Characteristics of Opioid Deaths with Evidence of Rapid Overdose, 11 States, July 2016-June 2017

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Learning Objectives

- Describe the burden of opioid deaths with evidence of rapid overdose
- Describe the characteristics associated with opioid deaths with evidence of rapid overdose
Opioid Deaths with Evidence of Rapid Overdose

- Increased use of more potent opioids, such as fentanyl and fentanyl analogs, can lead to increased risk of overdose soon after ingestion
- ‘Rapid overdoses’ occur within 5 to 10 minutes of drug use
- Symptoms include slower heart rate, shallow breathing, severe sleepiness
- Identification of rapid overdoses can be challenging using death certificate data

Enhanced State Opioid Overdose Surveillance (ESOOS)

Nonfatal opioid overdoses  Fatal opioid overdoses

SUDORS

Nonfatal opioid overdoses  Fatal opioid overdoses

Death certificates  Medical examiner/coroner reports  Toxicology reports
SUDORS leverages National Violent Death Reporting System (NVDRS) platform

Mock Case Narrative

- The decedent (D) was a black, male, aged 38 years old. D was found by his wife upon returning home. She found D unresponsive on the floor with a needle in his arm. D had multiple puncture wounds on his body.
- EMS arrived and administered 5 doses of Narcan and transported D to the hospital, but he ultimately died. D had a history of obesity, hypertension, heroin use and hepatitis C. D's toxicology was positive for carfentanil and marijuana.
Methods

Analysis
- Restricted to 11 states (Kentucky, Maine, Massachusetts, Missouri, New Hampshire, New Mexico, Ohio, Oklahoma, Rhode Island, West Virginia, Wisconsin)
- Reporting period from July 2016 – June 2017
- Exclude individuals under 15 years
- Rapid overdoses identified using checkbox for ‘Evidence of Rapid Overdose’ to indicate decedent went unresponsive within seconds to minutes after taking drugs

Results
Demographic characteristics of opioid deaths with evidence of rapid overdose—July 2016–June 2017

- 11,984 opioid-involved overdoses
- 12% (1387) of opioid overdose deaths had evidence of rapid overdose
- 85% of decedents were White, non-Hispanic
- 75% were male and 38% were between the ages of 25 and 34 (mean age of 37.9)
- Most decedents were found at home (80%)

Proportion of opioid deaths with evidence of rapid overdose, by state—July 2016–June 2017 (n=1387)

Characteristics of opioid deaths with evidence of rapid overdose—July 2016–June 2017 (n=1387)
Most common opioids contributing to deaths with evidence of rapid overdose—July 2016–June 2017 (n=1387)

- Heroin
- Suspected Illicitly Manufactured Fentanyl
- Fentanyl Analog

0% 20% 40% 60% 80% 100%

Most common scene evidence for opioid deaths with evidence of rapid overdose—July 2016–June 2017 (n=1387)

- Needle inserted
- Needle in hand
- Needle close to body
- Tourniquet around arm
- Witness

0% 20% 40% 60% 80% 100%

Data limitations and challenges

- Needle close to body
- Witness Drug Use Unknown
- Timing Unknown

0% 20% 40% 60% 80% 100%
Summary of Findings

- 12% of opioid involved deaths had evidence of rapid overdose
- Fentanyl was listed as a cause of death for 73% of deaths
- Bystanders were present for less than half of deaths
- Naloxone was rarely administered

Conclusions

- Challenges in correctly classifying some opioid deaths as rapid overdoses based on limited evidence
- Strengthen abstractor training and limit potential misclassification
- Information captured in medical examiner reports critical in identifying these deaths

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