



DUAL DIAGNOSIS: Serious Mental Illness and Co-Occurring Substance Use Disorders

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INTRODUCTION

A history of substance use is closer to a rule than an exception for people with severe mental illness. Whether it is cigarette smoking and alcohol consumption or the use of illegal drugs like cocaine, substance misuse and substance use disorders greatly impede treatment success in individuals with schizophrenia or bipolar disorder. Substance misuse among this already vulnerable population contributes to many of the negative consequences of nontreatment for people with severe mental illness, including criminal justice system involvement, homelessness, high prevalence of comorbid physical health conditions and suicide.

At any given moment, an estimated one in four people with a serious mental illness also struggle with a substance use disorder.



An individual is considered to have a substance use disorder when the use of alcohol or other drugs reaches such a level that it causes serious and significant impairments on the individual's functioning and daily life (Table 1).¹ The prevalence of co-occurring serious mental illness and substance use disorder grew by more than 1 million people in the United States between 2014 and 2019, a 40% increase compared to only a 4% increase in the US population.² At any given moment, an estimated one in four people with a serious mental illness also struggle with a substance use disorder.³

HIGHLIGHTS

- Only 12.7% of people with co-occurring serious mental illness and substance use disorders received any treatment for both conditions in 2019.
- People with serious mental illness are more likely to smoke tobacco and misuse alcohol compared to those without mental illness.
- Cannabis is one of the most common drugs used by people with serious mental illness. Almost 40% of individuals with serious mental illness used marijuana in 2019.
- Individuals with co-occurring substance use disorder and serious mental illness are overrepresented in every part of the criminal justice system and are more likely to experience homelessness.

TABLE 1: Definitions

Co-occurring disorder	Also referred to as a dual diagnosis, this term refers to people who have both a serious mental illness and a substance use disorder.
Severe mental illness	Defined by the Treatment Advocacy Center to include schizophrenia and associated psychotic disorders, severe bipolar disorder and major depression with psychotic features. The Treatment Advocacy Center utilizes this definition to encapsulate severe psychiatric diseases with symptoms that can put the individuals who experience them at the greatest risk for criminal justice involvement, homelessness, hospitalization and/or involuntary treatment. Approximately half of people with severe mental illness experience anosognosia, or lack of insight, that impairs their ability to understand their illness.
Serious mental illness	A broader term than severe mental illness, with a clinical definition in the Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM-5), that is used by the federal government and other entities. Serious mental illness is defined by the federal government as “[s]omeone over 18 having (within the past year) a diagnosable mental, behavior, or emotional disorder that causes serious functional impairment that substantially interferes with or limits one or more major life activities.” ⁴ Many of the data presented in this brief concern serious mental illness and will be identified accordingly.
Substance use disorder	A clinical diagnosis, defined by the DSM-5 as “recurrent use of alcohol and/or drugs [that] causes clinically significant impairment, including health problems, disability and failure to meet major responsibilities at work, school, or home.” ⁵
Substance misuse/abuse	The use of a substance for a purpose not consistent with legal or medical guidelines. An individual can misuse substances but not meet clinical definitions for having a substance use disorder.
Substance use	The consumption of drugs or alcohol. This does not lead to problem behaviors or dependency in all people.

The current opioid epidemic and the movement to legalize marijuana and other drugs across the United States continue to change the context of and public discourse on drug use in society. As substance use and addiction disorders come to be recognized more as health conditions than criminal behaviors, treatment options have become more accepted and widespread. However, despite evidence of the benefits of treatment, a complete array of evidence-based treatment options for people with severe mental illness and co-occurring substance use disorders is still not available in a majority of communities. Further, some pharmacological and psychosocial interventions for severe mental illness appear to be less effective for people with co-occurring substance use disorders.^{6, 7, 8}

The consequences of untreated severe mental illness can be devastating and are only exacerbated by untreated substance use disorders. Research indicates that individuals experiencing co-occurring

In 2019, only 12.7% of people with co-occurring disorders received any services for both their substance use disorder and serious mental illness.

disorders are more likely to be arrested and report suicidal thoughts and ideation compared to severe mental illness alone.^{9, 10} The rates of co-occurring disorders are high among people experiencing homelessness.^{11, 12}

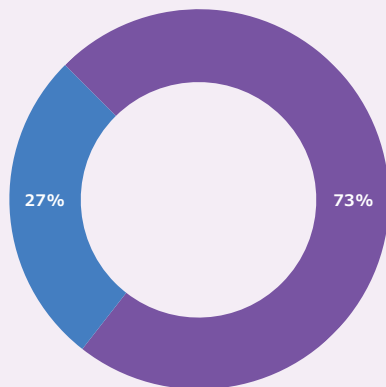
Connecting individuals with dual diagnoses to appropriate and adequate treatment is essential in preventing these negative consequences associated with lack of treatment. But in the United States, fewer than two-thirds of people with co-occurring

disorders receive any type of treatment, and even fewer receive concurrent treatment for both conditions. In 2019, only 12.7% of people with co-occurring disorders received any services for both their substance use disorder and serious mental illness.¹³

Addressing knowledge gaps to inform policy and improve the lives of people with severe mental illness and their families is the mission of the Treatment Advocacy Center’s Office of Research and Public Affairs. *Dual Diagnosis: Serious Mental Illness and Co-Occurring Substance Use Disorders* presents evidence to explain how substance misuse and substance use disorders can impede access, quality and efficacy of treatment and services for people with severe mental illness. This brief addresses how substance use disorders affect many of the Treatment Advocacy Center’s key issues, including the overrepresentation of people with severe mental illness in the criminal justice system, homelessness, risk of violent behavior, suicide and the revolving door of high-cost services. Last, this brief proposes solutions to increase treatment and supports for individuals with co-occurring disorders, including a call to acknowledge the interconnectedness of these issues and the need for a breakdown of the silos in mental health and substance use treatment systems.

DATA AND TRENDS OF CO-OCCURRING DISORDERS

FIGURE 1: Prevalence of co-occurring serious mental illness and substance use disorders, 2019



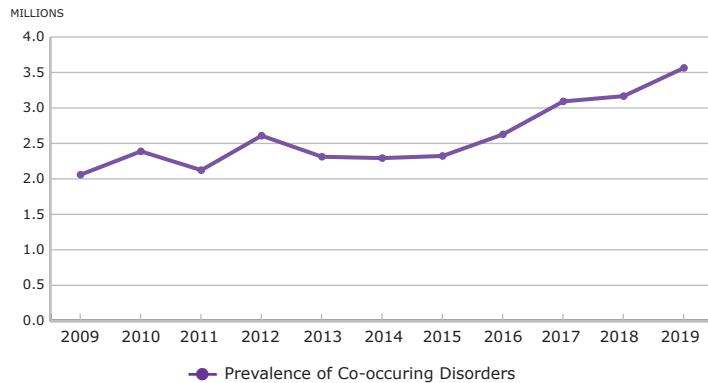
■ Prevalence of Co-occurring Substance Use Disorder and Serious Mental Illness
■ Prevalence of Serious Mental Illness Alone

Co-occurring severe mental illness and substance use disorders are increasingly prevalent in the United States. According to the Substance Abuse and Mental Health Services Administration (SAMHSA), there were 13.1 million Americans with a serious mental illness in 2019. More than 3.5 million (27%) of those individuals also had a substance use disorder (Figure 1).¹⁴

According to results from the Epidemiological Catchment Area Study completed in 1980, people with schizophrenia were almost five times more likely to have a substance use disorder compared to the rest of the population.

Estimates of substance use disorders among people with schizophrenia are even higher. The most recent U.S. prevalence study of severe mental illness in the community, the Epidemiological Catchment Area Study, was completed in 1980. The study found that 34% of individuals with schizophrenia had an alcohol use disorder while 28% had a substance use disorder, with both conditions sometimes being present in the same person. People with schizophrenia were almost five times more likely to have a substance use disorder compared to the rest of the population; 47% of people with schizophrenia met criteria for some sort of substance or alcohol dependence, according to the results.¹⁵ Similarly, a 2015 study, which included a sample of 1,200 individuals with schizophrenia, concluded that there is a 54% lifetime prevalence of co-occurring substance use disorder in individuals with schizophrenia.¹⁶

FIGURE 2: Trends in prevalence of co-occurring substance use disorder and serious mental illness, 2009–2019



The prevalence of co-occurring severe mental illness and substance use disorders has grown by 1.5 million people since 2009, a 73% increase despite a population increase of only 6% during the same period (Figure 2).¹⁷ There is little research hypothesizing why there has been such an increase of co-occurring disorders among people with severe mental illness. However, this trend mirrors the rise of substance use disorders among the general population and could be a result of a multitude of factors.

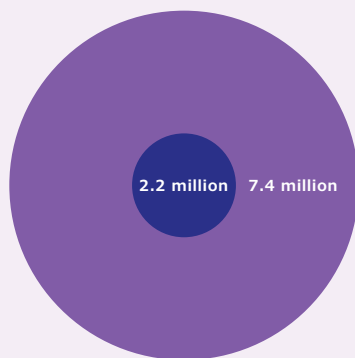
OVERVIEW OF SUBSTANCE USE IN PEOPLE WITH SEVERE MENTAL ILLNESS

Substance use, substance misuse and substance use disorders account for differing levels of substance consumption over time, with different impacts and implications for individuals with severe mental illness (Table 1). An individual with a diagnosable substance use disorder engages in a significant level of use and may experience withdrawals, drug cravings and substantial impairment when deprived of the substance.¹⁸ However, many individuals occasionally use or misuse drugs for recreational purposes without meeting criteria for a substance use disorder.

The definitions of substance use, substance misuse and substance use disorder also have implications for the data and research for co-occurring disorders. The prevalence of substance use in people with serious mental illness is much higher than the number of people who meet the clinical definition of having a substance use disorder (Figures 3 and 4).¹⁹ In addition, the risks for individuals and their treatment

outcomes depend on the level of severity of both the substance use and the mental illness. Complicating this further, these definitions operate on a continuum and are not mutually exclusive. For example, someone could move from using a substance to misusing a substance to meeting the clinical definition of having a disorder. Or someone could meet the clinical definition for having a substance use disorder for one particular substance, such as opioids, while only misusing other substances, such as marijuana.

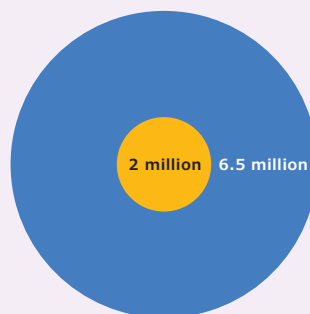
FIGURE 3: Prevalence of alcohol use versus alcohol use disorder, 2019



- Adults with serious mental illness with an alcohol use disorder
- Adults with serious mental illness who used alcohol

Fewer than 30% of adults with serious mental illness who used alcohol in 2019 qualified as having an alcohol use disorder.

FIGURE 4: Prevalence of illicit drug use versus substance use disorder of an illicit drug, 2019



- Adults with a serious mental illness with an illicit substance use disorder
- Adults with serious mental illness who used illicit drugs

Fewer than 31% of adults with serious mental illness who used illicit drugs in 2019 qualified for having a substance use disorder.

The so-called conversion from misuse to disorder can happen at various rates for different populations and different drugs. Very little research investigates how a severe mental illness may affect the conversion from substance misuse to disorder. In the general population, these conversion rates could be as high as 50% for some illegal substances.²⁰

People with severe mental illness use substances for many of the same reasons as do individuals who do not have severe mental illness. Perhaps most obviously, people use drugs because drugs make them feel good, which is also true for people with severe mental illness. As social isolation is common in people with severe mental illness, another motivation might be to join the social network that often surrounds substance use.²¹ High unemployment rates among people with severe mental illness may also contribute to substance use, since unemployment is a known risk factor.²²

People with severe mental illness also may use alcohol and drugs in an attempt to reduce their symptoms. In one study, researchers found a correlation between individuals' reported use of drugs and alcohol and their unmet mental health treatment need, as measured by the SAMHSA National Survey of Drug Use and Health data.²³ Structured interviews of hospitalized patients with schizophrenia indicate that patients perceived a decrease in depression symptoms and improvement in their sleep when using alcohol. However, the results also suggest that alcohol use increased auditory hallucinations and paranoid delusions in these patients.²⁴ Other research indicates people with schizophrenia use substances to decrease anxiety or increase energy.²⁵

CONSEQUENCES OF SUBSTANCE MISUSE AMONG PEOPLE WITH SEVERE MENTAL ILLNESS

As with substance use, many of the outcomes of substance misuse among people with severe mental illness are the same as for the general population. Substance misuse and substance use disorder can negatively affect an individual's health—including increased risk of accidental injury, vehicle accidents and heart and liver disease, among other health issues.²⁶ Severe substance misuse and substance use disorder could affect an individual's social relationships and may lead to financial problems. Substance misuse also increases an individual's risk for criminal justice system involvement.²⁷

Substance misuse can have specific consequences for people with severe mental illness, including more severe psychiatric symptoms such as psychosis or mania and lower compliance with psychiatric medications.²⁸ This contributes to higher utilization of costly services by people with co-occurring disorders compared to those with severe mental illness alone.²⁹ For example, research on patients with schizophrenia discharged from the hospital found that substance use is one of the largest predictors for medication nonadherence, resulting in symptom exacerbation and higher risks of rehospitalization, emergency department visits and homelessness.³⁰

In a 15-year follow-up study utilizing health records of patients with schizophrenia in Denmark, researchers found that the long-term course of

schizophrenia is "considerably more severe" in people with co-occurring substance use disorders compared to individuals with schizophrenia alone, including an increased risk of premature death.³¹ Previous research conducted in Oregon found people with co-occurring mental health and substance

"Alcohol, other illicit substances and, to a certain degree, cannabis should be considered important risk factors for suicide and suicide attempts in people with severe mental illness."

—Østergaard, M. L. D., Nordentoft, M., & Hjorthøj, C. (2017). Associations between substance use disorders and suicide or suicide attempts in people with mental illness. *Addiction*.

use disorders died an average of 31.5 years younger than the general population.³² Multiple studies identify an increased risk of suicide among people with dual diagnoses compared to people with severe mental illness alone, who already have an increased risk for suicidal behavior compared to the general population.^{33, 34, 35}

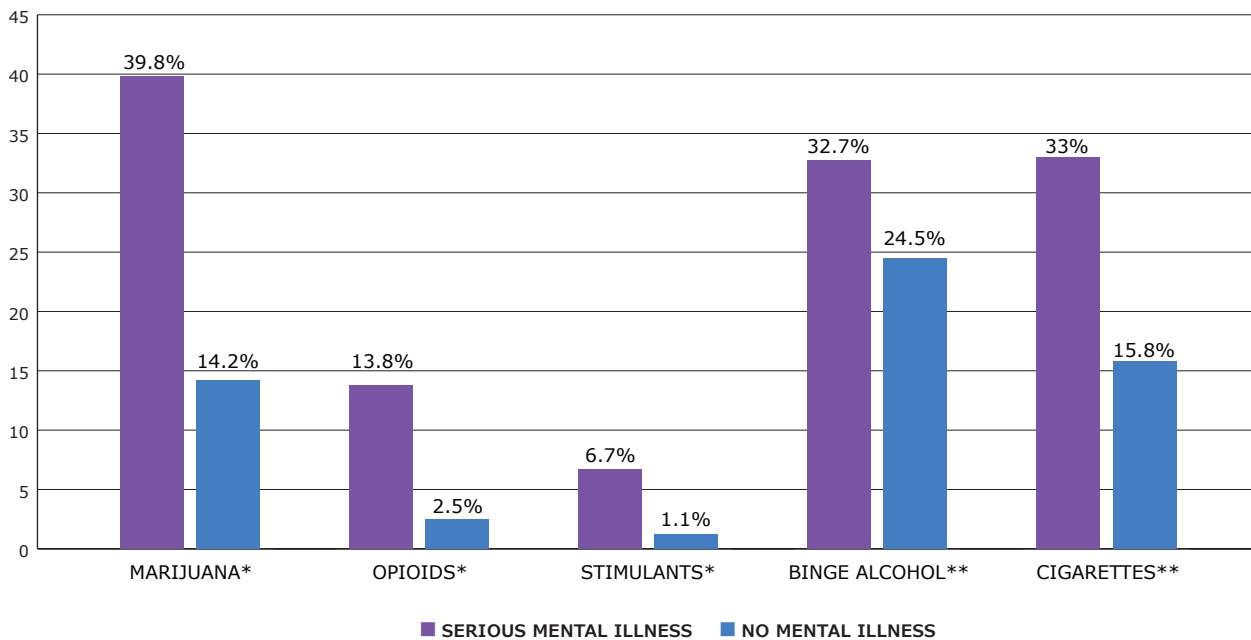
Research consistently indicates that substance misuse increases the risk of violence among people with severe mental illness, including assaultive behavior and violent criminal offending.³⁶ A recently published review in *The Lancet Psychiatry* found a 6% to 10% increased risk of violence for people with schizophrenia, and a more than 10% increase for individuals with substance use disorders. Although the vast majority of people with severe mental illness are not violent,³⁷ lack of treatment contributes to the higher risk of violence in people with severe mental illness compared to the general population.³⁸

Some evidence suggests that the use of certain substances may affect the development of severe mental illness. For example, research shows that people with co-occurring substance use disorders have an earlier age of onset of schizophrenia.³⁹ Other studies found heavy substance use is associated with a more severe first episode of psychosis and worse clinical outcomes.^{40, 41}

TYPES OF SUBSTANCE USE AND SEVERE MENTAL ILLNESS

Substance use affects people with severe mental illness in unpredictable ways.⁴² Each type of substance has a different impact on individuals’ brains and behaviors, including those with severe mental illnesses whose brains already function differently than those of typical people. What follows is an overview of the most commonly used/misused substances and how they tend to affect people with severe mental illness (Figure 5).

FIGURE 5: Percentage of adults using substances, by type, 2019 ⁴³



*Percentage of adults using substance in past 12 months.

**Percentage of adults using substance in past 30 days.

ALCOHOL

Alcohol is the intoxicating component in beverages like wine, beer and hard liquors. The substance induces a range of effects on a person's brain and body. It is one of the most widely used substances among both the general population and individuals with severe mental illness, and likewise alcohol use disorder is the most common co-occurring disorder.⁴⁴ The effects of drinking alcohol include memory loss, diminished inhibition and heightened emotions. People with severe mental illness are not immune to these effects, which can intertwine with symptoms of their severe mental illness.

Alcohol use disorder is four times more prevalent in people with serious mental illness than in those with no mental illness.

Prevalence

In 2019, a national survey found that more than 50% of individuals with serious mental illness have consumed alcohol in the last month, with 33%

participating in "binge drinking." This is defined for women as consuming four or more drinks in one sitting and for men as consuming five or more.⁴⁵ The study found that 16.8% of people with serious mental illness also met the criteria for an alcohol use disorder, which is more than four times higher than the population with no mental illness (4%).⁴⁶ Even if alcohol use does not reach the level of a disorder, heavy drinking can have major effects on a person's physical and mental health. Both men and middle-aged people with severe mental illness are particularly at risk for misusing alcohol.^{47, 48}

Implications

While people with severe mental illness may use alcohol in the hope of reducing their mental illness symptoms, little research suggests symptoms can actually improve with alcohol use. Thus, the real motives behind alcohol use may be more complex.^{49, 50} It is more likely that the temporary feeling of euphoria resulting from alcohol consumption is what triggers the false perception of symptom relief and contributes to the high prevalence of use.⁵¹ In fact, research from 2006 suggests that people with schizophrenia might be even more sensitive to the effects of alcohol than people with no history of mental illness. Researchers found that people "with schizophrenia reported greater euphoria and stimulatory effects in response to alcohol" but simultaneously reported an increase in symptoms, including hallucinations and delusions.⁵²

Not only can alcohol use worsen existing symptoms, but alcohol can induce a psychotic episode in some at-risk individuals.^{53, 54} While for many the psychotic episode will resolve after the alcohol has been processed by the body, in up to 25% of individuals psychotic symptoms can linger and become a more chronic disorder.⁵⁵ Alcohol withdrawal, which occurs when a person with alcohol use disorder tries to abruptly quit drinking, also can lead to psychosis.⁵⁶ For many, a substance-related episode of psychosis can be a major setback on the path to mental health recovery. Alcohol use increases the risks of a variety of negative outcomes, including suicide and arrest.^{57, 58}

ALCOHOL AND OTHER SUBSTANCE USE

People with severe mental illness who use alcohol are also more likely to also be using marijuana, opiates or any other substance.⁵⁹ This fact is of particular importance in the screening and treatment of people with severe mental illness. Although only an alcohol use disorder may be detected, doctors and family members should be alerted to the potential for other drug use.

In those with bipolar disorder, alcohol use is linked to higher rates of psychosis and mixed-mood states, both of which are more difficult to treat than simple manic or depressive states.⁶⁰ People with schizophrenia and co-occurring alcohol use disorder have greater cognitive deficits than those with schizophrenia alone.⁶¹ A cognitive deficit can cause an individual to struggle with memory, decision making and planning, all of which can affect the ability of a person to engage in treatment and work toward recovery.

Finally, alcohol use can have lifelong deleterious effects on the body of any person. Alcohol use may contribute to the development of heart problems, liver disease, and several kinds of cancer. Co-occurring alcohol use disorders may contribute to the nearly 25-year discrepancy in life expectancy between people with and without severe mental illness.⁶²

CANNABIS

Marijuana, or cannabis, refers to the buds of the cannabis plant, which can be smoked or ingested to produce a psychoactive effect. Marijuana plants have many biologically active components, but the two main components are Delta-9-tetrahydrocannabinol (THC) and cannabidiol (CBD). Both components alter the functioning of the brain, but THC is the ingredient that produces the “high” feeling, which can include altered mood, senses, memory and body movement.⁶³ CBD is thought to have a more calming effect, mitigating some symptoms associated with THC, like paranoia, but the full effects of CBD are still being studied.⁶⁴ THC is primarily sold as the bud of the marijuana plant but also commonly is extracted from the plant and included in edible preparations. CBD comes in many forms and has grown in popularity as a separate product from marijuana in recent years; most commonly, CBD is sold as an oil, but it can be found in foods, drinks, tinctures, capsules and more.

Prevalence

Cannabis is one of the most common drugs used by people with severe mental illness. An estimated 39% of people with serious mental illness used marijuana in the past year, compared to approximately 13% of people without serious mental illness.⁶⁵ The high prevalence of marijuana use in people with severe mental illness makes it that much more imperative to understand the drug’s effects on this population.

Implications

There are risks associated with cannabis use for individuals with severe mental illness, originating from THC, the psychoactive component of marijuana. THC content in the cannabis sold and used in the United States is three times higher than it was a few decades ago, from an average of 4% in 1995 to 12%

Present-day marijuana is much more potent than marijuana from earlier decades.

in 2014.⁶⁶ Meanwhile, CBD levels in marijuana decreased, which is important because CBD is thought to mitigate some of the effects of THC.⁶⁷

The popularity of either ingesting marijuana or smoking THC concentrates, often called dabbing, is also increasing. These forms of consumption likely deliver a higher dose of THC than smoking cannabis.

For the risks both before and after the onset of severe mental illness, the dose, potency, frequency of use and age of first use are all important factors whose full effects on the brain are unknown. Various studies posit that a higher dose, a higher potency, more frequent use of marijuana and/or use of marijuana at an earlier age could play a significant role in the severity of the risks discussed below. ^{68, 69, 70, 71, 72, 73}

Pre-illness onset risks

The body of research surrounding the effects of marijuana use before a severe mental illness manifests is growing but not yet definitive (Figure 6). Many studies found that marijuana use in adolescence is associated with an increased risk of developing psychosis or psychotic disorders later in life.⁷⁴ In a review of 12 longitudinal studies regarding this association, 9 identified a significantly increased risk of psychotic symptoms or psychotic illness and the remaining 3 showed trends in the same direction.⁷⁵

Though it is more difficult to prove a causal link between cannabis use and serious mental illness, recent attempts have been made and are hotly debated in the research community. The research in this area is still developing, particularly because researchers need to account for the increase in cannabis potency and availability in recent years, which must be addressed in new research.⁷⁶ One study found a small causal estimate, though the authors did not claim it as definitive proof of cannabis use's causing psychosis, schizophrenia or other severe mental illness.⁷⁷ A review of the literature concluded that cannabis is almost certainly a component cause of psychosis if used by an adolescent with a genetic predisposition for a severe mental illness.⁷⁸ A recent literature review concluded that marijuana is likely neither entirely causal nor noncausal for schizophrenia but is most likely partly causal and confounding on other risk factors.⁷⁹ As one study said, "only experimental studies, which are neither feasible nor ethical, could provide conclusive evidence to attribute causality to cannabis."⁸⁰

There is also debate about whether having a serious mental illness, or a genetic predisposition for serious mental illness, might cause cannabis use. The same study that found a small causal effect for cannabis on schizophrenia risk, found "stronger evidence that schizophrenia risk predicts cannabis initiation."⁸¹

Post-illness onset risks

Recent research also examines the effects of cannabis use on those who already have a psychotic illness. One analysis of chronic, heavy and early-age marijuana users found significant differences in measures of schizophrenia and cognitive ability when compared to controls. The largest differences in cognition were in "visual processing, verbal learning, executive function, working memory and psychomotor function."⁸² Another study found persistent cannabis use was associated with an increase in violence for people treated for schizophrenia.⁸³

There is also evidence that marijuana use can worsen psychotic symptoms, particularly for those in first-episode psychosis (FEP). In a controlled study of individuals in coordinated specialty care for FEP, researchers found that those who used cannabis when entering the program had worse symptoms and lower functioning compared to those who did not use cannabis.⁸⁴

We calculated the relative risk of schizophrenia for an individual who is likely to smoke cannabis (50% probability of initiation) to be at most 24% higher compared with an individual with a low probability of smoking cannabis (10% probability of initiation)."

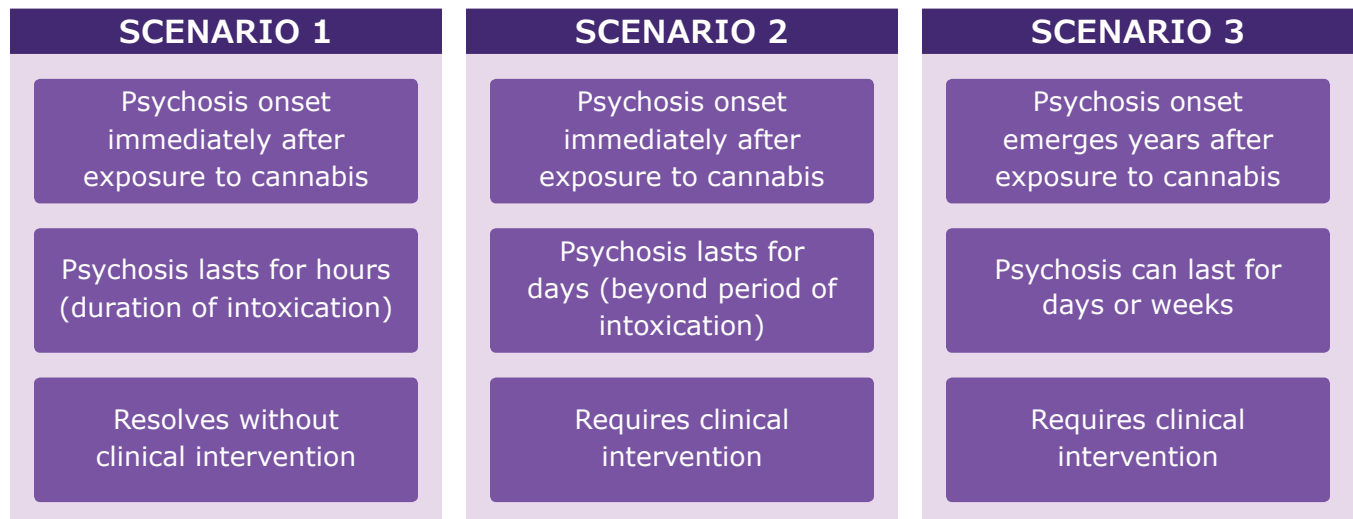
—Gage, S. H., Jones, H. J., Burgess, S., Bowden, J., Smith, G. D., Zammit, S., & Munafò, M. R. (2016).
Assessing causality in associations between cannabis use and schizophrenia risk: A two-sample Mendelian randomization study.
Psychological Medicine.

"Epidemiologic studies provide strong enough evidence to warrant a public health message that cannabis use can increase risk of psychotic disorders"

—Gage, S. H., Hickman, M., & Zammit, S. (2016).
Association between cannabis and psychosis:
Epidemiologic evidence. *Biological Psychiatry*.

Stopping marijuana use can improve psychosis symptoms over time, research suggests. A study comparing individuals with FEP who reduced or stopped their cannabis use to those who continued use found a significant improvement in psychotic symptoms and decreased likelihood of hospitalization for the users who decreased their consumption.⁸⁵

FIGURE 6: Possible relationships between cannabis and onset of psychosis ⁸⁶



Note: This graphic depicts three different relationships between cannabis and the onset of psychosis. The three scenarios are not all-inclusive or definitive but describe the three general ways that psychosis can emerge from marijuana use.

Access

As of November 2020, recreational marijuana use (the use of marijuana for any purpose by a person of age) is legal in 14 states and the District of Columbia, medical marijuana use (a medical professional’s recommendation of marijuana for specified medical reasons) is legal in 36 states, and marijuana use is decriminalized or deprioritized (still illegal but never or rarely prosecuted) in several additional states. These numbers will likely increase in the coming years, as state legislatures and even the federal government begin to consider marijuana legalization policies. Presumably, this will result in increased access to marijuana, but there is debate about whether marijuana legalization will increase consumption. The current research is divided, particularly for adolescents.^{87, 88, 89, 90}

Regardless of marijuana’s legal status, it is essential to educate the public about the potential interactions between marijuana and severe mental illness. Since marijuana strains with higher THC content are much more prevalent in today’s market, individuals should know the potential risks they face if using the drug, particularly if they are genetically predisposed to, or there is a family history of, serious mental illness.

POTENTIAL TREATMENT BENEFITS

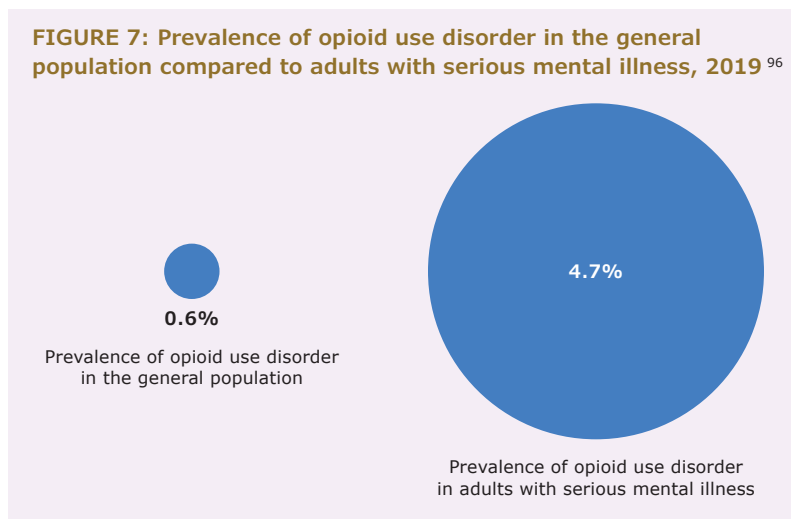
The other active component of marijuana is cannabidiol (CBD). Interesting to note, CBD may have some treatment benefits for those with severe mental illness. One controlled trial found that high doses of CBD reduced psychotic symptoms for people with schizophrenia.⁹¹ More research is needed surrounding the potential impacts of CBD on those with severe mental illness and whether any amount of THC can be present for the beneficial effects of CBD to occur.

OPIOIDS

In 2017, the U.S. government declared a public health emergency due to the alarming increase in opioid use among Americans and extremely high rates of overdose death.⁹² The current epidemic is largely attributable to the overprescribing of pain medications, including oxycodone and fentanyl, which often leads to an increased market for illegal opiates, such as heroin, when consumers can no longer access or afford their original prescription drugs. Prescription opiates also are sold illegally and have flooded the U.S. black market in recent years. Fentanyl's effects are quite similar to heroin's but with a potency up to 100 times that of morphine.⁹³ Fentanyl is frequently mixed with other substances and consumed either knowingly or unknowingly, contributing to the increase in overdoses and overdose deaths.^{94, 95}

Opiates act on the reward system in the brain and trigger the release of the neurotransmitter dopamine, causing euphoria, dulled senses and numbed pain. Opiates are extremely addictive. Even after short-term use, individuals can quickly develop a dependence; that is, they experience withdrawal symptoms if opioids are stopped abruptly or reduced too quickly.

Prevalence



An estimated 1.8 million Americans with serious mental illness also used opioids in 2019.⁹⁷ Approximately one-third (617,000) of these individuals have an opioid use disorder, meaning their use has reached a level of clinical impairment.⁹⁸ Opioid use disorder is present in 4.7% of people with serious mental illness, making it less common than some other co-occurring conditions. However, opioid use disorder is almost eight times more prevalent in people with serious mental illness compared to the general

population, which has a prevalence of 0.6% (Figure 7).⁹⁹ It is important to remember that subtypes of serious mental illness may be affected differently by substance use disorders. For example, people with severe mood disorders, like bipolar disorder, may have a particularly high risk for developing an opioid use disorder.^{100, 101}

Implications

Opioid use disorders have implications for people with severe mental illness distinct from members of the general population. It is documented that a psychotic disorder interferes with a person's ability to feel, describe and report pain.¹⁰² While this likely contributes to the comparatively small number of opioid prescriptions for people with schizophrenia, it also may lead to inadequate pain management and affect chronic physical illness management.^{103, 104} Because people with schizophrenia express pain differently than those without severe mental illness, it complicates the effect the opioid crisis has on this population.

Clinicians in the field of pain management and psychiatry should be cognizant of these risks when assessing the pain of and prescribing opioids to patients with severe mental illness. Dually diagnosed serious mental illness and opioid use disorder directly affects the type and quality of care people receive.

*In 2017, the Centers for Disease Control reported, “each day, more than 140 Americans die from drug overdoses.”*¹⁰⁵

“Nurses who have cared for patients with schizophrenia over many years can recite stories of fractured bones, perforated ulcers, or ruptured appendixes the patients said nothing about. Practically, it is important to be aware of this possibility so that medical help can be sought for persons if they look sick, even if they are not complaining of pain.”

—Torrey, E. F. (2019). *Surviving schizophrenia: A family manual* (7th ed.). Harper & Row (p. 12).

People with severe mental illness and opioid use disorder are less likely to seek treatment in the first place and, when treated, are more likely to repeatedly visit emergency departments and receive multiple prescriptions for psychiatric medications, compared to people with severe mental illness alone.^{106, 107} The lack of treatment and fragmented care contribute to negative outcomes, including increased suicidal ideation in people with co-occurring opioid use disorder.¹⁰⁸ In addition, one study found that the risk of inpatient psychiatric hospitalization was nearly three times higher in those with co-occurring opioid use disorder than in those with severe mental illness alone.¹⁰⁹

As with many co-occurring conditions, people who have both severe mental illness and opioid use disorder also struggle with traditional treatment approaches.¹¹⁰ This signals that while opioid use disorder is not especially common in people with severe mental illness, there is still a significant need for research and increased treatment availability for this high-risk population.

TOBACCO AND OTHER STIMULANTS

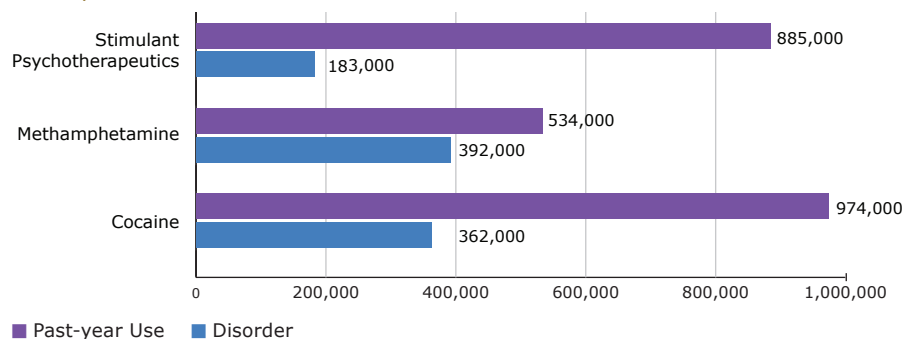
Stimulants are drugs that speed up the body’s systems, causing increased energy, attention and heart rate. This class of substances includes illegal substances such as cocaine and methamphetamine and legal substances and prescription drugs like amphetamines. Tobacco products and caffeine are also stimulating substances and fall into this category.

Nicotine is the psychoactive chemical and the addictive component in tobacco products, stimulating the central nervous system by binding to receptors. Binding can spur the release of many different neurotransmitters, including acetylcholine, dopamine, norepinephrine and serotonin. This leads to constriction of the blood vessels throughout the body, resulting in increased heart rate and blood pressure.¹¹¹

Prevalence

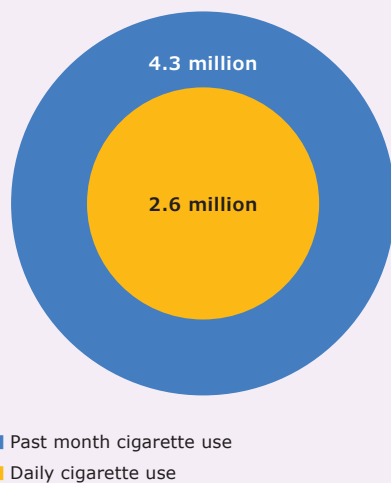
Illicit or illegal stimulants are less commonly used by people with severe mental illness than are other substances (Figure 8). However, mirroring the trend in the general population, methamphetamine use and methamphetamine use disorders have significantly increased among people with severe mental illness, almost doubling from 2017 to 2018.

FIGURE 8: Stimulant use and misuse among adults with serious mental illness, 2019¹¹²



Note: Stimulant psychotherapeutics include drugs commonly prescribed for attention-deficit/hyperactivity disorder.
Note: There were an estimated 13.1 million adults with serious mental illness in 2019.

FIGURE 9: Prevalence of cigarette use in adults with serious mental illness, 2019¹¹³



In 2019, methamphetamine use disorder among people with serious mental illness decreased slightly but was still far above 2017 levels.¹¹⁴ In contrast to their relatively infrequent use of *illicit or illegal* stimulants, more than half of people with severe mental illness use tobacco products containing nicotine (Figure 9).¹¹⁵

Implications

Illegal stimulant use, specifically methamphetamine use, is rapidly increasing in the United States.¹¹⁶ Communities nationwide are grappling with this rising use, including how to respond to the increasing number of overdose deaths and burden on local emergency systems, including emergency departments and law enforcement responders.^{117, 118}

Despite the relatively low prevalence of illegal stimulant use among people with serious mental illness, there are specific

implications of their use on this population. Some evidence suggests that people with bipolar disorder use illegal stimulants to maintain the bipolar symptoms of mania. In fact, some clinical guidelines include prescription stimulant psychotherapeutics, such as amphetamines, as a second- or third-line treatment for bipolar depression.¹¹⁹

A recent prospective study found that lifetime cocaine use may predict whether a person with major depressive disorder will later develop bipolar disorder.¹²⁰ This has important clinical implications because such a conversion in disorders often goes undiagnosed and requires a modification of the person's treatment plan.¹²¹

A study of homeless adults with severe mental illness in Vancouver, British Columbia, found those with bipolar disorder are more likely to use cocaine and amphetamines compared to those with schizophrenia.¹²² Stimulant misuse or dependence significantly increases the risk of suicide among people with bipolar disorder and research suggests it may be one of the strongest predictors of suicidal behavior among this population.¹²³

For people with schizophrenia, amphetamine misuse is associated with more severe psychiatric symptoms due to the drug's effect on dopamine release.¹²⁴ People with schizophrenia who misuse amphetamines have a higher prevalence of hallucinations, persecutory delusions and racing thoughts, according to research.¹²⁵ In addition, prescription stimulant use is associated with a three-year-earlier onset of psychosis.¹²⁶ Misuse of stimulants also may increase the risk of violent behavior among individuals with both schizophrenia and bipolar disorder.¹²⁷

Tobacco

Research suggests as many as 62% of people with schizophrenia and 37% of people with bipolar disorder are current cigarette smokers.¹²⁸ The high prevalence of tobacco use among people with severe mental illness has significant health implications. Tobacco use contributes to the high levels of comorbid physical health conditions among this population, such as cardiovascular disease. Comorbid physical health issues and high tobacco use contribute to the 25-year gap in life expectancy between people with severe mental illness and the general population.^{129, 130, 131}

Cigarette smoking and other forms of tobacco use have significantly decreased in the general population during the past 20 years, in part due to nationwide public health campaigns, but this trend has not paralleled for people with serious mental illness.¹³² Evidence-based smoking cessation programs for people with serious

“Everyone with schizophrenia who expresses the desire to quit smoking should be given the opportunity to do so with smoking cessation drugs and replacement therapy.”

—Torrey, E. F. (2019).
Surviving schizophrenia: A family manual (7th ed.).
Harper & Row (p.242).

mental illness show positive outcomes for reducing tobacco use and increasing life expectancy.^{133, 134}

Unfortunately, the availability and use of these programs is still extremely limited.¹³⁵

There are conflicting research findings as to why people with severe mental illness have such a high prevalence of smoking. Some early research attributed it to self-medication but

that hypothesis has been refuted.^{136, 137} Other studies suggest the relationship between nicotine addiction and severe mental illness may be biological in nature, such as sharing a genetic predisposition, due to the presence of nicotine receptors in the brain and their effect on psychosis.^{138, 139} Further, other studies suggest that people with schizophrenia use tobacco to improve cognitive dysfunction because nicotine may improve cognitive function, including memory and attention, in individuals with schizophrenia.¹⁴⁰

Important to note, nicotine may influence the efficacy of antipsychotic medications, causing faster metabolism and ultimately lower levels of medication in the blood.¹⁴¹ A clinician should be mindful that if a patient taking antipsychotic medications stops using tobacco, medication blood levels will rise and the medication’s side effects may increase.

VULNERABLE POPULATIONS

Some of the most vulnerable populations in the United States are especially affected by co-occurring severe mental illness and substance use disorder. Those involved in the criminal justice system and those who experience homelessness are more likely than the general population to have co-occurring disorders and are consequently at greater risk for a variety of negative outcomes.^{142, 143} Historically marginalized populations, such as racial minorities, women and people experiencing poverty, are also more likely to suffer negative outcomes from a dual diagnosis.

It is nearly impossible to infer any causal relationships between co-occurring disorders and characteristics of these vulnerable populations. The factors are all interconnected and overlapping, which makes it more difficult to say which component causes which result. For example, researchers have difficulty parsing out the relationships between homelessness, socioeconomic status, drug use and criminal justice involvement. Each of these factors both cause and are caused by the others, as well as other external factors, making it difficult to draw definitive conclusions about their relationships.

SOCIOECONOMIC STATUS AND TREATMENT ACCESS

Low socioeconomic status can make it more difficult for a person with a co-occurring disorder to get treatment and manage their illnesses effectively. Living under the poverty line, especially when also experiencing homelessness or belonging to another marginalized group, jeopardizes recovery stability and increases the risk of criminalization for substance use or mental illness.¹⁴⁴ People with co-occurring serious mental illness and substance use disorder are almost two times more likely to live below the federal poverty line than above it.¹⁴⁵

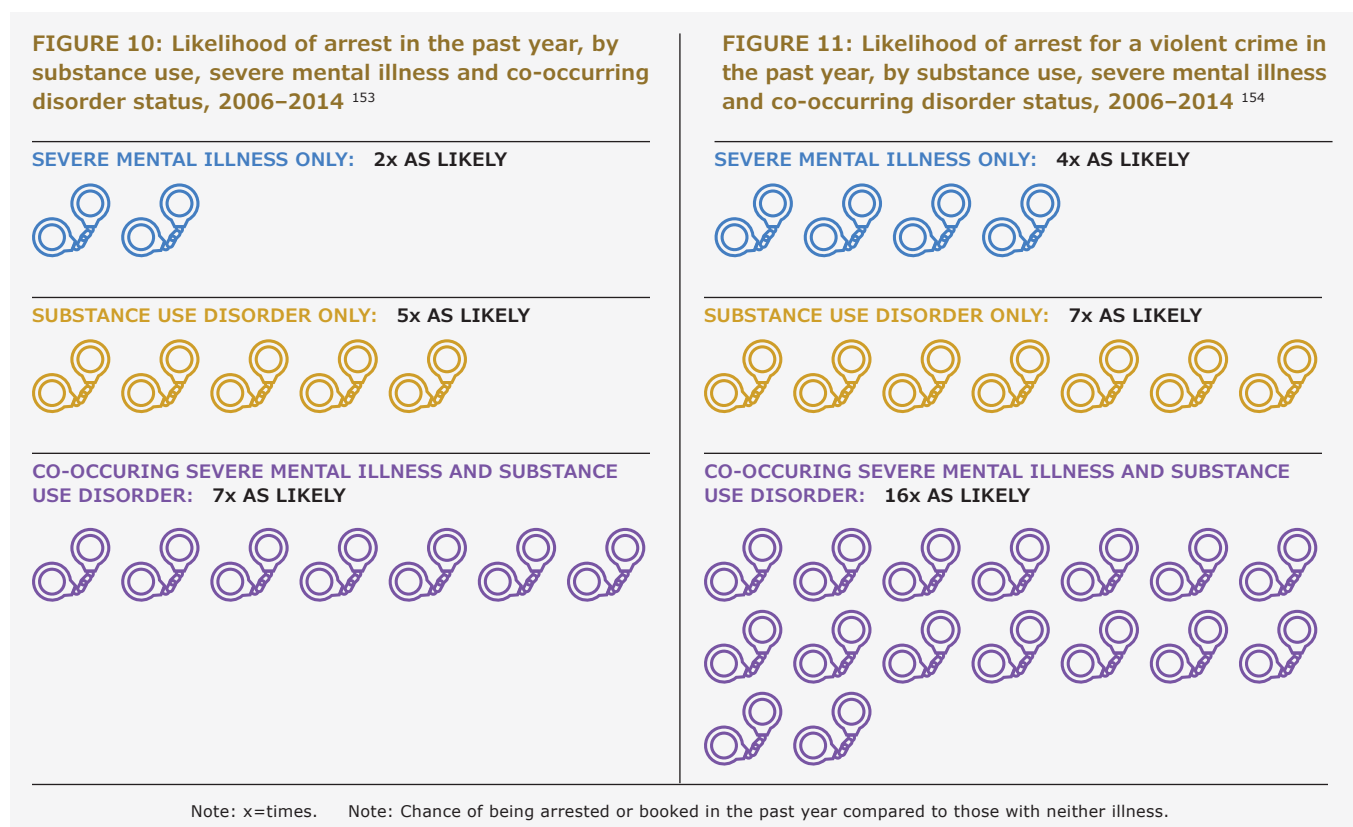
It is challenging to count and study these vulnerable populations and even more difficult to draw definitive conclusions about them. So while more research is needed to address these challenges, there are some recent studies that creatively examine these populations and the prevalence and impacts of co-occurring disorders.

CRIMINAL JUSTICE SYSTEM–INVOLVED POPULATION

Individuals with co-occurring substance use disorder and serious mental illness are overrepresented in every part of the criminal justice system. They are more likely to be arrested, booked, convicted and incarcerated than those with only a serious mental illness, those with only a substance use disorder and those with neither.^{146, 147, 148} They also have higher rates of recidivism and shorter times between rearrests than comparison groups.^{149, 150}

Arrests, Bookings and Convictions

A study examining the risk factors for criminal justice involvement found that those with a co-occurring disorder were far more likely to be arrested and booked for both nonviolent and violent offenses than those with a severe mental illness only, substance use disorder only or neither (Figure 10 and 11).¹⁵¹ These findings are consistent with previous similar studies.¹⁵²



Researchers concluded in 2019 that having a co-occurring substance use disorder is a major predictor of likelihood of conviction for those with a mental illness, particularly those with a psychotic illness. This relationship existed for violent and nonviolent crimes alike.¹⁵⁵ A 2012 Australian study found that those with co-occurring substance-use disorders were significantly more likely to be convicted of crimes than those with schizophrenia alone, including 8.6 times more likely to be found guilty of violent offenses.¹⁵⁶ These results are supported by the findings of similar studies.^{157, 158, 159}

Incarceration

In jails and prisons, the overrepresentation of co-occurring serious mental illness and substance use disorder only intensifies. A frequently cited 1991 study published in *American Psychology* estimates that 72% of jail detainees with a severe mental disorder also have a substance use disorder.¹⁶⁰ In a more recent study, almost half of inmates in Iowa with a mental illness also had a history of substance abuse. Having a serious mental illness while in prison nearly quadrupled the individual's likelihood of simultaneously having a substance use disorder, according to the results.¹⁶¹

Recidivism

The research on recidivism among those with co-occurring disorders mirrors the research for other criminal justice involvement. One 2014 study concluded that people with dual diagnoses had a 40% higher risk of being re-incarcerated than those with neither disorder.¹⁶² The same study found that the co-occurring group spent the least amount of time in the community between re-incarcerations compared to any other group.

Several other studies also conclude that those with co-occurring disorders are far more likely to have multiple incarcerations than those with psychotic illnesses or substance use disorders alone.^{163, 164, 165}

Interventions

Findings from the literature suggest that the criminal justice system must improve in addressing the needs of individuals who have a serious mental illness and co-occurring substance use disorder, who are vastly overrepresented in rates of arrest, conviction, incarceration and recidivism.

One vital piece of information missing from the current literature is *why* those with co-occurring disorders are at such a higher risk of criminal justice involvement. Researchers theorize that those

There are a number of theories about why those with co-occurring disorders are at such a high risk for criminal justice system involvement and more research is needed in this area.

with co-occurring disorders have less social and family support compared to others who have only one illness or neither.

A possible explanation for this lack of support could be the compounded stigma attached to having both substance use disorder and serious mental illness.¹⁶⁶ Another theory suggests that the lack of availability of and access to community treatment services plays a role in this population's vulnerability to criminal justice system involvement. Often an individual's first

encounter with treatment happens when they become involved in the criminal justice system. One study found that for the majority of people with psychiatric illnesses, their first arrest came before their first contact with a mental health service.¹⁶⁷

Other researchers argue that having a substance use disorder puts those with serious mental illness at greater and more frequent risk of coming into contact with law enforcement.^{168, 169} Beyond the fact that the purchase and use of certain substances inherently involves breaking the law, substance use disorder often leads individuals to illegal activity as they strive to sustain and fund their addictions.

Researchers also point to a lack of resources and support for this population during incarceration. Most jails and prisons lack integrated treatment plans to simultaneously address mental illness and substance abuse.¹⁷⁰ Clearly, members of this group need treatment and community support before they are ever arrested, while they are in jail and after their release to reduce their vulnerability to involvement with the criminal justice system.

HOMELESS POPULATION

People experiencing homelessness are vulnerable to the negative outcomes associated with co-occurring disorders. Given the difficulties associated with conducting research on people who are currently homeless, consistent data collection on the diagnosis of both mental illness and substance use disorder in this population is challenging at both the national and the local levels.^{171, 172} The research that does exist suggests there is a large proportion of homeless individuals with co-occurring disorders and that compared to those who are homeless with severe mental illness alone, the co-occurring group has more severe symptoms, faces more barriers to treatment and stable housing, and tends to incur higher costs in social services.

Prevalence and Population Differences

SAMHSA estimates that somewhere between 30% and 70% of the homeless population has co-occurring disorders, which is 12 to 30 times higher than the rate in the general population.¹⁷³ Researchers examined individuals served in a large, urban county's psychiatric emergency service and found that almost 32% of their homeless population sample had co-occurring substance use disorder and severe mental disorder, compared to about 23% of the housed population sample.¹⁷⁴ Other research estimates individuals with co-occurring disorders comprise between 50% and 70% of the total homeless population.¹⁷⁵ The prevalence of co-occurring disorders is likely even higher for those experiencing

SAMHSA estimates that somewhere between 30% and 70% of the homeless population has co-occurring disorders, which is 12 to 30 times higher than the rate in the general population.

chronic homelessness, defined as repeated episodes of homelessness or a current period of homelessness extending for a year or more.¹⁷⁶

Not only does the homeless population have a higher prevalence of co-occurring

disorders, but they are more likely to have more severe symptoms associated with their illnesses compared to unhoused people with a serious mental illness alone and compared to housed people with co-occurring disorders.^{177, 178} In a study of homeless individuals participating in a housing program, results showed that, at baseline, the clients with co-occurring disorders had "significantly poorer clinical status and community adjustment" in addition to more severe symptoms of psychosis and depression than the group with a serious mental illness alone.¹⁷⁹ This group also spent more nights homeless, had more involvement in the criminal justice system and reported a lower quality of life.¹⁸⁰

Barriers to Treatment and Services

Individuals with co-occurring disorders who are homeless face increased barriers to treatment and services for their illnesses. When comparing homeless groups with and without dual diagnoses, the group with co-occurring disorders showed a lower use of available psychiatric services after 12 months of treatment in the ACCESS program, a program found in nine states designed to serve those who both are homeless and have a mental illness.¹⁸¹ In a similar study, participants with severe mental illness and histories of substance abuse had a shorter tenure in housing programs than participants with severe mental illness but no history of substance abuse.¹⁸² This is consistent with other studies that found that a dual diagnosis has a negative impact, beyond that of severe mental illness alone, on a person's length of stay in a housing assistance program.^{183, 184} One possible reason for this difference is that members of the co-occurring group may have more difficulty participating in housing programs unless they receive concurrent treatment for both of their illnesses.¹⁸⁵

Some research indicates that Housing First, a housing program with no sobriety or treatment requirements that was first popularized in New York City in the 1990s, is an effective intervention for individuals with co-occurring disorders to maintain stable housing.¹⁸⁶ However, this same study found a lower utilization of mental health and substance treatment services in the Housing First group compared to the control group.¹⁸⁷ Thus, while Housing First appears to be an effective intervention for people with a dual diagnosis to maintain steady housing, it may be less effective in ensuring treatment for those disorders.

High-Cost Utilizers

Given the numerous challenges facing people with co-occurring severe mental illness and substance use disorders who are homeless, it is not surprising that they are overrepresented in the criminal justice system and are among the highest utilizers of services, including mental health and substance use services, emergency departments, and housing assistance programs, with the highest associated costs. This group cycles through the revolving doors of mental health, social services and criminal justice system involvement, leading to high costs and inefficient use of resources.

A number of studies conclude that the use of psychiatric services is particularly high for people with co-occurring severe mental illness and substance use disorder experiencing homeless. This group is more likely to have a higher number of psychiatric emergency room visits when compared to homeless people without co-occurring disorders.^{188, 189} Those with co-occurring disorders also have higher rates of inpatient hospital admissions and higher associated treatment costs.¹⁹⁰ Using an algorithm, one study found that having a dual diagnosis is an accurate predictor of whether a person experiencing homelessness will be categorized as a high-cost service utilizer.¹⁹¹

Interventions

Homeless individuals with co-occurring disorders may be the most vulnerable and difficult-to-reach population in the United States.¹⁹² Since it is so difficult to study and count the people affected by these issues, the current number of people affected is likely underestimated, and there is likely an even larger population in need of treatment and services.

In a 2013 report, SAMHSA concluded that all three issues (homelessness, mental illness and substance use disorder) must be addressed simultaneously to achieve successful treatment outcomes.¹⁹³ The report recognizes that “the co-occurrence of substance use and mental disorders limits the person’s ability to address critical life problems such as homelessness” and recommends an integrated treatment approach for this population.¹⁹⁴

RACIAL DISPARITIES

Racial disparities exist in the prevalence, diagnosis and treatment access of people with co-occurring substance use disorder and serious mental illness. Table 2 shows 2019 SAMHSA prevalence estimates of co-occurring disorders in the United States for different racial and ethnic groups. Asian Americans are recorded with the lowest prevalence of co-occurring disorders at 0.66%, while Native Hawaiians and Other Pacific Islanders have the highest at 2.18%.^{195, 196}

Cultural differences, associated stigma of these illnesses within communities, and racial bias in healthcare greatly influence the likelihood of diagnosis of a co-occurring disorder. There is no definitive reason why Native Hawaiians and Other Pacific Islanders have the highest rate of co-occurring disorders in the country, but several theories exist. Native Hawaiians and Other Pacific Islanders have higher rates of substance use compared to other races, which some researchers hypothesize is related to their

generally lower incomes and education levels.¹⁹⁷ Another report discusses the cultural traumas that indigenous Hawaiians and Pacific Islanders have endured in recent history, which the report authors believe is associated with general declines in health indicators during the past century, including increases in co-occurring disorders among this population.¹⁹⁸

The particularly low rates of dual diagnosis among Asian Americans may reflect the stigma attached to mental illness and substance use within Asian American communities, keeping some living with these conditions in the shadows. One study found that Asian Americans were three times less likely to seek mental health services than other Americans.¹⁹⁹

Conversely, Black Americans are almost twice as likely to be diagnosed with schizophrenia as are whites, despite no major differences in prevalence between the two populations.²⁰⁰ This is possibly due to conscious or unconscious bias in the doctors diagnosing the illnesses; studies suggest doctors tend to underemphasize mood symptoms when diagnosing Black patients leading to a more frequent diagnosis of schizophrenia compared to patients of other races.²⁰¹ Therefore, we should be careful not to read too much into the disparities in dual diagnosis prevalence reflected in current statistics.

There is a dearth of research in this area, which makes determining the interplay between race and co-occurring substance use disorder and serious mental illness nearly impossible. Criminal justice system involvement and discrimination affects most nonwhite races disproportionately, which could mean that nonwhites who have dual diagnoses suffer greater negative outcomes than whites with the same diagnoses. Race is likely a compounding factor that puts already vulnerable populations at a higher risk of developing a co-occurring disorder and experiencing negative outcomes. More research should be conducted to better illuminate the interaction between race and co-occurring disorders.

TABLE 2: Prevalence of co-occurring serious mental illness and substance use disorders, by Race, 2019 ^{202, 203}

Race	Adults (Older than 18 years) with Co-occurring Disorders	Total U.S. Population	Population with Co-occurring Disorders (%)
Not Hispanic or Latino	3,072,000	267,667,286	1.15
White	2,429,000	197,309,822	1.23
Black	350,000	41,147,488	0.85
AIAN	21,000	2,434,908	0.86
NHOPI	13,000	595,908	2.18
Asian	125,000	18,905,879	0.66
Two or more races	134,000	7,273,281	1.84
Hispanic or Latino	491,000	60,572,237	0.81
TOTAL	3,564,000	328,239,523	1.09

Note: AIAN = American Indian and Alaska Native; NHOPI = Native Hawaiians and Other Pacific Islanders.

GENDER DISPARITIES

Women

There are measurable differences between men and women with severe mental illness and co-occurring substance use disorders. For example, the onset of severe mental illness tends to occur at a later age for women than for men. On average, women develop symptoms for bipolar disorder or schizophrenia in their late 20s, while men's symptoms are developed most often in their early 20s.^{204, 205} In addition, women with bipolar disorder are more likely to experience rapid cycling—quick alternations between episodes of mania and depression—than are men with bipolar disorder.²⁰⁶

WHAT EXPLAINS THESE SEX DIFFERENCES?

The differences by sex among people with severe mental illness are likely a result of estrogen, a hormone that promotes the development of female characteristics. Research indicates that estrogen is protective for psychotic symptoms, and, conversely, that reductions in estrogen can worsen or precipitate psychosis.²⁰⁷ This also may explain why some women develop psychosis after terminating a pregnancy or giving birth, when estrogen levels are reduced. Research further indicates that the rate of psychiatric hospital admission of women is 1.5 times higher during the perimenstrual phase of the menstrual cycle, when a woman's estrogen levels are lowest.²⁰⁸

Co-occurring substance use disorders are more prevalent in men with severe mental illness than in women.²⁰⁹ However, there are unique challenges associated with lack of treatment for women with co-occurring severe mental illness and substance use disorders.

Women with serious mental illness are more likely to have experienced a host of trauma, including violent assault and sexual violence, compared to men with severe mental illness and women of the general population.^{210, 211, 212} A co-occurring substance use disorder among women with serious mental illness increases this risk of trauma even more.^{213, 214, 215} These harrowing realities demonstrate the need to apply trauma-informed practices in any intervention for this vulnerable population.²¹⁶

Research also indicates that half of pregnant women with serious mental illness have experienced intimate partner violence, and that rates of smoking and illicit substance use are significantly higher in pregnant women with serious mental illness who have experienced this trauma compared to those who have not.²¹⁷ Untreated serious mental illness and substance use disorder in mothers who are pregnant is associated with poor maternal and perinatal health, maladaptive fetal growth and poor cognitive development of the child.^{218, 219}

Gender minorities

There is limited research on the impact of non-conforming gender identity on serious mental illness and co-occurring substance use disorders. However, research indicates that this population has high levels of both mental health and substance use disorder treatment needs.²²⁰ More research is needed to clarify the impact of non-conforming gender identity on risk for substance use disorders and the implications of this for treatment access and quality.

TREATMENT FOR CO-OCCURRING DISORDERS

Integrated Dual Disorder Treatment (IDDT)

The most widely accepted treatment strategy for co-occurring disorders is straightforward on the surface: treat both disorders at the same time. This approach is called integrated treatment, commonly known as IDDT or Integrated Dual Disorder Treatment. Originally developed at Dartmouth Psychiatric Research Center by Dr. Robert E. Drake and colleagues in the 1990s, the program has gathered a substantial evidence base of successful outcomes in the past 30 years.²²¹ Dr. Drake writes that the program should be “seamless,” with substance use and mental health services offered as “one coherent package.”²²² He contends that any sort of division between the two treatments makes it nearly impossible for a person with co-occurring severe mental illness and substance use disorder to navigate the fragmented services.

WHAT IS IDDT?

- The Center for Evidence Based Practices at Case Western Reserve University describes the approach as “multidisciplinary and combin[ing] pharmacological, psychological, educational, and social interventions to address the needs of consumers and their family members in a culturally sensitive manner.”
- Research suggests that effective IDDT addresses consumer wishes, family involvement and other basic needs such as housing and employment.
- IDDT is always implemented by a team of individuals who work closely with the person and each other.
- IDDT includes many of the traditional approaches to treatment for substance use disorder or mental illness. Motivational interviewing, peer support, medications and other commonly used approaches are combined to help individuals through four stages: engagement, persuasion, active treatment and relapse prevention.
- IDDT is currently the most effective treatment program for people with dually diagnosed severe mental illness and substance use disorder to recover from both conditions.²²³

Individuals in IDDT programs have substantially better short and long-term outcomes for mental health, substance use and overall quality of life, according to research. In a 2011 profile of a program in North Dakota, program administrators presented data on 125 people receiving IDDT. Two teams of social workers, psychiatrists and other health providers worked to engage and treat the individuals. Teams worked with housing programs, crisis services and long-term treatment options to improve the lives of the people in their care. Together they managed to reduce their clients’ cumulative days of acute hospitalization by 90% and days incarcerated by 98% in four years.²²⁴ In 2007, California reviewed the implementation of eight new IDDT programs. All eight kept more than 50% of participants engaged during the treatment period and multiple locations had a significant and large reduction in service costs for participants.²²⁵

Despite the success of IDDT, treating severe mental illness and substance use disorder simultaneously can be challenging. While the majority of research supports IDDT as an appropriate and effective treatment approach, many of the studies have limitations and some failed to find long-term

improvements. One such study conducted in 2018 relied on a three-day training of clinicians to implement a fully integrated program. As the study authors conclude, the failure to find significant outcomes likely speaks more to the complexity of training the providers in integrated care than to the program's potential efficacy.²²⁶ To shed further light on the value of integrated treatment for those with co-occurring disorders, more rigorous research should be pursued.

The components of integrated treatment are just as important as the multidisciplinary strategy for treatment. Physicians, mental health providers, substance use counselors, peer support providers and any others working to support people with co-occurring disorders must collaborate to develop a treatment strategy that includes pharmacological, psychosocial, employment and housing solutions.

ROLE OF SOCIAL DETERMINANTS OF HEALTH

Social determinants of health, such as employment and housing, contribute to an individual's overall health and well-being.²²⁷ It is vital to address these factors in any treatment program for individuals with co-occurring severe mental illness and substance use disorders. Supported employment programs, such as Individual Placement and Support, have been shown to be effective in helping individuals with serious mental illness and co-occurring substance use disorders obtain and maintain work.²²⁸ However, individuals with dual diagnoses are often excluded from participating. Research estimates people with co-occurring disorders are half as likely to participate in supported employment programs as those with either disorder alone.²²⁹ Similarly, while there are a variety of housing program models for people with severe mental illness and substance use disorders separately, with varying degrees of effectiveness in improving long-term outcomes, most existing housing programs do not address co-occurring disorders, making it more difficult for those with dual diagnoses to successfully participate in programs and receive treatment for their illnesses.

Pharmacology

Psychiatric medications are widely accepted as the frontline treatment for severe mental illnesses such as bipolar disorder and schizophrenia.^{230, 231} Largely, these medications fall into two categories: antipsychotics, which are used to treat psychotic symptoms such as hallucinations and delusions, and mood stabilizers, which work to treat symptoms like depression and mania. Evidence also supports the use of pharmacological agents to treat substance use disorders.²³² However, there are known interactions, successes and failures when using medications to treat co-occurring severe mental illness and substance use disorder.

Antipsychotics

Clozapine is the most effective antipsychotic medication for treatment-resistant individuals with schizophrenia and the only medication approved by the Federal Drug Administration for reducing suicide and self-harm behaviors in individuals with psychotic disorders.^{233, 234, 235} Clozapine was withdrawn from international markets in 1975 due to its association with agranulocytosis, a life-threatening blood condition. However, this side effect is extremely rare and can be mitigated with blood monitoring of the individual while they are taking the medication.²³⁶ Although it was re-introduced to the market in 1990, doctors continue to prescribe clozapine at a rate that remains significantly below recommended levels.²³⁷

Research suggests that clozapine not only effectively treats psychotic symptoms but also has been associated with a decrease in cravings for cannabis, opioids and nicotine in people with dual

diagnoses.^{238, 239, 240, 241} Despite these clear benefits, providers remain hesitant to prescribe the medication.²⁴² A 2015 research study by the Treatment Advocacy Center found that, on average, 5% of U.S. individuals with schizophrenia are being treated with clozapine at any given time.²⁴³

“The concern of clinicians that prescribing clozapine will increase the long-term mortality risk of schizophrenia patients by inducing cardiovascular-related adverse effects is not empirically supported in the current systematic review and meta-analysis.”

—Vermeulan, J. M., van Rooijen, G., van de Kerkhof, M. P. J., Sutherland, A. L., Correll, C. U., & de Haan, L. (2019). Clozapine and long-term mortality risk in patients with schizophrenia: A systematic review and meta-analysis of studies lasting 1.1–12.5 years. *Schizophrenia Bulletin*.

Many other antipsychotics have been proven effective in treating severe mental illness without addressing substance use. However, use of some substances can affect antipsychotic blood levels in patients with severe mental illness.²⁴⁴ Clinicians must monitor their patients’ substance use because psychiatric symptoms may reemerge if the medication level in the blood is reduced.

Mood stabilizers

Lithium, a common treatment for bipolar disorder, has limited effectiveness in treating mood symptoms in individuals with co-occurring severe mental illness and substance use disorder. An analysis of the symptoms of nearly 800 individuals with bipolar disorder prescribed lithium found that alcohol use was a risk factor for non-response to the medication.²⁴⁵ Other drugs such as valproate and quetiapine, which share some pharmacological characteristics with clozapine, may be better suited to treat co-occurring bipolar disorder and substance use disorders.^{246, 247, 248} However, current studies have only examined small populations. More investigation of the utility of these drugs is needed.

Medication-Assisted Treatment (MAT) for Substance Use Disorders

Research and clinical guidelines support the use of pharmacologic therapies to treat substance use disorders.^{249, 250} This is generally known as Medication-Assisted Treatment (MAT). Although people with other substance use disorders can benefit from MAT, the most well-known application is for opioid use disorder, primarily treated with methadone, naltrexone and buprenorphine.²⁵¹ These medications reduce symptoms of withdrawal, including cravings, to help the person’s brain function in the absence of the substance. Other medications, such as naltrexone and acamprosate, can help people reduce their use of alcohol, according to research.²⁵² Limited studies indicate that citicoline helps reduce cocaine use.²⁵³

While MAT shows promise for those with dual diagnoses, research validating its use often excludes individuals with severe mental illness. The lack of evidence to support MAT for people with co-occurring severe mental illness might stem from the myth that such individuals will be unable to comply with treatment.²⁵⁴ However, recent trials and studies, including a 2020 study examining methadone maintenance treatment in people with psychosis, push back on this myth and provide data to support the use of MAT in this population.²⁵⁵

Psychosocial

MAT is part of a larger group of treatments known collectively as “harm reduction.” These strategies place “first priority on reducing the negative consequences of drug use rather than on eliminating drug use.”²⁵⁶ Many people with co-occurring disorders do not initially want to stop using substances.²⁵⁷ While an eventual goal may be to cease substance use, harm reduction keeps these individuals engaged in the meantime by offering alternatives to immediate withdrawal.

HARM REDUCTION STRATEGIES

Other harm reduction strategies include syringe service programs that provide access to sterile needles and syringes, as well as facilitate the safe disposal of used products, and supervised consumption services, where illicit drugs can be used under the supervision of trained staff.

While harm reduction policies often encounter political resistance, particularly in some conservative jurisdictions, research clearly demonstrates the efficacy of the approach in reducing the number of days a person with severe mental illness uses substances.^{258, 259, 260} Indeed, harm reduction has been shown to be more effective in reducing substance use than either traditional treatment approaches or non-treatment.²⁶¹ Research suggests that even a single day decrease in substance use can positively affect people with severe mental illness by increasing their medication adherence and treatment engagement while reducing psychiatric hospitalizations.²⁶²

The alternative to harm reduction, abstinence-based treatment, has the primary goal of ending all substance use. However, research suggests that such approaches are often inaccessible or unsuccessful for people with severe mental illness and substance use disorders.²⁶³ Alcoholics Anonymous (AA) is a widely known example of an abstinence-based program. AA programs guide participants through 12 steps to achieve and maintain recovery and complete sobriety.²⁶⁴ AA has a variety of spin-off programs targeted at groups beyond those with alcohol use disorder: the program "Double Trouble in Recovery" was developed to help those with co-occurring severe mental illness and substance use disorders. Although the program targets people with dual diagnoses, a 2006 meta-analysis of this program found that people with psychotic disorders had lower attendance rates and limited improvements.²⁶⁵ Researchers in this study hypothesized that paranoia and social anxiety may impede someone with severe mental illness from participating.²⁶⁶ Particularly, people in acute psychosis may be ill-suited to benefit from this style of treatment.²⁶⁷ Although this is not the predominant belief, the strict abstinence approach causes some groups to maintain that individuals "are not clean and sober if they are taking psychiatric medications."²⁶⁸ This may interfere with a person's ability to relate to other members of the group effectively, which is an integral component of the program and its effectiveness.^{269, 270}

Finding the Right Treatment

While the foregoing discussion addresses the effectiveness of particular treatments for patients with dual diagnoses in general terms, it is important to note that the supporting data cited are based on populations and averages. The effects of medications can differ from person to person.²⁷¹ Many individuals with co-occurring disorders may in fact benefit from a 12-step program or certain medications characterized here as unsupported for general use; for that matter, they may *not* benefit from a treatment reported here as generally effective. People experiencing any of these conditions (and anyone involved in their care) should consult a psychiatrist or other mental health professional if a treatment mentioned here seems appealing or promising.

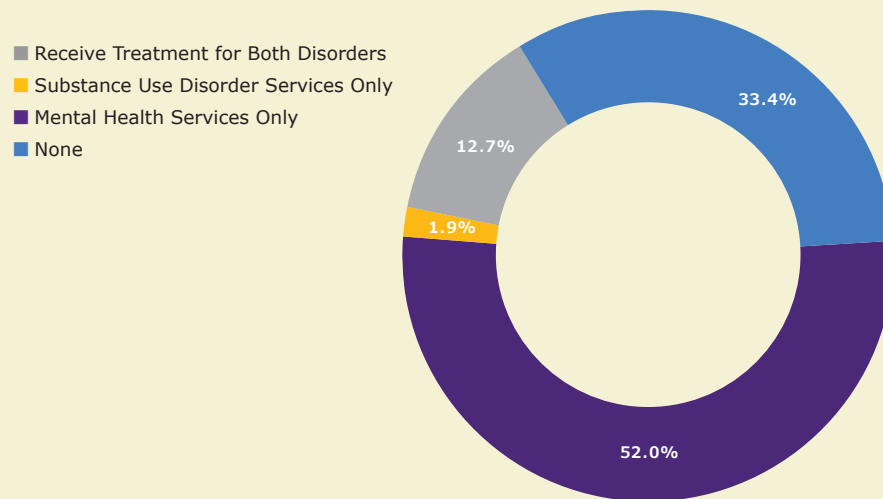
Barriers to Accessing Treatment

There are evidence-based treatments for severe mental illness, substance use disorders and co-occurring disorders. However, significant barriers to access prevent the vast majority of individuals with the most severe illnesses from receiving them.

PREVALENCE OF TREATMENT FOR CO-OCCURRING DISORDERS

The proportion of people with co-occurring serious mental illness and substance use disorders who receive treatment is particularly low. According to the SAMHSA National Survey of Drug Use and Health, in 2019, only 12.7% of people received any treatment for both their substance use disorder and serious mental illness (Figure 12).²⁷² However, this treatment could include any interactions with inpatient, outpatient or rehabilitation services; it does not speak to the quality, length or engagement with treatment. Therefore, these data likely overestimate the number of people who received quality, continuous treatment for their co-occurring disorders.

FIGURE 12: Adults with co-occurring serious mental illness and substance use disorder receiving mental health or substance use disorder services, 2019 ²⁷³



Barriers to treatment access for people with co-occurring substance use disorder and severe mental illness are multifold.

The most frequently encountered barrier to access to evidence-based treatments for co-occurring disorders is the fact that they are not available in the majority of communities nationally. Lack of capacity in the United States mental health system is a pervasive problem that is especially pronounced for people with the most severe psychiatric illnesses. A full continuum of care for people with severe mental illness that includes inpatient beds for individuals who may need them and adequate supports to allow individuals to live successfully in the community exists only in pockets throughout the country.²⁷⁴ When looking for a specialty treatment program that addresses an individual's co-occurring substance use disorder, regardless of ability to pay, the available options are even sparser (Figure 13 in Appendix).

Even where available services have been identified, the lack of integration of the mental health and substance use treatment systems can make navigating the two at once extremely challenging. In many instances, having one disorder will disqualify an individual from receiving services in the other system. For example, a substance use disorder may inhibit one from participating in some mental health diversion programs. Even many psychiatrists are unfamiliar with substance use treatment protocols, and some mental illness treatment facilities may be unable to support the effects of withdrawal.²⁷⁵ Conversely, a severe mental illness may exclude someone from being able to participate in residential substance use disorder treatment programs because the facilities are not equipped to treat mental illness.²⁷⁶

POLICY RECOMMENDATIONS

As SAMHSA recognized nearly 20 years ago in its 2002 report to Congress, “co-occurring disorders are an expectation, not an exception” in mental health treatment settings.²⁷⁷ Nearly 20 years before that, in his landmark guidebook for families navigating caring for their loved ones with schizophrenia, Dr. E. Fuller Torrey identified substance use disorder as the most challenging issue a person with schizophrenia could be expected to face.²⁷⁸ Sadly, in 2021 our nation still has yet to more fully reckon with the myriad policy challenges forced upon us by the intermingling of these two cruel illnesses.

But as always, there is no time like the present. And the answers are very much at hand, waiting for us to marshal the collective will to implement them.

Fundamentally, a policy response must focus on making adequate and appropriate treatment for people with co-occurring severe mental illness and substance use disorders universally available, without regard to ability to pay. Treatment is the key to offer individuals with co-occurring disorders the best chance at fulfilling lives while reducing the consequences associated with non-treatment such as crime, victimization, homelessness, systemic dysfunction, shattered lives and early death. Evidence-based treatments for co-occurring disorders have been developed but substantial barriers are preventing those in desperate need from accessing them.

THE TREATMENT ADVOCACY CENTER PROPOSES THE FOLLOWING POLICY SOLUTIONS:

■ Fully integrated mental health, substance use and physical health service systems

Despite many initiatives to integrate health systems over the years, current treatment systems for people with severe mental illness largely remain siloed and fragmented.^{279, 280, 281} Further efforts are needed to integrate mental health, substance use and physical health treatment systems:

- Breakdown silos within psychiatric services for provider certification, and for payment and funding of mental health and substance use disorder treatments.
- Ensure primary care practices and health systems have adequate training and capacity to treat mental health and substance use disorders, and foster collaboration within these systems.
- Incorporate general health care into mental health and substance use treatment facilities to ensure people with co-occurring disorders have their physical health needs met.
- Train all healthcare providers in best practices to treat patients with co-occurring disorders, eliminating blind spots in their primary medical education and in any subsequent certifications.

■ **Expanded access to evidence-based treatments for serious mental illness, substance use disorder and co-occurring disorders**

While evidence-based treatments for these illnesses and their effects are known, they are not widely accessible to all who need them. Existing treatment programs do not have the capacity to meet demand for services and are not always geographically accessible. Public and private health systems should fund and increase the availability of evidence-based treatments, including the following:

- Integrated Dual Disorder Treatment (IDDT)
- Smoking cessation programs
- Medication-Assisted Treatment (MAT) for those with serious mental illness
- Supported Employment Programs
- Inpatient and outpatient services for serious mental illness
- Inpatient and outpatient services for substance use disorder

■ **Acknowledgment of vulnerable populations with severe mental illness and substance use disorders**

Our nation's most vulnerable populations, including those involved in the criminal justice system, those experiencing homelessness, racial minorities and women, are the most likely to be negatively affected by co-occurring disorders. These same populations tend to have the least access to care. Too often people with co-occurring disorders are arrested and criminalized for their illnesses instead of provided the treatment and services they need.

- Create or expand criminal justice system pre-arrest diversion and re-entry programs to specifically include those with co-occurring disorders.
- Require all law enforcement behavioral health training programs to include guidelines for interacting with individuals with co-occurring disorders.
- Ensure funding for more integrated treatment options in jails and prisons.
- Ensure equitable access to evidence-based treatments for all people with a special focus on racial minorities and women.
- Tailor current housing programs to include and accommodate the dually diagnosed homeless population.

■ **Continued research on treatments and engagement strategies targeted to individuals with co-occurring disorders**

There are significant knowledge gaps in the existing body of research on co-occurring disorders and how to treat them in tandem. Treatment options and secondary effects of co-occurring disorders on vulnerable populations are two areas in particular need of further research.

- Fund and focus research efforts at the National Institute of Mental Health on clinical treatments for serious mental illness and co-occurring disorders.²⁸²
- Incentivize the inclusion of criminal justice system involvement, homelessness and service utilization as outcome variables in co-occurring disorder research.
- Prioritize the inclusion of serious mental illness, substance use disorder and co-occurring disorders as variables in COVID-19-related research.

APPENDIX

U.S. FACILITIES OFFERING A TREATMENT PROGRAM FOR CO-OCCURRING SERIOUS MENTAL ILLNESS AND SUBSTANCE USE DISORDERS

Introduction

Each year, the Substance Abuse and Mental Health Services Administration (SAMHSA) surveys all facilities in the United States that provide mental health and substance abuse services and receive mental health block grant funds, which numbers in the thousands. This survey, known as the Mental Health Surveillance Study (MHSS), is used to populate SAMHSA's behavioral health services locator and is one of the most widespread surveys of mental health facilities in the country. The survey enables SAMHSA to collect data on types of treatments, facilities and special programs, like those for people with co-occurring severe mental illness and substance use disorder. As shown throughout this brief, people with co-occurring disorders have special considerations and may need treatment that is more comprehensive than traditional mental illness or substance use disorder treatment.

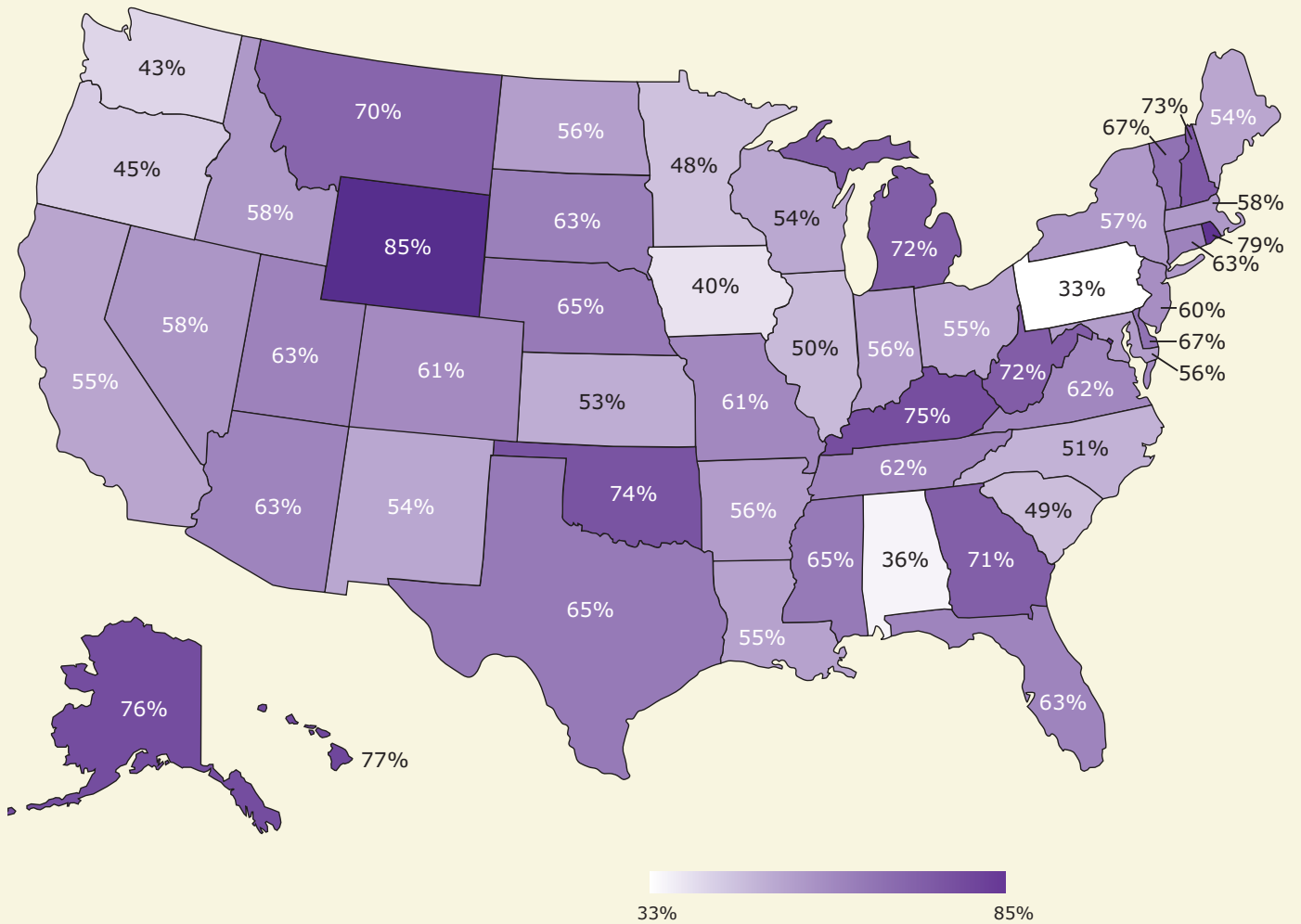
Methods

Availability of treatment was determined by the MHSS survey in response to the question: "Does this facility offer a mental health treatment program or group that is dedicated or designed exclusively for... persons with co-occurring serious mental and substance use disorders?" of which the proportion of facilities answering "yes" to this question by state was calculated. Facilities were defined as psychiatric hospitals, in-patient psychiatric units, residential treatment centers, other residential facilities, community mental health centers, partial hospitalization facilities, outpatient mental health facilities and multi-setting mental health facilities that served adult populations. It is important to note that the MHSS survey did not evaluate the type of program or quality of treatment in detail. As a result, facilities represented on this map as being able to treat people with dual disorders might not offer a fully integrated or evidence-based program.

Conclusions

As seen in Figure 13, in most states only half of facilities have a specialty treatment program for people with co-occurring serious mental illness and substance use disorders. The lack of availability of specialty programs represents a significant barrier to treatment access for people with co-occurring disorders.

Figure 13: Facilities offering a treatment program for co-occurring serious mental illness and substance use disorders, 2019



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