MEDICATION ASSISTED TREATMENT (MAT)

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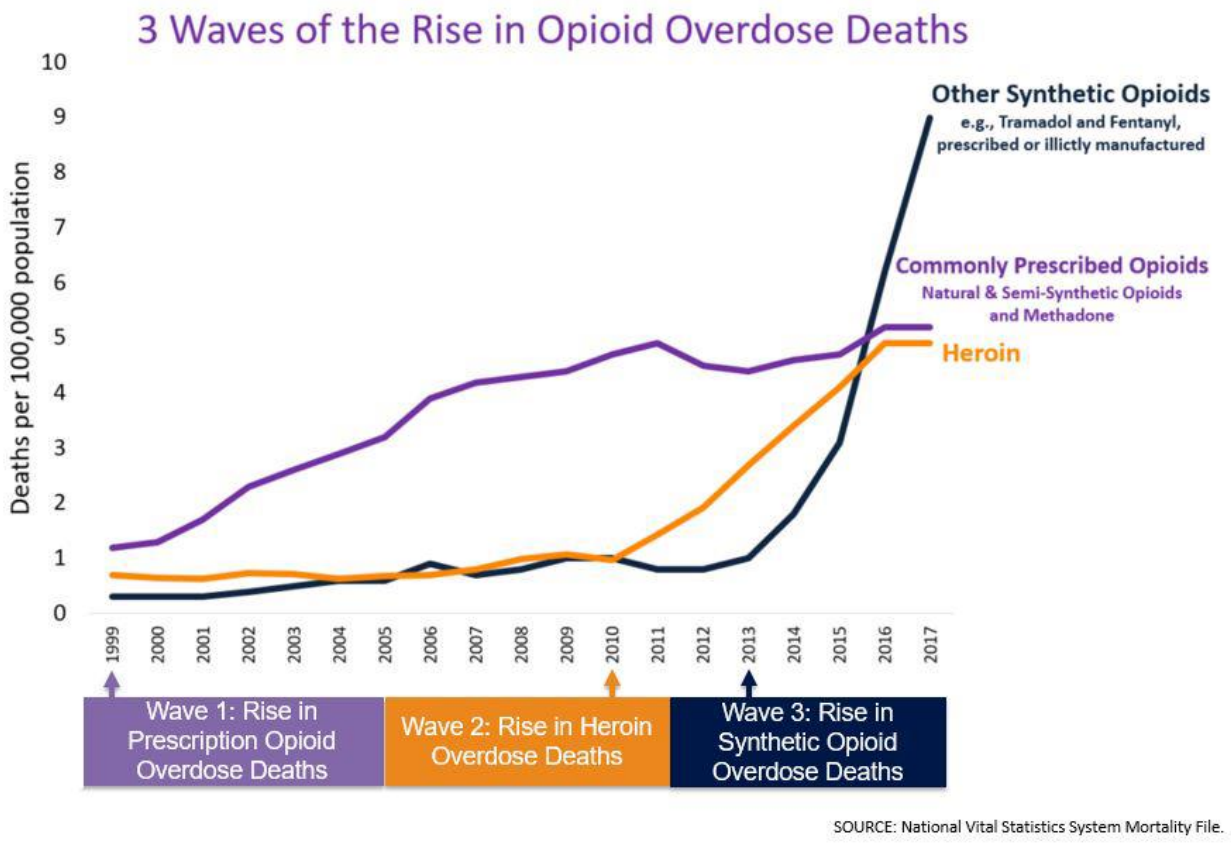
INTRODUCTION

News media are full of headlines about the opioid crisis becoming more prominent throughout the nation. Opioids include more than just the commonly known illegal drugs such as heroin and fentanyl, but include many legal prescription painkillers, including oxycodone and hydrocodone (also known by the brand names OxyContin® and Vicodin®, respectively), codeine, and morphine. According to the Centers for Disease Control and Prevention, deaths from drug overdose continue to rise in the United States:

- From 1999 to 2017, more than 700,000 people died from a drug overdose.
- Around 68% of the more than 70,200 drug overdose deaths in 2017 involved an opioid.
- In 2017, the number of overdose deaths involving opioids (including prescription opioids and illegal opioids like heroin and illicitly manufactured fentanyl) was 6 times higher than in 1999.
- On average, 130 Americans die every day from an opioid overdose[1].

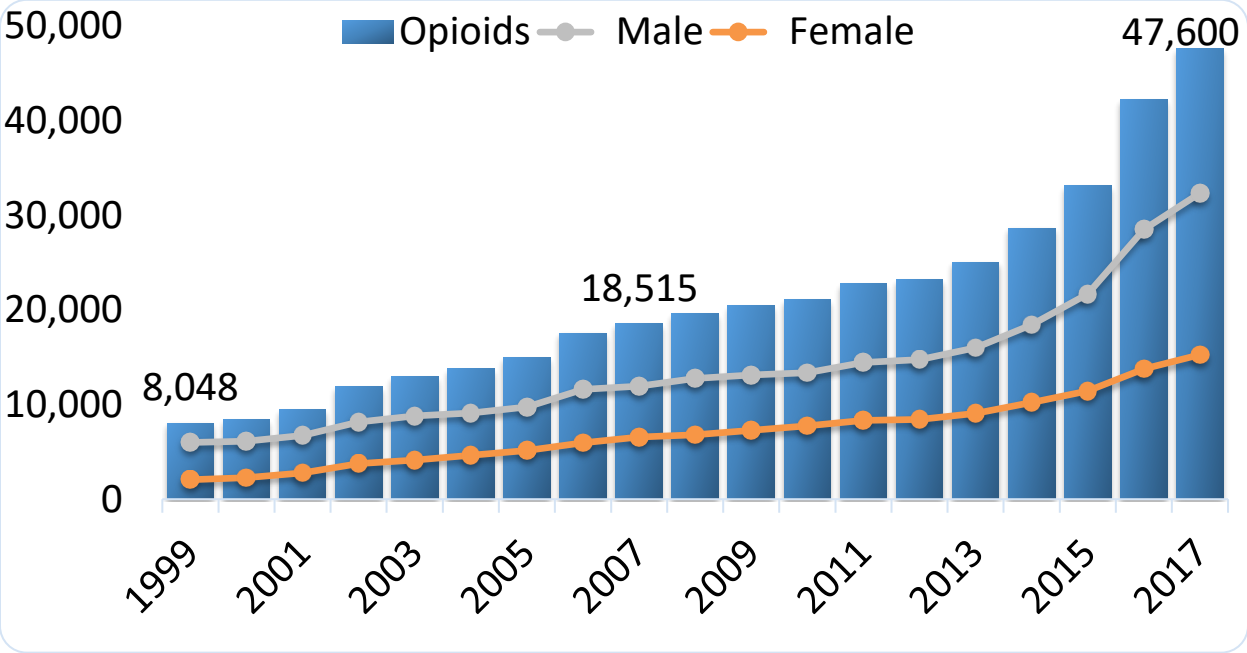


SOURCE: National Vital Statistics System Mortality File.

[1] https://www.cdc.gov/drugoverdose/epidemic/index.html

National Drug Overdose Deaths Involving Any Opioid

Among All Ages, by Gender, 1999-2017[2]



Source: Centers for Disease Control and Prevention, National Center for Health Statistics

Medication Assisted Treatment (MAT), including opioid treatment programs, combines counseling, behavioral therapy, and medications approved by the Federal Drug Administration (FDA) to provide a "whole-person" approach to treat substance use disorders (SUDs). MAT for opioid addiction is subject to federal legislation, regulations, and guidelines, including the Drug Addiction Treatment Act of 2000 (DATA 2000) and federal regulations found at 42 CFR 8.

While MAT has been proven effective in treating opioid addiction, it has not yet reached the widespread implementation level necessary to eradicate the preventable deaths caused by opioid overdose. There are many misperceptions about MAT, such as that it simply trades one addiction for another or that withdrawal and abstinence are equally effective, that may be a significant barrier to widespread implementation. While long-term results are still pending, many groups have already seen immediate improvements in behavioral stability and a decrease in the number of overdoses.

The National Academies of Sciences, Engineering and Medicine define Opioid Use Disorder (OUD) as a "treatable chronic brain disease resulting from the changes in neural structure and function that are caused over time by repeated opioid use."[3] As such, it is considered a disability under Section 504 of the Rehabilitation Act, the Americans with Disabilities Act, and Section 1557 of the Affordable Care Act, when the drug addiction substantially limits a major life activity.[4] Due to this, MAT may be viewed as a reasonable accommodation for persons with disabilities, and

[2] https://www.drugabuse.gov/related-topics/trends-statistics/overdose-death-rates
[3] http://www8.nationalacademies.org/onpinews/newsitem.aspx?RecordID=25310
[4] https://www.hhs.gov/sites/default/files/drug-addiction-aand-federal-disability-rights-laws-fact-sheet.pdf

may also be required under federal and State law. In May of this year, the United States Court of Appeals for the First Circuit in Boston ruled that a rural Maine jail must provide an inmate with medication to continue her treatment for OUD.

Dr. Corey Waller is an expert in the field of addiction medicine and has over a decade of experience teaching and training on the evidence-based treatment of addiction. Visit the following webpage to watch a video where he thoroughly explains the science of addiction and how to treat it in easy-to-understand terms.

https://www.youtube.com/watch?v=bwZcPwlRRcc&feature=youtu.be

Providing MAT through the criminal justice system can provide a unique opportunity to address the opioid crisis and provide another tool to reduce recidivism rates. The National Institute of Drug Abuse believes that "incarceration is an important opportunity to treat drug addiction" due to the following:

- Sixty-five percent of all incarcerated individuals meet the criteria for a substance use disorder.
- Use of opioids is linked with a higher rate of recidivism.[5]

Additionally, the U.S. Department of Health and Human Services Substance Abuse and Mental Health Services Administration (SAMHSA) states that "for persons with an opioid use disorder who are in the criminal justice system, the process of transitioning from prison or jail back to the community can be overwhelming. Within three months of release from custody, 75 percent of people who were in prison or jail with an opioid use disorder experience a relapse to opioid use. Incarcerated persons who are released to the community are between 10 and 40 times more likely to die of an opioid overdose than the general American population—especially within a few weeks after reentering society." [6]

The Solano County Results First Collaborative study has calculated or estimated that preventing one person from recidivating can avoid County cost of over $121,000 in arrest, incarceration, prosecution, defense, and treatment. Saving a life is priceless.

MEDICATION ASSISTED TREATMENT

As noted above, MAT is a "whole-patient" approach to treating opioid addiction through a combination of medication, counseling, behavioral therapy, and vocational and educational services. These are required under federal law for any MAT program.

The medication, like many others, may need to be taken for extended periods of time, even for a person's entire lifetime. According to SAMHSA, "a common misconception associated with MAT is that it substitutes one drug for another. Instead, these medications relieve the withdrawal

[5] https://www.drugabuse.gov/publications/treating-opioid-addiction-in-criminal-justice-settings/treating-opioid-addiction-in-criminal-justice-settings
[6] https://blog.samhsa.gov/2019/03/15/breaking-the-cycle-medication-assisted-treatment-mat-in-the-criminal-justice-system

symptoms and psychological cravings that cause chemical imbalances in the body. MAT programs provide a safe and controlled level of medication to overcome the use of an abused opioid."[7]

What medications are used?

There are a variety of medications approved by the FDA for use in treating opioid addiction, and often brand names and generic names are used interchangeably. To reduce confusion, only the most commonly used medications are listed below.

Naltrexone - Naltrexone is used to block cravings for both opioids and alcohol. It is slow acting and long lasting. Due to its slow acting nature, it is not used for overdose rescue.

Naloxone (brand name Narcan) – Different from Naltrexone, Naloxone is a medication "approved by the FDA to prevent overdose by toxic opioids such as heroin, morphine, and oxycodone. It blocks opioid receptor sites, reversing the effects of the overdose." [8] Forms include intranasal spray and injection.

Buprenorphine – According to SAMHSA, "buprenorphine is the first medication to treat opioid dependency that is permitted to be prescribed or dispensed in physician offices, significantly increasing treatment access. Under the Drug Addiction Treatment Act of 2000, qualified U.S. physicians can offer buprenorphine for opioid dependency in various settings, including correctional facilities.

Buprenorphine has unique pharmacological properties that help:

- Lower the potential for misuse.
- Diminish the effects of physical dependency to opioids, such as withdrawal symptoms and cravings.
- Increase safety in cases of overdose.

Like opioids, buprenorphine produces effects such as euphoria or respiratory depression. With buprenorphine, however, these effects are weaker than those of full drugs such as heroin and methadone.

Because of buprenorphine's opioid effects, it can be misused, particularly by people who do not have an opioid dependency. Naloxone is often added to buprenorphine to decrease the likelihood of misuse." [9]

Suboxone - Suboxone is the brand name for a medication that combines naloxone and buprenorphine. It is a film taken under the tongue. As is true with other opioids, physical dependency is a possibility, but it is different from drug addiction. Suboxone is a controlled substance.[10]

Methadone – SAMHSA explains to us that "methadone works by changing how the brain and nervous system respond to pain. It lessens the painful symptoms of opiate withdrawal and blocks

[7] https://www.samhsa.gov/medication-assisted-treatment/treatment#medications-used-in-mat
[8] https://www.samhsa.gov/medication-assisted-treatment/treatment/naloxone
[9] https://www.samhsa.gov/medication-assisted-treatment/treatment/buprenorphine
[10] https://www.suboxone.com/

the euphoric effects of opiate drugs such as heroin, morphine, and codeine, as well as semi-synthetic opioids like oxycodone and hydrocodone." [11] It has been used effectively to treat heroin and prescription pain medication addictions for many years. Methadone is a Schedule II drug according to the United States Drug Enforcement Administration, meaning it is defined as a drug "with high potential for abuse, with use potentially leading to severe psychological or physical dependence. These drugs are also considered dangerous." [12] Methadone is a controlled substance and can be addictive.

It is important to note the difference between drug addiction and physical dependency. The Center on Addiction and Substance Abuse, an organization started at Columbia University in 1992 by former U.S. Secretary of Health, Education and Welfare under former President Carter and Chief Domestic Advisor to former President Johnson, Joseph Califano Jr., focuses on alcohol, tobacco, drug abuse, and addiction. They explain the difference as follows: "Physical dependence is not the same as addiction. Physical dependence occurs when the brain adapts to the effects of a drug and develops tolerance. In other words, an individual will require more and more of the drug to achieve the initial positive effect and will rely on continued use of the drug to prevent painful and uncomfortable withdrawal symptoms.

"Unlike addiction, physical dependence can easily be managed and resolved by slowly lowering the dose, or "tapering." A person who is physically dependent on prescribed opioid medications, such as Vicodin or OxyContin, but is not addicted, will not experience a loss of control, strong cravings, compulsive drug use, a failure to meet work, social, or family obligations, or other negative symptoms that characterize addiction.

"On the other hand, a person who has addiction no longer takes a drug just to feel its effects, but rather to escape withdrawal and simply feel closer to normal. Addiction affects the parts of the brain responsible for decision-making and self-control, so a person suffering from addiction will continue to use the drug despite serious life consequences, such as losing a job, getting arrested, or suffering an overdose.

While the opioid-based medications used in MAT to treat opioid addiction may lead to physical dependence, they do not typically cause a person to become "addicted" when used as prescribed by a doctor."[13]

<u>Behavioral Therapy</u>

Behavioral therapy is not one but many kinds of therapies that seek to address mental health disorders, including drug addiction. Because behaviors are learned, the premise of behavioral therapy is that negative and destructive behaviors can be changed through different types of therapy, which include, but are not limited to, cognitive behavioral therapy and system desensitization.

Cognitive Behavioral Therapy

[11] https://www.samhsa.gov/medication-assisted-treatment/treatment/methadone
[12] https://www.dea.gov/drug-scheduling
[13] https://www.centeronaddiction.org/the-buzz-blog/understanding-difference-between-physical-dependence-and-addiction

The American Psychological Association shows the core principals of Cognitive Behavioral Therapy, or CBT, as:

1. Psychological problems are based, in part, on faulty or unhelpful ways of thinking.
2. Psychological problems are based, in part, on learned patterns of unhelpful behavior.
3. People suffering from psychological problems can learn better ways of coping with them, thereby relieving their symptoms and becoming more effective in their lives.

CBT treatment usually involves efforts to change thinking patterns. These strategies might include:

- Learning to recognize one's distortions in thinking that are creating problems, and then to reevaluate them in light of reality.
- Gaining a better understanding of the behavior and motivation of others.
- Using problem-solving skills to cope with difficult situations.
- Learning to develop a greater sense of confidence is one's own abilities.[14]

Systematic Desensitization

Simplypsychology.org explains Systematic Desensitization as "a type of behavioral therapy based on the principle of classical conditioning… (it) aims to remove the fear response of a phobia and substitute a relaxation response to the conditional stimulus gradually using counter conditioning."[15]

MAT IN CORRECTIONAL SETTINGS

Substance use disorders, or SUDs, are prevalent in correctional settings. The Council of State Governments, a national membership association representing state officials in all three branches of government, goes so far as to state that "the majority of people in prison and jail have an SUD."[16]

A 2017 U.S. Department of Justice special report on drug use and dependence among jail inmates states that "58% of state prisoners and 63% of jail inmates during 2007-2009 met the DSM-IV (Diagnostic and Statistical Manual of Mental Disorders, 4th Edition) criteria for drug dependence or abuse for any drug."[17] This information predates California's 2011 jail realignment, suggesting that the percentage of jail inmates meeting the criteria is higher now that most drug offenses would result in a jail sentence rather than a prison term.

In notable comparison, only 5% of the general adult population met this same definition for the same time period.

[14] https://www.apa.org/ptsd-guideline/patients-and-families/cognitive-behavioral
[15] https://www.simplypsychology.org/Systematic-Desensitisation.html
[16] https://csgjusticecenter.org/substance-abuse
[17] https://www.bjs.gov/content/pub/pdf/dudaspji0709.pdf

Solano County currently has 748 persons incarcerated in its three Detention Facilities. Applying the above percentage (63%) suggests approximately 471 people have an SUD, and of those, 188 have an Opioid Use Disorder (OUD).

The high density of people with an OUD in jail is not the only reason that correctional facilities are an excellent environment to provide treatment. These facilities are controlled and regulated, providing the stability needed to ensure treatment plans are followed. Additionally, the National Sheriffs' Association suggests that treating inmates with OUD with methadone, buprenorphine or naltrexone can reduce recidivism and decrease costs. [18]

Successful Jail-Based MAT Programs

The Rhode Island Department of Corrections (RIDOC) initiated its program in 2016 after realizing that data reflected 21% of the state's overdose victims had been incarcerated within the two years prior to their deaths. Prior to MAT implementation, RIDOC had withdrawn inmates from MAT within 30 days of entering their facilities. Their practice has since changed, with all incoming inmates being screened and assessed for MAT, and being initiated into the program as needed, or continued for those coming in already on a MAT program. As a result, 72% of individuals on MAT continued with MAT upon release, post-release deaths decreased by 60%, and the opioid related deaths statewide dropped by 12%.[18]

The Louisville Metro Department of Corrections (LMDC) also initiated its program in 2016 after heroin-related arrests jumped from 120 in 2010 to 1,501 in 2014, and discovering that the county had had the highest number of overdose deaths of any Kentucky county in 2015 (268). What started out as a voluntary 90-day program was expanded to all inmates, including those with less than a 90-day sentence. As a result, as of January 2018, 200 individuals have graduated from LDMC's MAT program, and 47% have remained arrest-free upon release. [18]

Other major correctional facilities have implemented a MAT program: Los Angeles County Department of Health Services-Correctional Health Services; Sacramento County Jail; Middlesex Jail and House of Correction, Massachusetts; and Snohomish County Jail, Washington.

Additionally, France has had high success rates with its buprenorphine program, where general practitioners may prescribe the medication and prescriptions may be filled at retail pharmacies. The chart above shows its results: the number of deaths cause by heroin overdoses decreased by 80% between 1994 and 2002. [19] (see chart on next page)

Support for MAT

With growing evidence to support the use of MAT to address the opioid epidemic, many groups have adopted policies and practices to put MAT in correctional settings.

In 2017, the National Sheriffs' Association adopted a resolution showing its support "for the use of non-narcotic, evidence-based medication-assisted treatment for opioid dependence after detoxification within the confines of a jail or other secure facility…" This would exclude commonly used treatment medications such as methadone and buprenorphine. However, in October of 2018, just one year later, the Association, in conjunction with the National Commission on

[18] http://www.sheriffs.org/publications/Jail-Based-MAT-PPG.pdf
[19] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3949694/

Correctional Health Care, released *Promising Practices, Guidelines, and Resources for the Field* for jail-based MAT, which includes use of the above medications.

Results of MAT Implementation in France

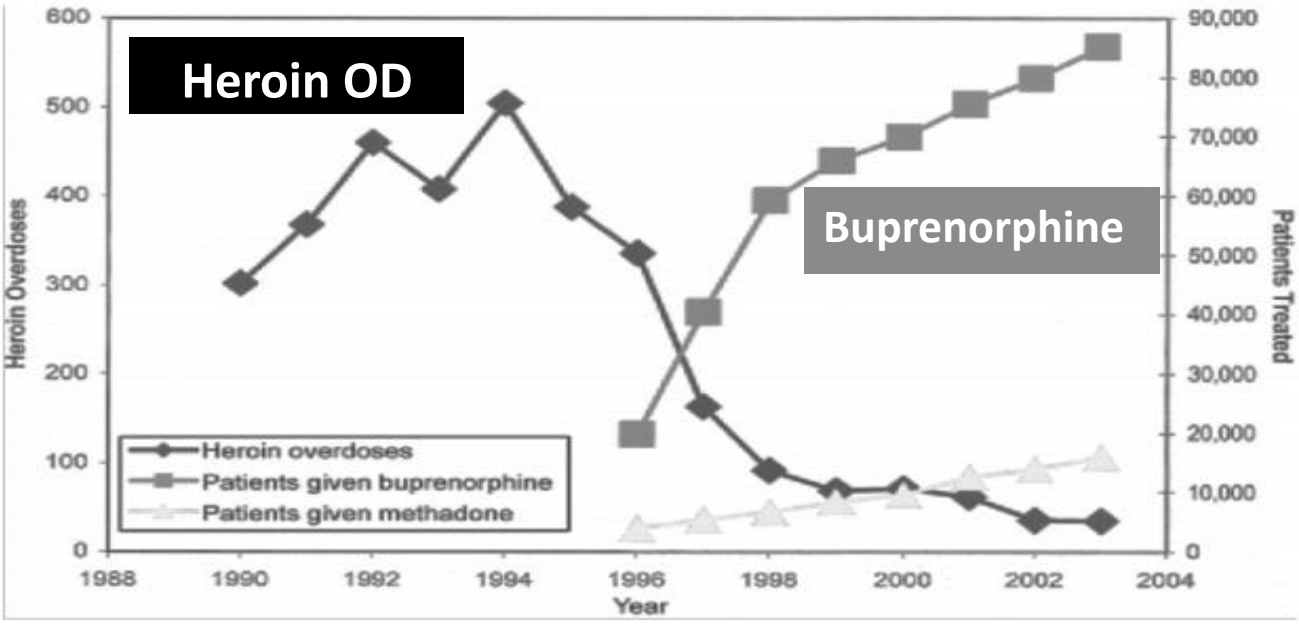


Figure 2. From: Carrieri, Maria Patrizia, et al. "Buprenorphine use: the international experience." Clinical Infectious Diseases 43.Supplement 4 (2006): S197-S215.

Available MAT Programs

The California MAT Expansion Project

In an effort to address the opioid epidemic throughout the state, the California Department of Health Care Services (DHCS) is implementing the California Medication Assisted Treatment (MAT) Expansion Project. The California MAT Expansion Project aims to increase access to MAT, reduce unmet treatment need, and reduce opioid overdose related deaths through the provision of prevention, treatment, and recovery activities. The California MAT Expansion Project focuses on populations with limited MAT access, including rural areas and American Indian & Alaska Native tribal communities. The California MAT Expansion Project is funded by grants from SAMHSA.

The California MAT Expansion Project is composed of several projects which are led by a diverse team of stakeholders and partners throughout the state. To learn more about implementation efforts and access additional resources and information, visit the California MAT website at www.californiamat.org

The Naloxone Distribution Project (NDP)

The NDP is funded by SAMHSA and administered by DHCS to combat and reduce opioid overdose-related deaths throughout California through the provision of free naloxone, in its nasal spray form.

CONCLUSION

Medicated Assisted Treatment is an evidence-based effective treatment for opioid addiction that can save lives. It can also be an effective tool in improving behaviors in correctional facilities and reducing recidivism upon release. While not yet widely implemented due largely to what may be perceived as providing drugs to substitute one addiction for another, it is slowly finding its way into the nation's correctional facilities, and in California, it is supported by the California Department of Health Care Services (DHCS) as a tool and part of addressing SUDs while incarcerated to help reduce recidivism.