27 Substance Use Disorder Treatment in Correctional Facilities: Updates in Evidence-Based Treatment and Steps Forward

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Introduction

The War on Drugs

From the 1970s onward, the United States at both federal and state levels worked to criminalize drug possession of all kinds. There is an increasing appreciation that this grew out of a political goal of disenfranchising Black voters rather than as a response to public health concerns. In 1971, President Richard Nixon declared a "war on drugs" and deployed mandatory sentencing, no-knock warrants, and increased the presence of federal drug control agencies. The late 1970s, under President Jimmy Carter, saw some positive change in decriminalization of small amounts of marijuana possession. This progress unfortunately did not last. Over the next 20 years, the number of people behind bars for nonviolent drug law violations increased from 50,000 in 1980 to over 400,000 by 1997, disproportionately affecting poor communities of color. The media portrayal of and governmental response to the crack and cocaine epidemic of the 1980s further vilified racial minorities, especially Black communities across the United States. These antidrug laws have dramatically increased incarceration rates in America, and while the pendulum seems to now be swinging the other way toward more sensible drug reform, 700,000 people are arrested for marijuana offenses each year and almost 500,000 people are still incarcerated solely for drug law violations (Drug Policy Alliance, 2020). The opioid epidemic that has hit the United States, along with the devastating number of individuals that die of overdose annually, have given us an opportunity to take a step back and reevaluate how we treat individuals struggling with addiction.

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Addiction Treatment in Correctional Settings: Therapeutic Communities

The most prevalent forms of addiction treatment in correctional facilities are therapeutic communities/residential treatment, counseling, and various iterations of recovery support services. Historically, therapeutic communities (TCs) have spurned the use of medications in addiction treatment, citing the concern for dependence on a medication as being antithetical to recovery. TCs are typically favored and understood by correctional officials (Butzin et al., 2002; Hiller et al., 1999), and continue to be a dominant mode of treatment in correctional facilities. Despite their prominence in correctional settings, therapeutic communities are successful (defined as decreased rates of recidivism and relapse) only when there is adequate linkage to community programs on release (Chanhatasilpa et al., 2000). Utilization of a therapeutic community alone is akin to managing a patient's hypertension with diet and exercise alone, when in fact antihypertensives may be needed. When combined with evidence-based medications for addiction treatment (MAT) and adequate linkage to community programs on release, therapeutic communities can provide a holistic and effective treatment plan for individuals with substance use disorders.

The Cost of Untreated Substance Use Disorders

The individual and societal costs of untreated substance use disorders (SUDs) are myriad and complex. These costs include death due to drug overdose, overutilization of emergency departments, criminal activity, and incarceration (Mark et al., 2001; Wall et al., 2000). Individuals with SUDs, in particular those who inject drugs, tend to be among those most at risk for many medical illnesses, with a high prevalence of infectious diseases—HIV and hepatitis C in particular (Edlin, 2002; Hagan et al., 2002; Kapadia et al., 2002)—and comorbid psychiatric conditions (Lurigio, 2011; Steadman et al., 2013).

The lifetime prevalence of substance use disorders among inmates is over 70%, and 86% of inmates report using illicit substances in their lifetime, rates far greater than the general population (Baillargeon et al., 2009; Steadman et al., 2013). Not only are rates of use high, many of these individuals also report crimes leading to their most recent arrest being committed while under the influence of drugs or alcohol. Despite high rates of substance use disorders among inmates and their contribution to increased arrests, there is a void of evidence-based treatment readily available during incarceration. Treatment with medications for addiction is maintenance-based, and safely can be taken for years. It is not uncommon to meet an individual who has been taking methadone for their opioid use disorder for 40 years, has an excellent quality of life, works a steady job, has a family, and has no concern about continuing to take methadone until they die from old age. Before treatment can start however, adequate screening and assessment must be done.

Screening and Assessment of Substance Use Disorders

The use of evidence-based approaches for screening and assessment is likely to result in more accurate matching of inmates to treatment services and more effective treatment and supervision outcomes (Shaffer, 2011). There are numerous validated tools that may be used for substance use disorder screening. As it is not the focus of this chapter, we will not delve into the details of different screens, but as a guide when evaluating screens for substance use disorder, it is most beneficial to patients and providers to prioritize highly sensitive versus highly specific screening tools. That is to say, a tool that identifies the greatest number of true positives is an effective screening tool for substance use disor-

ders. While screening can be done quickly and does not require any specific professional certification, assessment and determination of a treatment plan should always be completed by a qualified treatment provider, such as a correctional healthcare provider.

For every positive screen, a patient should be interviewed by a qualified treatment provider in order to confirm the diagnosis and plan for treatment. The substance/polysubstance use disorder should be confirmed based on history elicited by the provider, provided by the patient, and potentially collateral information. The most recent Diagnostic and Statistical Manual of Mental Disorders (DSM-V) criteria is the standard for substance use disorder diagnosis utilized in the community. While the DSM-V eliminates the abuse/dependence diagnosis dichotomy found in the DSM-IV and instead uses Substance Use Disorder-Drug, 10 of the 11 criteria are the same as the DSM-V. The exception is recurrent legal difficulties in DSM-IV has been replaced by a craving criterion. The DSM-V also provides guidelines for diagnosis severity, with severity indicators for mild (meets 2-3 criteria), moderate (meets 4-5 criteria), and severe (meets 6 or greater criteria) substance use disorders (Hasin et al., 2013).

In the assessment, the provider should identify current substance use: when, what types of substances, and how much, and whether currently in any treatment. In many cases, individuals may use more than one substance, and in our experience, patients may be unknowingly exposed to multiple substances. In the time of fentanyl, multiple substances such as cocaine are now being laced with the fatal opioid, leading to an increase in opioid overdoses among individuals with primary cocaine use disorders (Ungar, 2019). Well-timed urine drug screens may help confirm or clarify history. Patients should also be asked about previous treatment episodes in terms of length of treatment, type of treatment (inpatient stays, detox, residential), medications, and outcomes (duration of recovery, number of relapses, environmental/stress situation surrounding relapse). Patients should be reminded: the best predictor of recovery success is the number of times a person has attempted recovery. In addition to questions surrounding substance use, providers should also identify patients who have comorbid medical and psychiatric conditions. Important medical conditions to be aware of in patients who are interested in medications for addiction treatment include pregnancy, hepatitis B and C, HIV/AIDS, heart conditions, and any liver disease in general. Where psychiatric conditions are concerned, individuals with co-occurring disorders (mental health and substance use disorders, also known as CODs) should be prioritized for integrated treatment when available. There are higher rates of recidivism and overdose associated with patients with CODs when compared to patients with substance use disorders alone; 60–87% of justice-involved individuals who have severe mental disorders also have co-occurring substance use disorders (Chiles et al., 1990; James & Glaze, 2006; Lurigio, 2011; Steadman et al., 2013). Finally, providers must evaluate each patient's degree of motivation for behavior change and readiness for treatment and partner with the patient to understand what treatment the patient believes will be most effective.

Effective Treatment of Opioid Use Disorder

"Medication-based treatment is effective across all treatment settings studied to date. Withholding or failing to have available all classes of U.S. Food and Drug Administration-approved medication for the treatment of opioid use disorder in any care or criminal justice setting is denying appropriate medical treatment" (National Academies of Sciences, Engineering and Medicine, 2019).

Drug overdoses are now the leading cause of death for Americans under the age of 50. There is a plethora of evidence demonstrating that three medications—methadone, buprenorphine, and naltrexone—are all effective treatments for opioid use disorder (OUD) as compared to placebo, when studying outcomes of mortality and continued drug use in the general population. All three medications are

regarded as the standard of care for OUD in the community. Methadone and buprenorphine, the two opioid agonist therapies, seem to be most effective. Among justice-involved populations, opioid agonist therapies specifically have been associated with higher retention in treatment, lower rates of illicit substance use, lower rates of recidivism, and lower rates of death immediately after release (Vorma et al., 2013; Timko et al., 2016; Westerberger et al., 2016; McKenzie et al., 2009; Marsden et al., 2017). If all three medications for opioid use disorder were accessible in prisons and jails across the United States and there were community linkages to ensure retention in treatment at reentry, this could reduce overdose deaths by up to 32% (Macmadu et al., 2021).

Despite the mounting evidence of the benefits of medications for OUD in criminal justice settings, most correctional facilities currently rely on, at best, an opioid antagonist like naltrexone and, at worst, forced opioid withdrawal, which has generally been represented as "drug-free detoxification," a term that belies the discomfort and disruption it causes. Return-to-use rates following detox have been reported to be as high as 65–91%. If patients return to using opioids, this approach carries a high risk of overdose due to a reduced opioid tolerance (National Academies of Sciences, Engineering and Medicine, 2019). With the exception of methadone for pregnant women with opioid use disorders, a well-accepted standard of care, historically there have been various parts of the criminal justice system that expressed concern regarding the need for opioid agonist treatment. Among treatment courts, judges, parole, and probation agencies, and treatment options such as 12-step programs, many felt that buprenorphine and methadone were replacing one drug for another.

This belief and stigma are clear in treatment referral sources for state-regulated treatment facilities. The Substance Abuse and Mental Health Services Administration (SAMHSA) manages data collection and dissemination regarding treatment admissions in state-regulated treatment facilities within the United States, known as Treatment Episodes Data Set-Admissions (TEDS-A). A retrospective study of these data looked at sources of referral for treatment facilities and the likelihood of receiving opioid agonist medications as part of their opioid use disorder treatment plan. Justice-referred individuals were significantly less likely to receive agonist medications as compared to those referred through other resources: while 40.9% of people referred through other sources received opioid agonist treatment, less than 5% of people referred through the justice system received opioid agonist treatment for their opioid use disorder (Krawczyk et al., 2017).

The patient-provider discussion in choosing a medication for opioid use disorder should be guided by patient preference after understanding their choices (Puglisi et al., 2019), as patients will be most motivated to take the medication regularly and as instructed. This motivation is integral to recovery.

Medications for Opioid Use Disorder

Methadone

Methadone was first introduced as a medication to treat opioid use disorder in 1972, and it continues to be strictly regulated at a federal level in the United States, only available through opioid treatment programs that are certified by the Substance Abuse and Mental Health Services Administration (SAMHSA) and registered by the Drug Enforcement Administration (DEA). It is a schedule II narcotic and a full opioid agonist. With a long half-life of 18–36 hours, methadone can be dosed once per day and will achieve a steady state within 3–7 days with continued daily dosing. In terms of dosage regimens, higher doses (80–100 mg) have been found to be more effective than lower doses (40–50 mg) in reducing opioid use (Strain et al., 1999), and the dosage should be no less than 30 mg daily to effectively decrease opioid cravings. This dose-response varies by individual but is generally due to the increase in mu opioid receptor blocking with an increase in dosage, thus decreasing cravings for opioid use.

Note that methadone is metabolized through the CYP450 pathway, and medications such as rifampin and phenytoin, which are CYP450 inducers, can increase the rate of clearance of methadone. Patients that are on methadone maintenance therapy and start any CYP450 inducer medication can therefore experience opioid withdrawal symptoms, so methadone doses may need to be increased accordingly. Some antiretrovirals may also cause an increase or a decrease in clearance rate of methadone, so symptoms of withdrawal or sedation should be monitored and the methadone dose should be adjusted accordingly.

The regulation surrounding this controlled substance is to reduce diversion of methadone for illicit use. Unfortunately, the strict control significantly reduces the access to care. If correctional settings do not have an established relationship with a community methadone provider, they are able to obtain special licensing for methadone dispensation. Pursuing the licensing and adhering to an additional layer of regulation to be able to dispense methadone on-site for opioid use disorder treatment may be cost-effective and more efficient for larger facilities, especially in areas of the country that are far from any opioid treatment programs (OTPs). The National Commission on Correctional Healthcare has a program to assist correctional facilities interested in becoming accredited to dispense methadone for OUD (Mckenzie et al., 2009). For smaller facilities, or ones in which special licensure is not possible, outreach to a community OTP is advised. The major benefit of a relationship with a community OTP as compared to an internal methadone dispensation is the linkage to treatment on release.

Compare these restrictions to both the United Kingdom and Canada, where regulatory changes over the last 20 years have allowed methadone to be prescribed for the treatment of opioid use disorder by primary care physicians. Many countries around the world—including Australia, Canada, China, and most of Europe—have widely available methadone treatment programs for incarcerated individuals.

The data supporting methadone maintenance therapy for the treatment of opioid use disorder have demonstrated successful outcomes in prison populations. Forced withdrawal from methadone during incarceration reduces the likelihood of inmates restarting methadone maintenance after release. In comparison, inmates for whom methadone maintenance was continued during incarceration had higher levels of treatment engagement after release, which can reduce the risk of overdose and risk behaviors (Rich et al., 2015).

With respect to jails, since 1987, Rikers Island Correctional Facility has run an opioid treatment program, the Key Extended Entry Program (Project KEEP). Project KEEP began as a response to the HIV/AIDS epidemic. Tens of thousands of inmates have been started or maintained on methadone treatment through incarceration and on reentry into their communities. The jail's treatment program has demonstrated cost savings of health care, reduced recidivism and criminological activity, reduced HIV and hepatitis C transmission, and improved rates of recovery. To alleviate security concerns regarding the risk of diversion, directly observed therapy using a public health nurse and correctional officer has been utilized to excellent effect. The success of Project KEEP is contingent upon community linkage at release, with 74–80% of individuals continuing methadone maintenance therapy in the community (Tomasino et al., 2001). This treatment program has since expanded to provide buprenorphine and depot-naltrexone.

If initiation of methadone maintenance therapy for incarcerated individuals is not possible, maintenance of community-initiated MMT should be advocated. In Rhode Island, the continuation of methadone maintenance treatment during incarceration has been shown to significantly improve engagement in treatment and reduce overdose risk for at least 12 months after release (Brinkley-Rubinstein et al., 2018).

Buprenorphine

Buprenorphine is a partial opioid agonist and schedule III medication. It was approved by the US Food and Drug Administration (FDA) in 2002 for the treatment of opioid use disorders. The benefits of buprenorphine are its ability to be prescribed in outpatient facilities (outpatient-based opioid treatment, or OBOTs), fewer side effects as compared to methadone, and a lower risk of overdose. Administration of buprenorphine to a person who has recently used opioids can precipitate withdrawal, given its high affinity for mu receptors (knocking other opioids off the receptor), but is also a partial agonist. As such, buprenorphine initiation necessitates that a person who is actively using opioids be in opioid withdrawal, to avoid putting patients in uncomfortable and potentially dangerous situations. Initiation should occur at least 6–12 hours after the last use of heroin or other short-acting opioids, or 24–72 hours after last long-acting opioid use, such as methadone. The Clinical Opioid Withdrawal Scale (COWS) can be used to assess the level of withdrawal of an individual who is physiologically dependent upon opioids; if someone has had recent opioid use, we recommend a COWS score of at least 10 prior to buprenorphine initiation.

Buprenorphine is currently available in a sublingual pill and film form to be taken daily and recently has been approved as a monthly depot-injection (SUBLOCADE™). Buprenorphine should be placed under the tongue to dissolve slowly. This poses a time constraint and potentially a risk in secure environments. For this reason, we recommend, when possible, administering the buprenorphine film to inmates in directly observed treatment (DOT), or if films are cost-prohibitive, crushing buprenorphine pills. After administering, allow at least 5 minutes to ensure the film has dissolved. If it were not even more cost-prohibitive for many systems, the extended-release buprenorphine injection would be an excellent choice for correctional settings, especially if given prior to release to address the risks of cravings and overdose, and to allow for continuation of effective treatment over the course of the first 30 days post-release. It is also wise to remember that as a partial agonist/antagonist, the risk of fatal overdose from buprenorphine is perhaps the lowest of all opioids.

If the correctional facility has an OTP license as described in the methadone section above, this will cover buprenorphine prescribing too for opioid treatment and withdrawal. If the facility does not have an OTP license, buprenorphine may be prescribed for opioid use disorder treatment by any healthcare provider—physician or mid-level—who has obtained a special DEA waiver by completing a DATA 2000 waiver training course or in the case of mid-level practitioners, completing a total of 24 hours of training. These courses are held live and online, and some are free (PCSS, 2020). So long as a provider has an individual DEA number, once they complete the course and a SAMHSA waiver notification form for a new waiver, after uploading their training certificate they will receive an "X-number," that is, a DEA prescribing number and be cleared to start treating patients with opioid use disorder with buprenorphine-based medications. The notification of intent must be submitted to SAMHSA before the initial dispensing or prescribing of opioid treatment. Qualifying practitioners can treat up to 100 patients using buprenorphine for the treatment of opioid use disorder (OUD) in the first year if they possess a DATA 2000 waiver and meet certain requirements. After 1 year, if SAMHSA-defined requirements are met, providers can apply to treat up to 275 patients per year (SAMHSA, 2020).

In terms of cost to correctional facilities, buprenorphine as the medication itself is generally more expensive than methadone. However, federal 340B funding that provides reduced-cost pharmaceuticals to Federally Qualified Health Centers (FQHCs) in the community can provide some relief to correctional facilities, and if there is a positive partnership with a community FQHC, this would be an ideal opportunity to link individuals to treatment on reentry.

When compared to methadone, buprenorphine continuation at reentry is easier for providers to facilitate and for patients to access. As primary care providers with the DATA waiver are able to pre-

scribe, patients have a lower barrier to accessing needed treatment. Buprenorphine treatment in an OBOT also is less structured as compared to methadone in an OTP. Counseling is encouraged but not required; medication visits occur somewhere between weekly and monthly. There is a concern that while buprenorphine is effective in the community, justice-involved individuals may require the structure of an OTP to be successful. However, a recent multisite cohort study of 305 patients living with HIV/AIDS and stratified by self-reported incarceration in the 30 days before initiation of buprenorphine found that there was no significant difference in self-reported opioid use or 6-month or 12-month retention in treatment between those with and without recent incarceration (Riggins et al., 2017). Additionally, if the medication is started immediately prior to or at the time of release, the dose of buprenorphine will be effective in controlling cravings more quickly than the time needed to increase a patient's methadone dose.

When initiated prior to release, buprenorphine does seem to have a positive effect on engagement and community-based treatment retention after release (Zaller et al., 2013). At the time of writing this chapter, buprenorphine initiation in correctional facilities happens infrequently. Patients who enter correctional systems on buprenorphine sometimes may be allowed to remain on the medication, depending on their length of sentence and the facility they will be sent to (Lopez, 2018; Wakeman & Rich, 2015). For these reasons and due to the stigma surrounding opioid agonist therapy, there is currently limited information regarding randomized controlled trials on the efficacy of buprenorphine for the treatment of OUD in correctional systems. Given the trajectory and outcomes of methadone when it is available in corrections, along with the rising tide of interest in treating addiction effectively in the community, we are confident that buprenorphine will be an important part of OUD treatment in corrections in the near future.

Naltrexone

Naltrexone, an opioid antagonist, is most effective as a monthly intramuscular injection in the outpatient setting. Intramuscular depot-naltrexone (XR-NTX, Vivitrol®) was initially approved by the FDA for the treatment of alcohol use disorder in 2006, and in 2010 was approved for the treatment of opioid use disorder. While an oral naltrexone formulation is available, it is generally not effective for preventing opioid use relapse, as people will stop taking the medication. Unlike methadone and buprenorphine, we still do not have sufficient evidence that naltrexone reduces the risk of mortality (Larochelle et al., 2018).

Both the injection and the oral medication necessitate a longer abstinence from opioids than either methadone or buprenorphine, generally at least 5–7 days, as naltrexone initiation can induce withdrawal by causing displacement of any opioids present on opioid receptors. In rare cases, induced withdrawal has been reported as long as 10–14 days out from last opioid use (Center for Substance Abuse Treatment, 2008). The safety and efficacy profile of naltrexone is well understood and, save for the risk of liver enzyme elevation and inducing withdrawal on initiation, comes with few other risks. Liver enzymes should be checked prior to initiation. Transaminases greater than three times the upper limit of normal should be considered a contraindication to naltrexone, and a trial of oral naltrexone, with a dose of 50–100 mg daily for 3 days, should be completed as a trial for side effects. Two of the highly touted aspects of naltrexone are the lack of opioid-related side effects and the potential to concurrently treat alcohol use disorder and opioid use disorder.

The lack of effect of naltrexone, as discussed above, has been attributed to a lack of motivation on the part of subjects. Correctional settings offer a location where motivation can be affected by concerns of punishment. Naltrexone was first used in the United States in a correctional setting as part of a work-release program in Nassau County, New York. In total, 691 work-release inmates struggling

with addiction who had formerly been excluded from work-release were admitted contingent upon starting oral naltrexone to treat their substance use disorders (Brahen et al., 1984). This was not a controlled trial, but the intervention was overall viewed favorably by correctional staff, healthcare providers, and clients. After this initial pilot study's results were disseminated, a trial among 51 federal parolees in whom oral naltrexone therapy was a condition for parole was undertaken. Parole officers directly observed parolees taking naltrexone and conducted weekly urine opioid screens. Compared to historical controls, parolees taking naltrexone for opioid use disorder had higher retention in treatment (52% vs. 33%) and reduced urine opioid screens (8% vs. 30%). In both of these programs, strong motivating factors were present (inclusion in programs previously unavailable to individuals), and adherence was strictly enforced.

The focus on reentry remains the most important. Looking at a more recent treatment at release from jail, a randomized proof-of-concept effectiveness pilot done in NYC demonstrated potential short-term benefits of extended-release intramuscular naltrexone (XR-NTX). Thirty-four adult men with a diagnosis of opioid use disorder and a known release date were recruited between January 2010 and April 2013 and enrolled into this pilot. Seventeen were randomized to one depot-naltrexone shot within 1 week prior to release along with standard counseling. The other 17 received standard counseling. After 4 weeks, 88% of the control group had experienced an opioid relapse, compared to 38% of the treatment group. There was no difference in reincarceration or overdose rates, and patients were not followed further (Lee et al., 2015).

In terms of prison-based programs, an observational pilot study of 27 adult male and female prerelease prisoners were given an injection of XR-NTX prior to release and were offered up to six monthly injections in the community. Only 37% of participants completed all six injections. 0% of participants who completed the full course of treatment submitted a positive urine opioid screen, compared to 63% of all others (Gordon et al., 2015). This pilot study demonstrated the feasibility of beginning XR-NTX in prison and continuing it upon release, but retention rates were notably low, especially compared to other studies with opioid agonists, mentioned above. The short-term benefits are notable, but to date we have little long-term follow-up for justice-involved patients started on naltrexone during or immediately after incarceration.

A Case Study: Rhode Island Department of Corrections

In 2015, the Governor of Rhode Island, watching the opioid epidemic unfold across the nation and taking the lives of Rhode Island residents at a far greater rate, signed an Executive Order to create an Overdose Prevention and Intervention Taskforce to identify solutions for the high rate of opioid overdoses and fatalities. The strategic action plan created aimed to reduce opioid overdose deaths in the state of Rhode Island by one-third in 3 years: through prevention, rescue, treatment, and recovery. Accomplishing that meant for treatment, every door was the right one. The governor approved a $2.5 million budget to Rhode Island's Department of Corrections (RIDOC) for FY17, to be used specifically for MAT services.

Rhode Island has a unified correctional system, meaning combined prison and jail oversight: the men and women's intake facilities, and men's minimum, medium, max, and super-max facilities all operate under the Rhode Island Department of Corrections. Even more unique and due mostly to the small size of the state, all facilities are on one centralized campus.

With the state budget allocation and an ambitious timeframe, RIDOC leadership set out to deliver comprehensive MAT services to all inmates. In addition to a treatment program with recovery coaches provided by the Providence Center, this included a roll-out of screening every individual for opioid use disorder, assessment with a healthcare provider, and ultimately medication initiation/continuation

with buprenorphine, methadone, or depot naltrexone within all state correctional facilities. Given the high risk of death from drug overdose at reentry, RIDOC also needed to ensure smooth transitions for individuals back into their communities with no lapse in treatment. CODAC Behavioral Healthcare, a nonprofit network of 12 community-based Centers of Excellence for MAT answered RIDOC's Request for Proposals and met these needs.

For every individual that now passes through the RIDOC, they are screened at least once for opioid use disorder using the Texas Christian University (TCU) Drug Screen. The first screening is done on a tablet within 24 hours of booking. From that point, any patient with a positive TCU screen is referred to a CODAC counselor and then to a CODAC physician. During this process, a urine drug screen is also obtained. Based on the healthcare provider's assessment and discussion with the patient, treatment with any of the three medications for opioid use disorder (methadone, buprenorphine in the form of Suboxone™ crushed tabs, or naltrexone closer to release, with a trial of oral naltrexone to ensure there are not side effects and then XR-NTX prior to release) is offered. The most appropriate medication is tailored to the patient based on many factors but especially patient preference. The state of Rhode Island has demonstrated preliminary data showing a decrease in the state's rate of overdose deaths of individuals released from incarceration by 61% (Green et al., 2018).

In a security setting, diversion has been and will continue to be the most important risk to discuss. Directly observed therapy (DOT), in particular of methadone and buprenorphine, significantly reduces the risk of diversion. Methadone remains fairly easy to administer and observe as it is in a liquid form, an oral concentrate. Buprenorphine in its two sublingual forms requires more time to ensure the tablet or film has dissolved. RIDOC initially treated patients with buprenorphine tablets but quickly moved to films, and then to crushed tablets, the latter two of which dissolved faster and were more conducive to DOT. Films/tabs should also be counted each shift. With Sublocade™, the concern for diversion would be far reduced.

Legal Implications in Treating Substance Use Disorders During Incarceration

Despite the serious public health need for access to evidence-based pharmacological treatment for substance use disorders, a vast majority of correctional facilities across the United States are still not engaging in this work. Many facilities still discontinue inmates' OUD medications on commitment, or, slightly less terribly, taper inmates off of their long-term medications within 30 days of incarceration. The withdrawals that ensue can be horrendous, and at times life-threatening. There have been multiple successful litigations as of late against correctional facilities denying inmates access to treatment for their substance use disorders. In December of 2019, the American Civil Liberties Union filed a case (Sclafani v. Mici, 2019) against the Massachusetts Department of Corrections, arguing that inmates in the DOC with an opioid use disorder must have access to treatment, namely, MAT. This case followed two prior cases in Massachusetts that also argued for the continuation of inmates' medications for opioid use disorder while incarcerated. These cases and the ones that will inevitably follow will likely move the dial on allowing more widespread access to medications for opioid use disorder during incarceration.

Medications for Alcohol Use Disorder

To date, the three medications that follow have not been rigorously evaluated in correctional settings for their effectivity in treating alcohol use disorder. Disulfiram is no longer considered a first-line treatment. As they do not pose the same diversion risk and concerns as methadone and buprenorphine,

use of medications for the treatment of alcohol use disorder has been less contentious in correctional settings. All medications for alcohol use disorder rely on a baseline level of motivation, whether it is external, internal, or both. The information that follows is based on data and information from community settings.

Acamprosate

Acamprosate is a GABA analogue and, while not fully understood, is thought to increase the glutamate effect at NMDA-type receptors. This aims to restore the neuronal excitatory/inhibitory balance that is thought to be altered in alcohol use disorder (Kalk & Lingford-Hughes, 2014).

Medication adherence to acamprosate is of concern as it must be taken three times a day. In a large multicenter trial comparing naltrexone, acamprosate, or a combined behavioral intervention, there was no benefit of acamprosate over placebo (Krupitsky et al., 2006).

Naltrexone

This medication has been described in detail above, and as noted, XR-NTX was initially approved for alcohol use disorder treatment, and later for opioid use disorder treatment. As ethanol activates the opioid system which results in various neurotransmitter activation, utilizing naltrexone to block opioid receptors provides an interruption in the activation cascade and decreases a desire for heavy drinking (Baldin et al., 2003; Gianoulaakis et al., 1996). When considering dual treatment for alcohol use disorder and opioid use disorder, XR-NTX should certainly be considered.

Disulfiram

No longer considered a first-line treatment, disulfiram (Antabuse®) is a once-a-day pill that works by blocking the alcohol oxidation, causing increased levels of acetaldehyde accumulation. This produces unpleasant symptoms such as nausea, vomiting, seating, chest pain, tachycardia, headaches, flushing, and palpitations. It is a medication that works solely through negative reinforcement. As cessation of disulfiram does not have any adverse consequences, patients will stop taking this medication regularly.

Other Substance Use Disorders

As of yet there have not been any pharmacologic breakthroughs to treat methamphetamine, cocaine, cannabinoid, or other substance/polysubstance use disorders.

Methamphetamines are the second most commonly used illicit substance worldwide, following cannabis. Methamphetamine use disorder is becoming more common in select cities across the country, and pharmacotherapy exploration for its treatment remains in early stages (Elkashef et al., 2008). While no broadly effective medication has been put forth, there have been some potential in-roads with methylphenidate, naltrexone, bupropion, and mirtazapine in reducing stimulant use (Brensilver et al., 2013).

Transitions of Care

Despite it being the point at which incarceration ends, reentry is the most important moment to consider when understanding how to care for a justice-involved individual struggling with addiction. Transitions back into the community pose tremendous risks and uncertainty to patients. For an individual with potentially no housing, no job, no access to health care nor access to an ID, reentry can be overwhelming. The desire to use increases during times of stress, and without systems of support in place, this can be disastrous. In a large retrospective study looking at 30,237 released inmates from Washington state prisons, 443 died during a mean follow-up period of 1.9 years. Drug overdose was the leading cause of death among former inmates in this study, with 103 individuals suffering a fatal overdose. Even more devastating, in the first 2 weeks after release, the relative risk of drug overdose for released inmates was 129 times greater, as compared to other Washington state residents (Binswanger et al., 2007). As highlighted previously, the majority of correctional facilities do not currently provide adequate access to medications for addiction treatment. In the frightening world of fentanyl and a higher risk of fatal overdose, it is imperative that we advocate for our patients to have access to evidence-based treatments for addiction before we send them off into the fray.

Steps Forward

The implementation of medications for addiction treatment in correctional settings does not exist in a healthcare vacuum, like a hospitalization for an acute illness. In order to effectively treat addiction, we need a common understanding: addiction is not a moral failing. It is a chronic brain disease. It changes the way that brains are wired, and in order to allow people to return to normalcy and reintegrate into their communities, we have to help them take the weight of addiction off their shoulders before they can rise up. To be successful in helping justice-involved individuals overcome addiction, we must have political buy-in, endorsement from correctional leadership, and collective agreement and understanding among correctional staff.

At a federal level, we have witnessed a tide change in the way that the United States views drug use and overdose, specifically opioids. There is more compassion, more understanding, than there has been in a long time. While nationally more politicians desire to engage their communities, this focus does vary greatly between states, and there can be markedly different responses based on the drug in question.

Correctional leadership plays an invaluable role in moving the dial. The National Sheriff's Association, in conjunction with the NCCHC, recently published an excellent jail-based MAT guidance document providing best practices and resources. With leadership calling for change, the daily work by correctional staff must also be supported. Staff will likely require education from trusted medical and correctional sources. Correctional staff see the worst-case scenarios of addiction, mental illness, violence, and poverty. The chronic psychosocial problems that affect individuals in the general population who struggle with substance use disorders are magnified for justice-involved people. When individuals are able to exit the criminal justice system, correctional staff does not witness those successes. When possible, we recommend presenting cases to correctional staff individuals who have taken their lives back thanks to MAT. In Rhode Island, for every new class of correctional officers, Medical Services hosts an education session on MAT in partnership with security leadership.

Until the majority of correctional facilities are providing these services, health services workers, especially those directly interacting with treatment dispensing in the setting of opioid agonists, may

also require additional compensation. Negotiations with unions, from correctional officers to nurses, are common occurrences. These conversations all require a major time and energy investment.

During the current COVID-19 pandemic, we have already witnessed an increase in overdose deaths in the initial months of the pandemic. Fortunately, emergency regulations now allow buprenorphine, and to a lesser extent, methadone, to be more widely available to patients struggling with opioid use disorder. It is our hope that these regulations prevent deaths and by doing so remain in place after the pandemic. As mentioned before, methadone for the treatment of OUD in other countries is safely provided by primary care physicians. In our fractured and complex healthcare system, we must meet patients where they are, instead of increasing their barriers to accessing care when they need it most.

Medications for addiction treatment save lives. In corrections, we are moving from a focus on incarceration and punishment to rehabilitation. As correctional health providers, we must ensure our patients have access to the tools they need to lead healthy lives.

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