Intertwined Epidemics: Opioid and Heroin-related Overdose

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HEROIN IN TRANSITION ("HIT") STUDY

NIH: National Institute of Drug Abuse

• DA037820

• Multi-methodological study: quantitative and qualitative aims
  • Emerging patterns in consequences of use
    • Heroin supply flows
  • New heroin source-forms and how they are perceived and used
OBJECTIVES

EPIDEMIOLOGY

• Compare and contrast prescription opioid- and heroin-related overdose
  • Trends
  • Demographics
  • Regional differences
  • Opioid “push” vs heroin “pull” forces

QUALITATIVE

• Relate stories of heroin use
NIS: Opioid OD hospitalizations: 1993-2013

Apogee reached?
Unfortunately:

• Heroin use and consequences are up
• Rise is concurrent with the later stages of the opioid misuse epidemic
NIS: Heroin Overdose Admissions, 1993-2013:
- Sharp rise, doubling since 2005
ARE THESE THE SAME EPIDEMICS?

- Intertwined epidemics:
  - Intertwining of population at risk\(^1\)
  - Stories of heroin initiation: “Every never…”\(^2\)

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\(^1\) UNICK, ET AL. **INTERTWINED EPIDEMICS: NATIONAL DEMOGRAPHIC TRENDS IN HOSPITALIZATIONS FOR HEROIN- AND OPIOID-RELATED OVERDOSES.** PLOS ONE 2012

\(^2\) MARS, ET AL. “EVERY ‘NEVER’ I EVER SAID CAME TRUE”: TRANSITIONS FROM OPIOID PILLS TO HEROIN INJECTING. IJDP 2013
HEROIN’S RELIABLE AVAILABILITY EASES TRANSITION

... like a lot of people, you start on the pills, and then the doctor gives you some and some more, and then you get cut off by the doctor... [so] every morning we would go to the [dealer’s house] and they had both things, but ...they never were out of heroin...[but] three times a week...they didn’t have the pills. So I’d have to scramble around, and then I finally had enough and said, fuck. The hell with this, give me a bag, and was off to the races.

- 51 year old using heroin 5-6 years, originally prescribed Percocet for knee injury
Heroin patients in treatment: first opiate of abuse

- 75% of the 2000 cohort of heroin tx pts started with an prescription opioid

Cicero TJ, Ellis MS; Surratt HL; Kurtz SP. The Changing Face of Heroin Use in the United States: A Retrospective Analysis of the Past 50 Years. JAMA Psychiatry. Published online May 28, 2014.
Google trends: interest in OxyContin vs heroin vs ________

- US
- Health category
- Jan. 2006 to Nov. 2014

Data Source: Google Trends (www.google.com/trends)
Search: D Ciccarone, 11.3.14
Analysis: J Unick
ARE THESE THE SAME EPIDEMICS?

- Intertwined epidemics:
  - Intertwining of population at risk
  - Stories of initiation: “Every never…”
- How does the heroin epidemic differ from the earlier opioid misuse epidemic?
  - Comparisons by age, ethnicity, gender and region

1. UNICK, ET AL. INTERTWINED EPIDEMICS: NATIONAL DEMOGRAPHIC TRENDS IN HOSPITALIZATIONS FOR HEROIN- AND OPIOID-RELATED OVERDOSES. PLOS ONE 2012
2. MARS, ET AL. “EVERY ‘NEVER’ I EVER SAID CAME TRUE”: TRANSITIONS FROM OPIOID PILLS TO HEROIN INJECTING. IJDP 2013
NIS: OVERDOSE RATES (1993-2013) BY ETHNICITY:

OPOD: White and Native American

HOD: White and African American
NIS: OVERDOSE RATES (1993-2013)
BY AGE GROUP:

HOD: 20-34 y.o.

OPOD: 45-59 y.o.
CONVERGENCE IN HOD/OPOD RATES: 20-34 YEAR OLDS
AGE AND GENDER DISPARITIES

Opioid at-risk

Heroin at-risk
NIS: OVERDOSE RATES (1993-2013) BY GEOGRAPHIC REGION:

OPOD: Even – South
Good News: West

HOD: Northeast and Midwest!!
Timing of opioid and heroin curves: +/-

Surveys of recent heroin initiates report prior opioid dependency

Key convergences by ethnicity

Symmetrical converging curves in 20-34 yo age groups

Demographic differences can be explained by risker sub-population

Exception: Midwest
Heroin Seizures, Southwest Border: 2000-2013

- SW heroin seizures up 4-fold

HEROIN OF UNKNOWN SOURCE

(U) Chart 14. Signature Source for Retail-level Heroin Purchased in St. Louis, 1999 - 2012

Source: Domestic Monitoring Program. Reported in the 2015 National Drug Threat Assessment Summary; DOJ, DEA, 2015
NFLIS: Fentanyl

- Testing seized drugs
- Highest rise in rates in NE and MW
- However: recent relative to earlier rises in heroin overdose

Figure 3  NFLIS regional trends in fentanyl reported per 100,000 persons aged 15 or older, January 2009–June 2014

“HEROIN PULL:” HEROIN IN EVOLUTION

- The novel entry of Colombian-sourced heroin increased HOD rates; 1993-1999
- More dangerous heroin:
  - New form of Mexican-sourced heroin
  - Fentanyl(+) adulteration
  - Wider distribution models
  - Intertwined with opioid pill epidemic
CHALLENGES: OPIOID PRESCRIBING

United States

226% increase

122% increase

Rate of POD per 100,000 General Population 18-64 for Non-SSDI or SSDI Recipients

Non-SSDI Recipients

SSDI Recipients
CHALLENGES: DATA

Opioid OD hospitalizations

Opioid OD deaths
CHALLENGES: OPIOID RESTRICTION

- Are our policies to restrict opioid prescribing effective?
  - What are the paradoxical or unintended consequences?
CHALLENGES: HEROIN

- Heroin as initial drug of choice

[Graph showing the percentage of total heroin-dependent sample that used heroin or a prescription opioid as their first opioid of abuse over different decades.]
CHALLENGES: HEROIN

• Heroin as initial drug of choice:
  • New England, Mid-Atlantic and Midwest: New market strategies; expanded supply
  • New products that we don’t understand

• Better surveillance:
  • Use patterns and consequences
  • Public health forensics: “contaminated lettuce”
    • Counterfeit pills and heroin
    • Synthetics are the new reality eg NPS, cannabinoids
BALTIMORE: “SCRAMBLE”
CHALLENGES: HEROIN

• Harm reduction responses:
  • Naloxone: 2 decades of community peer use
  • Supervised injection facilities

• Expanding substance treatment:
  • Only 3% of DEA registered physicians are buprenorphine prescribers
FOLLOWING THE LEAD SET BY MCDONALD'S WITH THEIR NEW "HEALTHIER" FRENCH FRIES, THE ORGANIZATION OF WORLDWIDE HEROIN MANUFACTURERS ANNONCED THAT A NEW "LOW-CALORIE" VERSION OF THE POPULAR NARCOTIC WOULD HIT THE STREETS BY JANUARY.

A SPOKESPERSON FOR THE ORGANIZATION SAID, "LIKE MCDONALD'S, WE HAVE LEARNED THAT JUST BECAUSE YOUR PRODUCT IS HIGHLY ADDICTIVE AND DEADLY, DOESN'T MEAN YOU HAVE TO KILL YOUR CUSTOMERS OFF QUICKLY. HEALTHIER HEROIN IS JUST GOOD FOR BUSINESS!"
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