HIV and HIV risk during the opioid crisis

David A. Fiellin, MD
Professor of Medicine, Emergency Medicine, and Public Health
Director, Yale Program in Addiction Medicine
Vice Chief, Faculty Affairs, General Internal Medicine
Opioid-related overdose deaths

Wave One – HIV infections among PWID, 1980s-90s!
HIV and Opioid Crisis: Overlapping Factors

- Injection drug use
- Stimulant and alcohol use
- Trauma
- Comorbid mental health conditions
- Exchanging sex for drugs
- Commercial sex work
- Predominance in urban settings
- Minoritized population
- Structural barriers to prevention and treatment
- High prevalence of pain
Overdose Mortality in New York City

Drug Overdose Deaths Among People With HIV in New York City, 2007–2017

Sarah L. Braunstein, PhD, MPH; Rebekkah S. Robbins, MPH; Chitra Ramaswamy, MBBS, DcGO, MPH; and Demetre C. Daskalakis, MD, MPH

HIV Mortality Reduction Continuum of Care, Accidental Overdose Deaths, NYC 2007-2017

- Total AOD deaths among NYC PWH, 2007-2017: 100%
- Eligible for analysis: 98%
- Ever linked to HIV care after HIV diagnosis: 98%
- Retained in HIV care in intervenable period: 77%
- Prescribed ART: 74%
- Virally suppressed in intervenable period: 51%
Scott County, Indiana, 2014-2015

Outbreak of 215 HIV-infections due to IDU, primarily oxymorphone (Opana)
Following Scott County

- Since the 2014-2015 outbreak in Scott County, Indiana, there have been several other important outbreaks across the US.
- Some of them did not occur in the places (i.e., pink squares at right) that a CDC analysis suggested were most vulnerable to these kinds of outbreaks.

Slide courtesy of Gregg Gonsalves, PhD
From 2015 through 2018, the communities of Lawrence and Lowell, Massachusetts experienced an outbreak of HIV infection among PWID.

By June 30, 2018, 129 new infections met the case definition of outbreak-associated HIV infection used by the MA Department of Public Health and the US Centers for Disease Control and Prevention in their joint investigation.

By June 30, 2020, a total of 180 new infections were linked to the outbreak.

Cumulative HIV Diagnoses and Timeline of Investigation and Response to Outbreak of HIV: Massachusetts, 2015–2018 (Alpren C. AJPH, January 2020)
HIV and Opioid Crisis: Prevention and Treatment

- PrEP
- Syringe Service Programs
- Naloxone
- Drug Testing
- Skin and wound care
- Integrated HIV and Addiction Treatment
  - Methadone and buprenorphine
  - Treatment for comorbid addiction, medical, mental health
  - Low barrier, trauma-informed care
- Ryan White as model response?
Impact of buprenorphine on HIV risk

The impact of buprenorphine/naloxone treatment on HIV risk behaviors among HIV-infected, opioid-dependent patients

E. Jennifer Edelman, Tongtan Chantarat, Sarah Caffrey, Amina Chaudhry, Patrick G. O'Connor, Linda Weiss, David A. Fiellin, Lynn E. Fiellin

*Yale University School of Medicine, PO Box 208205, New Haven, CT 06520, United States
†Center for Interdisciplinary Research on AIDS, Yale School of Public Health, New Haven, CT, United States
‡New York Academy of Medicine, 1216 5th Avenue, New York, NY 10029, United States
§Chase Breton Health Care, 1111 North Charles Street, Baltimore, MD 21201, United States

Fig. 1. Prevalence of risk behaviors during the first year after buprenorphine/naloxone initiation, n=303, 1515 observations. Note: asterisk (*) indicates p<0.05.
Integrated Care

• Integrated HIV and Addiction Treatment
  • HIV prevention and treatment in addiction care settings
  • Addiction treatment in HIV prevention and care settings

• Integration at the level of the program/clinic?
• Integration at the level of the individual clinician?
Using an Implementation Science Approach

**Original Investigation | Substance Use and Addiction**

**Effect of Implementation Facilitation to Promote Adoption of Medications for Addiction Treatment in US HIV Clinics**

A Randomized Clinical Trial

E. Jennifer Edelman, MD, MHS; Geliang Gan, MPH; James Dzura, PhD; Denise Esserman, PhD; Elizabeth Porter, MBA; William C. Becker, MD; Philip A. Chan, MD; Deborah H. Crossman, PhD; Christian D. Helfrich, MPH, PhD; Jesse Reynolds, MS; Jessica E. Yager, MD; Kenneth L. Morford, MD; Srinivas B. Muvvala, MD; David A. Fiellin, MD

---

**Opioid use disorder**

- Ready
- Not ready

**Diagram:**

- Control: OUD
- Intervention: OUD
- Evaluation: OUD
- Maintenance: OUD

**Table:**

<table>
<thead>
<tr>
<th>Stage</th>
<th>Control</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>OUD</td>
<td>1.26 (0.69, 2.32)</td>
<td>0.46</td>
</tr>
<tr>
<td>OUD</td>
<td>1.20 (0.70, 2.06)</td>
<td>0.50</td>
</tr>
<tr>
<td>OUD</td>
<td>1.79 (1.06, 3.03)</td>
<td>0.030</td>
</tr>
</tbody>
</table>
Summary

• Opioid crisis started earlier than reported
• Opioid and HIV share multiple common factors
• Opportunities for HIV “outbreaks” in both urban and rural settings
• Integrated prevention and treatment makes common sense but takes dedicated implementation efforts to bust silos