

CONNECTICUT MEDICAL ASSISTANCE PROGRAM DEPARTMENT OF SOCIAL SERVICES & HEALTH INFORMATION DESIGNS



Connecticut Medical Assistance Program Quarterly Newsletter

The December newsletter is the first in a two-part series on opioid use disorder (OUD), the first of which will cover the history of opioid use in the U.S., actions leading up to the current epidemic, and measures taken to combat opioid use in our country.

OUD is a chronic relapsing illness with severe physical, mental, and social consequences. Anyone can develop OUD, a chronic disease that often requires chronic treatment. Patients can experience an inability to stop using opioids regardless of the negative consequences.¹ Risk factors for OUD include: genetics, age at initiation, lower education and socioeconomic status, and comorbid psychiatric conditions. Psychiatric disorders such as anxiety, depression, and mood disorders are common in patients diagnosed with OUD and can increase the risk of OUD.² Other comorbidities include Human Immunodeficiency Virus (HIV) and Hepatitis C infection associated with intravenous (IV) drug use.³ Injecting opioids also puts patients at risk for bacterial endocarditis, cellulitis, and osteomyelitis.³

Prescription and illicit opioids exert their effect by binding to the μ -opioid receptors in the brain and throughout the body. Opioids exhibit a multitude of effects such as analgesia, euphoria, sedation, constipation, slowed heart rate and respiratory depression.⁴ Tolerance to these effects develops when opioids are taken chronically. There is

no ceiling effect for full opioid agonists, therefore, the higher the tolerance, the more opioid is needed to achieve the same effect.

While opioids have been in existence for thousands of years, opioid use in the U.S. began with: laudanum, a mixture of opium and alcohol used to treat pain; opium, used in opium dens; and morphine, the cause of the "soldiers disease" after the American Civil War and also main ingredient in many over-the-counter health care products.⁵ After heroin was synthesized in 1874, Bayer pharmaceuticals went on to market and sell heroin containing products to American consumers as analgesics and cough suppressants, citing their use as safe and non-habit forming. Due to the lack of regulation on opioids and cocaine in the U.S., the Harrison Act of 1914 was enacted to establish regulation and taxation on opioids and cocaine and to decrease the prescribing of those products. It required pharmacists and physicians to track and record the dispensing of narcotics.^{6,7}

Heroin was made illegal in 1924 but the



damage was done and, people in the U.S. needed treatment options for opioid addiction.⁷ During the late 1920s, federal legislation approved two inpatient public health hospitals (also known as narcotics hospitals) to care for patients while also conducting research into opioid addiction. These hospitals were the first of their kind, federally funded institutions which specialized in the treatment and research of addiction. Treatment at these facilities began in 1935 (one in Lexington, Kentucky and the other in Fort Worth, Texas) and served both volunteer and incarcerated patients.⁶ Treatment included "healthy living and hard work in a rural setting."⁶ Patient withdrawal was managed with psychotherapy and standard healthcare. Volunteer patients typically left post withdrawal whereas incarcerated patients stayed for the remainder of their incarceration.⁶

Outpatient treatment clinics were not established until the 1960s when meth-



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adone maintenance was introduced.^{6,8} In 1963, New York City opened the first ever methadone clinic. In tandem with this effort, the Special Action Office for Drug Abuse Prevention (SAODAP) paved the way for “DEA-approved narcotic treatment programs” or what is now referred to as Opioid Treatment Programs, or OTPs. SAODAP helped to change legislation around methadone use for opioid addicted patients, while educating the nation to the benefits of methadone. During this time, methadone was used as a time limited therapy. Patients would receive the medication for a short duration and be tapered off. While it was controversial at the time, it is now widely accepted that longer periods of methadone maintenance correlate with better patient outcomes.⁸

Establishment of the Narcotic Addict Rehabilitation Act (NARA) of 1966 allowed people charged with federal drug crimes to choose treatment in lieu of prison while also expanding post inpatient care for addiction in the community setting. The two narcotics hospitals

DEA Aggregate Production Quotas for Yearly Opioid Manufacturing

Opioid	2015 Quota (Grams)	2020 Quota (Grams)	Percent Change
Fentanyl	2,300,000	813,005	-65%
Hydrocodone	99,625,000	34,836,854	-65%
Hydromorphone	7,000,000	3,054,479	-56%
Meperidine	6,250,000	1,463,873	-77%
Methadone	31,875,000	22,278,000	-31%
Morphine	62,500,000	29,353,655	-53%
Oxycodone	137,500,000	72,593,983	-47%
Oxymorphone	7,750,000	1,290,051	-83%
Tapentadol	12,500,000	13,447,541	+8%

1,000,000 grams = 2,200 lbs = 1.1 tons
Federal Register 9/12/2019

Figure 1

in Lexington and Fort Worth provided inpatient care while community-based care was developed and expanded to assist after release. NARA was the beginning of community outpatient addiction treatment funded by federal grants.⁶

Around this same time clonidine, a central α -2 agonist, was introduced to treat symptoms of acute withdrawal such as

anxiety. Benzodiazepines were also added to withdrawal protocols to aid in symptomatic withdrawal. These medications are still used today to assist with medically supervised withdrawal.⁸ Naltrexone, an opioid antagonist, was introduced in the 1970s as a non-opioid option to treat OUD.⁸ Buprenorphine was also introduced in the 1970s. Testing of buprenorphine in patients initially occurred at the hospital in Lexington.⁶ Widespread use of buprenorphine did not occur until the 2000s when the Drug Addiction Treatment Act of 2000 (DATA 2000) was signed into law establishing legislation to allow providers to prescribe buprenorphine, a partial opioid agonist, to patients for OUD, providing they complete the necessary training and receive a waiver to prescribe the medication.⁶ Buprenorphine is the only medication that is FDA approved for use under DATA 2000 to treat OUD.⁶

The narcotics hospitals closed in 1974 and were converted to traditional federal prisons⁶ but, throughout the 1970s and 1980s, methadone clinics continued to expand in the U.S. Prescribers went through a period of opiophobia, or fear of prescribing opioids, during the

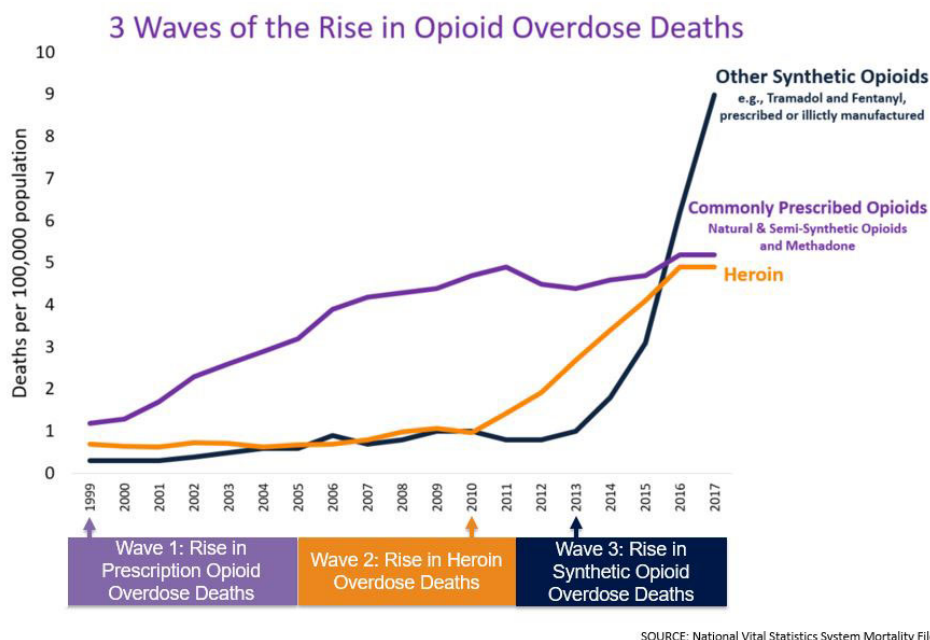


Figure 2. Nationally, the U.S. opioid epidemic has 3 overdose death waves associated with it: prescription opioids, then heroin, lastly synthetic opioids.²¹

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next two decades.⁹

The fear of opioid use to treat pain and the potential for addiction started to shift. In January 1980, a five-sentence letter to the editor was published in the New England Journal of Medicine.¹⁰ The letter was a report from the Boston Collaborative Drug Surveillance program. Almost 12,000 hospitalized patients were reviewed and only four cases of addiction were found. The conclusion was “despite widespread use of narcotic drugs in hospitals, the development of addiction is rare in medical patients with no history of addiction.”¹⁰ In 1986, another article was published stating opioids were a safe option for treatment of non-cancer pain, citing only 2 of the 38 patients evaluated developed addiction after receiving chronic opioid therapy.¹¹ In 1995, pain was introduced as the “fifth vital sign” by

president James Campbell of the American Pain Society. From there, other groups and institutions began promoting the use of opioids for non-cancer pain and supporting pain as the fifth vital sign. During 1999, the VA mandated the evaluation and treatment of patient pain during each appointment¹² and, in 2000, The Joint Commission (TJC) required assessment of pain management for accreditation of healthcare facilities.^{13,14}

Due to these widespread changes:

- ◆ Required prescriber assessment of patient pain
- ◆ New standards for pain management
- ◆ Increase in opioid use
- ◆ Misconception of opioid safety

Pharmaceutical companies became involved in production, marketing, and promotion of opioids while the medical

community and literature supported the use of opioids for all types of pain.⁹ The addictive potential of prescription opioids was underestimated by our healthcare system while the pharmaceutical industry was promoting the use of these agents. Opioid use became epidemic, prescription opioid counts soared, and deaths related to prescription opioids climbed.

In response to the opioid epidemic in the U.S., state and federal governments stepped in with solutions. Medicaid expansion occurred through implementation of the Affordable Care Act (ACA) in 2010 which increased the accessibility of substance use disorder (SUD) treatment for many low-income people.^{15,16} In 2011, the Prescription Drug Abuse Prevention Plan was developed by the Office of National Drug Control and the Department of Health

Connecticut Accidental Drug Intoxication Deaths Office of the Chief Medical Examiner

Figure 3

	2012	2013	2014	2015	2016	2017	2018	2019 (Jan-June)	2019 (projected)
Accidental Intoxication Deaths*	357	495	568	729	917	1038	1017	544	1088
Opioids									
-Opioid in any death	298	419	513	663	861	961	948	511	1022
-% intoxication deaths with an opioid	83%	85%	90%	91%	94%	93%	93%	94%	94%
-Fentanyl in any death	14	37	75	189	483	677	760	423	846
-% intoxication deaths with fentanyl	4%	8%	13%	26%	53%	65%	75%	78%	78%
-Fentanyl + Cocaine	2	16	14	42	143	220	270	159	318
-Fentanyl + Prescription Opioid	4	7	14	23	72	75	119	59	118
-Fentanyl + Heroin	1	9	37	110	279	333	303	158	316
-Fentanyl/Opioid Analogues**				13	70	142	254	98	196
-Heroin, Morphine, and/or Codeine	195	286	349	446	541	498	407	200	400
-Heroin in any death	174	258	327	417	508	474	391	193	386
-Heroin + Fentanyl	1	9	37	110	279	333	303	158	316
-Heroin + Cocaine	50	69	73	107	153	169	134	65	130
-Morphine/Opioid/Codeine NOS	21	28	22	29	33	24	16	7	14
-Methadone in any death	33	48	51	71	84	99	88	40	80
-Oxycodone in any death	71	75	107	95	110	95	62	44	88
-Hydrocodone in any death	15	19	15	20	20	15	14	7	14
-Hydromorphone in any death	1	0	12	17	22	16	9	8	16
-Any Opioid + Benzodiazepine	41	60	140	221	232	313	249	131	262
-Buprenorphine			5	13	25	19	24	19	38
-Xylazine (veterinarian tranquilizer)							0	26	52
Stimulants									
-Cocaine in any death	105	147	126	177	274	347	345	195	390
-Amphetamine/Methamphetamine	7	5	11	20	19	37	56	26	52
-MDMA	0	0	2	1	1	3	4	3	6

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and Human Services (HHS). The plan provided recommendations to states to aid in decreasing the misuse of prescription opioids and encouraged each state to implement a Prescription Drug Monitoring Program.⁶ The Prescription Drug Monitoring program was started in Connecticut during July 2008. Additionally, HHS targeted three main areas when addressing the prescription drug strategy: prescribing practices, naloxone distribution, and access to medication assisted treatment (MAT).¹⁷ The Comprehensive Addiction Recovery Act (CARA) of 2016 allowed for mid-level practitioners (physician assistants and nurse practitioners) to prescribe buprenorphine provided they complete the necessary training and receive a waiver to prescribe the medication.⁶ The Centers for Disease Control and Prevention (CDC) published the *CDC Guideline for Prescribing Opioids for Chronic Pain* in 2016 which provided prescribers across the U.S. with a guide to support the change in how opioids should be prescribed. The CDC made many recommendations within the guideline, the most well-known cautioning the use of more than 90 morphine milligram equivalents (MME) per day. For 2018, in Connecticut, 7% of opioid prescriptions were for > 90 MME. Comparing 2018 to 2015, the number of opioid prescriptions has decreased by 25%. On October 26, 2017, the opioid epidemic was declared a national public health emergency in the U.S. by the Department Of Health and Human Services,¹⁸ and 1 year later, the Substance Use Disorder Prevention that Promotes Opioid Recovery and Treatment (SUPPORT) for patients and communities Act was signed into law. The main goal of the SUPPORT Act is to provide policies to prevent opioid use disorder while also providing structure for treatment and recovery for patients who are struggling with opioid abuse and addiction.

The transition from prescription opioids to heroin began in the early 2000s.⁴ Initially, patients were exposed to and became addicted to prescription opioids, but heroin is less expensive and easier to obtain.⁴ 75% of heroin users between 2000 and 2013 reported that their opioid use had started with prescription opioids.¹⁹ However, over the past few years, the DEA aggregate production quota for yearly prescription opioid manufacturing has been on the decline and is expected to decline by 65% from 2015 – 2020 (Fig. 1). Like heroin, fentanyl and other synthetic opioids have contributed to the number of OUDs and overdose rates in the U.S. Fentanyl is 50 times more potent than heroin and 100 times more potent than morphine. While prescription fentanyl is used to treat severe pain, illicit manufacturing of fentanyl for the purpose of mixing with heroin has become a national issue.²⁰ Overdose deaths from synthetic opioids, such as fentanyl and carfentanyl (10,000 times more potent than morphine) have surpassed overdose deaths from prescription opioids and even heroin in recent years (Fig. 2 and 3).^{21,26}

Currently, more than 2.1 million Americans have an OUD and, in 2016, more than 63,000 Americans died of drug overdoses, 66% of which were caused by opioids.^{23,24} Drug overdose, the majority of which is caused by opioids, is now the leading cause of accidental death in the U.S., and in Connecticut, surpasses motor vehicle accidents.^{24,25,26}

Connecticut Medicaid serves approximately 25% of our state's population.^{27,28} During 2018, approximately 40,000 CT Medicaid patients received a diagnosis of OUD and 3,721 received a diagnosis of opioid related poisoning or overdose. Due to the many issues associated with OUD and the number

of individuals affected by the disease, efforts to combat the opioid epidemic have focused on prevention and also treatment of dependent individuals. The March newsletter will be a continuation of the current newsletter and will focus on management of withdrawal and Medication Assisted Treatment (MAT) for OUD.

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