



The Other Opioid Crisis: Fentanyl and Heroin

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Disclosures

- Nothing to disclose



Learning Objectives

- 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?

The Facts



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The Facts: No Lack of Media Attention



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The Facts

- 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
 - ****Now there are questions about accuracy regarding CDC data and opioid analgesics****



PainWeek There is More Than One Opioid Crisis. To better tackle the epidemic, Kentucky needed to know which drugs were causing lethal overdoses. By Kathryn Caswell. Published Jan. 17, 2018. <https://thehighright.com/Resolves/there-is-more-than-one-opioid-crisis/>. Accessed January 18, 2019.

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

Identifying drugs in overdose deaths
In each state, 2016

STATE	ALL DEATHS	CASES IN WHICH NO DRUG WAS SPECIFIED	
		TOTAL	SHARE
Alabama	885	439	49.7%
Alaska	4,827	2,252	46.7%
Arizona	756	388	51.3%
Arkansas	119	46	38.7%
California	5,298	2,617	49.4%
Colorado	282	89	31.5%
Connecticut	100	31	31.0%
Delaware	441	158	35.8%
District of Columbia	243	55	22.6%
Florida	4,728	1,244	26.3%
Georgia	216	55	25.5%
Hawaii	2,088	451	21.6%
Idaho	352	78	22.2%
Illinois	90	21	23.3%
Indiana	4,884	938	19.2%
Iowa	313	82	26.2%
Kansas	842	172	20.4%
Kentucky	1,439	283	19.7%
Louisiana	1,273	191	15.0%
Maine	77	11	14.3%
Massachusetts	1,392	136	9.8%

PainWeek There is More Than One Opioid Crisis. To better tackle the epidemic, Kentucky needed to know which drugs were causing lethal overdoses. By Kathryn Caswell. Published Jan. 17, 2018. <https://thehighright.com/Resolves/there-is-more-than-one-opioid-crisis/>. Accessed January 18, 2019.

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		Two-drug combinations		Three-drug combinations	
DRUG	SHARE	DRUGS	SHARE	DRUGS	SHARE
Morphine	45.4%	Heroin, morphine	24.3%	Heroin, morphine, codeine	18.6%
Fentanyl	37.0%	Fentanyl, morphine	23.7%	Heroin, morphine, fentanyl	11.6%
Gabapentin	32.6%	Codeine, morphine	20.0%	Morphine, codeine, fentanyl	6.3%
Alprazolam	25.5%	Heroin, codeine	18.6%	Heroin, morphine, THC-COOH	7.9%
THC-COOH	24.9%	Gabapentin, morphine	14.2%	Heroin, codeine, fentanyl	7.6%
Heroin	24.7%	Morphine, THC-COOH	12.8%	Fentanyl, morphine, THC-COOH	7.3%
Codeine	20.7%	Alprazolam, morphine	12.6%	Alprazolam, heroin, morphine	7.3%
Ethanol	18.4%	Methamphetamine, amphetamine	12.0%	Gabapentin, heroin, morphine	7.3%
Oxycodone	17.2%	Heroin, fentanyl	11.7%	Gabapentin, fentanyl, morphine	6.8%
Methamphetamine	17.1%	Oxycodone, ivy-morphine	11.5%	Alprazolam, codeine, morphine	6.6%

PainWeek In cases in which multiple drugs are detected, every individual drug — as well as every two- and three-drug combination — is counted separately. There is More Than One Opioid Crisis. To better tackle the epidemic, Kentucky needed to know which drugs were causing lethal overdoses. By Kathryn Caswell. Published Jan. 17, 2018. <https://thehighright.com/Resolves/there-is-more-than-one-opioid-crisis/>. Accessed January 18, 2019.

THE DENVER POST

NEWS HEALTH **The Facts**

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

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

By JOHN HIGOLD | jhigold@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

Drug poisoning deaths in Colorado

■ Opiates ■ Cocaine ■ All Drug Poisoning

Source: Colorado Department of Public Health and Environment

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THE DENVER POST

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

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Natural = prescription opioids

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Opiate overdose deaths in Colorado in 2015

■ Nat. opioids ■ Synth. opioids ■ Methadone ■ Heroin

Deaths in Colorado from "natural" prescription opioids vs. homicides

■ Natural prescription opioids ■ Homicide

Source: Colorado Department of Public Health and Environment

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POLITICS COLORADO POLITICS **The Facts**

Here's how Colorado is combating the prescription opioid and heroin epidemic

Colorado is exploring opioid prescription limits, prescriber report cards and new treatment options.

By JOHN FRANK | jfrank@denverpost.com | The Denver Post
PUBLISHED: November 5, 2017 at 12:01 am | UPDATED: November 6, 2017 at 11:02 am

The nation's drug epidemic kills someone in Colorado about every 9 hours and 36 minutes, a fact that rings like a siren for state leaders who are combating the leading driver: prescription and illicit opioids.

The most alarming trend is the rate of opiate deaths. The number of overdoses caused by heroin, an opiate, continues to skyrocket, contributing to 228 deaths last year, compared with just 79 five years earlier, according to state figures.

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THE DENVER POST

The Facts

- "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"

Colorado drug-related hospitalization
Rates per 100,000 for 2015

Drug Category	Rate per 100,000
Prescription-opioid related	15.24
Benzodiazepine related	14.58
Heroin related	2.98
Cocaine related	2.12

Source: Colorado Dept. of Public Health and Environment
The Denver Post

By JOHN FRANK | jfrank@denverpost.com | The Denver Post
PUBLISHED: November 5, 2017 at 12:03 am | UPDATED: November 6, 2017 at 11:02 am

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The Facts

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.

Year	Deaths
2006	37
'07	39
'08	45
'09	68
'10	46
'11	79
'12	91
'13	118
'14	151
'15	160
'16	228

Source: Colorado Dept. of Public Health and Environment
The Denver Post

By JOHN FRANK | jfrank@denverpost.com | The Denver Post
PUBLISHED: November 5, 2017 at 12:03 am | UPDATED: November 6, 2017 at 11:02 am

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The Facts

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.

Colorado opioid-related deaths
Rates per 100,000 for 2006

Category	Rate per 100,000
Male	11.3
Female	6.3
15 to 24 years	4.1
25 to 34 years	12.0
35 to 44 years	16.3
45 to 64 years	15.2
65+ years	11.8
White, non-Hispanic	9.6
White, Hispanic	9.6
Black/African-American	9.2
Asian/Pacific Islander	4.0
American Indian	12.2
Hispanic	6.7

Source: Colorado Dept. of Public Health and Environment
The Denver Post

- "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"

By JOHN FRANK | jfrank@denverpost.com | The Denver Post
PUBLISHED: November 5, 2017 at 12:03 am | UPDATED: November 6, 2017 at 11:02 am

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Important Societal Questions





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?

Bill of Rights for People with Chronic Pain

The right to have your report of pain taken seriously and to be treated with dignity and respect by doctors, nurses, pharmacists and other healthcare professionals.

The right to have your pain thoroughly assessed and promptly treated.

The right to be informed by your doctor about what may be causing your pain, possible treatments, and the benefits, risks and costs of each.

The right to participate actively in decisions about how to manage your pain.

The right to have your pain re-assessed regularly and your treatment adjusted if your pain has not been eased.

The right to be referred to a pain specialist or other healthcare provider if your pain persists.

The right to get clear and prompt answers to your questions, take time to make decisions, and refuse a particular type of treatment if you choose.

THE DENVER POST

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



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.

By STEVE HAYES | STEVE.HAYES@DENVERPOST.COM | The Denver Post
PHOTO: JEFFREY M. HARRIS | JEFFREY.HARRIS@DENVERPOST.COM | December 13, 2016 at 10:22 a.m.



The Clinical Implications

CDC 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 opioid¹
- Since 1999 the # of overdose deaths quadrupled²
 - Prescription opioids
 - Heroin
- 108 Americans die every day from an opioid overdose

1. Rudd RA, Seth P, David F, Schell L. Increases in Drug and Opioid-Involved Overdose Deaths — United States, 2010–2015. *MMWR Morbidity and Mortality Weekly Report*. 2016;65(10):237–244. DOI: <http://dx.doi.org/10.1093/mmwr.mm6510a1>
2. CDC. Widespread heroin abuse for epidemic: research. (2015). Atlanta, GA: CDC, National Center for Health Statistics; 2016. Available at <http://www.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 olds¹
- Among new heroin users, 75% report abusing prescription opioids prior to using heroin²
- 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, 2003–2013. *MMWR*. 2015; 64(2):719–725.
2. Mahesh PK, Ghoshor JC, Davies C. Associations of nonmedical pain reliever use and initiation of heroin use in the United States. *CNSDD Data Review*. 2013.

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The New York Times Short Answers to Hard Questions About the Opioid Crisis

The Facts: Times are Changing

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

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

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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

Statistically significant increase

Statistically significant increase from 2015 to 2016

No Yes

SOURCE: CDC/NCHS, National Vital Statistics System, Mortality

<https://www.cdc.gov/governance/data/stateofthe.html>, Accessed January 20, 2018.


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The “Other” Epidemic

The Facts

- 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



PainWeek https://www.drugabuse.gov/publications/factsheets/heroin Accessed January 22, 2018.

The Facts

Heroin use has been increasing¹

- Men
- Women
- Most age groups
- All income levels

▪ Past misuse/abuse of prescription opioids is the strongest risk factor for starting heroin²

	2002-07	2007-12	% Change
SEX			
Male	2.4	3.6	50%
Female	0.8	1.6	100%
AGE YEARS			
12-17	1.8	1.8	0%
18-24	3.2	7.2	125%
25 or older	1.2	1.9	58%
RACE/ETHNICITY			
Non-Hispanic white	1.4	3	114%
Other	2	1.7	-15%
ANNUAL HOUSEHOLD INCOME			
Less than \$2,000	3.4	6.6	94%
\$2,000-\$4,999	1.3	2.9	77%
\$5,000 or more	1.3	1.6	23%
HEALTH INSURANCE COVERAGE			
None	4.2	6.7	60%
Medicaid	4.2	4.2	0%
Private or other	0.8	1.3	63%

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

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The Facts

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...

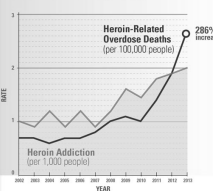
2x more likely to be addicted to **ALCOHOL**

3x more likely to be addicted to **MARIJUANA**

15x more likely to be addicted to **COCAINE**

40x more likely to be addicted to **OTHER OPIOIDS**

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




Heroin-Related Overdose Deaths are Climbing

280% increase

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


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NIH 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://ftrimgtrf5a.cloudfront.net/etna/default/teach_and_heroin_on_heroin.pdf. Accessed January 30, 2018.



NIH National Institute
on Drug Abuse

Research Report Series

The Facts


▪ "Current" ~ 2013-2015 research regarding prescription opioids and heroin shows:

- 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://ftrimgtrf5a.cloudfront.net/etna/default/teach_and_heroin_on_heroin.pdf. Accessed January 30, 2018.



NIH 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://ftrimgtrf5a.cloudfront.net/etna/default/teach_and_heroin_on_heroin.pdf. Accessed January 30, 2018.

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The Clinical Implications

CDC Vital Signs July 2015

▪ 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
Heroin Addiction

REVERSE
Heroin Overdose

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

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.

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

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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.

50-100x
MORE POTENT
THAN MORPHINE

SYNTHETIC OPIOID DEATHS ACROSS THE U.S.

73% OF OPIOID DEATHS
WERE FROM
2012 TO 2015

196% MORE OPIOID DEATHS
IN 2015 THAN IN 2010

ILLICITLY MANUFACTURED FENTANYL

Although prescription rates have fallen, synthetic manufactured fentanyl has not decreased and continues to be a major driver of synthetic opioid deaths.

OTHER DRUGS WITH HEROIN

80% OF OPIOID DEATHS INVOLVED HEROIN

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Case 1

- 42 year-old Hispanic male
 - Addicted to heroin
 - Comes to the same street corner every day to buy heroin
 - First dose usually free
 - He's actually buying heroin laced with fentanyl
 - "It's a new epidemic" he says
 - **"If you catch a bag of pure fentanyl, that Narcan ain't bringing you back"**
 - "I just watched my friend die from fentanyl"

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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

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

U.S. DEPARTMENT OF JUSTICE • DEPARTMENT OF HEALTH & HUMAN SERVICES
OFFICE OF DIVERSION CONTROL
NFLIS NATIONAL FORENSIC LABORATORY INFORMATION SYSTEM
Special Report: **Opiates and Related Drugs Reported in NFLIS, 2009–2014**
March 2015

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Fentanyl The Facts

- Drug seizures involving fentanyl are going up dramatically

A 2006 spike was traced to a single lab in Mexico

Fentanyl reports doubled in 2016

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DIVERSION CONTROL DIVISION
NFLIS NATIONAL FORENSIC LABORATORY INFORMATION SYSTEM
NFLIS Brief: Fentanyl, 2001–2015
Developed by permission of NFLIS. For details on support and other history, see [http://www.nflis.gov](#).

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Fentanyl The Facts

- Defined geographic distribution

Figure 2 NFLIS regional trends in fentanyl reported per 100,000 persons aged 15 or older, January 2001–December 2015¹

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

U.S. DEPARTMENT OF JUSTICE • DEPARTMENT OF HEALTH & HUMAN SERVICES
DIVERSION CONTROL DIVISION
NFLIS NATIONAL FORENSIC LABORATORY INFORMATION SYSTEM
NFLIS Brief: Fentanyl, 2001–2015
Developed by permission of NFLIS. For details on support and other history, see [http://www.nflis.gov](#).

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The Facts

WORLD | USA | 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 SPEER
Updated June 23, 2016 1:44 a.m. ET

Criminal Chemistry
Traffickers manufacturing fentanyl often purchase the key ingredients 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 just 25 grams of which can be bought from China for about \$87.

NPP can be combined with about \$720 of other chemicals to produce fentanyl.

The resulting 25 grams of fentanyl cost about \$110.

That's equivalent to up to \$180,000 of pills on the black market.

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

The Facts

Terminology

- 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 CO2 STIMULATION MAY PERSIST LONGER THAN DEPRESSION OF RESPIRATORY RATE

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The Implications

A Fentanyl Crisis

Fatal fentanyl overdoses, by county

Fatal fentanyl overdoses per 100,000

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

The Washington Post

Fentanyl linked to thousands of urban overdose deaths

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

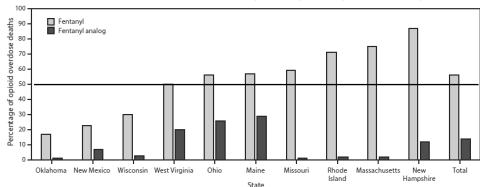
By Nicole Janis, Carrie Ockerman, Jodi Asterhagen and Wendy Lowery
Aug. 15, 2017

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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

Different formulations and varying potencies:

- Fentanyl
- Analogs
 - Acetyl Fentanyl
 - Oxycodone
 - Carfentanyl
 - Remifentanyl
 - Alfentanil
 - Sufentanil
 - Fentanyl analogs



- Presentations
 - Powder
 - Counterfeit pills
 - Etc.



Carfentanyl

The Facts

- 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 Washington Post

By Lynn Rai and Peter Hermann | April 20, 2017
 Elephant tranquilizer is the latest lethal addition to the heroin epidemic



Members of the Red Cross delivered fentanyl through a secure container procedure in Kentucky, Oct. 2016 after returning a package containing approximately one kilogram (2.2 pounds) of the opioid cartridge reported from Ohio. (Photo Courtesy: Red Cross/WHO)



The Facts

- 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 CO₂ response **will persist**
 - Diminished hypoxic drive may persist



New CDC Data for 2017

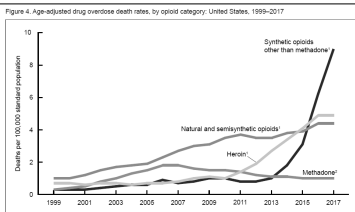


Figure 4. Age-adjusted drug overdose death rates, by opioid category, United States, 1999–2017

Significant increasing trend from 1999 through 2017 with different rates of change over time, $p < 0.05$. Significant increasing trend from 2006 through 2016. Rate decreasing trend from 2006 through 2017, $p < 0.05$.

NOTE: Deaths are classified using the International Classification of Diseases. The terms “opioid” and “opioid-related deaths” are defined using ICD-10 codes for drug-induced coma and respiratory depression, respiratory arrest, and other respiratory failure, as well as respiratory depression, respiratory arrest, and other respiratory failure, as well as respiratory depression, respiratory arrest, and other respiratory failure. Deaths involving natural and semisynthetic opioids, heroin, and methadone are included in the “opioid” category. Deaths involving synthetic opioids other than methadone are included in the “opioid” category. The percentage of total deaths involving synthetic opioids other than methadone increased from 15% in 2006 to 45% in 2017. The percentage of total deaths involving natural and semisynthetic opioids decreased from 70% to 45% between 2006 and 2017. The percentage of total deaths involving methadone decreased from 15% to 10% between 2006 and 2017. The percentage of total deaths involving heroin decreased from 10% to 5% between 2006 and 2017.

SOURCE: NCHS, National Vital Statistics System, Monthly.



New CDC Data for 2017

- 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

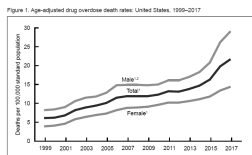


Figure 1. Age-adjusted drug overdose death rates, United States, 1999–2017

Significant increasing trend from 1999 through 2017 with different rates of change over time, $p < 0.05$. Significant increasing trend from 2006 through 2016. Rate decreasing trend from 2006 through 2017, $p < 0.05$.

NOTE: Deaths are classified using the International Classification of Diseases. The terms “opioid” and “opioid-related deaths” are defined using ICD-10 codes for drug-induced coma and respiratory depression, respiratory arrest, and other respiratory failure, as well as respiratory depression, respiratory arrest, and other respiratory failure. Deaths involving natural and semisynthetic opioids, heroin, and methadone are included in the “opioid” category. Deaths involving synthetic opioids other than methadone are included in the “opioid” category. The percentage of total deaths involving synthetic opioids other than methadone increased from 15% in 2006 to 45% in 2017. The percentage of total deaths involving natural and semisynthetic opioids decreased from 70% to 45% between 2006 and 2017. The percentage of total deaths involving methadone decreased from 15% to 10% between 2006 and 2017. The percentage of total deaths involving heroin decreased from 10% to 5% between 2006 and 2017.

SOURCE: NCHS, National Vital Statistics System, Monthly.



Fentanyl Has Taken Over the Lead...

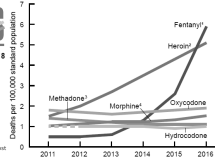
National Vital Statistics Reports
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Drugs Most Frequently Involved in Drug Overdose Deaths: United States, 2011–2016

by Holly Hedquist, M.D., M.S.P.H., and Benjamin A. Borstein, B.S., National Center for Health Statistics; James P. Trullinger, M.P.H., M.S., U.S. Food and Drug Administration; Melissa Spitzer, 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"*



Fentanyl Surpasses Heroin As Drug Most Often Involved in Opioid Overdoses

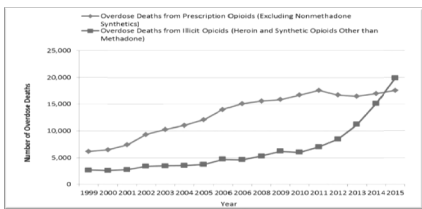


SUMMARY



The Co-existing Opioid Crises

The Facts



PAIN MANAGEMENT AND THE OPIOID EPIDEMIC
BALANCING SOCIETAL AND INDIVIDUAL BENEFITS AND RISKS OF PRESCRIPTION OPIOID USE
Collaborative on the Management and Reporting of Prescription Opioid Abuse
FDA U.S. FOOD & DRUG ADMINISTRATION



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 "fifth vital sign" in 2000
 - Pain Bill of Rights
 - Evolution of "pill mills"
 - Related to cost and availability
 - Heroin and fentanyl are cheaper and stronger



Case 2

- 26 year-old white female
 - Has 2 children ages 4 & 7 who live with their godmother
 - Became addicted to opioids after being prescribed oxycodone post C-Section
 - Addiction to oxycodone transitioned to heroin
 - Addiction to heroin transitioned to heroin/fentanyl
 - *"If there's no fentanyl in it, I don't want it at all"*
 - Tried 14-day rehab without success
 - *"This is all I know anymore...It's all I know"*





Who and What is Our Responsibility?

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

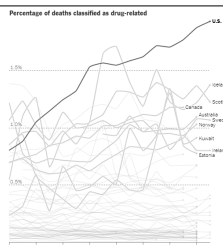


Painweek

However...

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

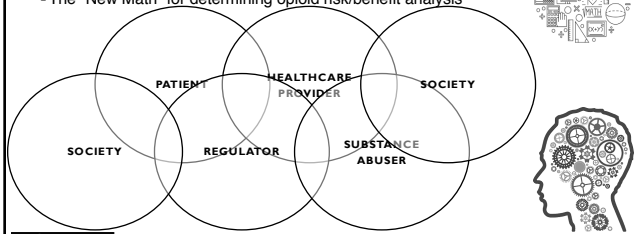
The Facts



Painweek

Clinical Considerations and Implications

- The "New Math" for determining opioid risk/benefit analysis



Painweek

Final Thoughts

- 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
- 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





Final Thoughts

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





"Cure sometimes, treat often, comfort always."
— Hippocrates

Questions?

