

PLAN TO ADDRESS METHAMPHETAMINE SUPPLY, USE, AND CONSEQUENCES

THE WHITE HOUSE
EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF NATIONAL DRUG CONTROL POLICY





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INTRODUCTION

The Office of National Drug Control Policy (ONDCP) Director is responsible for developing our nation’s drug control priorities and plans.¹ Although the main vehicle for this is the National Drug Control Strategy, the agency also develops more specified plans when such a need arises. There is increased attention on the use of methamphetamine, due to rising reports of overdose deaths involving illicit psychostimulants,¹ including methamphetamine,² and increases in seizures by law enforcement of pressed pills, including counterfeit.³ Treatment professionals state that stimulant use disorders, among them amphetamine-type stimulant use disorder, are among the most difficult of addictions to treat.⁴ This plan identifies a path forward for effective public health and public safety interventions, including recommended policy solutions.

PROPOSED ACTIONS

The increase in the number of Americans with an amphetamine-type stimulant use disorder and in methamphetamine-involved overdose deaths, along with shifts in methamphetamine production and trafficking, calls for immediate and bold action. The chronic nature of substance use disorders, combined with the long-term effects of methamphetamine use including weight loss, compromised oral health, and cognitive issues, requires a full continuum of care that includes prevention, harm reduction, treatment, and recovery support services. Ensuring the full continuum of appropriate services and supports, balanced with attention to

¹ This document uses the terms “stimulants” and “psychostimulants” to reflect a broad group of prescription and illicitly-manufactured controlled substances with stimulant properties, based on how the source describes them. Additionally, individual drug names, such as “amphetamine” or “methamphetamine,” are used in accordance with citation terminology. Most published reports on mortality classify stimulant drug related deaths using the designation “psychostimulants” as a broad umbrella category for both prescribed and illicitly manufactured stimulants. Occasionally the National Center on Health Statistics also completes special analyses of death certificate text and in those conditions, they are able to identify the contribution of specific drugs like methamphetamine. The National Survey on Drug Use and Health contains questions about “stimulant” use and non-medical use which includes prescribed stimulants and illicit methamphetamine and also “methamphetamine” as an individual substance.

disrupting the lethal supply of illicit drugs in the United States, will form the basis of a comprehensive approach to reduce methamphetamine-involved overdose deaths. Recommended efforts concerning methamphetamine include:

Supply Reduction and Trafficking

- Continue to work with established law enforcement task forces nationwide and internationally to increase focus on methamphetamine trafficking, and establish additional task forces as deemed necessary (Department of Homeland Security [DHS]/Immigration and Customs Enforcement [ICE]/Homeland Security Investigations [HSI]/Border Enforcement Security Task Forces [BEST]), Department of the Interior [DOI]/Bureau of Indian Affairs [BIA], Department of Justice [DOJ]/U.S. Drug Enforcement Administration [DEA], DOJ/Organized Crime Drug Enforcement Task Forces [OCDETF], ONDCP/High Intensity Drug Trafficking Areas [HIDTA], and United States Postal Service [USPS]/U.S. Postal Inspection Service [USPIS]).
- Continue federal oversight of pill press and tableting equipment importation, sales, and illicit use in the United States. Continue to leverage public/private partnerships and multilateral forums such as the North American Drug Dialogue (NADD) to construct effective trilateral pill press regulations across North America and beyond if needed, and to develop marking, tracking, and enforcement protocols to dismantle the illicit manufacturing of methamphetamine pills and tablet forms (DOJ/DEA, ONDCP, State).
- Continue to engage with Mexico to prioritize a considerable reduction in methamphetamine production and trafficking within its borders and into the United States. Continue to work with China, India, and other countries to add a list of methamphetamine precursors to the existing list of controlled products and the International Narcotics Control Board's precursor report (DOJ/DEA, U.S. Department of Health and Human Services [HHS], ONDCP, State).
- Continue to use United States resources to support: education and ongoing training of foreign law enforcement, regulatory, customs, and military partners on precursor chemical regulations and existing laws; the use of proper investigative techniques for the dismantlement of clandestine laboratories; forensic detection and identification of drugs and precursor substances, including analysis of associated data; improved cross-border

case coordination and multilateral investigations; and the interception of maritime and air shipments of precursor chemicals for eventual prosecution in the host country or the United States (DHS/Customs and Border Protection [CBP], Department of Defense [DoD]/Air Force, DoD/Coast Guard, DoD/Navy, DOJ/DEA, DOJ/OCDETF, ONDCP, State).

Data and Research

- Work through an existing Executive Office of the President data-related working group⁵ to prioritize data necessary to further our methamphetamine demand and supply objectives (ONDCP).
- Support research to further understand the correlation between cessation of methamphetamine use and the reversibility of short- and long-term negative health and social effects (HHS/NIH).
- Support Tribal research/evaluation grants to adapt evidence-based primary prevention curricula with cultural specificity and a focus on methamphetamine use prevention and then scale up those interventions through programs such as SAMHSA's Tribal Opioid Response Grant Program and the State Opioid Response Grant Program; and IHS' Community Opioid Intervention Pilot Project and the Substance Abuse Prevention, Treatment, and Aftercare project(DOJ/Office of Justice Programs [OJP], HHS/Indian Health Service [IHS], HHS/NIH, HHS/SAMHSA).

Prevention

- Expand access to evidence-based primary prevention interventions in schools within counties, including among Tribal Nations and Tribal officials, with high rates of persistent poverty, low education, low employment, and high methamphetamine use (U.S. Department of the Interior [DOI]/Bureau of Indian Affairs [BIA]/Bureau of Indian Education [BIE], DOJ/OJP, Department of Education [ED], Department of Agriculture [USDA], HHS/CDC, HHS/CMS, HHS/IHS, HHS/NIH, HHS/SAMHSA).

Harm Reduction

- Develop a pilot harm reduction program for the at-risk group men who have sex with men (MSM) who use methamphetamine or other psychostimulants, but do not yet meet criteria for stimulant use disorder. The program should incorporate people with lived experience and focus on preventing escalation of or to methamphetamine use, decreasing frequency, smoking or injecting as mode of delivery, and reducing incidence of addiction psychosis, cardiomyopathy, sexually transmitted diseases, and other negative consequences (HHS/NIH).
- Develop an awareness effort directed to people who use methamphetamine about the dangers of fentanyl-contaminated supplies and potential overdoses and the need to continually test drug supplies, not use alone, and always carry naloxone in case of opioid contamination (HHS/CDC).
- Encourage widescale distribution of naloxone to regions affected by illicit methamphetamine use, which may be contaminated with fentanyl (DOJ/OJP, HHS/CDC, HHS/IHS, HHS/NIH, HHS/SAMHSA).
- Support research to develop an antidote, reversal agent or better means of managing methamphetamine overdose or toxicity (HHS/FDA, HHS/NIH).
- Build capacity in Syringe Service Programs (SSPs) for drug testing of all illicit drugs, including methamphetamine, through distribution of fentanyl test strips (HHS/CDC, HHS/SAMHSA).

Training and Education

- Update current Crisis Intervention Teams (CIT) and De-escalation Training for Law Enforcement training curricula to include identifying and addressing people experiencing symptoms of acute methamphetamine intoxication (DOJ/Bureau of Justice Assistance [BJA], DOJ/Office of Community Oriented Policing Services [COPS], HHS/NIH).
- Broaden current opioid/overdose training curricula for bystanders, people who use drugs, and professionals such as healthcare providers and law enforcement who interface with people who use drugs to include other frequently encountered street drugs contributing to overdose, including methamphetamine, and increase awareness of possible fentanyl contamination and risk of methamphetamine injection-associated consequences. Include awareness and skills to identify and address when a person may be exhibiting symptoms

of psychostimulant intoxication, including psychosis (DOJ/OJP, HHS/CDC, HHS/IHS, HHS/NIH, HHS/SAMHSA).

- Develop an Extension for Community Healthcare Outcomes (ECHO) model training for providers who care for people with psychostimulant-related cardiac conditions, as well as additional support for ECHO first responder training for those on the front-line encountering individuals using psychostimulants (DOJ/OJP, DOT/National Highway Safety Transportation Agency [NHSTA], HHS/CDC, HHS/Health Resources and Services Administration [HRSA], HHS/IHS, HHS/NIH, HHS/SAMHSA, Veterans Affairs [VA]/Veterans Health Administration [VHA]).

Treatment

- ONDCP will lead an interagency process to address policy barriers that ONDCP staff and others across the interagency have identified that prevent successful implementation of contingency management for appropriate addiction treatment, including consideration of issues related to reimbursement, authority, digital therapeutics, grant funding limits, and legal liability and fraud (DoD, HHS, ONDCP, VA, DOJ, Treasury/IRS).
- Design administrative and staff training on use of incentive uses in office-based and specialty treatment programs (HHS/NIH, HHS/SAMHSA).
- Federal agencies, including Bureau of Prisons (BOP), IHS, and VHA, have developed appropriate responses to meet the needs of their service users with opioid use disorders. Building on this work, agencies should develop a blueprint of similar responses for people with amphetamine-type stimulant use disorder, including individuals with polysubstance use, and evaluation plans to measure the impact on overdose outcomes (DOJ/BOP, DOJ/OJP, HHS/CDC, HHS/HRSA, HHS/IHS, HHS/NIH, HHS/SAMHSA, VA/VHA).
- Support research, provide technical assistance, and develop a reimbursement method for promising therapies like the “Families Actively Improving Relationships Program (FAIR)”⁶ to decrease use of methamphetamine by child welfare-involved pregnant people and mothers and increase reunification in methamphetamine affected families/caregivers (HHS/Administration for Children and Families [ACF], HHS/CMS, HHS/NIH, HHS/SAMHSA).

STIMULANT FACTS AND TRAJECTORIES

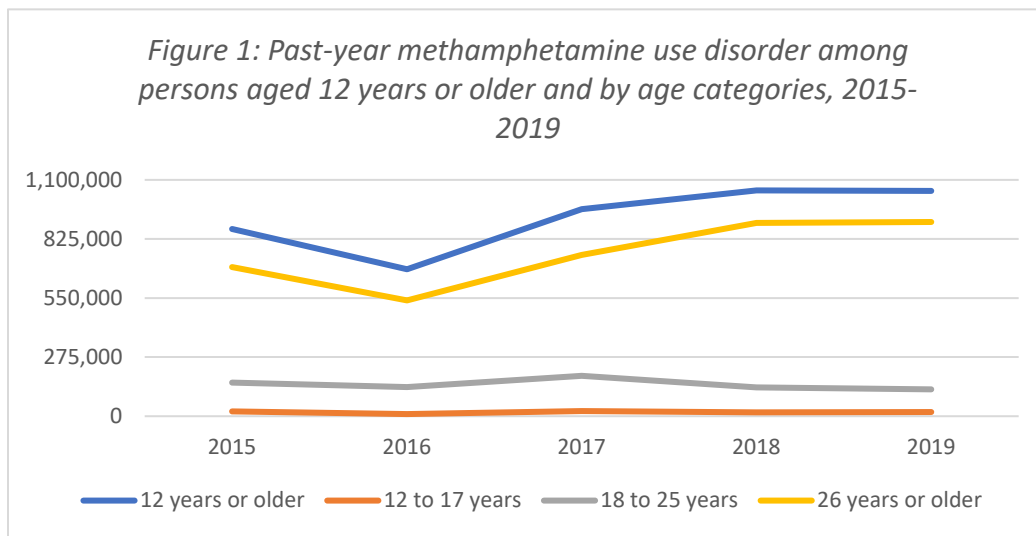
Epidemiology

The federal government classifies prescription stimulants into their appropriate category under the Controlled Substances Act based on their potential for abuse that can result in severe psychological or physical dependence.⁷ Prescribed controlled stimulants are used appropriately in the treatment of attention deficit disorder with hyperactivity (ADHD) and other conditions in children, youth, and adults.^{8,9,10,11} These drugs, including when used as prescribed, may lead to dependence and addiction, and must be monitored accordingly, while maintaining appropriate access to prescribed stimulants as needed.¹² Prescribed amphetamines have misuse potential, and the label on one drug, Adderall CII, also warns about diversion.¹³ One study shows that that misuse of prescription psychostimulants is a risk factor in certain populations such as sexual and gender minorities for future use of illicit methamphetamine.¹⁴

While overuse, diversion, and misuse of prescription stimulants is concerning,¹⁵ the majority of methamphetamine that is seized by law enforcement in the United States is believed to have been produced and distributed illicitly, not diverted from the pharmaceutical industry. To that point, there was an estimated 1.05 million people in 2019 with amphetamine-type stimulant use disorder and only 8,522 prescriptions for methamphetamine.^{16,17} The trafficking and use of illicit methamphetamine is therefore a significant concern that requires immediate, whole-of-government action.

Between 2015 and 2019, methamphetamine-involved overdose deaths nearly tripled.¹⁸ Consistent with increases in overdose mortality during 2015 to 2019, high risk patterns of methamphetamine use increased, and populations at increased risk for amphetamine-type stimulant use disorder diversified rapidly.¹⁹ During the 12-months ending November 2021 as compared to this time period a year prior, provisional predicted drug overdose deaths involving psychostimulants, such as methamphetamine, increased by 35.9% percent.²⁰ Although more research will be needed to understand the impacts of the COVID-19 pandemic on overdose mortality, this is a dramatic increase. In 2020, over 2.5 million people in the United States, aged 12 years or older, reported methamphetamine use in the past year.²¹ According to the 2020 National Survey on Drug Use and Health (NSDUH), most people who initiate illicit methamphetamine use are over 18, and the majority start at age 26 or older.²² The prevalence of

past-year amphetamine-type stimulant use disorder in those over 12 years of age in the United States increased between 2016 to 2019 (Figure 1) from just under 875,000 people and it is now close to 1.05 million people, or 0.4 percent of the population.²³ In 2020, NSDUHⁱⁱ reported this number to be over 1.5 million people.²⁴ While those with amphetamine-type stimulant use disorder are more commonly aged 26 and older, the prevalence of amphetamine-type stimulant use disorder was 25 percent among young adults aged 18-25 within 12 months of methamphetamine first use. Considering rising numbers of methamphetamine deaths, this result highlights the urgency of prevention, screening, and treatment of amphetamine-type stimulant use disorders among young adults.²⁵



Forms of Methamphetamine

Prescription methamphetamine is intended to be taken orally^{26,27} but when used non-medically it can be snorted (insufflated-intranasal use), smoked, or injected.²⁸ Because non-oral routes of administration initially bypass the digestive system (first-pass metabolism), these routes introduce more methamphetamine to the brain, intensifying methamphetamine's effects.²⁹ Compared with smoking and intranasal routes, people who inject substances have higher rates of substance use disorder.³⁰ Theoretically, use by injection can magnify the potential for overdose as the drug reaches the brain quickly, and no antidote for methamphetamine overdose by lay administrators currently exists. Acute methamphetamine overdoses are currently treated by

ⁱⁱ Due to methodological changes in the survey and a change in the diagnostic criteria used for determining substance use disorder, this number is not directly comparable to previous years.

clinicians using supportive therapy to reduce agitation, manage cardiac symptoms, and prevent kidney damage rather than with a reversal agent, such as naloxone in opioid overdoses.³¹

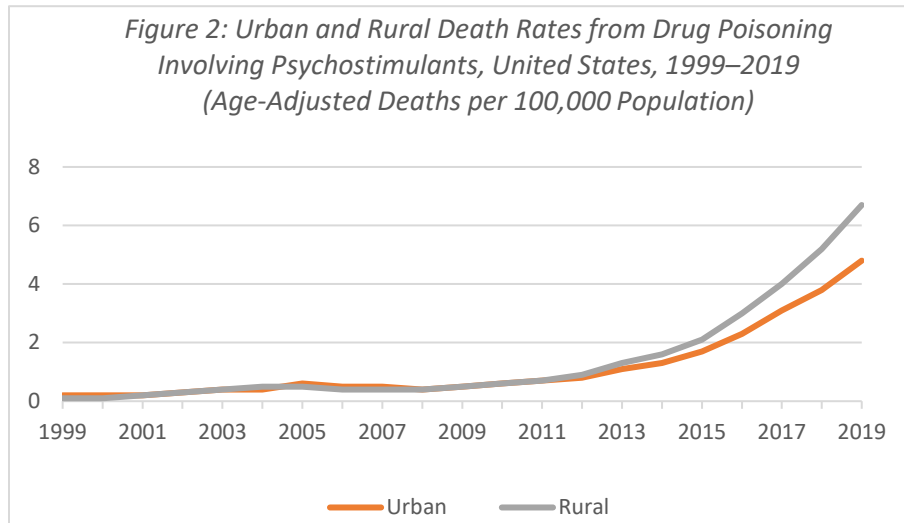
Illicit methamphetamine is often referred to as “crystal meth” because of the crystalline form frequently sold for smoking, but other forms have been emerging. In particular, there is increasing availability of methamphetamine in pressed pill form, including pills that mimic legitimate prescription psychostimulants.³² Buyers of pills may believe they are purchasing a legitimate pharmaceutical product and be unaware the pills may contain fentanyl and/or other contaminants. Pill presses are often used by drug traffickers to produce these counterfeit pills.³³ Pressed pills can also be crushed and snorted or dissolved in liquid and injected. Some drug traffickers smuggle methamphetamine dissolved in a liquid into the United States, which is then dried and sold.³⁴

Since 2012, when the U.S DOJ brought down the online drug marketplace “Silk Road”, dark-web sales sites for illicit drugs have been a concern for supply reduction professionals.^{35,36} Researchers are finding online sales through “clear web” social media sites, using techniques like “web-scraping” to identify the types of drugs available, including methamphetamine.³⁷ More research is needed concerning how different levels of online access to drug purchasing may result in different trajectories of drug using. For example, one study found that those using Silk Road experienced an increase in drug use in their first months of use, both in variety and in frequency.³⁸

Mortality Rates and Precautions

The number of overdose deaths involving psychostimulantsⁱⁱⁱ, including methamphetamine, has increased sharply in recent years (Figure 2). Overdose deaths involving psychostimulants more than quadrupled from 2013 to 2019 (from 1.2 to 5.0 per 100,000, respectively).³⁹ As of November 29, 2021, provisional estimates for January through December 2020 show 24,309 overdoses involving psychostimulants, accounting for approximately 26 percent of the estimated 93,145 overdose deaths in the United States in 2020.⁴⁰ Further, although overall drug overdose age-adjusted death rates are highest in urban counties, the rate of drug overdose deaths involving psychostimulants in 2019 was 1.4 times higher in rural counties than in urban counties.⁴¹

ⁱⁱⁱ Psychostimulants in Figure 2 do not include cocaine.



Contamination with fentanyl and synthetic opioids has become an alarming issue in a variety of illicit drugs, including stimulants.⁴² When psychostimulants, including methamphetamine, are contaminated with fentanyl and fentanyl analogues, it can have lethal effects, for example, on individuals who are not tolerant to opioids.⁴³ This is an important factor in rising overdose rates.⁴⁴ In 2019, there were a reported 16,167 drug overdose deaths nationwide involving psychostimulants, and 54 percent of these deaths involved an opioid, such as fentanyl.⁴⁵

Populations Most Affected

Research using survey data on methamphetamine use from 2015-2018 shows that “controlling for other factors there are higher adjusted odds ratios for past-year use among men; persons aged 26–34, 35–49, and ≥ 50 years; and those with lower educational attainment, annual household income $< \$50,000$, Medicaid only or no insurance, those living in small metro and nonmetro counties, and those with co-occurring substance use and co-occurring mental illness.”⁴⁶ This calls for increasing access to mental health services at SSPs and treatment centers. Although not necessarily representative of all people with methamphetamine use disorder, one national study found increased odds of homelessness in individuals who sought any treatment for methamphetamine use in 2017 compared with those seeking treatment for other substances without methamphetamine involvement.⁴⁷ This suggests that, at least among

treatment seekers, methamphetamine use is a risk for homelessness. Housing is likely to be an important intervention for these individuals.

During the time period of 2015 to 2017, men who self-identified as gay or bisexual had the highest prevalence of past-year methamphetamine use, 2.7 percent and 1.9 percent, respectively, while only 0.8 percent of the male heterosexual population reported use. For women, use is highest among female bisexual women (1.8 percent) and lower among the female heterosexual population and lesbians (0.4 percent and 0.3 percent, respectively).⁴⁸

In addition to men who identify as gay or bisexual, scientists also focus on methamphetamine use by men who engage in same-sex activity, often referred to as “men who have sex with men” (MSM). Methamphetamine use is well known for its ability to stimulate sexual behavior and to increase impulsivity.^{49,50} Both of these factors help explain higher rates of HIV and hepatitis C virus (HCV) risk behavior in this population and have been associated with rising primary and secondary syphilis rates in the US.^{51,52} Among women with primary and secondary syphilis who used methamphetamine, 80.6 percent indicated at least one high-risk sex behavior in the past year.⁵³ The intersection between syphilis and methamphetamine use is especially concerning given that congenital syphilis is preventable.⁵⁴ Aside from unsafe sexual practices and sexually transmitted infection health impacts, all people who inject methamphetamine with used or shared syringes are also at risk for HCV transmission.^{55,56} In summary, it is important to reduce unsafe injection and unsafe sexual practices associated with methamphetamine in order to reduce the public health burden associated with methamphetamine use on MSM and other affected populations.

Methamphetamine use has been long-standing in certain AI/AN populations. One study found that an estimated 26.2 out of every 1000 AI/AN people used methamphetamine during the past year compared to 6.8 out of every 1000 in the general United States population.⁵⁷ Additionally, methamphetamine-involved overdose rates are higher among AI/AN than any other ethnic group. Among AI/AN men aged 25-54 years, 26.4 per 100,000 men died of a methamphetamine-involved overdose in 2018, compared to 12.6 per 100,000 non-Hispanic white men, 6.6 per 100,000 Hispanic men, and 6.4 per 100,000 non-Hispanic black men. Similar trends were seen among women when analyzed by ethnicity.⁵⁸ AI/AN who have used methamphetamine are more likely to be male, of low socioeconomic status, have serious mental illness, and misuse other substances besides methamphetamine.⁵⁹

Polysubstance Use

People often use methamphetamine in combination with other drugs, including opioids. Studies have found an increase in concurrent methamphetamine use among those seeking treatment for opioid use disorder in recent years.^{60,61} One study found people used methamphetamine to cope with opioid withdrawal or for its stimulating effects.⁶²

From 2013 to 2019, the psychostimulant death rate increased 317 percent, regardless of opioid co-involvement.⁶³ In the presence of synthetic opioid co-involvement, age-adjusted psychostimulant death rates climbed from 0.1 to 1.8 per 100,000 population, an increase of 1700 percent.⁶⁴ In the absence of such co-involvement, psychostimulant age-adjusted death rates increased from 1.1 to 3.2, an increase of 191 percent.⁶⁵ Because jurisdictional drug poisoning mortality data does not always ascribe cause of death to specific drugs when used concurrently, it is difficult to determine whether polysubstance co-involvement caused these deaths. Despite this, escalating mortality rates indicate use of poly-substances is one contributor to the overall problem.⁶⁶

METHAMPHETAMINE SUPPLY

Shifts in Production, Supply, Forms and Use of Methamphetamine

The past few decades have marked a considerable shift in methamphetamine manufacturing and trafficking in the United States. In the early 2000s, small labs created batches of methamphetamine using the precursor pseudoephedrine, an ingredient found in over-the-counter cold medicine. Rural areas that are not easily monitored by law enforcement became ideal sites for clandestine methamphetamine labs.⁶⁷ As a result, the Combat Methamphetamine Epidemic Act of 2005 was enacted, requiring identification and signature to purchase “behind-the-counter” pseudoephedrine and setting limits on purchase amounts over a given period.⁶⁸ Supporting laws also require retailers to log accounts of sales and purchaser identification.⁶⁹ These laws successfully curtailed methamphetamine production in small, undercover labs in the United States. However, over time, this domestic production has been replaced by Mexican drug trafficking organizations that currently supply methamphetamine in metric ton quantities to the United States, using precursor chemicals shipped from China and India.⁷⁰ Methamphetamine is readily available at high purity and low cost across the country.⁷¹

Interdiction and Enforcement

The federal government supports a number of methamphetamine programs specific to law enforcement and policing. One such program, the COPS Anti-Methamphetamine Program, advances public safety by providing grant funds to state law enforcement agencies to investigate illicit activities related to the manufacturing and distribution of methamphetamine.⁷² Under this program, funds are used to locate or investigate illicit activities such as precursor diversion, laboratories, or methamphetamine traffickers.

DEA, in collaboration with the DOJ's OCDETF, will work jointly to execute the Attorney General's strategy to combat transnational-organized-crime and to reduce the availability of illicit narcotics in the nation by using a prosecutor-led, multi-agency approach to enforcement. OCDETF leverages the resources and expertise of its partners in concentrated, coordinated, long-term enterprise investigations of organized crime, money laundering, and major drug trafficking networks. The OCDETF National Methamphetamine Strategic Initiative⁷³ was launched in 2021 to take a comprehensive and strategic approach to the methamphetamine threat. It will provide a coordinated first attack on Transnational Criminal Organizations that produce, distribute, and traffic methamphetamine. Specifically, the Initiative will maximize information sharing, pool agencies, High Intensity Drug Trafficking Areas, and state/local/tribal community expertise, and provide resources to federal partners and state/local/tribal participants. It will also develop OCDETF-caliber cases and prioritize targeting and disrupting and dismantling identified criminal networks.

DHS's ICE-HSI BEST are its primary tool for combatting the smuggling of methamphetamine and its chemical precursors into the United States.⁷⁴ BEST co-locates and combines the authorities of various DHS law enforcement agencies with the full range of federal, state, local, tribal, and international law enforcement resources in the fight to identify, investigate, disrupt, and dismantle smuggling organizations at every level of operation.⁷⁵ BEST units conduct comprehensive investigations of transnational criminal organizations engaged in the systematic exploitation of border security vulnerabilities. The vast majority of methamphetamine discovered and seized by law enforcement in the United States has either originated in Mexico or have been manufactured from precursor chemicals smuggled into the United States from Mexico.⁷⁶ BESTs are an effective tool for combatting the introduction of methamphetamine and/or its precursor chemicals into the commerce of the United States by attacking the smuggling mechanisms at the point of entry.

The North American Drug Dialogue (NADD), led by ONDCP and the State Department, is a partnership among Mexico, Canada, and the United States that is working to address this threat of illicit psychostimulants through the combined efforts of law enforcement and health officials.

Justice System Involvement and Alternatives to Incarceration

Research indicates multiple contributing factors for drug use initiation including social networks,⁷⁷ parental drug use,⁷⁸ and genetics.⁷⁹ Extensive research on adverse childhood experiences (ACEs) that include traumatic histories of violence, abuse, and neglect have been associated with poor health outcomes, early death rates, and substance use disorders.⁸⁰ Research clearly shows parental methamphetamine use contributes greatly to child welfare caseloads and family separation.⁸¹ Intensive family interventions are showing promise for parents who are involved in child welfare because of methamphetamine use and other substance use disorders.⁸²

In 2019, 39.5 percent of respondents who reported methamphetamine use also reported being arrested in the past year (see Table 1).⁸³ The 2019 NSDUH survey shows that approximately 8.3 percent of people aged 12 and older who use methamphetamine in the past year reported being on parole or in supervised release, and approximately 21.3 percent of people with past year methamphetamine use reported being on probation.^{84,85} The Office of Justice Programs is testing initiatives that offer substance use disorder treatment and recovery support services as an alternative to people who may be incarcerated.⁸⁶ Following treatment, close monitoring and supervision by probation and parole officers is needed to prevent and reduce incidents in which individuals have recurrence of substance use.

<i>Table 1: Number of People Who Use Methamphetamine Arrested and Booked in the Past 12 Months (2019)⁸⁷</i>	
Arrested and booked one time	420,188
Arrested and booked two times	108,727
Arrested and booked three or more times	63,958

Acute Stimulant Intoxication: Law Enforcement Interventions

Professionals in health care and law enforcement require skills and training when encountering people who are intoxicated and agitated. This is especially important in light of the link between the characteristics of stimulant intoxication to clinically-significant behavioral or psychological changes including euphoria; anxiety; tension or anger; changes in sociability; hypervigilance; impaired judgement; and, at times, confusion; seizures; and hallucinations.⁸⁸

Specific training for first responders can ensure appropriate care for people if they are behaving in a disruptive or agitated manner for any reason, including acute amphetamine intoxication. Programs for law enforcement specifically include police behavioral health collaborations, a subset of which includes crisis intervention teams (CITs) and police de-escalation programs. CITs often embed behavioral health professionals within law enforcement units to help address people who may be having an acute behavioral health issue for which police have been contacted. CITs may also exist separate from law enforcement.

Informed Police Responses

The DOJ OJP's BJA in partnership with the University of Cincinnati, the International Chiefs of Police, and other partners recently offered two U.S. law enforcement agencies grant opportunities to pilot a curriculum on Law Enforcement Training in Collaborative Crisis Response.⁸⁹ This is part of a larger initiative supported by the BJA's Academic Training to Inform Police Responses: A National Curriculum to Enhance Police Engagement with People with Behavioral Health Issues and Developmental Disabilities.⁹⁰ Designed to address crisis response training for law enforcement and first responders, this initiative seeks to assist communities in their development of collaborative crisis response programs, focused on the needs of individuals with behavioral health disorders and intellectual and developmental disabilities. Following evaluation, these types of programs should be scaled up so every community has trained mental health professionals who can help in these situations.

HEALTH AND TREATMENT INTERVENTIONS

Health Consequences

Methamphetamine has a broad level of toxicity with consequences that include potentially long-lasting cognitive deficits,^{91,92} negative oral health outcomes,⁹³ osteoporosis,⁹⁴ increased risk of Parkinson's disease,⁹⁵ cardiovascular disease, and congestive heart failure.^{96,97} One study reported that cardiovascular problems are the second leading cause of death in people who use methamphetamine following overdose.⁹⁸ A database study of over 35 million patients

identified 180,000 people with a diagnosis of amphetamine-type stimulant use disorder, and found that within that population there was a 27 percent increase in incidence of sudden cardiac death compared to those who did not have a diagnosis of amphetamine-type stimulant use disorder.⁹⁹ More research is needed to understand the correlation between cessation of methamphetamine use and the reversal process for short and long-term negative health effects.

Treatment for Amphetamine-type Substance Use Disorder

Similar to other substance use disorders, treatment availability for people with methamphetamine use disorder is inconsistent and insufficient. Currently, there is no medication approved by the FDA for treating amphetamine-type stimulant use disorder. NIH supports pharmacotherapy development and clinical trials through its extramural research program which support researchers in the translation of research discoveries into medications to treat substance use disorders.¹⁰⁰ During 2015 to 2018, an estimated 31.5 percent of persons with past-year amphetamine-type stimulant use disorder reported receiving any substance use treatment in the past year.¹⁰¹ One reason for poor treatment utilization may be that there are limited evidence-based intervention options, and treatment programs have high discontinuation rates.¹⁰² Screenings and linkage to treatment for amphetamine-type stimulant use disorder should be routinely performed.

All psychostimulants, whether prescribed or used illicitly, activate the reward pathway through dopamine. They cause tolerance, dependence, and craving upon cessation and, if used repeatedly over time, create brain adaptations that become desensitized to normal reward systems.¹⁰³ Withdrawal from stimulants is associated with anhedonia, a condition marked by the inability to derive enjoyment from everyday activities that bring pleasure.¹⁰⁴ Anhedonia makes it difficult to remain alert or become motivated to accomplish the most basic goal-directed activities.¹⁰⁵ Thus, even though there are treatments available, it may be more difficult for people to engage in cessation.

Psychotherapies available for treating people with stimulant use disorders include Cognitive Behavioral Therapy (CBT), Community Reinforcement Approach (CRA), and the Matrix Model's Group Cognitive Behavioral Therapy. These practices have achieved moderate patient outcomes in clinical trial settings,^{106,107} where researchers used established guardrails for quality assurance and model fidelity, like providing therapists with rigorous training, practice, and active supervision. To extend those guardrails beyond a trial setting, developers of both CBT

and CRA have created digital treatment versions that feature learning modules for participants to develop and practice skills that lead to maintaining life changes. The CRA version also uses incentives to help facilitate sustainable change.

Psychosocial and Behavioral Therapies

Matrix Model's Intensive Outpatient Treatment (A Group CBT) combines elements from relapse prevention (CBT for addiction), family treatment, and 12-step fellowship support.¹⁰⁸ The skills training and relapse prevention components are taught in groups,¹⁰⁹ a format frequently used by community substance use disorder treatment programs. Matrix strives to train patients to recognize things that activate cravings and drug use so they can avoid drug use.¹¹⁰

Community Reinforcement Approach (CRA) is a behavioral treatment that replaces the physical and environmental rewards of substance use disorders by rewarding alternative behaviors.¹¹¹ Therapists work with family and friends to control these rewards with incentives to reinforce non-drug related behaviors.¹¹² In time, incentives may be phased out as the rewards related to a drug-free lifestyle like a paycheck and new relationships begin to accrue. Digital CRA programs tested in clinical trials have included a voucher component.¹¹³

Contingency Management

Contingency Management (CM), sometimes referred to as “motivational incentives,” is a behavioral intervention in which incentives are provided for evidence of positive behavioral change (e.g. negative urinalysis result). These can include vouchers, privileges, or prizes. Decades of evidence support the effectiveness of CM for substance use disorder, including for stimulant, opioid, marijuana, nicotine, and polysubstance use disorders. CM is also useful for shaping behaviors other than substance use, including treatment attendance and medication adherence.

Based on a system of earning, participants receive incentives for mutually agreed-upon behavior changes, including advances and treatment or work attendance. CM has been beneficial for persons experiencing anhedonia by helping them focus on an earned reward that motivates new behaviors and abstinence from substances. Research has shown that community therapists can successfully use CM to yield better outcomes among people with stimulant use disorders.^{114,115} In time, incentives may be phased out as the rewards related to success in recovery, such as a job, or improved and new relationships, begin to accrue. CM has the strongest evidence-base for the treatment of stimulant use disorder.¹¹⁶ In addition, researchers

have developed a Therapeutic Education System for digital treatment that offers the skills training of CRA, voucher reinforcement of CM, and practice management tools directed to clinicians who have not been trained in psychotherapy or addiction treatment. FDA has cleared digital therapeutics (DTx) software for people with substance use disorder.¹¹⁷ DTx are applications installed on the patient’s mobile device to educate and allow the individual to enter data, and experience interventions; these are monitored by the clinician via a web-based portal.

Contingency Management for AI/ AN

With high percentages of methamphetamine use among AI/AN in the United States,¹¹⁸ culturally tailoring and testing interventions may be helpful. Currently, one American Indian Tribe is included in a clinical trial that adapts CM for concurrent alcohol and drug use.¹¹⁹ Additionally, Tribal members feel uncomfortable participating in clinical trials needed to establish the data needed to culturally tailor an intervention.¹²⁰ Although not specific to methamphetamine use, at least one Tribal researcher-led trial of a tailored intervention found equivalent outcomes between those in a standardized non-tailored treatment and a standard manualized treatment.¹²¹ Since CM interventions typically allow participants to pick their own reinforcement, waiting to implement this intervention for methamphetamine use until this trial is completed may not be necessary.

Contingency Management: Implementation Challenges

Despite robust and durable outcomes for CM,¹²² access is limited by several factors. First, there is a prohibition on certain remuneration under the Federal health care programs Anti-Kickback Statute,¹²³ under which there is no safe harbor for CM or DTx programs. The Anti-Kickback Statute is a criminal law that prevents knowingly and willfully offering, paying, soliciting, or receiving remuneration to induce or reward the referral of business reimbursable under any of the Federal health care programs.

In addition to the Anti-Kickback Statute, there is also a Beneficiary Inducement Statute¹²⁴ that imposes civil monetary penalties on providers who offer remuneration to Medicare and Medicaid beneficiaries to influence them to use their services and there is concern that programs offering incentives above limits (e.g. \$75 per year), could be considered in violation.

Finally, unless an exception applies and all of its requirements are satisfied, the Physician Self-Referral Law, commonly referred to as the “Stark Law”¹²⁵ (1) prohibits a physician from making referrals for certain designated health services payable by Medicare to an entity with

which he or she (or an immediate family member) has a financial relationship; and (2) prohibits the entity from filing claims with Medicare (or billing another individual, entity, or third party payor) for those referred services. Both ownership interests and compensation arrangements are financial relationships for purposes of the physician self-referral law. For example, if a physician has ownership interest in a laboratory that provides clinical laboratory services (which are designated health services), unless all requirements of an applicable exception to the physician self-referral law are satisfied, the physician may not refer clinical laboratory services payable by Medicare to the laboratory and the laboratory may not submit a bill to Medicare for the services furnished pursuant to the prohibited referral. Because CM programs often are based on specimen-testing outcomes, if a physician orders specimen testing from a laboratory with which the physician (or an immediate family member of the physician) has a financial relationship, the law would be implicated.

Recovery from Amphetamine-type Stimulant Use Disorder

For several reasons, the early weeks and months of recovery from amphetamine-type stimulant use disorder can be challenging, with people frequently dropping from treatment or returning to methamphetamine use. Brain scans have shown that chronic methamphetamine use can result in changes in the parts of the brain associated with motor speed, emotions, and memory.¹²⁶ These brain changes can lead to distractibility, impulsivity,¹²⁷ and impaired executive function that results in choosing small, immediate rewards over larger, delayed rewards.¹²⁸ Studies have shown that some of these changes can be reversed upon stopping methamphetamine use, but can take months to years.^{129,130} Because of the slow reversal process, during the first few months of abstinence from methamphetamine, a person may continue to experience impulsivity¹³¹ and struggle with the decision making¹³² needed to remain abstinent. This may contribute to the high frequency of recurrence during early recovery, estimated to be around 60 percent within the first year after treatment.¹³³

Despite these challenges, support through mutual aid groups and mentoring programs may provide an important network for people in recovery. Though more research is needed to understand the impact of these programs, one study that interviewed both people who currently and previously used methamphetamine found that 12-step programs and the social support associated with them are an important part of the recovery process.¹³⁴

PROPOSED METRICS

ONDCP will monitor illicit methamphetamine use following the introduction of this plan on an annual basis over five years using data from NSDUH. The primary outcome measures will be the percentage of people aged 18 or older in the United States who initiated methamphetamine, used methamphetamine, or began treatment for methamphetamine use in the prior 12-months. The baseline will be 2021 NSDUH data prior to implementation of this plan. We will monitor trends from 2022 through 2026, a five-year period, during which we will be implementing parts of the plan. We will also monitor rates of overdose deaths but will not measure that as our primary metrics due to the lag in data.

¹ National Drug Control Policy – Appointment and duties of Director and Deputy Directors. 21 U.S. Code § 1703 (b)

² Vital Statistics Rapid Release - Provisional Drug Overdose Data. Published August 5, 2021. Accessed August 25, 2021. <https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm>

³ Northwest HIDTA Intelligence Bulletin Counterfeit Adderall and Xanax found in Washington State. (Unclassified/Law Enforcement Sensitive).

⁴ Haffajee R, Heins S. State and Community Efforts to Address Stimulant Use. HHS/ASPE with RAND Corporation; 2021. <https://aspe.hhs.gov/sites/default/files/private/aspe-files/265576/stimuse.pdf>

⁵ United States, Executive Office of the President [Joseph R. Biden Jr.]. Executive order 13985: Advancing Racial Equity and Support for Underserved Communities Through the Federal Government.

⁶ Saldana L, Chapman JE, Campbell M, Alley Z, Schaper H, Padgett C. Meeting the Needs of Families Involved in the Child Welfare System for Parental Substance Abuse: Outcomes From an Effectiveness Trial of the Families Actively Improving Relationships Program. *Front Psychol.* 2021;12:689483. Published 2021 Jul 2. doi:10.3389/fpsyg.2021.689483 available <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8283009/pdf/fpsyg-12-689483.pdf>

⁷ Controlled substance schedules. Accessed August 25, 2021. <https://www.deadiversion.usdoj.gov/schedules/index.html#define>

⁸ Cortese, Samuele et al. “Comparative efficacy and tolerability of medications for attention-deficit hyperactivity disorder in children, adolescents, and adults: a systematic review and network meta-analysis.” *The lancet. Psychiatry* vol. 5,9 (2018): 727-738. doi:10.1016/S2215-0366(18)30269-4

⁹ Ritalin [package insert]. Novartis Pharmaceuticals Corporation, East Hanover, NJ; January 2019. https://www.accessdata.fda.gov/drugsatfda_docs/label/2019/010187s071s082,018029s041s051lbl.pdf. Accessed August 25, 2021.

¹⁰ Adderall [package insert]. Teva Select Brands, Horsham, PA; January 2017. https://www.accessdata.fda.gov/drugsatfda_docs/label/2017/011522s0431bl.pdf. Accessed August 25, 2021.

¹¹ Desoxyyn [package insert]. Recordati Rare Diseases Inc., Lebanon, NJ; February 2015. https://www.accessdata.fda.gov/drugsatfda_docs/label/2017/005378s0341bl.pdf. Accessed August 25, 2021.

¹² Adderall [package insert]. Teva Select Brands, Horsham, PA; January 2017. https://www.accessdata.fda.gov/drugsatfda_docs/label/2017/011522s0431bl.pdf. Accessed August 25, 2021.

¹³ Adderall [package insert]. Teva Select Brands, Horsham, PA; January 2017. https://www.accessdata.fda.gov/drugsatfda_docs/label/2017/011522s0431bl.pdf. Accessed August 25, 2021.

¹⁴ Westmoreland DA, Goldshear JL, Carrico AW, Grov C. Associations of prescription stimulant misuse with subsequent methamphetamine use among a U.S. cohort of HIV-vulnerable sexual and gender minorities who have sex with men [published online ahead of print, 2021 Jun 29]. *Drug Alcohol Depend.* 2021;226:108841. doi:10.1016/j.drugalcdep.2021.108841

¹⁵ Compton, Wilson M et al. “Prevalence and Correlates of Prescription Stimulant Use, Misuse, Use Disorders, and Motivations for Misuse Among Adults in the United States.” *The American journal of psychiatry* vol. 175,8 (2018): 741-755. doi:10.1176/appi.ajp.2018.17091048

¹⁶ Internal ASPE analysis for ONDCP using IQVIA’s National Prescription Audit provided on 8-24-2021.

¹⁷ Center for Behavioral Health Statistics and Quality. (2020). Results from the 2019 National Survey on Drug Use and Health: Detailed tables. Rockville, MD: Substance Abuse and Mental Health Services Administration. Retrieved from <https://www.samhsa.gov/data/>

¹⁸ Han B, Compton WM, Jones CM, Einstein EB, Volkow ND. Methamphetamine Use, Methamphetamine Use Disorder, and Associated Overdose Deaths Among US Adults. *JAMA Psychiatry.* Published online September 22, 2021. doi:10.1001/jamapsychiatry.2021.2588

- ¹⁹ Han B, Compton WM, Jones CM, Einstein EB, Volkow ND. Methamphetamine Use, Methamphetamine Use Disorder, and Associated Overdose Deaths Among US Adults. *JAMA Psychiatry*. Published online September 22, 2021. doi:10.1001/jamapsychiatry.2021.2588
- ²⁰ National Center for Health Statistics/Centers for Disease Control and Prevention. Vital Statistics Rapid Release Provisional Drug Overdose Death Counts, available at <https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm>
- ²¹ Substance Abuse and Mental Health Services Administration. (2021). Key substance use and mental health indicators in the United States: Results from the 2020 National Survey on Drug Use and Health (HHS Publication No. PEP21-07-01-003, NSDUH Series H-56). Rockville, MD: Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration. Retrieved from <https://www.samhsa.gov/data/>
- ²² Center for Behavioral Health Statistics and Quality. (2021). Results from the 2020 National Survey on Drug Use and Health: Detailed tables. Rockville, MD: Substance Abuse and Mental Health Services Administration. Retrieved from <https://www.samhsa.gov/data/> (Tables 4.4B, 4.6B, and 4.8B)
- ²³ Center for Behavioral Health Statistics and Quality. (2020). Results from the 2019 National Survey on Drug Use and Health: Detailed tables. Rockville, MD: Substance Abuse and Mental Health Services Administration. Retrieved from <https://www.samhsa.gov/data/> (Table 7.46A)
- ²⁴ Center for Behavioral Health Statistics and Quality. (2021). Results from the 2020 National Survey on Drug Use and Health: Detailed tables. Rockville, MD: Substance Abuse and Mental Health Services Administration. Retrieved from <https://www.samhsa.gov/data/> (Table 5.1A)
- ²⁵ Volkow ND, Han B, Einstein EB, Compton WM. Prevalence of Substance Use Disorders by Time Since First Substance Use Among Young People in the US. *JAMA Pediatr*. 2021 Jun 1;175(6):640-643. doi: 10.1001/jamapediatrics.2020.6981.
- ²⁶ Desoxy [package insert]. Recordati Rare Diseases Inc., Lebanon, NJ; February 2015. https://www.accessdata.fda.gov/drugsatfda_docs/label/2017/005378s0341bl.pdf. Accessed August 25, 2021.
- ²⁷ Schepers RJ, Oyler JM, Joseph RE Jr, Cone EJ, Moolchan ET, Huestis MA. Methamphetamine and amphetamine pharmacokinetics in oral fluid and plasma after controlled oral methamphetamine administration to human volunteers. *Clin Chem*. 2003;49(1):121-132. doi:10.1373/49.1.121
- ²⁸ Harris DS, Boxenbaum H, Everhart ET, Sequeira G, Mendelson JE, Jones RT. The bioavailability of intranasal and smoked methamphetamine. *Clin Pharmacol Ther*. 2003;74(5):475-486. doi:10.1016/j.clpt.2003.08.002
- ²⁹ Cook CE, Jeffcoat AR, Hill JM, et al. Pharmacokinetics of methamphetamine self-administered to human subjects by smoking S-(+)-methamphetamine hydrochloride. *Drug Metab Dispos*. 1993;21(4):717-723.
- ³⁰ Novak, Scott P, and Alex H Kral. "Comparing injection and non-injection routes of administration for heroin, methamphetamine, and cocaine users in the United States." *Journal of addictive diseases* vol. 30,3 (2011): 248-57. doi:10.1080/10550887.2011.581989
- ³¹ Richards JR, Laurin EG. Methamphetamine Toxicity. [Updated 2021 Aug 11]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2021 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK430895/>
- ³² 2020 Drug Enforcement Administration National Drug Threat Assessment. Department of Justice, Drug Enforcement Administration; 2021. https://www.dea.gov/sites/default/files/2021-02/DIR-008-21%202020%20National%20Drug%20Threat%20Assessment_WEB.pdf
- ³³ 2020 Drug Enforcement Administration National Drug Threat Assessment. Department of Justice, Drug Enforcement Administration; 2021. https://www.dea.gov/sites/default/files/2021-02/DIR-008-21%202020%20National%20Drug%20Threat%20Assessment_WEB.pdf
- ³⁴ 2020 Drug Enforcement Administration National Drug Threat Assessment. Department of Justice, Drug Enforcement Administration; 2021. https://www.dea.gov/sites/default/files/2021-02/DIR-008-21%202020%20National%20Drug%20Threat%20Assessment_WEB.pdf
- ³⁵ Barratt MJ, Lenton S, Maddox A, Allen M. 'What if you live on top of a bakery and you like cakes?'-Drug use and harm trajectories before, during and after the emergence of Silk Road. *Int J Drug Policy*. 2016;35:50-57. doi:10.1016/j.drugpo.2016.04.006
- ³⁶ Department of Justice Press Release "Irish Man Who Helped Run Silk Road Website Pleads Guilty in Manhattan Federal Court." October 5, 2018. U.S. Attorney's Office Southern District of New York <https://www.justice.gov/usao-sdny/pr/irish-man-who-helped-run-silk-road-website-pleads-guilty-manhattan-federal-court>
- ³⁷ Li J, Xu Q, Shah N, Mackey TK. A Machine Learning Approach for the Detection and Characterization of Illicit Drug Dealers on Instagram: Model Evaluation Study. *J Med Internet Res*. 2019;21(6):e13803. Published 2019 Jun 15. doi:10.2196/13803 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6598421/>
- ³⁸ Barratt MJ, Lenton S, Maddox A, Allen M. 'What if you live on top of a bakery and you like cakes?'-Drug use and harm trajectories before, during and after the emergence of Silk Road. *Int J Drug Policy*. 2016;35:50-57. doi:10.1016/j.drugpo.2016.04.006
- ³⁹ Mattson CL, Tanz LJ, Quinn K, Kariisa M, Patel P, Davis NL. Trends and Geographic Patterns in Drug and Synthetic Opioid Overdose Deaths — United States, 2013–2019. *MMWR Morb Mortal Wkly Rep* 2021;70:202–207. DOI: <http://dx.doi.org/10.15585/mmwr.mm7006a4>
- ⁴⁰ Ahmad FB, Rossen LM, Sutton P. Provisional drug overdose death counts. National Center for Health Statistics. 2021.

- ⁴¹ Hedegaard H, Spencer MR. Urban–rural differences in drug overdose death rates, 1999–2019. NCHS Data Brief, no 403. Hyattsville, MD: National Center for Health Statistics. 2021. DOI: <https://dx.doi.org/10.15620/cdc:102891>
- ⁴² Park JN, Rashidi E, Foti K, Zoorob M, Sherman S, Alexander GC. Fentanyl and fentanyl analogs in the illicit stimulant supply: Results from U.S. drug seizure data, 2011–2016. *Drug Alcohol Depend.* 2021;218:108416. doi:10.1016/j.drugalcdep.2020.108416
- ⁴³ Tomassoni AJ, Hawk KF, Jubanyik K, et al. Multiple Fentanyl Overdoses — New Haven, Connecticut, June 23, 2016. *MMWR Morb Mortal Wkly Rep* 2017;66:107–111. DOI: <http://dx.doi.org/10.15585/mm6604a4>.
- ⁴⁴ Jones CM, Einstein EB, Compton WM. Changes in Synthetic Opioid Involvement in Drug Overdose Deaths in the United States, 2010–2016. *JAMA.* 2018;319(17):1819–1821. doi:10.1001/jama.2018.2844
- ⁴⁵ Hedegaard H, Miniño AM, Warner M. Co-involvement of opioids in drug overdose deaths involving cocaine and psychostimulants. NCHS Data Brief, no 406. Hyattsville, MD: National Center for Health Statistics. 2021. DOI: <https://doi.org/10.15620/cdc:103966>.
- ⁴⁶ Jones CM, Compton WM, Mustaquim D. Patterns and Characteristics of Methamphetamine Use Among Adults — United States, 2015–2018. *MMWR Morb Mortal Wkly Rep* 2020;69:317–323. DOI: <http://dx.doi.org/10.15585/mmwr.mm6912a1>
- ⁴⁷ Jones CM, Olsen EO, O'Donnell J, Mustaquim D. Resurgent Methamphetamine Use at Treatment Admission in the United States, 2010–2016. *Am J Public Health.* 2020;110(4):509–516. doi:10.2105/AJPH.2019.305527
- ⁴⁸ Rosner B, Neicun J, Yang JC, Roman-Urrestarazu A. Substance use among sexual minorities in the US - Linked to inequalities and unmet need for mental health treatment? Results from the National Survey on Drug Use and Health (NSDUH). *J Psychiatr Res.* 2021;135:107–118. doi:10.1016/j.jpsychires.2020.12.023
- ⁴⁹ Colfax, G., Shoptaw, S. The methamphetamine epidemic: Implications for HIV prevention and treatment. *Curr HIV/AIDS Rep* 2, 194–199 (2005). <https://doi.org/10.1007/s11904-005-0016-4>
- ⁵⁰ Rusyniak DE. Neurologic manifestations of chronic methamphetamine abuse. *Psychiatr Clin North Am.* 2013;36(2):261–275. doi:10.1016/j.psc.2013.02.005
- ⁵¹ Wansom T, Pinyakorn S, Kolsteeg CJ, et al. Brief Report: Group Sex and Methamphetamine Use Fuel an Explosive Epidemic of Hepatitis C Among HIV-Infected Men Who Have Sex With Men in Bangkok, Thailand. *J Acquir Immune Defic Syndr.* 2020;84(4):331–335. doi:10.1097/QAI.0000000000002356
- ⁵² Kidd SE, Grey JA, Torrone EA, et al. Increased methamphetamine, injection drug and heroin use among women and heterosexual men with primary and secondary syphilis – United States, 2013–2017. *MMWR* 2018; 68(6):144–148.
- ⁵³ Copen CE, Brookmeyer KA, Haderkhanaj, LT, Hogben, M, Torrone, EA. Sexual risk behaviors among persons diagnosed with primary and secondary syphilis who reported high-risk substance use: Data from the National Notifiable Diseases Surveillance System, 2018. *STD*, in press.
- ⁵⁴ Division of STD Prevention, National Center for HIV, Viral Hepatitis, STD, and TB Prevention. “Congenital Syphilis: Preliminary 2020 Data.” CDC, <https://www.cdc.gov/std/statistics/2020/Congenital-Syphilis-preliminaryData.htm>.
- ⁵⁵ Thomas DL, Vlahov D, Solomon L, Cohn S, Taylor E, Garfein R, Nelson KE. Correlates of hepatitis C virus infections among injection drug users. *Medicine (Baltimore)* 1995 Jul;74(4):212–220.
- ⁵⁶ Garfein RS, Vlahov D, Galai N, Doherty MC, Nelson KE. Viral infections in short-term injection drug users: the prevalence of the hepatitis C, hepatitis B, human immunodeficiency, and human T-lymphotropic viruses. *Am J Public Health.* 1996 May;86(5):655–661.
- ⁵⁷ Coughlin LN, Lin LA, Jannausch M, Ilgen MA, Bonar EE. Methamphetamine use among American Indians and Alaska Natives in the United States [published online ahead of print, 2021 Jul 28]. *Drug Alcohol Depend.* 2021;227:108921. doi:10.1016/j.drugalcdep.2021.108921
- ⁵⁸ Han B, Cotto J, Etz K, Einstein EB, Compton WM, Volkow ND. Methamphetamine Overdose Deaths in the US by Sex and Race and Ethnicity. *JAMA Psychiatry.* 2021 May 1;78(5):564–567. doi: 10.1001/jamapsychiatry.2020.4321. PMID: 33471025;
- ⁵⁹ Coughlin LN, Lin LA, Jannausch M, Ilgen MA, Bonar EE. Methamphetamine use among American Indians and Alaska Natives in the United States [published online ahead of print, 2021 Jul 28]. *Drug Alcohol Depend.* 2021;227:108921. doi:10.1016/j.drugalcdep.2021.108921
- ⁶⁰ Jones CM, Underwood N, Compton WM. Increases in methamphetamine use among heroin treatment admissions in the United States, 2008–17. *Addiction.* 2020;115(2):347–353. doi:10.1111/add.14812
- ⁶¹ Ellis MS, Kasper ZA, Cicero TJ. Twin epidemics: The surging rise of methamphetamine use in chronic opioid users. *Drug Alcohol Depend.* 2018;193:14–20. doi:10.1016/j.drugalcdep.2018.08.029
- ⁶² Silverstein SM, Daniulaityte R, Getz K, Zule W. "It's Crazy What Meth Can Help You Do": Lay Beliefs, Practices, and Experiences of Using Methamphetamine to Self-Treat Symptoms of Opioid Withdrawal. *Subst Use Misuse.* 2021;56(11):1687–1696. doi:10.1080/10826084.2021.1949612
- ⁶³ Mattson CL, Tanz LJ, Quinn K, Kariisa M, Patel P, Davis NL. Trends and Geographic Patterns in Drug and Synthetic Opioid Overdose Deaths - United States, 2013–2019. *MMWR Morb Mortal Wkly Rep.* 2021;70(6):202–207. Published 2021 Feb 12. doi:10.15585/mmwr.mm7006a4
- ⁶⁴ Mattson CL, Tanz LJ, Quinn K, Kariisa M, Patel P, Davis NL. Trends and Geographic Patterns in Drug and Synthetic Opioid Overdose Deaths - United States, 2013–2019. *MMWR Morb Mortal Wkly Rep.* 2021;70(6):202–207. Published 2021 Feb 12. doi:10.15585/mmwr.mm7006a4

- ⁶⁵ Mattson CL, Tanz LJ, Quinn K, Kariisa M, Patel P, Davis NL. Trends and Geographic Patterns in Drug and Synthetic Opioid Overdose Deaths - United States, 2013-2019. *MMWR Morb Mortal Wkly Rep.* 2021;70(6):202-207. Published 2021 Feb 12. doi:10.15585/mmwr.mm7006a4
- ⁶⁶ Mattson CL, Tanz LJ, Quinn K, Kariisa M, Patel P, Davis NL. Trends and Geographic Patterns in Drug and Synthetic Opioid Overdose Deaths - United States, 2013-2019. *MMWR Morb Mortal Wkly Rep.* 2021;70(6):202-207. Published 2021 Feb 12. doi:10.15585/mmwr.mm7006a4
- ⁶⁷ Hunt D, Kuck S, Truitt L. Methamphetamine Use: Lessons Learned. Prepared by Abt Associates for the Department of Justice; 2006. <https://www.ojp.gov/pdffiles1/nij/grants/209730.pdf>
- ⁶⁸ Combat Methamphetamine Epidemic Act of 2005 (Title VII USA Patriot Improvement and Reauthorization Act of 2005), Pub. L. No. 109-177, 120 Stat. 192 (2006).
- ⁶⁹ Combat Methamphetamine Enhancement Act of 2010, Public Law No: 111-268 (10/12/2010) available at <https://www.congress.gov/bill/111th-congress/house-bill/2923/text>
- ⁷⁰ 2020 Drug Enforcement Administration National Drug Threat Assessment. Department of Justice, Drug Enforcement Administration; 2021. https://www.dea.gov/sites/default/files/2021-02/DIR-008-21%202020%20National%20Drug%20Threat%20Assessment_WEB.pdf
- ⁷¹ 2020 Drug Enforcement Administration National Drug Threat Assessment. Department of Justice, Drug Enforcement Administration; 2021. https://www.dea.gov/sites/default/files/2021-02/DIR-008-21%202020%20National%20Drug%20Threat%20Assessment_WEB.pdf
- ⁷² U.S. Department of Justice, Office of Community Oriented Policing Services (COPS). *COPS Anti-Methamphetamine Program Solicitation*. April 23, 2021. O-COPS-2021-86001. Accessed September 27, 2021.
- ⁷³ Organized Crime Drug Enforcement Task Forces: National Methamphetamine Strategic Initiative. Presented on an ONDCP sponsored webinar to state partners: 8/10/2021.
- ⁷⁴ Border Enforcement Security Task Force website: <https://www.ice.gov/features/best>
- ⁷⁵ H.R. 915 Jaime Zapata Border Enforcement Security Task Force Act, August 2012, GPO 19-010
- ⁷⁶ 2020 DEA National Drug Threat Assessment, March 2021, DEA-DCT-DIR-008-21, https://www.dea.gov/sites/default/files/2021-02/DIR-008-21%202020%20National%20Drug%20Threat%20Assessment_WEB.pdf
- ⁷⁷ Rosenquist JN, Murabito J, Fowler JH, Christakis NA. The spread of alcohol consumption behavior in a large social network. *Ann Intern Med.* 2010;152(7):426-W141. doi:10.7326/0003-4819-152-7-201004060-00007
- ⁷⁸ Kerr DCR, Tiberio SS, Capaldi DM, Owen LD. Paternal and maternal prescription opioid use and misuse: General and specific risks for early adolescents' substance use. *Addict Behav.* 2020;103:106248. doi:10.1016/j.addbeh.2019.106248
- ⁷⁹ Agrawal A, Lynskey MT. Are there genetic influences on addiction: evidence from family, adoption and twin studies. *Addiction.* 2008;103(7):1069-1081. doi:10.1111/j.1360-0443.2008.02213.x
- ⁸⁰ Leza L, Siria S, López-Goñi JJ, Fernández-Montalvo J. Adverse childhood experiences (ACEs) and substance use disorder (SUD): A scoping review. *Drug Alcohol Depend.* 2021;221:108563. doi:10.1016/j.drugalcdep.2021.108563
- ⁸¹ Akin BA, Brook J, Lloyd MH. Examining the role of methamphetamine in permanency: A competing risks analysis of reunification, guardianship, and adoption. *Am J Orthopsychiatry.* 2015;85(2):119-130. doi:10.1037/ort0000052.
- ⁸² Saldana L, Chapman JE, Campbell M, Alley Z, Schaper H, Padgett C. Meeting the Needs of Families Involved in the Child Welfare System for Parental Substance Abuse: Outcomes From an Effectiveness Trial of the Families Actively Improving Relationships Program. *Front Psychol.* 2021;12:689483. Published 2021 Jul 2. doi:10.3389/fpsyg.2021.689483 available <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8283009/pdf/fpsyg-12-689483.pdf>
- ⁸³ Substance Abuse and Mental Health Services Administration (SAMHSA)'s public online data analysis system (PDAS). National Survey on Drug Use and Health, 2019. Retrieved from: https://pdas.samhsa.gov/#/survey/NSDUH-2019-DS0001/crosstab/?row=NOBOOKY2&column=METHAMYR&weight=ANALWT_C&run_chisq=false&results_received=true
- ⁸⁴ Substance Abuse and Mental Health Services Administration (SAMHSA)'s public online data analysis system (PDAS). National Survey on Drug Use and Health, 2019. Retrieved from: https://pdas.samhsa.gov/#/survey/NSDUH-2019-DS0001/crosstab/?row=PAROL&column=METHAMYR&weight=ANALWT_C&run_chisq=false&results_received=true
- ⁸⁵ Substance Abuse and Mental Health Services Administration (SAMHSA)'s public online data analysis system (PDAS). National Survey on Drug Use and Health, 2019. Retrieved from: https://pdas.samhsa.gov/#/survey/NSDUH-2019-DS0001/crosstab/?row=PROB&column=METHAMYR&weight=ANALWT_C&run_chisq=false&results_received=true
- ⁸⁶ Comprehensive Opioid Abuse Program: Law Enforcement/First Responder Diversion . Bureau of Justice Assistance; 2019. https://www.cossapresources.org/Content/Documents/BriefingSheets/BJA_COAP_Law_Enforcement_First_Responder_Diversion.pdf
- ⁸⁷ Substance Abuse and Mental Health Services Administration (SAMHSA)'s public online data analysis system (PDAS). National Survey on Drug Use and Health, 2019. Retrieved from: https://pdas.samhsa.gov/#/survey/NSDUH-2019-DS0001/crosstab/?row=NOBOOKY2&column=METHAMYR&weight=ANALWT_C&run_chisq=false&results_received=true
- ⁸⁸ American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*. 5th ed. Washington D.C.: 2013. <http://dx.doi.org/10.1176/appi.books.9780890425596>
- ⁸⁹ Bureau of Justice Assistance. BJA FY 21 Collaborative Crisis Response Training Program . US Department of Justice <https://bjia.ojp.gov/sites/g/files/xyckuh186/files/media/document/O-BJA-2021-121003.pdf>

- ⁹⁰ Copple, James E., and Colleen K. Copple. 2016. Break the Cycle: Methamphetamine and Community-Oriented Policing in Indian Country. Washington, DC: Office of Community Oriented Policing Services.
- ⁹¹ Potvin S, Pelletier J, Grot S, Hébert C, Barr AM, Lecomte T. Cognitive deficits in individuals with methamphetamine use disorder: A meta-analysis. *Addict Behav.* 2018;80:154-160. doi:10.1016/j.addbeh.2018.01.021
- ⁹² Wang GJ, Volkow ND, Chang L, et al. Partial recovery of brain metabolism in methamphetamine abusers after protracted abstinence. *Am J Psychiatry.* 2004;161(2):242-248. doi:10.1176/appi.ajp.161.2.242
- ⁹³ Hamamoto, D T, and N L Rhodus. "Methamphetamine abuse and dentistry." *Oral diseases* vol. 15,1 (2009): 27-37. doi:10.1111/j.1601-0825.2008.01459.x
- ⁹⁴ Kim EY, Kwon DH, Lee BD, et al. Frequency of osteoporosis in 46 men with methamphetamine abuse hospitalized in a National Hospital. *Forensic Sci Int.* 2009;188(1-3):75-80. doi:10.1016/j.forsciint.2009.03.016
- ⁹⁵ Curtin K, Fleckenstein AE, Robison RJ, Crookston MJ, Smith KR, Hanson GR. Methamphetamine/amphetamine abuse and risk of Parkinson's disease in Utah: a population-based assessment. *Drug Alcohol Depend.* 2015;146:30-38. doi:10.1016/j.drugalcdep.2014.10.027
- ⁹⁶ Darke S, Duflou J, Kaye S. Prevalence and nature of cardiovascular disease in methamphetamine-related death: A national study. *Drug Alcohol Depend.* 2017;179:174-179. doi:10.1016/j.drugalcdep.2017.07.001
- ⁹⁷ Richards JR, Harms BN, Kelly A, Turnipseed SD. Methamphetamine use and heart failure: Prevalence, risk factors, and predictors. *Am J Emerg Med.* 2018;36(8):1423-1428. doi:10.1016/j.ajem.2018.01.001
- ⁹⁸ Kevil, C. G., Goeders, N. E., Woolard, M. D., Bhuiyan, M. S., Dominic, P., Kolluru, G. K., Arnold, C. L., Traylor, J. G., & Orr, A. W. (2019). Methamphetamine Use and Cardiovascular Disease. *Arteriosclerosis, thrombosis, and vascular biology*, 39(9), 1739–1746. <https://doi.org/10.1161/ATVBAHA.119.312461>
- ⁹⁹ Parekh JD, Jani V, Patel U, Aggarwal G, Thandra A, Arora R. Methamphetamine use is associated with increased risk of stroke and sudden cardiac death: Analysis of the nationwide inpatient sample database. *JACC Cardiovasc. Interv.* 2018; 11:S29.
- ¹⁰⁰ National Institutes of Health, National Institute on Drug Abuse. (2020). *NIDA Translational Avant-Garde Award for Development of Medication to Treat Substance Use Disorders*. Retrieved from: <https://grants.nih.gov/grants/guide/pa-files/PAR-21-092.html>
- ¹⁰¹ Jones CM, Compton WM, Mustaquim D. Patterns and Characteristics of Methamphetamine Use Among Adults — United States, 2015–2018. *MMWR Morb Mortal Wkly Rep* 2020;69:317–323. DOI: <http://dx.doi.org/10.15585/mmwr.mm6912a1>
- ¹⁰² Paulus, M. P., & Stewart, J. L. (2020). Neurobiology, Clinical Presentation, and Treatment of Methamphetamine Use Disorder: A Review. *JAMA psychiatry*, 77(9), 959–966. <https://doi.org/10.1001/jamapsychiatry.2020.0246>
- ¹⁰³ Radfar SR, Rawson RA. Current research on methamphetamine: epidemiology, medical and psychiatric effects, treatment, and harm reduction efforts. *Addict Health.* 2014;6(3-4):146-154.
- ¹⁰⁴ Rusyniak DE. Neurologic manifestations of chronic methamphetamine abuse. *Psychiatr Clin North Am.* 2013;36(2):261-275. doi:10.1016/j.psc.2013.02.005
- ¹⁰⁵ Der-Avakian A, Markou A. The neurobiology of anhedonia and other reward-related deficits. *Trends Neurosci.* 2012;35(1):68-77. doi:10.1016/j.tins.2011.11.005
- ¹⁰⁶ Lee NK, Rawson RA. A systematic review of cognitive and behavioural therapies for methamphetamine dependence. *Drug Alcohol Rev.* 2008;27(3):309-317. doi:10.1080/09595230801919494
- ¹⁰⁷ Rawson RA, Marinelli-Casey P, Anglin MD, et al. A multi-site comparison of psychosocial approaches for the treatment of methamphetamine dependence. *Addiction.* 2004;99(6):708-717. doi:10.1111/j.1360-0443.2004.00707.x
- ¹⁰⁸ Center for Substance Abuse Treatment. Counselor's Treatment Manual: Matrix Intensive Outpatient Treatment for People With Stimulant Use Disorders. HHS Publication No. (SMA) 13-4152. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2006
- ¹⁰⁹ Center for Substance Abuse Treatment. Counselor's Treatment Manual: Matrix Intensive Outpatient Treatment for People With Stimulant Use Disorders. HHS Publication No. (SMA) 13-4152. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2006
- ¹¹⁰ Center for Substance Abuse Treatment. Counselor's Treatment Manual: Matrix Intensive Outpatient Treatment for People With Stimulant Use Disorders. HHS Publication No. (SMA) 13-4152. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2006
- ¹¹¹ Myers R and Smith, J.E. 1995. *Clinical Guide to Alcohol Treatment: The Community Reinforcement Approach*. Guilford Press, New York, New York.
- ¹¹² Budney, A & Higgins, S (1998). *A Community Reinforcement Approach Plus Vouchers: Treating Cocaine Addiction*. National Institute on Drug Abuse Psychotherapy Manual Series available at <https://archives.drugabuse.gov/sites/default/files/cra.pdf>
- ¹¹³ Marsch LA, Guarino H, Acosta M, et al. Web-based behavioral treatment for substance use disorders as a partial replacement of standard methadone maintenance treatment. *J Subst Abuse Treat.* 2014;46(1):43-51. doi:10.1016/j.jsat.2013.08.012 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3839618/pdf/nihms526704.pdf>
- ¹¹⁴ Petry NM, Alessi SM, Ledgerwood DM. A randomized trial of contingency management delivered by community therapists. *J Consult Clin Psychol.* 2012;80(2):286-298. doi:10.1037/a0026826

- ¹¹⁵ Budney, A & Higgins, S (1998). A Community Reinforcement Approach Plus Vouchers: Treating Cocaine Addiction. National Institute on Drug Abuse Psychotherapy Manual Series available at <https://archives.drugabuse.gov/sites/default/files/cra.pdf>.
- ¹¹⁶ De Crescenzo F, Ciabattini M, D'Alò GL, et al. Comparative efficacy and acceptability of psychosocial interventions for individuals with cocaine and amphetamine addiction: a systematic review and network meta-analysis. *PLoS Med.* 2018;15(12):e1002715.
- ¹¹⁷ Department of Health and Human Services, Food and Drug Administration. 21 CFR Part 882. [Docket No. FDA-2017-N-6642] Medical Devices; *Neurological Devices; Classification of the Computerized Behavioral Therapy Device for Psychiatric Disorders*. AGENCY: Food and Drug Administration, HHS. ACTION: Final order. Federal Register FDA. 2017. <https://www.govinfo.gov/content/pkg/FR-2017-12-27/pdf/2017-27843.pdf>
- ¹¹⁸ Coughlin LN, Lin LA, Jannausch M, Ilgen MA, Bonar EE. Methamphetamine use among American Indians and Alaska Natives in the United States [published online ahead of print, 2021 Jul 28]. *Drug Alcohol Depend.* 2021;227:108921. doi:10.1016/j.drugalcdep.2021.108921
- ¹¹⁹ Burduli E, Skalisky J, Hirschak K, et al. Contingency management intervention targeting co-addiction of alcohol and drugs among American Indian adults: Design, methodology, and baseline data. *Clin Trials.* 2018;15(6):587-599. doi:10.1177/1740774518796151 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6218308/pdf/nihms-1502603.pdf>
- ¹²⁰ Cochran PA, Marshall CA, Garcia-Downing C, et al. Indigenous ways of knowing: implications for participatory research and community. *Am J Public Health.* 2008;98(1):22-27. doi:10.2105/AJPH.2006.093641. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2156045/pdf/0980022.pdf>
- ¹²¹ Venner KL, Serier K, Sarafin R, et al. Culturally tailored evidence-based substance use disorder treatments are efficacious with an American Indian Southwest tribe: an open-label pilot-feasibility randomized controlled trial. *Addiction.* 2021;116(4):949-960. doi:10.1111/add.15191
- ¹²² Tran MTN, Luong QH, Le Minh G, Dunne MP, Baker P. Psychosocial Interventions for Amphetamine Type Stimulant Use Disorder: An Overview of Systematic Reviews. *Front Psychiatry.* 2021;12:512076. Published 2021 Jun 17. doi:10.3389/fpsy.2021.512076
- ¹²³ Criminal penalties for acts involving Federal health care programs § 42 U.S.C. § 1320a-7b(b).
- ¹²⁴ Civil monetary penalties § 42 U.S.C. § 1320a-7a(a)(5).
- ¹²⁵ Limitation on certain physician referrals § 42 U.S.C. § 1395nn.
- ¹²⁶ Thompson PM, Hayashi KM, Simon SL, et al. Structural abnormalities in the brains of human subjects who use methamphetamine. *J Neurosci.* 2004;24(26):6028-6036. doi:10.1523/JNEUROSCI.0713-04.2004
- ¹²⁷ Rusyniak DE. Neurologic manifestations of chronic methamphetamine abuse. *Psychiatr Clin North Am.* 2013;36(2):261-275. doi:10.1016/j.psc.2013.02.005
- ¹²⁸ Hoffman WF, Schwartz DL, Huckans MS, et al. Cortical activation during delay discounting in abstinent methamphetamine dependent individuals. *Psychopharmacology (Berl).* 2008;201(2):183-193. doi:10.1007/s00213-008-1261-1
- ¹²⁹ Volkow, N.D., et al. Loss of dopamine transporters in methamphetamine abusers recovers with protracted abstinence. *Journal of Neuroscience.* 2001;21(23):9414-9418; DOI: 10.1523/JNEUROSCI.21-23-09414.2001
- ¹³⁰ Wang GJ, Volkow ND, Chang L, et al. Partial recovery of brain metabolism in methamphetamine abusers after protracted abstinence. *Am J Psychiatry.* 2004;161(2):242-248. doi:10.1176/appi.ajp.161.2.242
- ¹³¹ Liu W, Tian Y, Yan X, Yang J. Impulse Inhibition Ability With Methamphetamine Dependents Varies at Different Abstinence Stages. *Front Psychiatry.* 2021;12:626535. Published 2021 Feb 19. doi:10.3389/fpsy.2021.626535
- ¹³² Wang G, Shi J, Chen N, et al. Effects of length of abstinence on decision-making and craving in methamphetamine abusers. *PLoS One.* 2013;8(7):e68791. Published 2013 Jul 24. doi:10.1371/journal.pone.0068791
- ¹³³ Brecht ML, Herbeck D. Time to relapse following treatment for methamphetamine use: a long-term perspective on patterns and predictors. *Drug Alcohol Depend.* 2014;139:18-25. doi:10.1016/j.drugalcdep.2014.02.702
- ¹³⁴ Boshears P, Boeri M, Harbry.L. Addiction and sociality: Perspectives from methamphetamine users in suburban USA. *Addiction Research & Theory.* 2010;19(4):289-301. doi: 10.3109/16066359.2011.566654