The Other Opioid Crisis: Heroin and Fentanyl

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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
Is There More than one Opioid Crisis?

The Facts

The Facts: No Lack of Media Attention
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.
  - 64,000 deaths nationwide in 2016
  - 2% from 2015
  - More than 42,000 (66%) involved some type of opioid

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

<table>
<thead>
<tr>
<th>Year</th>
<th>Prescriptions opioid-related</th>
<th>Nonopiod related</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>3,400</td>
<td>5,500</td>
</tr>
<tr>
<td>2005</td>
<td>4,300</td>
<td>4,200</td>
</tr>
<tr>
<td>2006</td>
<td>5,100</td>
<td>3,800</td>
</tr>
</tbody>
</table>

Heroin related

- 2.14
- 2.12

*Source: Colorado Dept. of Public Health and Environment

The Facts

A consideration on overprescribing is not enough -- drug treatment options remain a challenge.

According to policymakers, Colorado’s initial efforts to restrict opioid prescriptions may have been insufficient and legislative efforts to update such laws are lacking. The trend is spotlighting the limited treatment options for drug users who need help.

The Facts

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- They’ll say ‘Oh, I better look at things more closely’
- What we are hoping to see is a change in prescriber behavior

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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?

The Clinical Implications

The Denver Post

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

Some Colorado doctors are refusing to write the guidelines’ targeted pain writers.

Note on the Denver Post: A group of medical experts is working on revised guidelines. Some doctors say they are too restrictive.
The majority of drug overdose deaths involve an opioid. Since 1999, the number of overdose deaths has quadrupled.

- Prescription opioids
- Heroin

Almost 91 Americans die every day from an opioid overdose.

The Facts

From 2002-2013, past month/year heroin use and addiction have all increased among 18-25 year olds.

Among new heroin users, 75% report abusing prescription opioids prior to using heroin.

Heroin-related deaths more than tripled from 2010-2015.

The largest increase was for those heroin-related deaths involving synthetic opioids - FENTANYL.

The Facts: Times are Changing

Characteristics of Opioid Drug Overdoses:

- Fast
- Deadly
- Scary
- Socioeconomic status - neutral
- Abuse-history - neutral
- Increasing exponentially
The Clinical Implications

- 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

The Facts

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

The “Other” Epidemic
**Heroin**

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

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**The Facts**

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

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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 use heroin are addicted.

  Heroin users are more likely to be addicted to heroin.

  Heroin use is associated with:

  - Higher rates of addiction
  - Higher rates of overdose
  - Higher rates of death
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.

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

And...

- Analyses suggest that those who transition to heroin use tend to be frequent users of multiple substances (polydrug users)
- "Analyses suggest that those who transition to heroin use tend to be frequent users of multiple substances (polydrug users)"
Recommendations that impact us:
- Screen and identify high-risk individuals
- Treat people with substance abuse disorders
- Naloxone

The Clinical Implications

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

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”
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

Fentanyl

The Facts

- Drug seizures involving fentanyl are going up dramatically

Fentanyl

The Facts

- Defined geographic distribution
The Facts

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

- A very small amount of fentanyl is potentially fatal
  - It applies to licit or illicit fentanyl
    - Illicit 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

A Fentanyl Crisis

In 24 of the nation’s largest cities, fatal fentanyl-related overdoses increased 600% from 2014-2016
Increasing Fentanyl Overdoses

The Facts

Different Types of Fentanyl and Presentations

- Different formulations and varying potencies:
  - Fentanyl
  - Analogs
    - Acetyl Fentanyl
    - Ocfentanil
    - Carfentanyl
    - Remifentanyl
    - Alfentanyl
    - Sufentanyl
    - Furanylfentanyl
  - Presentations
    - Powder
    - Counterfeit pills
- 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

The Washington Post

Elephant transposition to the latest viral addition to the herpes family

9/19/18
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
  – CO2 will persist
  – Diminished hypoxic drive may persist

SUMMARY

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 “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 1/4 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.

Clinical Considerations and Implications

- The "New Math" for determining opioid risk-benefit analysis
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 this "other" opioid crisis
- Everyone is looking to us to be a part of the solution

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

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