



## **The *Other* Opioid Crisis: Heroin and Fentanyl**

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# Disclosures

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- Nothing to Disclose

# Learning Objectives

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- Describe the opioid overdose crisis in the United States today
- Discuss common beliefs and inconsistencies about the role of prescription opioids in the opioid crisis
- Identify the intersection of illicit drug use and clinical pain practice in today's "opioid epidemic"
- Provide clinically relevant recommendations for navigating the current landscape without depriving pain care to patients in need

# PainWeek®

## Is There More than one Opioid Crisis?

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## The Facts: No Lack of Media Attention



# Opioid **CRISIS**



# OPIOID EPIDEMIC



# HEROIN EPIDEMIC

# The Facts

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- People are dying...
- People are angry and reacting
- People are scared
- Overdoses from drugs (**ALL** drugs, legally prescribed or not) including opioids, hallucinogens, cocaine, etc.
  - ~ **72,000 deaths** nationwide in 2017
    - ↑ **12%** from 2016
    - **More than 42,000 (~66%)** involved some type of opioid
    - \*\*\*\***Some question accuracy regarding CDC overdose data and prescribed opioid analgesics**\*\*\*\*



# The Facts

- Drug(s) Responsible May be Unknown
  - Overdose is usually about **RESPIRATORY DEPRESSION**
- Sometimes causes are not reported
  - May depend on the state
  - Trends can be difficult to identify
- This may lead to a lack of focus

There Is More Than One Opioid Crisis. To better tackle the epidemic, Kentucky needed to know which drugs were causing lethal overdoses. By Kathryn Casteel Published Jan. 17, 2018. <https://fivethirtyeight.com/features/there-is-more-than-one-opioid-crisis/>. Accessed January 18, 2018.

## Identifying drugs in overdose deaths

In each state, 2016

STATE	ALL DEATHS	CASES IN WHICH NO DRUG WAS SPECIFIED	
		TOTAL	SHARE
Louisiana	996	473	47.5%
Pennsylvania	4,627	2,075	44.8
Alabama	756	308	40.7
Montana	119	46	38.7
Indiana	1,526	547	35.8
Delaware	282	99	35.1
Nebraska	120	37	30.8
Arkansas	401	115	28.7
Florida	4,728	1,144	24.2
Idaho	243	55	22.6
New Jersey	2,056	461	22.4
Mississippi	352	78	22.2
Wyoming	99	21	21.2
California	4,654	930	20.0
Kansas	313	62	19.8
Colorado	942	172	18.3
Kentucky	1,419	253	17.8
Missouri	1,371	199	14.5
North Dakota	77	11	14.3
Arizona	1,382	196	14.2

# The Facts: Kentucky as an Example

## The most common drugs found in Kentucky's overdose victims

Based on an analysis of 1,471 drug overdose deaths in 2016

### Individual drugs

DRUG	SHARE
Morphine	45.4%
Fentanyl	37.0
Gabapentin	32.6
Alprazolam	25.5
THC-COOH	24.9
Heroin	24.7
Codeine	20.7
Ethanol	18.4
Oxycodone	17.2
Methamphetamine	17.1

### Two-drug combinations

DRUGS	SHARE
Heroin, morphine	24.3%
Fentanyl, morphine	23.7
Codeine, morphine	20.0
Heroin, codeine	16.6
Gabapentin, morphine	14.2
Morphine, THC-COOH	12.8
Alprazolam, morphine	12.6
Methamphetamine, amphetamine	12.0
Heroin, fentanyl	11.7
Oxycodone, oxymorphone	11.5

### Three-drug combinations

DRUGS	SHARE
Heroin, morphine, codeine	16.6%
Heroin, morphine, fentanyl	11.6
Morphine, codeine, fentanyl	9.3
Heroin, morphine, THC-COOH	7.9
Heroin, codeine, fentanyl	7.6
Fentanyl, morphine, THC-COOH	7.3
Alprazolam, heroin, morphine	7.3
Gabapentin, heroin, morphine	7.1
Gabapentin, fentanyl, morphine	6.8
Alprazolam, codeine, morphine	6.6

In cases in which multiple drugs are detected, every individual drug — as well as every two- and three-drug combination — is counted separately.

FiveThirtyEight

SOURCE: KENTUCKY INJURY PREVENTION AND RESEARCH CENTER

NEWS > HEALTH

## Colorado's opioid and heroin overdose deaths outnumbered homicides in 2015

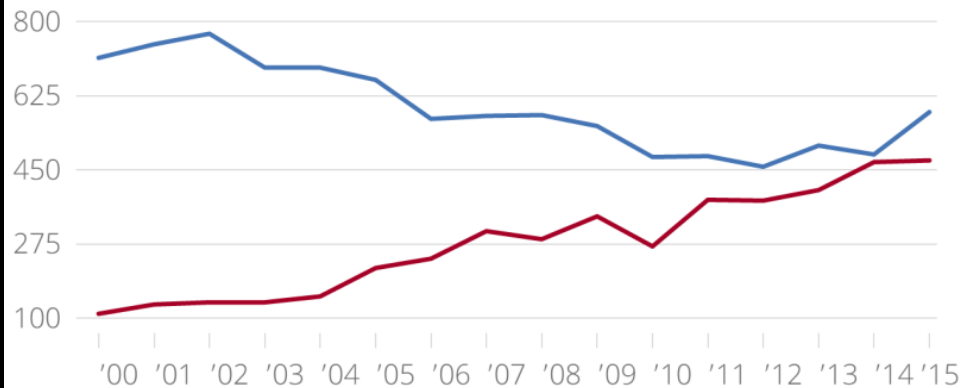
Opiate deaths are catching up to alcohol-related liver disease deaths

By **JOHN INGOLD** | [jingold@denverpost.com](mailto:jingold@denverpost.com) | The Denver Post

PUBLISHED: January 3, 2017 at 11:15 am | UPDATED: October 31, 2017 at 12:39 pm

Deaths in Colorado from opiate drugs vs. motor vehicle accidents

■ All opiates (including Rx and heroin) ■ Motor vehicle injuries



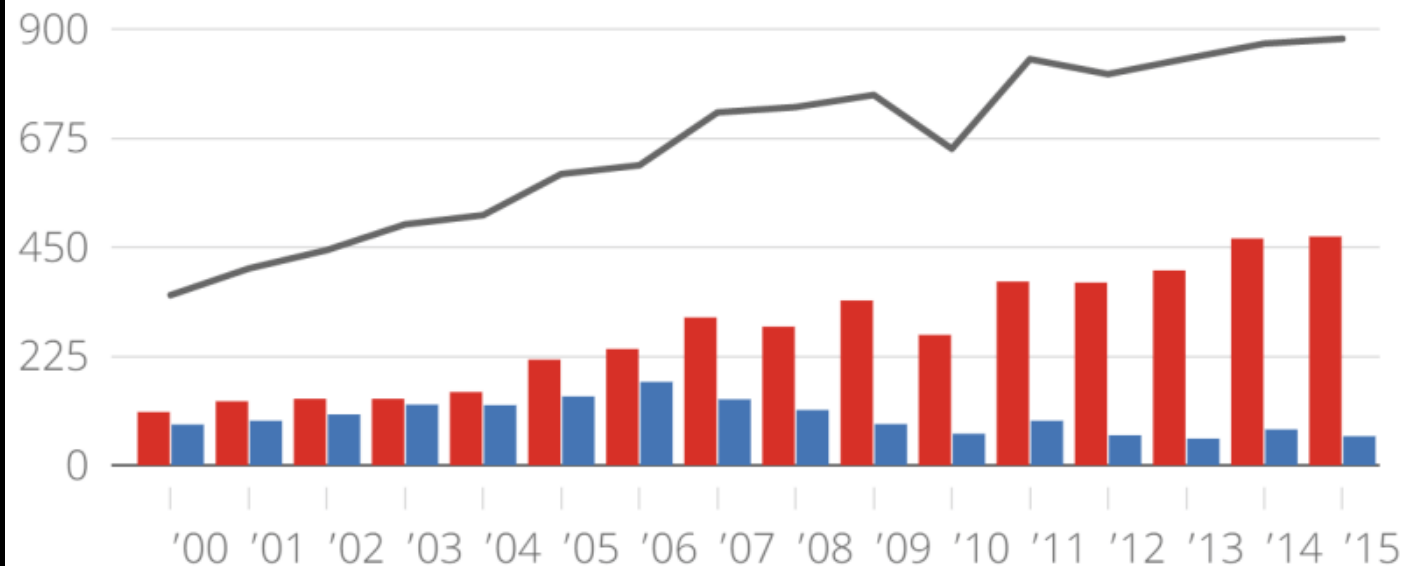
Made with Chartbuilder

Data: Colorado Department of Public Health and Environment

## The Facts

Drug poisoning deaths in Colorado

■ Opiates ■ Cocaine ■ All Drug Poisoning



Made with Chartbuilder

Data: Colorado Department of Public Health and Environment



# THE DENVER POST

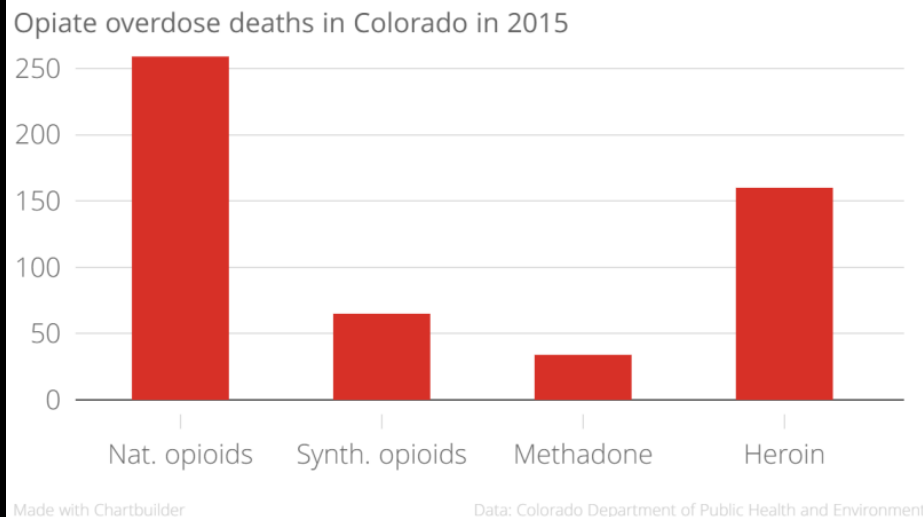
NEWS > HEALTH

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By **JOHN INGOLD** | jingold@denverpost.com | The Denver Post

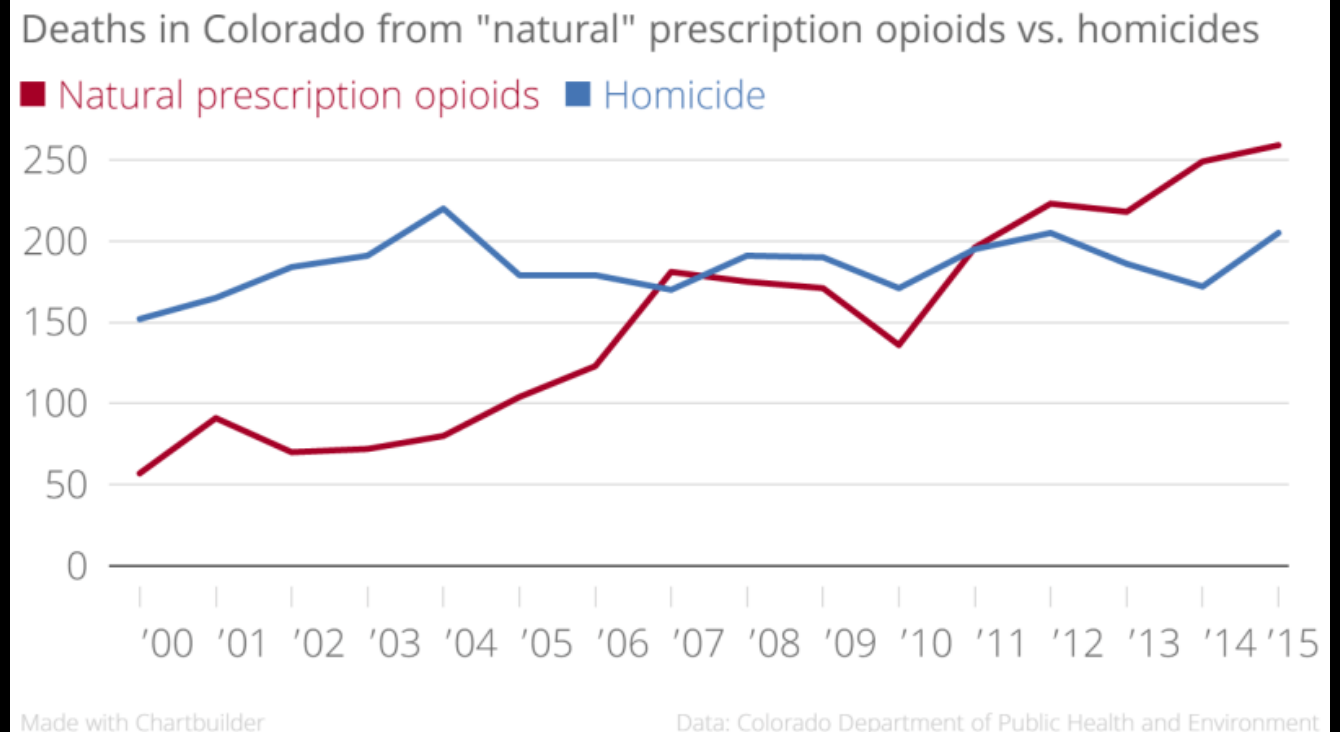
PUBLISHED: January 3, 2017 at 11:15 am | UPDATED: October 31, 2017 at 12:39 pm



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## The Facts

Natural = prescription opioids

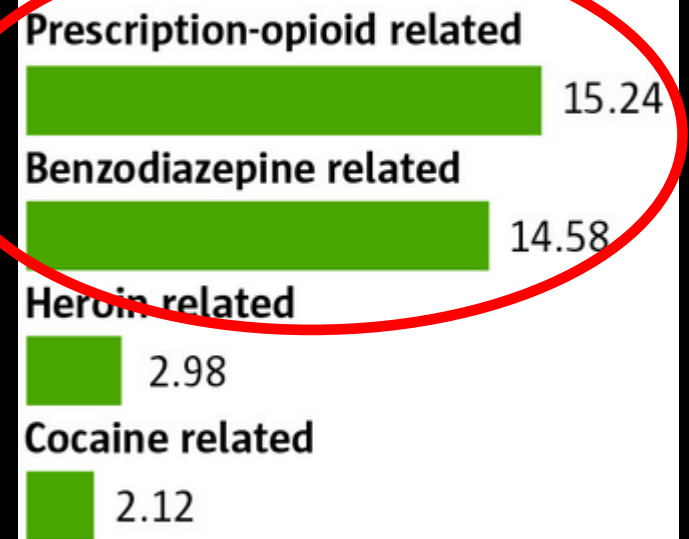


- “The state tracks opioid prescriptions, but doctors aren't required to check the database”
- “The vast majority of states require clinicians to check the Prescription Drug Monitoring Program (PDMP) database before writing most opioid prescriptions”

## The Facts

### Colorado drug-related hospitalization

Rates per 100,000 for 2015



Source: Colorado Dept. of Public Health and Environment

The Denver Post

By **JOHN FRANK** | [jfrank@denverpost.com](mailto:jfrank@denverpost.com) | The Denver Post

PUBLISHED: November 5, 2017 at 12:01 am | UPDATED: November 6, 2017 at 11:02 am

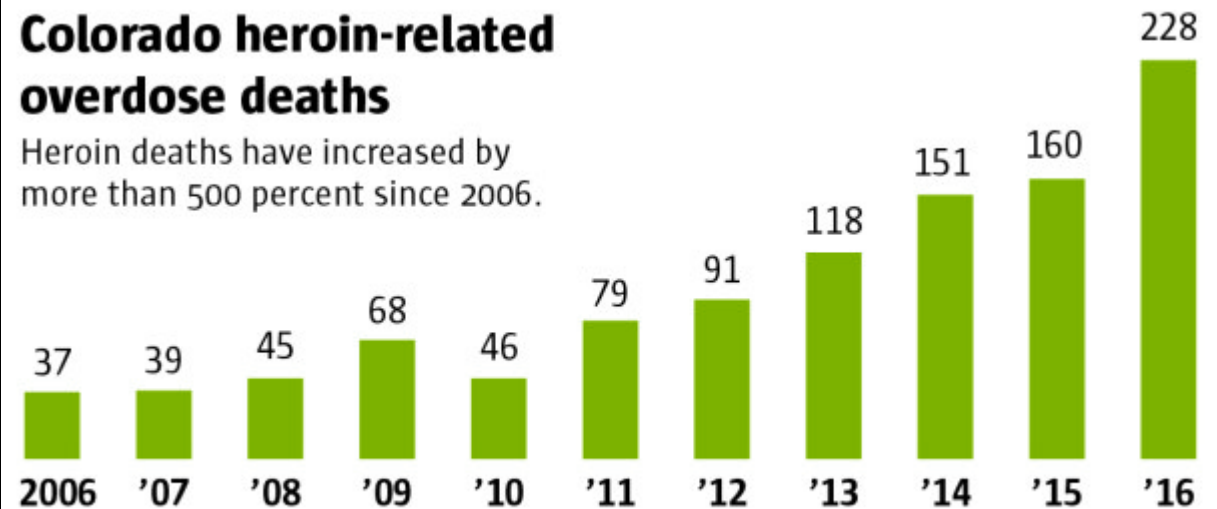


A crackdown on overprescribing isn't enough — drug treatment options remain a challenge.

According to policymakers, Colorado's initial efforts to restrict opioid prescriptions may have an unintended effect: pushing addicts to opioids such as heroin or fentanyl. The trend is spotlighting the limited treatment options for drug users who want help.

### Colorado heroin-related overdose deaths

Heroin deaths have increased by more than 500 percent since 2006.



Source: Colorado Dept. of Public Health and Environment

The Denver Post

By **JOHN FRANK** | [jfrank@denverpost.com](mailto:jfrank@denverpost.com) | The Denver Post

PUBLISHED: November 5, 2017 at 12:01 am | UPDATED: November 6, 2017 at 11:02 am

# THE DENVER POST

## Doctors will soon get opioid prescription “report cards.”

To educate doctors about the dangers of overprescribing opioids, Colorado is testing a relatively new idea that is showing early results — prescriber report cards.

The reports, also known as scorecards, will give clinicians a summary of their prescriber history and how they rank with their peers in the same specialty in terms of dosage, duration and type of drug.

By **JOHN FRANK** | [jfrank@denverpost.com](mailto:jfrank@denverpost.com) | The Denver Post

PUBLISHED: November 5, 2017 at 12:01 am | UPDATED: November 6, 2017 at 11:02 am

**PainWeek**

### Colorado opioid-related deaths

Rates per 100,000 for 2016

Male

11.3

Female

6.3

15 to 19 years

4.0

20 to 24 years

12.0

25 to 34 years

16.3

35 to 44 years

15.2

45 to 64 years

12.6

65+ years

1.7

White, non-Hispanic

9.6

White, Hispanic

9.2

Black/African-American

4.0

Asian/Pacific Islander

1.2

American Indian

4.7

Source: Colorado Dept. of  
Public Health and Environment

The Denver Post

## The Facts

- “The idea is that prescribers might be prescribing more than average for their particular specialty”
- “They’ll say ‘Oh, I better look at things more closely’”
- “What we are hoping to see is a change in prescriber behavior”

# Baltimore City's Response to the Opioid Epidemic

The Baltimore City Health Department (BCHD) is dedicated to preventing overdose deaths in Baltimore City. Opioid overdose is a public health crisis. In 2017, Baltimore City saw 761 drug and alcohol-related intoxication deaths, 692 of which were opioid-related. This is more than double the number of people who died of homicide. Baltimore City now has the highest overdose fatality rate of any city in the United States.

BCHD has a three-pronged strategy for combatting the opioid crisis:

1. **Save lives with naloxone** – When administered to an individual experiencing an overdose, this antidote medication can take them from near death to walking and talking in a matter of minutes. The first step in fighting the opioid crisis is the acute response: saving lives today by getting naloxone into the hands of first responders and bystanders alike. **Learn about our naloxone programs, including the State's standing order, where to get naloxone, how to get trained, and more—[here](#).**
2. **Increase access to on-demand, evidence-based treatment** – BCHD endorses evidence-based medication assisted treatment (MAT), along with social and wraparound services to treat the disease of opioid addiction. **For more information on where to receive treatment, treatment programs and partnerships, and more, [click here](#).**
3. **Fight the stigma of addiction through education** – Addiction is a disease. Similar to heart disease, addiction is preventable and treatable. **For more information on fighting the stigma of addiction and educational materials about addiction, [click here](#).**

## The Facts



## Baltimore City Health Department





# Important Societal Questions

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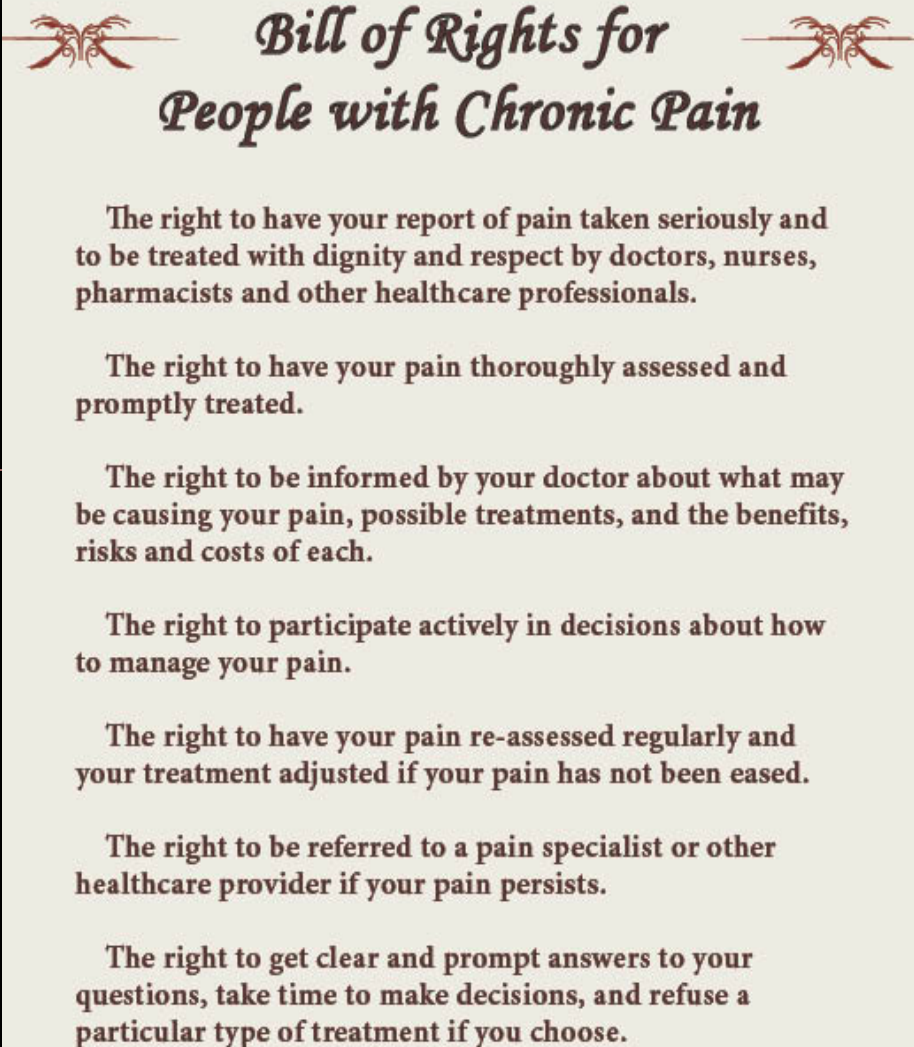


# PainWeek

## Is the Current Climate Living up to Promises Made in the Past?

Does the chronic pain patient still have rights?

Is this a problem about chronic pain patients abusing prescription pain medications?



NEWS > HEALTH

## Chronic pain patients say they are hurt by Colorado's opioid prescription guidelines

Some Colorado doctors are refusing to prescribe opioids to chronic pain sufferers



John Leyba, The Denver Post

David and Marjorie Orthman discuss David's painful form of cystic fibrosis Dec. 6, 2016 at their home.

By **JOHN INGOLD** | [jingold@denverpost.com](mailto:jingold@denverpost.com) | The Denver Post

PUBLISHED: December 6, 2016 at 9:27 pm | UPDATED: December 7, 2016 at 10:31 am

## The Clinical Implications

Now, across Colorado and the rest of the nation, these policies intended to address opioid abuse have unexpectedly harmed patients who depend on the drugs to treat chronic conditions, pain specialists and patient advocates say. The policies are supposed to offer guidance — helpful advice to doctors to be cautious in prescribing more than a certain amount of opioids to any one patient.

Officials at the Colorado Department of Regulatory Agencies are looking at revising the guidelines. The [Colorado Consortium for Prescription Drug Abuse Prevention](#), a group of medical and drug experts, is also working on ideas to protect pain patients while cracking down on opioid abuse.



Centers for Disease Control and Prevention  
CDC 24/7: Saving Lives, Protecting People™

## Understanding the Epidemic

# The Facts

### Record Overdose Deaths

Heroin Use

Preventing Overdose Deaths

Drug overdose deaths in the United States continue to increase in 2015

- The majority of drug overdose deaths involve an opioid<sup>1</sup>
- Since 1999 the # of overdose deaths quadrupled<sup>2</sup>
  - Prescription opioids
  - Heroin
- 108 Americans die every day from an opioid overdose



~130 in 2019

1. Rudd RA, Seth P, David F, Scholl L. Increases in Drug and Opioid-Involved Overdose Deaths — United States, 2010–2015 MMWR Morb Mortal Wkly Rep. ePub: 16 December 2016. DOI: <http://dx.doi.org/10.15585/mmwr.mm655051e1>
2. CDC. Wide-ranging online data for epidemiologic research (WONDER). Atlanta, GA: CDC, National Center for Health Statistics; 2016. Available at <http://wonder.cdc.gov>.



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## Understanding the Epidemic

# The Facts

Record Overdose Deaths **Heroin Use** Preventing Overdose Deaths

Heroin use is trending up

- From 2002-2013, past month/year heroin use and addiction have all increased among 18-25 year olds<sup>1</sup>
- Among **new heroin users**, **75%** report abusing prescription opioids prior to using heroin<sup>2</sup>
- Heroin-related deaths more than tripled from 2010-2015
  - The largest increase was for those heroin-related deaths involving synthetic opioids - **FENTANYL**

1. Centers for Disease Control and Prevention. Demographic and Substance Use Trends Among Heroin Users — United States, 2002–2013. MMWR 2015; 64(26):719-725

2. Muhuri PK, Gfroerer JC, Davies C. Associations of nonmedical pain reliever use and initiation of heroin use in the United States. CBHSQ Data Review, 2013.



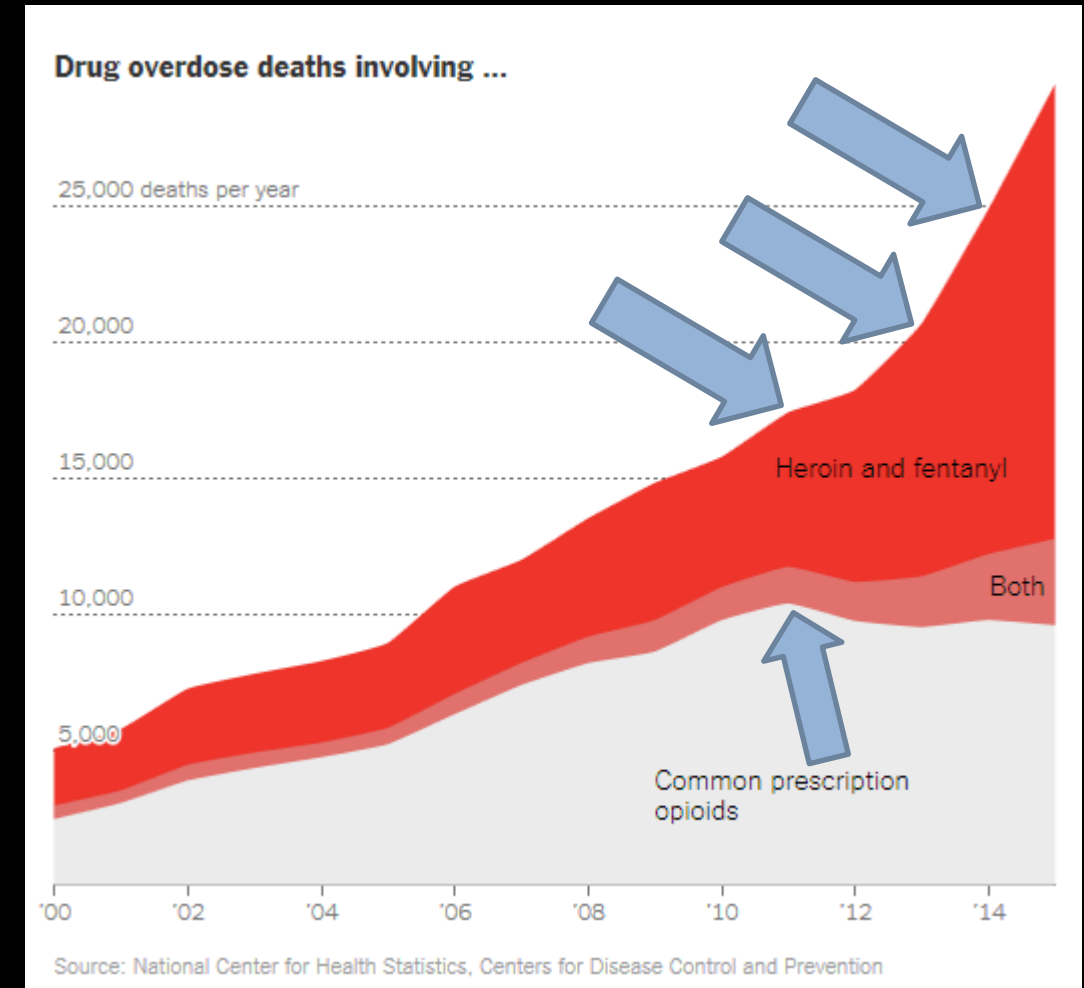
# The Facts: Times are Changing

The New York Times

Short Answers to Hard  
Questions About the Opioid  
Crisis

By JOSH KATZ UPDATED August 10, 2017

- Characteristics of Opioid Drug Overdoses:
  - Fast
  - Deadly
  - Scary
  - Socioeconomic status – neutral
  - Abuse-history – neutral
  - Increasing exponentially





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Understanding the Epidemic

# The Clinical Implications

Record Overdose Deaths

Heroin Use

Preventing Overdose Deaths

- Improved opioid prescribing
- Expanded access to substance abuse treatment
- Naloxone
- Prescription Drug Monitoring Programs (PDMPs)
- State-level strategies to prevent high risk prescribing and opioid overdoses
- Improved detection of illegal opioid use by law enforcement

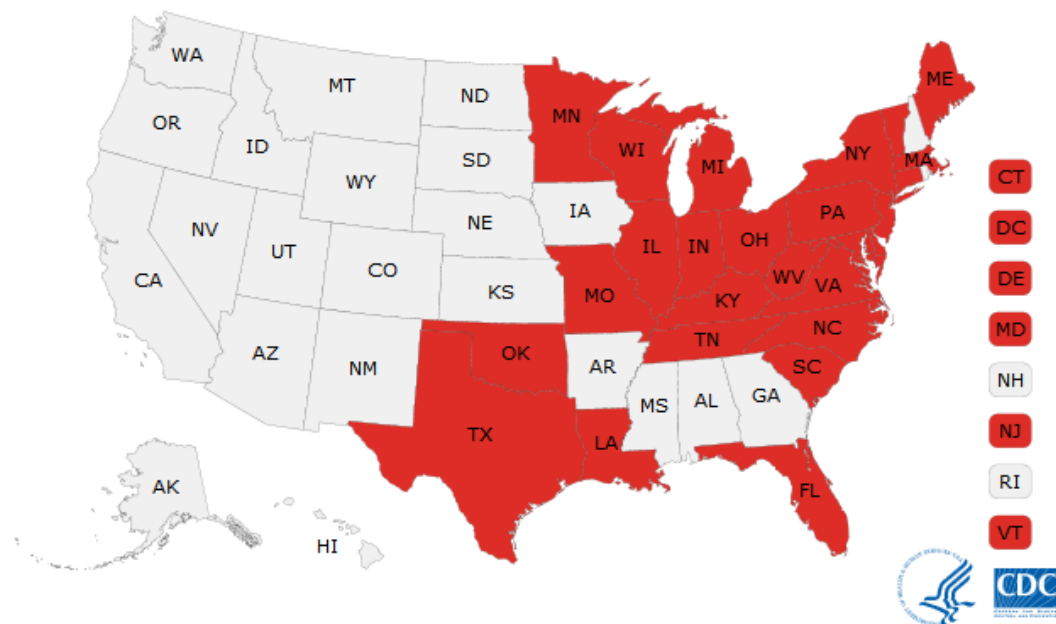


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## Understanding the Epidemic

# The Facts

Statistically significant drug overdose death rate increase from 2015 to 2016, US states



- Opioids (**prescription and illicit**) are main drivers
- 5 highest states:
  - West Virginia
  - Ohio
  - New Hampshire
  - Pennsylvania
  - Kentucky

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## The “Other” Epidemic

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# Heroin

- Highly addictive
- It *is* an opioid
- Made from morphine
  - ~3 times more potent
- A natural substance
  - Extracted from the opium poppy plant
    - Asia
    - Mexico
    - Colombia

# The Facts





# The Facts

- Heroin use has been increasing<sup>1</sup>
  - Men
  - Women
  - Most age groups
  - All income levels
- Past misuse/abuse of prescription opioids is the strongest risk factor for starting heroin<sup>2</sup>



\*Annual average rate of heroin use (per 1,000 people in each group)

1. Centers for Disease Control and Prevention. Vital Signs: Today's Heroin Epidemic – More People at Risk, Multiple Drugs Abused. MMWR 2015.  
2. Compton WM, Jones CM, and Baldwin GT. Understanding the Relationship between Prescription Opioid and Heroin Abuse. NEJM.



Centers for Disease Control and Prevention  
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## CDC Vital Signs July 2015

### ■ The Heroin Epidemic

**Heroin use is part of a larger substance abuse problem.**

Nearly all people who used heroin also used at least 1 other drug.

Most used at least **3** other drugs.

**Heroin** is a highly addictive opioid drug with a high risk of overdose and **death** for users.

**People who are addicted to...**



ALCOHOL

are

**2x**



MARIJUANA

are

**3x**



COCAINE

are

**15x**



Rx OPIOID PAINKILLERS

are

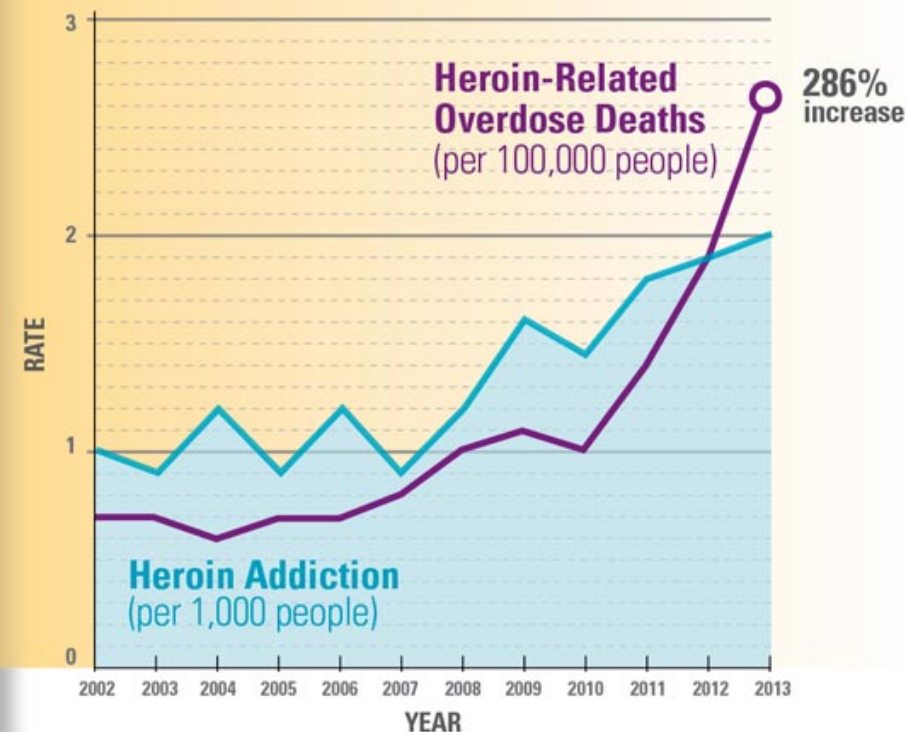
**40x**

**...more likely to be addicted to heroin.**

SOURCE: National Survey on Drug Use and Health (NSDUH), 2011-2013.

## The Facts

### Heroin Addiction and Overdose Deaths are Climbing



SOURCES: National Survey on Drug Use and Health (NSDUH), 2002-2013.  
National Vital Statistics System, 2002-2013.

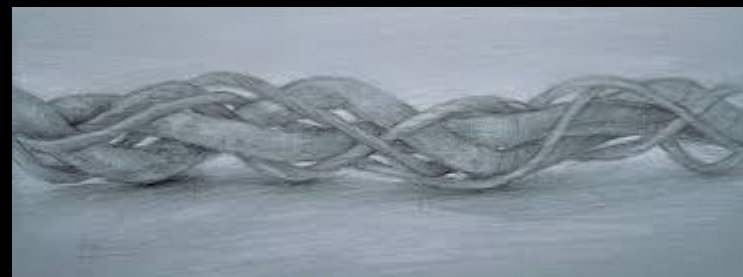




National Institute  
on Drug Abuse

## Research Report Series

“The relationship between prescription opioid abuse and increases in heroin use in the U.S. is under scrutiny. These substances are all part of the same opioid drug category and overlap in important ways”



1. <https://www.drugabuse.gov/publications/research-reports/relationship-between-prescription-drug-abuse-heroin-use/introduction>. Accessed January 30, 2018.
2. [https://d14rmgtrwzf5a.cloudfront.net/sites/default/files/rx\\_and\\_heroin\\_rrs\\_layout\\_final.pdf](https://d14rmgtrwzf5a.cloudfront.net/sites/default/files/rx_and_heroin_rrs_layout_final.pdf). Accessed January 30, 2018.





National Institute  
on Drug Abuse

## Research Report Series

# The Facts

- 2013-2015 research regarding prescription opioids and heroin showed:
  - Prescription opioid abuse *is* a risk factor for heroin use
  - Heroin use is *rare* in prescription drug abusers (<4% start within 5 years)
  - Although similar effects, risk factors are different
  - A subset of people who abuse prescription opioids may progress to heroin use
  - Availability of drug(s) is associated with increased use and overdose
  - Heroin use is driven by cost advantage and availability
  - Emphasis is needed on prevention and treatment

1. <https://www.drugabuse.gov/publications/research-reports/relationship-between-prescription-drug-abuse-heroin-use/introduction>. Accessed January 30, 2018.  
2. [https://d14rmgtrwzf5a.cloudfront.net/sites/default/files/rx\\_and\\_heroin\\_rrs\\_layout\\_final.pdf](https://d14rmgtrwzf5a.cloudfront.net/sites/default/files/rx_and_heroin_rrs_layout_final.pdf). Accessed January 30, 2018.



National Institute  
on Drug Abuse

## Research Report Series

# The Facts

■ And...

–“Analyses suggest that those who transition to heroin use tend to be frequent users of multiple substances (polydrug users)”

– Jones CM. Heroin use and heroin use risk behaviors among nonmedical users of prescription opioid pain relievers – United States, 2002-2004 and 2008-2010. Drug Alcohol Depend. 2013;132(1-2):95-100.

**A + B ≠ C**



1. <https://www.drugabuse.gov/publications/research-reports/relationship-between-prescription-drug-abuse-heroin-use/introduction>. Accessed January 30, 2018.
2. [https://d14rmgtrwzf5a.cloudfront.net/sites/default/files/rx\\_and\\_heroin\\_rrs\\_layout\\_final.pdf](https://d14rmgtrwzf5a.cloudfront.net/sites/default/files/rx_and_heroin_rrs_layout_final.pdf). Accessed January 30, 2018.



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CDC 24/7: Saving Lives, Protecting People™

## CDC Vital Signs July 2015

# The Clinical Implications

### ■ Recommendations that impact us:

- Screen and identify high-risk individuals
- Treat people with substance abuse disorders
- Naloxone

## Responding to the Heroin Epidemic



### PREVENT People From Starting Heroin

#### **Reduce prescription opioid painkiller abuse.**

Improve opioid painkiller prescribing practices and identify high-risk individuals early.



### REDUCE Heroin Addiction

#### **Ensure access to Medication-Assisted Treatment (MAT).**

Treat people addicted to heroin or prescription opioid painkillers with MAT which combines the use of medications (methadone, buprenorphine, or naltrexone) with counseling and behavioral therapies.



### REVERSE Heroin Overdose

#### **Expand the use of naloxone.**

Use naloxone, a life-saving drug that can reverse the effects of an opioid overdose when administered in time.

SOURCE: CDC Vital signs, July 2015

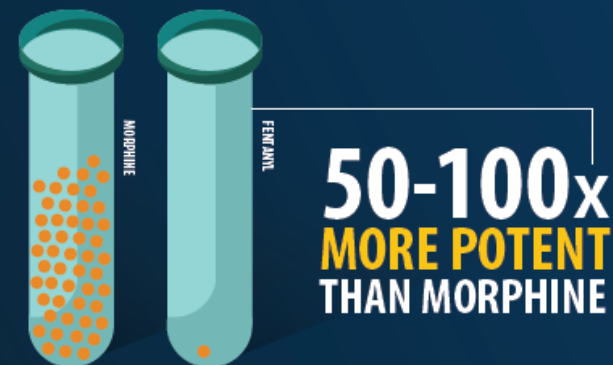
# The Facts – The “F” Word

## ■ Fentanyl

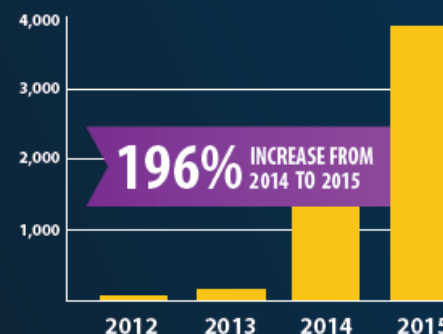
- Originally developed as an anesthetic
  - One of the safest opioids
  - High LD50/ED50 ratio
- More potent than morphine
  - 100 times more potent
- More potent than heroin
  - 20-50 times more potent
- NOT NEW**

## FENTANYL: Overdoses On The Rise

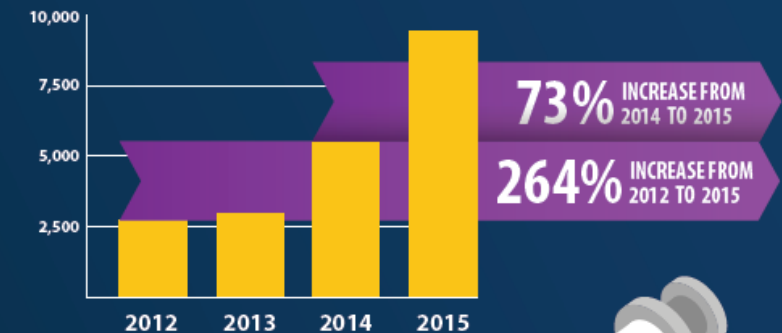
Fentanyl is a synthetic opioid approved for treating severe pain, such as advanced cancer pain. Illicitly manufactured fentanyl is the main driver of recent increases in synthetic opioid deaths.



Ohio Drug Submissions Testing Positive for Illicitly Manufactured Fentanyl



## SYNTHETIC OPIOID DEATHS ACROSS THE U.S.



## ILLICITLY MANUFACTURED FENTANYL

Although prescription rates have fallen, overdoses associated with fentanyl have risen dramatically, contributing to a sharp spike in synthetic opioid deaths.



OFTEN MIXED WITH **HEROIN OR COCAINE** WITH OR WITHOUT USER KNOWLEDGE

# Heroin and Fentanyl: A “Perfect” Pair

## The Facts

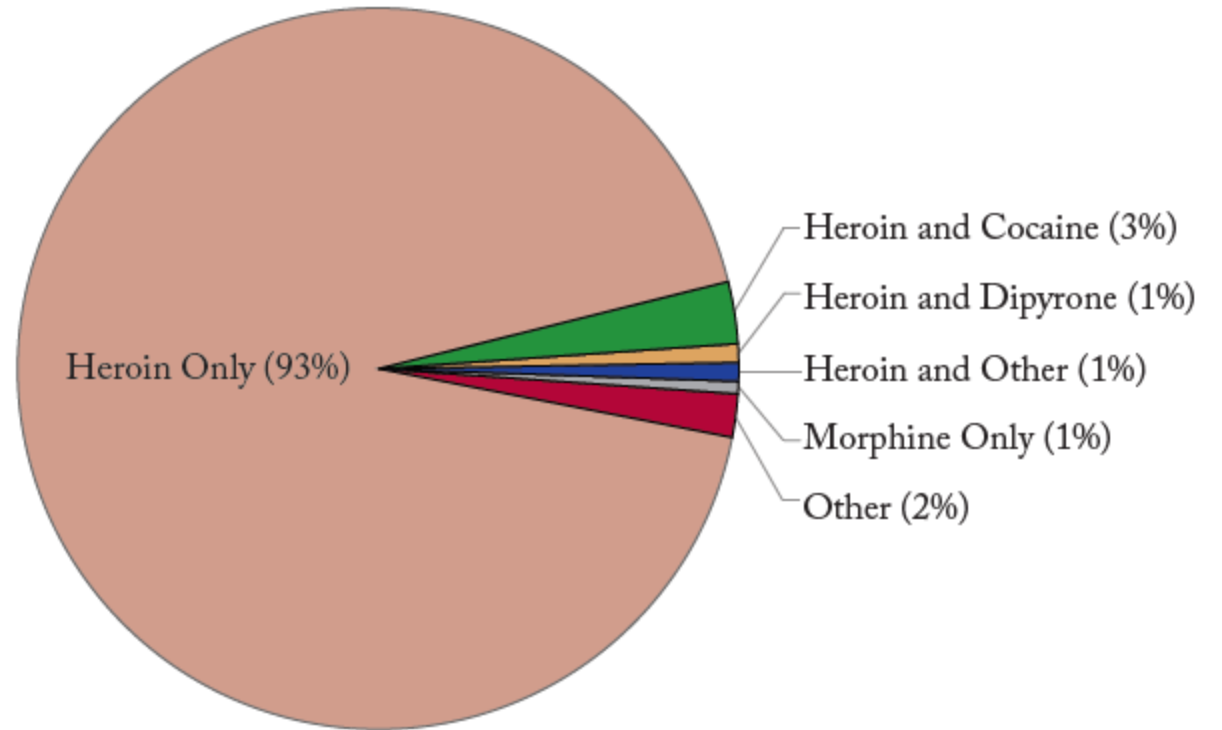
- The overwhelming majority of the time fentanyl is paired with heroin
- To get a better “high”
- “Better” economic profile
- Things may be changing...
  - Watch for methamphetamines

U.S. DEPARTMENT OF JUSTICE • DRUG ENFORCEMENT ADMINISTRATION  
OFFICE OF DIVERSION CONTROL

**NFLIS** NATIONAL FORENSIC  
LABORATORY  
INFORMATION SYSTEM

**Special Report: Opiates and Related Drugs  
Reported in NFLIS, 2009–2014**

Revised February 2016



Note: Percentages may not sum to total because of rounding.

# Fentanyl

- Drug seizures involving fentanyl increased dramatically between 2000-2016

U.S. DEPARTMENT OF JUSTICE • DRUG ENFORCEMENT ADMINISTRATION  
DIVERSION CONTROL DIVISION

**NFLIS** NATIONAL FORENSIC  
LABORATORY  
INFORMATION SYSTEM

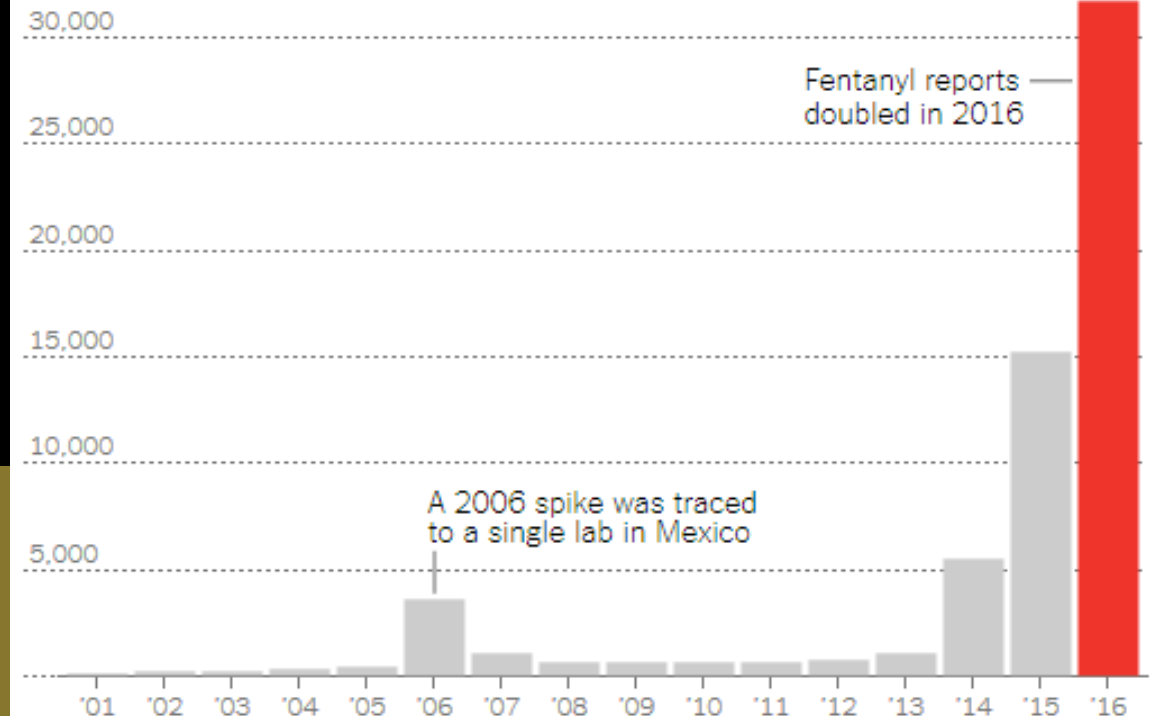
## NFLIS Brief: Fentanyl, 2001–2015

*The updated findings presented in this NFLIS Brief should not be compared with annual fentanyl data published previously by NFLIS.*



# The Facts

Drug seizures containing fentanyl



Source: D.E.A. National Forensic Laboratory Information System

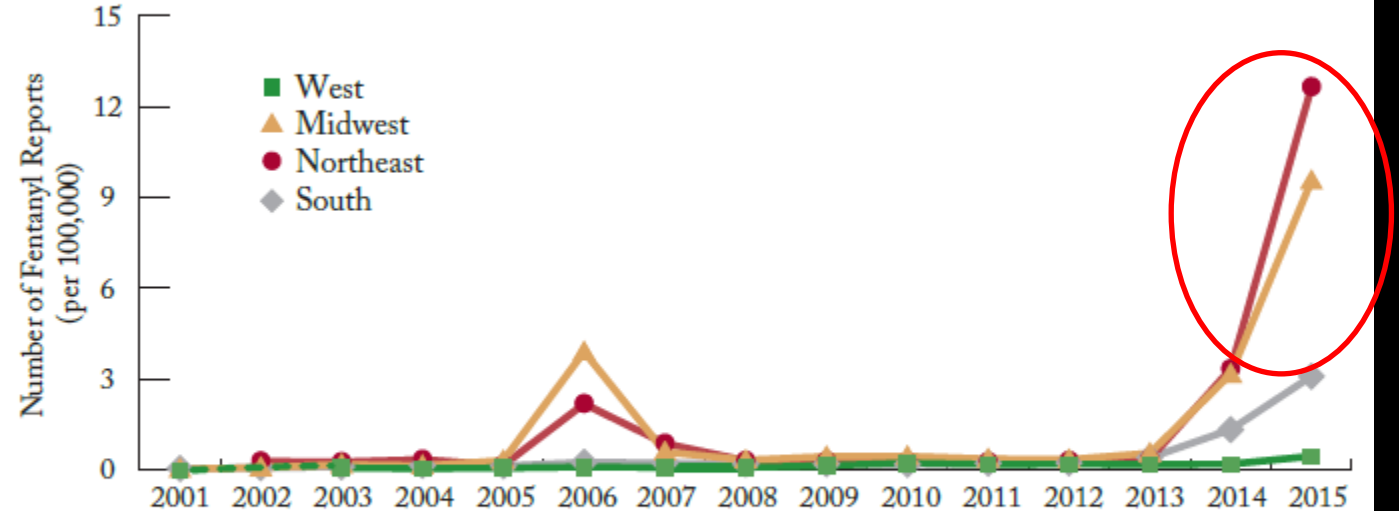


# Fentanyl

- Defined geographic distribution

## The Facts

Figure 2 NFLIS regional trends in fentanyl reported per 100,000 persons aged 15 or older, January 2001–December 2015<sup>1</sup>



Note: U.S. census 2015 population data by age were not available for this publication. Population data for 2015 were imputed.

<sup>1</sup>A dashed trend line indicates that estimates did not meet the criteria for precision or reliability, including the 2002 estimate in the West and the 2001 estimate in the Northeast.

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DIVERSION CONTROL DIVISION

NFLIS NATIONAL FORENSIC  
LABORATORY  
INFORMATION SYSTEM

NFLIS Brief: Fentanyl, 2001–2015

The updated findings presented in this NFLIS Brief should not be compared with annual fentanyl data published previously by NFLIS.

# The Facts

WORLD | ASIA | CHINA NEWS

## The Chinese Connection Fueling America's Fentanyl Crisis

A vast network beginning in China feeds fentanyl, a deadly synthetic opioid, to the U.S., Mexico and Canada

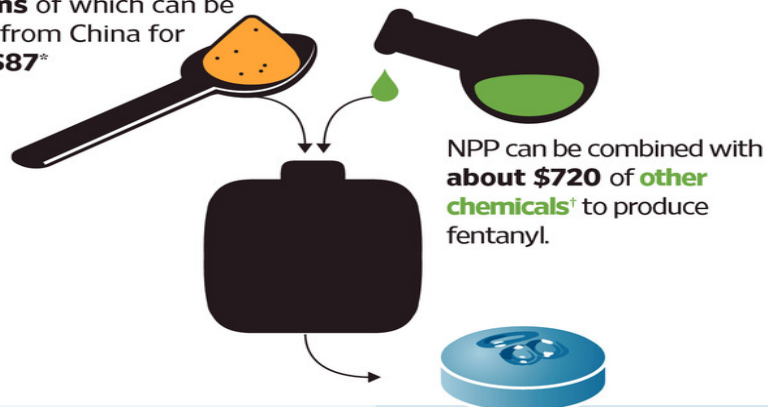
By **JEANNE WHALEN** and **BRIAN SPEGELE**

Updated June 23, 2016 1:44 a.m. ET

### Criminal Chemistry

Traffickers manufacturing fentanyl often purchase the key ingredient from China, which doesn't regulate its sale. Here's how the chemical building blocks become a highly profitable street drug.

The key ingredient is **NPP**, **25 grams** of which can be bought from China for about **\$87\***



The resulting 25 grams of fentanyl cost about **\$810** to produce...

...and are equivalent to up to **\$800,000** of pills on the black market.

\*Average current price from Chinese suppliers

†Prices from U.S. suppliers

Sources: NES Inc.; Drug Enforcement Administration; Calgary Police

THE WALL STREET JOURNAL.

- Fentanyl can be manufactured anywhere
  - Synthetic
- N-Phenethyl-4-piperidinone is NPP
  - Intermediate precursor to fentanyl
- It is cheap
- It is not going anywhere



# Terminology

# The Facts

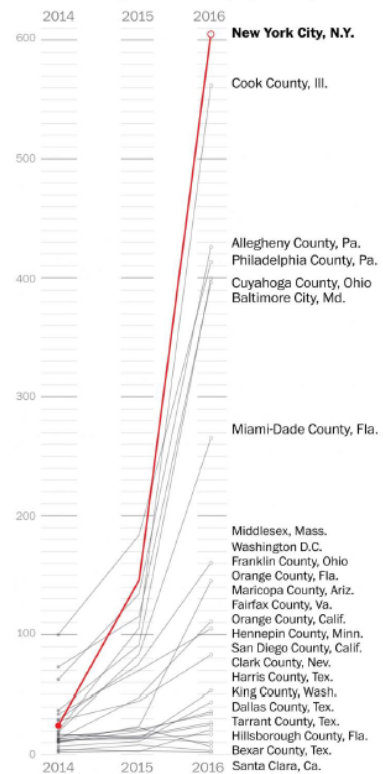
- A very small amount of fentanyl is potentially fatal
- This applies to **licit or illicit** fentanyl
  - Illicitly manufactured fentanyl is likely no more dangerous than legally manufactured fentanyl
- Fentanyl label:
  - FENTANYL CITRATE SHOULD BE ADMINISTERED ONLY BY PERSONS SPECIFICALLY TRAINED IN THE USE OF INTRAVENOUS ANESTHETICS AND MANAGEMENT OF THE RESPIRATORY EFFECTS OF POTENT OPIOIDS
  - AN OPIOID ANTAGONIST, RESUSCITATIVE AND INTUBATION EQUIPMENT AND OXYGEN SHOULD BE READILY AVAILABLE
  - Fentanyl may cause muscle rigidity, particularly involving the muscles of respiration
  - DIMINISHED SENSITIVITY TO CO<sub>2</sub> STIMULATION MAY PERSIST LONGER THAN DEPRESSION OF RESPIRATORY RATE



# A Fentanyl Crisis

# The Implications

Fatal fentanyl overdoses, by county



Source: The Post requested fatal drug overdose data from 40 of the nation's most populated counties and received data from 24 of them, shown above.  
THE WASHINGTON POST



## The Washington Post

### Fentanyl linked to thousands of urban overdose deaths

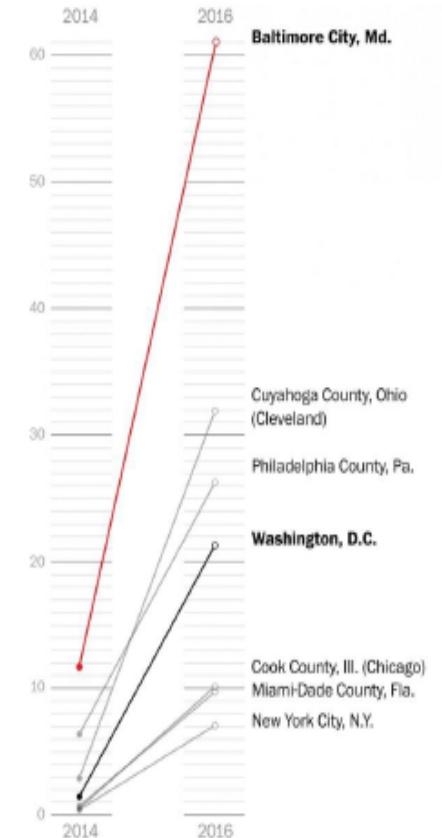
In two dozen of the nation's largest cities, fentanyl is becoming a major part of the national opioid crisis

By Nicole Lewis, Emma Ockerman, Joel Achenbach and Wesley Lowery

Aug. 15, 2017

In 24 of the nation's largest cities fatal fentanyl-related overdoses increased 600% from 2014-2016

Fatal fentanyl overdoses per 100,000



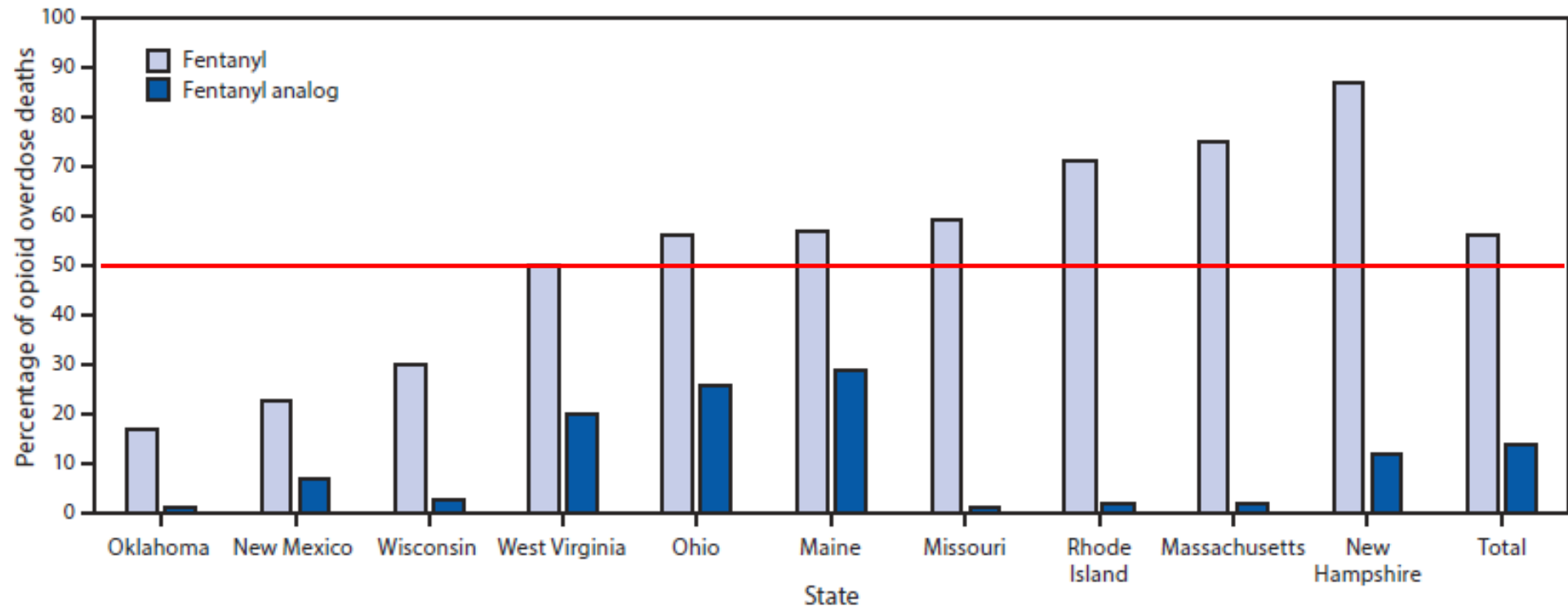
Source: Staff reports

THE WASHINGTON POST

# Increasing Fentanyl Overdoses

## The Facts

FIGURE. Percentage of opioid overdose deaths testing positive for fentanyl and fentanyl analogs, by state — 10 states, July–December 2016



Morbidity and Mortality Weekly Report. November 3, 2017 / Vol. 66 / No. 43 US Department of Health and Human Services/Centers for Disease Control and Prevention

# Different Types of Fentanyl and Presentations

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- Different formulations and varying potencies:

- Fentanyl

- Analogs

- Acetyl Fentanyl

- Ocfentanil

- **Carfentanyl**

- Remifentanyl

- Alfentanyl

- Sufentanyl

- Furanylfentanyl

- Presentations

- Powder

- Counterfeit pills

- Etc.



# Carfentanyl

- Synthetic
- Large animal anesthetic
- 100 times more potent than fentanyl
- 10,000 times more potent than morphine
- Airborne/skin exposure often fatal
  - 2012 Moscow Theater Hostage Crisis

## The Facts



Members of the Royal Canadian Mounted Police go through a decontamination procedure in Vancouver, British Columbia, in June 2016 after intercepting a package containing approximately one kilogram (2.2 pounds) of the opioid carfentanil imported from China. (Royal Canadian Mounted Police via AP/AP)

# The Facts

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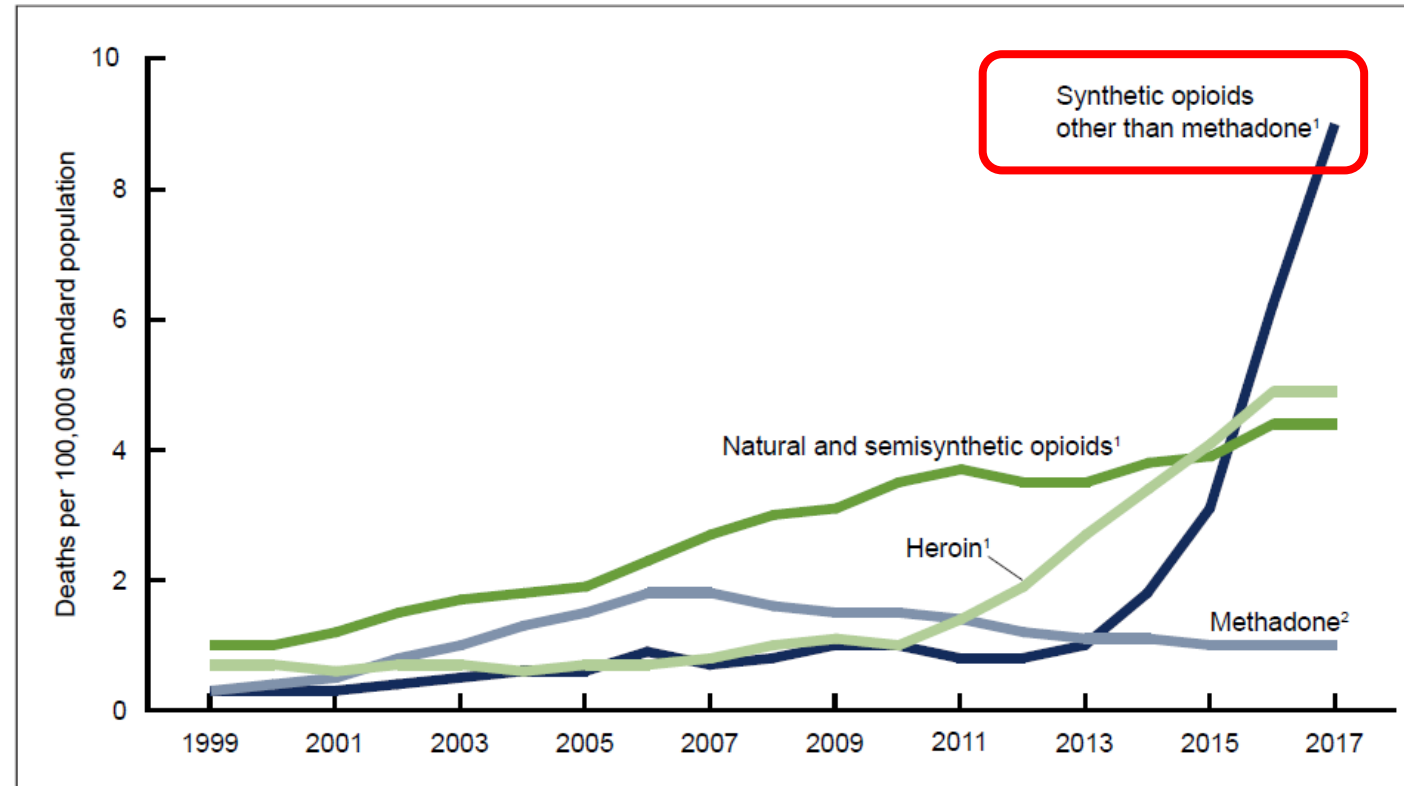
- Fentanyl in the wrong hands is deadly
- Potentially contributing significantly to overdose/fatal overdose risk
- Analogs not often tested for in routine toxicology testing
- Naloxone is a **bridge** to survival but not a final solution
  - Re-narcotization from fentanyl is common
  - Blunting of CO<sub>2</sub> response ***will persist***
  - Diminished hypoxic drive may persist





# New CDC Data for 2017

Figure 4. Age-adjusted drug overdose death rates, by opioid category: United States, 1999–2017



<sup>1</sup>Significant increasing trend from 1999 through 2017 with different rates of change over time,  $p < 0.05$ .

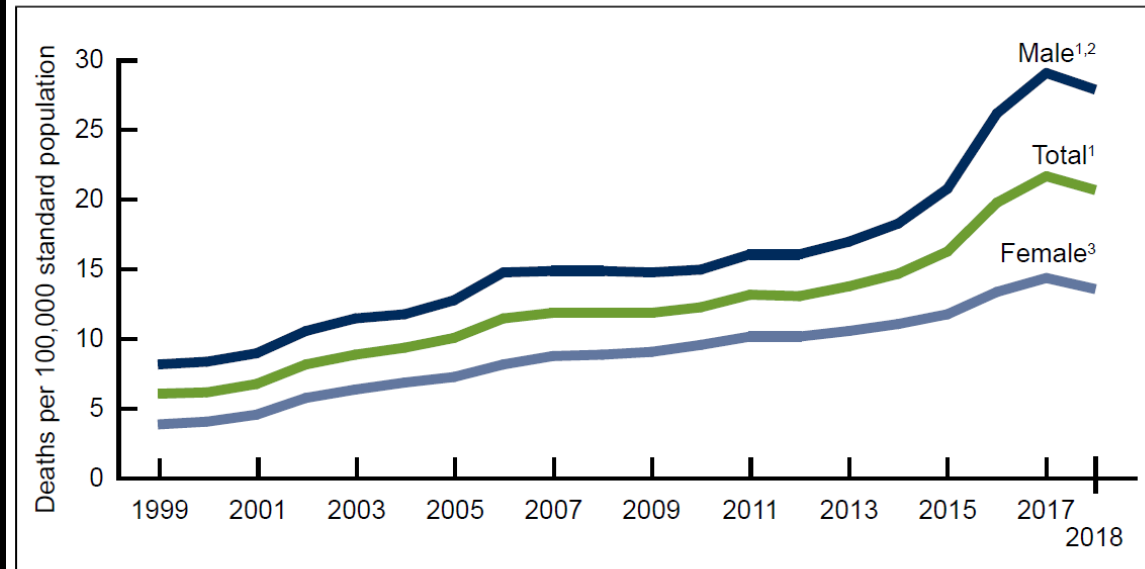
<sup>2</sup>Significant increasing trend from 1999 through 2006, then decreasing trend from 2006 through 2017,  $p < 0.05$ .

NOTES: Deaths are classified using the *International Classification of Diseases, 10th Revision*. Drug-poisoning (overdose) deaths are identified using underlying cause-of-death codes X40–X44, X60–X64, X85, and Y10–Y14. Drug overdose deaths involving selected drug categories are identified by specific multiple-cause-of-death codes: heroin, T40.1; natural and semisynthetic opioids, T40.2; methadone, T40.3; and synthetic opioids other than methadone, T40.4. Deaths involving more than one opioid category (e.g., a death involving both methadone and a natural and semisynthetic opioid) are counted in both categories. The percentage of drug overdose deaths that identified the specific drugs involved varied by year, with ranges of 75%–79% from 1999 through 2013 and 81%–88% from 2014 through 2017. Access data table for Figure 4 at: [https://www.cdc.gov/nchs/data/databriefs/db329\\_tables-508.pdf#4](https://www.cdc.gov/nchs/data/databriefs/db329_tables-508.pdf#4). SOURCE: NCHS, National Vital Statistics System, Mortality.

# Data for 2018

- The age-adjusted rate of drug overdose deaths involving synthetic opioids other than methadone (drugs such as fentanyl, fentanyl analogs, and tramadol) increased by **45% between 2016 and 2017**, from 6.2 to 9.0 per 100,000
- Rate in 2018 **decreased to 67,367**

Figure 1. Age-adjusted drug overdose death rates, by sex: United States, 1999–2018



<sup>1</sup>Significant increasing trend from 1999 through 2016 with different rates of change over time,  $p < 0.05$ . Rate in 2018 was significantly lower than in 2017.

<sup>2</sup>Rates for males were significantly higher than rates for females for all years,  $p < 0.05$ .

<sup>3</sup>Significant increasing trend from 1999 through 2018 with different rates of change over time,  $p < 0.05$ . Rate in 2018 was significantly lower than in 2017.

NOTES: Deaths are classified using the *International Classification of Diseases, 10th Revision*. Drug-poisoning (overdose) deaths are identified using underlying cause-of-death codes X40–X44, X60–X64, X85, and Y10–Y14. The number of drug overdose deaths in 2018 was 67,367. Access data table for Figure 1 at: [https://www.cdc.gov/nchs/data/databriefs/db356\\_tables-508.pdf#1](https://www.cdc.gov/nchs/data/databriefs/db356_tables-508.pdf#1).

SOURCE: NCHS, National Vital Statistics System, Mortality.

# Fentanyl Has Taken Over the Lead...

## National Vital Statistics Reports

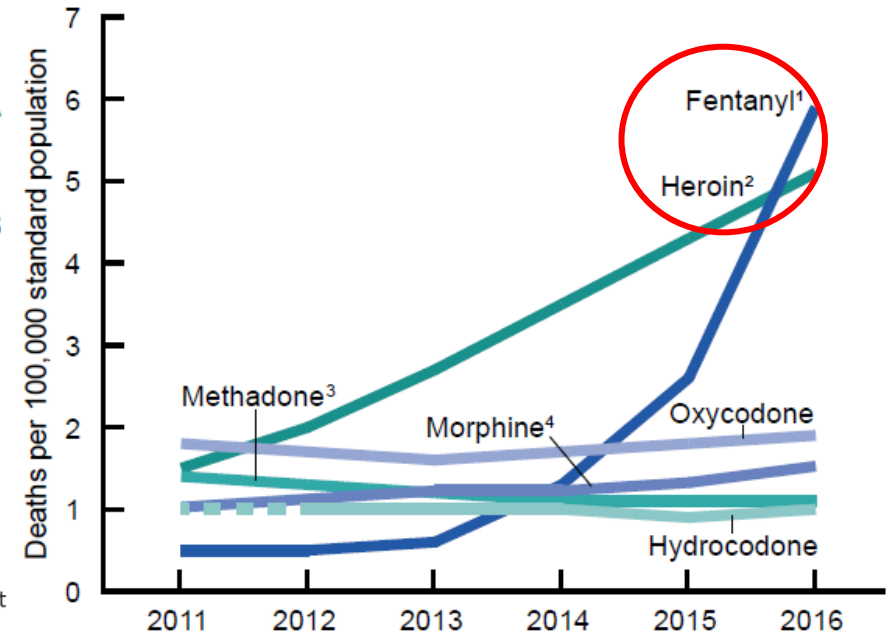
Volume 67, Number 9

December 12, 2018

### Drugs Most Frequently Involved in Drug Overdose Deaths: United States, 2011–2016

by Holly Hedegaard, M.D., M.S.P.H., and Brigham A. Bastian, B.S., National Center for Health Statistics;  
James P. Trinidad, M.P.H., M.S., U.S. Food and Drug Administration; Merianne Spencer, M.P.H., and  
Margaret Warner, Ph.D., National Center for Health Statistics

- *“More than 66% of overdose deaths due to fentanyl also involved one or more other drugs”*



PUBLIC HEALTH  
Fentanyl Surpasses Heroin As Drug Most Often Involved In Deadly Overdoses  
December 12, 2018 · 7:36 PM ET

LAUREL WANSLEY



<sup>1</sup>Significant increasing trend for 2013–2016,  $p < 0.05$ .

<sup>2</sup>Significant increasing trend for 2011–2016 with different rates of change over time,  $p < 0.05$ .

<sup>3</sup>Significant decreasing trend for 2011–2014,  $p < 0.05$ .

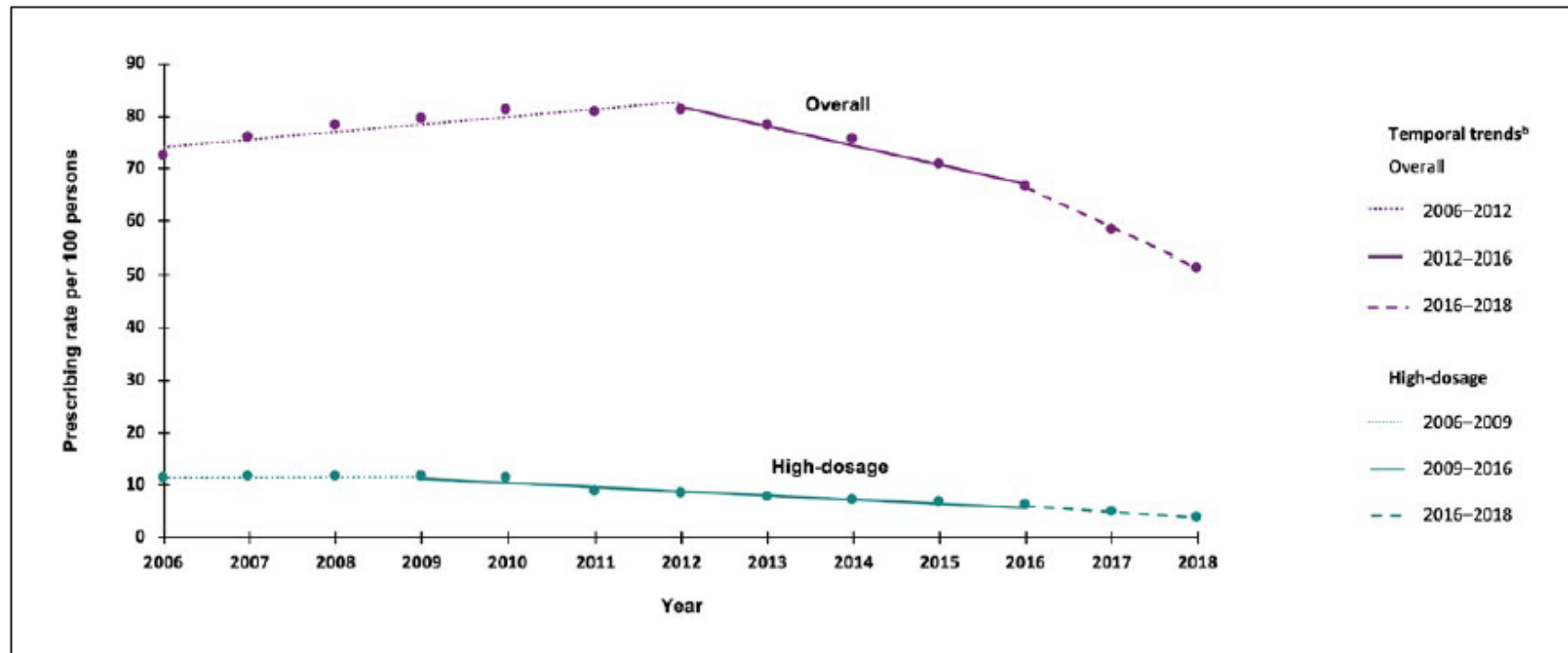
<sup>4</sup>Significant increasing trend for 2011–2015,  $p < 0.05$ .

NOTES: Drug overdose deaths are identified using *International Classification of Diseases, Tenth Revision* underlying cause-of-death codes X40–X44, X60–X64, X85, and Y10–Y14. Deaths may involve other drugs in addition to the referent drug (i.e., the one listed). Deaths involving more than one drug (e.g., a death involving both heroin and cocaine) are counted in both totals. Caution should be used when comparing numbers across years. The reporting of at least one specific drug in the literal text improved from 73% of drug overdose deaths in 2011 to 85% of drug overdose deaths in 2016.

SOURCE: NCHS, National Vital Statistics System, Mortality files linked with death certificate literal text, 2011–2016.

# Prescription Rates Going Down

Rates for overall annual opioid prescriptions filled per 100 persons and for high-dosage prescriptions ( $\geq 90$  morphine milligram equivalent [MME]/day)<sup>a</sup> — United States, 2006-2018



Source: IQVIA™ Xponent 2006-2018. Data extracted in 2019. (Supplemental Table 1a).

## Changes in Opioid-Involved Overdose Deaths by Opioid Type and Presence of Benzodiazepines, Cocaine, and Methamphetamine — 25 States, July–December 2017 to January–June 2018

R. Matt Gladden, PhD<sup>1</sup>; Julie O'Donnell, PhD<sup>1</sup>;  
Christine L. Mattson, PhD<sup>1</sup>; Puja Seth, PhD<sup>1</sup>

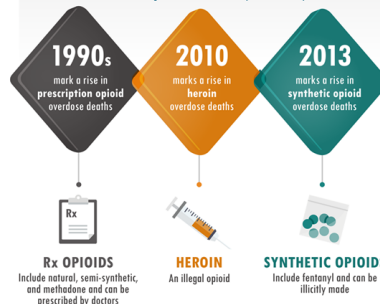


U.S. Department of Health and Human Services  
Centers for Disease Control and Prevention

### RISE IN OPIOID OVERDOSE DEATHS IN AMERICA

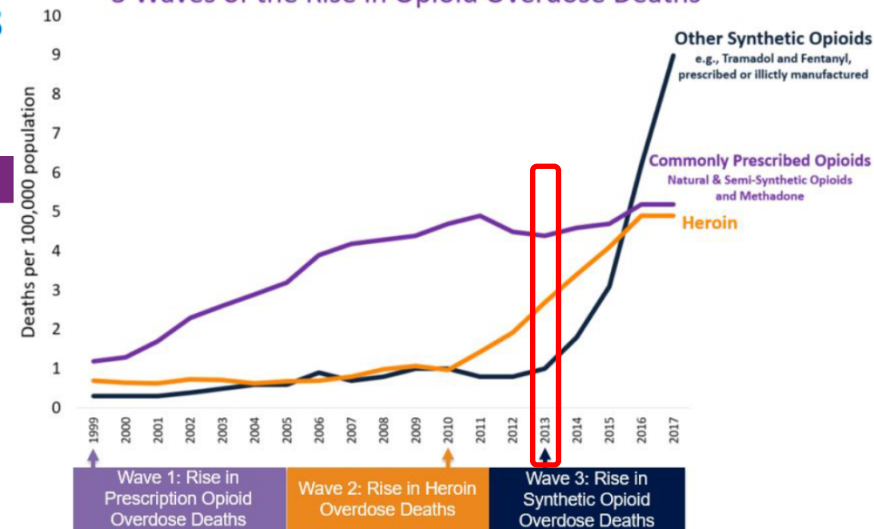
#### A Multi-Layered Problem in Three Distinct Waves

Nearly **450,000** people died  
from an opioid overdose (1999–2018)



Learn more about the evolving opioid overdose crisis: [www.cdc.gov/drugoverdose](http://www.cdc.gov/drugoverdose)

### 3 Waves of the Rise in Opioid Overdose Deaths



SOURCE: National Vital Statistics System Mortality File.

## Three major changes in opioid deaths from July–December 2017 to January–June 2018 were identified:

- Overall **decreases** in opioid overdose deaths
- **Decreases** in both prescription opioid deaths without co-involved illicit opioids and non-IMF\* illicit synthetic opioids (i.e., fentanyl analogs and U-series\* drugs) deaths
- **Increases** in IMF deaths, especially those with heroin, fentanyl analogs or non-opioid drugs
- **At least one non-opioid drug** (benzodiazepine, cocaine, or methamphetamine) was present in the majority of opioid deaths

1. \* IMF = Illicitly Manufactured fentanyl  
2. \*U-series drugs = Are novel non-fentanyl-related synthetic opioids with no authorized medical uses



**Vital Signs: Characteristics of Drug Overdose Deaths Involving Opioids and Stimulants — 24 States and the District of Columbia, January–June 2019**

Julie O'Donnell, PhD<sup>1</sup>; R. Matt Gladden, PhD<sup>1</sup>; Christine L. Mattson, PhD<sup>1</sup>; Calli T. Hunter, MPH<sup>1</sup>; Nicole L. Davis, PhD<sup>1</sup>

- After decreasing from 2017 to 2018, provisional data indicate that drug overdose deaths **increased in 2019**, driven by opioid-involved and stimulant-involved overdose deaths
- **Illicitly manufactured fentanyl (IMFs), heroin, cocaine, or methamphetamine** (alone or in combination) were involved in **83.8% of overdose deaths during January–June 2019**; at least one potential opportunity for intervention was identified in 62.7% of overdose deaths
- Targeting crucial opportunities for intervention with evidence-based overdose prevention programs can help reverse increases in drug overdose deaths. Interventions to reduce overdose deaths involving **illicit opioids and stimulants, particularly IMFs**, are needed and should be complemented by efforts to prevent initiation of prescription drug misuse and illicit drug use.

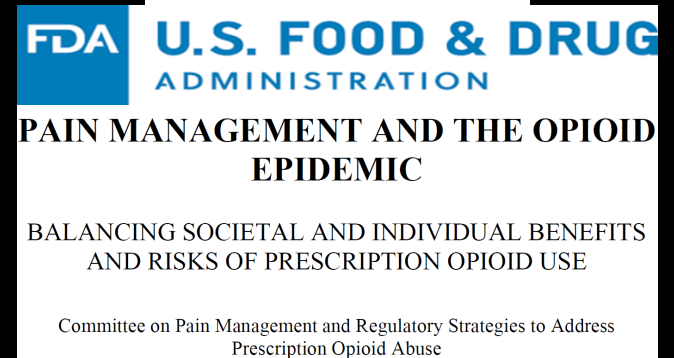
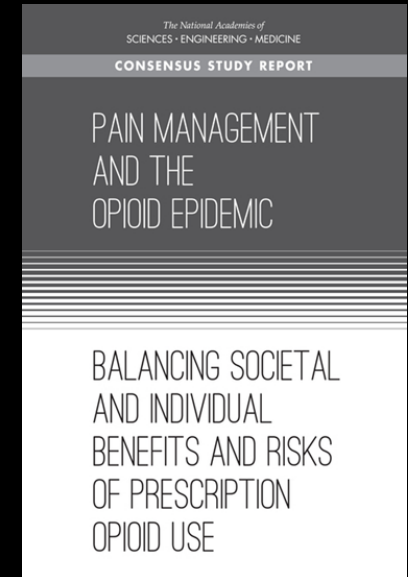
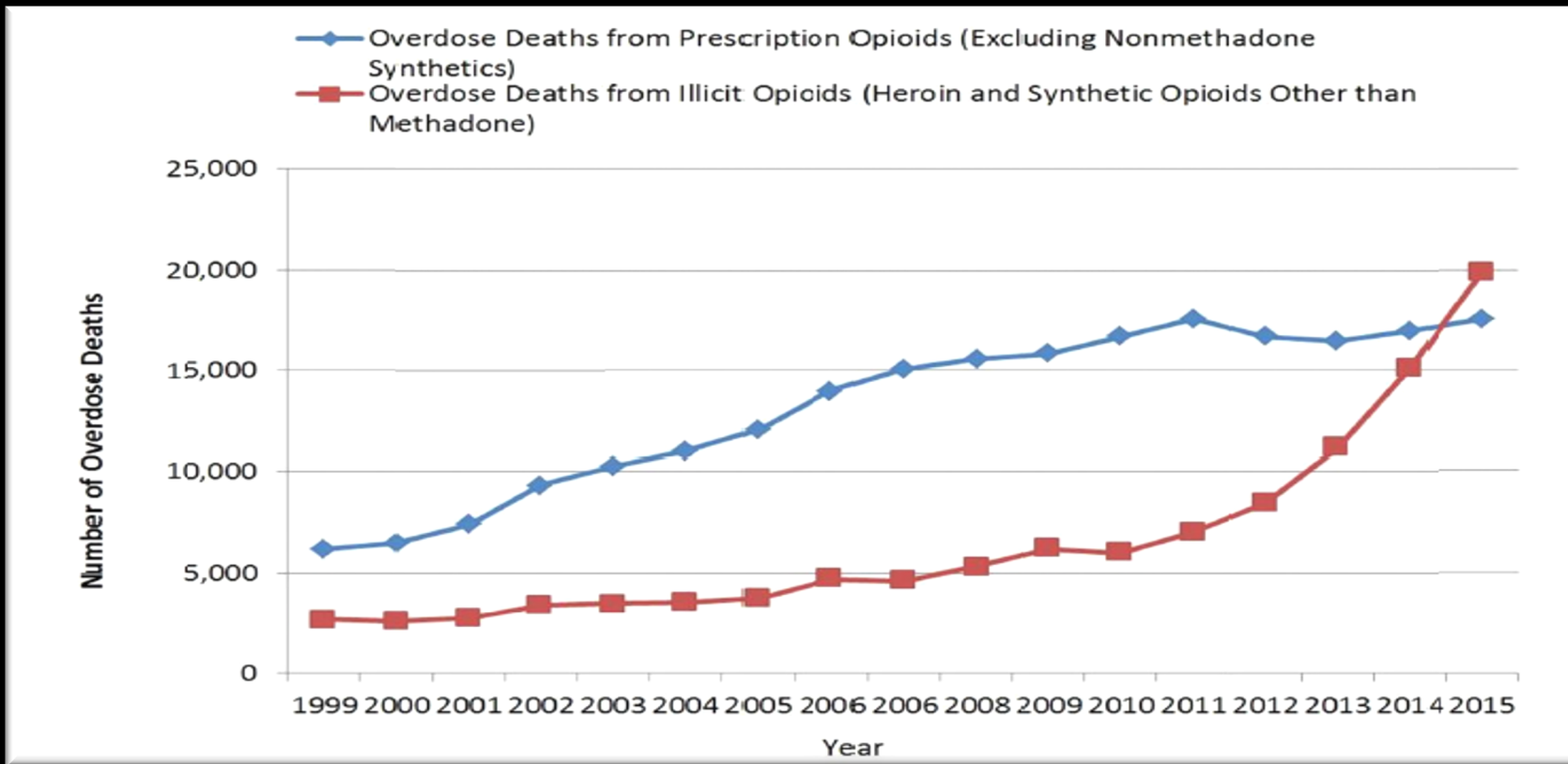


# SUMMARY

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# The Co-existing Opioid Crises

# The Facts



# We didn't Start the Fire...Or did We?

- Significant controversy exists to the relationship between prescription opioids and the heroin/fentanyl epidemic
  - Tracking back to prescribers
    - The 1990s when opioid prescribing increased
    - Pain being designated as the “5<sup>th</sup> vital sign” in 2000
    - Pain Bill of Rights
    - Evolution of “pill mills”
  - Related to cost and availability
    - Heroin and fentanyl are cheaper and stronger





## **Who and What is Our Responsibility?**

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We Are Involved Like it or Not

# Does the United States Own The Problem??

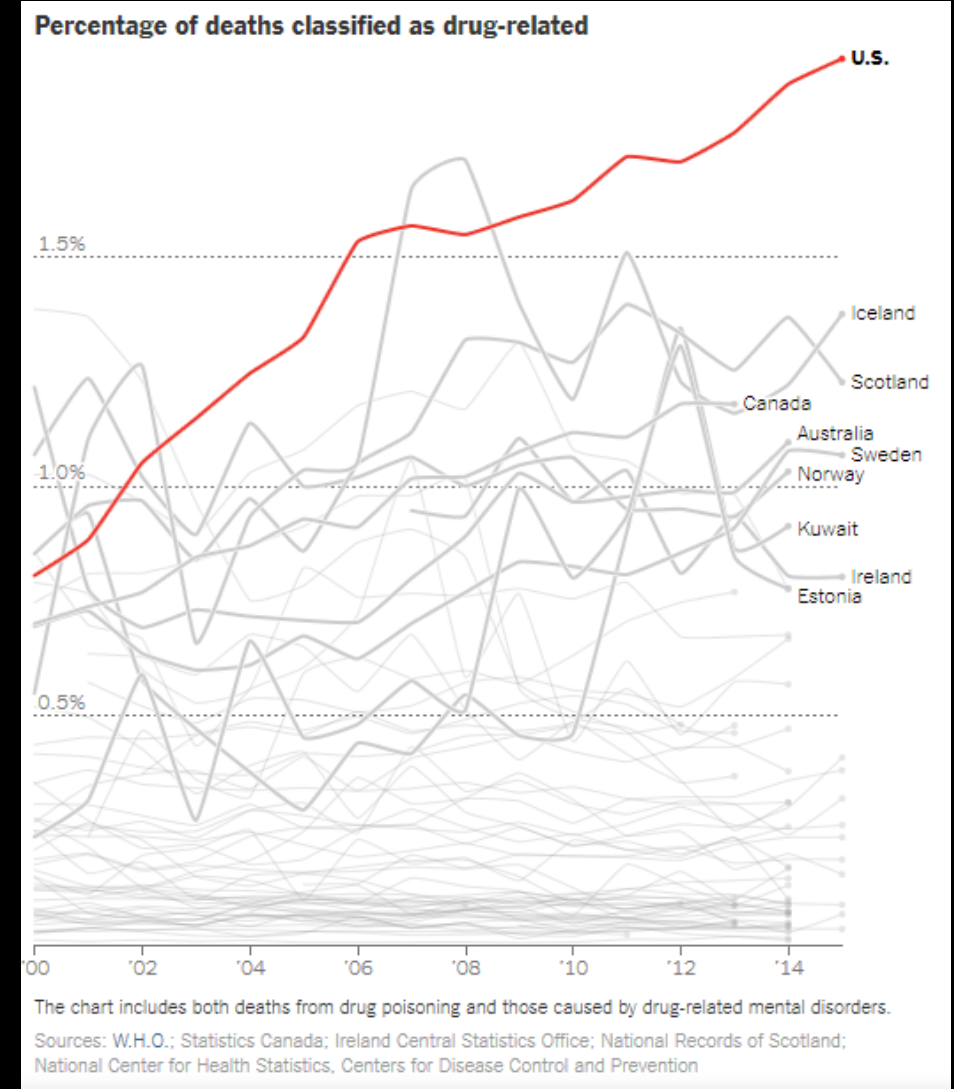
- We are not alone
- This *is* a global issue
- In 2015, approximately ¼ billion people abused/misused drugs
  - ~ 29.5 million (0.6% of global adult population) engaged in problematic use/suffered from substance use disorder
- 70% of the global burden of disease caused by drug use disorders attributable to opioid use



However...

Drug-related  
deaths remain  
highest in the  
U.S.

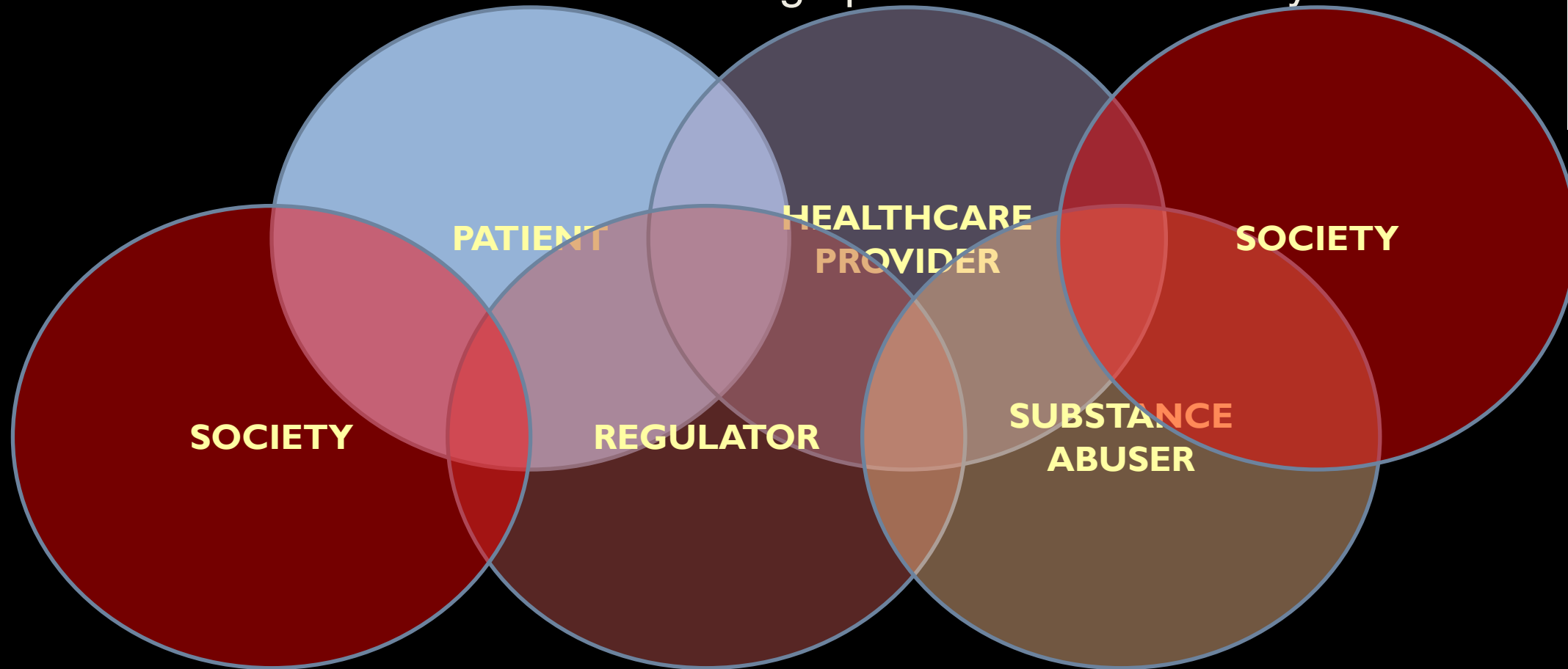
## The Facts





# Clinical Considerations and Implications

- The “New Math” for determining opioid risk/benefit analysis



# Final Thoughts

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- We must consider the parallel “opioid” crises that exist today
  - Our role in these problems
- Heroin and fentanyl are not going anywhere
- Remember the “New Math”
- Naloxone is likely something to keep top of mind
- Avoidance of “risky” situations is critical
- Strongly consider and document appropriate candidates for fentanyl-based therapies
- **DO NOT CO-PRESCRIBE OPIOIDS and BENZODIAZEPINES**
- Everyone is looking at us as an integral part of solving the “other” opioid crisis
- Everyone is looking to us to be a part of the solution to both crises

# PainWeek®

## Final Thoughts

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But... Let's not make patients "pay" for the other crisis



# PainWeek®



*“Cure sometimes, treat often, comfort always.”*  
— Hippocrates

# Questions?

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