TOWARD A REAL-TIME DRUG OVERDOSE MONITORING SYSTEM

Using Locally Available Data

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Goals for Today’s Presentation

1. Make the case for *real-time* overdose monitoring.

2. Describe the complexity of overdose monitoring.

3. Advocate for greater cross-agency coordination around overdose monitoring and response.
Overview

• Background
  • The vast spectrum of opioids
  • Trends in fatal overdose: nationally>regionally>locally

• Real-time Overdose Data Systems
  • Medical Examiners Office
  • Other sources of real-time OD data.

• Other Relevant (not real-time) Data Sources

• Translating Data into Action!
BACKGROUND
Complementary Goals

Public Health: Reduce Demand.
Law Enforcement: Reduce Supply.
**Terminology**

**Opioid** – interacts with the opioid receptor.
- Naturally occurring **opiates** and derivatives.
- Prescription and synthetic opioids (pharmaceutical opioids).

**Opiate** – naturally occurring alkaloid or simple derivative of the opium poppy:
- Heroin
- Morphine
Found at Death Scene Investigations

- **Opiate Opioids**
  - Heroin
  - Morphine
  - Codeine

- **Pharmaceutical Opioids**
  - Oxycodone
  - Oxymorphone
  - Hydromorphone
  - Hydrocodone
  - Tramadol

- **Therapeutic Opioids**
  - Methadone
  - Buprenorphine

- **Fentanyl**
  - (& its derivatives)
Nationally

Age-adjusted rate* of drug overdose deaths† and drug overdose deaths involving opioids — United States, 2000–2014
Age-adjusted rate of drug overdose deaths, 2010 and 2015

By State


Rates shown are the number of deaths per 100,000 population. Age-adjusted death rates were calculated by applying age-specific death rates to the 2000 U.S standard population age distribution.

† Deaths were classified using the International Classification of Diseases, Tenth Revision (ICD–10). Drug overdose deaths were identified using underlying cause-of-death codes X40–X44, X60–X64, X85, and Y10–Y14.
West Virginia’s ME Viewpoint:

“My dad is a family doc in my hometown. He regularly has the phone wires to his office cut because they think they are cutting the alarm system. This has been lessening, though, as the focus shifts from oxycodone to injectables.”

“When I first started here it was oxycodone, day in and day out. We had a brief run of heroin, but now almost everything is fentanyl, carfentanil, acetyl fentanyl or furanyl fentanyl. Or some combination of those.”

Source: Personal Correspondence with Dr. Andrea Orvik (WV ME)
PNW: British Columbia

Illicit Drug Overdose Deaths and Death Rate per 100,000 Population

PNW: BRITISH COLUMBIA

Illicit Drug Overdose Deaths including and excluding Fentanyl, 2007-2016*

*Data to Oct 2016

Number of Fatal Overdoses* in King County, 2007-2016

Data source: King County Medical Examiner’s Office (2007 – 2016)
*A single death can be attributed to multiple drug types
Fentanyl Type Drug OD Deaths

2006: 8  
2007: 6  
2008: 9  
2009: 6  
2010: 8  
2011: 11 
2012: 12 
2013: 5  
2014: 5  
2015: 2  
2016: 25
REAL-TIME MONITORING OF DRUG OVERDOSE
Goals of Real-Time Monitoring

1. Identify potential overdose clusters.
2. Timely and targeted response to emergent threats.
3. Inform law enforcement investigations.
FATAL OVERDOSE

Medical Examiners Office
Challenges to Monitoring Drug Overdoses through Death Records

- Limited resources
- Limited investigation
- No or poor witnesses
- Limited ability to identify drug or source
- Delay in toxicology analysis
- Delay in death certification

“Because drug deaths take a long time to certify, the Centers for Disease Control and Prevention will not be able to calculate final [2016] numbers until December [2017].”

Drug Deaths in America Are Rising Faster Than Ever – NYT 6/5/2017
Developing Real-Time Monitoring of Fatal Drug Overdoses

• Expend resources to enhance fatal drug overdose investigation.
• Utilize family/friends to assist in identifying source of drug.
• Improve efforts to identify drugs recovered from scene.
• Recognize similar drugs found at different scenes and clusters of related drug overdose deaths.
• Recognize potential novel or counterfeit drugs and request chemical analysis.
• Request expedited toxicology analysis and utilize screening kits for potential novel or counterfeit drugs.
• Develop rapid reporting system for drug overdose deaths to inform local law enforcement, DEA, HIDTA.
OTHER REAL-TIME DATA SOURCES

Emergency Medical Services
Emergency Department Visits
Emergency Medicine Services

- Centralized repository of data collected by first responders (e.g. firefighters and paramedics).
- Captures:
  - Responding agency
  - Date/time/location of incident
  - Demographics of patient
  - Chief complaint
  - Narrative
  - Whether naloxone was distributed
  - Whether case transported to ED/hospital
Emergency Department Visit Data

• PHSKC Syndromic Surveillance System:
  • Automated system.
  • Hosted by PHSKC Communicable Disease Epi Program.
  • Captures all ED visits in last 24 hours.
  • 21 of 22 King County EDs participating.
  • Captures: hospital name, date & time of visit, age, sex, home zip, chief complaint, disposition, diagnosis, patient/visit key.
  • Free text fields queried for key terms.
  • Weaknesses: limited data elements and granularity; data quality

• Other Systems:
  • EDIE/PreManage
  • ESSENCE ~ managed by DOH
OTHER RELEVANT DATA SOURCES

(Not available in real-time)
Other Key Data Sources

- **Overdose:**
  - WA State Death Certificate Data
  - Hospitalization data (“CHARS”)

- **Prescribing patterns:**
  - Prescription Monitoring Program

- **Toxicology Results:**
  - WA State Patrol Toxicology and Crime Laboratories
  - Hospital Toxicology Laboratories

- **Surveys:**

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<th>Data Source</th>
<th>Who?</th>
<th>Drugs Used</th>
<th>Survived Overdose</th>
<th>Harm-Reduction</th>
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WINDOW OF OPPORTUNITY
New task force to tackle heroin epidemic in Seattle, King County

King County task force unveils three-tiered plan to fight heroin, opiate problem

Leaders take action against heroin crisis in Seattle, King County

Seattle could be first U.S. city with safe injection site
Additional Financial Resources

- State Targeted Response to Opioid Crisis Grant

- Medicaid Demonstration Project
TRANSLATING DATA INTO ACTION
What information do agencies need?

When do they need it?

Will they use it?

Can it be shared?
Forging New (& Strengthening Old) Partnerships

- Law Enforcement
- Medical Examiner’s Office
- Drug User Service Providers (& Payers)
- Public Health
Strategies to Enhance Cross-Agency Collaboration…

- Communication Coordinator
- Periodic Meetings
  - Presentation
  - “Round Robin” – Agency report of overdose related activities
- Listservs
- Newsletters
QUESTIONS? COMMENTS?

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