

The Opioid Epidemic and Recognizing the Signs of Addiction



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Objectives

To Introduce the Practitioner with:

- Extent of the Opioid Epidemic in the U.S.
- Increased Threat of Fentanyl
- History and Complexity of Drug Abuse in the U.S.
- Signs of Addiction
- Trends in Prescribing and Dispensing Patterns
- Nationwide Efforts to Combat the Problem

Definitions

Schedule II: Approved medical use and high abuse potential

Opiates: Derived from opium poppy (heroin, morphine)

Opioids: Proper term includes opiates and other synthetic substances that affect opioid receptors

NPS: New Psychoactive Substances includes synthetic opioids, cannabinoids, etc

Analogs: class of chemicals with similar base structures

Derivative: chemical made from another similar chemical
(opiates from poppy)

Fentanyl-related compounds: recommended term to describe the fentanyl “family”



Public Health Epidemic

In 2014, there were **47,055** drug overdose deaths

In 2015, there were **52,404** drug overdose deaths

In 2016, there were **63,632** drug overdose deaths

1. Rudd R, et al. MMWR Morb Mortal Wkly Rep. 2016 Jan 1;64:1378-82.
2. CDC. <https://www.cdc.gov/drugoverdose/data/analysis.html>. Feb 2017. Accessed May 2017.



Public Health Epidemic

- In 2017, there were **70,237** drug overdose deaths,
 - ...one death every **7.5** minutes,
 - ...approximately **192** per day,
 - ...Opioids, many synthetic opioids (other than methadone) were involved in **47,600** overdose deaths..

<https://www.cdc.gov/drugoverdose/data/statedeaths.html>

New Orleans Superdome – Capacity 74,295



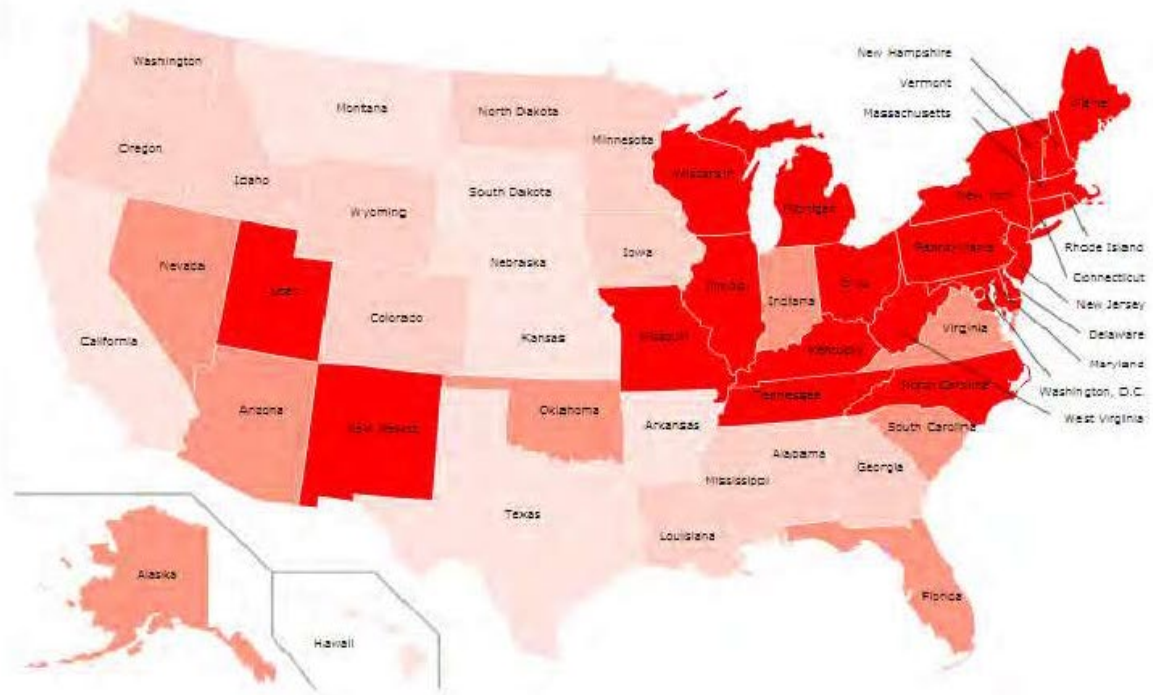
Opioid Summaries by State

Print Share



Revised February 2018

Opioid-Related Overdose Death Rates (per 100,000 people) ¹



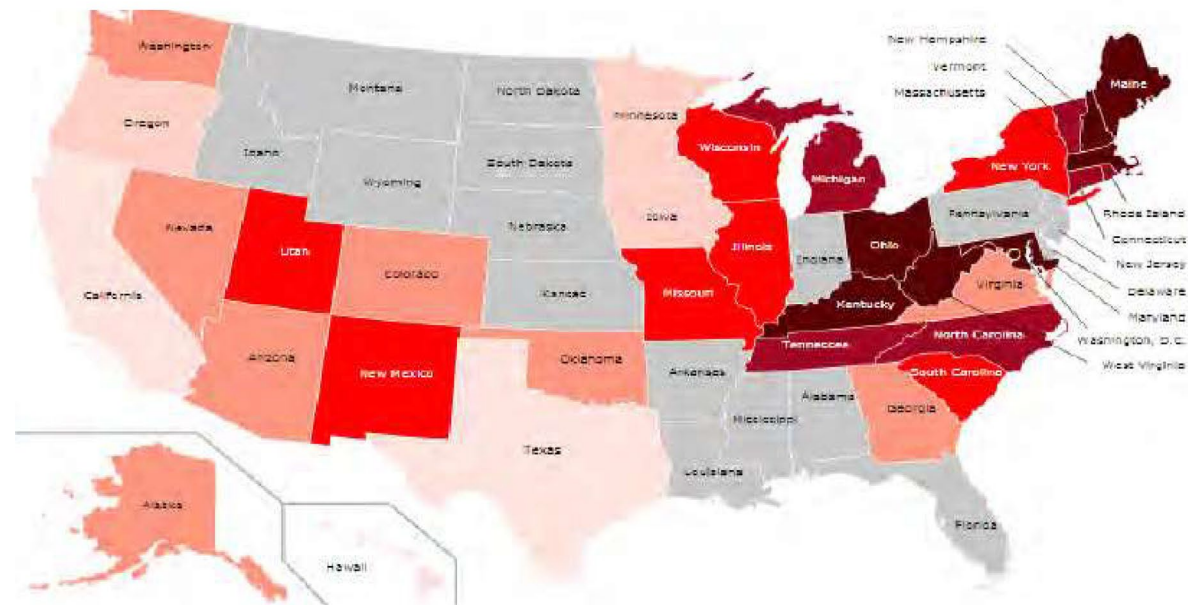
Drugs of Abuse	
Commonly Abused Drugs Charts	
Emerging Trends and Alerts	
Alcohol	
Club Drugs	
Cocaine	
Fentanyl	
Hallucinogens	
Inhalants	
Heroin	
Marijuana	▼
MDMA (Ecstasy/Molly)	
Methamphetamine	
Opioids	▼
• The NIH HEAL Initiative	▼
• Opioid Overdose Crisis	
• Benzodiazepines and Opioids	

Opioid Summaries by State



Revised July 2019

2017 Opioid-Involved Overdoses and Death Rates (per 100,000 people)



Drugs of Abuse

Commonly Abused Drugs

Emerging Trends and Alerts

Alcohol

Club Drugs

Cocaine

Fentanyl

Hallucinogens

Inhalants

Heroin

Marijuana

MOMAT (Cocaine/Heroin)

Mephedrone

Opioids

• The NIH Health Initiative

Pills laced with deadly opioid infiltrating drug market, DEA says

The Guardian

By Susan Zalkind

The illegal drugs look like known prescription painkillers and contain high amounts of fentanyl as law enforcement says problem is expected to escalate. Hundreds of thousands of counterfeit prescription pills laced with a deadly synthetic opioid have infiltrated the US drug market, according to the (DEA)...



Heroin Seizure



Pharmaceutical Oxycodone 30mg

2018: Ten Most Commonly Filled Controlled Substances Prescriptions in the U.S.

- Hydrocodone
- Oxycodone
- Alprazolam
- Tramadol
- **Dextroamphetamine**
- Zolpidem
- Clonazepam
- Lorazepam
- Codeine
- Buprenorphine



The Most Common Drugs Involved in Prescription Opioid Overdose Deaths include:

Methadone

Oxycodone

Hydrocodone

<https://www.cdc.gov/drugoverdose/data/prescribing.html>

Fentanyl



What is Fentanyl?

- Schedule II synthetic opioid; Severe Pain reliever
- Quick onset, short duration
- DEA: Approx 30 fentanyl-related substances
- Pharmaceutical grade vs. clandestine production, or
- Legal vs. illegal

Cephalon/Teva – Actiq (Fentanyl Lollipop)

Janssen (Johnson and Johnson) – Duragesic (Fentanyl Patch)

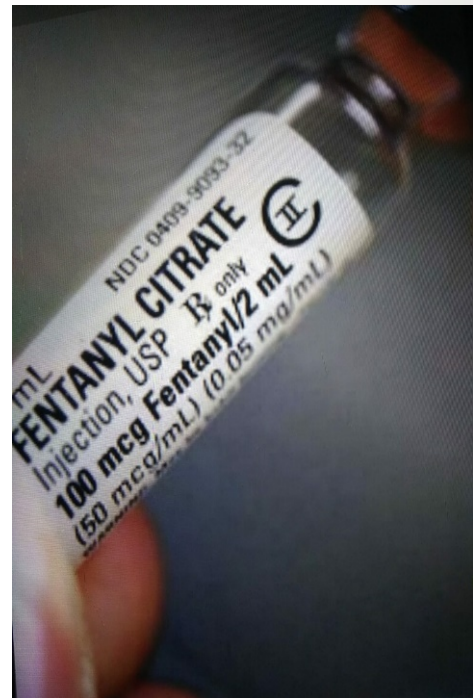
Cephalon/Teva – Fentora (Fentanyl Sublingual Tablet)

Akorn Pharma – Sublimaze (Fentanyl Injection)

Insys Therapeutics – Subsys (Fentanyl Oral Spray)

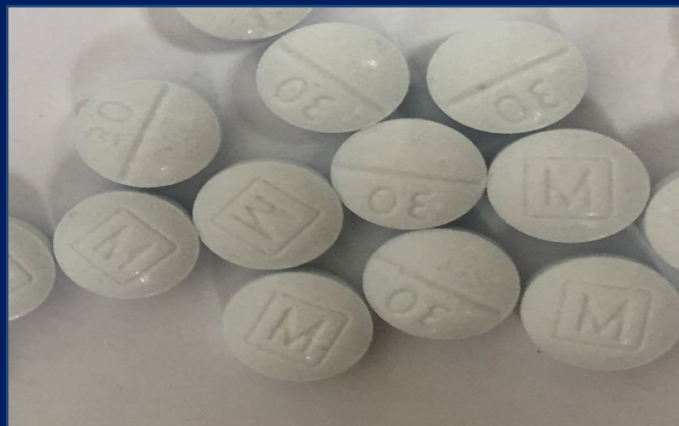
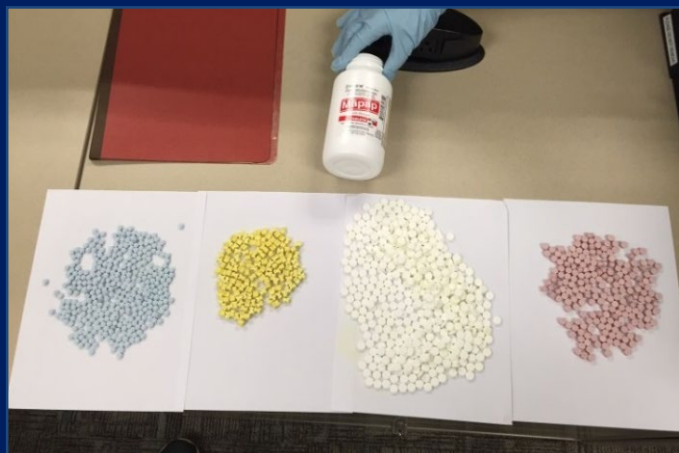
Sentynl Therapeutics – Abstral (Fentanyl Sublingual Tablet)

Mylan Pharmaceutical – Fentanyl Patch (Generic Fentanyl Patch)

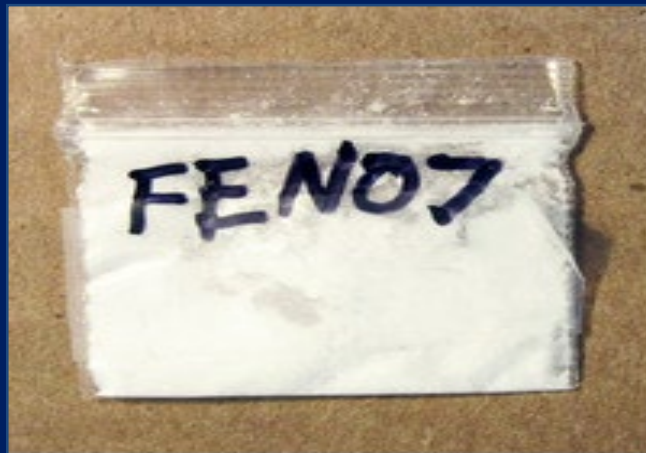


What Does Fentanyl Look Like?

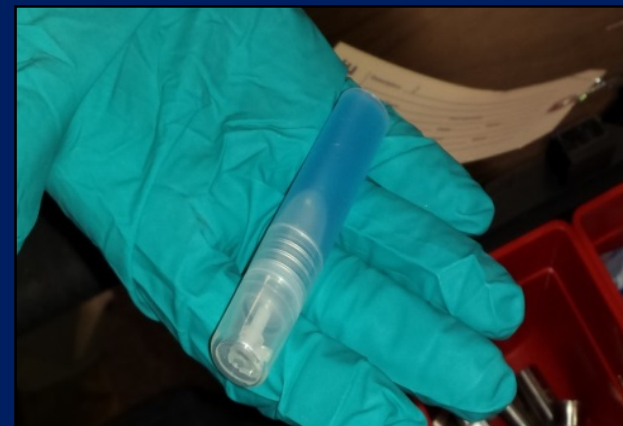
Tablets/Pills



Powder



Liquid



Or something else!



Production

WHY SELL FENTANYL?

- It is cheaper to make
- Easier to transport
- Requires less workers and manpower
- Harder to detect by law enforcement
- Creates a **MUCH** larger profit
- Can be sold through anonymous transactions



All About the Money

Figure 13. Potential Revenue Generated from Fentanyl Pill Sales Using 1 Kilogram of Fentanyl (in USC)

Amount of Fentanyl Per Pill	Price Per Pill	Price Per Pill	Price Per Pill
	\$10	\$15	\$20
1.5 milligrams (666,666 pills)	\$6.6 million	\$9.9 million	\$13.3 million
1 milligram (1 million pills)	\$10 million	\$15 million	\$20 million

- One Kg of 99% pure fentanyl from China: \$5000 -10,000
- Wholesale price in NE (4-6%): \$80,000
- Yield of 16-24 kgs = Revenue of \$1.3 - 2 Million



- 2000 to 2018: over half a million people have died from drug overdoses.
- Drug overdose deaths nearly tripled from 2010 to 2013.
- CDC estimated 95,000 people died from fentanyl in last 5 years

OPIOID OVERDOSE DEATHS:

- 2016: 42,000 2017: 72,000 2018: 68,500

- 1 KG of pure Fentanyl:
 One MILLION pills at 1MG/pill
- 1 KG of Carfentanil:
 50 MILLION **LETHAL** DOSES



Street Names

- China White
- Synthetic Heroin
- Drop Dead
- Flatline
- Lethal Injection
- Apache
- China Girl
- Chinatown

Street Names cont'd

- Dance Fever
- Great Bear
- Poison
- Tango & Cash
- TNT
- Perc-o-Pops
- Lollipops
- Wrath of Zon

What is Fentanyl Being Cut With

- Lactose
- Acetaminophen
- Caffeine
- Flour
- Sucrose
- Dipyrone

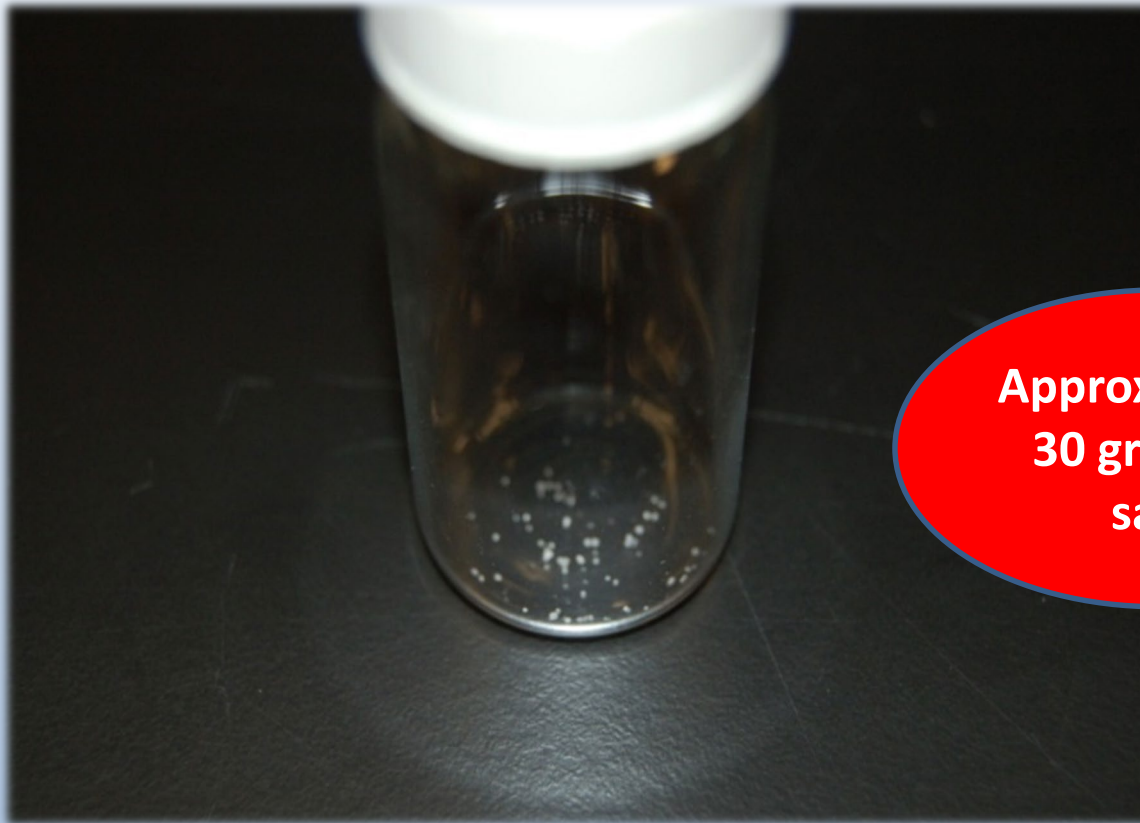
Symptoms of Exposure

- Severe Drowsiness
 - Sedated
 - Unable to answer questions
 - Unconscious – cannot be awakened
- Disoriented
- Cold , clammy skin
- Nausea
- Coughing

Symptoms of Exposure

- Symptoms may develop within minutes of exposure
- Slow heartbeat
- Low blood pressure
- Respiratory Depression
Slow breathing
Less than 8 breaths/minute
- Cardiac arrest

Estimated Fatal Dose



*Single dose of
Fentanyl by IV:
125 micrograms

**Approximately
30 grains of
salt!**

2 milligrams of fentanyl hydrochloride

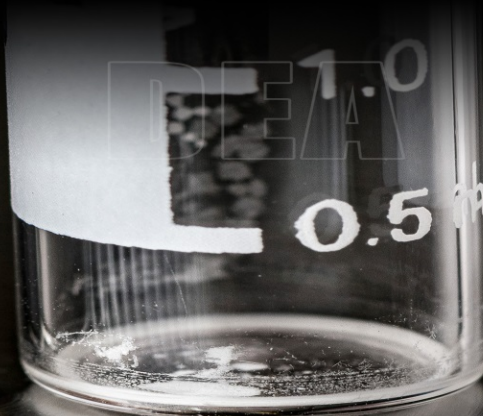
Source: European Monitoring Centre of Drugs and Drug Addiction: <http://www.emcdda.europa.eu/publications/drug-profiles/fentanyl> (01/20/2016)



Lethal doses of Fentanyl and Carfentanil relative to a lethal dose of Heroin



Heroin

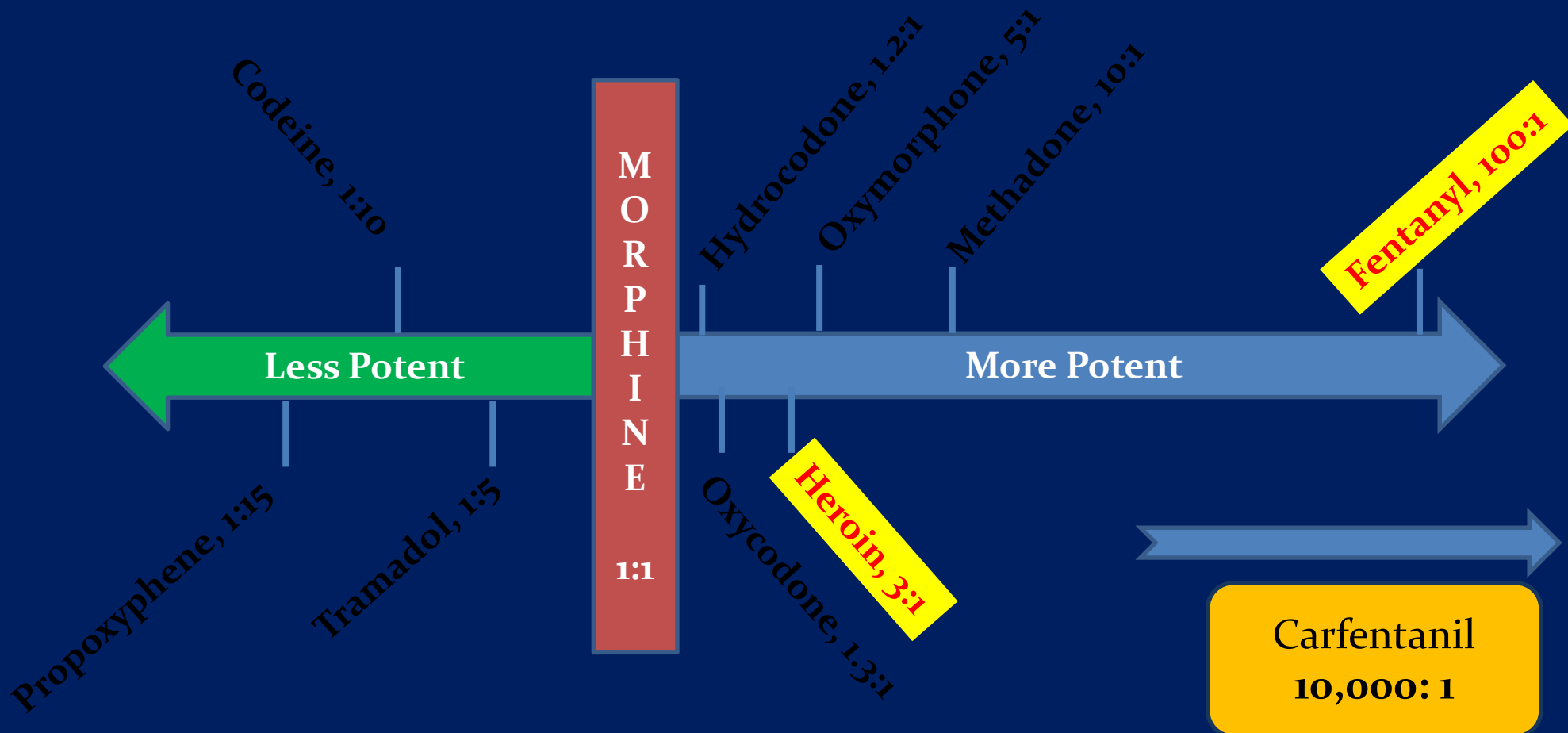


Carfentanil



Fentanyl

General Potency Comparison

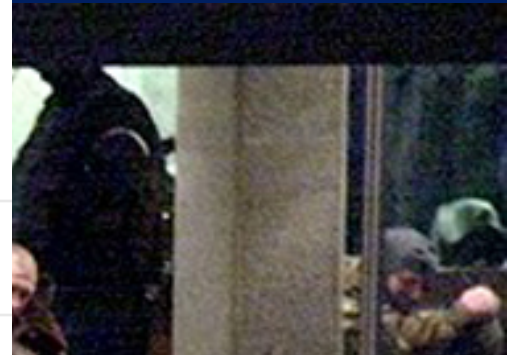


Worst Case Scenario

HOSTAGE DRAMA IN MOSCOW: THE TOXIC AGENT; U.S. Suspects Opiate in Gas In Russia Raid

By JUDITH MILLER and WILLIAM J. BROAD

OCT. 29, 2002



Clothing samples from British survivors of the attack showed the presence of the narcotics remifentanyl and carfentanyl. The same study detected norcarfentanyl in another survivor's urine

out Chechen extremists and prevent them from killing the 750 hostages they were holding.



The gas killed 117 hostages, all but one of those who died in the Russian assault to retake the theater.

The senior administration officials said their suspicions were tentative, because Russian authorities had refused to provide American officials in Moscow with information about the drug used in the assault. Nor has the United States been able to test the gas or take samples from hostages exposed to it, they said.

But a senior American official did say intelligence sources had indicated that the Russians probably used an aerosol form of Fentanyl, "or a



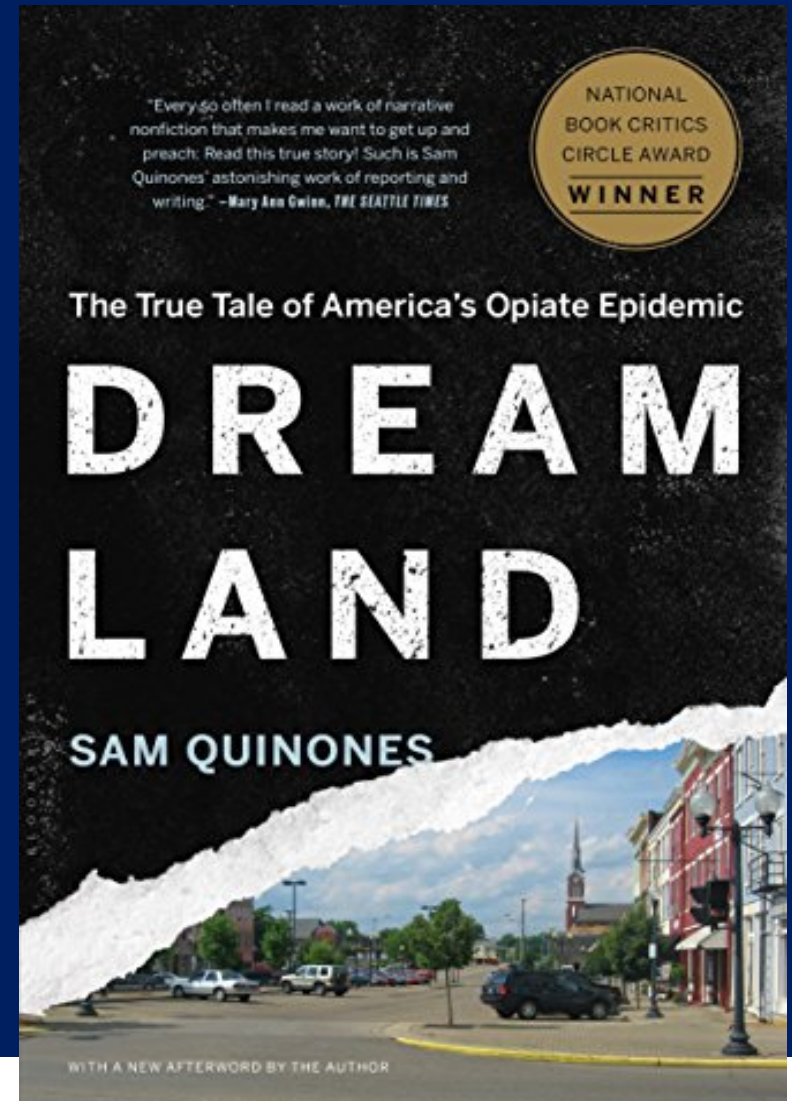


Unfortunately,
The United States
has a Long History
of
Drug Use
and
Abuse

How did we get to this?

- 1804 – Morphine distilled from opium
- 1853 - The Hypodermic Syringe is Invented
- 1860s – Civil War – Morphine addiction
- 1898 – Bayer invents diacetylmorphine (heroin)
- 1914 – Harrison Narcotics Act
- 1950s- Arthur Sackler/Purdue Pharma :Valium
- 1960- Janssen creates fentanyl
- 1980- Porter and Jick in NEJM
- 1981 – Patent for fentanyl expired
- 1990s – Xalisco expands heroin distro
- 1996 – Oxycontin
 - Dr. David Proctor
 - Pain treatment (Human right)
 - Heroin explosion
- 2013 – The Third Wave

Portsmouth, Ohio







1980

**The New England Journal of
Medicine publishes a letter to
the editor that becomes known
as “Porter and Jick”**

Sam Quinones, 2015, *Dream Land: The Tale of America's Opiate Epidemic*



ADDICTION RARE IN PATIENTS TREATED WITH NARCOTICS

Jane Porter

Hershel Jick, M.D.

Boston Drug Surveillance Program

Boston University Medical Center

New England Journal of Medicine.

January 1980

<http://www.nejm.org/doi/pdf/10.1056/NEJM198001030020221>



ADDICTION RARE IN PATIENTS TREATED WITH NARCOTICS

“We conclude that despite widespread use of narcotic drugs in hospitals, the development of addiction is rare in medical patients with no history of addiction.”

http://www.nejm.org/doi/pdf/10.1056/NEJM198001_030020221



1986

**Drs. Kathleen Foley and Russell Portenoy
publish paper in the journal **Pain**, opening
a debate about use of opiate painkillers for
wider variety of pain**

Sam Quinones, 2015, Dream Land: The Tale of America's Opiate
Epidemic



1990

**Dr. Mitchell Max
President
American Pain Society**

**“therapeutic use of opiate analgesics
rarely results in addiction...”**

The Joint Commission’s Pain Standards: Origins and Evolution, David W. Baker, MD,MPH, May 5, 2017



1996

Purdue releases **OxyContin**, timed-released oxycodone, marketed largely for **chronic-pain** patients

Sam Quinones, 2015, Dream Land: The Tale of America's Opiate Epidemic



1996

President of American Pain Society urges
doctors to treat **pain as a vital sign**

Sam Quinones, 2015, Dream Land: The Tale of America's Opiate
Epidemic



October 2000

Department of Veterans Affairs

Pain: The Fifth Vital Sign Toolkit

The Joint Commission's Pain Standards: Origins and Evolution, David W. Baker, MD, MPH, May 5, 2017



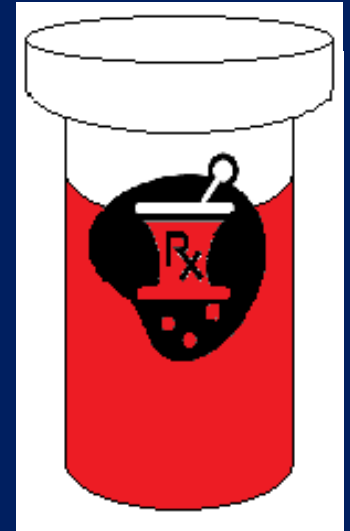
2008

**Drug overdoses, mostly from opiates,
surpass auto fatalities as leading cause of
accidental death in the United States**

Sam Quinones, 2015, *Dream Land: The Tale of America's Opiate Epidemic*

Prescription Drug Abuse Drives the Opioid Problem

Comprises 5.5% of
World's Population

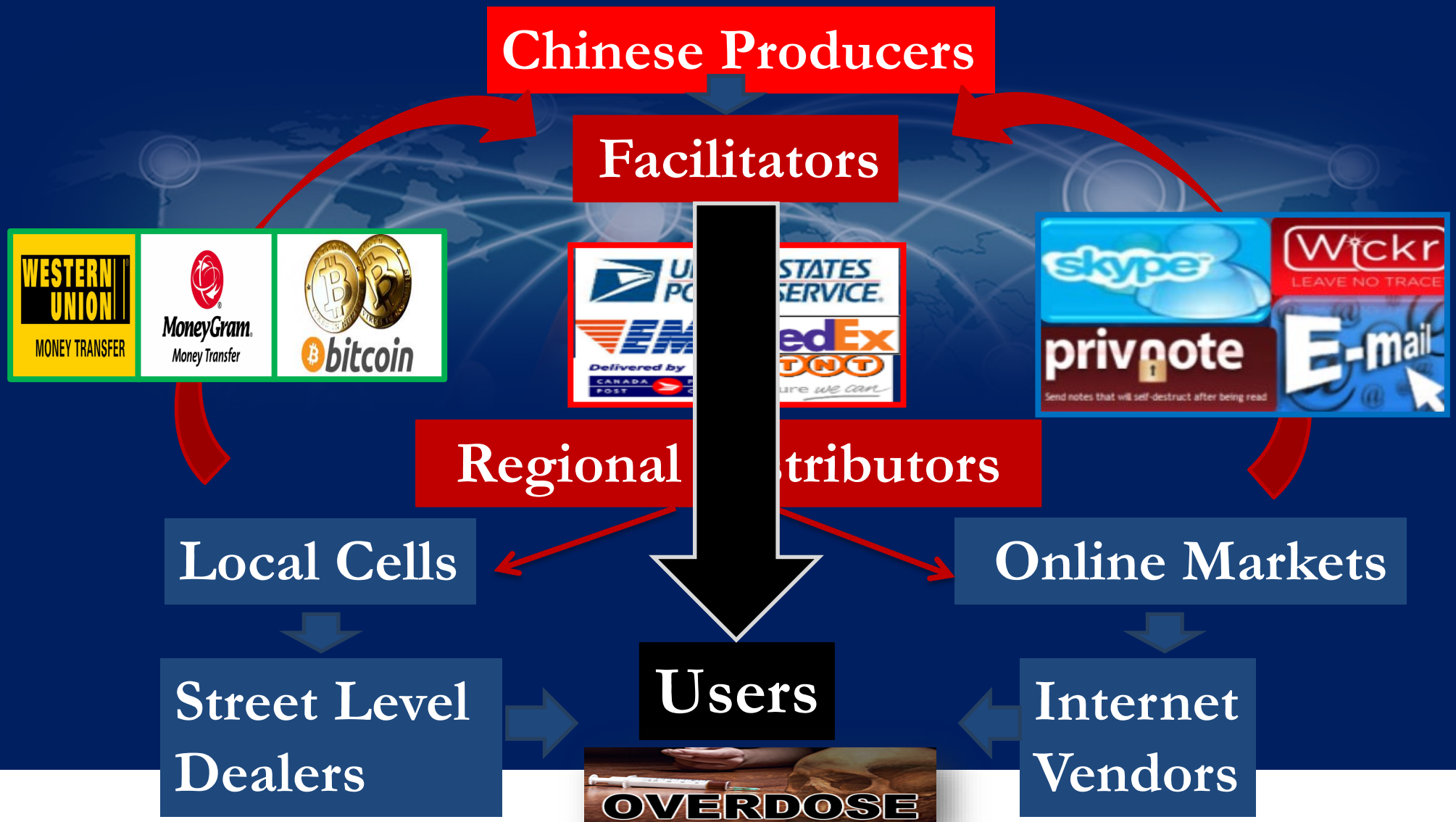


Consumes 75% of World's
Prescription Medication!

- 1999-2010, opioid prescriptions QUADRUPLED
- In 2010, enough prescriptions written to medicate every American, 24 hours a day, for one month
- 2006-2012: 3 companies produced 76 Billion opioid pills

Source: United Nations Office on Drugs and Crime.

Supply and Demand/Street



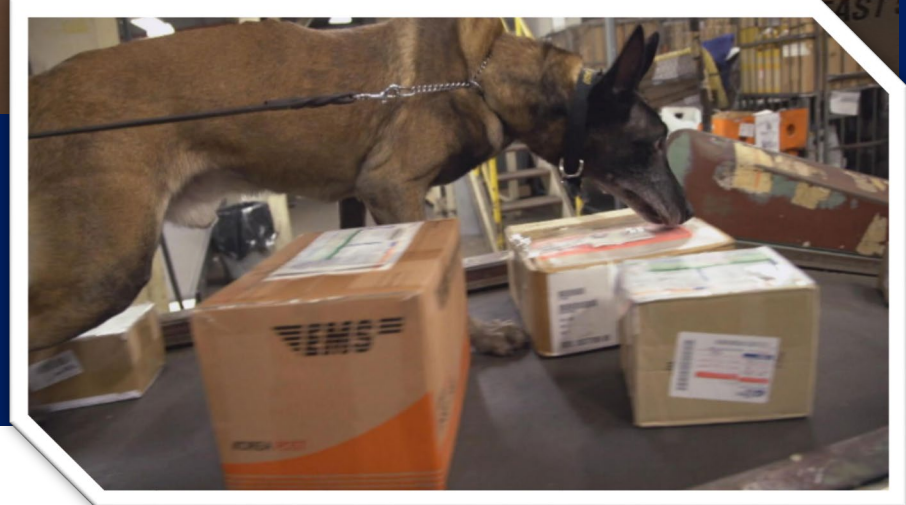
How does it get here?



One day @ JFK International Mail Facility

Nine other IMFs in the US

**What is Consolidated Post?*



Signs of Addiction

- The inability to control opioid use
- Uncontrollable cravings
- Drowsiness
- Changes in sleep habits
- Weight loss
- Frequent flu-like habits
- Decreased libido
- Lack of hygiene

Signs of Addiction cont'd

- Isolation from family and friends
- Stealing
- Poor coordination
- Poor decision making
- Mood swings
- Depression
- Anxiety attacks

Signs of Addiction cont'd

- * Personality changes
- * Behavioral changes
- * Changes in appearance
- * Social withdrawal
- * Poor performance at work and school
- * \$\$ problems



What's Trending ?

Some Good News ?

Opioid addiction is plateauing. But the crisis isn't over.

Vox

By Dylan Scott

New data from the Blue Cross Blue Shield Association suggests opioid addiction rates are finally plateauing.

The big finding from the BCBSA data, which compiles medical claims information from the various Blue Cross affiliates across the United States: Diagnoses of opioid use disorder (addiction, in other words) declined from 2016 to 2017, from 6.2 per 1,000 patients to 5.9.

It was the first decline BCBSA had measured in eight years



U.S. Health Chief Says Overdose Deaths Are Starting to 'Plateau' But 'We Are So Far From the End'

- TIME Health
- (WASHINGTON) — **The number of U.S. drug overdose deaths has begun to level off** after years of relentless increases driven by the opioid epidemic, (HHS) health secretary Alex Azar said Tuesday, cautioning it's too soon to declare victory.
- **“We are so far from the end of the epidemic, but we are perhaps, at the end of the beginning,”** Azar said in prepared remarks for a health care event sponsored by the Milken Institute think tank.

By RICARDO ALONSO-ZALDIVAR AND CARLA K. JOHNSON / AP, October 23, 2018

Overdose Deaths Likely to Fall for First Time Since 1990

Health officials and scientists warn U.S. is far from defeating drug epidemic

Wall Street Journal

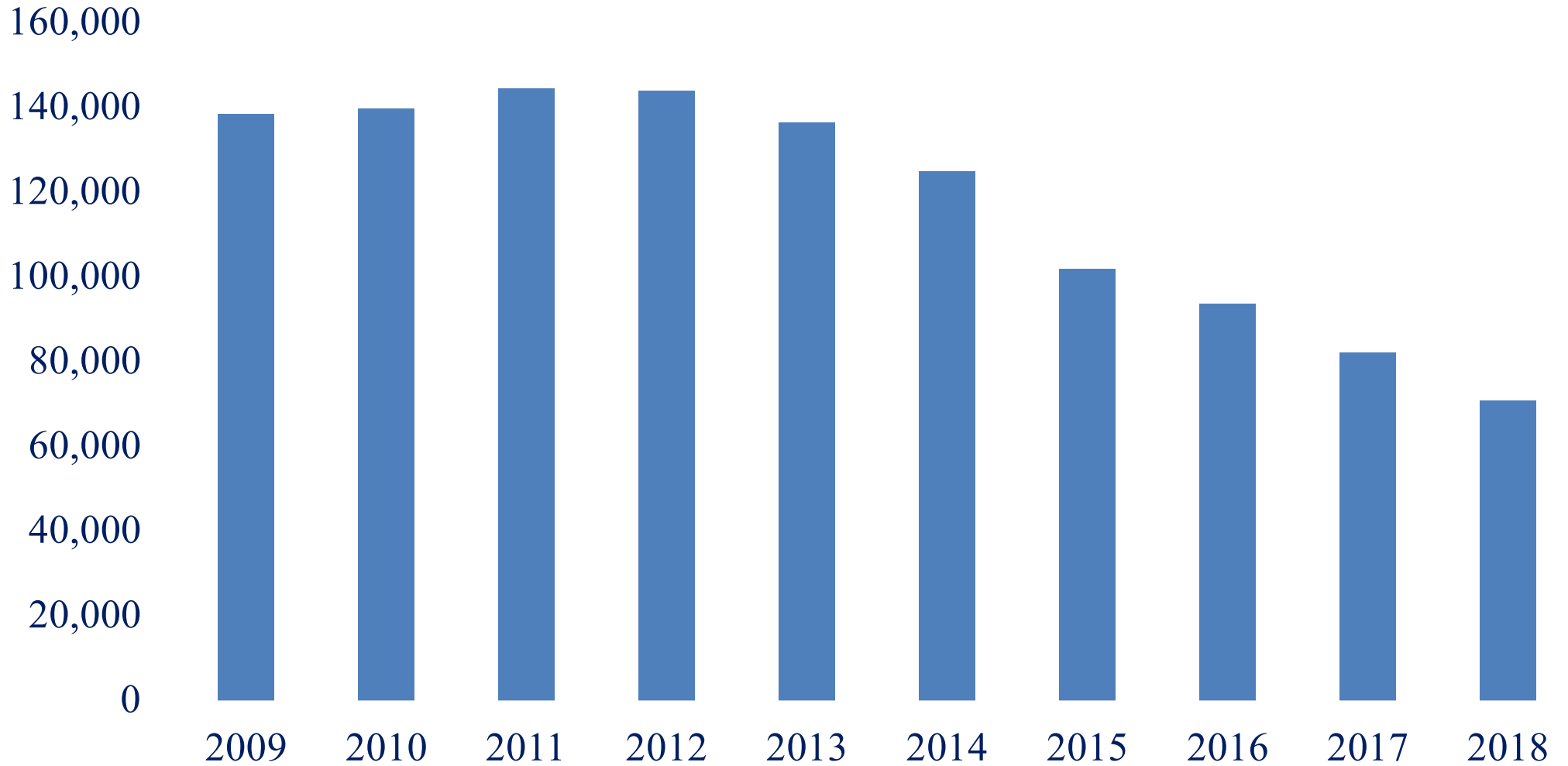
June 26, 2019

For the first time in decades, drug-overdose deaths in the U.S. are on the precipice of declining. Authorities are still counting fatalities around the U.S. from 2018, but **provisional data from the Centers for Disease Control and Prevention** are pointing lower. Those **data predict there were nearly 69,100 drug deaths** in the 12-month period ending last November, down from almost 72,300 predicted deaths for 12 months ending November 2017.

Total Prescriptions Dispensed: Hydrocodone 2009-2018

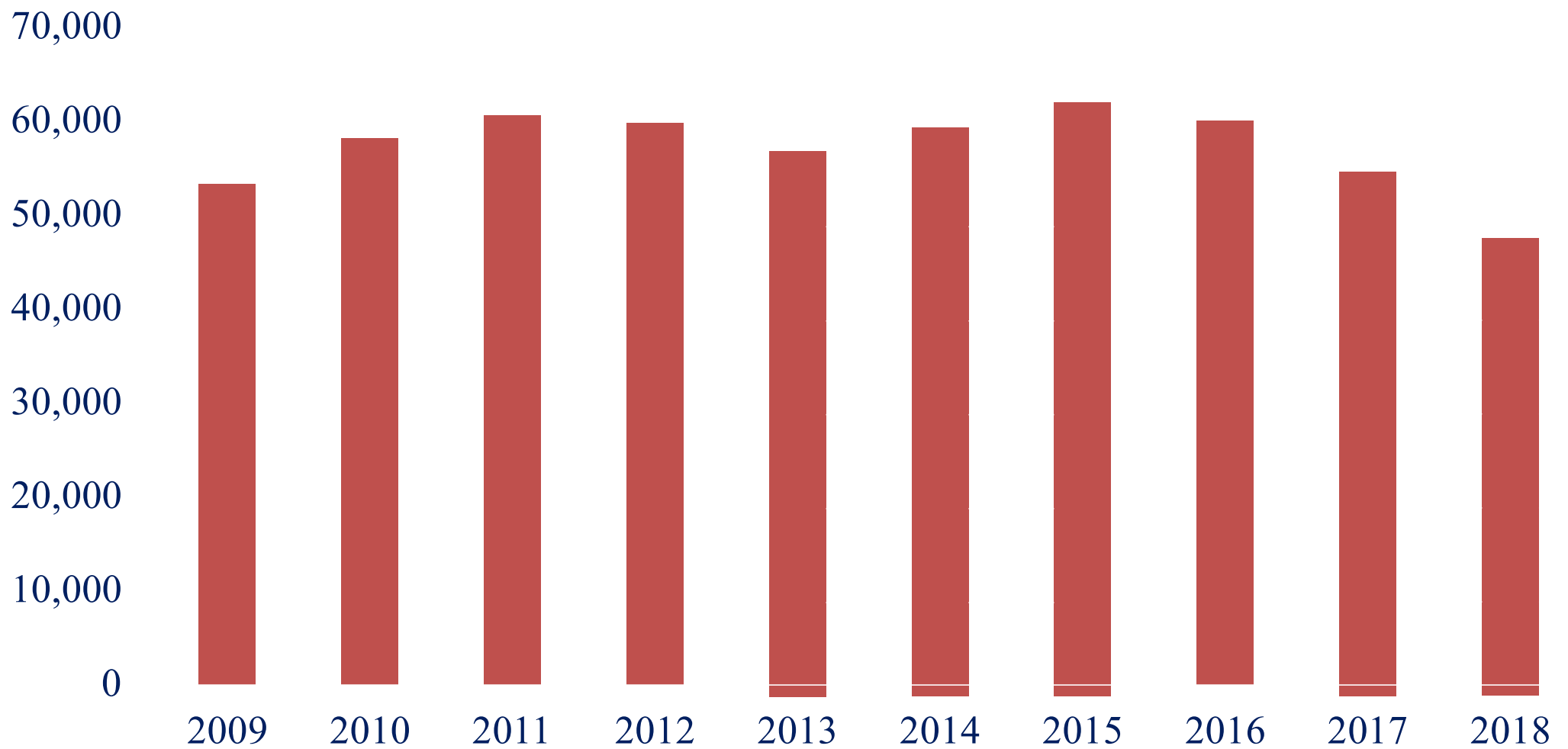
(x 1,000)

Data On File



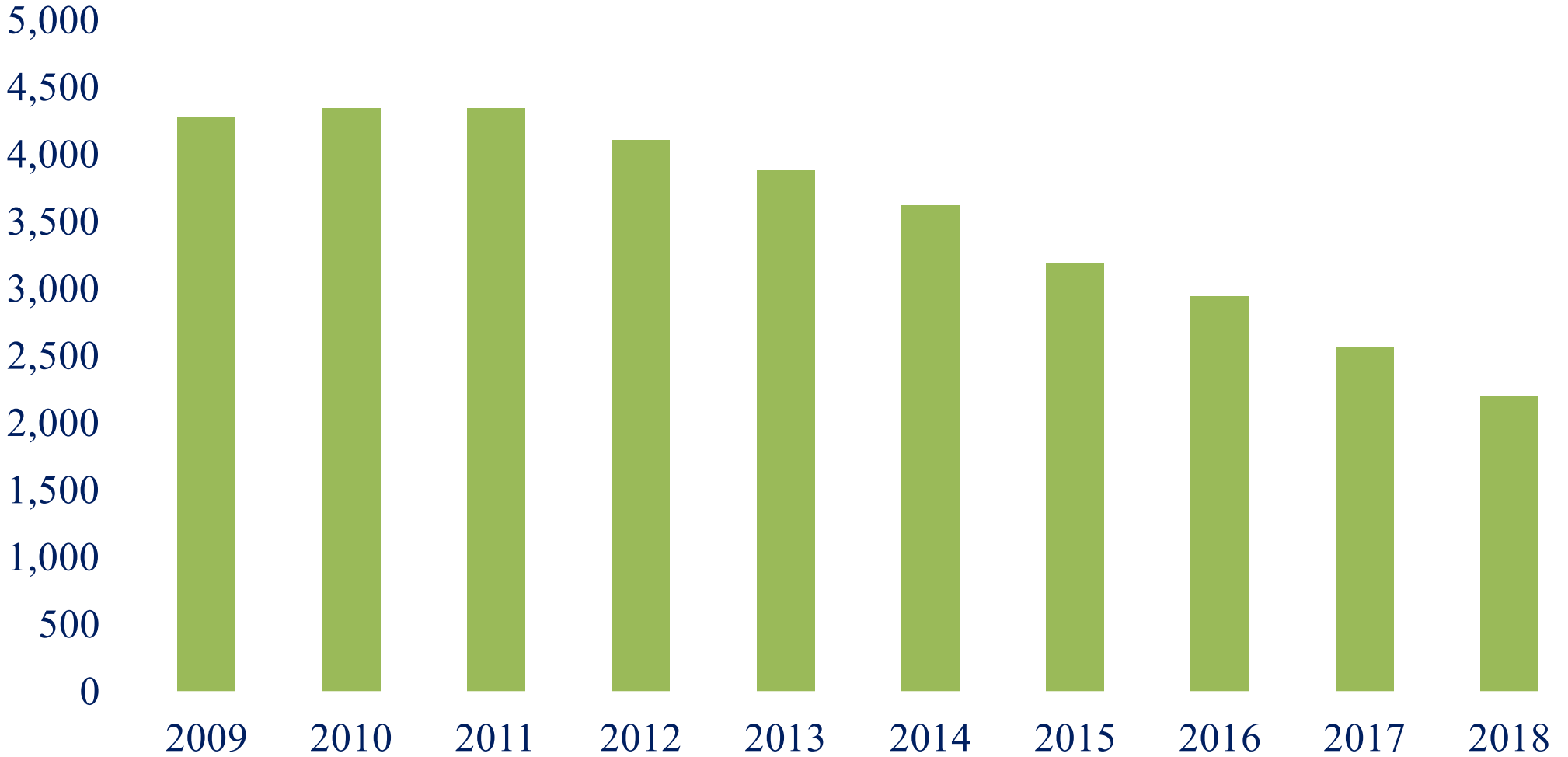
Total Prescriptions Dispensed: Oxycodone 2009-2018 (x 1,000)

Data On File



Total Prescriptions Dispensed: Methadone 2009-2018 (x 1,000)

Data On File

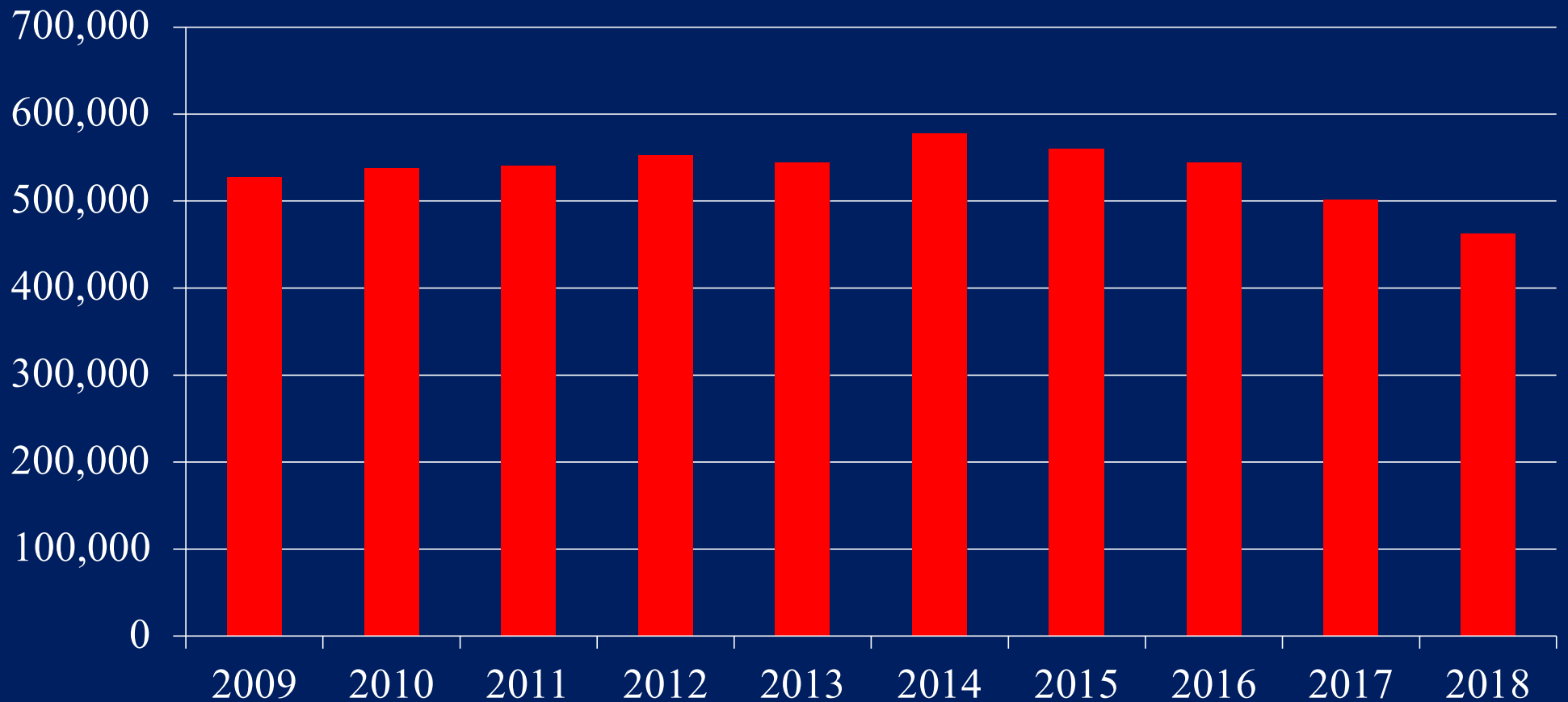




Total Controlled Substance RX's Filled 2009-2018

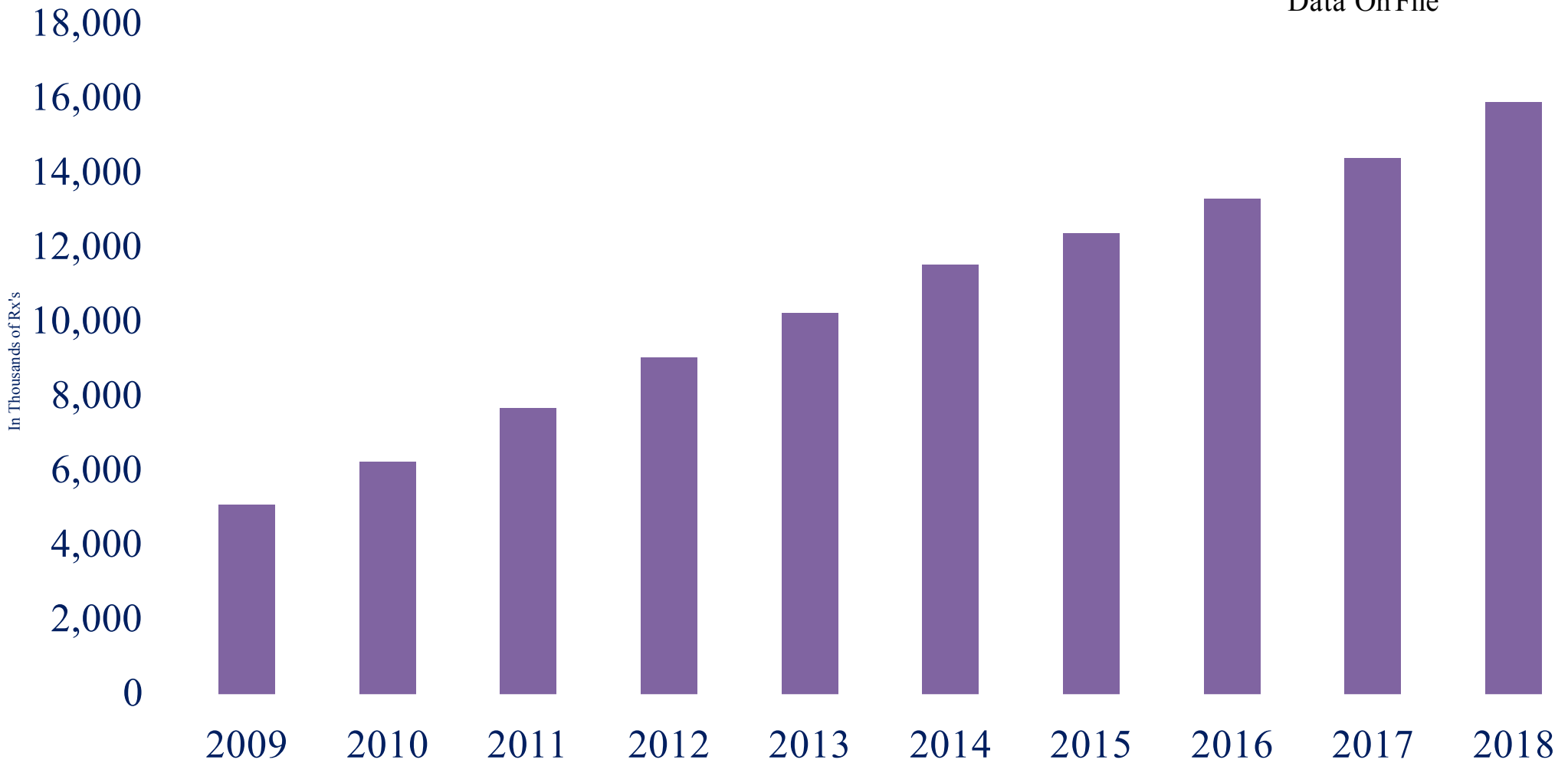
(x 1,000)

Data On File



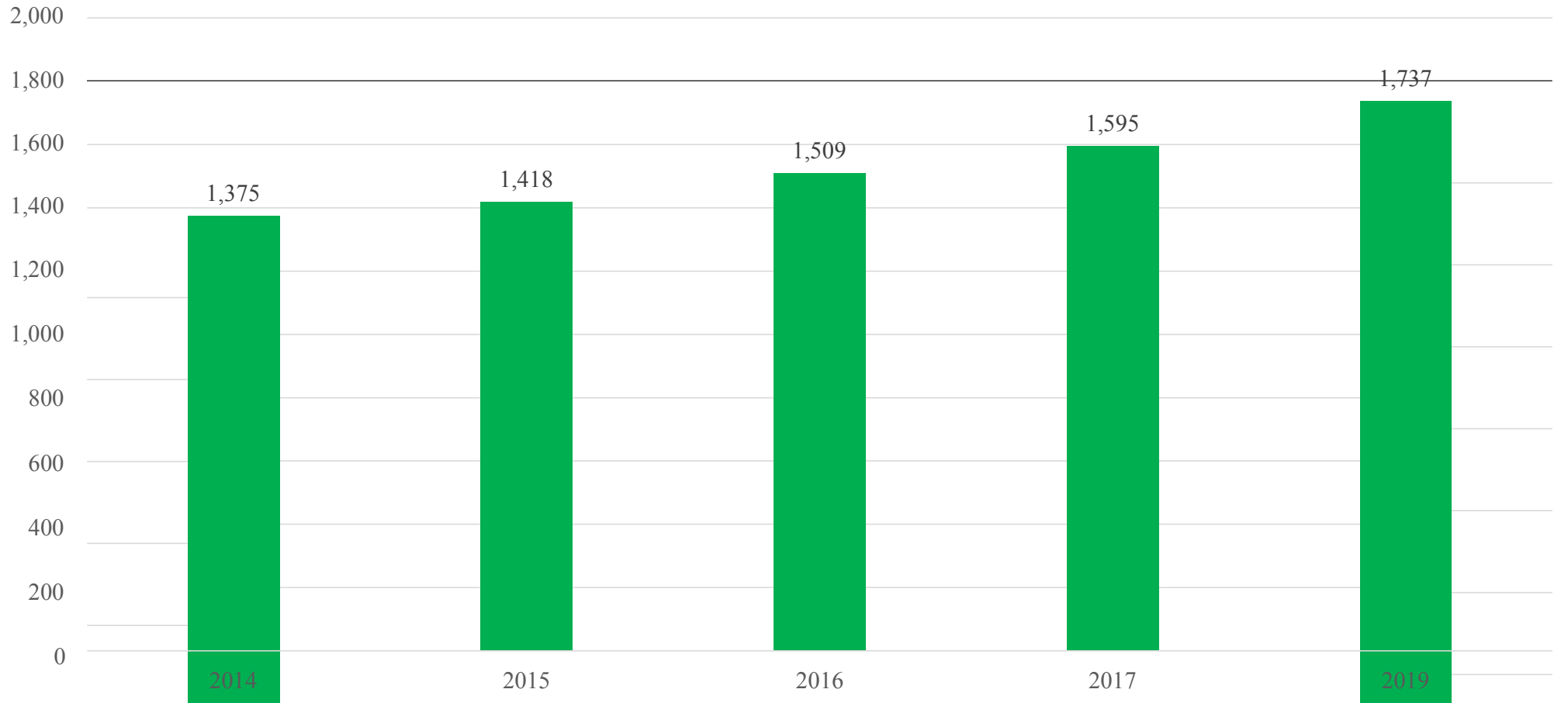
Total Prescriptions Dispensed Buprenorphine 2009-2018 (x 1,000)

Data On File



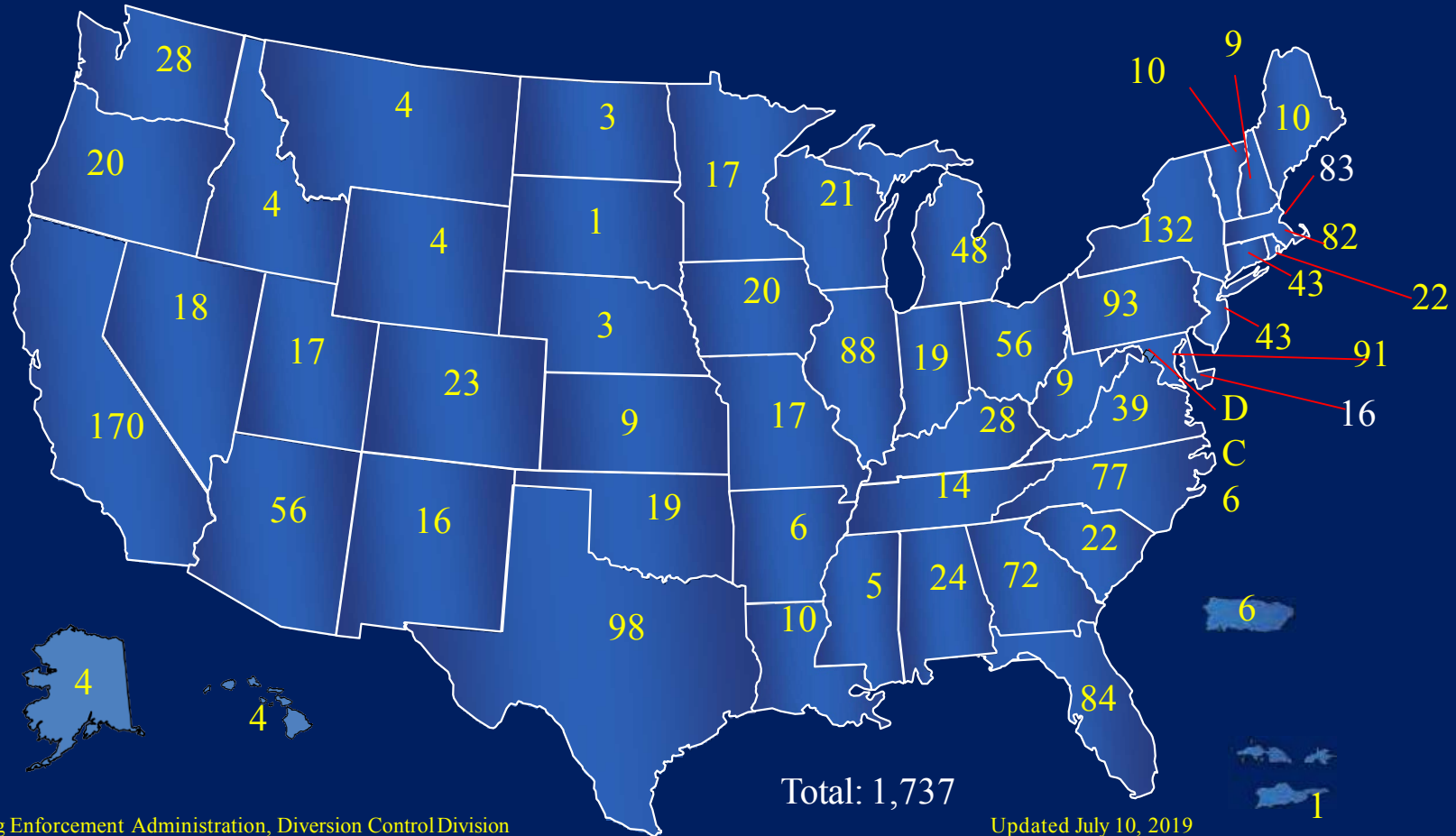
Opioid Treatment Programs (OTPs)

Opioid Treatment Program (OTP) Totals



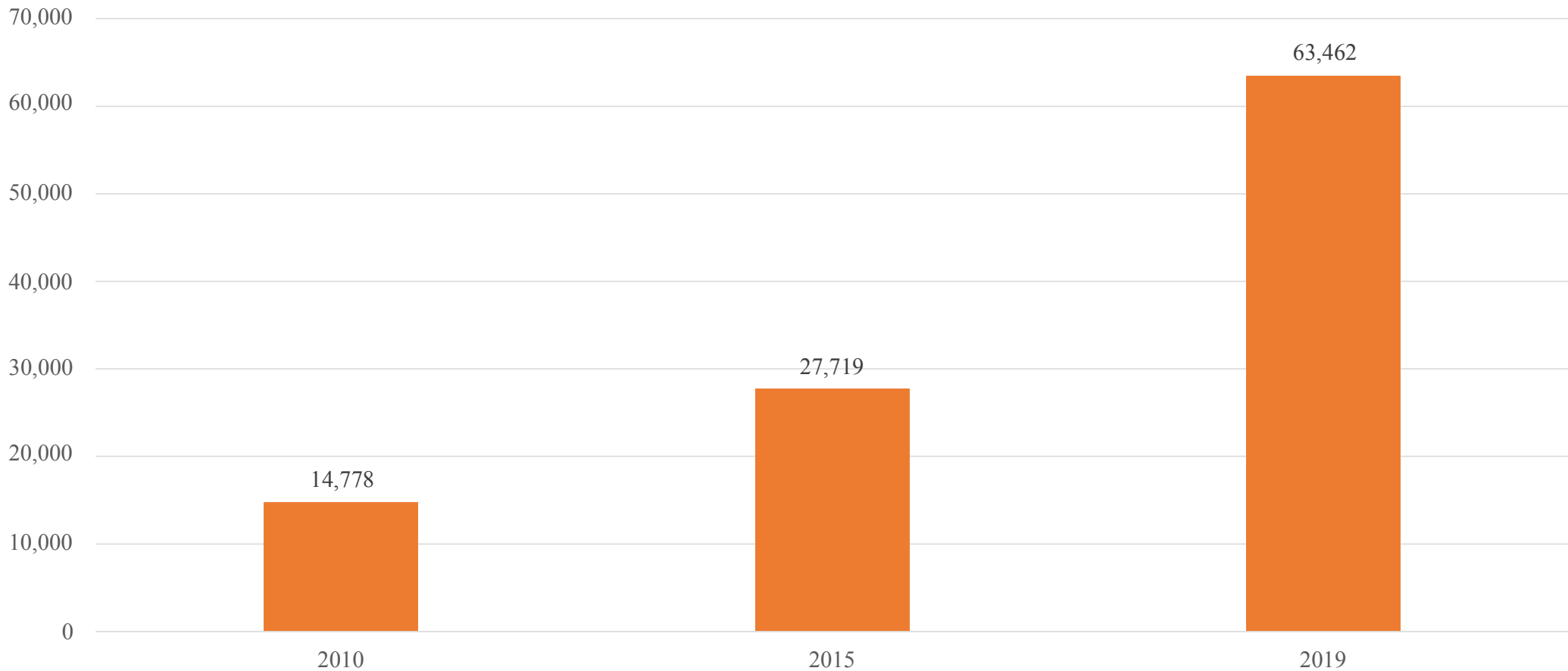
*As of July 10, 2019: DEA Registration Data

DEA Registered Opioid Treatment Programs (OTP)



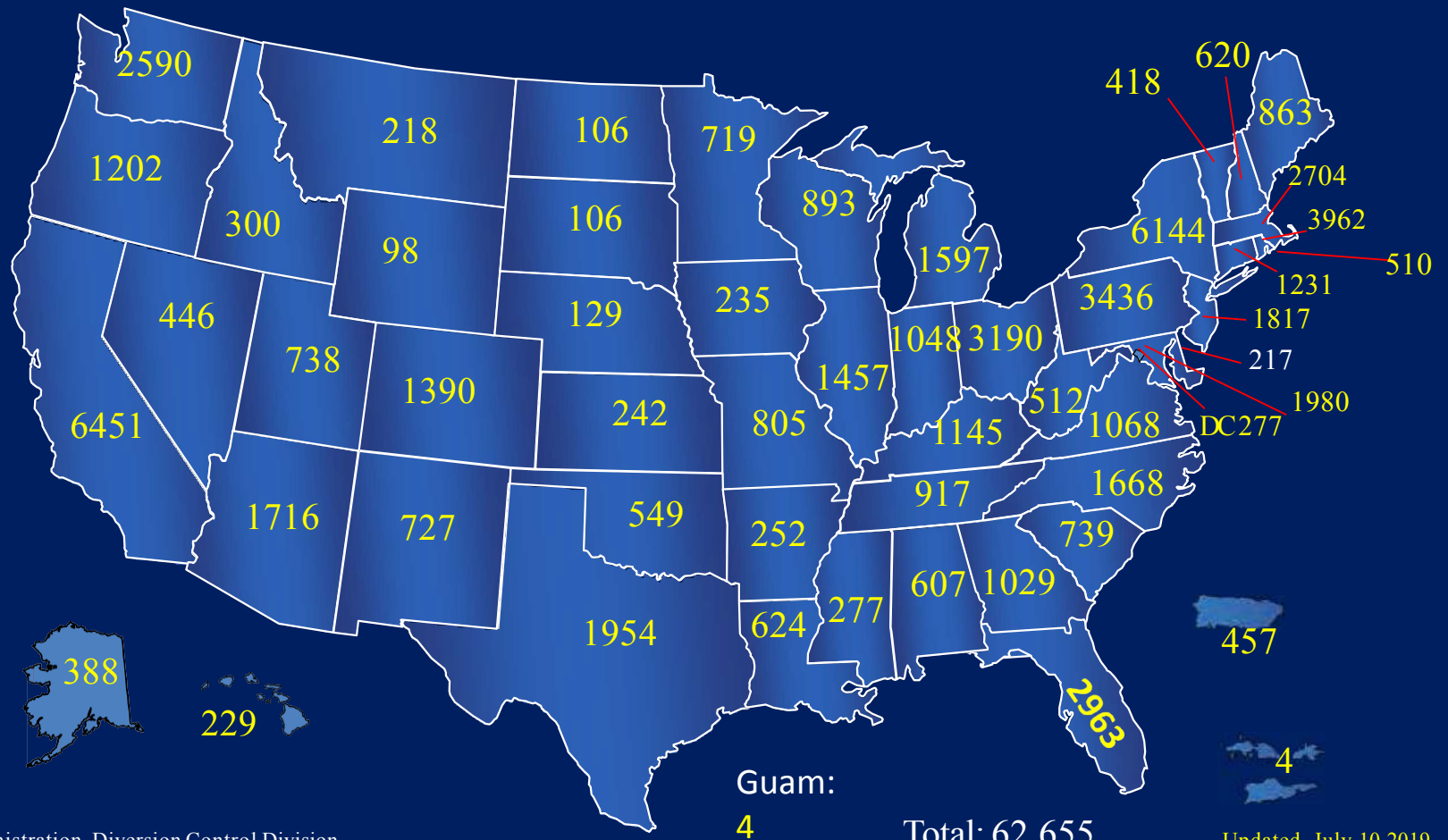
DEA Registered Qualifying Practitioners

Data Waived Physician (DWP)/Qualifying Practitioner Totals



*As of July 10, 2019

DEA Registered Qualifying Practitioners



Nationwide Efforts
to
Combat
the Problem



States

Practitioners

Hospitals

Treatment Providers

Medical Schools

Pharmacies



State Limits: Opioid Prescribing

Alaska	7 Day Supply (initial prescription/adults) 7 Day Supply (minors)
Arizona	5 Day Supply (initial prescription)
California	Currently no special restrictions on Schedule 2
Colorado	7 Day Supply (initial limit/Medicaid recipients only)
Connecticut	7 Day Supply (initial prescription) 5 Day Supply (minors)



State Limits: Opioid Prescribing

Delaware	7 Day Supply (initial prescription/adults) 7 Day Supply (minors)
District of Columbia	7 Day Supply (emergency situation)
Florida	3 Day Limit/Acute Pain
Hawaii	7 Day Supply (initial prescriptions)
Indiana	7 Day Supply (initial prescription) 7 Day Supply (minors)



State Limits: Opioid Prescribing

Kentucky	3 Day Supply (initial limit)
Louisiana	7 Day Supply (initial prescription/adults) 7 Day Supply (minors)
Maine	30 Day Supply (chronic pain) 7 Day Supply (acute pain) 100 MME Per Day
Maryland	Must prescribe lowest effective dose. No set pill or day limit.



State Limits: Opioid Prescribing

Massachusetts	7 Day Supply (initial limit/adults) 7 Day Supply (minors)
Michigan	7 Day Limit (acute pain)
Minnesota	4 Day Limit (acute dental or ophthalmic pain)
Missouri	7 Day Supply (initial limit/Medicaid recipients)
Nebraska	150 Tablets per 30 days(Medicaid recipients only)



State Limits: Opioid Prescribing

Nevada	14 Day Supply (initial limit/acute pain) 90 MME per day
New Hampshire	7 Day Supply
New Jersey	5 Day Supply (initial limit/acute pain)
New York	7 Day Supply (initial limit/acute pain)
North Carolina	5 Day Supply (initial limit/acute pain) 7 Day Supply (post-operative)
Ohio	7 Day Supply for Adults (initial limit) 5 Day Supply for Minors



State Limits: Opioid Prescribing

Oklahoma 7 Day Supply

Oregon No set pill or day limit. Lowest possible dose.

Pennsylvania 7 Day Supply (emergency rooms/urgent care centers)
7 Day Supply (for minors/consent)

Rhode Island 30 MME/day

South Carolina 5 Day Supply or 90 MME daily



State Limits: Opioid Prescribing

Tennessee 3 Day Supply (initial limit/new patients)

Utah 7 Day Supply (initial limit/acute pain)

Vermont Limits vary between adults and minors
Must assess non-opioid and opioid treatments
before prescribing opioids.
Must discuss treatment decisions with patients.
Moderate pain (Adults): 24 MME per day
Severe pain (Adults): 32 MME per day
Moderate to Severe Pain (Minors): 24 MME per day



State Limits: Opioid Prescribing

Virginia	7 Day Supply (acute pain) 14 Day Supply (post-surgical pain) (Some exceptions)
Washington	Medicaid Program- 20 years and younger (18 tablets) Medicaid Program- 21 years and older (42 tablets)
West Virginia	7 Day Supply (short-term pain) 4 Day Supply (ER prescriptions) 3 Day Supply Dentists/Optometrists



State Limits: Opioid Prescribing

- In March 2016, Massachusetts became the 1st state to enact legislation to limit the supply of opioid painkillers prescribed by practitioners.
- 35 States Have Enacted Legislation with Some Type of Limit, Guidance, or Requirement Related to Opioid Prescribing
- Seven Day Supply in the Most Common
- Most States Exempt Treatment for Cancer, Palliative Care, Medication Assisted Treatment
- Exceptions for the Professional Judgement of the Provider/Documented

Utah and Washington Become Latest States to Require Conversations between Prescribers and Patients

12 States Now Require Patient Notification of Opioid Risks

With the recent adoptions by Utah and Washington, 12 states have now passed versions of the Patient Notification Law, requiring a conversation between prescribers and patients and parents, when a minor is being treated, before an opioid-painkiller is prescribed to warn about risks of dependence and when appropriate to discuss the use of a non-opioid pain relief alternative.

info@preventopioidabuse.org

Utah and Washington Become Latest States to Require Conversations between Prescribers and Patients (continued)

Versions of this life-saving legislation have also passed in California, Connecticut, Maryland, Michigan, New Jersey, Nevada, Oklahoma, Ohio and Rhode Island and West Virginia Efforts to adopt this life-saving legislation are currently underway in Alaska, Kansas, Missouri, Maine, Pennsylvania and Texas.

In the states where this legislation is being implemented, it is driving down the number of opioid pain reliever prescriptions written. In New Jersey, for example, opioid prescriptions have declined by 25% in a little over a year.

info@preventopioidabuse.org



CVS Pharmacy Policy: 2/01/18

- Acute Pain (Opioid Naïve Patients: No Opioid Script within the Past Year)
- 7-Day Supply
- Opioid Prescriptions
- Requirement to Counsel Patients:
 - Risks Of Addiction
 - Secure Storage Of Medications In The Home
 - Proper Disposal of Medications

Walmart giving away solution to dispose of unused prescription pills

January 26, 2018



Gene Myers, Staff Writer, @myersgene

Narcan available at more than 8,000 Walgreens locations nationwide

- ~~By~~ ~~BB~~ ~~News~~ ~~W~~, Martinez: October 27, 2017
- Walgreens (WBA) is now stocking Narcan at all of its more than 8,000 locations nationwide, the company announced Thursday. The nasal spray, which is an FDA-approved form of naloxone, can reverse the effects of an opioid overdose.
- The drug store chain said the move was "part of its comprehensive national plan to combat drug abuse" and help the communities it serves.

Knowing the Risks of Opioid Prescription Pain Medications (Rite Aid)

Opioid prescription pain medications are a type of medicine used to relieve pain. Some of the common names include oxycodone and acetaminophen (Percocet®); oxycodone, (OxyContin®); and hydrocodone and acetaminophen (Vicodin®).

These medications...

- Cause your brain to block the feeling of pain; they do not treat the underlying cause of pain.
- Are very addictive, especially if they are not used correctly.
- Increase your chances of accidental overdose, coma, and death if taken with prescription medications, including anti-anxiety and sedating medications, and alcohol.

Effective non-opioid options are available for relieving short-term pain, including ibuprofen (Advil®, Motrin®), acetaminophen (Tylenol®), physical therapy, chiropractic, acupuncture, and cognitive behavioral therapy. Talk with your pharmacist or healthcare provider to learn more.

Protect yourself - and your loved ones - with Naloxone (Rite Aid)

What is Naloxone?

- Naloxone is a lifesaving, rescue medication that can be used in an emergency to reverse the effects of an accidental opioid overdose.

Why should I get Naloxone?

- Any prescription opioid medication has the potential risk for unintended consequences such as slowed breathing and accidental overdose.

- Guidelines recommend naloxone if you take high doses of opioids, certain interacting medications or have medical condition(s) that increase your risk.

- Having naloxone at home can not only protect yourself, but loved ones that may ingest the opioid by accident - an emergency can occur after just one dose.

- Similar to a fire extinguisher in your home, naloxone is important to have "just in case" of an emergency or accident it is always better to take appropriate precautions and be safe!



Walmart Will Implement New Opioid Prescription Limits By End Of Summer



Vanessa Romo, May 8, 2018

Walgreens Expands Safe Drug Disposal Program

Drugtopics.com

June 26, 2019

Walgreens launched a national effort to help consumers safely dispose of unwanted or expired medications year-round in all of its pharmacies.

If the chain does not currently have a safe disposal kiosk, it will offer DisposeRx packets to help consumers safely discard unwanted medications, the company says in a prepared statement.

Walgreens says the company has delivered on the expansion of its safe drug disposal program announced last fall, at no cost to customers.

Steps to reduce opioid addiction and lower overdose deaths

- Identify legitimate pain
- Opioid prescribing limits
- Offer alternatives to opioids
- Give warnings about risks of dependence and addiction
- Clean medicine cabinets
- Redefine addiction as a disease/sickness

Thank you

Questions?