., Hesse, M., Thylstrup, B., Jones, S., Pedersen, M., & Frederiksen, K. (2021). Vouchers versus reminders to prevent dropout: Findings from the randomized youth drug abuse treatment project (youthDAT project). *Drug and Alcohol Dependence, 218*, 108363–108363. https://doi.org/10.1016/j.drugalcdep.2020.108363

Pellechia, T. (2019, February 1). In 2018, U.S. consumers ordered cannabis every 8 seconds. *Forbes.*

Radunski, U. K., Fuger, U., Bohnen, S., Lund, G. K., Stehning, C., Zeller, T., Tahir, E., Avanesov, M., Adam, G., Blankenberg, S., Reimer, J., & Muellerleile, K. (2017). Asymptomatic Cocaine Abuse: Myocardial Tissue Characterization Using Cardiac Biomarkers and Cardiovascular Magnetic Resonance Imaging. *Circulation Journal: Official Journal of the Japanese Circulation Society, 81*(5), 701–708. https://doi.org/10.1253/circj.CJ-16-0941

Roberts, C. A., Osborne-Miller, I., Cole, J., Gage, S. H., & Christiansen, P. (2020). Perceived harm, motivations for use and subjective experiences of recreational psychedelic "magic" mushroom use. *Journal of Psychopharmacology (Oxford), 34*(9), 999–1007. https://doi.org/10.1177/0269881120936508

Rommel, N., Rohleder, N. H., Koerdt, S., Wagenpfeil, S., Härtel-Petri, R., Wolff, K.-D., & Kesting, M. R. (2016). Sympathomimetic effects of chronic methamphetamine abuse on oral health: A cross-sectional study. *BMC Oral Health, 16*(1), 59–59. https://doi.org/10.1186/s12903-016-0218-8