Intersecting Epidemics of Prescription Opioids and Heroin

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USA 2013
Overdose Deaths:
• 43,982 Any Drug
• 16,235 Rx opioid
• 8,257 Heroin

High Levels of Opioid Prescriptions have Facilitated Diversion & Contributed to Overdose Deaths

Near Tripling of Opioid Prescriptions from U.S. Retail Pharmacies, 1991-2013

4x Increase in Rx Opioid Overdose Deaths

Source: CDC Wonder

IMS Health, National Prescription Audit, 2012-2013
Shifting Pattern of Heroin vs. Rx Opioid First

Which Drug is First Opioid in Persons Seeking Treatment?

Percentage of Opioid Treatment Admissions that Used Heroin or Prescription Opioid as First Opioid

- **1960s**: more than 80% started with heroin
- **2000s**: 75% started with prescription opioids
- **2010-2013**: Increasing initiation with heroin

Source: Cicero et al. JAMA Psychiatry. 2014;7(7):821-826

Abuse of Opioid Medications has led to a Rise in Heroin Abuse and Associated Deaths from Overdoses

Past Month & Past Year Heroin Use Persons Aged 12 or Older


Heroin Overdose Deaths

Source: CDC Wonder
**Age-Adjusted Rates for Drug-Poisoning Deaths Involving Heroin, By Census Region: US**

![Graph showing age-adjusted rates for drug-poisoning deaths involving heroin by census region: US.](image)

*CDC, NCHS Data Brief, No 190, March 2015.*

**Rates for Drug-Poisoning Deaths Involving Heroin, By Selected Age & Race & Ethnicity Groups**

![Graph showing rates for drug-poisoning deaths involving heroin by selected age, race, and ethnicity groups.](image)

*CDC, NCHS Data Brief, No 190, March 2015.*

**Opioid Overdose Deaths in Massachusetts: Three-fold increase 2000-2014**

![Bar chart showing opioid overdose deaths in Massachusetts from 2000 to 2014.](image)

Opioid Overdose Deaths in Massachusetts:

**County Numbers 2000-2014**


Outbreak of HIV Linked to IDU of Oxymorphone Indiana, 2015

162 HIV Infections in a Community of 4200

- 84.4% 114 co-infected with Hepatitis C

- Injection Drug Use
- No Injection Drug Use
- Not Interviewed to Determine Status

- 128 not located
- 373 social contacts regarded as at high risk for HIV

- 121 HIV+
  - 53% 109
  - 47% 74

- 230 tested
  - 4.6% 54
  - 95.4% 176

- 247 located
  - 61.7%
  - 38.3%

- 112 reported average of 9 syringe-sharing partners, sex partners, or other social contacts at risk for HIV infection
**Increasing Neonatal Abstinence Syndrome Incidence & Geography, U.S. 2009-2012**


**Overlap of Benzodiazepines and Opioids in USA**

Opioid Analgesic ED Visits and OD Deaths Involving Benzodiazepines & Benzodiazepine ED Visits and OD Deaths Involving Opioids

Secretary Burwell’s/HHS Opioid Priority Areas

- Opioid prescribing practices to reduce opioid use disorders and overdose
- The expanded use of naloxone, used to treat opioid overdoses
- Expanded use of medication assisted treatment (MAT) for opioid use disorders


People Abusing Analgesics DIRECTLY & INDIRECTLY Obtain Them by Prescription: Most Recent Pill Source

Source Where Respondent Age 12+ Obtained Analgesics:

- More than One Doctor (2.6%)
- One Doctor (83.8%)
- Free from Friend/Relative (53.0%)
- Drug Dealer/Stranger (4.3%)
- Bought/Took from Friend/Relative (14.6%)
- Other* (4.3%)

Source Where Friend/Relative Obtained:

- More than One Doctor (3.3%)
- One Doctor (83.8%)
- Free from Friend/Relative (53.0%)
- Bought/Took from Friend/Relative (14.6%)
- Drug Dealer/Stranger (4.3%)
- Bought on Internet (0.3%)
- Other* (1.2%)

*Other category includes Wrote Fake Prescription,” “Stole from Doctor’s Office/Clinic/Hospital/Pharmacy,” and “Some Other Way.”

Source: SAMHSA, 2012 and 2013 National Survey on Drug Use and Health
Overdose Intervention

• **Naloxone Distribution** for opioid overdose victims. The potential for direct intervention to save lives.
  - Note the April 3, 2014 FDA approval of the naloxone auto-injector (called “Evzio”)

• **Naloxone Nasal Spray Development**
  Needle-free, unit-dose, ready-to-use opioid overdose antidote.
  - NIDA STTR Grantee – AntiOp, Inc., Daniel Wermeling, CEO
  - NIDA clinical study with Lightlake Therapeutics, Inc.

Accessing Existing and Developing New Medications

Opioid Agonist Treatments
Decreased Heroin OD Deaths
Baltimore, Maryland, 1995-2009

Challenge: Compliance with daily intake
Solution: develop long acting medications


Buprenorphine Implants vs Placebo & Sublingual Buprenorphine/Naloxone

Probuphine is designed to release sustained therapeutic drug levels in patients with opioid addiction for up to six months

% of Urines Negative (out of 72) for Opioids Across Weeks 1 to 24

Additional Problem: *Fragmented Approaches to Drugs and Crime*

**Public Health Approach**
- disease
- treatment

**Public Safety Approach**
- illegal behavior
- punish

High Attrition
High Recidivism

Successful Programs Use an Integrated Public Health-Public Safety Strategy

Community-based treatment

Close supervision

Blends functions of criminal justice and treatment systems to optimize outcomes

Opportunity to avoid incarceration or criminal record

Consequences for noncompliance are certain and immediate
Medications May Improve Both Health and Criminal Justice Outcomes

Methadone Experiment: 6 Mo Post Release (N=201)

+ - signif. diff from referral
★ - signif. diff from treatment only on release


Multi-pronged approaches can save lives: Staten Island Case Study

1. data brief
2. opioid Rx guidelines
3. PSAs
4. PDMP law
5. ED opioid Rx guidelines
6. town halls and detailing campaign to promote guidelines
7. PDMP mandated use
8. PSAs

Source: MMWR, May 15, 2015 64(18):491-494


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PERIOD

A. 7/4/2010—Pain clinic must register
B. 2/2010—Operation Pill Nation
C. 10/1/2010—Pain clinic regulation
D. 2/28/2011—Operation Pill Nation—eoids
E. 7/1/2011—Physician dispensing prohibited & statewide regional strike forces
F. 9/1/2011—Mandatory PDMP reporting
G. 7/1/2012—Wholesale regulations

Recent Slight Reductions in Rx Opioid-Related Deaths but Marked Increases in Heroin

2013 OD Deaths:
- 16,235 Rx opioid
  - (16,007 in 2012 and 16,917 in 2011)
- 8,257 Heroin
  - (5,927 in 2012 and 4,397 in 2011)

Sources: National Vital Statistics System, CDC