The Denver Fentanyl Action Summit

A public health approach to actionable insights and life-saving strategies

September 12th and 13th, 2022

Empowering Denver’s communities to live better, longer
Opioids 101

An Overview of Opioids in our Community

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Empowering Denver’s communities to live better, longer
Disclosures

Neither presenter has a conflict of interest with the presented material
Outline

• Introduction
• High Level Review of Opioids
• Medical Examiner Case Findings
• Data on Fentanyl-Related Deaths
• MythBusters!
Introduction

- Forensic Pathologist
- Medical Examiner
- Public Health and Medical Examiners
Opioids

**Prescription**
- Treat moderate to severe pain
- Can have serious risks and side effects
- Examples are oxycodone (OxyContin), hydrocodone (Vicodin), morphine, and methadone
- Percocet (combination of oxycodone and acetaminophen)

**Illicit**
- Heroin (opiate, from natural poppy plant matter)
- In Denver, typically sticky black substance or “black tar”

**Fentanyl**
- Synthetic opioid pain reliever
- Many times more powerful than other opioids
- Approved for treating severe pain
- Can be illicitly manufactured and distributed, typically as a pressed blue pill inscribed with “M30”

**Novel psychoactive substances (NPS)**
- Example is N-Pyrrolidino Etonitazene (PYRO)
- Higher potency, increased adverse effects
- Can be a blue pill
Opioid side effects

Constipation*
Nausea*
Sedation
Dizziness

Vomiting
Physical dependence
Tolerance
Respiratory depression**

*most common
**most dangerous
Naloxone (NARCAN®)

An opioid antagonist medication that is used to reverse opioid overdoses by binding to opioid receptors and blocking the effects of other opioids.

Forms are available that can be injected intramuscularly or sprayed into the nostrils.
Not opioids*

Methamphetamine  LSD
Cocaine          Psychedelic mushrooms
Ecstasy          Marijuana/THC/cannabinoids
Ketamine         Kratom (mitragynine)

*therefore, NOT NARCAN
Medical Examiner Cases
Scene and autopsy findings

Scene findings*
• Pressed pills
• Burnt foil +/- pill residue
• Needles
• Lighters/torches
• Paraphernalia in hand
• Plume of fluid at external airways
• Body positioning

Autopsy findings**
• Track marks or skin popping scars
• Plume of fluid at external airways
• Severe pulmonary edema
• Constipated stool
• Increased right ventricular wall thickness
• Pulmonary arterial atherosclerosis
• Toxicology results

*Manner  **Cause
Microscopic findings in Lungs

- Polarizable crystals
- Features of pulmonary hypertension
Fentanyl Death Data
National and State Data
National Drug-Involved Overdose Deaths*, Number Among All Ages, 1999-2020

*Includes deaths with underlying causes of unintentional drug poisoning (X40–X44), suicide drug poisoning (X60–X64), homicide drug poisoning (X85), or drug poisoning of undetermined intent (Y10–Y14), as coded in the International Classification of Diseases, 10th Revision.

Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Multiple Cause of Death 1999-2020 on CDC WONDER Online Database, released 12/2021.
Figure 2. Age-adjusted drug overdose death rates involving prescription opioids, heroin, cocaine, methamphetamine (and other psychostimulants with abuse potential) and synthetic opioids other than methadone: Colorado residents, 2010-2020.


Note: Deaths involving more than one type of drug were included in the rates for each applicable category, therefore, the drug categories are not mutually exclusive.
Counts of Drug Overdose Deaths involving Fentanyl by County of Residence, 2017-2021

Colorado Age Adjusted Rate of Drug Overdose Deaths involving Fentanyl (5 year): 6.46 deaths per 100,000 (95% CI: 6.16-6.76)
Denver Age Adjusted Rate of Drug Overdose Deaths involving Fentanyl (5 year): 11.77 deaths per 100,000 (95% CI: 10.66-12.88)

Source: Colorado Health Information Data Set (CoHID), Vital Statistics Program, Colorado Department of Public Health and Environment [https://cdphe.colorado.gov/cohid](https://cdphe.colorado.gov/cohid)
Denver Office of the Medical Examiner Data
Drug Deaths by Fentanyl Cause of Death, Denver OME Cases 2017-2021

Count

Death Year

2017: 178
2018: 190
2019: 58
2020: 161
2021: 239

Fentanyl: 233
Drug Deaths by Select Substances that Caused Death*
Denver OME cases, 2017-2021

<table>
<thead>
<tr>
<th>Year</th>
<th>Drug deaths</th>
<th>Deaths with Fentanyl</th>
<th>Deaths with Methamphetamine</th>
<th>Deaths with Cocaine</th>
<th>Deaths with Heroin</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>200</td>
<td>20</td>
<td>65</td>
<td>37</td>
<td>54</td>
</tr>
<tr>
<td>2018</td>
<td>207</td>
<td>17</td>
<td>63</td>
<td>42</td>
<td>51</td>
</tr>
<tr>
<td>2019</td>
<td>225</td>
<td>58</td>
<td>76</td>
<td>38</td>
<td>41</td>
</tr>
<tr>
<td>2020</td>
<td>370</td>
<td>161</td>
<td>127</td>
<td>92</td>
<td>44</td>
</tr>
<tr>
<td>2021</td>
<td>472</td>
<td>239</td>
<td>208</td>
<td>121</td>
<td>30</td>
</tr>
</tbody>
</table>

* Multiple drugs can contribute to the cause of death and groups are not mutually exclusive.
Fentanyl deaths by number of substances that caused death, Denver OME cases 2021

<table>
<thead>
<tr>
<th>Number of substances noted as cause of death</th>
<th>Percent of Fentanyl Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Just Fentanyl)</td>
<td>13.8%</td>
</tr>
<tr>
<td>2</td>
<td>31.8%</td>
</tr>
<tr>
<td>3</td>
<td>29.3%</td>
</tr>
<tr>
<td>4</td>
<td>10.9%</td>
</tr>
<tr>
<td>5+</td>
<td>14.2%</td>
</tr>
</tbody>
</table>

Fentanyl related deaths by other drugs present, 2021

- Methamphetamine: 97 deaths
- Ethanol: 72 deaths
- Cocaine: 64 deaths
- Benzodiazepines: 48 deaths
- Other opiates (including heroin): 40 deaths
- Gabapentin: 20 deaths

*Note that these categories are not mutually exclusive, each bar represents deaths where fentanyl and the noted drug category contributed to death.*
Fentanyl Deaths by Manner and Location:

Drug Overdose Deaths Due to Fentanyl by Manner of Death, OME cases 2021

- Accident: 95%
- Undetermined: 2%
- Suicide: 3%

Drug Overdose Deaths Due to Fentanyl by Location of Death, OME cases 2021

- Residence: 160
- Hospital/Medical Facility: 33
- Street/Road/Parking Lot/Motor Vehicle: 17
- Hotel/Motel: 12
- Other: 8
- Commercial establishment/Commercial...: 5
- Natural Area/Outdoor public use area: 4

0 20 40 60 80 100 120 140 160 180
People Experiencing Homelessness made up: **19.4%** of 2021 overdose deaths due to Fentanyl.

Non-Denver Residents made up: **17.3%** of 2021 overdose deaths due to Fentanyl investigated by Denver OME.
Fentanyl Deaths in Denver by Age Per Year

- **2017**: 5, 4, 1, 1, 1, 1
- **2018**: 4, 4, 2, 1, 1, 1
- **2019**: 11, 11, 1, 1
- **2020**: 34, 31, 17, 10

Age Groups:
- 1-9
- 10-18
- 19-27
- 28-36
- 37-45
- 46-54
- 55-63
- 64-72
- 73-81
- 82-90
In 2021, every 37 hours, someone died of a Fentanyl overdose in Denver.
Thank you!
Fentanyl

Six Myths that can perpetuate the crisis
You can OD on Fentanyl by just touching it

**MYTH**

**FACT**

- Airborne or dermal exposure is not a realistic threat (Fentanyl is not a volatile compound)
- Concentrations required for OD can only be achieved through intravenous or mucosal exposure
All Fentanyl overdoses are poisonings

MYTH

FACT

• Licit (legal) Fentanyl has been used by the medical system for anesthesia and pain management since 1968, patches introduced in 1990

• Illicit Fentanyl can be (and is) sought and used by PWUD/PWID across Colorado and the U.S.

• Fentanyl itself is potent, requires caution, but the risk is caused by inconsistent drug supply and fluctuating or unknown potency
**MYTH**

Standard safety precautions are not enough

Some believe that Fentanyl is so dangerous that first responders should not enter a room, or must have hazmat level protective gear to do so

**FACT**

Basic PPE is fully adequate: nitrile gloves, simple surgical masks (or N95 if desired), wash hands after
Feeling Sick” is a symptom of Fentanyl OD

Some reports of first responders “feeling sick” after entering room with unknown powdered substance(s)

**MYTH**

**FACT**

- Symptoms are not consistent with opioid overdose; rather, they appear consistent with anxiety or panic attack

- “Nocebo Effect” – the thought on an exposure causes the expected adverse event, even if a substance is inactive
Naloxone doesn’t work for Fentanyl OD

**MYTH**

Naloxone doesn’t work for Fentanyl OD

**FACT**

- Naloxone is highly effective and safe, works nearly 100% of the time for opioid overdose, and doesn’t cause harm
- If it doesn’t appear to work, it may be because:
  - It is not an opioid overdose (may be another drug, or cardiac arrest)
  - It was administered too late (person was oxygen deprived for too long)
  - It requires another minute or two to work, or a second dose
- If in doubt: administer naloxone, call 911, perform CPR
Fentanyl is in every drug, even cannabis

**MYTH**

**FACT**

- Illicitly Manufactured Fentanyl is often found in counterfeit pills, powders, and heroin
- There have been no verifiable incidents of Fentanyl present in cannabis products or vaporisers in Colorado
- Fentanyl’s boiling point is 871°F, so vaporisers would not be effective for delivery as they only heat to about 425°F
Why is this important? These myths can...

• Perpetuate misinformation
• Cause people to delay or refuse to render aid
• Further stigmatize PWUD/PWID
• Stigmatize those who prescribe/use Fentanyl legally

• We need to share the facts and evidence, act upon them!
Thank you!