

# Opioids 101

An Overview of Opioids in our Community  
March 15, 2023

**Empowering Denver's communities to live better, longer**

# Agenda

Introductions

High Level Review of Opioids

Medical Examiner Case Findings

Data on Fentanyl-Related Deaths

Fentanyl Facts

Resources Available

# Introductions

## **Dr. Robert Valuck PhD, RPh**

Executive Director,  
Colorado Consortium for Prescription  
Drug Abuse Prevention  
University of Colorado Anschutz  
Medical Campus

## **Dr. Sterling McLaren, MD**

Chief Medical Officer,  
City & County of Denver  
Forensic Pathologist,  
Denver Office of the Medical Examiner

## **Tristan Sanders, MPH**

Director,  
Community & Behavioral Health  
Denver Department of  
Public Health & Environment



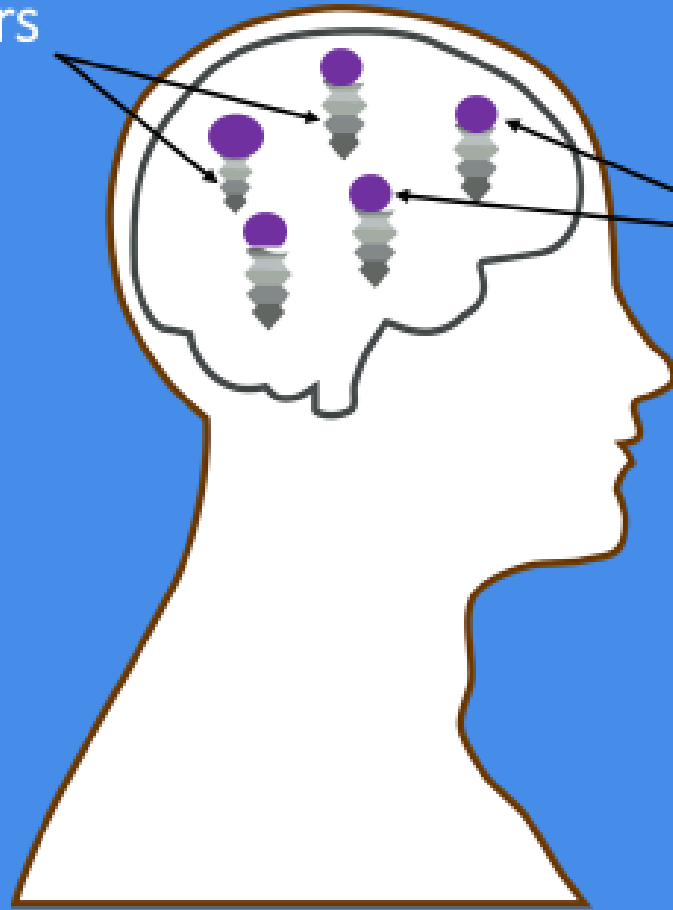
# Types of Opioids

- Prescription
- Illicit
- Fentanyl
- Novel psychoactive substances (NPS)



# How do Opioids Work?

Opioid receptors



Opioids

# Opioid Side Effects

## Most Common:

- Constipation
- Nausea

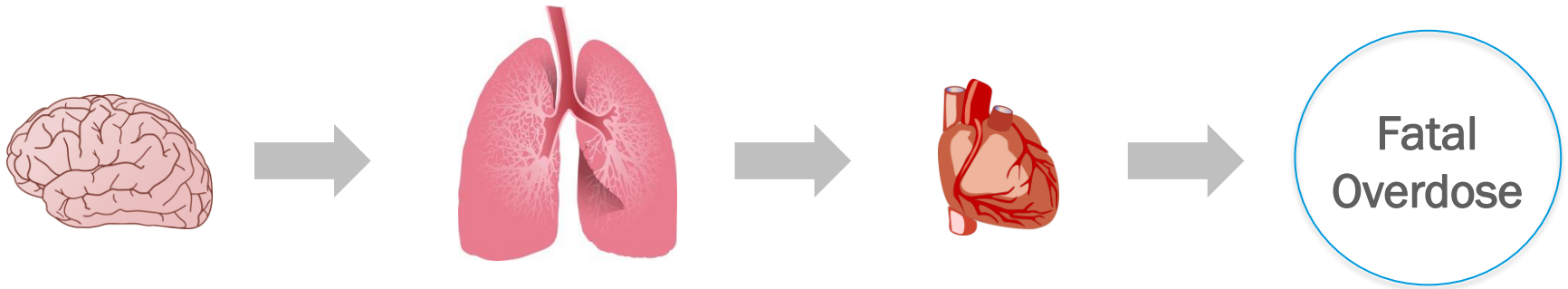
## Most Dangerous:

- Respiratory depression
- Sedation

## Other Possible Side Effects:

- Dizziness
- Vomiting
- Physical dependence
- Tolerance

# How do Opioid Overdoses Happen?



Quantity or strength of opioids gradually suppress the involuntary drive to breathe

Breathing slows down

Heart Stops

Fatal Overdose

# Naloxone (NARCAN®)

- Only function is to reverse an opioid overdose
- Safe: zero effect if opioids are not present
- Available as nasal spray or intramuscular injection
- No known negative effects
- May put opioid dependent person in withdrawal
- No potential for misuse or dependence





# How Does Naloxone Work?

Naloxone



# Not Opioids

Therefore

# Not Naloxone

- Methamphetamine
- Xylazine
- Cocaine
- Ecstasy
- Ketamine

- LSD
- Psychedelic mushrooms
- Marijuana/THC/cannabinoids
- Kratom (mitragynine)

# Signs of Opioid Overdose:

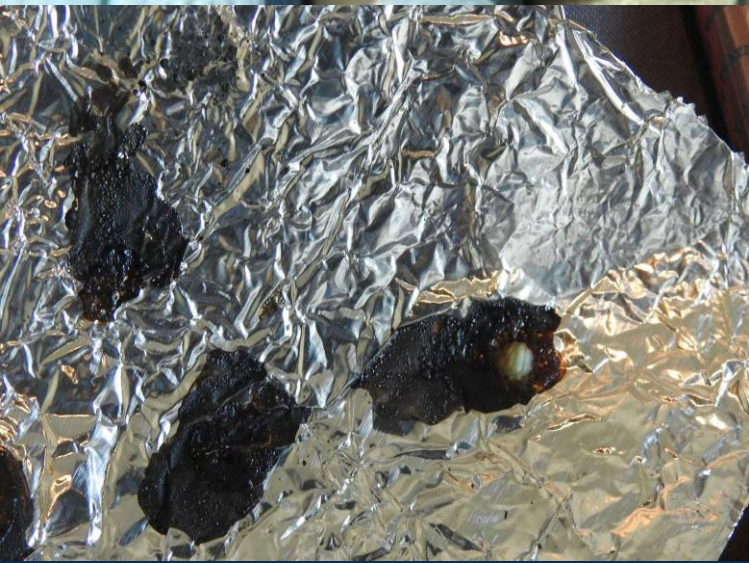
## Medical Examiner Data

### Scene findings (manner of death)

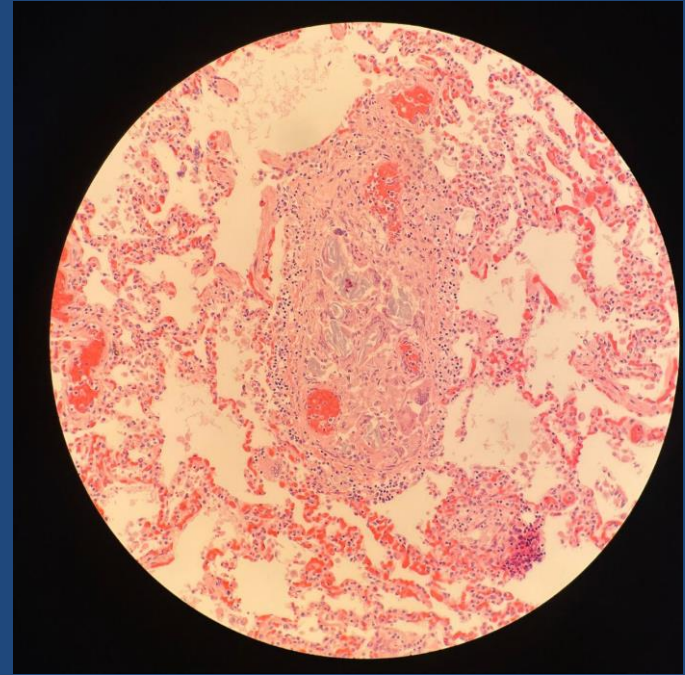
- Pressed pills
- Burnt foil +/- pill residue
- Needles
- Lighters/torches
- Paraphernalia in hand
- Plume of fluid at external airways
- Body positioning

### Autopsy findings (cause of death)

- Track marks or scars
- Plume of fluid at external airways
- Severe pulmonary edema
- Constipated stool
- Increased right ventricular wall thickness
- Pulmonary arterial atherosclerosis
- Toxicology results



# Microscopic Findings in Lungs



- Polarizable crystals
- Features of pulmonary hypertension

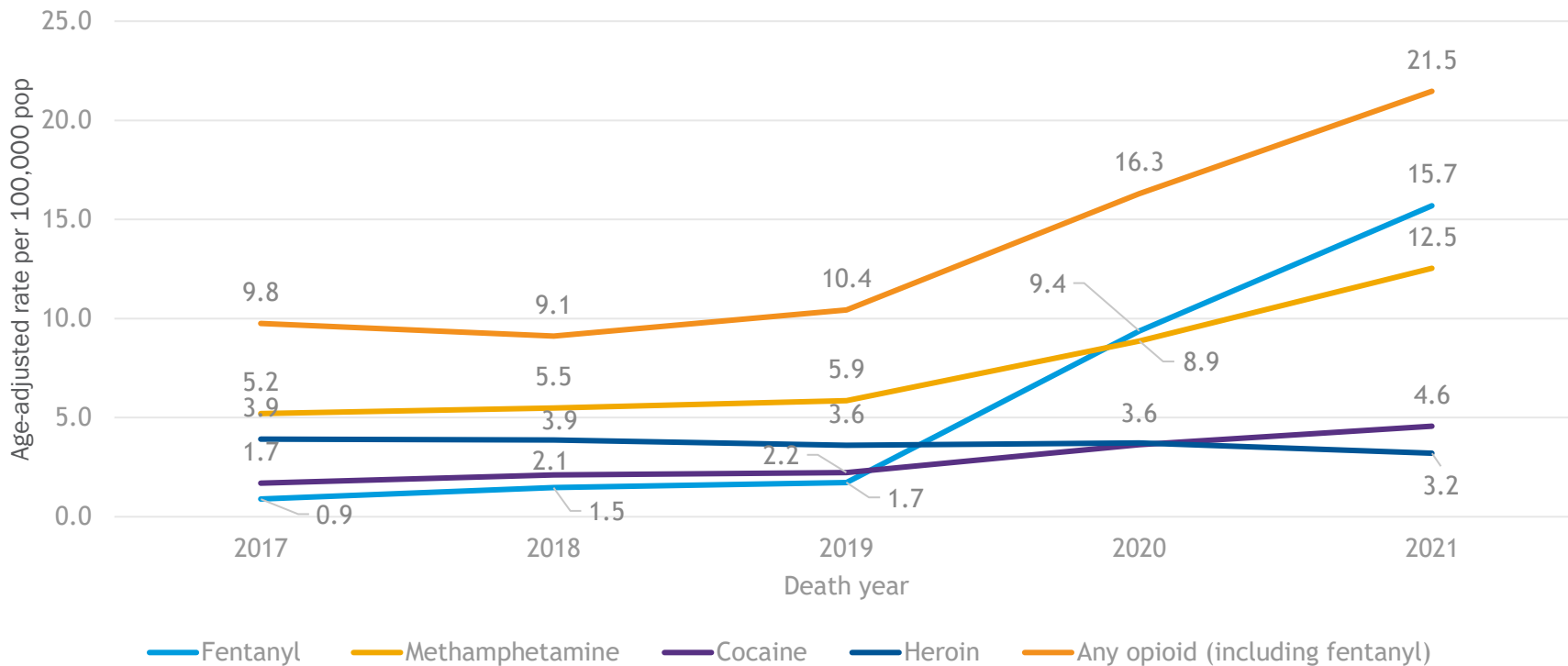


# Fentanyl Death Trends

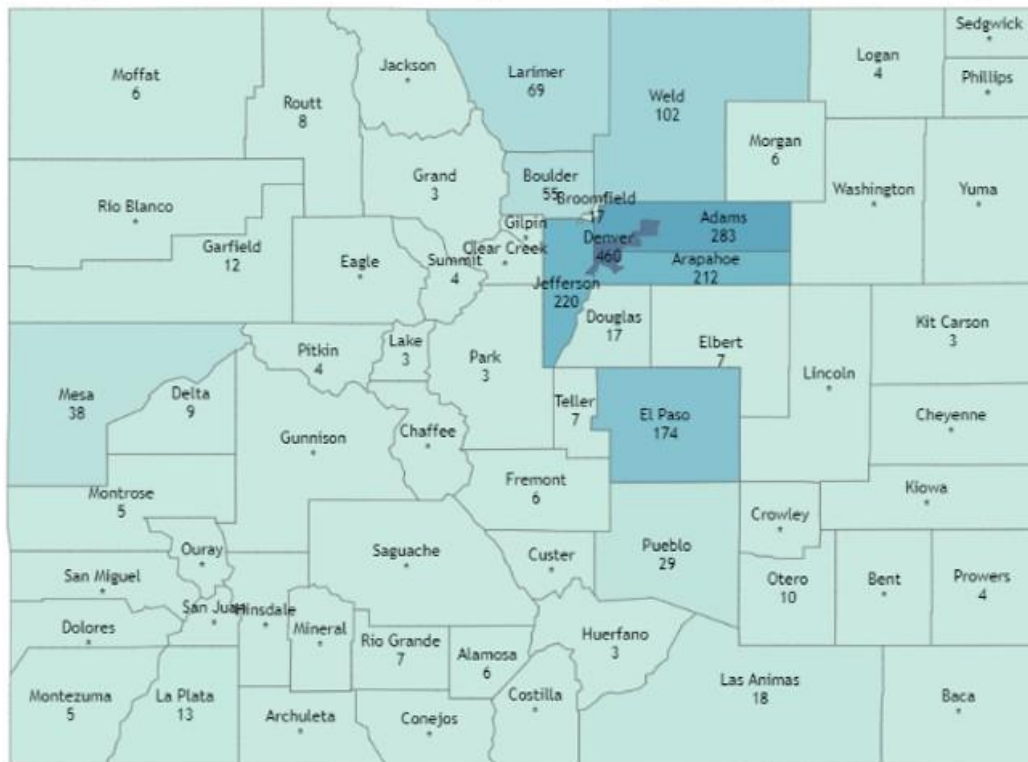
## National and Local Data

### Denver Office of the Medical Examiner Data

# Age-Adjusted Overdose Death Rates Involving Select Substances: Colorado Residents 2017-2021



## Counts of Drug Overdose Deaths involving Fentanyl by County of Residence, 2017-2021

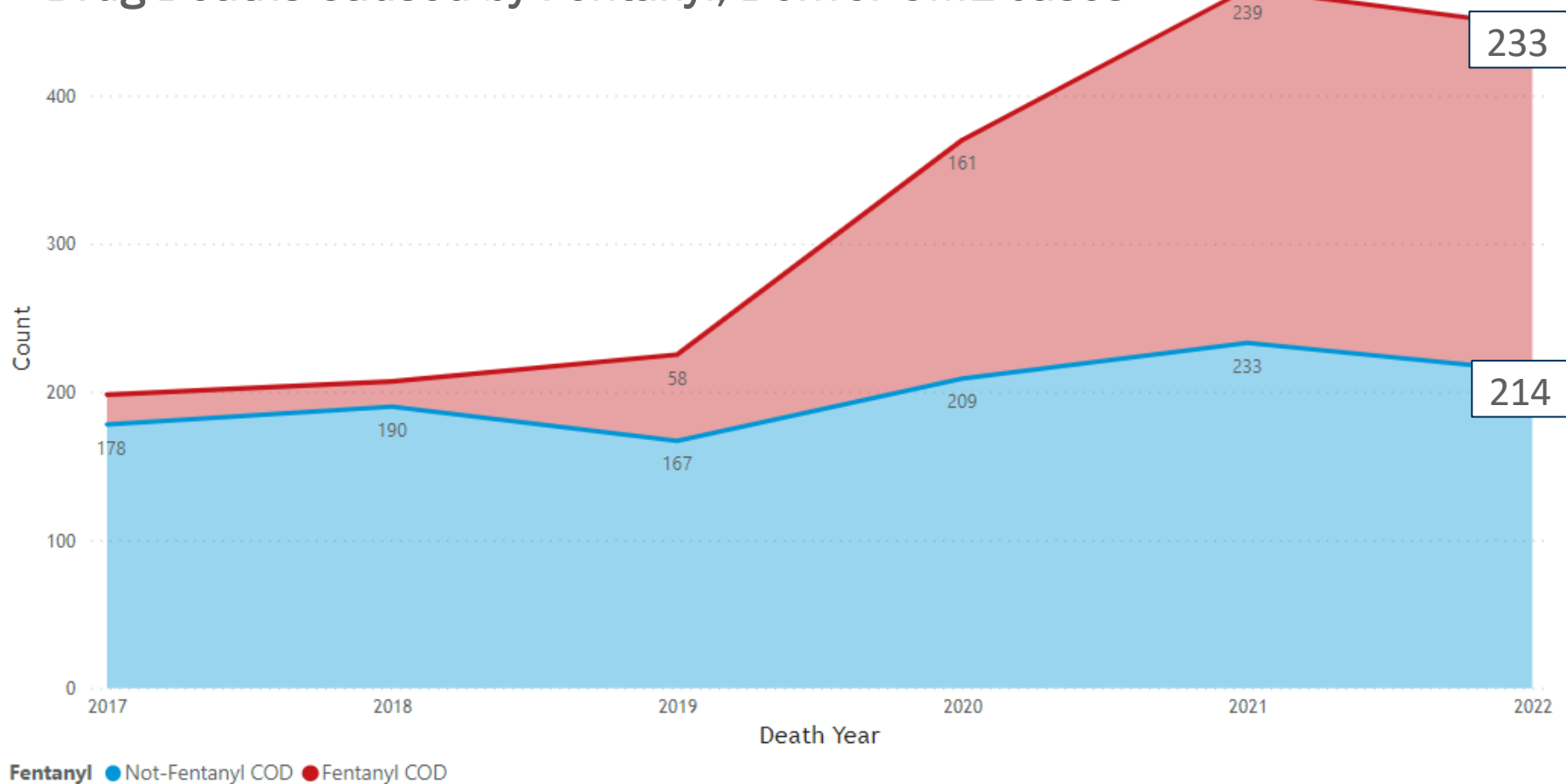


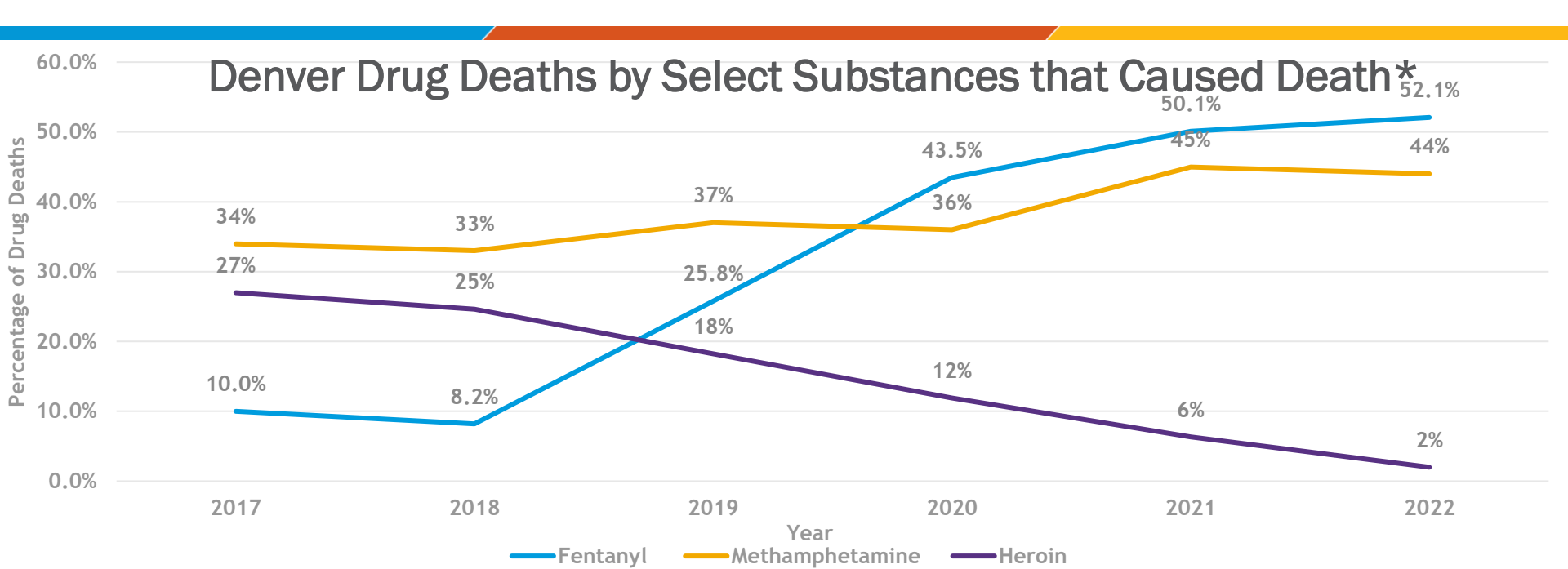
**Colorado** Age Adjusted Rate of Drug Overdose Deaths involving Fentanyl (5 year): **6.46 deaths per 100,000** (95% CI: 6.16-6.76)

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



# Drug Deaths Caused by Fentanyl, Denver OME cases



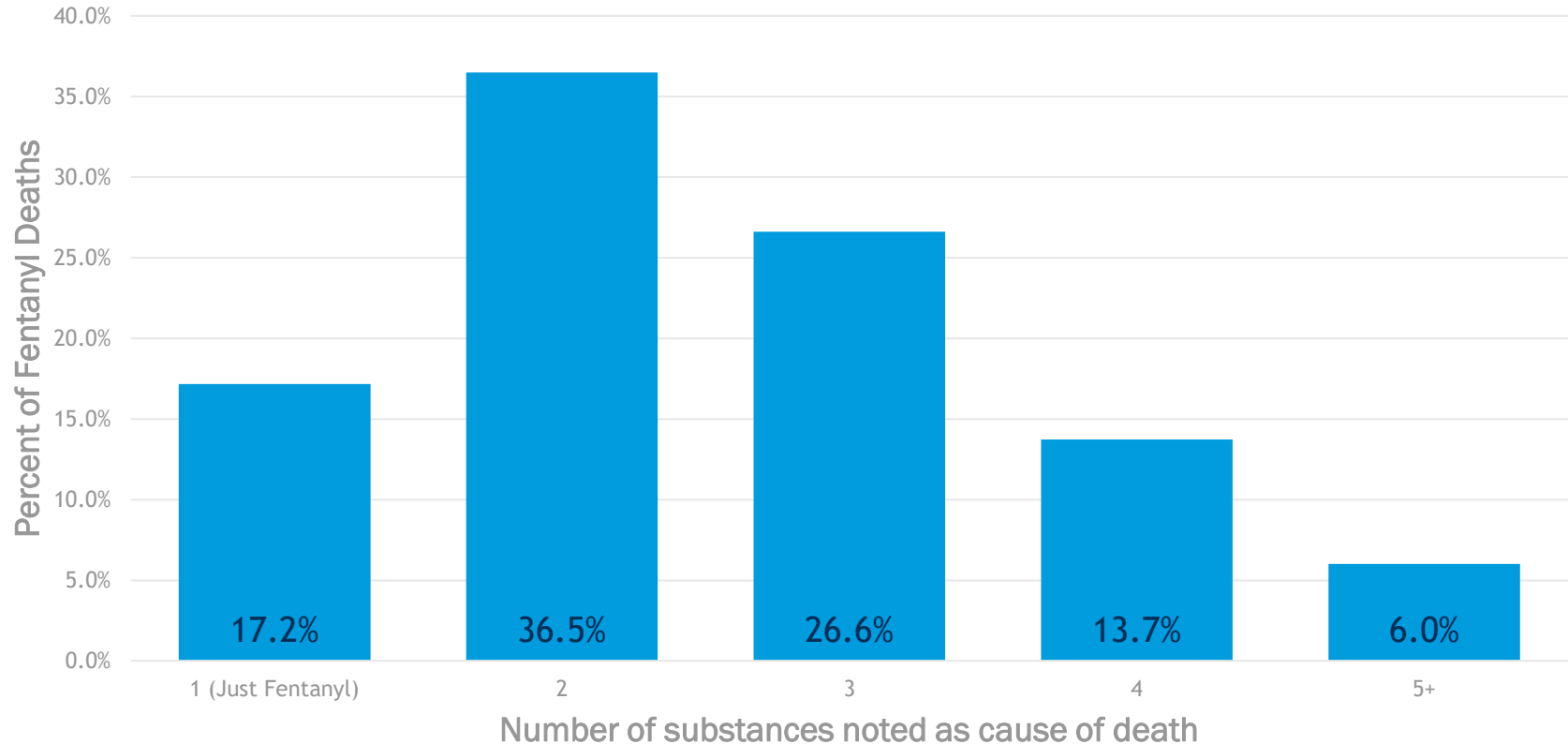


Drug Related Deaths by year and select drugs, Denver Office of the Medical Examiner, 2017-2022

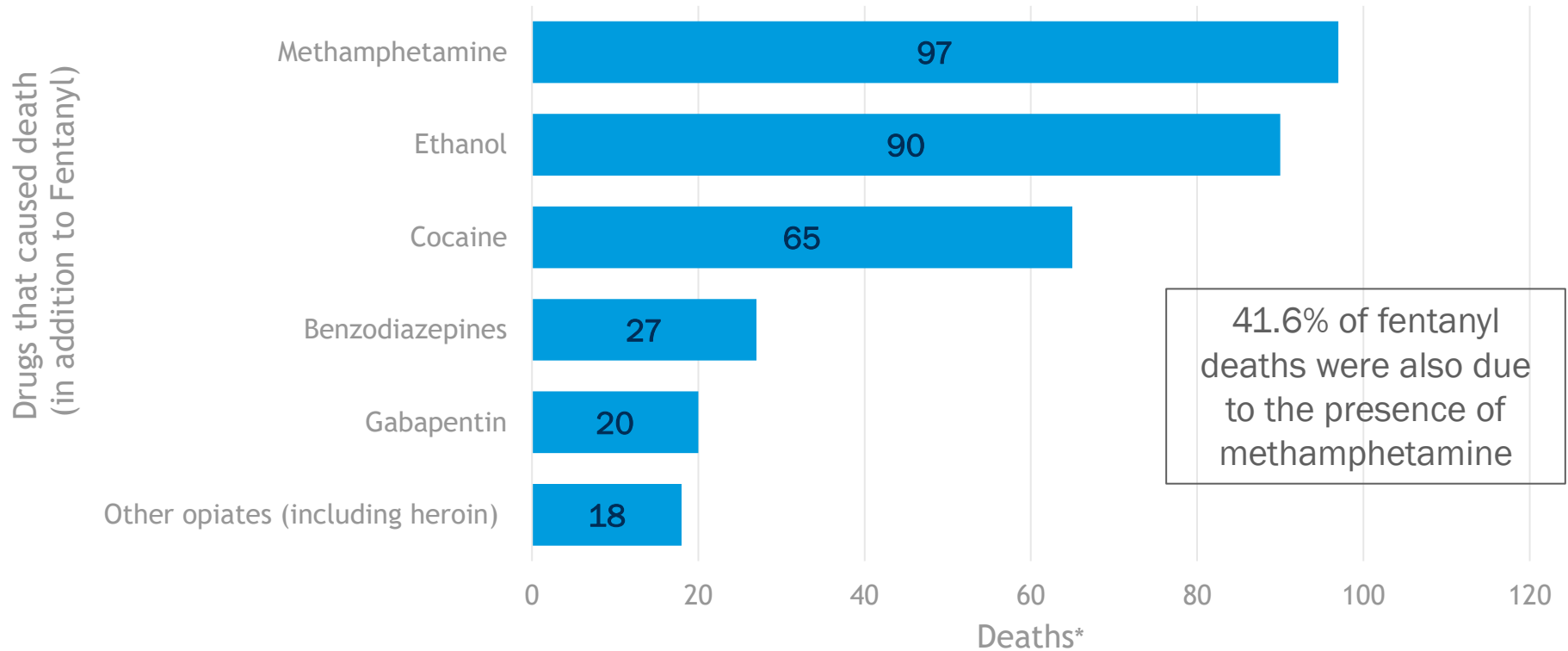
Year	Drug deaths	Deaths due to Fentanyl	Deaths due to Methamphetamine	Deaths due to Cocaine	Deaths due to Heroin
2017	200	20	68	51	54
2018	207	17	68	53	51
2019	225	58	83	52	41
2020	370	161	132	101	44
2021	473	239	213	126	30
2022	447	233	195	126	10

\* Multiple drugs can contribute to the cause of death and groups are not mutually exclusive

## Percent of fentanyl deaths by number of substances contributing to death, 2022



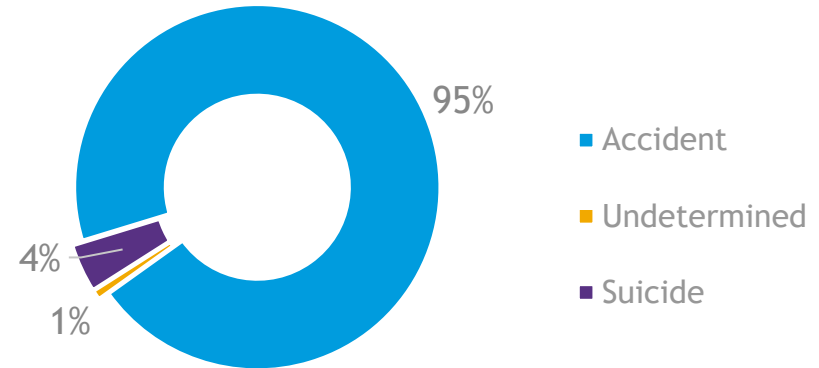
## Fentanyl Deaths with Other Substances, 2022



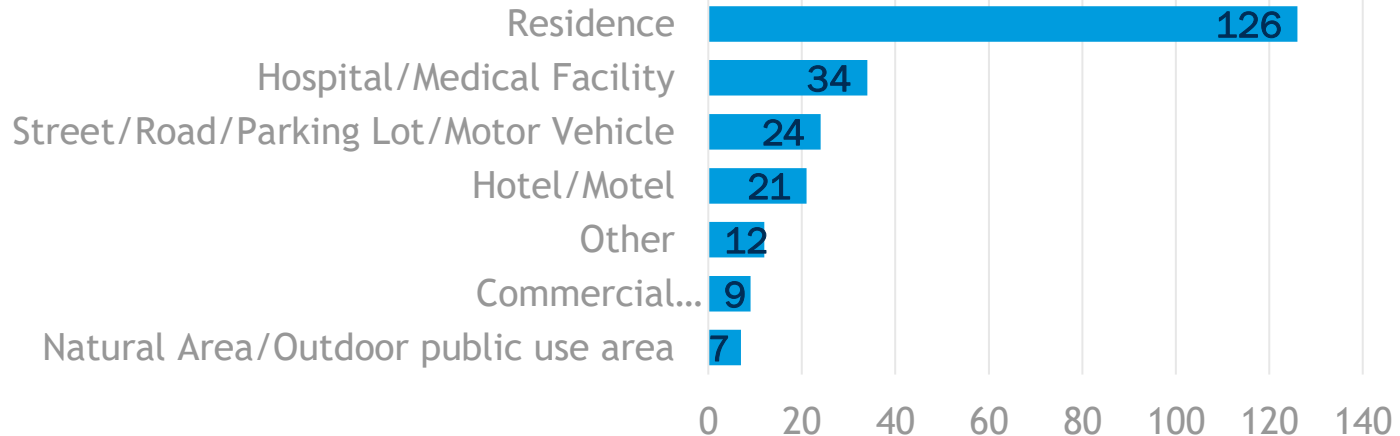
\*Note that these categories are not mutually exclusive, each bar represents deaths where fentanyl and the noted drug category contributed to death

## 2022 Fentanyl Deaths by Manner of Death and Location:

Drug Overdose Deaths Due to Fentanyl by  
Manner of Death, OME cases 2022

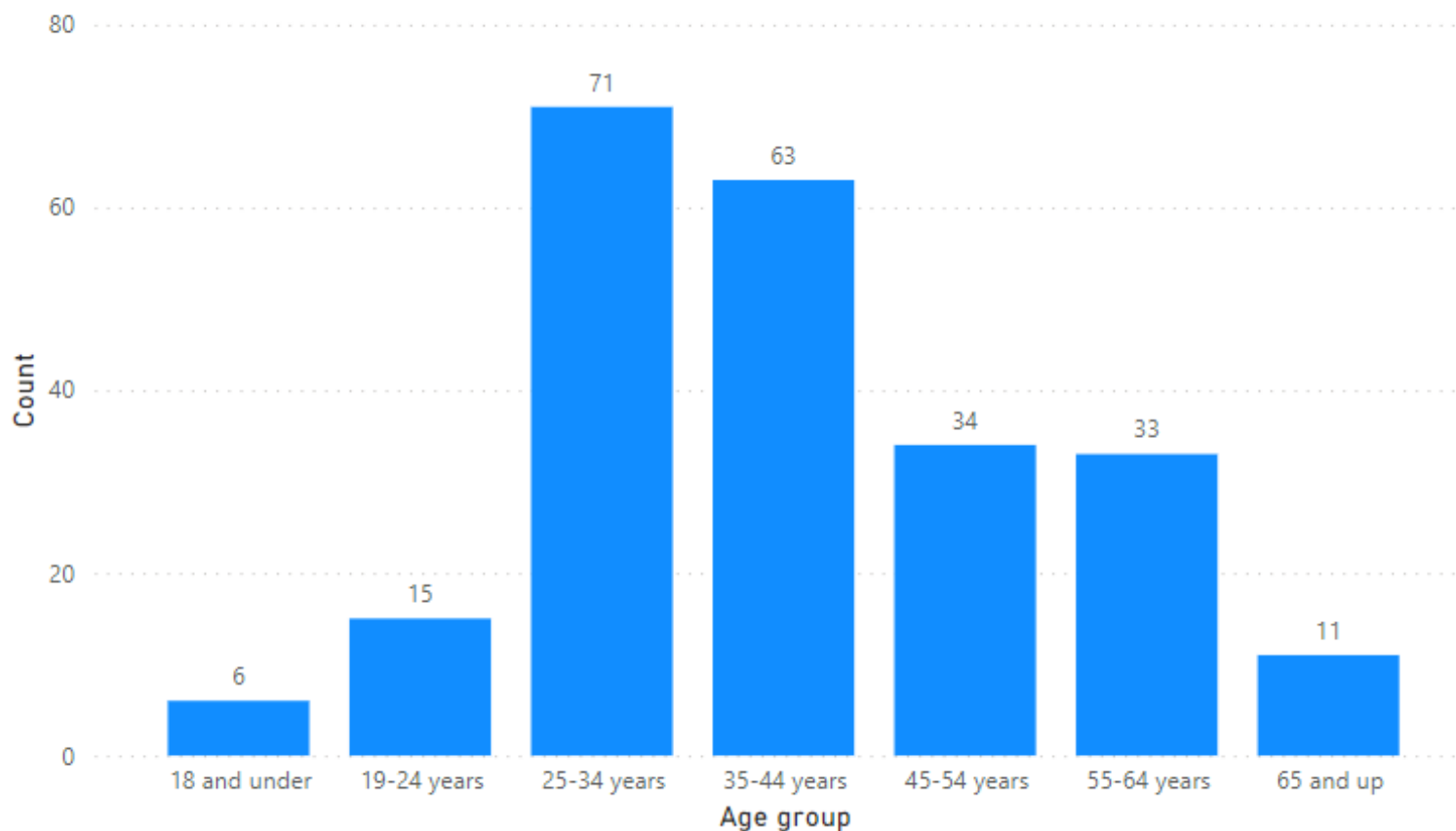


Drug Overdose Deaths Due to Fentanyl by Location of Death, OME cases 2022



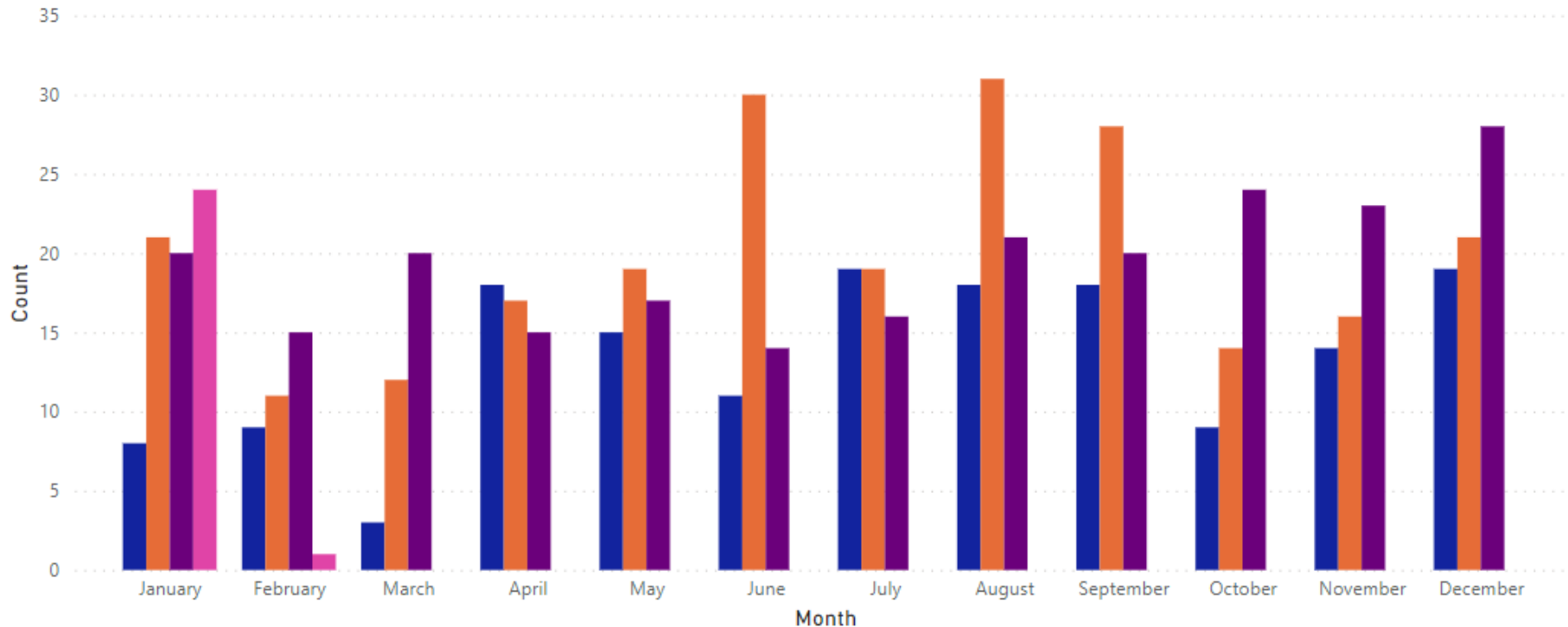
# Demographics of Overdose Deaths Due to Fentanyl

Drug Overdose Deaths Due to Fentanyl by Age Group, OME cases 2022



# Denver Drug Deaths Due to Fentanyl by Month and Year of Death

Year ● 2020 ● 2021 ● 2022 ● 2023

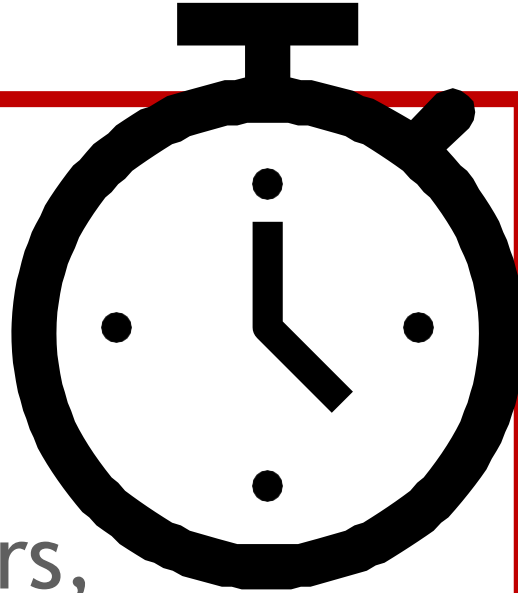


In 2022,

Every

38 hours,

someone died of a Fentanyl  
overdose in Denver





# Fentanyl Facts

Knowing the facts about fentanyl is an important step to stop misinformation

# **YOU CANNOT OVERDOSE ON FENTANYL BY TOUCHING IT**



**FACT**

Learn more at [denvergov.org/overdoseprevention](https://denvergov.org/overdoseprevention)

# **NALOXONE DOES WORK ON FENTANYL**



**FACT**

Learn more at [denvergov.org/overdoseprevention](https://denvergov.org/overdoseprevention)

# **FENTANYL HAS APPROVED MEDICAL USES TO TREAT PAIN**



**FACT**

Learn more at [denvergov.org/overdoseprevention](https://denvergov.org/overdoseprevention)

**BASIC PPE IS  
ENOUGH TO KEEP  
RESPONDERS SAFE**



**FACT**

Learn more at [denvergov.org/overdoseprevention](https://denvergov.org/overdoseprevention)

# **“FEELING SICK” IS NOT A SYMPTOM OF OPIOID OVERDOSE**



**FACT**

Learn more at [denvergov.org/overdoseprevention](https://denvergov.org/overdoseprevention)

# **FENTANYL HAS NOT BEEN FOUND IN CANNABIS**



**FACT**

Learn more at [denvergov.org/overdoseprevention](https://denvergov.org/overdoseprevention)

# Myths About Fentanyl Can:

- Perpetuate misinformation
- Cause people to delay or refuse to render aid
- Further stigmatize people who use or inject drugs
- Stigmatize those who prescribe/use fentanyl legally

It is important to share the facts and evidence,  
and act upon them!



# Resources Available



- Free naloxone + fentanyl test strips available to Denver residents
- Denver's Wellness Winnie provides substance use treatment referrals
- Opioid Settlement funds are available

Colorado Crisis Services 1-844-493-TALK or text TALK to 38255

# Thank you!