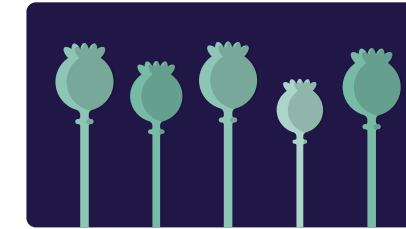


Opioid Epidemic in the U.S.: How Did We Get Here?

When the CDC published opioid-prescribing guidelines in 2016, it brought national attention to a problem plaguing Americans across the country. Overdose deaths related to prescription opioids and heroin addiction have reached epidemic proportions. In fact, they have quadrupled since 1999, according to the CDC.¹

¹ CDC



Opium has been around since at least 3400 BC. Known as the "joy plant," it was cultivated by Sumerians in lower Mesopotamia, now current-day Iraq. Its use, both as a pain reliever and soporific, spread through the Middle East, India, Greece, China and Europe. [PBS]

1700s Colonial America



OPIUM AND LAUDANUM

Doctors prescribe opium to their patients to manage pain as well as help with dysentery, coughs, and other maladies. Also popular are laudanum, an opium compound in pill form, and later Sydenham's Laudanum, a mixture of opium in wine and spices.¹

Colonists cultivate opium in their gardens.² Even founding father Thomas Jefferson grows opium poppies at Monticello.³

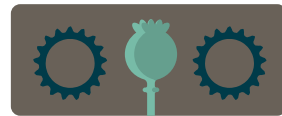
^{1,2} Frontier Medicine, (pg. 36)

³ Book: Thomas Jefferson's Flower Garden at Monticello, (pg. 59)

1800s-30s



MORPHINE
Friedrich Wilhelm Sertürner of Germany isolates morphine from opium.¹ He calls it morphine, after Morpheus, the Greek god of dreams.²



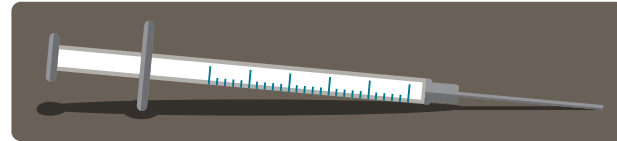
1830s: INDUSTRIAL REVOLUTION
The U.S. begins manufacturing morphine.³

¹ Meldrum, A Capsule History of Pain Management

² David J. Hart, Organic Synthesis Via Examination of Selected Natural Products. (pg. 405)

³ Meldrum

1850s-60s



1855: HYPODERMIC NEEDLE

Alexander Wood of Scotland devises the first hypodermic needle to administer morphine to a patient suffering from neuralgia.¹

CIVIL WAR

Doctors administer morphine to injured American soldiers. Veterans who remain addicted after the war suffer from what is called the "Soldier's Disease."²

¹ Meldrum, PBS Frontline, ² Elaine Casey, History of Drug Use and Drug Users in the United States, Facts About Drug Use, 1978.

1870s-90s

NARCOMANIA

Physicians raise concerns with morphine addiction, also known as "narcomania."¹

Americans are now buying over-the-counter pills and elixirs that contain opiates to treat menstrual cramps, teething and other aches and pains.



1898: HEROIN

A German pharmaceutical company synthesizes heroin from morphine and introduces it as a cough and cold remedy. It is considered less addictive than morphine.²

^{1,2} Meldrum

1900s-10s

FREE HEROIN

A philanthropic vorganization provides free heroin to morphine addicts to help them quit.¹ Americans crush the pills and inhale the powder for a more intense high.²

1906: FOOD AND DRUGS ACT

Pharmaceutical companies must accurately label their products and list dangerous ingredients, such as alcohol, heroin and cocaine.³

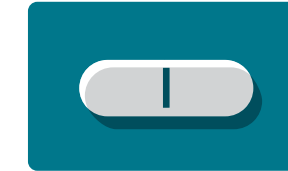
1914: NARCOTICS TAXED

The Harrison Narcotics Tax Act taxes those who import, manufacture, or prescribe narcotics.⁴

¹ PBS Frontline, ² Meldrum, ³ FDA, ⁴ PBS Frontline, Meldruma



1920s



1920: HYDROCODONE

A German pharmaceutical company develops hydrocodone, another opiate painkiller.¹

1923: LEGAL NARCOTICS BANNED

All legal narcotics are banned under the U.S. Treasury Department's Narcotics Division.²



1924: ANTI-HEROIN ACT
U.S. makes the manufacture and possession of heroin illegal.³

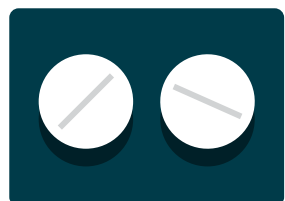
¹ NY Magazine, ² PBS Frontline, ³ History.com

1930s-50s



1938: FOOD, DRUG AND COSMETIC ACT

To ensure consumer safety, the U.S. government enacts the Food, Drug and Cosmetic Act. It also tightens controls over medical devices.¹



1955: ACETAMINOPHEN
Better known as Tylenol, acetaminophen is available via prescription (for children only). It is made available to adults a few years later.²

¹ FDA, ² NY Magazine

1970s-80s

NEW PAIN KILLERS

Percocet (oxycodone and acetaminophen)¹ and Vicodin (hydrocodone and acetaminophen)² come on the market. Both are short-acting pain relievers.



1980s: OPIOIDS DEEMED 'SAFE'

Two events indicate that opioids are safe to prescribe for chronic pain and not addictive.

One is a letter, "Addiction Rare in Patients Treated with Narcotics," published in the New England Journal of Medicine in 1980. Another is a study, "Chronic Use of Opioid Analgesics in Non-Malignant Pain: Report of 38 Cases," published in 1986 in Pain.

¹ california-drug-rehabs.com, ² NY Magazine, ³ The New Yorker

1990s-00s



1996: OXYCONTIN DEBUTS

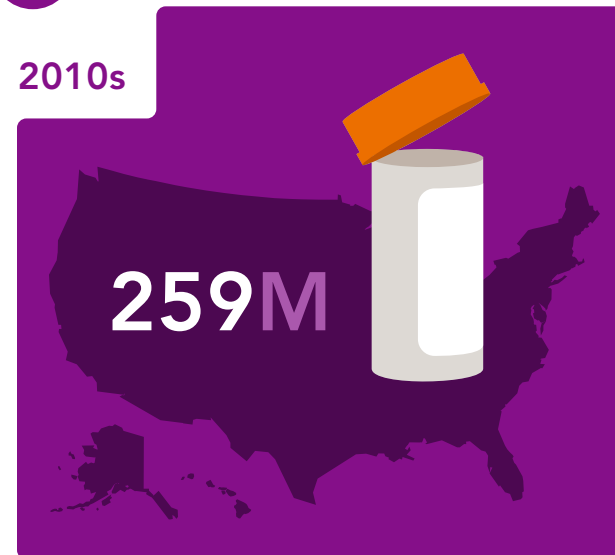
OxyContin, a long-acting painkiller, hits the market. In an aggressive marketing campaign, the drug's manufacturer claims OxyContin is less addictive than its short-acting cousins, Percocet and Vicodin.¹

2002: OVERDOSE DEATHS

Overdose deaths from opioid drugs, including heroin, reach over 10,000.²

¹ NY Times, ² National Institute on Drug Abuse

2010s



2012: 259 MILLION

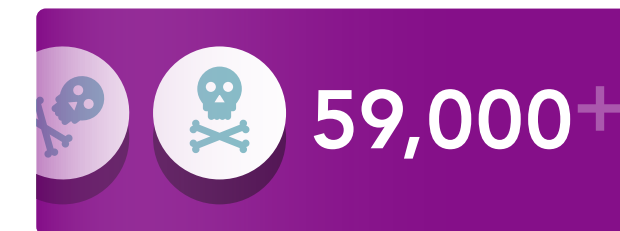
In 2012, the number of prescriptions written for opioid pain medication reaches 259 million, enough for every adult in the United States to have a bottle of pills.¹

2015: OPIOID DEATHS NEARLY TRIPLE

Overdose deaths from prescription opioids and heroin reach 33,000,² almost triple the number of overdose deaths since 1999.³

2016: CDC GUIDELINES

The CDC releases guidelines for prescribing opioids for chronic pain. It encourages non-opioid therapies, prescribing lower doses and short-acting opioids, and monitoring progress. These guidelines do not pertain to pain related to cancer, palliative or end-of-life care.⁴



2016: OPIOID DEATHS KEEP RISING

The New York Times estimates drug overdose deaths in 2016 at over 59,000. They are the leading cause of death of Americans under 50.⁵

2016: AND 2017: PRESIDENTS ACT

In 2016 Former President Obama asks Congress for over \$1 billion to fight the opioid epidemic.⁶ And in 2017 President Trump signs an executive order to create the President's Commission on Combating Drug Addiction and the Opioid Crisis.⁷

¹ CDC, Dowell, ^{2,4} CDC, ³ National Institute on Drug Abuse,

^{5,6} NY Times, ⁷ nbcnews.com



**Over 6
out of 10**
drug overdose
deaths involve
an opioid.¹



Every day,
91 people die
from an overdose of
heroin or prescrip-
tion opioids.²



of opioid
prescriptions
originate from
primary care
providers.³

^{1,2,3} CDC