The Triple Wave Epidemic: Opioids, Heroin and Fentanyl

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DISCLOSURES

• No financial disclosures
OBJECTIVES

• National data on opioid/heroin/fentanyl overdose
  • Trends
  • Supply-side drivers
  • Regional and demographic differences
HEROIN IN TRANSITION ("HIT") STUDY

- NIH: National Institute of Drug Abuse
  - DA037820
- Multi-methodological study: quantitative and qualitative aims
  - Supply changes – adulteration – overdose
  - New drug forms and user perceptions, adaptation, etc.

PUBLICALLY AVAILABLE DATA:

- Centers for Disease Control and Prevention, National Center for Health Statistics
Leading Causes of Death

- Age-adjusted death rates for the 10 leading causes of death in 2016

Unintentional Injury 1999-2012

- Age-adjusted death rates per 100,000 pop.

Produced by: National Center for Injury Prevention and Control, CDC
An Epidemic of Crisis Proportion

Numbers of deaths:

- Drug overdose
- Motor vehicle
- Gun homicide
- HIV

Source: New York Times, The Upshot; Josh Katz; April 14, 2017. Data from: Centers for Disease Control and Prevention, National Center for Health Statistics
TRIPLE WAVE EPIDEMIC

Drugs Involved in Overdose Deaths, 2000-2016

Source: Julia Lurie, Mother Jones, 9.6.2017
OPIOID SUPPLY

Opioid prescriptions

Opioid overdose hospitalizations

IMS Health, National Prescription Audit, 2012-2013
Thanks: Wilson Compton, Deputy Director, NIDA
FUELING HEROIN-RELATED OVERDOSE

• Rising numbers of heroin users
  • Transitioning from opioid pills
• Heroin becoming more dangerous:
  • New forms
  • Adulteration

Photo: D. Ciccarone
CHANGES IN THE HEROIN SUPPLY

US heroin seizures are up ~140%, 2010-15

HEROIN OF UNKNOWN SOURCE

Source: Domestic Monitoring Program. Reported in the 2015 National Drug Threat Assessment Summary; DOJ, DEA, 2015
THIRD WAVE: FENTANYL LACED HEROIN

• 30-40x stronger than heroin by weight
• Clandestinely-produced fentanyl, not diverted pharmaceutical fentanyl*
• Integrated into heroin supply
  • Intentional use is far outweighed by non-intentional use
  • Fentanyl-substituted and -adulterated heroin
• Counterfeit pills, methamphetamine

*National Heroin Threat Assessment Summary, DEA, 2015
In addition to fentanyl there are reports of:

**Fentanyl analogues:**
- Acetyl fentanyl
- Butyryl fentanyl
- Furanyl-fentanyl
- Parafluoro-fentanyl
- Carfentanil

**Novel synthetics:**
- U47700
- Others…
FLOW OF FENTANYLS

1. Fentanyl is in powder form and pill presses are shipped via mail services.
2. The powder fentanyls are processed and mixed with heroin, or sold as heroin, or pressed into pills and sold in the Canadian drug market.
3. Some fentanyl products are smuggled from Canada into the United States for sale, on a smaller scale.
4. The powder fentanyls are processed and mixed with heroin, or sold as heroin, or pressed into pills and sold in the United States drug market.
5. The powder fentanyls are cut and diluted for further smuggling, or pressed into counterfeit prescription pills.
6. Diluted powder fentanyl and counterfeit prescription pills containing fentanyl are smuggled from Mexico into the United States.
7. Precursors for manufacturing fentanyl are shipped via mail services.
8. Precursors are used to manufacture fentanyl in clandestine laboratories.
9. Precursors are likely smuggled across the Southwest border into Mexico to manufacture fentanyl.
10. Precursors are likely used to manufacture fentanyl in clandestine laboratories.

DEA: National Drug Threat Assessment 2016
CDC: 27 states

- Increases in synthetic opioid overdose deaths
- Concentrated in 7 states

DIFFERENCES IN OVERDOSE RATES BY GEOGRAPHIC REGION:

OPOD: Even -

HOD: Northeast and Midwest!
NIS: US OVERDOSE RATES (2012-2014) BY AGE GROUP:

- Opioid overdose
- Heroin overdose
SUMMARY

• One epidemic or three?
  • Geographic, demographic and supply disparities confound any simple story

• Supply shocks can lead to epidemics
  • But that doesn’t mean supply control is the (only) answer

• The crisis continues to evolve
  • Supplies, use patterns, consequences can shift
An Epidemic of Crisis Proportion

- Crisis of Epic Opportunity
- Treatment and Prevention can work!

Source: New York Times, The Upshot; Josh Katz; April 14, 2017
CRISIS RESPONSE

- **Public safety - public health partnerships**
- **Better** surveillance is needed
  - Fentanyl as poisoning epidemic
- **More** evidence-based treatment
  - Opioid Commission recommendations
    - “Public Health Emergency”
- **Faster** responses to overdose
CRISIS RESPONSE

- Stigma remains our biggest enemy
- Harm reduction saves lives, is cost-effective and can bridge people into treatment
  - Safe consumption spaces
  - Point of use drug testing
DRUG CHECKING
ACKNOWLEDGEMENTS

- Heroin in Transition study:
  - **Jay Unick, Univ. of Maryland**
  - HIT team: Sarah Mars, Jeff Ondocsin, Eliza Wheeler, Mary Howe, Fernando Castillo, Philippe Bourgois, Dan Rosenblum
  - NIH/NIDA funding: R01DA037820
- Chicago:
  - Dan Bigg, Chicago Recovery Alliance
  - Baltimore City Health Dept.
    - Mishka Terplan, Derrick Hunt, Jeffrey Long and NEP staff
- Massachusetts:
  - Gary Langis, Harry Leno, Irving
- West Virginia:
  - Mike Brumage, Tina Ramirez;
  - Staff and volunteers at Kanawha-Charleston Health Dept.
- Jon E. Zibbell
- Participants!
- Photo credits: Dan Ciccarone, Fernando Castillo