

EVIDENCE-BASED RESOURCE GUIDE SERIES

Use of Medication-Assisted Treatment for Opioid Use Disorder in Criminal Justice Settings



SAMHSA
Substance Abuse and Mental Health
Services Administration

Acknowledgments

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Evidence-Based Resource Guide

Series Overview

The Substance Abuse and Mental Health Services Administration (SAMHSA), and specifically, the National Mental Health and Substance Use Policy Laboratory, is pleased to fulfill the charge of the 21st Century Cures Act and disseminate information on evidence-based practices and service delivery models to prevent substance misuse and help individuals with substance use disorders (SUD), serious mental illnesses (SMI), and serious emotional disturbances (SED) get the treatment and support that they need.

Treatment and recovery of individuals with opioid use disorder (OUD) can vary. These individuals may have co-occurring disorders, live in diverse parts of the country, and face a variety of socio-economic factors that help or hinder their treatment. All these factors bring complexities to evaluating the effectiveness of services, treatments, and supports.

Despite variations, *substantial evidence is available* to understand the types of services, treatments, and supports that reduce substance use, lessen mental health symptoms, and improve individuals' quality of life. Communities are eager to take advantage of what has been learned to help individuals in need.

The Evidence-Based Resource Guide Series is a comprehensive and modular set of resources intended to support health care providers, health care system administrators, and community members to meet the

needs of individuals at risk for, experiencing, or recovering from substance use and mental health disorders.

An important area of concern for SAMHSA is promoting policies and practices to lower the risk of overdose for persons with OUD who are or have been in contact with criminal justice systems. This guide will review literature and science, examine emerging and best practices, determine key components of peer-reviewed models that affect policies and programs, and identify challenges and gaps in implementation.

Each guide in the series was developed through input from an expert panel made up of federal, state, and non-governmental participants. The expert panel for this Guide included accomplished scientists; practitioners and administrators from jails, prisons, and drug courts; law enforcement; community providers; and representatives from national corrections and OUD associations and organizations. They provided invaluable input based on their knowledge of criminal justice systems, evidence-based treatments and practices, and relevant experiences.

Identifying challenges and implementation strategies enhances organization and stakeholder readiness to change and encourages adoption of best practices, thus improving the care of individuals with OUD in criminal justice settings.

Content of the Guide

Each guide contains a foreword and five chapters. The chapters are modular and do not need to be read in chronological order. The chapters are short and accessible to individuals such as health care providers, law enforcement, court personnel, jail and prison administrators, state and community corrections personnel, and community members who are working to meet the needs of individuals at risk for, experiencing, or recovering from substance use disorders.

FW Evidence-Based Resource Guide Series Overview

Introduction to the series.

1 Issue Brief

Overview of what is happening in the field. This chapter covers challenges to implementing MAT programs. It provides descriptions of approaches being used in the field.

2 What Research Tells Us

Current evidence on effectiveness of programs and practices to address use of MAT in criminal justice settings.

3 Examples of Medication-Assisted Treatment Programs in Criminal Justice Settings

Descriptions of programs that use MAT in criminal justice settings.

4 Addressing Challenges to Implementing Evidence-Based Practices and Programs in Criminal Justice Settings

Practical information to consider when selecting and implementing programs and practices to address use of MAT in criminal justice settings.

5 Resources to Support Effective Use of Medication-Assisted Treatment in Criminal Justice Settings

Guidance and resources for implementing evidence-based programs and practices, monitoring outcomes, and improving quality.

Focus of the Guide

Following incarceration, individuals with OUD enter back into the environment where their substance use originated. Unfortunately, this puts the individual at high risk for relapse. Further, their tolerance for opioids is reduced while incarcerated. This puts the individual at high risk for overdose.

This guide focuses on policies and practices that can be implemented to intervene during an individual's time in the correctional system and upon release that moderate and mitigate the risk of overdose for persons with OUD after release.

One Piece of a Multipronged Approach

Research shows that implementing evidence-based practices requires a multipronged approach. This guide is one piece of an overall approach to implement and sustain change. Users are encouraged to review the [SAMHSA website](#) for additional tools and technical assistance opportunities.

ISSUE BRIEF

Use of Medication-Assisted Treatment in Criminal Justice Settings

“For people with OUD involved with the criminal justice system, a lack of access to medication-based treatment leads to a greater risk of returning to use and overdose after they are released from incarceration.”

– *Medications for Opioid Use Disorders Save Lives*,
The National Academies of Sciences,
Engineering, and Medicine (2019, p. 99)

In 2017, the opioid crisis was declared a national public health emergency. At the time, over 2.1 million people in the United States suffered from an opioid use disorder (OUD)¹, and two out of three drug overdose deaths involved opioids.² Overdose deaths from opioids, including prescription opioids, heroin, and synthetic opioids like fentanyl, increased nearly six-fold since 1999.³

The criminal justice system has felt the impact of this epidemic.^{4,5} Based on the 2015-2016 National Survey on Drug Use and Health (NSDUH), the odds of being arrested and becoming involved in the criminal justice system increase greatly for persons using opioids, from approximately 16 percent for those with no past-year opioid use to 52 percent for those suffering from a prescription OUD and 77 percent for those using heroin.⁶

Twenty-four to thirty-six percent of individuals with a heroin use disorder (over 200,000 individuals) pass through American correctional facilities annually, and an estimated 17 percent of state prison inmates and 19 percent of jail inmates report regularly using opioids.⁷⁻⁹ Roughly 30 to 45 percent of inmates report suffering from serious withdrawal symptoms or an inability to control their use, indicative of severe symptoms of drug dependence.⁹

These prevalence estimates cannot be attributed merely to drug possession offenses. Nearly 15 percent of state prisoners and jail inmates convicted of violent crimes and 40 percent of those convicted of property crimes reported committing their offense to support a drug addiction.⁹ Approximately 7 percent of state prison and jail inmates were intoxicated on opioids at the time of their offense.⁹

The impact of opioid use on individuals transitioning from jail or prison back to the community is overwhelmingly negative. Outcomes include higher rates of returning to the criminal justice system, harm to families, negative public health effects such as the transmission of infectious diseases, and death. Within 3 months of release from custody, 75 percent of formerly incarcerated individuals with an OUD relapse to opioid use,^{10,11} and approximately 40 to 50 percent are arrested for a new crime within the first year.^{10,12}

Drug overdose is a leading cause of death among formerly incarcerated individuals.^{13,14} Prisoners and jail inmates released to the community are between 10 and 40 times more likely to die of an opioid overdose than the general population, especially within the first few weeks after reentering society.¹³⁻²³ Approximately 17 percent of persons living with HIV or AIDS (approximately 155,000 people) passed through U.S. correctional facilities in 2006 alone.²⁴

Key Definitions

Medication-Assisted Treatment*

Medication-assisted treatment (MAT) is the use of Food and Drug Administration (FDA)-approved medication for the treatment of a specific substance use disorder in combination with clinically indicated behavioral or cognitive-behavioral counseling and other indicated services.

Currently, medications are available to treat tobacco, alcohol, and OUD, and research is underway to identify effective medications for other substances as well.

This Guide focuses on MAT for OUDs.

The term “medication-assisted treatment” in no way suggests medications are less important or less effective than behavioral interventions for treating OUDs. In the early stages of treatment, when persons are clinically unstable and experiencing withdrawal symptoms or drug cravings, evidence suggests medication alone may be adequate to enhance treatment retention and initiate abstinence from illicit opioids.⁴⁵⁻⁴⁷ No justification exists, therefore, for denying access to MAT because psychosocial services are unavailable or individuals are unwilling to avail themselves of those services. Over time, however, combining medication with psychosocial counseling appears to produce greater and more sustained improvements on important “secondary” or distal outcomes, such as reductions in crime and health risk behaviors.⁴⁸⁻⁵¹ Therefore, combining medication with psychosocial counseling is the recommended best practice for treating OUDs.

Criminal Justice

Criminal justice is a process typically beginning with an initial encounter with law enforcement and potentially ending with the release of a convicted individual from correctional supervision. The criminal justice system includes all public entities and government-contracted service providers involved in the criminal justice process, including police, judges, prosecutors, defense attorneys, jail and prison staff, probation and parole officers, and contracted service providers such as substance use counselors or mental health practitioners.

Probation

A criminal sentence enabling an individual to be supervised in the community rather than being incarcerated in jail or prison.

Parole

A conditional release from jail or prison allowing an inmate to serve the remainder of his or her sentence under community supervision.

Prison

A correctional institution run by a state or federal government agency or government-contracted provider that typically houses individuals serving sentences of longer than one year.

Jail

A correctional institution run by a county or state government that houses individuals being held in pretrial detention or sentenced to less than one year.

Treatment Court

A special court docket or calendar serving persons charged with crimes caused or influenced by a mental health or substance use disorder or other serious social service needs. Participants may enter the program as a condition of pretrial supervision, probation, or parole, and successful completion of treatment typically leads to the criminal charge(s) being dropped or a reduced sentence. Common examples include drug courts, mental health courts, and veterans’ treatment courts.

Medically Supported Withdrawal (Medical Detoxification)

Medically supported withdrawal is a medical procedure designed to alleviate acute physiological effects of opioids or other substances while minimizing withdrawal discomfort, cravings, and other symptoms. Individuals may be administered methadone or buprenorphine in steadily decreasing doses over roughly 1 to 3 weeks. Other medications, such as clonidine, trazodone, or ibuprofen may also be prescribed for associated symptoms of autonomic hyperarousal (e.g., anxiety, heart palpitations), insomnia, or pain, respectively. Relapse rates are extremely high after medically supported withdrawal alone; therefore, medically supported withdrawal should always be followed by a formal course of substance use treatment.^{47, 52, 53}

Maintenance Treatment

Maintenance treatment refers to one type of MAT in which people are treated with methadone or buprenorphine for several months, for years, or indefinitely. Individuals are administered gradually increasing doses of the medication until they lack withdrawal symptoms and cravings without experiencing intoxication or sedation. Properly treated individuals can engage safely and effectively in employment, childcare, and other daily living activities. According to the U.S. Surgeon General, successful maintenance regimens typically last for at least 3 years.⁵²

**It is important to note that the terminology used in reference to this approach to treatment has been evolving over time. For example, the [National Academies of Sciences, Engineering and Medicine report](#) uses the term “medication-based treatment.” For the purposes of this document, the term “medication-assisted treatment” is used throughout.*

Medication-assisted treatment (MAT) has been carefully studied and shown to be effective in treating OUDs.^{25, 26, 53} As is discussed in the next chapter, numerous studies support the use of MAT for effectively addressing OUDs and its negative consequences among criminal justice involved persons.²⁷⁻³⁰

Yet, despite the overwhelming evidence of effectiveness, few jails or prisons offer this treatment.^{9, 25, 31} A national study in 2009 found that 86 percent of state and federal prisons in the U.S. failed to provide buprenorphine, and 45 percent failed to provide methadone.³² Of those that did provide methadone or buprenorphine, more than half offered it exclusively for pregnant women or for chronic pain management.^{5, 32} From 2007 to 2009, less than 1 percent of state prison and jail inmates with moderate to severe substance use disorders received any medically supported withdrawal or maintenance services while in custody.⁹

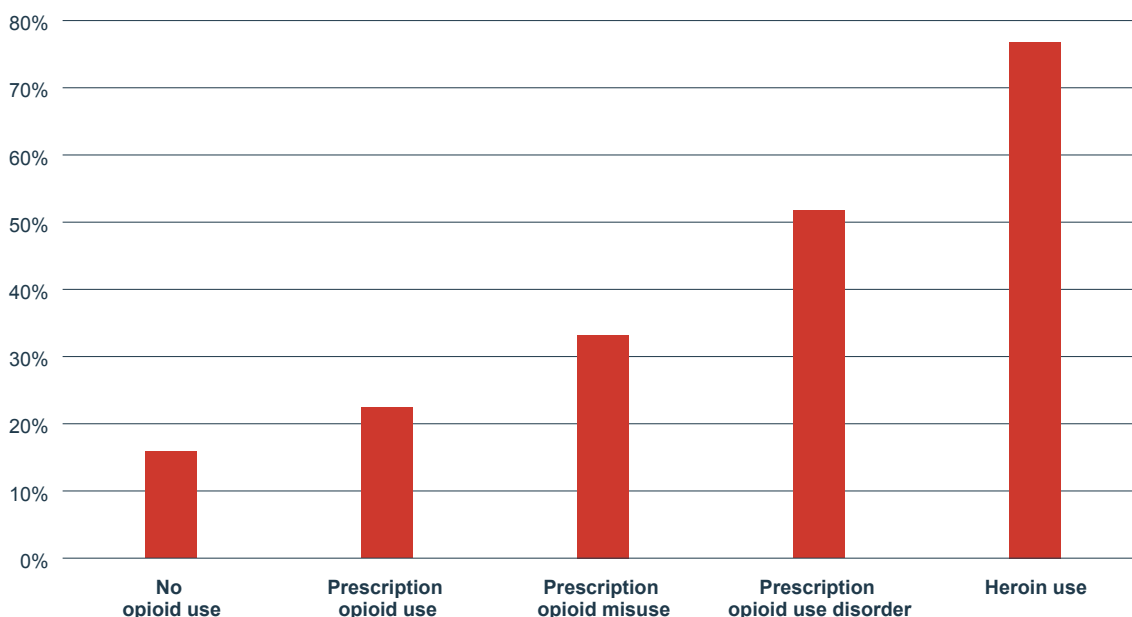
Research conducted more recently in 2018 by the Pew Charitable Trusts determined that only 14 states or territories in the U.S. (27 percent of jurisdictions) offered methadone or buprenorphine maintenance in any of their jail or prison facilities, 39 (76 percent) offered

injectable naltrexone as a preventative measure prior to release, and only one state (Rhode Island) offered all three FDA-approved medications for OUDs.³³ Studies have similarly reported gross underutilization of MAT in community corrections programs, such as probation, parole, and treatment courts,³⁴⁻³⁶ as well as non-criminal justice treatment programs.³⁷⁻⁴⁰ Several studies found that only about 2 to 10 percent of persons with OUDs on probation or parole received MAT.⁴¹⁻⁴⁴

Efforts are rarely made to ensure that returning jail or prison inmates have access to this evidence-based treatment when they transition back into the community.^{41, 44} Less than half of state and federal prisons in 2009 referred inmates for methadone maintenance after release, and less than one-third provided referrals for buprenorphine.³²

This Guide focuses on the use of MAT in jails, prisons, and the reentry process, when justice-involved individuals return to the community. Reentry may occur through the parole system or other mechanisms for releasing individuals from custody with ongoing conditions for supervision and treatment.

Criminal Justice Involvement Among Adults in the United States with Varying Levels of Opioid Use, 2015-2016



Source: Winkelmann et al. (2018). All pairwise comparisons significant at $p < .05$.

The Opioid Epidemic

Historians have tied the opioid epidemic in the U.S. to three primary causes:

- 1** A significant rise in opioid analgesic prescriptions that began in the 1990s, and subsequent increase in demand due to widespread diversion, misuse, and addiction.
- 2** A lack of healthcare provider capacity to provide individuals with high quality, evidence-based opioid use treatment.⁵⁴
- 3** A significant increase in the potency of illicit opioids, including infiltration of fentanyl and other potent synthetic compounds into heroin.

Wave 1

1999

Prescription opioid overdose deaths began to rise as a result of over-prescribing in the 1990's.

Wave 2

2010

A rapid increase in overdose deaths involving heroin began. Deaths from prescription opioids reached a new peak.

Wave 3

2013

Illicitly-manufactured fentanyl and other synthetic opioids led to another significant rise in overdose deaths.

Source: Centers for Disease Control and Prevention. (2018). Understanding the epidemic. <https://www.cdc.gov/drugoverdose/epidemic/index.html>

Medications Used in Medication-Assisted Treatment

Three generic medications have been approved by the U.S. FDA to treat OUDs: methadone, buprenorphine, and naltrexone.⁵³

Methadone

Methadone is a full agonist medication that binds preferentially to mu opioid receptors in the brain, thus substantially blocking the effects of illicit opioids like heroin.⁵⁵ It reduces withdrawal symptoms and cravings for opioids by stimulating the receptors, but the effects are gradual and slow acting and elicit rapid tolerance to intoxication. Delivered in the proper dosage to a person who is physiologically tolerant to opioids, there is no experience of intoxication, euphoria or sedation, and most people can perform daily tasks safely and effectively, including childcare, many types of employment, and other nonhazardous activities.

Because methadone is an opioid, it causes physiological dependence, can be intoxicating in nontolerant individuals, and can cause serious side effects including respiratory suppression. Most serious side effects will occur, if at all, within the first 2 weeks of methadone treatment, after which the risk of overdose is significantly lower than for untreated individuals.⁴⁷

When used to treat OUDs, methadone must be prescribed and dispensed from a federally regulated opioid treatment program (OTP); however, individuals may receive limited take-home doses after meeting specified requirements for treatment attendance, clinical stability, and drug abstinence. Methadone is typically dispensed in liquid form mixed with juice but is also available as a pill.

Naltrexone

Naltrexone is a full antagonist medication that binds preferentially to opioid receptors in the brain but does not stimulate those receptors. As such, it does not cause physiological dependence, intoxication, or serious side effects such as respiratory suppression.⁵⁶

Naltrexone in pill form is commonly marketed under the brand names Revia or Depade. An extended-release injectable version, Vivitrol, is FDA-approved for treating opioid and alcohol use disorders, and the effects last for approximately 28 days. It is also available as a subdermal (under the skin) implant; however, the implant is not FDA-approved in the United States.

Naltrexone does not alleviate withdrawal symptoms; in fact, administration of naltrexone will precipitate withdrawal in persons who are not already detoxified from opioids. Although the oral formulation has no proven effects for reducing opioid cravings, Vivitrol was reported to reduce cravings in randomized trials conducted outside of the criminal justice system.⁵⁷⁻⁵⁹ Naltrexone does not require special licensure or certification to administer and may be prescribed or dispensed by any licensed medical practitioner or pharmacist.

Buprenorphine

Buprenorphine is referred to as a partial agonist or mixed agonist-antagonist because it partially stimulates opioid receptors in the brain while also producing some blockade effects.⁶⁰ It effectively treats withdrawal symptoms and cravings but is less likely than methadone to cause intoxication or dangerous side effects such as respiratory suppression. Buprenorphine is an opioid that elicits physiological dependence and can be intoxicating in nontolerant individuals.

Buprenorphine is marketed under the brand names Subutex, Suboxone, Zubsolv, Bunavail, Butrans, Buprenex, Probuphine, or Sublocade. It is commonly administered as a pill or buccal film that must be dissolved sublingually (under the tongue) or attached to the cheek. It may be combined with another medication, naloxone, which is pharmacologically comparable to naltrexone but far shorter acting. If a person tries to inject the medication to experience an intoxicating effect, the naloxone will be released and precipitate withdrawal. This combination has been proven to significantly reduce the likelihood of inappropriate usage.⁴⁷ Buprenorphine is also available as a monthly injection or subdermal implant that lasts for approximately 6 months, and the effects appear to be comparable or superior to the oral formulations.^{61, 62}

Buprenorphine may be prescribed and dispensed outside of a licensed OTP by physicians or other qualified medical practitioners (nurse practitioners, physician assistants) who have completed a requisite training course and received accreditation referred to as a DATA-2000 Waiver.

Overdose Reversal

The FDA has approved another medication, naloxone (Narcan), to reverse opioid overdoses and prevent overdose death.⁶³ Naloxone is pharmacologically comparable to naltrexone; however, its effects are far shorter-lasting. It begins to work within 2 to 5 minutes and lasts for approximately 30 to 60 minutes. For some people, multiple doses may be required because the duration of action is so much shorter than that of opioids. The short duration of action makes it unsuitable as a treatment option for addiction, but it can have lifesaving effects in medical emergencies.

Naloxone may be delivered via injection by trained professionals or intranasally by nonmedically trained laypersons. Studies confirm that educating at-risk persons, their significant others, and other first responders about naloxone and other overdose countermeasures significantly reduces overdose deaths.^{64, 65} Virtually all states shield professional first responders from criminal or civil liability if they administer naloxone or render comparable medical aid in the event of a drug overdose, and many shield nonprofessional Good Samaritans as well.⁶⁶ Implementing naloxone access laws and protections for Good Samaritans has been associated with a 15 percent decrease in overdose mortality rates.⁶⁷

Economic Costs

The Council of Economic Advisors to the White House estimated that the economic cost of the opioid crisis is \$504.0 billion.⁶⁸

The average annual cost per person of incarceration in U.S. prisons dwarfs the per-person cost of methadone maintenance treatment—approximately \$24,000 versus \$4,700 annually per person.⁶⁹

Availability of Medication-Assisted Treatment within the Criminal Justice System

Despite the substantial evidence supporting MAT for the treatment of OUDs, few jails or prisons offer this treatment. Moreover, upon release or diversion from the criminal justice system, most individuals with severe OUDs are not connected with MAT services in the community.

In Jails and Prisons



30 out of **5,100**

prisons and jails in the U.S. offered methadone or buprenorphine in 2017.⁷⁰



14

states offered methadone or buprenorphine maintenance for jail or prison inmates in 2018.³³

In Drug Courts



80%

In a 2018 study, participants with OUDs were 80% less likely to graduate from drug court.⁷¹



50%

Approximately 50% of drug courts required participants to discontinue methadone or buprenorphine within 30 days in a 2017 study.⁷²



50%

< 50% of drug court participants with OUDs received MAT in a 2018 study.⁷³

Upon Reentry or Community Corrections



45%

of state and federal prisons in the U.S. referred inmates for methadone maintenance after release in 2009.³²



29%

of state and federal prisons in the U.S. provided referrals for community buprenorphine providers in 2009.³²



Without MAT, there was a **10-40x higher**

RISK OF DEATH from overdose within two weeks of release from prison in a 2018 study.²³

<5%



of persons with OUDs referred to treatment in 2014 by probation, parole or court authorities received methadone or buprenorphine compared to 41% referred by non-criminal justice sources.⁷⁴

**Methadone****Buprenorphine****Naltrexone****Extended-release Naltrexone (Vivitrol)**

	Methadone	Buprenorphine	Naltrexone	Extended-release Naltrexone (Vivitrol)
How it's taken	Tablet or liquid	Tablet, film, or extended-release injection or implant	Tablet	Injection, usually in the buttocks
What it does	Relieves withdrawal symptoms and cravings by stimulating opioid receptors in the brain. Methadone binds preferentially to <i>mu</i> opioid receptors and may reduce the effects of other illicit opioids such as heroin. Delivered in the right dose to a person tolerant to opioids, it does not cause intoxication, euphoria, or sedation, and most people can perform most daily tasks. Because methadone is an opioid, it is addictive and can cause serious side effects including respiratory depression and death. Because it can cause intoxication in nontolerant individuals, it may also be sold or traded illegally.	Like methadone, buprenorphine relieves withdrawal symptoms and cravings by stimulating <i>mu</i> opioid receptors in the brain. It, too, binds preferentially to these receptors, and may diminish the effects of illicit opioids. It is referred to as a <i>mu</i> opioid partial-agonist because it exhibits a ceiling effect such that dangerous side effects of full <i>mu</i> opioid agonists, for example methadone, such as respiratory depression do not occur.	If a person taking naltrexone uses opioids, naltrexone blocks the euphoric and sedative effects of the drug. Naltrexone binds preferentially to opioid receptors in the brain but does not stimulate the receptors. It is not an opioid and is neither intoxicating nor addictive. It does not have demonstrated effects on withdrawal symptoms or cravings.	Binds preferentially to opioid receptors in the brain but does not stimulate the receptors. The effects last for approximately 28 days. It is not an opioid and is neither intoxicating nor addictive. Although oral naltrexone has no proven effects for reducing opioid cravings, the injectable extended-release version has been shown to reduce cravings significantly.
Who can prescribe or administer it	When used to treat substance use disorders, methadone may only be administered by qualified medical providers in certified OTPs. Prisons and jails can become certified OTPs or contract with community-based OTPs.	Qualified providers who meet all requirements as defined by the United States Code, Code of Federal Regulations, and other relevant legislation.*	Physicians, nurses, physician assistants, or pharmacists.	Physicians, nurses, physician assistants, or pharmacists.

*As defined in [21 U.S.C. § 823\(g\)](#), as amended by the Drug Addiction Treatment Act of 2000., nurse practitioners, or physician assistants who satisfy the definition of a “qualifying other practitioner” under [21 U.S.C. § 823\(g\)\(2\)\(G\)\(iv\)](#), as amended by the Comprehensive Addiction and Recovery Act of 2016 and who have completed an 8 to 24-hour training course and received a waiver pursuant to the Drug Addiction Treatment Act of 2000 (DATA-2000) and Clinical Nurse Specialist, Certified Registered Nurse Anesthetist, or Certified Nurse Midwife who satisfy the definition of a “qualifying other practitioner” under [21 U.S.C. § 823\(g\)\(2\)\(G\)\(iv\)](#), as amended by the Substance Use Disorder Prevention that Promotes Opioid Recovery and Treatment (SUPPORT) for Patients and Communities Act of 2018, until October 1, 2023. Implementation of this provision of the SUPPORT for Patients and Communities Act is in process. For more information, please go to SAMHSA’s website.

Why Is It So Difficult to Incorporate Medication-Assisted Treatment into the Criminal Justice System?

Despite the overwhelming evidence in support of MAT, as discussed in the next chapter, there are various reasons it is underutilized within the criminal justice system.^{25, 31, 35, 36, 38, 39, 44, 47, 52, 70, 73, 75} Understanding these challenges is essential for overcoming the barriers.

1 **Misunderstanding or Lack of Information**

Some of the reluctance of criminal justice leadership to adopt MAT comes from a misunderstanding of MAT and the mechanisms by which the medications work. Some officials and practitioners view these medications as replacing one addictive drug for another.⁷⁵ Others believe that forced withdrawal from opioids is part of living “a clean lifestyle.”^{32, 44}

2 **Current Policies Do Not Support MAT**

Some jails and prisons have policies that prohibit the use of controlled substances (including the medications used in MAT).⁷ Some drug courts may require detoxification from methadone or buprenorphine treatment as a condition of participation.⁷

3 **No Trained Providers**

Some jails and prisons do not have the capacity to treat substance use disorders in their facilities.⁷⁶ Individuals already on MAT may be forced to disrupt treatment upon incarceration, leading to physiological and psychological problems.⁷ Some jails and prisons will arrange for a community-based provider to provide MAT. However, many facilities do not have trained medical personnel available.^{31, 77, 78}

4 **Medically Supported Withdrawal Services Available, but No Maintenance Therapy**

Some criminal justice facilities will offer short-term MAT to detoxify individuals from opioids. However, when only medically supported withdrawal is provided to incarcerated individuals, rates of post-release overdose and

death are high.⁷ Jails and prisons may only provide methadone maintenance therapy if they are registered with the U.S. Drug Enforcement Agency as an OTP.⁷⁹ SAMHSA and state opioid treatment authorities may also certify jails and prisons as OTPs.

Many correctional facilities do not have the personnel, capacity, or desire to register as an OTP.⁷ Jails and prisons may also make methadone accessible to inmates without having to become certified as OTPs through agreements with community-based OTPs. This would allow methadone to be securely transported to a facility from an OTP or enable inmates to be transported to a community-based OTP for dosing. More information about these options can be found in the Federal Guidelines for Opioid Treatment Programs.

5 **Concerns About Security and Liability**

Concerns about security and the risk of diversion cause some jails and drug courts to either limit or deny access to buprenorphine or methadone.^{7, 32, 35, 44} Diversion, misuse, and potential overdose are also liability concerns for some courts.⁴⁴ As discussed in Chapter 4, these concerns can be addressed safely and effectively in most programs.

6 **Costs of MAT**

Buprenorphine or methadone may not be offered in prisons and drug courts because of cost concerns and insufficient funding.^{35, 44} Strategies for obtaining funding are described in Chapter 4.

Promising Programs and Practices That Support the Use of Medication-Assisted Treatment

There are several promising practices that have been used within criminal justice settings and during transition into the community that can facilitate successful outcomes.

Partner with Community Providers

Correctional facilities can develop partnerships with registered opioid treatment programs and other providers of MAT. Incorporating jails and prisons into a system of care allows incarcerated individuals to continue MAT upon incarceration and/or to connect with MAT services once they reenter the community.

Support Police Officer-led Diversion Programs

Some police departments have engaged in training their officers to identify and divert non-violent opioid dependent individuals into MAT programs. One such program is the Law Enforcement Assisted Diversion (LEAD) Program in Seattle, Washington.⁸²

Embed MAT Within Drug Court Programs

Many drug courts do not recommend (or even allow) the use of MAT for opioid dependence.⁸⁰ Approximately half of drug courts surveyed in one study offered any form of MAT to participants.³⁵

Change Organizational Policies to Reflect the Science

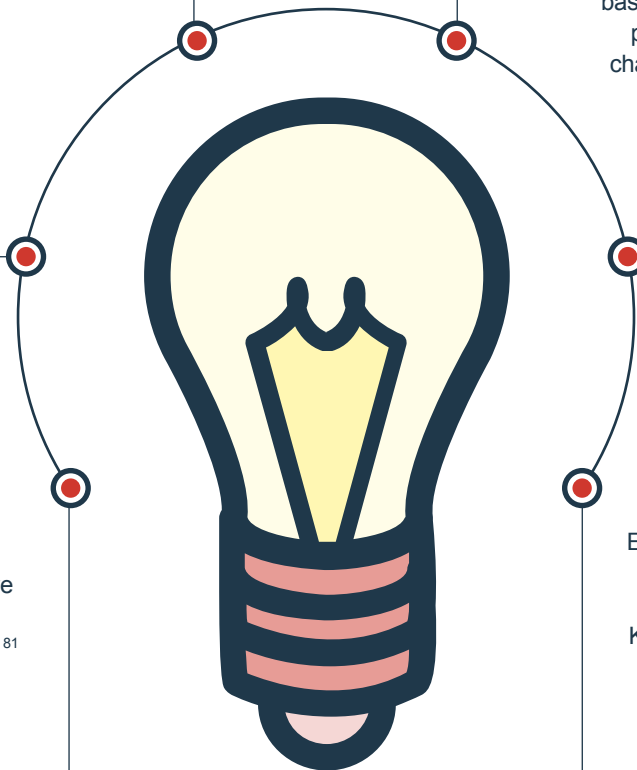
Based on the overwhelming evidence base for MAT, many jails, prisons, parole, probation, and diversion programs are changing policies that prohibit the use of MAT medications. A growing number of states have enacted legislation authorizing or requiring expansion of MAT in the criminal justice system.⁸³

Ensure Linkages to Treatment

According to a 2009 publication, only 45 percent of criminal justice facilities provided any community linkages to methadone treatment clinics.³² Treatment with MAT and brief drug counseling integrated into the probation and parole system have shown positive results in terms of opioid use and re-arrest rates.^{28, 30, 43, 81}

Register as a MAT Provider

Some jails and prisons have registered to become an opioid treatment program or have medical staff obtain buprenorphine waivers. For example, the Key Extended Entry Program (KEEP) is a methadone treatment program initiated in 1987 for incarcerated individuals. KEEP participants receive MAT behind bars, and when returning into the community, they are discharged to outpatient KEEP programs.⁸⁴



Reference List

- ¹ Center for Behavioral Health Statistics and Quality. (2017). *2016 National Survey on Drug Use and Health: Detailed tables*. Rockville, MD: Substance Abuse and Mental Health Services Administration. Available from <https://www.samhsa.gov/data/sites/default/files/NSDUH-DetTabs-2016/NSDUH-DetTabs-2016.pdf>.
- ² Hedegaard, H., Warner, M., & Miniño, A. M. (2017). *Drug overdose deaths in the United States, 1999-2016*. Hyattsville, MD: National Center for Health Statistics. Available from <https://www.cdc.gov/nchs/products/databriefs/db329.htm>.
- ³ National Center for Health Statistics. (2018). *Wide-ranging online data for epidemiologic research (WONDER)*. Atlanta, GA: Centers for Disease Control and Prevention. Available from <http://wonder.cdc.gov>.
- ⁴ Centers for Disease Control and Prevention. (2019). Opioids portal: Medication-assisted treatment for opioid use disorder study (MAT Study). Retrieved from <https://www.cdc.gov/opioids/Medication-Assisted-Treatment-Opioid-Use-Disorder-Study.html>.
- ⁵ National Sheriffs' Association & National Commission on Correctional Health Care. (2018). *Jail-based medication-assisted treatment: Promising practices, guidelines, and resources for the field*. Available from <https://www.ncchc.org/filebin/Resources/Jail-Based-MAT-PPG-web.pdf>.
- ⁶ Winkelman, T. N., Chang, V. W., & Binswanger, I. A. (2018). Health, polysubstance use, and criminal justice involvement among adults with varying levels of opioid use. *JAMA Network Open*, 1, e180558. doi: 10.1001/jamanetworkopen.2018.0558
- ⁷ Legal Action Center. (2011). Legality of denying access to medication assisted treatment in the criminal justice system. Available from https://lac.org/wp-content/uploads/2014/12/MAT_Report_FINAL_12-1-2011.pdf.
- ⁸ Boutwell, A. E., Nijhawan, A., Zaller, N., & Rich, J. D. (2007). Arrested on heroin: A national opportunity. *Journal of Opioid Management*, 3, 328-332.
- ⁹ Bronson, J., Stroop, J., Zimmer, S., & Berzofsky, M. (2017). *Drug use, dependence, and abuse among state prisoners and jail inmates, 2007-2009*. (Rep. No. NCJ #250546). Washington, DC: United States Department of Justice, Bureau of Justice Statistics. Available from <https://www.bjs.gov/content/pub/pdf/dudaspij0709.pdf>.
- ¹⁰ Fox, A. D., Maradiaga, J., Weiss, L., Sanchez, J., Starrels, J. L., & Cunningham, C. O. (2015). Release from incarceration, relapse to opioid use and the potential for buprenorphine maintenance treatment: A qualitative study of the perceptions of former inmates with opioid use disorder. *Addiction Science & Clinical Practice*, 10, 2. doi: 10.1186/s13722-014-0023-0
- ¹¹ Berg, J. (2019). Breaking the cycle: Medication assisted treatment (MAT) in the criminal justice system. Retrieved from <https://blog.samhsa.gov/2019/03/15/breaking-the-cycle-medication-assisted-treatment-mat-in-the-criminal-justice-system>.
- ¹² Soares III, W. E., Wilson, D., Gordon, M. S., Lee, J. D., Nunes, E. V., O'Brien, C. P. et al. (2019). Incidence of future arrests in adults involved in the criminal justice system with opioid use disorder receiving extended release naltrexone compared to treatment as usual. *Drug and Alcohol Dependence*, 194, 482-486.
- ¹³ Binswanger, I. A., Stern, M. F., Deyo, R. A., Heagerty, P. J., Cheadle, A., Elmore, J. G. et al. (2007). Release from prison--A high risk of death for former inmates. *The New England Journal of Medicine*, 356, 157-165. doi: 10.1056/NEJMsa064115.
- ¹⁴ Rosen, D. L., Schoenbach, V. J., & Wohl, D. A. (2008). All-cause and cause-specific mortality among men released from state prison, 1980-2005. *American Journal of Public Health*, 98, 2278-2284.

- ¹⁵ Ranapurwala, S. I., Shanahan, M. E., Alexandridis, A. A., Proescholdbell, S. K., Naumann, R. B., Edwards, D. et al. (2018). Opioid overdose mortality among former North Carolina inmates: 2000-2015. *American Journal of Public Health, 108*, 1207-1213. doi: 10.2105/AJPH.2018.304514
- ¹⁶ Binswanger, I. A., Blatchford, P. J., Mueller, S. R., & Stern, M. F. (2013). Mortality after prison release: Opioid overdose and other causes of death, risk factors, and time trends from 1999 to 2009. *Annals of Internal Medicine, 159*, 592-600.
- ¹⁷ Krinsky, C. S., Lathrop, S. L., Brown, P., & Nolte, K. B. (2009). Drugs, detention, and death: A study of the mortality of recently released prisoners. *The American Journal of Forensic Medicine and Pathology, 30*, 6-9.
- ¹⁸ Farrell, M. & Marsden, J. (2008). Acute risk of drug-related death among newly released prisoners in England and Wales. *Addiction, 103*, 251-255.
- ¹⁹ Kariminia, A., Law, M. G., Butler, T. G., Corben, S. P., Levy, M. H., Kaldor, J. M. et al. (2007). Factors associated with mortality in a cohort of Australian prisoners. *European Journal of Epidemiology, 22*, 417-428.
- ²⁰ Kariminia, A., Butler, T. G., Corben, S. P., Levy, M. H., Grant, L., Kaldor, J. M. et al. (2006). Extreme cause-specific mortality in a cohort of adult prisoners--1988 to 2002: A data-linkage study. *International Journal of Epidemiology, 36*, 310-316.
- ²¹ Winter, R. J., Young, J. T., Stoové, M., Agius, P. A., Ellard, M. E., & Kinner, S. A. (2016). Resumption of injecting drug use following release from prison in Australia. *Drug and Alcohol Dependence, 168*, 104-111.
- ²² Merrall, E. L., Kariminia, A., Binswanger, I. A., Hobbs, M. S., Farrell, M., Marsden, J. et al. (2010). Meta-analysis of drug-related deaths soon after release from prison. *Addiction, 105*, 1545-1554.
- ²³ Pizzicato, L. N., Drake, R., Domer-Shank, R., Johnson, C. C., & Viner, K. M. (2018). Beyond the walls: Risk factors for overdose mortality following release from the Philadelphia Department of Prisons. *Drug and Alcohol Dependence, 189*, 108-115. doi: 10.1016/j.drugalcdep.2018.04.034
- ²⁴ Spaulding, A. C., Seals, R. M., Page, M. J., Brzozowski, A. K., Rhodes, W., & Hammett, T. M. (2009). HIV/AIDS among inmates of and releases from US correctional facilities, 2006: Declining share of epidemic but persistent public health opportunity. *PloS One, 4*, e7558. doi: 10.1371/journal.pone.0007558
- ²⁵ Wakeman, S. E. (2017). Why it's inappropriate not to treat incarcerated patients with opioid agonist therapy. *AMA Journal of Ethics, 19*, 922-930.
- ²⁶ World Health Organization. (2009). *Guidelines for the psychosocially assisted pharmacological treatment of opioid dependence*. Geneva, Switzerland: Author.
- ²⁷ Bahji, A. The effectiveness of naltrexone for opioid use disorder among inmates: Systematic review and meta-analysis. *Journal for Advancing Justice*, (in press).
- ²⁸ Egli, N., Pina, M., Skovbo Christensen, P., Aebi, M. F., & Killias, M. (2009). Effects of drug substitution programs on offending among drug-addicts. *Campbell Systematic Reviews*, 1-40.
- ²⁹ Moore, K. E., Roberts, W., Reid, H. H., Smith, K. M., Oberleitner, L. M., & McKee, S. A. (2019). Effectiveness of medication assisted treatment for opioid use in prison and jail settings: A meta-analysis and systematic review. *Journal of Substance Abuse Treatment, 99*, 32-43.
- ³⁰ Perry, A. E., Neilson, M., Martyn-St.James, M., Glanville, J. M., Woodhouse, R., Godfrey, C. et al. (2015). Pharmacological interventions for drug-using offenders. *Cochrane Database of Systematic Reviews*. doi: 10.1371/journal.pone.0007558

- ³¹ Mumola, C. J. (1999). *Substance abuse and treatment, state and federal prisoners, 1997*. (Rep. No. NCJ-172871). Washington, DC: Bureau of Justice Statistics.
- ³² Nunn, A., Zaller, N., Dickman, S., Trimbur, C., Nijhawan, A., & Rich, J. D. (2009). Methadone and buprenorphine prescribing and referral practices in US prison systems: Results from a nationwide survey. *Drug and Alcohol Dependence*, 105, 83-88.
- ³³ Vestal, C. (2018). New momentum for addiction treatment behind bars. Retrieved from <https://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2018/04/04/new-momentum-for-addiction-treatment-behind-bars>.
- ³⁴ Chandler, R. K., Fletcher, B. W., & Volkow, N. D. (2009). Treating drug abuse and addiction in the criminal justice system: Improving public health and safety. *JAMA*, 301, 183-190.
- ³⁵ Matusow, H., Dickman, S. L., Rich, J. D., Fong, C., Dumont, D. M., Hardin, C. et al. (2013). Medication assisted treatment in US drug courts: Results from a nationwide survey of availability, barriers and attitudes. *Journal of Substance Abuse Treatment*, 44, 473-480.
- ³⁶ Csete, J. (2019). Criminal Justice Barriers to Treatment of Opioid Use Disorders in the United States: The Need for Public Health Advocacy. *American Journal of Public Health*, 109, 419-422. doi: 10.2105/AJPH.2018.304852
- ³⁷ Knudsen, H. K., Abraham, A. J., & Roman, P. M. (2011). Adoption and implementation of medications in addiction treatment programs. *Journal of Addiction Medicine*, 5, 21-27.
- ³⁸ Knudsen, H. K., Abraham, A. J., & Oser, C. B. (2011). Barriers to the implementation of medication-assisted treatment for substance use disorders: The importance of funding policies and medical infrastructure. *Evaluation and Program Planning*, 34, 375-381. doi: 10.1016/j.evalprogplan.2011.02.004
- ³⁹ Sharma, A., Kelly, S. M., Mitchell, S. G., Gryczynski, J., O'Grady, K. E., & Schwartz, R. P. (2017). Update on barriers to pharmacotherapy for opioid use disorders. *Current Psychiatry Reports*, 19, 35.
- ⁴⁰ Finlay, A. K., Harris, A. H. S., Rosenthal, J., Blue-Howells, J., Clark, S., McGuire, J. et al. (2016). Receipt of pharmacotherapy for opioid use disorder by justice-involved U.S. Veterans Health Administration patients. *Drug and Alcohol Dependence*, 160, 222-226. doi: 10.1016/j.drugalcdep.2016.01.013
- ⁴¹ Nordstrom, B. R. & Marlowe, D. B. (2016). Medication-assisted treatment for opioid use disorders in drug courts: Ensuring the safe, effective, and responsible use of addiction medications for drug court participants. *Drug Court Practitioner Fact Sheet*, 11.
- ⁴² Mumola, C. J. & Bonczar, T. P. (1998). *Substance abuse and treatment of adults on probation, 1995*. (Rep. No. NCJ 166611). Washington, DC: Bureau of Justice Statistics.
- ⁴³ Clark, C. B., Hendricks, P. S., Lane, P. S., Trent, L., & Cropsey, K. L. (2014). Methadone maintenance treatment may improve completion rates and delay opioid relapse for opioid dependent individuals under community corrections supervision. *Addictive Behaviors*, 39, 1736-1740.
- ⁴⁴ Friedmann, P. D., Hoskinson Jr, R., Gordon, M., Schwartz, R., Kinlock, T., Knight, K. et al. (2012). Medication-assisted treatment in criminal justice agencies affiliated with the criminal justice-drug abuse treatment studies (CJ-DATS): Availability, barriers, and intentions. *Substance Abuse*, 33, 9-18.
- ⁴⁵ Brown, A. R. (2018). A systematic review of psychosocial interventions in treatment of opioid addiction. *Journal of Social Work Practice in the Addictions*, 18, 249-269. doi: 10.1080/1533256X.2018.1485574

- ⁴⁶ Amato, L., Minozzi, S., Davoli, M., & Vecchi, S. (2011). Psychosocial combined with agonist maintenance treatments versus agonist maintenance treatments alone for treatment of opioid dependence. *Cochrane Database of Systematic Reviews*.
- ⁴⁷ National Academies of Sciences, Engineering, and Medicine. (2019). *Medications for opioid use disorder save lives*. Washington, DC: The National Academies Press.
- ⁴⁸ Dugosh, K., Abraham, A., Seymour, B., McLoyd, K., Chalk, M., & Festinger, D. (2016). A systematic review on the use of psychosocial interventions in conjunction with medications for the treatment of opioid addiction. *Journal of Addiction Medicine*, 10, 91-101. doi: 10.1097/ADM.0000000000000193
- ⁴⁹ Kouyoumdjian, F. G., McIsaac, K. E., Liauw, J., Green, S., Karachiwalla, F., Siu, W. et al. (2015). A systematic review of randomized controlled trials of interventions to improve the health of persons during imprisonment and in the year after release. *American Journal of Public Health*, 105, e13-e33. doi: 10.2105/AJPH.2014.302498
- ⁵⁰ Underhill, K., Dumont, D., & Operario, D. (2014). HIV prevention for adults with criminal justice involvement: A systematic review of HIV risk-reduction interventions in incarceration and community settings. *American Journal of Public Health*, 104, e27-e53. doi: 10.2105/AJPH.2014.302152
- ⁵¹ Hruschak, V., Cochran, G., & Wasan, A. D. (2018). Psychosocial interventions for chronic pain and comorbid prescription opioid use disorders: A narrative review of the literature. *Journal of Opioid Management*, 14, 345-358.
- ⁵² Substance Abuse and Mental Health Services Administration & Office of the Surgeon General. (2018). *Facing addiction in America: The Surgeon General's spotlight on opioids*. Washington, DC: US Department of Health and Human Services. Available from <https://www.ncbi.nlm.nih.gov/books/NBK538436/>.
- ⁵³ Substance Abuse and Mental Health Services Administration. (2018). *Medications for opioid use disorder: Treatment improvement protocol (TIP 63) for healthcare and addiction professionals, policy makers, patients and families*. (Rep. No. HHS Publication No. SMA 18-5063). Bethesda, MD: Author. Available from <https://store.samhsa.gov/system/files/sma18-5063fulldoc.pdf>.
- ⁵⁴ The Federal Response to the Opioid Crisis: Hearings before the Committee on Health, Education, Labor & Pensions, Senate, 115th Cong. (2017).
- ⁵⁵ Martin, J., Zweben, J. E., & Payte, J. T. (2014). Opioid maintenance treatment. In R.K.Ries, D. A. Fiellin, S. C. Miller, & R. Saitz (Eds.), *The ASAM principles of addiction medicine* (5th ed., pp. 759-777). Philadelphia: Wolters Kluwer.
- ⁵⁶ O'Brien, C. P. & Kampman, K. (2008). Antagonists of opioids. In M.Galanter & H. D. Kleber (Eds.), *Textbook of substance abuse treatment* (4th ed., pp. 329). Washington: American Psychiatric Publishing.
- ⁵⁷ Lee, J. D., Nunes Jr, E. V., Novo, P., Bachrach, K., Bailey, G. L., Bhatt, S. et al. (2018). Comparative effectiveness of extended-release naltrexone versus buprenorphine-naloxone for opioid relapse prevention (X: BOT): A multicentre, open-label, randomised controlled trial. *The Lancet*, 391, 309-318.
- ⁵⁸ Tanum, L., Solli, K. K., Latif, Z.-H., Benth, J. Š., Opheim, A., Sharma-Haase, K. et al. (2017). Effectiveness of injectable extended-release naltrexone vs daily buprenorphine-naloxone for opioid dependence: A randomized clinical noninferiority trial. *JAMA Psychiatry*, 74, 1197-1205.
- ⁵⁹ Krupitsky, E., Nunes, E. V., Ling, W., Illeperuma, A., Gastfriend, D. R., & Silverman, B. L. (2011). Injectable extended-release naltrexone for opioid dependence: A double-blind, placebo-controlled, multicentre randomised trial. *The Lancet*, 377, 1506-1513.

- ⁶⁰ Strain, E. S. & Lofwall, M. R. (2008). Buprenorphine maintenance. In M. Galanter & H. D. Kleber (Eds.), *Textbook of substance abuse treatment* (4th ed., pp. 309-324). Washington: American Psychiatric Publishing.
- ⁶¹ Rosenthal, R. N., Lofwall, M. R., Kim, S., Chen, M., Beebe, K. L., & Vocci, F. J. (2016). Effect of buprenorphine implants on illicit opioid use among abstinent adults with opioid dependence treated with sublingual buprenorphine: A randomized clinical trial. *JAMA*, *316*, 282-290. doi: 10.1001/jama.2016.9382
- ⁶² Itzoe, M. & Guarnieri, M. (2017). New developments in managing opioid addiction: Impact of a subdermal buprenorphine implant. *Drug Design, Development and Therapy*, *11*, 1429-1437. doi: 10.2147/DDDT.S109331
- ⁶³ Substance Abuse and Mental Health Services Administration. (2015). Medication and counseling treatment. Retrieved from <https://www.samhsa.gov/medication-assisted-treatment/treatment>.
- ⁶⁴ Wheeler, E., Davidson, P. J., Jones, T. S., & Irwin, K. S. (2012). Community-based opioid overdose prevention programs providing naloxone--United States, 2010. *Morbidity and Mortality Weekly Report*, *61*, 101-105.
- ⁶⁵ Strang, J. (2015). Death matters: Understanding heroin/opiate overdose risk and testing potential to prevent deaths. *Addiction*, *110*, 27-35.
- ⁶⁶ Strang, J., Kelleher, M., Best, D., Mayet, S., & Manning, V. (2006). Emergency naloxone for heroin overdose: Should it be available over the counter? *British Medical Journal*, *333*, 614-615.
- ⁶⁷ Lipato, T. & Terplan, M. (2018). Risk factors for opioid overdose. *Current Treatment Options in Psychiatry*, *5*, 323-333. doi: 10.1007/s40501-018-0153-1
- ⁶⁸ Council of Economic Advisors. (2017). The Underestimated Cost of the Opioid Crisis. Retrieved from <https://www.whitehouse.gov/sites/whitehouse.gov/files/images/The%20Underestimated%20Cost%20of%20the%20Opioid%20Crisis.pdf>.
- ⁶⁹ National Institute on Drug Abuse. (2018). *Principles of drug addiction treatment: A research-based guide (third edition)*. Bethesda, MD: Author. Available from <https://www.drugabuse.gov/publications/principles-drug-addiction-treatment-research-based-guide-third-edition>.
- ⁷⁰ Williams, T. (2017, August 4). Opioid users are filling jails: Why don't we treat them? *New York Times*.
- ⁷¹ Gallagher, J. R., Wahler, E. A., Lefebvre, E., Paiano, T., Carlton, J., & Woodward Miller, J. (2018). Improving graduation rates in drug court through employment and schooling opportunities and medication-assisted treatment (MAT). *Journal of Social Service Research*, *44*, 343-349. doi: 10.1080/01488376.2018.1472173
- ⁷² Andraka-Christou, B. (2017). What is "treatment" for opioid addiction in problem-solving courts? A study of 20 Indiana drug courts and veterans courts. *Stanford Journal of Civil Rights and Civil Liberties*, *13*, 189-254.
- ⁷³ Fendrich, M. & LeBel, T. P. (2019). Implementing access to medication assisted treatment in a drug treatment court: Correlates, consequences, and obstacles. *Journal of Offender Rehabilitation*, *58*, 178-198. doi: 10.1080/10509674.2019.1582573
- ⁷⁴ Krawczyk, N., Picher, C. E., Feder, K. A., & Saloner, B. (2017). Only one in twenty justice-referred adults in specialty treatment for opioid use receive methadone or buprenorphine. *Health Affairs (Project Hope)*, *36*(12), 2046-2053. doi:10.1377/hlthaff.2017.0890
- ⁷⁵ Marlowe, D. B., Wakeman, S. E., Rich, J. D., & Peterman Baston, P. (2016). *Increasing access to medication-assisted treatment for opioid addiction in drug courts and correctional facilities and working effectively with family courts and child protective services*. New York, NY: American Association for the Treatment of Opioid Dependence.

- ⁷⁶ Fiscella, K., Moore, A., Engerman, J., & Meldrum, S. (2004). Jail management of arrestees/inmates enrolled in community methadone maintenance programs. *Journal of Urban Health*, *81*, 645-654.
- ⁷⁷ O'Donnell, C. & Trick, M. (2006). *Methadone maintenance treatment and the criminal justice system*. (Rep. No. 4). Washington, DC: National Association of State Alcohol and Drug Abuse Directors, Inc.
- ⁷⁸ Rosenbaum, M., Washburn, A., Knight, K., Kelley, M., & Irwin, J. (1996). Treatment as harm reduction, defunding as harm maximization: The case of methadone maintenance. *Journal of Psychoactive Drugs*, *28*, 241-249.
- ⁷⁹ Substance Abuse and Mental Health Services Administration. (2018). Special circumstances for providing buprenorphine. Retrieved from <https://www.samhsa.gov/programs-campaigns/medication-assisted-treatment/legislation-regulations-guidelines/special>.
- ⁸⁰ Substance Abuse and Mental Health Services Administration. (2014). *Adult drug courts and medication-assisted treatment for opioid dependence*. (Rep. No. 8). Rockville, MD: Author. Available from <https://store.samhsa.gov/system/files/sma14-4852.pdf>.
- ⁸¹ Cornish, J. W., Metzger, D., Woody, G. E., Wilson, D., McLellan, A. T., Vandergrift, B. et al. (1997). Naltrexone pharmacotherapy for opioid dependent federal probationers. *Journal of Substance Abuse Treatment*, *14*, 529-534.
- ⁸² Collins, S. E., Lonczak, H. S., & Clifasefi, S. L. (2019). Seattle's law enforcement assisted diversion (LEAD): program effects on criminal justice and legal system utilization and costs. *Journal of Experimental Criminology*, *15*, 201-211.
- ⁸³ National Conference of State Legislatures. (2017). Criminal justice: Medication-assisted treatment enactments. Retrieved from https://comm.ncsl.org/productfiles/95782872/Session_handout_enactments.pdf.
- ⁸⁴ Tomasino, V., Swanson, A. J., Nolan, J., & Shuman, H. I. (2001). The Key Extended Entry Program (KEEP): A methadone treatment program for opiate-dependent inmates. *The Mount Sinai Journal of Medicine, New York*, *68*, 14-20.

WHAT RESEARCH TELLS US

Effectiveness of Medication-Assisted Treatment in Criminal Justice Settings

There is overwhelming evidence that medication-assisted treatment (MAT) is an effective intervention for addressing opioid use disorders (OUDs) in criminal justice and non-criminal justice populations. Several meta-analyses and systematic reviews have focused specifically on its effects in probation, parole, jail, and prison settings.¹⁻¹¹

This chapter focuses primarily on the evidence base for the use of MAT with jail and prison populations and in community reentry after release.

Withdrawal and Cravings

Pharmacological benefits derived from the medications are well studied and well understood. Methadone and buprenorphine alleviate withdrawal symptoms and cravings for opioids by stimulating mu opioid nerve receptors in the brain.¹²⁻¹⁵ Because they bind preferentially to the receptors, they can diminish the effects of illicit opioids that may be used such as heroin.

A person who is physiologically tolerant to opioids will not experience intoxication, euphoria, or sedation when receiving these medications in the proper dosage, and most people can safely and effectively perform daily tasks, including childcare, many types of employment, and other nonhazardous activities.



Within this chapter, ratings are provided to indicate which outcomes are associated with the use of methadone, buprenorphine, oral naltrexone, and extended release (XR) naltrexone within the criminal justice system.

This chapter uses a three-tiered rating system for the evidence.



Reliable benefits

Effectiveness reported in at least two meta-analyses, systematic reviews, or randomized controlled trials conducted in criminal justice populations.



Potential benefits

Effectiveness reported in randomized experiments conducted outside of the criminal justice system or in correlational studies involving justice-involved persons.



Unproven benefits

Insufficient testing or unproven effectiveness.

Naltrexone, in contrast, binds preferentially to opioid receptors in the brain but does not stimulate those receptors.^{14, 16, 17} As such, it does not reduce withdrawal symptoms; in fact, introduction of naltrexone will precipitate withdrawal for persons who have not already been withdrawn from opioids. Oral naltrexone has no proven effects for reducing opioid cravings.¹⁸ However, the extended-release formulation has been shown to reduce cravings in randomized trials and brain-imaging studies conducted outside of the criminal justice system.¹⁹⁻²²



Withdrawal:



Methadone



Buprenorphine



Oral Naltrexone



XR-Naltrexone

Cravings:



Methadone



Buprenorphine



Oral Naltrexone



XR-Naltrexone

Treatment Entry and Retention

Methadone and buprenorphine are reliably proven to increase entry into and retention in treatment during incarceration and after release to the community.^{7, 9, 11} In contrast, meta-analyses have reported mixed or nonsignificant effects of oral and extended-release naltrexone on treatment entry and retention in criminal justice populations.^{1, 7} Observational reports in a few studies with methodological weaknesses suggest the extended-release formulation may potentially enhance treatment engagement among probationers or parolees in community-based settings,^{23, 24} however, these findings must be replicated in better controlled studies.



Methadone



Buprenorphine



Oral Naltrexone



XR-Naltrexone

Illicit Opioid Use

Methadone, buprenorphine, and extended-release naltrexone have been reliably demonstrated to reduce illicit opioid use in studies involving jail, prison, probation, and parole populations.^{1, 2, 7} Much of the support for buprenorphine comes from head-to-head comparisons with methadone in which drug use outcomes were determined to be equivalent.^{7, 25, 26} Although oral naltrexone was found in one randomized experiment to significantly reduce opioid-positive drug tests among federal probationers,²⁷ most studies have failed to find significant effects on drug use, largely as a result of poor medication compliance and high treatment dropout rates.²⁸⁻³⁰



Methadone



Buprenorphine



Oral Naltrexone



XR-Naltrexone

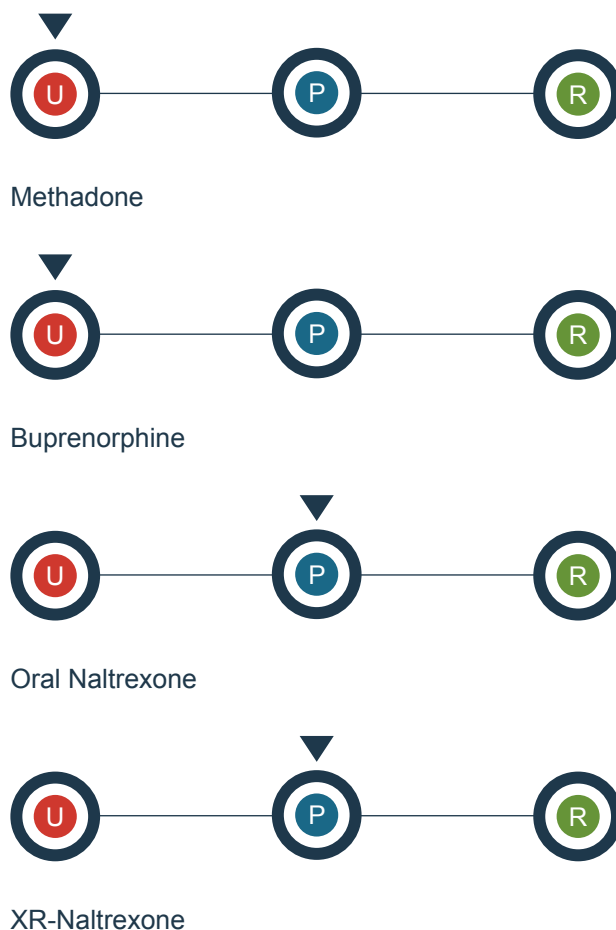
Criminal Recidivism

Studies employing suitable comparison groups have not found reliable effects from methadone or buprenorphine on criminal justice outcomes, including re-arrest rates, re-conviction rates, reincarceration rates, or self-reported criminal activity.^{3-8, 10, 11} Nevertheless, retention in methadone or buprenorphine treatment is often correlated with significantly lower rates of criminal activity.³¹⁻³⁵ This finding suggests that methadone or buprenorphine may elicit indirect effects on crime by enhancing treatment engagement and reducing illicit opioid use.

Further studies are needed to determine whether increasing retention and adherence in methadone or buprenorphine treatment leads to more consistent improvements in criminal justice outcomes.

The effects of naltrexone on criminal recidivism have been more promising, but mixed. Four meta-analyses reported significant reductions in re-arrest or reincarceration rates for naltrexone without differentiating between delivery in the form of pills, extended-release injections, or implants.^{1-3, 8}

However, a 2019 meta-analysis concluded that too few studies employing adequate methodologies have been conducted to reach firm conclusions about the effects on crime.⁷ A recent multi-site randomized controlled trial found no effects of injectable naltrexone on re-arrest rates, average numbers of re-arrests, or average time to the first new arrest over an approximately 18-month follow-up period.³⁶ Additional research is needed to determine whether naltrexone produces reliable effects on crime, and whether enhancing adherence to naltrexone regimens leads to greater reductions in criminal recidivism.



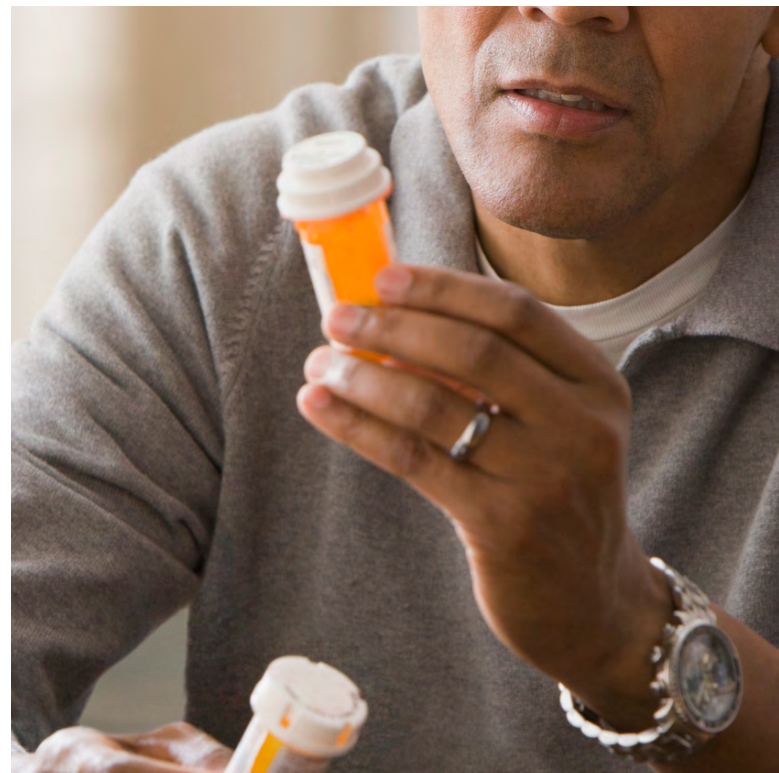
Overdose Risk

Studies employing equivalent comparison groups have not found reliable effects from administering methadone or buprenorphine during incarceration on post-release overdose rates.^{7, 10} However, strong correlational evidence indicates that providing methadone or buprenorphine both during custody and after release to the community is associated with substantially lower rates of opioid overdose and mortality.^{9, 33, 37-41}

Significant reductions in mortality have only been observed when participants received methadone or buprenorphine beginning in custody and continuing for at least four consecutive weeks after release to the community.^{39, 42} Any protective effects that might be achieved from prison or jail-based treatment appear to degrade quickly if methadone or buprenorphine are not delivered continuously in the community.

Further studies using better experimental designs are needed to confirm whether providing methadone or buprenorphine during and after release from custody reliably reduces opioid overdose and death rates.

Comparatively less research has examined the effects of naltrexone on opioid overdose and mortality rates. Two recent meta-analyses concluded there were too few studies to estimate an effect size on overdose rates.^{7, 43} However, a multi-site randomized controlled trial reported a significantly lower overdose rate for participants on community-based criminal justice supervision receiving injectable naltrexone.⁴⁴ Additional studies are needed to replicate this finding and determine how best to administer naltrexone to reduce opioid overdose and mortality rates



Health Risk Behaviors

Relatively few studies have examined the effects of MAT on other health risk behaviors commonly observed among persons with OUDs in the criminal justice system, such as syringe sharing or unprotected sex with multiple sex partners. Correlational evidence suggests that provision of methadone during custody and after release to the community is associated with significantly lower rates of injection drug use and contraction of communicable diseases.^{7, 9, 33}

Meta-analyses have also concluded that combining methadone with psychosocial counseling designed to reduce health risk behaviors significantly reduced syringe sharing, sexual risk behaviors and contraction of communicable diseases among recently released jail and prison inmates.^{45, 46} Less research has examined the effects of buprenorphine or naltrexone on health risk behaviors. One randomized experiment conducted outside of the criminal justice system found significantly lower rates of self-reported HIV risk behaviors for persons receiving injectable naltrexone.²⁰ More research is needed to confirm the effects of MAT on health risk behaviors associated with opioid use and determine what additional psychosocial interventions are needed to augment or maintain them.



Which Medication is Better?

Head-to-head comparisons between the medications have been largely inconclusive. A few studies conducted in the criminal justice system found no differences in opioid-use outcomes when methadone was compared against buprenorphine or extended-release (XR) naltrexone.^{8, 25, 47} Studies conducted outside of the criminal justice system have similarly found no differences in drug use outcomes for buprenorphine versus methadone²⁶ or XR-naltrexone.^{19, 22}

Some evidence suggests methadone may be superior to buprenorphine for retaining people longer in treatment.^{26, 48} However, studies conducted in the criminal justice system have not reported this finding.^{25, 49} Studies comparing XR-naltrexone to buprenorphine outside of the criminal justice system have reported mixed effects on treatment entry and retention. One experimental study reported equivalent retention in treatment,¹⁹ whereas another found that significantly fewer participants began treatment with XR-naltrexone.²²

Differences in the benefit profiles of the medications might suggest—but are by no means conclusive—that methadone or buprenorphine may be more effective than naltrexone for retaining persons suffering from severe withdrawal symptoms in treatment, whereas XR-naltrexone may be more effective for reducing crime among those at high risk for recidivism. Lacking any direct evidence to support such matching effects, these are hypotheses that must be tested in controlled studies.

Evidence does suggest that if a person is not responding adequately to one of the medications, changing the regimen can lead to more effective outcomes. One study conducted outside of the criminal justice system found that individuals not responding to buprenorphine could be switched effectively to methadone.⁵⁰

Choice of Medications

Medical practitioners must take a multitude of factors into account when deciding which medication to use in a given case. The likelihood of therapeutic success and dangerous side effects can be influenced by a host of variables. These include, but are not limited to, the following:⁵¹

- **person's medication preference** and motivation for change
- **age at onset**, duration, and severity of opioid use
- **other substances**, if any, used in conjunction with opioids
- **co-occurring** psychiatric or medical conditions, if any
- prior history of and response to **substance use disorder treatment**
- prior history of and **response to MAT**
- **family history** of mental health and/or substance use conditions
- other **prescription medications** being taken by the person

Non-medically trained criminal justice professionals should never make medication decisions related to MAT.^{52, 53}

Overlooking these factors and selecting the wrong medication can have dire consequences, including an unwarranted risk of dangerous medication reactions, treatment dropout, and overdose death.

Blanket prohibitions against MAT or against certain medications, such as methadone or buprenorphine, are medically unjustified and potentially harmful. Requiring inmates to discontinue or change a medication regimen that was previously successful is associated with poor outcomes and a lower likelihood of resuming MAT after release from custody.⁵⁴ Worse, because physiological tolerance to opioids declines during forced abstinence or while taking naltrexone, inmates required to withdraw involuntarily from methadone or buprenorphine face a substantially increased risk of overdose and death if they discontinue treatment upon release and resume illicit opioid use.^{37, 48}



Best Practices for Medication-Assisted Treatment in the Criminal Justice System

Several practices have been reliably associated with positive MAT outcomes in criminal justice and non-criminal justice populations. Failure to abide by these practices can undermine the effectiveness of MAT and worsen outcomes.

No justification exists for denying access to MAT because psychosocial services are unavailable or individuals are unwilling to avail themselves of those services.



Counseling and Social Services

The importance of psychosocial counseling in treating OUDs appears to be a matter of timing. In the early stages of treatment, when individuals are clinically unstable and experiencing withdrawal symptoms or drug cravings, medication alone may be adequate to enhance treatment retention and initiate abstinence from illicit opioids.^{48, 55, 56}

Several studies in community-based OTPs and physician practices found no incremental benefits from adding evidence-based counseling to MAT on treatment retention or illicit opioid use during the first 3 to 12 months of treatment.⁵⁷⁻⁶⁰ No justification exists, therefore, for denying access to MAT because psychosocial services are unavailable, or individuals are unwilling to avail themselves of those services. For many individuals, MAT alone may be enough to begin them on the road to recovery.

For most people, however, MAT alone is unlikely to produce sustained recovery or healthy adaptive functioning over the long run. Approximately 35-75 percent of individuals, including those involved in the criminal justice system, discontinue methadone, buprenorphine or naltrexone within the first year of treatment, often within the first few months.^{48, 61-63} Counseling is needed, therefore, to maintain persons' initial motivation for change and assist them in identifying and resolving barriers to treatment adherence.⁴⁸

As reviewed earlier, more research is needed to understand whether MAT produces demonstrable effects in criminal justice populations on important “secondary” or distal outcomes, including criminal and health risk behaviors. Combining MAT with psychosocial counseling produces larger and more sustained effects in these critically important psychosocial domains.^{45, 46, 64-67} Unfortunately, little is known about which types of psychosocial interventions produce better outcomes in combination with MAT, and when they should be introduced in the course of treatment.⁶⁶



Medication Dosage

Institutional policies limiting the dosage or duration of MAT are unwarranted and likely to undermine treatment effectiveness. Like any medication, methadone, buprenorphine, and naltrexone must be delivered in an adequate dosage and for a long enough time to achieve the desired pharmacological effects. Some studies in jails and prisons have reported average methadone doses of approximately 30 to 50 mg per day over brief intervals of a few weeks to about 6 months; however, significant improvements have typically only been reported when doses exceeded 60 mg (and often higher than that) over several months to more than a year.^{9, 48}



Medication Duration and Tapering

Evidence is clear that long-term or indefinite treatment with medications for OUDs is often required for effective and sustained outcomes.⁴⁸ In practice, successful tapers from methadone or buprenorphine typically occur in only about 15 percent of cases, the likely result of premature or unwarranted discontinuation of the medication regimens.^{51, 68} Administering MAT for 90 days or less, which is common practice in many jails and prisons, offers no beneficial effects.⁵¹ According to the U.S. Surgeon General, successful tapers typically occur, if at all, when individuals have been treated with MAT for at least 3 years.⁶⁹

Certain clinical benchmarks for success should be reached before considering a medication taper. Evidence in general community treatment settings suggests that individuals should be abstinent from all illicit drugs and alcohol and stable with respect to their physical and mental health, vocational and educational needs, and family problems for at least one to two years before beginning to taper a methadone or buprenorphine regimen.^{64, 70-72}



Because naltrexone is nonaddictive and has relatively minimal side effects, fewer concerns are commonly expressed about tapering a naltrexone regimen. Some experts recommend maintaining individuals on naltrexone for at least one year;^{17, 73} however, some have been treated successfully on naltrexone for at least five years with no negative effects.⁷⁴



Co-Occurring Mental Health Disorders

Approximately 15-20 percent of individuals on probation, parolees, and jail and prison inmates suffer from a serious or persistent mental health disorder.^{75, 76} Individuals with mental health disorders fail disproportionately on probation and parole, and co-occurring mental illness interferes significantly with the effectiveness of correctional substance use treatment programs.⁷⁷ When mental illness is combined with substance misuse, the odds of criminal recidivism and failure in correctional rehabilitation appear to increase multiplicatively.^{78, 79}

Substance use and mental health disorders are reciprocally aggravating conditions, meaning that continued symptoms of one disorder are likely to precipitate relapse in the other.^{80, 81} For example, a person recovering from drug addiction who continues to experience depressive symptoms has an elevated risk for relapsing to drug use. Conversely, a person recovering from depression who continues to use illicit drugs is likely to experience a resurgence of depressive symptoms.



For this reason, co-occurring mental health and substance use disorders should be treated concurrently as opposed to consecutively.^{82,83} Whenever possible, both disorders should be treated in the same facility by an interdisciplinary team using an integrated treatment model that focuses on the mutually aggravating effects of the two conditions. SAMHSA has published therapist toolkits to assist in delivering evidence-based integrated treatments for co-occurring substance use and mental health disorders.⁸⁴

Participants should also have unhindered access to medical providers qualified to prescribe and monitor response to psychiatric medications and ensure those medications are used safely and effectively in combination with MAT for OUDs. A statewide study of community-based treatment reported that use of MAT was associated with significant reductions in inpatient substance use treatment for individuals with co-occurring disorders and use of oral naltrexone was associated with significant reductions in inpatient mental health days, greater adherence to psychiatric medications, and lower re-arrest rates.⁸⁵



Post-Release Services

Success after release from custody requires the individual to continue receiving MAT, counseling, and other indicated services in the community.⁶⁵ Institutional treatment alone without follow-up care is rarely successful. Worse, because physiological tolerance declines if individuals are not maintained on methadone or buprenorphine while incarcerated, release to the community without follow-up care can lead to higher rates of opioid overdose and mortality if they return to pre-incarceration levels of opioid use.^{33,37}

The factor that best distinguishes effective from ineffective prison and jail-based MAT programs is whether participants experience a smooth

transition to follow-up care while on parole or after release to the community.^{7,9} Systematic reviews of the research literature have concluded that significant reductions in criminal recidivism and improvements in employment are typically observed for post-release reentry programs that share at least the following characteristics:⁸⁶⁻⁹⁰

- Community providers meet with participants prior to their release from custody to assess their treatment and social-service needs, inform them about available community services, and develop a transitional treatment plan to ensure seamless receipt of indicated services after discharge.
- Community-based services are delivered immediately upon release, are intensive in nature (at least 8 hours per week), and last for at least six months.
- Participants receive at least a four-week supply or prescription (and preferably longer) of needed medications.
- Counseling interventions are documented in treatment manuals, are behavioral or cognitive-behavioral in orientation, and are delivered by professionally trained service providers.
- Participants receive evidence-based housing, vocational, and mental health services, where indicated.
- Supervision officers monitor participants' progress, use motivational enhancement techniques to increase compliance with treatment, reward achievement of treatment goals, and administer gradually escalating consequences (short of reincarceration) for treatment attrition or other infractions that do not involve a new criminal offense.

Preventing Misuse

Criminal justice professionals have an important role to play in minimizing misuse of medications. These concerns are usually most pressing after participants have been released from custody and are taking the medications in the community. Several practical precautions have been demonstrated empirically to reduce untoward events related to MAT.⁹¹⁻⁹⁴



Observed Administration

One of the most effective ways to prevent misuse or diversion of prescription medications is to require the medication to be ingested under the direct observation of treatment or criminal justice staff. After release from custody, ingestion may be observed by a medical staff person, probation officer, clinical case manager, or other approved individual such as a trusted, sober, and prosocial family member or friend.



Medication Level Monitoring

The presence of prescribed medications or their metabolites may be monitored through urine or other appropriate testing methods on a random basis to confirm the medication is being taken reliably.



Pill Counts

If take-home doses are permitted, participants may be called back on a random basis for pill counts to confirm the medication is being taken as prescribed. A short pill count may indicate the medication is being taken too often or in excessive doses or is being sold or traded illegally. A high pill count indicates it is not being taken as prescribed.



Medication Event Monitoring

A medication event monitoring system (MEMS) is a medication vial or cap with a microprocessor that records the date and time and the number of pills removed each time the container is opened. Use of a MEMS provides a reliable indicator of appropriate medication use among individuals with severe mental health disorders.⁹⁵ However, it has not been evaluated in a criminal justice population.

Newer applications designed for smart phones or other electronic devices offer more sophisticated methods for monitoring and enhancing medication adherence. Phone-based applications, for example, can deliver medication reminders and motivational prompts and use facial recognition technology to confirm ingestion in real time. Studies confirm that use of such applications can enhance adherence to psychiatric and other medications.^{96,97} However, these methods need to be examined in criminal justice populations.



Abuse-Deterrence Formulations

Misuse and diversion of medications has been reduced significantly by combining buprenorphine with naloxone (which elicits withdrawal if the medication is injected), administering the long-acting injectable formulation of naltrexone, administering methadone in liquid form, and administering buprenorphine in the form of a soluble sublingual film.



Prescription Drug Monitoring Programs

Prescription drug monitoring programs (PDMPs) are state-maintained databases of specified medications prescribed within the state and other jurisdictions with reporting reciprocity.⁹⁸ Reports typically include a list of prescriptions for controlled medications filled for a given individual within the previous 12 months.

As of April 2019, all U.S. states other than Missouri, as well as the District of Columbia, Guam and Puerto Rico, had a PDMP. Nearly all jurisdictions permit pharmacists, physicians and/or other medical practitioners (e.g., nurse practitioners) to access PDMP information relating to their patients or clients. In addition, most states and territories authorize PDMP reports to be communicated to law enforcement personnel, and approximately one-third authorize reports to community corrections agencies or drug courts.⁹⁹

PDMP monitoring has been shown to reduce the incidence of dangerous medication interactions by bringing other medications taken by patients to the attention of prescribing physicians and dispensing pharmacies.¹⁰⁰

Statewide studies have found that requiring mandatory reporting to PDMPs was associated with significant improvements in physician prescribing practices, including fewer individuals receiving overlapping prescriptions for the same opioid, obtaining opioids from five or more doctors or pharmacies (“doctor shopping”), or receiving refill authorizations of seven or more months.¹⁰¹⁻¹⁰⁴ A recent study concluded that implementation of mandatory reporting to PDMPs was associated with a 3-4 percent decrease in overall crime rates and a 5-7 percent decrease in violent crime rates.¹⁰⁵

Most studies have reported significantly lower rates of opioid misuse and opioid-related mortality after implementation of mandatory PDMPs.¹⁰⁶⁻¹⁰⁸ However, a few studies have paradoxically reported increased use of heroin or other illicit opiates in response to the reduced availability of pharmaceutical opioids.^{109, 110} Programs should, therefore, monitor participants continually for the possible emergence of other substances and take suitable measures to address the issue should it arise.

Reference List

- ¹ Bahji, A. The effectiveness of naltrexone for opioid use disorder among inmates: Systematic review and meta-analysis. *Journal for Advancing Justice*, (in press).
- ² de Andrade, D., Ritchie, J., Rowlands, M., Mann, E., & Hides, L. (2018). Substance use and recidivism outcomes for prison-based drug and alcohol interventions. *Epidemiologic Reviews*, *40*, 121-133.
- ³ Egli, N., Pina, M., Skovbo Christensen, P., Aebi, M. F., & Killias, M. (2009). Effects of drug substitution programs on offending among drug-addicts. *Campbell Systematic Reviews*, 1-40.
- ⁴ Holloway, K. R., Bennett, T. H., & Farrington, D. P. (2006). The effectiveness of drug treatment programs in reducing criminal behavior: A meta-analysis. *Psicothema*, *18*, 620-629.
- ⁵ Mitchell, O., Wilson, D. B., & MacKenzie, D. L. (2007). Does incarceration-based drug treatment reduce recidivism? A meta-analytic synthesis of the research. *Journal of Experimental Criminology*, *3*, 353-375.
- ⁶ Mitchell, O., Wilson, D., & Layton MacKenzie, D. (2012). The effectiveness of incarceration-based drug treatment on criminal behavior. *Campbell Systematic Reviews*, *18*. doi: 10.4073/csr.2012.18
- ⁷ Moore, K. E., Roberts, W., Reid, H. H., Smith, K. M., Oberleitner, L. M., & McKee, S. A. (2019). Effectiveness of medication assisted treatment for opioid use in prison and jail settings: A meta-analysis and systematic review. *Journal of Substance Abuse Treatment*, *99*, 32-43.
- ⁸ Perry, A. E., Neilson, M., Martyn-St.James, M., Glanville, J. M., Woodhouse, R., Godfrey, C. et al. (2015). Pharmacological interventions for drug-using offenders. *Cochrane Database of Systematic Reviews*, doi: 10.1371/journal.pone.0007558
- ⁹ Stallwitz, A. & Stöver, H. (2007). The impact of substitution treatment in prisons: A literature review. *International Journal of Drug Policy*, *18*, 464-474.
- ¹⁰ Hedrich, D., Alves, P., Farrell, M., Stöver, H., Möller, L., & Mayet, S. (2012). The effectiveness of opioid maintenance treatment in prison settings: a systematic review. *Addiction*, *107*, 501-517.
- ¹¹ Sharma, A., O'Grady, K. E., Kelly, S. M., Gryczynski, J., Mitchell, S. G., & Schwartz, R. P. (2016). Pharmacotherapy for opioid dependence in jails and prisons: Research review update and future directions. *Substance Abuse and Rehabilitation*, *7*, 27-40.
- ¹² Martin, J., Zweben, J. E., & Payte, J. T. (2014). Opioid maintenance treatment. In R.K.Ries, D. A. Fiellin, S. C. Miller, & R. Saitz (Eds.), *The ASAM principles of addiction medicine* (5th ed., pp. 759-777). Philadelphia: Wolters Kluwer.
- ¹³ Schottenfeld, R. S. (2008). Opioid maintenance treatment. In M.Galanter & H. D. Kleber (Eds.), *Textbook of substance abuse treatment* (4th ed., pp. 289-309). Washington: American Psychiatric Publishing.
- ¹⁴ Stine, S. M. & Kosten, T. R. (2014). Pharmacologic interventions for opioid dependence. In R.K.Ries, D. A. Fiellin, S. C. Miller, & R. Saitz (Eds.), (5th ed., pp. 735-758). Philadelphia: Wolters Kluwer.
- ¹⁵ Strain, E. S. & Lofwall, M. R. (2008). Buprenorphine maintenance. In M.Galanter & H. D. Kleber (Eds.), *Textbook of substance abuse treatment* (4th ed., pp. 309-324). Washington: American Psychiatric Publishing.
- ¹⁶ Volkow, N. D., Frieden, T. R., Hyde, P. S., & Cha, S. S. (2014). Medication-assisted therapies--Tackling the opioid-overdose epidemic. *New England Journal of Medicine*, *370*, 2063-2066.
- ¹⁷ O'Brien, C. P. & Kampman, K. (2008). Antagonists of opioids. In M.Galanter & H. D. Kleber (Eds.), *Textbook of substance abuse treatment* (4th ed., pp. 329). Washington: American Psychiatric Publishing.

- ¹⁸ Dijkstra, B. A. G., de Jong, C. A. J., Bluschke, S. M., Krabbe, P. F. M., & van der Staak, C. P. F. (2007). Does naltrexone affect craving in abstinent opioid-dependent patients? *Addiction Biology*, *12*, 176-182.
- ¹⁹ Tanum, L., Solli, K. K., Latif, Z.-H., Benth, J. Š., Opheim, A., Sharma-Haase, K. et al. (2017). Effectiveness of injectable extended-release naltrexone vs daily buprenorphine-naloxone for opioid dependence: A randomized clinical noninferiority trial. *JAMA Psychiatry*, *74*, 1197-1205.
- ²⁰ Krupitsky, E., Nunes, E. V., Ling, W., Illeperuma, A., Gastfriend, D. R., & Silverman, B. L. (2011). Injectable extended-release naltrexone for opioid dependence: A double-blind, placebo-controlled, multicentre randomised trial. *The Lancet*, *377*, 1506-1513.
- ²¹ Langleben, D. D., Ruparel, K., Elman, I., Loughhead, J. W., Busch, E. L., Cornish, J. et al. (2014). Extended-release naltrexone modulates brain response to drug cues in abstinent heroin-dependent patients. *Addiction Biology*, *19*, 262-271.
- ²² Lee, J. D., Nunes Jr, E. V., Novo, P., Bachrach, K., Bailey, G. L., Bhatt, S. et al. (2018). Comparative effectiveness of extended-release naltrexone versus buprenorphine-naloxone for opioid relapse prevention (X: BOT): A multicentre, open-label, randomised controlled trial. *The Lancet*, *391*, 309-318.
- ²³ Crits-Christoph, P., Lundy, C., Stringer, M., Gallop, R., & Gastfriend, D. R. (2015). Extended-release naltrexone for alcohol and opioid problems in Missouri parolees and probationers. *Journal of Substance Abuse Treatment*, *56*, 54-60.
- ²⁴ Coviello, D. M., Cornish, J. W., Lynch, K. G., Boney, T. Y., Clark, C. A., Lee, J. D. et al. (2012). A multisite pilot study of extended-release injectable naltrexone treatment for previously opioid-dependent parolees and probationers. *Substance Abuse*, *33*, 48-59.
- ²⁵ Magura, S., Lee, J. D., Hershberger, J., Joseph, H., Marsch, L., Shropshire, C. et al. (2009). Buprenorphine and methadone maintenance in jail and post-release: A randomized clinical trial. *Drug and Alcohol Dependence*, *99*, 222-230.
- ²⁶ Mattick, R. P., Breen, C., Kimber, J., & Davoli, M. (2014). Buprenorphine maintenance versus placebo or methadone maintenance for opioid dependence. *Cochrane Database of Systematic Reviews*.
- ²⁷ Cornish, J. W., Metzger, D., Woody, G. E., Wilson, D., McLellan, A. T., Vandergrift, B. et al. (1997). Naltrexone pharmacotherapy for opioid dependent federal probationers. *Journal of Substance Abuse Treatment*, *14*, 529-534.
- ²⁸ Minozzi, S., Amato, L., Vecchi, S., Davoli, M., Kirchmayer, U., & Verster, A. (2011). Oral naltrexone maintenance treatment for opioid dependence. *Cochrane Database of Systematic Reviews*.
- ²⁹ Coviello, D. M., Cornish, J. W., Lynch, K. G., Alterman, A. I., & O'Brien, C. P. (2010). A randomized trial of oral naltrexone for treating opioid-dependent offenders. *The American Journal on Addictions*, *19*, 422-432.
- ³⁰ Shearer, J., Wodak, A. D., & Dolan, K. A. (2007). Evaluation of a prison-based naltrexone program. *International Journal of Prisoner Health*, *3*, 214-224.
- ³¹ Gryczynski, J., Kinlock, T. W., Kelly, S. M., O'Grady, K. E., Gordon, M. S., & Schwartz, R. P. (2012). Opioid agonist maintenance for probationers: Patient-level predictors of treatment retention, drug use, and crime. *Substance Abuse*, *33*, 30-39.
- ³² Russolillo, A., Moniruzzaman, A., McCandless, L. C., Patterson, M., & Somers, J. M. (2018). Associations between methadone maintenance treatment and crime: A 17-year longitudinal cohort study of Canadian provincial offenders. *Addiction*, *113*, 656-667.

- ³³ Dolan, K. A., Shearer, J., White, B., Zhou, J., Kaldor, J., & Wodak, A. D. (2005). Four-year follow-up of imprisoned male heroin users and methadone treatment: Mortality, re-incarceration and hepatitis C infection. *Addiction*, 100, 820-828.
- ³⁴ Havnes, I., Bukten, A., Gossop, M., Waal, H., Stangeland, P., & Clausen, T. (2012). Reductions in convictions for violent crime during opioid maintenance treatment: A longitudinal national cohort study. *Drug and Alcohol Dependence*, 124, 307-310.
- ³⁵ Sun, H. M., Li, X. Y., Chow, E. P., Li, T., Xian, Y., Lu, Y. H. et al. (2014). Methadone maintenance treatment programme reduces criminal activity and improves social well-being of drug users in China: A systematic review and meta-analysis. *BMJ Open*, 5, e005997.
- ³⁶ Soares III, W. E., Wilson, D., Gordon, M. S., Lee, J. D., Nunes, E. V., O'Brien, C. P. et al. (2019). Incidence of future arrests in adults involved in the criminal justice system with opioid use disorder receiving extended release naltrexone compared to treatment as usual. *Drug and Alcohol Dependence*, 194, 482-486.
- ³⁷ Green, T. C., Clarke, J., Brinkley-Rubinstein, L., Marshall, B. D., Alexander-Scott, N., Boss, R. et al. (2018). Postincarceration fatal overdoses after implementing medications for addiction treatment in a statewide correctional system. *JAMA Psychiatry*, 75, 405-407. doi: 10.1001/jamapsychiatry.2017.4614
- ³⁸ Bozinoff, N., DeBeck, K., Milloy, M. J., Nosova, E., Fairbairn, N., Wood, E. et al. (2018). Utilization of opioid agonist therapy among incarcerated persons with opioid use disorder in Vancouver, Canada. *Drug and Alcohol Dependence*, 193, 42-47.
- ³⁹ Marsden, J., Stillwell, G., Jones, H., Cooper, A., Eastwood, B., Farrell, M. et al. (2017). Does exposure to opioid substitution treatment in prison reduce the risk of death after release? A national prospective observational study in England. *Addiction*, 112, 1408-1418.
- ⁴⁰ Larney, S., Gisev, N., Farrell, M., Dobbins, T., Burns, L., Gibson, A. et al. (2014). Opioid substitution therapy as a strategy to reduce deaths in prison: Retrospective cohort study. *BMJ Open*, 4, e004666.
- ⁴¹ Russolillo, A., Moniruzzaman, A., & Somers, J. M. (2018). Methadone maintenance treatment and mortality in people with criminal convictions: A population-based retrospective cohort study from Canada. *PLoS Medicine*, 15, e1002625.
- ⁴² Degenhardt, L., Larney, S., Kimber, J., Gisev, N., Farrell, M., Dobbins, T. et al. (2014). The impact of opioid substitution therapy on mortality post-release from prison: Retrospective data linkage study. *Addiction*, 109, 1306-1317.
- ⁴³ Jarvis, B. P., Holtyn, A. F., Subramaniam, S., Tompkins, D. A., Oga, E. A., Bigelow, G. E. et al. (2018). Extended-release injectable naltrexone for opioid use disorder: A systematic review. *Addiction*, 113, 1188-1209.
- ⁴⁴ Lee, J. D., Friedmann, P. D., Kinlock, T. W., Nunes, E. V., Boney, T. Y., Hoskinson Jr, R. A. et al. (2016). Extended-release naltrexone to prevent opioid relapse in criminal justice offenders. *New England Journal of Medicine*, 374, 1232-1242.
- ⁴⁵ Kouyoumdjian, F. G., McIsaac, K. E., Liauw, J., Green, S., Karachiwalla, F., Siu, W. et al. (2015). A systematic review of randomized controlled trials of interventions to improve the health of persons during imprisonment and in the year after release. *American Journal of Public Health*, 105, e13-e33. doi: 10.2105/AJPH.2014.302498
- ⁴⁶ Underhill, K., Dumont, D., & Operario, D. (2014). HIV prevention for adults with criminal justice involvement: A systematic review of HIV risk-reduction interventions in incarceration and community settings. *American Journal of Public Health*, 104, e27-e53. doi: 10.2105/AJPH.2014.302152

- ⁴⁷ Lobmaier, P. P., Kunøe, N., Gossop, M., Katevoll, T., & Waal, H. (2010). Naltrexone implants compared to methadone: Outcomes six months after prison release. *European Addiction Research*, 16, 139-145.
- ⁴⁸ National Academies of Sciences, Engineering, and Medicine. (2019). *Medications for opioid use disorder save lives*. Washington, DC: The National Academies Press.
- ⁴⁹ Awgu, E., Magura, S., & Rosenblum, A. (2010). Heroin-dependent inmates' experiences with buprenorphine or methadone maintenance. *Journal of Psychoactive Drugs*, 42, 339-346.
- ⁵⁰ Kakko, J., Grönbladh, L., Svanborg, K. D., von Wachenfeldt, J., Rück, C., Rawlings, B. et al. (2007). A stepped care strategy using buprenorphine and methadone versus conventional methadone maintenance in heroin dependence: A randomized controlled trial. *American Journal of Psychiatry*, 164, 797-803.
- ⁵¹ Substance Abuse and Mental Health Services Administration. (2018). *Medications for opioid use disorder: Treatment improvement protocol (TIP 63) for healthcare and addiction professionals, policy makers, patients and families*. (Rep. No. HHS Publication No. SMA 18-5063). Bethesda, MD: Author. Available from <https://store.samhsa.gov/system/files/sma18-5063fulldoc.pdf>.
- ⁵² Legal Action Center. (2009). *Know your rights: Rights for individuals on medication-assisted treatment*. (Rep. No. SMA-09-4449). Rockville, MD: Center for Substance Abuse Treatment, Substance Abuse and Mental Health Services Administration.
- ⁵³ Nordstrom, B. R. & Marlowe, D. B. (2016). Medication-assisted treatment for opioid use disorders in drug courts: Ensuring the safe, effective, and responsible use of addiction medications for drug court participants. *Drug Court Practitioner Fact Sheet, 11*.
- ⁵⁴ Rich, J. D., McKenzie, M., Larney, S., Wong, J. B., Tran, L., Clarke, J. et al. (2015). Methadone continuation versus forced withdrawal on incarceration in a combined US prison and jail: A randomised, open-label trial. *The Lancet*, 386, 350-359.
- ⁵⁵ Brown, A. R. (2018). A systematic review of psychosocial interventions in treatment of opioid addiction. *Journal of Social Work Practice in the Addictions*, 18, 249-269. doi: 10.1080/1533256X.2018.1485574
- ⁵⁶ Amato, L., Minozzi, S., Davoli, M., & Vecchi, S. (2011). Psychosocial combined with agonist maintenance treatments versus agonist maintenance treatments alone for treatment of opioid dependence. *Cochrane Database of Systematic Reviews*.
- ⁵⁷ Schwartz, R. P., Kelly, S. M., O'Grady, K. E., Gandhi, D., & Jaffe, J. H. (2012). Randomized trial of standard methadone treatment compared to initiating methadone without counseling: 12-month findings. *Addiction*, 107, 943-952.
- ⁵⁸ Weiss, R. D., Potter, J. S., Fiellin, D. A., Byrne, M., Connery, H. S., Dickinson, W. et al. (2011). Adjunctive counseling during brief and extended buprenorphine-naloxone treatment for prescription opioid dependence: A 2-phase randomized controlled trial. *Archives of General Psychiatry*, 68, 1238-1246.
- ⁵⁹ Ling, W., Hillhouse, M., Ang, A., Jenkins, J., & Fahey, J. (2013). Comparison of behavioral treatment conditions in buprenorphine maintenance. *Addiction*, 108, 1788-1798.
- ⁶⁰ Fiellin, D. A., Barry, D. T., Sullivan, L. E., Cutter, C. J., Moore, B. A., O'Connor, P. G. et al. (2013). A randomized trial of cognitive behavioral therapy in primary care-based buprenorphine. *The American Journal of Medicine*, 126, 74.e11-74.e17.

- ⁶¹ Timko, C., Schultz, N. R., Cucciare, M. A., Vittorio, L., & Garrison-Diehn, C. (2016). Retention in medication-assisted treatment for opiate dependence: A systematic review. *Journal of Addictive Diseases*, 35, 22-35.
- ⁶² Morgan, J. R., Schackman, B. R., Leff, J. A., Linas, B. P., & Walley, A. Y. (2018). Injectable naltrexone, oral naltrexone, and buprenorphine utilization and discontinuation among individuals treated for opioid use disorder in a United States commercially insured population. *Journal of Substance Abuse Treatment*, 85, 90-96.
- ⁶³ Lincoln, T., Johnson, B. D., McCarthy, P., & Alexander, E. (2018). Extended-release naltrexone for opioid use disorder started during or following incarceration. *Journal of Substance Abuse Treatment*, 85, 97-100.
- ⁶⁴ Center for Substance Abuse Treatment. (2005). *Medication-assisted treatment for opioid addiction in opioid treatment programs*. (Rep. No. Treatment Improvement Protocol [TIP] Series 43; DHHS Publication No. [SMA] 12-4214). Rockville, MD: Substance Abuse and Mental Health Administration.
- ⁶⁵ National Institute on Drug Abuse. (2014). *Principles of drug abuse treatment for criminal justice populations: A research-based guide*. (Rep. No. NIH Publication No. 11-5316). Bethesda, MD: National Institute on Drug Abuse. Available from https://d14rmgtrwzf5a.cloudfront.net/sites/default/files/txcriminaljustice_0.pdf.
- ⁶⁶ Dugosh, K., Abraham, A., Seymour, B., McLoyd, K., Chalk, M., & Festinger, D. (2016). A systematic review on the use of psychosocial interventions in conjunction with medications for the treatment of opioid addiction. *Journal of Addiction Medicine*, 10, 91-101. doi: 10.1097/ADM.0000000000000193
- ⁶⁷ Hruschak, V., Cochran, G., & Wasan, A. D. (2018). Psychosocial interventions for chronic pain and comorbid prescription opioid use disorders: A narrative review of the literature. *Journal of Opioid Management*, 14, 345-358.
- ⁶⁸ Nosyk, B., Sun, H., Evans, E., Marsh, D. C., Anglin, M. D., Hser, Y. I. et al. (2012). Defining dosing pattern characteristics of successful tapers following methadone maintenance treatment: Results from a population-based retrospective cohort study. *Addiction*, 107, 1621-1629.
- ⁶⁹ Substance Abuse and Mental Health Services Administration and Office of the Surgeon General. (2018). *Facing addiction in America: The Surgeon General's spotlight on opioids*. Washington, DC: US Department of Health and Human Services. Retrieved from <https://www.ncbi.nlm.nih.gov/books/NBK538436/>.
- ⁷⁰ Alford, D. P., LaBelle, C. T., Kretsch, N., Bergeron, A., Winter, M., Botticelli, M. et al. (2011). Collaborative care of opioid-addicted patients in primary care using buprenorphine: Five-year experience. *Archives of Internal Medicine*, 171, 425-431.
- ⁷¹ Parran, T. V., Adelman, C. A., Merkin, B., Pagano, M. E., Defranco, R., Ionescu, R. A. et al. (2010). Long-term outcomes of office-based buprenorphine/naloxone maintenance therapy. *Drug and Alcohol Dependence*, 106, 56-60.
- ⁷² Stimmel, B., Goldberg, J., Rotkopf, E., & Cohen, M. (1977). Ability to remain abstinent after methadone detoxification: A six-year study. *JAMA*, 237, 1216-1220.
- ⁷³ Schuster, C. R. & O'Brien, C. P. (2008). Medication-assisted treatment for participants in drug court programs. In *Quality improvement for drug courts: Evidence-based practices* (pp. 33-42). Alexandria: National Drug Court Institute.

- ⁷⁴ Skipper, G. E., Campbell, M. D., & DuPont, R. L. (2009). Anesthesiologists with substance use disorders: A 5-year outcome study from 16 state physician health programs. *Anesthesia & Analgesia*, 109, 891-896.
- ⁷⁵ Bronson, J. & Berzofsky, M. (2017). *Indicators of mental health problems reported by prisoners and jail inmates, 2011-12*. Washington, DC: Bureau of Justice Statistics. Retrieved from <https://www.bjs.gov/content/pub/pdf/imhprpji1112.pdf>.
- ⁷⁶ Feucht, T. E. and Gfroerer, J. (2011). *Mental and substance use disorders among adult men on probation or parole: Some success against a persistent challenge*. Rockville, MD: Substance Abuse and Mental Health Services Administration. Retrieved from <http://archive.samhsa.gov/data/2k11/MentalDisorders/MentalDisorders.pdf>.
- ⁷⁷ Skeem, J. L., Steadman, H. J., & Manchak, S. M. (2015). Applicability of the risk-need-responsivity model to persons with mental illness involved in the criminal justice system. *Psychiatric Services*, 66, 916-922.
- ⁷⁸ Peters, R. H., Wexler, H. K., & Lurigio, A. J. (2015). Co-occurring substance use and mental disorders in the criminal justice system: A new frontier of clinical practice and research. *Psychiatric Rehabilitation Journal*, 38, 1-6.
- ⁷⁹ Rezanoff, S. N., Moniruzzaman, A., Gress, C., & Somers, J. M. (2013). Psychiatric diagnoses and multiyear criminal recidivism in a Canadian provincial offender population. *Psychology, Public Policy, and Law*, 19, 443-453.
- ⁸⁰ Chandler, R. K., Peters, R. H., Field, G., & Juliano-Bult, D. (2004). Challenges in implementing evidence-based treatment practices for co-occurring disorders in the criminal justice system. *Behavioral Sciences & the Law*, 22, 431-448.
- ⁸¹ Drake, R. E., O'Neal, E. L., & Wallach, M. A. (2008). A systematic review of psychosocial research on psychosocial interventions for people with co-occurring severe mental and substance use disorders. *Journal of Substance Abuse Treatment*, 34, 123-138.
- ⁸² Drake, R. E., Mueser, K. T., Brunette, M. F., & McHugo, G. J. (2004). A review of treatments for people with severe mental illnesses and co-occurring substance use disorders. *Psychiatric Rehabilitation Journal*, 27, 360-374.
- ⁸³ Osher, F. C., D'Amora, D. A., Plotkin, M. R., Jarrett, N., & Eggleston, A. (2012). *Adults with behavioral health needs under correctional supervision: A shared framework for reducing recidivism and promoting recovery*. New York: Council of State Governments Justice Center.
- ⁸⁴ Substance Abuse and Mental Health Services Administration. (2010). *Integrated treatment for co-occurring disorders evidence-based practices (EBP) KIT*. Rockville, MD: Author. Retrieved from <http://store.samhsa.gov/product/SMA08-4367>.
- ⁸⁵ Robertson, A. G., Easter, M. M., Lin, H. J., Frisman, L. K., Swanson, J. W., & Swartz, M. S. (2018). Associations between pharmacotherapy for opioid dependence and clinical and criminal justice outcomes among adults with co-occurring serious mental illness. *Journal of Substance Abuse Treatment*, 86, 17-25.
- ⁸⁶ James, N. (2015). *Offender reentry: Correctional statistics, reintegration into the community, and recidivism*. Washington, DC: Congressional Research Service. Retrieved from <https://fas.org/sqp/crs/misc/RL34287.pdf>.
- ⁸⁷ Lattimore, P. K. & Barrick, K. (2016). The effects of prison programming. In T.G.Blomberg, J. M. Brancale, K. M. Beaver, & W. D. Bales (Eds.), *Advancing criminology and criminal justice policy* (pp. 312-323). New York: Routledge.

- ⁸⁸ Seiter, R. P. & Kadela, K. R. (2003). Prisoner reentry: What works, what does not, and what is promising. *Crime & Delinquency*, 49, 360-388.
- ⁸⁹ Solomon, A. L., Osborne, J. W. L., Winterfield, L., Elderbroom, B., Burke, P., Stroker, R. P. et al. (2008). *Putting public safety first: 13 strategies for successful supervision and reentry*. Washington, DC: The Urban Institute. Available from <https://www.urban.org/sites/default/files/publication/32156/411791-Putting-Public-Safety-First--Parole-Supervision-Strategies-to-Enhance-Reentry-Outcomes-Paper-.PDF>.
- ⁹⁰ Taxman, F. S. (2011). Parole: "What works" is still under construction. In C. Leukefeld, T. P. Gullotta, & J. Gregrich (Eds.), *Handbook of evidence-based substance abuse treatment in criminal justice settings* (pp. 205-227). New York: Springer.
- ⁹¹ SAMHSA GAINS Center for Behavioral Health and Justice Transformation. (2019). *Medication-assisted treatment inside correctional facilities: Addressing medication diversion*. Washington, DC: Bureau of Justice Assistance.
- ⁹² Bi-Mohammed, Z., Wright, N. M., Hearty, P., King, N., & Gavin, H. (2017). Prescription opioid abuse in prison settings: A systematic review of prevalence, practice and treatment responses. *Drug and Alcohol Dependence*, 171, 122-131.
- ⁹³ Lofwall, M. R. & Walsh, S. L. (2014). A review of buprenorphine diversion and misuse: The current evidence base and experiences from around the world. *Journal of Addiction Medicine*, 8, 315-326.
- ⁹⁴ Wright, N., D'Agnone, O., Krajci, P., Littlewood, R., Alho, H., Reimer, J. et al. (2016). Addressing misuse and diversion of opioid substitution medication: Guidance based on systematic evidence review and real-world experience. *Journal of Public Health*, 38, e368-e374.
- ⁹⁵ Remington, G., Kwon, J., Collins, A., Laporte, D., Mann, S., & Christensen, B. (2007). The use of electronic monitoring (MEMS®) to evaluate antipsychotic compliance in outpatients with schizophrenia. *Schizophrenia Research*, 90, 229-237.
- ⁹⁶ Bain, E. E., Shafner, L., Walling, D. P., Othman, A. A., Chuang-Stein, C., Hinkle, J. et al. (2017). Use of a novel artificial intelligence platform on mobile devices to assess dosing compliance in a phase 2 clinical trial in subjects with schizophrenia. *JMIR mHealth and uHealth*, 5, e18.
- ⁹⁷ Labovitz, D. L., Shafner, L., Reyes Gil, M., Virmani, D., & Hanina, A. (2017). Using artificial intelligence to reduce the risk of nonadherence in patients on anticoagulation therapy. *Stroke*, 48, 1416-1419.
- ⁹⁸ Centers for Disease Control and Prevention. (2017). What states need to know about PDMPs. Retrieved from <https://www.cdc.gov/drugoverdose/pdmp/states.html>.
- ⁹⁹ Prescription Drug Monitoring Programs Training and Technical Assistance Center. (2018). PDMPs authorized and engaged in sending solicited and unsolicited reports to law enforcement entities. Retrieved from https://www.pdmpassist.org/pdf/Law_Enforcement_Entity_Table_20181109.pdf.
- ¹⁰⁰ Perrone, J. & Nelson, L. S. (2012). Medication reconciliation for controlled substances--An "ideal" prescription-drug monitoring program. *New England Journal of Medicine*, 366, 2341-2343.
- ¹⁰¹ Chang, H. Y., Lyapustina, T., Rutkow, L., Daubresse, M., Richey, M., Faul, M. et al. (2016). Impact of prescription drug monitoring programs and pill mill laws on high-risk opioid prescribers: A comparative interrupted time series analysis. *Drug and Alcohol Dependence*, 165, 1-8.

- ¹⁰²Buchmueller, T. C. & Carey, C. (2018). The effect of prescription drug monitoring programs on opioid utilization in Medicare. *American Economic Journal: Economic Policy*, 10, 77-112.
- ¹⁰³Sacco, L. N., Duff, J. H., and Sarata, A. K. (2018). Prescription drug monitoring programs. Retrieved from <https://fas.org/sgp/crs/misc/R42593.pdf>.
- ¹⁰⁴Winstanley, E. L., Zhang, Y., Mashni, R., Schnee, S., Penm, J., Boone, J. et al. (2018). Mandatory review of a prescription drug monitoring program and impact on opioid and benzodiazepine dispensing. *Drug and Alcohol Dependence*, 188, 169-174.
- ¹⁰⁵Dave, D., Deza, M., & Horn, B. P. (2018). *Prescription drug monitoring programs, opioid abuse, and crime*. (Rep. No. Working Paper No. 24975). National Bureau of Economic Research.
- ¹⁰⁶Delcher, C., Wagenaar, A. C., Goldberger, B. A., Cook, R. L., & Maldonado-Molina, M. M. (2015). Abrupt decline in oxycodone-caused mortality after implementation of Florida's Prescription Drug Monitoring Program. *Drug and Alcohol Dependence*, 150, 63-68.
- ¹⁰⁷Patrick, S. W., Fry, C. E., Jones, T. F., & Buntin, M. B. (2016). Implementation of prescription drug monitoring programs associated with reductions in opioid-related death rates. *Health Affairs*, 35, 1324-1332.
- ¹⁰⁸Greco, A. M., Dave, D. M., & Saffer, H. (2019). Mandatory access prescription drug monitoring programs and prescription drug abuse. *Journal of Policy Analysis and Management*, 38, 181-209.
- ¹⁰⁹Ali, M. M., Dowd, W. N., Classen, T., Mutter, R., & Novak, S. P. (2017). Prescription drug monitoring programs, nonmedical use of prescription drugs, and heroin use: Evidence from the National Survey of Drug Use and Health. *Addictive Behaviors*, 69, 65-77.
- ¹¹⁰Fink, D. S., Schleimer, J. P., Sarvet, A., Grover, K. K., Delcher, C., Castillo-Carniglia, A. et al. (2018). Association between prescription drug monitoring programs and nonfatal and fatal drug overdoses: A systematic review. *Annals of Internal Medicine*, 168, 783-790.

Examples of Medication-Assisted Treatment Programs in Criminal Justice Settings

In this chapter, six programs are highlighted that have used medication-assisted treatment (MAT) (utilizing buprenorphine, methadone, and/or naltrexone) to treat individuals with opioid use disorders (OUDs) in the correctional system—within jails, prisons, and on reentry to the community. Each of these programs has achieved outcomes consistent with the research on the effectiveness of MAT in these settings.

There are two basic models for the provision of MAT in correctional settings. The first, exemplified by New Jersey and Rhode Island, provides the full range of medications to treat OUD over a long-term maintenance period. This model aims to stabilize individuals over the course of their sentences and after release. The second model, exemplified by Kentucky and Massachusetts, focuses on relapse prevention. Often detoxified upon entry into the criminal justice system, individuals with OUDs are provided naltrexone immediately before release and for a period thereafter to avoid the heightened risk of relapse on reentry into the community.

Both of these models appear to be more effective than programs that offer no MAT. Since the approaches have not been directly compared, there is currently no data documenting which model is more effective overall. However, based on the outcomes of related research, evidence indicates that offering all forms of MAT is likely to be more effective in most settings, and where possible, offering all forms of MAT is considered best practice.





Choosing Programs

While there are additional excellent programs that could have been featured in this section, the panel of experts considers these to be well-delineated and replicable. Each has successfully delivered MAT in jails, prisons, or reentry, and has reported early evidence of promising results.*

Especially within recent years, varied program models have developed across the country. Programs, including those highlighted here, are continuously changing and developing in response to many factors, including need, population, development of the science, and resource availability. These programs should not be taken as definitive of best practices in service delivery, nor representative of all potential program models. Rather, they represent models that have been effective in delivering MAT and reported promising outcomes in a variety of correctional settings.

It is important to note that the programs represented here were chosen in part because they operate in a variety of settings – jail, prison, reentry, and combinations thereof. These settings present substantially different barriers to treatment, and consequently require substantially different service delivery practices; therefore, the setting of the programs should be taken into account in evaluating and applying the principles demonstrated by each model.

Format of the Chapter

Following is a succinct description of each of the six programs, including key program components, resources needed, cost to operate, and outcomes. The format of these one-page documents is uniform to enable readers to quickly find the information they seek.

**Although outcomes are reported for each program, not all data reported is peer reviewed or verified to as high a standard as the data cited elsewhere in this Guide. Outcome measures have been gathered from programs themselves or third party research partners, and it should not be assumed that the methods or standards cited in this chapter are in any way endorsed or verified by SAMHSA.*

New Jersey

Setting Prison

Principles

- Accessibility of MAT and whole person care
- Individualization of treatment

Medications Used

- Buprenorphine
- Naltrexone
- Methadone

Program Model

On entrance into NJDOC custody, individuals are screened for health and substance use treatment needs. Those who are classified as medium-risk and present with a substance use disorder are eligible for the Mid-State or Edna Mahan program. Once enrolled, individuals are provided with MAT as needed, as well as wrap-around services. These adjunctive services include counseling, group therapy, and health care, provided by Rutgers University Correctional Health Care to address co-occurring disorders. In all other aspects, Mid-State Correctional Facility functions as a medium-security state prison.

The program is individualized based on each participant's needs, with the intensity of treatment provided varying from 7 to 28 hours per week and lasting as long as necessary for recovery. In 2018, a partnership with the New Jersey Department of Health (NJDOH) was created to facilitate ongoing follow-up services. Navigators monitor released participants for one year to track progress and connect them to reentry and substance use disorder treatment providers.

Summary

New Jersey recently increased and improved access to substance use disorder treatment in its jails and prisons through several initiatives. After its closure in 2014, the Mid-State Correctional Facility was reopened in 2017 as an addiction treatment center for individuals in prison.¹

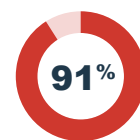
Corrections (NJDOC) and Human Services (NJDOH), the facility now operates as a correctional treatment center, housing nearly 700 men. Sixty-five additional beds are available for women at the Edna Mahan Correctional Facility.² The program partners with Gateway Foundation, a national substance use disorder treatment provider, to deliver substance use treatment.³ Although the program serves individuals with any alcohol or substance use disorder, a primary focus is to address the opioid crisis and its criminogenic risk factors. As such, it provides access to evidence-based opioid use disorder treatment, including all forms of MAT (buprenorphine, methadone, naltrexone).²

The renovation of Mid-State Correctional Facility cost the state \$28 million, and the state's partnership with the Gateway Foundation includes a provision to cover treatment services for 5 years at a cost of \$29.2 million.² Several county jails in the state have also begun offering MAT.

Outcomes⁴

100
individuals

across NJDOC have received MAT each month since November 2017, according to the NJDOC Commissioner.



91 percent of justice-involved individuals receiving MAT in the state complete treatment successfully, compared to 50 percent of those receiving other addiction treatment, according to the NJDOH Commissioner.

Rhode Island

Summary

As part of a statewide initiative to address the opioid epidemic, the Rhode Island Department of Corrections (RIDOC) implemented a new model for treatment within the correctional setting in January 2017. RIDOC works through a partnership with CODAC Behavioral Health, a community vendor with statewide capacity, to ensure access to MAT for individuals with an opioid use disorder (OUD) while in custody. All three medications approved to treat OUD by the Food and Drug Administration (FDA) (buprenorphine, methadone, naltrexone) are offered.⁵ As a result, Rhode Island is now the only state in the country to offer all forms of MAT across their entire incarcerated population.⁶

To maintain treatment post-release, 12 MAT Centers of Excellence were established across the state. They repurposed an existing network of CODAC outpatient facilities to continue care for reentering individuals in the community. These facilities are scattered throughout the state to enable formerly incarcerated individuals to continue treatment regardless of their location post-release. To facilitate this transition, incarcerated individuals are coached on how to apply for Medicaid prior to release.⁵

The relationship between RIDOC and CODAC staff is critical to the success of the program. CODAC provides medical directors, a project coordinator, a program director, three masters/licensed assessment clinicians, two MAT clinicians, a discharge planner, and peer support specialists to aid in reentry. Although clinical staff are primarily responsible for prescribing and dispensing MAT, RIDOC medical and nursing staff are also educated on MAT to enable coordination of care. \$2 million per year is dedicated to the program.⁷

Outcomes**

After the successful implementation of numerous statewide initiatives, including the RIDOC program, Rhode Island has seen significant reductions in overdose rates.⁵

12.3% The **decrease** in Rhode Island's **overall death rate** from January 1, 2017 to June 30, 2017 compared to the previous year.

60.5% The **decrease** in the **overdose death rate** among those recently incarcerated during the same timeframe.

50% The overall number of **deaths attributed to fentanyl** was cut in half.

72
35 The **number of naloxone kits** dispensed at release from incarceration **decreased** between the 2016 and 2017 cohorts, while the receipt of MAT (buprenorphine, methadone, and naltrexone) after release increased.

Setting

Prison; Jail; Reentry

Principles

- Continuity of treatment
- Access to all forms of MAT during incarceration

Medications Used

- Buprenorphine
- Naltrexone
- Methadone

Program Model

Upon entrance into RIDOC, all individuals are screened for substance use disorders and other treatment needs. Individuals who screen positive for an OUD and are in need of treatment are enrolled in the program. Those awaiting trial are not withdrawn from MAT, and those already receiving medications are maintained on their current regimens. During incarceration, individuals have access to all FDA-approved medications to treat OUD, as well as individual and group counseling.⁷

Originally, programs emphasized group counseling similar to an "outpatient format" within the correctional setting. RIDOC developed a residential treatment model in 1992, in which inmates are housed on separate units staffed by treatment professionals and peers in sustained recovery. Treatment is now based on a four-tier model (listed from highest to lowest level of care):

1. Modified residential therapeutic community,
2. Day treatment,
3. Counseling groups, and
4. Recovery services/peer support.⁸

On release, individuals are coached on how to apply for Medicaid and are referred to a Center of Excellence, which provides treatment within the community. These community-based services aim to ensure successful reintegration and maintain stability. They include continued MAT, psychiatric care for co-occurring mental health disorders, counseling and education for patients and their families, peer recovery support, Hepatitis C testing and on-site treatment, and reentry services.⁹

***Green et al. (2018) acknowledge a small sample size as a limitation of the RIDOC study.*

Kentucky

Setting Prison/jail (on exit); Reentry

- Principles**
- Long-term treatment
 - Whole person care

- Medications Used**
- Extended-Release Naltrexone (Vivitrol)

Program Model

KYDOC's prisons and jails begin identifying individuals with substance use disorders six months prior to release. A first injection of naltrexone is offered five weeks prior to release, and a second injection is delivered one week prior to release. Participants continue to receive monthly treatment for a minimum of six months during reentry.⁷ After release, individuals are referred to post-release services directly from corrections custody, including Recovery Kentucky. Participants in Recovery Kentucky remain in treatment and support systems for up to 180 days in accordance with best practices that indicate the necessity of long-term treatment for success. Upon intake into all KYDOC treatment programs, data is collected on behaviors prior to incarceration, and follow-up data is collected 12 months after completion of the program.

Summary

In 2015, the Kentucky Department of Corrections (KYDOC) began offering extended-release naltrexone (Vivitrol) at eight out of 12 prisons and 24 out of 76 jails. A case manager is responsible for coordinating all care. In addition to MAT, whole person care is offered both during and after incarceration, including cognitive behavioral therapy, general aftercare, and relapse prevention support groups.

The average cost of addiction treatment programs is \$9.00 per day in all KYDOC jails and \$6.67 per day in prisons.¹⁰ Although the only medication offered is extended-release naltrexone (Vivitrol), the program has seen significant improvements in healthcare costs, relapse rates, overdoses, and recidivism rates.

KYDOC partners with the Department for Local Government and the Kentucky Housing Corporation to fund Recovery Kentucky, an addiction treatment program that provides housing and continued treatment post-release. Recovery Kentucky operates 14 addiction treatment housing sites across the state, with a particular focus on the reentry population.¹¹

Approximately 70 percent of the beds available for reentry individuals are funded by KYDOC on a per diem basis, with up to 180 days provided to each participant. Recovery Kentucky maintains Vivitrol treatment, and some sites partner with Federally Qualified Health Centers (FQHCs) to provide Vivitrol to those not receiving it on entry. The average cost of Recovery Kentucky is \$35.89 per person per day.¹²

Outcomes***

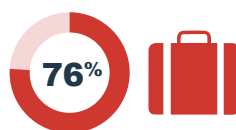
\$1 → \$4.52

For every **\$1** invested in corrections-based addiction treatment in Kentucky, there was a **\$4.52 return** on investment, according to a 2018 study using data collected from July 1, 2016 to June 30, 2017.¹⁰



70 percent of those who completed addiction treatment programming were employed 12 months following release, **57.2 percent** had not been reincarcerated, and **61 percent** had no evidence of illegal drug use.¹⁰

In a 6-month follow-up study of Recovery Kentucky:¹²



76 percent employed compared to **46 percent** at intake.

83% → 5%

5 percent reported illegal drug use compared to **83 percent** at intake.

\$2.60

return in avoided costs.

***It should be noted that this program was not limited to individuals with opioid use disorder, and therefore the outcomes reflect treatment of other substance use disorders.

Massachusetts

Summary

Implemented in 2014, the Medication-Assisted Treatment Reentry Initiative (MATRI) is a collaboration between the Massachusetts Department of Corrections and the Massachusetts Department of Public Health's Bureau of Substance Abuse Services. MATRI offers pre-release treatment and post-release follow-up and linkage to treatment for individuals identified as having an alcohol or substance use disorders.

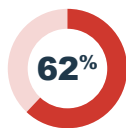
For those with opioid use disorders, the program offers Vivitrol (naltrexone) on release from Department of Corrections (DOC) custody and through 12 months post-release. It also offers a recovery support navigator (RSN) to facilitate continued treatment in the community. Spectrum Health Services, a medical service provider for incarcerated individuals, provides Vivitrol to participants pre-release. On release, participants are directly referred to clinics in the community. These include 13 intake centers and other clinics maintained by Spectrum and at least a dozen other community treatment providers who have partnered with DOC.⁷

MATRI is funded through a combination of Medicaid and partnerships. The RSN and aftercare treatment are provided by Spectrum. A pharmaceutical company provides Vivitrol to DOC for pre-release treatment. Through Medicaid Expansion adopted by Massachusetts, post-release Vivitrol is covered by Medicaid, and the vast majority of incarcerated individuals are Medicaid eligible.¹³ In addition, the Massachusetts DOC received a \$1 million allocation in 2014 to initiate the program and has received an additional \$250,000 each year since to maintain the program.¹⁴

Outcomes



78 percent of those provided Vivitrol prior to release received some form of treatment post-release, as of October 2016.¹⁵



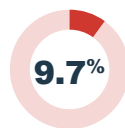
62 percent of those provided Vivitrol prior to release received MAT post-release.¹⁵

\$8,986
per inmate

The net benefit of treatment after the implementation of MATRI and other MAT programs in Massachusetts DOC, according to the Massachusetts Results First Initiative.¹⁶

\$1 → \$6.27

There was a \$6.27 return for every dollar invested.¹⁶



reduction in crime as a result of the programs.¹⁶

Setting Prison (on exit); Reentry

Principles

- Warm hand-off to continued service post-release
- Community partnerships

Medications Used

- Extended-Release Naltrexone (Vivitrol)

Program Model

MATRI programming is available at 14 out of the 16 Massachusetts state prisons.⁷ Initial screening takes place nine months pre-release. Those eligible who are at a facility that does not provide programming are transferred to a participating facility. After screening, eligible inmates attend programming that includes MAT education, one-on-one appointments with substance use counselors, and therapy groups for at least six months.

At six months prior to release, participants are paired with RSNs to develop a personal recovery plan. To evaluate for possible side effects, low doses of oral naltrexone are provided daily starting 10 days pre-release. Vivitrol is provided seven days prior to release and monthly post-release. On release, the RSN works directly with participants to coordinate and manage treatment for up to one year post-release.¹³

Philadelphia, PA†

Setting Jail

- Principles**
- Behavioral treatment available in conjunction with MAT
 - Referral on release

- Medications Used**
- Buprenorphine/Suboxone
 - Extended-Release Naltrexone (Vivitrol)
 - Methadone

Program Model

PDP evaluates every individual in its custody on day two after entry to determine eligibility for a MAT program. All those already induced on Suboxone or methadone by a community treatment provider are maintained on their medication. Those not already on MAT who are identified as suffering from an OUD are offered participation in PDP's Suboxone or Vivitrol programs.

PDP began providing buprenorphine in 2017 to women not already maintained on methadone. About 90 percent of all eligible women opted into the program. Since September 2018, this program was expanded to all PDP facilities including those that house men. About 80 percent of eligible men participate. Earlier this year, the program converted from buprenorphine alone to Suboxone (buprenorphine and naloxone), delivered to participants in person-specific blister packs. Vivitrol has become available only in recent weeks. All providers are trained in its use, and it is now available to all entering PDP's custody. CBT is offered to all participants in conjunction with medication.

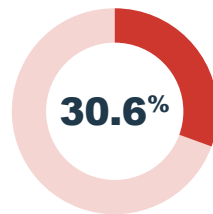
PDP staff meet with all program participants to identify a community "MAT Center of Excellence" with whom to continue treatment following release. A referral is made to the Center selected by the individual for both pre-sentenced and sentenced individuals. All individuals in PDP custody are released with Medicaid coverage effective no later than the date of release. In addition, on release, all individuals treated with Suboxone are given at least one blister pack of medication to continue post-release, providing at least five days of medication, and all those on medical management of OUD are offered a two-dose nasal spray Narcan (naloxone) kit on release. All individuals leaving custody receive the state's standing order prescription for Narcan on release, and all incarcerated individuals are trained regarding overdose risk, the usefulness of Narcan, how to administer Narcan, and how to obtain Narcan.

Summary

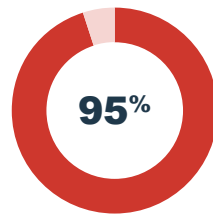
The Philadelphia Department of Prisons (PDP) has been providing MAT in all city jails for over 12 years. Through a partnership with a community treatment provider, PDP has provided methadone maintenance, in conjunction with cognitive behavioral therapy (CBT) behind the wall in all its jails since the 90s; and in recent years, the program has been expanding to address the varying needs of all individuals incarcerated in Philadelphia jails, now offering all forms of MAT.¹⁷

The program now offers methadone maintenance, Suboxone induction and maintenance, and Vivitrol treatment during incarceration; and all medication is accompanied by CBT. On release, PDP provides for continuity of treatment, Medicaid coverage, and Narcan along with Narcan training. PDP expects that of the 25,000 admissions anticipated in 2019, 25 percent will be individuals with opioid use disorder (OUD), and 70 percent will require some sort of SUD treatment.

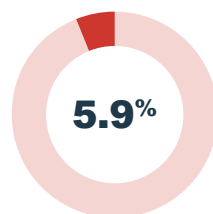
Outcomes



Of those who received buprenorphine through the PDP program between February and December of 2018, **30.6 percent** engaged in some form of treatment (MAT, behavioral, or both) after release. It is important to note that from February to August, PDP was offering buprenorphine only to women, and they were giving prescriptions for at least 5 days of buprenorphine post release. Starting in September, the program opened to men and stopped offering prescriptions on release. As of April 2019, the program transitioned to Suboxone and reinstated the use of medication on release, but data including this new development is not yet available.



Of those receiving methadone maintenance treatment at PDP, **95 percent** return to treatment at their home clinics post-release.



Of the 459 individuals who received treatment during 2018, 27 were reincarcerated after their first release (**5.9 percent**).

[†]Unless otherwise indicated, all data and information on the Philadelphia program was communicated directly by the Philadelphia Department of Prisons.

Middlesex County, MA‡

Summary

In October 2015, Middlesex Sheriff's Office (MSO) implemented the Medication Assisted Treatment and Direct Opioid Recovery (MATADOR) program. The program is voluntary and is offered to all individuals entering MSO custody, approximately 1,000 individuals at any one time, including pre-trial detainees and sentenced individuals serving 30 months or less. The goal of the program is to improve the treatment and criminogenic risk factors of those released from MSO by utilizing three key strategies: MAT prior to and on release, post-release navigation and support, and robust data tracking.¹⁸

Central to the success of MATADOR has been continued partnership with and referral to community treatment providers able to continue treatment post-release.¹⁹ As of April 2018, 50 healthcare providers, 75 support program locations, and four drug courts throughout Massachusetts were willing to accept individuals from MSO and administer continuing Vivitrol injections. MATADOR's program director is a Licensed Practical Nurse who also functions as a navigator. A second navigator works with the Program Director to guide individuals through treatment and communicate with participating community treatment providers. The model of navigation has facilitated more effective retention and treatment outcomes, as well as improved treatment networks.¹⁸

Funding for MATADOR comes from a variety of sources. Much of the funding for programming comes directly from the MSO budget, in conjunction with two grants, one from federal funding sources and one from the state. The initial dose of Vivitrol (naltrexone), administered prior to release is funded by the manufacturer, and the following injections are mostly or entirely funded by Medicaid.¹⁸ Currently, MATADOR offers only Vivitrol (naltrexone), but the program is transitioning to providing all three forms of MAT (including buprenorphine and methadone).

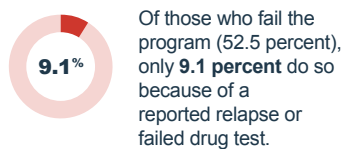
Outcomes



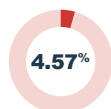
According to a risk assessment tool utilized by MSO, all participants have a re-offense risk higher than Low; and **88.9 percent** are High- to Very High-Risk. Nevertheless, MATADOR participants have only a **14.7 percent** reconviction rate and an **8.7 percent** rate of parole violation.



38.2 percent of participants have completed the program, meaning they have received six Vivitrol injections and/or six months of negative urine tests, compliance with substance use counseling/treatment, and communication with MSO staff; an additional **6.83 percent** are currently active and in compliance with all requirements.



Of those who fail the program (52.5 percent), only **9.1 percent** do so because of a reported relapse or failed drug test.



To date, only **4.57 percent** of participants have a confirmed fatal overdose after participation in the program.

Setting Jail (on release); Reentry

Principles

- Robust navigation and case management
- Data collection and utilization
- Community linkages

Medications Used

- Extended-Release Naltrexone (Vivitrol)

Program Model

All individuals entering MSO receive a comprehensive medical screening, at which time need for SUD treatment is ascertained. As of December 2017, 40 percent of all new intakes had a severe drug or alcohol addiction requiring immediate detox and enrollment; of these, 73 percent involved opioids. Once assessed, individuals presenting with SUDs are placed under medical supervision to address any physical symptoms associated with addiction, and MSO casework staff educate all individuals on available forms of MAT and treatment, including the MATADOR program.

Enrollment in the program is voluntary, and over 70 percent of all participants are self-referred. Interested individuals are educated on program specifics and are screened again to test for medication side effects. MSO staff work with participants to obtain all medical clearances to ensure seamless transitions and continuity of care, and they enroll all participants in Medicaid pre-release. An initial injection of Vivitrol is then administered 48 hours prior to release.

Prior to release, participants are also connected with a navigator to manage care post-release. The navigator follows up with released individuals both to act as a resource and advocate to address treatment and reentry needs, and to serve as a liaison to ensure efficient communication with community treatment providers. Participants are deemed successful after six months of navigation and treatment.¹⁸

[‡]Unless otherwise noted, all outcome data and information on the Middlesex program was communicated directly by the Middlesex Sheriff's Office.

Reference List

- ¹ State of New Jersey Department of Corrections. (2017). *Taking a look back on 2016: 2016 annual report*. Trenton, NJ: Author.
- ² Gray, M. (2018). You haven't seen this before.'A new place to attack the opioid crisis. Retrieved from https://www.nj.com/news/2018/05/you_havent_seen_this_before_first_rehab_prison_giv.html.
- ³ Gateway Foundation. (2018). Gateway expands national reach by opening new treatment center in New Jersey. Retrieved from <http://gatewaycorrections.org/about/news/Gateway-Opens-New-Jersey-Treatment-Center/>.
- ⁴ Elnahal, S. (2018). DOH, DOC commissioners tout medication-assisted treatment for inmates: Tour, roundtable feature participants in Atlantic County Jail program. Retrieved from <https://nj.gov/health/news/2018/approved/20180806a.shtml>.
- ⁵ Green, T. C., Clarke, J., Brinkley-Rubinstein, L., Marshall, B. D., Alexander-Scott, N., Boss, R. et al. (2018). Postincarceration fatal overdoses after implementing medications for addiction treatment in a statewide correctional system. *JAMA Psychiatry*, 75, 405-407. doi: 10.1001/jamapsychiatry.2017.4614
- ⁶ Vestal, C. (2018). New momentum for addiction treatment behind bars. Retrieved from <https://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2018/04/04/new-momentum-for-addiction-treatment-behind-bars>.
- ⁷ Beckman, N., Bliska, H., & Schaeffer, E. J. (2018). *Medication-Assisted Treatment programs in Vermont state correctional facilities: Evaluating H.468 through a state by state comparison*. (Rep. No. PRS Policy Brief 1718-03). Hanover, NH: Dartmouth College. Available from https://rockefeller.dartmouth.edu/sites/rockefeller.drupalmulti-prod.dartmouth.edu/files/matpfinal_022018b.pdf.
- ⁸ State of Rhode Island Department of Corrections. Substance abuse treatment services. Retrieved on February 22, 2019 from http://www.doc.ri.gov/rehabilitative/health/behavioral_substance.php.
- ⁹ CODAC Behavioral Healthcare. About. Retrieved on February 22, 2019 from <https://codacinc.org/about-2/>.
- ¹⁰ Staton, M., Dickson, M., & McNees Winston, E. (2019). *Criminal justice Kentucky treatment outcome study FY 2017*. Lexington, KY: University of Kentucky. Available from http://cdar.uky.edu/cjktos/Downloads/CJKTOS_FY2017_Report_Final.pdf.
- ¹¹ Kentucky Housing Corporation. (2019). Specialized housing: Recovery Kentucky. Retrieved from <http://www.kyhousing.org/Specialized-Housing/Pages/Recovery-Kentucky.aspx>.
- ¹² Logan, T., Miller, J., Cole, J., and Scrivner, A. (2018). Findings from the recovery center outcome study annual report. Retrieved from <http://www.kyhousing.org/Specialized-Housing/Documents/2018%20Annual%20RCOS%20report.pdf>.
- ¹³ Residential Substance Abuse Treatment (RSAT) Training and Technical Assistance. (2019). *Prison/Jail medication-assisted treatment manual*. Washington, DC: Bureau of Justice Assistance. Available from http://www.rsat-tta.com/Files/RSAT_Prison_Med_Treat_FINAL.pdf.
- ¹⁴ National Governors Association. (2017). *Key takeaways: Massachusetts: Medication assisted treatment reentry initiative (MATRI)*. Washington, DC: Author.
- ¹⁵ Massachusetts Department of Health. (2017). *Massachusetts state health assessment*. Boston, MA: Massachusetts Department of Health. Available from <https://www.mass.gov/files/documents/2017/11/03/2017%20MA%20SHA%20final%20compressed.pdf>.

- ¹⁶ Pelletier, K. (2016). Substance abuse treatment and corrections: An investment in public safety. Retrieved from <https://www.mass.gov/files/documents/2016/08/ru/specialty-courts-doc-presentation.pdf? ga=2.21553970.840659031.1562611705-727882718.1562611705>.
- ¹⁷ Bond, C. H. (2019). Need to address: City jails combat influx of drugs on the inside, recidivism with MAT program. Retrieved from http://www.philadelphiaweekly.com/news/need-to-address-city-jails-combat-influx-of-drugs-on/article_ad2953ea-6dc9-11e9-9dde-cbe1733454b6.html.
- ¹⁸ Koutoujian, P. J. (2018). *The Matador Program: Utilizing incarceration to tackle addiction and save lives: Implementing medication assisted treatment programs in jails*. Middlesex County, MA: Middlesex Sheriff's Office.
- ¹⁹ National Sheriffs' Association & National Commission on Correctional Health Care. (2018). *Jail-based medication-assisted treatment: Promising practices, guidelines, and resources for the field*. Available from <https://www.ncchc.org/filebin/Resources/Jail-Based-MAT-PPG-web.pdf>.



Addressing Challenges to Implementing Evidence-Based Practices and Programs in Criminal Justice Settings

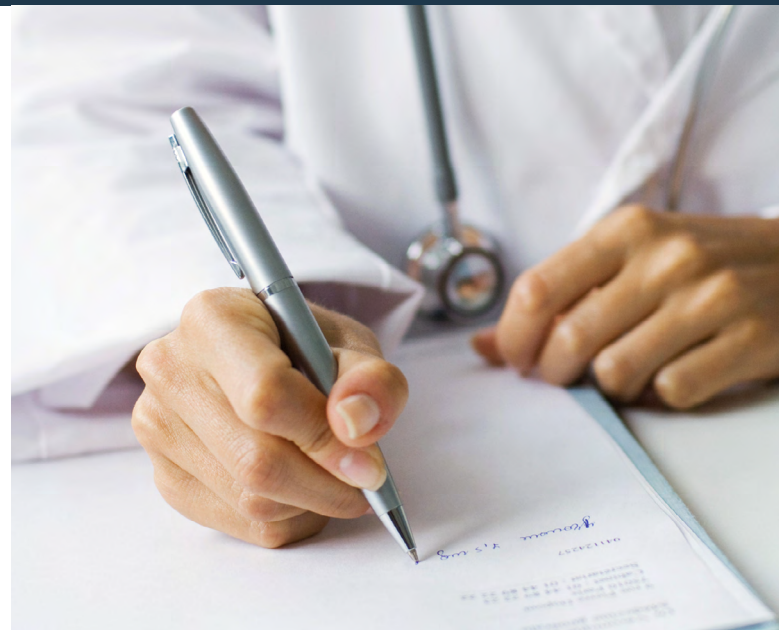
Introduction

As reviewed in earlier sections of this guide, dozens of studies, including randomized controlled trials, have proven that medication-assisted treatment (MAT):

- Enhances **treatment engagement** during and after discharge from custody
- Decreases **relapse rates**
- Is associated with reduced **criminal recidivism**
- Is associated with lower **overdose deaths and health risk behaviors**

However, only about one-third to one-half of staff members in state correctional institutions, community corrections agencies, drug courts, substance use treatment programs, and physician practices are aware of the health benefits of the medications used in MAT.¹⁻⁹

The dominant approach to opioid use disorders (OUDs) in jails and prisons involves short-term detoxification and requires inmates to be tapered off proven medications within certain time limits.^{6,10} When buprenorphine or methadone are permitted for medical situations requiring immediate action, such as for the treatment of pregnant women, discontinuation of the regimen is normally required once the qualifying condition has ended, such as after childbirth.



With current approaches to opioid use disorders in jails and prisons...

Relapse rates

EXCEED

75%

after release from custody.^{11, 12}



Re-arrest rates

ARE NEARLY

50%

in the first year.¹³



Overdose death rates are

10-40

TIMES HIGHER

for previously incarcerated individuals than for the general population.¹⁴⁻¹⁷



While correctional institutions can face several challenges when trying to implement MAT, addressing these challenges is key to achieving improved outcomes for people currently and previously involved with the criminal justice system.

Challenges to Implementing Medication-Assisted Treatment in Criminal Justice Settings



Challenge

Overcoming Stigma and Disapproval

Actions

- Avoid stigmatizing language, such as “substance abuse,” “addict,” or “relapse”
- Educate staff about the disease model of addiction and benefits of MAT
- Describe disorders that often co-occur with or exacerbate substance use disorders
- Explain common peer and environmental influences on initiation of substance use
- Describe low success rates and high overdose rates without MAT

Persons suffering from OUD face stigma and disapproval of MAT from criminal justice professionals and others in their social networks. A national survey found that most members of the public held negative views towards persons with substance use disorders and were skeptical about the effectiveness of substance use disorder treatment.¹⁸

In a 2019 study, more than half (58 percent) of drug court participants with OUDs experienced or observed negative judgmental reactions toward methadone and buprenorphine from family members and peers in self-help recovery groups.¹⁹ A recent report from Narcotics Anonymous (NA) World Services confirmed that some NA meetings unduly limit participation of individuals receiving MAT or may be less welcoming of such individuals.²⁰

Negative judgments come in a variety of forms, such as minimizing an individual’s recovery because he or she is receiving MAT or wrongly predicting that use of MAT will eventually lead the person back to illicit opioid use. These reactions are not merely hurtful, but can interfere

substantially with participants’ confidence in their ability to meet treatment goals.²¹

Several practices have shown promise for reducing negative attributions towards persons with OUDs and increasing endorsement of evidence-based treatments including MAT.^{22, 23}

- **Using terms associated with greater empathy** and optimism, such as recovery or recurrence of use²⁴
- **Describing persons’ previously unsuccessful efforts** to quit using drugs without the benefit of proven medications and disheartened reactions to those failed efforts
- **Describing practical misuse prevention efforts** that can be taken with prescription medications, such as observed medication ingestion
- Referring participants to self-help recovery groups that are supportive of MAT or **preparing them to deal with negative reactions** they may experience in the groups²⁵⁻²⁸
- **Educating professionals and laypersons** about the disease model of addiction, including genetic influences, neurochemical changes in the brain, and the positive effects of MAT
- **Describing common environmental influences** on initiation of substance use, such as trauma, peer pressures, and poor prescription practices
- **Describing medical and psychiatric disorders** that often co-occur with and exacerbate substance use, such as chronic pain, depression, anxiety, and PTSD



Challenge Addressing Threats to Safety and Security

Actions

- Provide training to staff
- Securely store medications
- Verify medication ingestion
- Conduct pill counts
- Use abuse-deterrence formulations

There are several safety and security concerns that accompany the implementation of MAT in jails and prisons. Diversion and misuse of MAT medications are chief among those concerns. Nearly two thirds of jails and prisons report instances of nonprescribed use of buprenorphine, and approximately 20 percent report “cheeking” or other unauthorized concealment of prescribed buprenorphine.^{29, 30}

To address these concerns, correctional medical staff must be educated and trained on how to properly and securely store and administer medications.³¹ MAT medications should be stored in secured areas with locked cabinets and refrigerators.³¹ The actual setting of medication administration may differ depending on the size of the facility, individuals’ custody levels and housing locations.³² Institutions must determine which procedures work best.

Common procedures for medication administration in correctional settings include:^{32, 33}

- **Scheduled pill call lines** within housing units
- **Dispersal windows** (required by the DEA for dispensing methadone)
- Administration of medications in a **centralized location** such as a medical clinic or infirmary

- **Individual inmate release** from their cells to a nearby nurse’s medication cart
- **Cell to cell administration** of medications for high risk inmates
- **Specialized units** for persons receiving MAT or substance use treatment

Arrangements such as pill call lines or dispersal windows can call attention to individuals receiving MAT and contribute to stigma or pressure from others to divert the medication for unauthorized purposes. Individual administration or special units help to avoid these problems but require more staff time and resources.

When administering medications, staff should closely supervise individuals to decrease the possibility of diversion or misuse.³⁴ Dispensing medication in the form of a soluble film or liquid makes it considerably more difficult to avoid ingestion. Requiring persons to consume juice, crackers, or water after ingestion helps to avoid “cheeking,” and inspecting under the person’s tongue and around the gums are methods for ensuring full ingestion.³² Dual mouth-checks by both medical and correctional staff reduce inadvertent lapses of attention that can cause staff to miss non-ingested medications.³⁵ Random pill counts and urine screening to ensure medication is being taken are also methods used to monitor diversion.

All jail and prison staff, not just those dispensing medications, should receive in-service trainings on MAT, including an overview of the institution’s MAT policies and procedures, basic information about what MAT is and its benefits, potential side-effects of the medications warranting clinical attention, and signs of medication diversion.³⁵

For individuals who refuse or miss a dose, staff must fill out documentation accounting for the missed dose and return it to secure storage.^{32,33} If possible, staff should get the individual's signature confirming the medication was not taken. Staff must ensure medications are used before expiration. Both injectable buprenorphine and naltrexone require refrigeration and, once allowed to warm to room temperature, must be used within 7 days.³¹

For institutions interested in or already using buprenorphine or naltrexone, there are abuse-deterrence formulations of these medications.^{34,36} Suboxone, a combination of buprenorphine with naloxone that is taken sublingually, causes symptoms of withdrawal when injected. Vivitrol, a long-lasting formulation of naltrexone, or Sublocade, an extended-release injection of buprenorphine, eliminates the need for daily dosing.

Employing a combination of these methods and procedures can help address safety and security concerns.



Challenge Advancing Staff Knowledge and Skills

Actions

- Provide ongoing staff training
- Develop working groups comprised of corrections staff and community providers
- Institute ongoing peer supervision
- Establish peer mentoring
- Appoint change agents

Training correctional staff on the proven benefits of MAT and addressing prevalent misconceptions about the medications is a necessary first step in changing attitudes and practices. In-person and online training curricula have been demonstrated to enhance knowledge of, attitudes towards, and willingness to adopt MAT among criminal justice and non-criminal justice professionals.^{2, 37-40}

However, online training alone is not enough to sustain this change because the effects have been found to degrade within one month and increases in knowledge do not necessarily translate into actual referrals to MAT.³⁷

To encourage adoption and long-term support for MAT, training and other staff engagement initiatives must provide ongoing opportunities for staff to build skills, recall information, share knowledge, and deepen understanding. A randomized controlled trial conducted in 20 community corrections agencies found that combining training on MAT with an organizational linkage intervention significantly enhanced staff referrals to MAT.⁶

The three-hour training taught correctional staff about the neurobiological basis of OUDs, the effects of agonist and antagonist medications in treating the illness, compatibility of MAT with behavioral counseling, and available MAT resources in the local community. In addition, representatives from the corrections agencies and local MAT providers met regularly for 12 months to discuss mutual concerns and resolve barriers to MAT service referrals and provision. Although training alone was adequate to enhance knowledge of and attitudes towards MAT, only the combined intervention significantly improved current and future MAT referral intentions.⁶

A study conducted in 54 state correctional facilities found that training staff on the benefits of naloxone for reducing overdose mortality improved knowledge and attitudes about overdose reversal; however, knowledge acquisition did not necessarily translate into changes in practice.⁷ Equipping staff with naloxone reversal kits, teaching them to assemble the applicators, and providing videotaped booster trainings improved staff members' confidence in their ability to intervene successfully in an overdose emergency and led to increased uptake of naloxone reversal kits by correctional officers and inmates.⁷

Additionally, other studies have reported increased adoption of evidence-based practices including MAT in community corrections agencies and drug courts when programs offered peer supervision or mentoring to help staff maintain and update knowledge and skills and appointed change agents (“champions”) within the program to advocate for continued managerial and administrative support for the services.^{41, 42}

Many states fund MAT for programs serving correctional populations out of state block grants or direct appropriations. In addition, more than 1,200 FQHCs located in inner-city and rural areas offer buprenorphine at discounted fees for uninsured and low-income individuals.³¹ Some jails, prisons, and community corrections agencies have also been able to negotiate reduced-price medications directly from pharmaceutical companies.

The 340B Drug Discount Program is a federal government program requiring drug manufacturers participating in Medicaid to provide outpatient medications to eligible health care organizations and other covered entities at significantly reduced prices. Covered entities serve highly vulnerable populations, including hospitals treating a disproportionate share of poor and uninsured patients, sole community hospitals, and rural referral centers, many of which treat justice-involved individuals. Covered entities may be required to provide discounted medications to uninsured patients and those covered by Medicare, Medicaid or private insurance.

By far, the most common reimbursement for MAT comes from Medicaid, covering nearly 40 percent of all nonelderly persons with OUDs in 2017.⁴³ With a few limited exceptions, persons in jails or prisons are not eligible for Medicaid or most types of insurance while incarcerated. However, legislative changes implemented in the Affordable Care Act have greatly expanded coverage for MAT and related services during community reentry.

As of midyear 2018, people with incomes below 138 percent of the federal poverty level are Medicaid-eligible in at least 33 states and the District of Columbia, and many are eligible for insurance subsidies in non-expansion states as well. Medicaid coverage is available for persons on probation or parole, under home confinement, and in community-based correctional residential programs (e.g., halfway houses) so long as they are free to leave the facility during work or other specified hours.⁴⁴



Challenge Covering the Cost of MAT

Actions

- Seek discounted MAT rates through state block grants or appropriations, Federally Qualified Health Centers (FQHCs), and subsidized medication programs
- States temporarily suspend or reclassify Medicaid coverage during incarceration rather than terminate Medicaid eligibility
- Employ benefits assistants to screen incarcerated persons for coverage eligibility, help them enroll, and encourage engagement in covered services
- Develop automated data exchanges to alert Medicaid and community providers about upcoming discharges of eligible or enrolled participants and share relevant information
- Have case management staff meet with incarcerated persons while in custody to coordinate post-release healthcare and social services
- Use peer support specialists with relevant lived experience to support reentry and engagement in treatment post-release
- Address social determinants of health that can interfere with MAT outcomes via health homes and other supportive social services
- Allow community treatment providers to bill public or private insurers for in-reach services delivered in preparation for discharge from custody

All state Medicaid programs cover at least one medication used to treat OUDs and many states cover all three FDA-approved medications. As of February 2018, 36 states and territories covered methadone, 51 covered buprenorphine, 49 covered naltrexone, and more than half increased coverage for naloxone to reverse opioid overdose.^{45, 46}

States also have discretion under Medicaid to cover “rehabilitative” services broadly defined to include peer support specialists, supportive housing and supported employment services such as job coaching. As of April 2019, 28 states sought or received Medicaid waivers to provide substance use treatment to include MAT, counseling and community support services.⁴³

Health homes have been established to address the complex service needs presented by persons with serious mental health disorders or two or more other chronic health conditions including substance use disorders. Innovative models of healthcare delivery can help tailor treatment to the needs of formerly incarcerated individuals. For example, at least 11 states and Puerto Rico have established interdisciplinary care support teams (“Transitions Clinic Networks”) to coordinate post-release healthcare and social services for justice-involved persons.

Barriers nevertheless persist in gaining meaningful access to Medicaid and other reimbursement coverage. Managed care entities may impose burdensome prior authorization conditions, require certain medications to be used as the front-line regimen, or place restrictions on the dose, quantity or duration of MAT.^{47, 48}

Some states have been approved to impose work requirements on Medicaid coverage, cancel coverage for timely failure to renew plans or report changes affecting eligibility, charge premiums of up to 5 percent of family income, place restrictions on non-emergency transportation for treatment, and impose fees for missed appointments.^{49, 50}

Navigating these complex coverage requirements can be prohibitively difficult for persons in the criminal justice system. Fortunately, several strategies have proven successful in creating better linkages to healthcare coverage for MAT and enhancing access to needed services.^{44, 51} Suspending or reclassifying Medicaid coverage, rather than terminating coverage, reduces unnecessary burdens on reinstatement. States also have discretion under Medicaid to cover benefits assistants to help identify and enroll eligible persons in Medicaid while they are incarcerated and case management services to help beneficiaries identify, apply for, and enroll in treatment and social support programs after release to the community.

States may cover peer support specialists with lived experience related to substance use disorders and justice system involvement to help individuals navigate the health care system and make it to scheduled appointments. Finally, some states are experimenting with ways for community treatment agencies to bill for in-reach therapeutic services delivered in preparation for discharge from custody.⁴⁸

The Affordable Care Act also provides the following funding for data exchanges to improve information sharing and coordination of efforts between Medicaid, prisons or jails, and community treatment providers:

- **Up to 90 percent cost-matching** to help states build and promote the exchanges
- **75 percent cost-matching for ongoing maintenance** and operation of the exchanges
- **Incentive payments** for health providers to use electronic records



Challenge Establishing Institutional MAT Providers

Actions

- Obtain required institutional licensing
- Obtain required staff certification
- Partner with community-based providers
- Garner the individual's buy-in for transitioning medications where indicated

Not all jails or prisons have ready access to MAT providers. Methadone can only be administered by a state and DEA-licensed opioid treatment program (OTP), and buprenorphine may only be administered by trained and waived medical practitioners. If a jail or prison has not obtained licensing or does not have staff with the proper credentials, it will be required to partner with a community-based OTP or medical providers.

Several online directories included in the next chapter of this guide provide information on physicians and treatment agencies specializing in addiction medicine or addiction psychiatry. Most of these websites can be queried by city, state, or zip code to identify medical practitioners in a nearby community. In addition, single-state agencies for substance use disorder treatment usually maintain lists of credentialed providers, including those authorized to provide office-based treatment with buprenorphine. Colleges, universities, and medical schools are also excellent resources for locating substance use disorder specialists. Finally, state or county boards of health can identify medical practitioners offering substance use disorder treatment in their area.

Methadone Providers

Qualified medical or nursing staff from community OTPs may go to the correctional facility to dispense methadone daily under the supervision or observation of jail or prison authorities.³¹ Methadone may also be dispensed by jail or prison pharmacy staff for up to three days for purposes of ensuring treatment continuity. This permits methadone to be provided, for example, when a community OTP is closed on weekends or an individual is serving a brief weekend jail sanction.

Buprenorphine Providers

Buprenorphine may be prescribed outside of a licensed OTP by a physician who has completed an 8-hour training and obtained a waiver pursuant to the Drug Addiction Treatment Act of 2000 (DATA-2000) or by a nurse practitioner or physician assistant who has completed 24 hours of approved training and who have obtained a waiver. Having jail or prison medical staff obtain buprenorphine waivers is far simpler and less costly than becoming licensed as an OTP.

For institutions that are unable to partner with community OTPs, evidence suggests inmates can be transitioned successfully from methadone to buprenorphine under the supervision of trained medical personnel.^{10, 31} Substantial familiarity with this procedure is required to ensure it is accomplished safely and effectively. Medical practice guidelines require strict procedures for tapering the methadone dose before introducing buprenorphine at specified increments to avoid inducing withdrawal.

If methadone is reasonably available, however, substituting buprenorphine should be based on medical judgment and not required as a matter of policy. The effectiveness of MAT is reduced significantly when programs override an individual's wishes and change a medication regimen that has been effective.⁵²

Naltrexone Providers

Naltrexone, including the extended-release formulation, does not require a special license to prescribe and can be readily available in most jails and prisons. For this reason, some institutions may require inmates to transition from methadone or buprenorphine to naltrexone. Such policies are not recommended.

Transitioning from methadone or buprenorphine to naltrexone requires clinical training and expertise. Individuals must be fully and comfortably medically withdrawn from all opioid medications prior to introducing naltrexone to avoid causing a severe and potentially hazardous withdrawal. And, as already noted, changing regimens without the person's buy-in undermines the effectiveness of MAT.





Challenge Building Partnerships to Facilitate Linkage to Community-Based Treatment

Actions

- Partner with existing community providers
- Ensure partner providers are comfortable and skilled in working with justice-involved persons
- Build a network of existing resources and services for justice-involved persons

Many jails and prisons need to collaborate with community providers to deliver MAT and other services in the institution and after release. The factor that best distinguishes effective from ineffective prison and jail-based MAT programs is whether participants experienced a smooth transition to follow-up care after release to the community.^{53, 54}

Significant reductions in opioid overdose and mortality have only been observed when MAT was initiated in custody and continued for at least 4 consecutive weeks after release.^{55, 56} Significant improvements in criminal recidivism and employment are typically achieved when post-release supervision and counseling are delivered for at least 8 hours per week over 6 months.^{57, 58}

Providing post-release MAT is complicated by the fact that over 80 percent of OTPs in the United States are at or above capacity, most are situated in urban or high-population density areas, and strict requirements for provision of psychosocial services often lead to long wait lists for treatment.^{47, 59}

Office-based treatment with buprenorphine is intended to reach larger numbers of persons in need. After completing an eight-hour training and receiving a DATA-2000 waiver, specialist physicians (e.g., those board-certified in addiction medicine or psychiatry) may treat up to 100 individuals in the first year and 275 individuals thereafter. Waivered physician assistants and nurse practitioners can treat up to 100 individuals. Still, few eligible practitioners (less than five percent) are waivered to prescribe buprenorphine in rural communities, where the opioid epidemic tends to be most severe.⁴⁷ Sustained outreach is needed to enlist more providers to obtain DATA-2000 waivers and serve populations in need. Naltrexone does not require special training or certification to administer; therefore, enlisting naltrexone providers should be relatively easier to accomplish.

Criminal justice professionals are advised to reach out to state and local medical societies, hospitals, community health centers and physician practices to educate medical professionals in their community about the need for their services and develop collaborative working relationships.

Enlisting providers is the first step; however, ongoing collaboration and interdisciplinary training is essential to ensure they are comfortable working with criminal justice populations, remain abreast of best practices relating to MAT, and share information effectively with criminal justice professionals. Several states, including Vermont and Rhode Island, developed “hub-and-spoke” models to serve criminal justice and non-criminal justice populations.¹⁰ The hubs are specialized treatment centers with expertise in MAT and other substance use treatment services located strategically in different geographic regions of the state. The spokes are interdisciplinary teams comprised of a care coordinator, counselor, and physician, situated within local communities.

The spoke teams maintain active data-exchanges with the hubs concerning patient care and participate in learning collaboratives on topics related to MAT and treatment of justice-involved persons. Initial treatment planning and stabilization typically occur at a hub, and participants may then be transferred to a local spoke team for continuing care and medication maintenance. In the event of relapse or health-related emergency, individuals are ordinarily referred back to the hub program instead of being re-incarcerated or discharged from treatment.

This model links existing programs into learning and practice collaboratives and does not require a major influx of new resources. Practice settings for the hubs are typically university-affiliated medical centers or tertiary care hospitals, and spokes include primary care centers, federally qualified health centers, and solo practices.

Early results from the hub and spoke models are promising. Reported benefits include:^{60, 61}

- Significant **reductions in wait lists, appointment delays, and overdose deaths** among formerly incarcerated individuals
- Larger numbers of **physicians obtaining DATA-2000 buprenorphine waivers**
- **Timely bi-directional transfer** of patient information and referrals between the hub and spoke programs and criminal justice agencies

Spoke teams should include community corrections officers working collaboratively with treatment professionals to coordinate services. Outcomes in reentry are significantly better when supervision officers carefully monitor participant progress, use motivational enhancement techniques to increase compliance with treatment, reward achievement of treatment goals, and administer gradually escalating consequences, short of reincarceration, for treatment attrition or other infractions.^{57, 58, 62, 63}



Challenge Addressing Psychosocial Needs of Transitioning Individuals

Actions

- Enroll transitioning individuals in wraparound services
- Begin transition planning prior to release to ensure continuation of MAT
- Help transitioning individuals identify barriers to and resources for community reintegration
- Refer transitioning individuals to community providers and support groups

There are several challenges associated with transitioning back into the community and continuing MAT, including lack of transportation, housing instability, need of employment, and lack of social support.¹¹

Individuals transitioning from jail or prison to community settings are challenged to assume greater personal responsibility for their treatment and recovery. These individuals are transitioning from making treatment decisions in controlled settings to making those decisions in the context of less controlled conditions. For example, exposure to drug use in transitional housing arrangements can contribute to relapse, or stressful social situations, such as strained relationships with family, can contribute to feelings of hopelessness and isolation.¹¹ To help this transition, offer enrollment in wraparound services. Provide referrals to treatment providers and assistance with transportation to those providers prior to release. Identify local support groups as a resource for positive social support for individuals returning to the community. Helping incarcerated individuals identify and anticipate barriers to community reintegration, as well as the resources to address them, supports successful reentry.⁶²



Challenge Engaging Individuals in MAT Services

Actions

- Identify MAT-eligible individuals
- Educate eligible individuals about medications and overdose risk
- Educate eligible individuals about naloxone

Screening is an essential first step for identifying individuals who are eligible for MAT services and for establishing a clear baseline for treatment services.

For many reasons, not all eligible individuals will be motivated to engage in MAT. Engaging individuals to help them understand all aspects of the treatment and to dispel myths and misinformation is key. MAT education must include information on the medications used, the risk of overdose, and the use of naloxone for overdose prevention.^{22, 23}

Motivational interviewing techniques can be used to improve MAT engagement, help individuals become more hopeful about their recovery, and strengthen their ability to change drug-using behaviors and make needed life changes.^{64, 65}

Conclusion

Correctional institutions face attitudinal, financial, and resource challenges to implementing MAT, but these challenges can be overcome to change the standard of care in correctional institutions. Different policies, procedures, and practice models exist that improve the feasibility of implementing MAT for OUDs in criminal justice settings.



Reference List

- ¹ Nunn, A., Zaller, N., Dickman, S., Trimbur, C., Nijhawan, A., & Rich, J. D. (2009). Methadone and buprenorphine prescribing and referral practices in US prison systems: Results from a nationwide survey. *Drug and Alcohol Dependence, 105*, 83-88.
- ² Knudsen, H. K., Ducharme, L. J., Roman, P. M., & Link, T. (2005). Buprenorphine diffusion: The attitudes of substance abuse treatment counselors. *Journal of Substance Abuse Treatment, 29*, 95-106.
- ³ Matusow, H., Dickman, S. L., Rich, J. D., Fong, C., Dumont, D. M., Hardin, C. et al. (2013). Medication assisted treatment in US drug courts: Results from a nationwide survey of availability, barriers and attitudes. *Journal of Substance Abuse Treatment, 44*, 473-480.
- ⁴ Fitzgerald, J. & McCarty, D. (2009). Understanding attitudes toward use of medication in substance abuse treatment: A multilevel approach. *Psychological Services, 6*, 74-84.
- ⁵ Thomas, C. P., Wallack, S. S., Lee, S., McCarty, D., & Swift, R. (2003). Research to practice: adoption of naltrexone in alcoholism treatment. *Journal of Substance Abuse Treatment, 24*, 1-11.
- ⁶ Friedmann, P. D., Wilson, D., Knudsen, H. K., Ducharme, L. J., Welsh, W. N., Frisman, L. et al. (2015). Effect of an organizational linkage intervention on staff perceptions of medication-assisted treatment and referral intentions in community corrections. *Journal of Substance Abuse Treatment, 50*, 50-58. doi: 10.1016/j.jsat.2014.10.001
- ⁷ Anthony-North, V., Pope, L. G., Pottinger, S., & Sederbaum, I. (2018). *Corrections-based responses to the opioid epidemic: Lessons from New York State's overdose education and naloxone distribution program*. New York, NY: Vera Institute of Justice. Available from <https://www.vera.org/publications/corrections-responses-to-opioid-epidemic-new-york-state>.
- ⁸ Mitchell, S. G., Willet, J., Monico, L. B., James, A., Rudes, D. S., Viglione, J. et al. (2016). Community correctional agents' views of medication-assisted treatment: Examining their influence on treatment referrals and community supervision practices. *Substance Abuse, 37*, 127-133. doi: 10.1080/08897077.2015.1129389
- ⁹ Reichert, J. & Gleicher, L. (2019). Probation clients' barriers to access and use of opioid use disorder medications. *Health & Justice, 7*, 10. doi: 10.1186/s40352-019-0089-6
- ¹⁰ The New Jersey Reentry Corporation. (2018). *Reentry: New Jersey opioid addiction report: A modern plague*. Jersey City, NJ: Author. Available from https://www.njreentry.org/application/files/4815/5924/0678/Published_9_24.pdf.
- ¹¹ Fox, A. D., Maradiaga, J., Weiss, L., Sanchez, J., Starrels, J. L., & Cunningham, C. O. (2015). Release from incarceration, relapse to opioid use and the potential for buprenorphine maintenance treatment: A qualitative study of the perceptions of former inmates with opioid use disorder. *Addiction Science & Clinical Practice, 10*, 2. doi: 10.1186/s13722-014-0023-0
- ¹² Winter, R. J., Young, J. T., Stoové, M., Agius, P. A., Ellard, M. E., & Kinner, S. A. (2016). Resumption of injecting drug use following release from prison in Australia. *Drug and Alcohol Dependence, 168*, 104-111.
- ¹³ Soares III, W. E., Wilson, D., Gordon, M. S., Lee, J. D., Nunes, E. V., O'Brien, C. P. et al. (2019). Incidence of future arrests in adults involved in the criminal justice system with opioid use disorder receiving extended release naltrexone compared to treatment as usual. *Drug and Alcohol Dependence, 194*, 482-486.
- ¹⁴ Binswanger, I. A., Blatchford, P. J., Mueller, S. R., & Stern, M. F. (2013). Mortality after prison release: Opioid overdose and other causes of death, risk factors, and time trends from 1999 to 2009. *Annals of Internal Medicine, 159*, 592-600.

- ¹⁵ Ranapurwala, S. I., Shanahan, M. E., Alexandridis, A. A., Proescholdbell, S. K., Naumann, R. B., Edwards, D. et al. (2018). Opioid overdose mortality among former North Carolina inmates: 2000-2015. *American Journal of Public Health, 108*, 1207-1213. doi: 10.2105/AJPH.2018.304514
- ¹⁶ Merrall, E. L., Kariminia, A., Binswanger, I. A., Hobbs, M. S., Farrell, M., Marsden, J. et al. (2010). Meta-analysis of drug-related deaths soon after release from prison. *Addiction, 105*, 1545-1554.
- ¹⁷ Krinsky, C. S., Lathrop, S. L., Brown, P., & Nolte, K. B. (2009). Drugs, detention, and death: A study of the mortality of recently released prisoners. *The American Journal of Forensic Medicine and Pathology, 30*, 6-9.
- ¹⁸ Barry, C. L., McGinty, E. E., Pescosolido, B. A., & Goldman, H. H. (2014). Stigma, discrimination, treatment effectiveness, and policy: Public views about drug addiction and mental illness. *Psychiatric Services, 65*, 1269-1272.
- ¹⁹ Gallagher, J. R., Marlowe, D. B., & Minasian, R. M. Participant perspectives on medication-assisted treatment for opioid use disorders in drug court. *Journal for Advancing Justice*, (in press).
- ²⁰ Narcotics Anonymous World Services, Inc. (2016). *Narcotics Anonymous and persons receiving medication-assisted treatment*. Chatsworth, CA: Narcotics Anonymous World Services, Inc. Available from https://www.na.org/admin/include/spaw2/uploads/pdf/pr/2306_NA_PRMAT_1021.pdf.
- ²¹ Sattler, S., Escande, A., Racine, E., & Göritz, A. S. (2017). Public stigma toward people with drug addiction: A factorial survey. *Journal of Studies on Alcohol and Drugs, 78*, 415-425.
- ²² Woods, J. S. & Joseph, H. (2015). Stigma from the viewpoint of the patient. *Journal of Addictive Diseases, 34*, 238-247. doi: 10.1080/10550887.2015.1059714
- ²³ Woods, J. S. & Joseph, H. (2012). Reducing stigma through education to enhance medication-assisted recovery. *Journal of Addictive Diseases, 31*, 226-235. doi: 10.1080/10550887.2012.694599
- ²⁴ Ashford, R. D., Brown, A. M., & Curtis, B. (2018). Substance use, recovery, and linguistics: The impact of word choice on explicit and implicit bias. *Drug and Alcohol Dependence, 189*, 131-138.
- ²⁵ White, W. L., Campbell, M. D., Shea, C., Hoffman, H. A., Crissman, B., & DuPont, R. L. (2013). Coparticipation in 12-Step mutual aid groups and methadone maintenance treatment: A survey of 322 patients. *Journal of Groups in Addiction & Recovery, 8*, 294-308. doi: 10.1080/1556035X.2013.836872
- ²⁶ Galanter, M. (2018). Combining medically assisted treatment and Twelve-Step programming: A perspective and review. *The American Journal of Drug and Alcohol Abuse, 44*, 151-159. doi: 10.1080/00952990.2017.1306747
- ²⁷ Krawczyk, N., Negron, T., Nieto, M., Agus, D., & Fingerhood, M. I. (2018). Overcoming medication stigma in peer recovery: A new paradigm. *Substance Abuse, 39*, 404-409. doi: 10.1080/08897077.2018.1439798
- ²⁸ Suzuki, J. & Dodds, T. (2016). Clinician recommendation of 12-step meeting attendance and discussion regarding disclosure of buprenorphine use among patients in office-based opioid treatment. *Substance Abuse, 37*, 31-34. doi: 10.1080/08897077.2015.1132292
- ²⁹ Bi-Mohammed, Z., Wright, N. M., Hearty, P., King, N., & Gavin, H. (2017). Prescription opioid abuse in prison settings: A systematic review of prevalence, practice and treatment responses. *Drug and Alcohol Dependence, 171*, 122-131.

- ³⁰ Lofwall, M. R. & Walsh, S. L. (2014). A review of buprenorphine diversion and misuse: The current evidence base and experiences from around the world. *Journal of Addiction Medicine*, 8, 315-326.
- ³¹ National Sheriffs' Association & National Commission on Correctional Health Care. (2018). *Jail-based medication-assisted treatment: Promising practices, guidelines, and resources for the field*. Available from <https://www.ncchc.org/filebin/Resources/Jail-Based-MAT-PPG-web.pdf>.
- ³² American Academy of Psychiatry and the Law. (2018). AAPL practice resource for prescribing in corrections. *Journal of the American Academy of Psychiatry and the Law*, 46[2 Suppl], S2-S50.
- ³³ Butler, B. (2018). *Prescribing and dispensing medications within correctional environments: The role of health information technology*. Oakland, CA: Community Oriented Correctional Health Services.
- ³⁴ Wright, N., D'Agnone, O., Krajci, P., Littlewood, R., Alho, H., Reimer, J. et al. (2016). Addressing misuse and diversion of opioid substitution medication: Guidance based on systematic evidence review and real-world experience. *Journal of Public Health*, 38, e368-e374.
- ³⁵ SAMHSA GAINS Center for Behavioral Health and Justice Transformation. (2019). *Medication-assisted treatment inside correctional facilities: Addressing medication diversion*. Washington, DC: Bureau of Justice Assistance.
- ³⁶ Marlowe, D. B., Wakeman, S. E., Rich, J. D., & Peterman Baston, P. (2016). *Increasing access to medication-assisted treatment for opioid addiction in drug courts and correctional facilities and working effectively with family courts and child protective services*. New York, NY: American Association for the Treatment of Opioid Dependence.
- ³⁷ Matejkowski, J., Dugosh, K. L., Clements, N. T., & Festinger, D. S. (2015). Pilot testing of an online training for criminal justice professionals on medication-assisted treatment. *Journal of Addictions & Offender Counseling*, 36, 13-27.
- ³⁸ Knudsen, H. K., Ducharme, L. J., & Roman, P. M. (2007). Research network involvement and addiction treatment center staff: Counselor attitudes toward buprenorphine. *The American Journal on Addictions*, 16, 365-371.
- ³⁹ McCarty, D., Rieckmann, T., Green, C., Gallon, S., & Knudsen, J. (2004). Training rural practitioners to use buprenorphine: Using the change book to facilitate technology transfer. *Journal of Substance Abuse Treatment*, 26, 203-208.
- ⁴⁰ Thomas, S. E., Miller, P. M., Randall, P. K., & Book, S. W. (2008). Improving acceptance of naltrexone in community addiction treatment centers: A pilot study. *Journal of Substance Abuse Treatment*, 35, 260-268.
- ⁴¹ Wexler, H. K., Zehner, M., & Melnick, G. (2012). Improving Drug Court operations: NIATx organizational improvement model. *Drug Court Review*, 8, 80-95.
- ⁴² Taxman, F. S. & Belenko, S. (2011). *Implementing evidence-based practices in community corrections and addiction treatment*. New York: Springer.
- ⁴³ Orgera, K. & Tolbert, J. (2019). *The opioid epidemic and Medicaid's role in facilitating access to treatment*. San Francisco, CA: Kaiser Family Foundation. Available from <https://www.kff.org/medicaid/issue-brief/the-opioid-epidemic-and-medicaids-role-in-facilitating-access-to-treatment/>.

- ⁴⁴ Pew Charitable Trusts. (2016). *How and when Medicaid covers people under correctional supervision: New federal guidelines clarify and revise long-standing policies*. Philadelphia, PA: Pew Charitable Trusts. Available from https://www.pewtrusts.org/-/media/assets/2016/08/how_and_when_medicaid_covers_people_under_correctional_supervision.pdf.
- ⁴⁵ Kaiser Family Foundation. (2019). Medicaid's role in addressing the opioid epidemic. Retrieved from <https://www.kff.org/infographic/medicaids-role-in-addressing-opioid-epidemic/>.
- ⁴⁶ National Conference of State Legislatures. (2019). *Medicaid coverage of medication-assisted treatment (MAT): A 50-state review*. Denver, CO: Author. Available from <https://www.ncsl.org/research/health/mat-opiate-50-state-table-medicaid.aspx>.
- ⁴⁷ National Academies of Sciences, Engineering, and Medicine. (2019). *Medications for opioid use disorder save lives*. Washington: The National Academies Press.
- ⁴⁸ Substance Abuse and Mental Health Services Administration. (2019). *Medication-assisted treatment (MAT) in the criminal justice system: Brief guidance to the states*. Rockville, MD: Author. Available from <https://store.samhsa.gov/system/files/pep19-matbriefcjs.pdf>.
- ⁴⁹ Hinton, E., Musumeci, M., Rudowitz, R., Antonisse, L., & Hall, C. (2019). *Section 1115 Medicaid demonstration waivers: The current landscape of approved and pending waivers*. San Francisco, CA: Kaiser Family Foundation. Available from <https://www.kff.org/medicaid/issue-brief/section-1115-medicaid-demonstration-waivers-the-current-landscape-of-approved-and-pending-waivers/>.
- ⁵⁰ Levy, S., Bagley, N., & Rajkumar, R. (2018). Reform at risk - Mandating participation in alternative payment plans. *New England Journal of Medicine*, 378, 1663-1665. doi: 10.1056/NEJMp1800483
- ⁵¹ Guyer, J., Serafi, K., Bachrach, D., & Gould, A. (2019). *State strategies for establishing connections to health care for justice-involved populations: The central role of Medicaid*. New York, NY: The Commonwealth Fund.
- ⁵² Rich, J. D., McKenzie, M., Larney, S., Wong, J. B., Tran, L., Clarke, J. et al. (2015). Methadone continuation versus forced withdrawal on incarceration in a combined US prison and jail: A randomised, open-label trial. *The Lancet*, 386, 350-359.
- ⁵³ Moore, K. E., Roberts, W., Reid, H. H., Smith, K. M., Oberleitner, L. M., & McKee, S. A. (2019). Effectiveness of medication assisted treatment for opioid use in prison and jail settings: A meta-analysis and systematic review. *Journal of Substance Abuse Treatment*, 99, 32-43.
- ⁵⁴ Stallwitz, A. & Stöver, H. (2007). The impact of substitution treatment in prisons: A literature review. *International Journal of Drug Policy*, 18, 464-474.
- ⁵⁵ Marsden, J., Stillwell, G., Jones, H., Cooper, A., Eastwood, B., Farrell, M. et al. (2017). Does exposure to opioid substitution treatment in prison reduce the risk of death after release? A national prospective observational study in England. *Addiction*, 112, 1408-1418.
- ⁵⁶ Degenhardt, L., Larney, S., Kimber, J., Gisev, N., Farrell, M., Dobbins, T. et al. (2014). The impact of opioid substitution therapy on mortality post-release from prison: Retrospective data linkage study. *Addiction*, 109, 1306-1317.
- ⁵⁷ James, N. (2015). Offender reentry: Correctional statistics, reintegration into the community, and recidivism. Retrieved from <https://fas.org/sqp/crs/misc/RL34287.pdf>.

- ⁵⁸ Lattimore, P. K. & Barrick, K. (2016). The effects of prison programming. In T.G.Blomberg, J. M. Brancale, K. M. Beaver, & W. D. Bales (Eds.), *Advancing criminology and criminal justice policy* (pp. 312-323). New York: Routledge.
- ⁵⁹ Sharma, A., Kelly, S. M., Mitchell, S. G., Gryczynski, J., O’Grady, K. E., & Schwartz, R. P. (2017). Update on barriers to pharmacotherapy for opioid use disorders. *Current Psychiatry Reports, 19*, 35.
- ⁶⁰ Brooklyn, J. R. & Sigmon, S. C. (2017). Vermont hub-and-spoke model of care for opioid use disorder: Development, implementation, and impact. *Journal of Addiction Medicine, 11*, 286-292.
- ⁶¹ Green, T. C., Clarke, J., Brinkley-Rubinstein, L., Marshall, B. D., Alexander-Scott, N., Boss, R. et al. (2018). Postincarceration fatal overdoses after implementing medications for addiction treatment in a statewide correctional system. *JAMA Psychiatry, 75*, 405-407. doi: 10.1001/jamapsychiatry.2017.4614
- ⁶² Seiter, R. P. & Kadela, K. R. (2003). Prisoner reentry: What works, what does not, and what is promising. *Crime & Delinquency, 49*, 360-388.
- ⁶³ Solomon, A. L., Osborne, J. W. L., Winterfield, L., Elderbroom, B., Burke, P., Stroker, R. P. et al. (2008). *Putting public safety first: 13 strategies for successful supervision and reentry*. Washington, DC: The Urban Institute. Available from <https://www.urban.org/sites/default/files/publication/32156/411791-putting-public-safety-first-parole-supervision-strategies-to-enhance-reentry-outcomes-paper-.pdf>.
- ⁶⁴ Substance Abuse and Mental Health Services Administration. (2018). *Medications for opioid use disorder: Treatment improvement protocol (TIP 63) for healthcare and addiction professionals, policy makers, patients and families*. (Rep. No. SMA-18-5063). Bethesda, MD: Author. Available from <https://store.samhsa.gov/system/files/sma18-5063fulldoc.pdf>.
- ⁶⁵ National Institute on Drug Abuse. (2018). *Principles of drug addiction treatment: A research-based guide (third edition)*. Bethesda, MD: Author. Available from <https://www.drugabuse.gov/publications/principles-drug-addiction-treatment-research-based-guide-third-edition>.

Resources to Support Effective Use of Medication-Assisted Treatment in Criminal Justice Settings

Developing a program for medication-assisted treatment (MAT) in a criminal justice setting that is based on promising and evidence-based practices, guidelines, principles, and procedures is key to setting a foundation for successful implementation. This chapter calls attention to evidence-based resources that are available to support greater access to and effective use of MAT in jails, prisons, and other criminal justice programs.

Assessment, Screening, and Diagnosis of Opioid and other Substance Use Disorders

Some jails and prisons may wait until individuals exhibit apparent physiological signs of withdrawal before evaluating them for MAT or medically supported withdrawal (detoxification). Such practices should not be used, given the potential harm. Experiencing opioid withdrawal (“cold turkey”) is not therapeutic, and treating withdrawal from the outset is the standard of care.¹⁻⁴ The medications in MAT, like most medical treatments, are most effective when administered before symptoms worsen and persons are in acute distress.



Persons entering jail or prison should be screened routinely at intake for symptoms of substance use and mental health disorders, prior substance use and mental health treatment history, prescribed medications, withdrawal symptoms, cravings, and overdose history. Individuals who screen positive as having a potential opioid use disorder (OUD) should be examined as soon as possible by medical personnel trained to conduct a full diagnostic evaluation and assess the person’s suitability for and interest in MAT. Below are examples of validated screening and assessment tools commonly used for these purposes:

Withdrawal

- [Clinical Institute Narcotic Assessment \(CINA\) Scale for Withdrawal Symptoms](#)
- [Clinical Institute Withdrawal Assessment for Alcohol-Revised \(CIWA-Ar\)](#)
- [Clinical Opiate Withdrawal Scale \(COWS\)](#)
- [Subjective Opiate Withdrawal Scale \(SOWS\)](#)

Cravings

- [Brief Substance Craving Scale \(BSCS\)](#)
- [Heroin Craving Questionnaire \(HCQ\)](#)
- [Opioid Craving Scale \(OCS\)](#)

Overdose Risk

- [Assessing Risk for Overdose: Key Questions for Intake Forms](#)
- [Current Opioid Misuse Measure \(COMM\)](#)
- [Risk Index for Overdose or Serious Opioid-Induced Respiratory Depression \(RIOSORD\)](#)

Assessment of Opioid and Other Substance Use Disorders

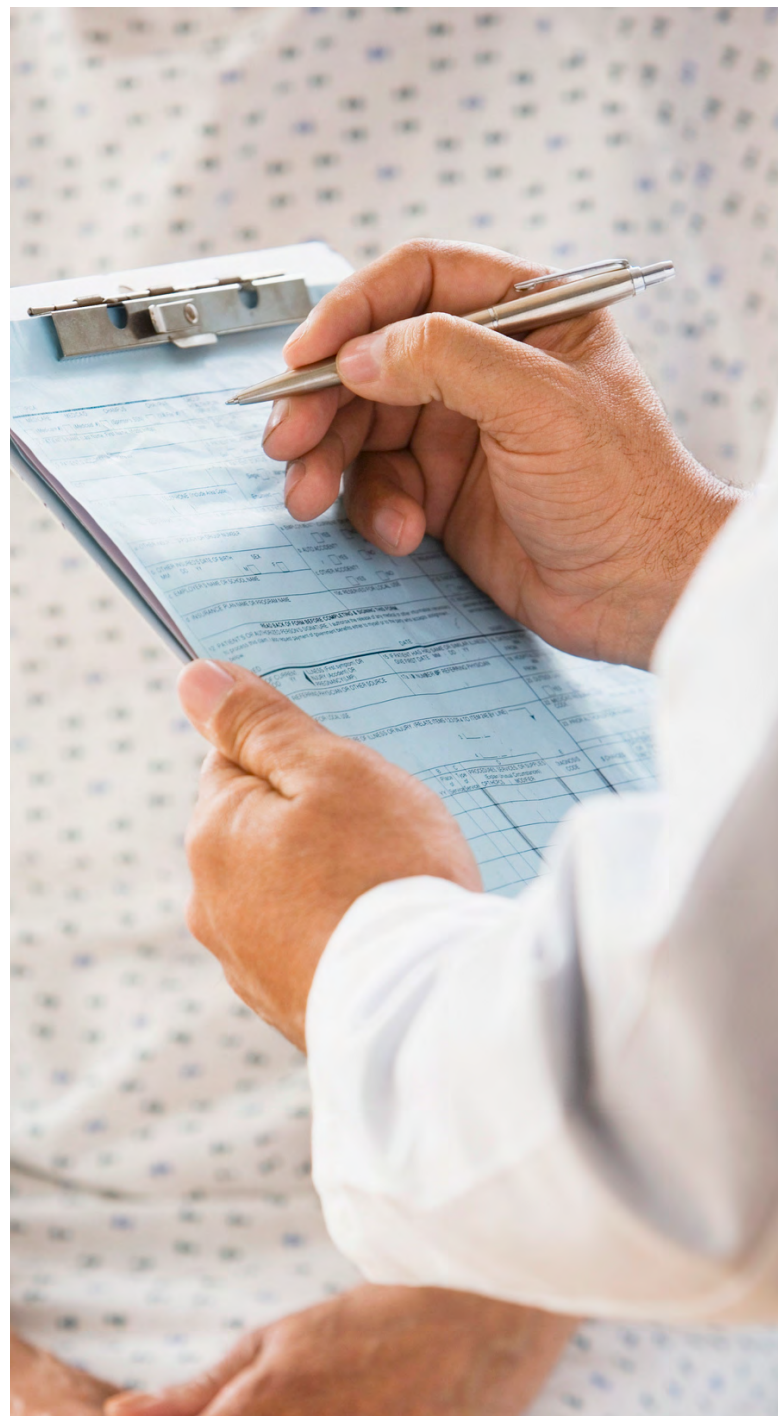
- [Addiction Severity Index \(ASI\)](#)
- [Drug Abuse Screening Test \(DAST\)](#)
- [Global Appraisal of Individual Needs \(GAIN\)](#)
- [Rapid Opioid Dependence Screen \(RODS\)](#)
- [Severity of Opioid Dependence Questionnaire \(SODQ\)](#)
- [Structured Clinical Interview for the DSM-5 \(SCID-5\)](#)
- [Texas Christian University \(TCU\) Drug Screen-5-Opioid Supplement](#)

Co-Occurring Mental Health Disorders

- [Brief Jail Mental Health Screen \(BJMHS\)](#)
- [CJ-DATS Co-Occurring Disorder Screening Instrument \(CJ-CODSI\)](#)
- [Global Appraisal of Individual Needs \(GAIN\)](#)
- [Mental Health Screening Form-III \(MHSFIII\)](#)
- [Modified Mini-Screen \(MMS\)](#)
- [Symptom Checklist-90-Revised \(SCL-90-R\)](#)
- [U.S. Department of Justice Mental Health Screens for Corrections](#)

Trauma History and PTSD

- [Adverse Childhood Experiences \(ACE\) International Questionnaire](#)
- [Life Events Checklist for DSM-5](#)
- [Post-Traumatic Stress Disorder \(PTSD\) Checklist \(PCL\)](#)
- [Trauma History Screen \(THS\)](#)
- [Trauma Screening Questionnaire \(TSQ\)](#)



Medically Supported Withdrawal (Detoxification)

Some jails, prisons, and drug courts require individuals to withdraw from or taper off all opioids, including opioid medications such as methadone and buprenorphine, within a specified time, typically a few days or weeks.⁵ Forced withdrawal from opioids, including prescribed opioid medications, can be medically hazardous, reduces the likelihood that individuals will participate in substance use disorder treatment or MAT in the future,^{6, 7} and poses a serious risk of overdose or death after release from custody if the individual returns to pre-incarceration levels of opioid use.⁵

As described in Chapter 1, medically supported withdrawal is a complicated procedure designed to reduce the acute physiological effects of opioids while minimizing withdrawal discomfort, cravings, and other debilitating symptoms. Relapse rates are extremely high after detoxification alone;²⁻⁵ therefore, medically supported withdrawal should always be followed by a formal course of substance use disorder treatment. Practice guidelines are available to help medical staff in correctional facilities perform medically supported withdrawal safely, effectively, and humanely. As noted, such practices should not be conducted as a routine course, but rather when medically indicated and in consultation with the individual.

- **Detoxification and Substance Abuse Treatment (Treatment Improvement Protocol No. 45)**

This Substance Abuse and Mental Health Services Administration (SAMHSA) Treatment Improvement Protocol (TIP) provides clinical evidence-based guidelines, tools, and resources to assist medical practitioners to perform safe and effective medically supported withdrawal.

<https://store.samhsa.gov/system/files/sma15-4131.pdf>

- **Detoxification of Chemically Dependent Inmates**

This clinical guidance from the Federal Bureau of Prisons provides recommended standards for the medical management of withdrawal from addictive substances for chemically dependent federal inmates.

<https://www.bop.gov/resources/pdfs/detoxification.pdf>

Medication Choice, Dosage, and Duration

Deciding which medication to prescribe, the most appropriate dosing regimen, and the indicated duration of treatment requires considerable medical training and expertise.¹⁻⁴

Expert guidance and practice guidelines are available to help medical practitioners working in correctional settings administer the most appropriate, safe, and effective MAT regimen, consulting and advising individuals about the benefits and risks of different medications:

- **Decisions in Recovery: Treatment for Opioid Use Disorder**

This handbook, developed by SAMHSA, is designed for anyone seeking information about or help with recovery from OUD. It describes the risks and benefits of the different medications.

<https://store.samhsa.gov/system/files/sma16-4993.pdf>

- **Medications for Opioid Use Disorder for Healthcare and Addiction Professionals, Policy Makers, Patients and Families (Treatment Improvement Protocol No. 63)**

This SAMHSA TIP reviews best practices for prescribing the three FDA-approved medications for OUD treatment—methadone, naltrexone, and buprenorphine—and other strategies and services needed to support people in recovery.

https://store.samhsa.gov/system/files/sma18-5063fulldoc_0.pdf

- **National Practice Guideline for the Use of Medications in the Treatment of Addiction Involving Opioid Use**

This national practice guideline, developed by the American Society of Addiction Medicine (ASAM), provides information on evidence-based MAT of OUD and management of opioid overdose.

<https://www.asam.org/docs/default-source/practice-support/guidelines-and-consensus-docs/asam-national-practice-guideline-supplement.pdf?sfvrsn=24>

Jail, Prison, and Drug Court Programming

Several resources are available to help jail, prison, and drug court staff integrate MAT into daily operations and offer practical guidance for reducing misuse and diversion of medications.

- **Jail-Based Medication-Assisted Treatment: Promising Practices, Guidelines, and Resources for the Field**

The National Commission on Correctional Healthcare and the National Sheriffs' Association created this resource to provide best and promising practices; existing standards and guidelines; and case studies with lessons learned, resources, and documentation for developing, implementing, and sustaining a jail-based MAT program.

<https://www.ncchc.org/filebin/Resources/Jail-Based-MAT-PPG-web.pdf>

- **Medication Assisted Treatment: Effective Application in Jails and Prisons Webinar (2016)**

This webinar from the American Correctional Association (ACA) discusses the need for MAT programs in the correctional field, provides examples of MAT programs operating in correctional settings, and describes the evaluation and outcomes of MAT programs.

http://www.aca.org/ACA_Prod_IMIS/ACA_Member/Healthcare_Professional_Interest_Section/Medication_Assisted_Treatment.aspx

- **Medication-Assisted Treatment for Opioid Use Disorder in the Justice System**

This fact sheet was developed by the American Association for the Treatment of Opioid Dependence (AATOD) to provide an overview of the MAT medications and the legal and policy considerations for using MAT for OUD in the justice system.

<http://www.aatod.org/wp-content/uploads/2017/10/AATOD-MAT-Fact-Sheet-wl.pdf>

- **Medication-Assisted Treatment in Drug Courts: Recommended Strategies**

This report from the Legal Action Center is designed to assist drug court practitioners in understanding MAT for OUD and incorporating MAT into their practice.

<https://lac.org/wp-content/uploads/2016/04/MATinDrugCourts.pdf>

- **Prison/Jail Medication Assisted Treatment Manual**

This manual from the Bureau of Justice Assistance is designed to assist administrators of correctional institutions with establishing quality MAT programs for individuals struggling with substance use disorders in custody and after release.

http://www.rsat-tta.com/Files/RSAT_Prison_Med_Treat_FINAL.pdf

- **Joint Public Correctional Policy on the Treatment of Opioid Use Disorders for Justice Involved Individuals**

This policy statement from the ACA and ASAM developed recommendations for correctional systems and programs to provide evidence-based care to individuals with opioid use disorders.

https://www.asam.org/docs/default-source/public-policy-statements/2018-joint-public-correctional-policy-on-the-treatment-of-opioid-use-disorders-for-justice-involved-individuals.pdf?sfvrsn=26de41c2_2

Overdose Reversal

Tolerance for opioids declines substantially if inmates are not treated with buprenorphine or methadone, making them vulnerable to overdose and death after release if they return to pre-incarceration levels of opioid use.⁸ Providing inmates with overdose reversal medications such as naloxone (Narcan) upon release is associated with reduced rates of opioid overdose.⁹ Toolkits and instructional guides are available to equip inmates with naloxone and provide education to reduce overdose risk.

- **How to Use Naloxone to Reverse Opioid Overdose and Save Lives**

This Partnership for Drug-Free Kids webpage provides information on the signs of overdose, what to do if there is an overdose, and how to administer naloxone.

<https://drugfree.org/article/overdose-response-treatment/>

- **Opioid Overdose Prevention Toolkit**

This SAMHSA toolkit equips providers, communities, and local governments with strategies for developing practices and policies to prevent opioid-related death and overdose.

<https://store.samhsa.gov/product/Opioid-Overdose-Prevention-Toolkit/SMA18-4742>

- **Opioid Overdose Reversal with Naloxone (Narcan, Evzio)**

This National Institute on Drug Abuse webpage provides information on how to obtain and administer naloxone to reverse opioid overdose.

<https://www.drugabuse.gov/related-topics/opioid-overdose-reversal-naloxone-narcan-evzio>

Community Providers

Identifying competent and appropriately credentialed community MAT providers is critical for ensuring continuation of services after release from custody. The following websites provide directories of physicians or treatment agencies specializing in addiction medicine or addiction psychiatry. Most of these websites can be queried by city, state, or zip code to identify medical practitioners located in a released individual's home community.

- **American Academy of Addiction Psychiatry (AAAP)**

This is a listing of AAAP membership, organized by state.

<https://www.aaap.org/patients/find-a-specialist/>

- **American Board of Addiction Medicine (ABAM)**

This is a listing of physicians who hold an active ABAM certification.

www.abam.net/find-a-doctor

- **American Society of Addiction Medicine (ASAM)**

This is a searchable listing of ASAM membership.

https://asam.ps.membersuite.com/directory/SearchDirectory_Criteria.aspx

- **SAMHSA Behavioral Health Treatment Services Locator**

This locator describes services available in behavioral health treatment facilities that have responded to SAMHSA's National Survey of Substance Abuse Treatment Services (N-SSATS) and National Mental Health Services Survey (N-MHSS).

<https://findtreatment.samhsa.gov/>

- **SAMHSA Buprenorphine Practitioner Locator**

This locator includes practitioners authorized to treat opioid dependence with buprenorphine by state

<https://www.samhsa.gov/medication-assisted-treatment/practitioner-program-data/treatment-practitioner-locator>

- **SAMHSA Opioid Treatment Program Directory**

This directory includes licensed opioid treatment programs by state.

<https://dpt2.samhsa.gov/treatment/directory.aspx>

Buprenorphine Waivers

Only about five percent of eligible medical providers have received DATA-2000 waivers to provide buprenorphine treatment for OUDs.^{2,3} Resources are available to help medical practitioners complete the requisite training and obtain buprenorphine waivers.

- **American Association of Nurse Practitioners (AANP)**

This site offers 16- and 24-hour training courses for nurse practitioners and physician assistants.

<https://aanp.inreachce.com/searchresults?searchtype=1&category=e5f98b0f-eafe-4f64-9779-383732cd8a10>

- **ASAM eLearning**

This site offers training curricula and information on certification procedures for physicians to obtain buprenorphine waivers.

<https://elearning.asam.org/buprenorphine-waiver-course>

- **Providers Clinical Support System (PCSS)**

This site offers MAT training courses for physicians, nurse practitioners and physician assistants to obtain buprenorphine waivers.

<https://pcssnow.org/medication-assisted-treatment/>

- **SAMHSA Buprenorphine Waiver Management**

This site offers information and assistance on the process for obtaining and maintaining buprenorphine waivers.

<https://www.samhsa.gov/medication-assisted-treatment/training-materials-resources/buprenorphine-waiver>

- **SAMHSA Buprenorphine Training for Physicians**

This site offers information on training curricula for buprenorphine waivers.

<https://www.samhsa.gov/medication-assisted-treatment/training-materials-resources/buprenorphine-physician-training>

Peer Support Groups

Many peer recovery support groups may have negative attitudes towards MAT or agonist medications. Resources are available to help identify peer support groups open to individuals using MAT.

- **Medication-Assisted Recovery Anonymous (MARA)**

This website offers information on self-help groups that are welcoming of individuals using MAT and offers a locator service to find such groups in local communities.

<http://mara-international.org/>

Additional Resources

- **American Association for the Treatment of Opioid Dependence (AATOD)**

The AATOD website has several resources for the use of MAT for OUDs in criminal justice settings.

<http://www.aatod.org/>

- **American Correctional Association (ACA)**

The ACA website includes several resources on correctional health care, including webinars and trainings on MAT in jails and prisons.

http://www.aca.org/ACA_Prod_IMIS/ACA_Member/Home/ACA_Member/Home.aspx

- **Bureau of Justice Assistance (BJA) Comprehensive Opioid Resource Center**

The BJA online resource center contains educational materials on opioid programs for justice-involved persons, descriptions of promising and evidence-based programs, profiles of BJA grantees and funding, and training and technical assistance opportunities.

<https://www.coapresources.org/>

- **Federal Resources for Rural Communities to Help Address Substance Use Disorder and Opioid Misuse**

This Office of National Drug Control Policy, U.S. Department of Agriculture initiative includes the Community Resource Guide, a comprehensive directory of federal resources that can help rural communities address the opioid crisis.

<https://www.rd.usda.gov/files/RuralResourceGuide.pdf>

- **Motivational Interviewing**

The SAMHSA-HRSA Center for Integrated Health Solutions provides resources for using motivational interviewing in substance use treatment to enhance motivation to change.

<https://www.integration.samhsa.gov/clinical-practice/motivational-interviewing>

- **National Association of Drug Court Professionals (NADCP)**

In collaboration with ASAM and AAAP, NADCP developed a line of resources to educate drug court practitioners about the proven effects of MAT and provide tools to help programs adopt these treatments in a safe, effective, and responsible manner.

<https://www.ndci.org/resource/training/medication-assisted-treatment/>

- **The Fortune Society**

The Fortune Society website has several resources to help decrease the use of stigmatizing language with individuals who are incarcerated or returning to the community.

<https://fortunesociety.org/>

- **Trauma-Informed Corrections**

This chapter of the fourth edition of *Social Work in Juvenile and Criminal Justice System* discusses how to provide trauma-informed services within a correctional environment.

<https://www.centerforgenderandjustice.org/assets/files/soical-work-chapter-7-trauma-informed-corrections-final.pdf>



Reference List

- ¹ World Health Organization. (2009). *Guidelines for the psychosocially assisted pharmacological treatment of opioid dependence*. Geneva: Author.
- ² Substance Abuse and Mental Health Services Administration & Office of the Surgeon General. (2018). *Facing addiction in America: The Surgeon General's spotlight on opioids*. Washington, DC: US Department of Health and Human Services. Available from <https://www.ncbi.nlm.nih.gov/books/NBK538436/>.
- ³ National Academies of Sciences, Engineering, and Medicine. (2019). *Medications for opioid use disorder save lives*. Washington: The National Academies Press.
- ⁴ Substance Abuse and Mental Health Services Administration. (2018). *Medications for opioid use disorder: Treatment improvement protocol (TIP 63) for healthcare and addiction professionals, policy makers, patients and families*. (Rep. No. SMA-18-5063). Bethesda, MD: Author. Available from <https://store.samhsa.gov/system/files/sma18-5063fulldoc.pdf>.
- ⁵ Legal Action Center. (2011). *Legality of denying access to medication assisted treatment in the criminal justice system*. Available from https://lac.org/wp-content/uploads/2014/12/MAT_Report_FINAL_12-1-2011.pdf.
- ⁶ National Institute on Drug Abuse. (2017). *Treating opioid addiction in criminal justice settings*. Bethesda, MD: Author. Available from <https://d14rmgtrwzf5a.cloudfront.net/sites/default/files/policybrief-cj.pdf>.
- ⁷ Rich, J. D., McKenzie, M., Larney, S., Wong, J. B., Tran, L., Clarke, J. et al. (2015). Methadone continuation versus forced withdrawal on incarceration in a combined US prison and jail: A randomised, open-label trial. *The Lancet*, 386, 350-359.
- ⁸ Green, T. C., Clarke, J., Brinkley-Rubinstein, L., Marshall, B. D., Alexander-Scott, N., Boss, R. et al. (2018). Postincarceration fatal overdoses after implementing medications for addiction treatment in a statewide correctional system. *JAMA Psychiatry*, 75, 405-407. doi: 10.1001/jamapsychiatry.2017.4614
- ⁹ Wheeler, E., Davidson, P. J., Jones, T. S., & Irwin, K. S. (2012). Community-based opioid overdose prevention programs providing naloxone--United States, 2010. *Morbidity and Mortality Weekly Report*, 61, 101-105.

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Planning Committee

Jon Berg, M.Ed.

Substance Abuse and Mental Health Services Administration

Katie Forkey, B.A.

New Jersey Reentry Corporation

Shoma Ghose, Ph.D.

Westat

Douglas B. Marlowe, J.D., Ph.D.

National Association of Drug Court Professionals

Onaje Salim, Ed.D., LCPC

Substance Abuse and Mental Health Services Administration

Monique Thornton, M.P.H.

Westat

Expert Panel

Stephen Amos, M.P.A.

National Institute of Corrections

Carol A. Baden

RecoveryOhio

Katie Forkey, B.A.

New Jersey Reentry Corporation

Aaron Fox, M.D., M.S.

Albert Einstein College of Medicine

Elizabeth Gondles, Ph.D.

American Correctional Association

Bruce Herdman, Ph.D., M.B.A.

Philadelphia Department of Prisons

Carrie Hill, Esq.

National Sheriffs' Association

Sheriff Peter J. Koutoujian

Middlesex Sheriff's Office

Tara Kunkel, M.S.W.

Bureau of Justice Assistance

Karen Maline

International Association of Chiefs of Police

Douglas B. Marlowe, J.D., Ph.D.

National Association of Drug Court Professionals

Kathleen Maurer, M.D., M.P.H., M.B.A.

Connecticut Department of Correction

Governor James McGreevey (ret.)

New Jersey Reentry Corporation

Sherry McKee, Ph.D.

Yale School of Medicine

Michael Miskell, M.P.H.

American Correctional Association

Honorable Joy Malek Oldfield

Summit County Adult Felony Drug Court

Mark Parrino, M.P.A.

American Association for the Treatment of
Opioid Dependence

Dennis Reilly

New York Unified Court System Office of
Court Administration

Josiah D. Rich, M.D., M.P.H.

Brown University

Patrick Wayne Robles

Community Medical Services

Andrew Rosenblum, Ph.D.

National Development and Research Institutes

Chief Deputy Geoffrey Stobart

Franklin County Sheriff's Office

Tracey Titus, R.N., CCHP-RN

National Commission on Correctional Health Care

Kate Vesely, M.P.A.

Pima County Attorney's Office

Tisha R. A. Wiley, Ph.D.

National Institute on Drug Abuse

SAMHSA Staff

Jon Berg, M.Ed.

Center for Substance Abuse Treatment

Thomas Clarke, Ph.D.

National Mental Health and Substance Use
Policy Laboratory

Larke Huang, Ph.D.

Office of Behavioral Health Equity

Onaje Salim, Ed.D.

Center for Substance Abuse Treatment

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