

Pennsylvania Drug Overdose Trends

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Office of Drug Surveillance and Misuse Prevention

Pennsylvania Department of Health

Outline

- Office overview
- Non-fatal overdose trends
- Fatal overdose trends
- New and novel psychoactive substances
- Response to new and novel substances

Office of Drug Surveillance and Misuse Prevention



Created by Zulfa Mahendra
from Noun Project

Prescription Drug Monitoring Program

- Operate the PDMP System
- Dispensations of all schedule II-V controlled substances



Created by Ifanicon
from Noun Project

Overdose surveillance and analysis

- Fatal and non-fatal overdose
- Linking with other data sources
- Data sharing



Created by WiStudio
from Noun Project

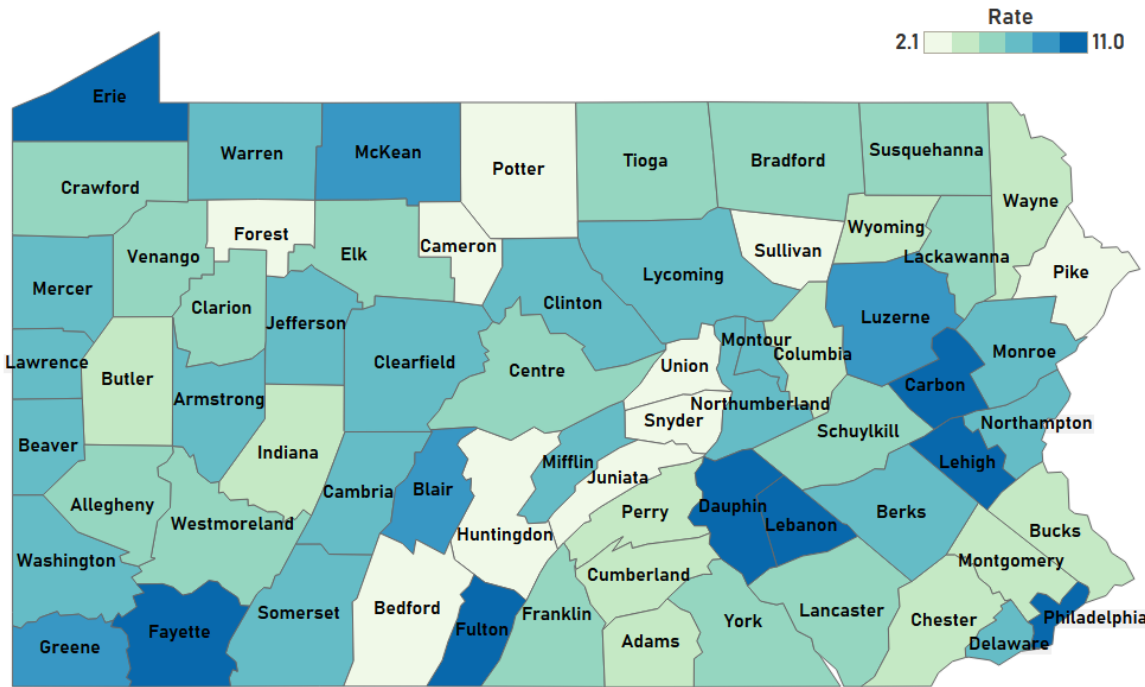
Overdose prevention and response

- Patient Advocacy Program
- Prescriber Education Program
- First Responder Addiction and Connection to Treatment Program
- Substance Use Navigation
- Public Service Announcements
 - Naloxone awareness and combatting stigma
 - Facts on fentanyl

Non-fatal overdose trends

Syndromic surveillance is used to monitor **statewide** and **county-specific** trends in emergency department visits for suspected drug overdoses.

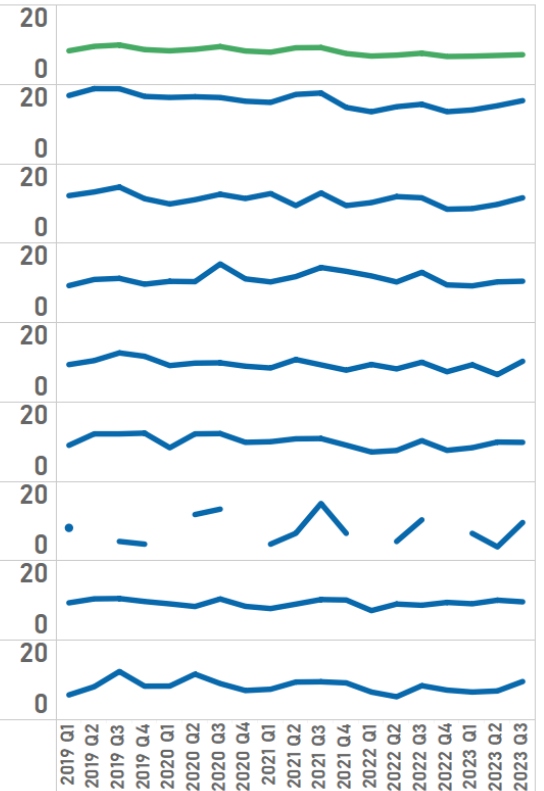
Quarter 3, 2023 | Emergency Department Visits for Any Drug
(Rate per 10,000 Population)



Counties with the Highest Rate of ED Visits for Any Drug in Q3, 2023

Pennsylvania	7.50
Philadelphia	15.96
Carbon	11.46
Lehigh	10.36
Fayette	10.26
Dauphin	9.90
Fulton	9.63
Erie	9.60
Lebanon	9.58

Quarterly Rate per 10,000 Population, Q1 2019 to Q3 2023



© OpenStreetMap



We alert local stakeholders if a higher-than-expected number of suspected drug overdoses were to occur, including drug-specific alerts.

Suspected drug overdose Anomaly in Lebanon County, PA (#227088)

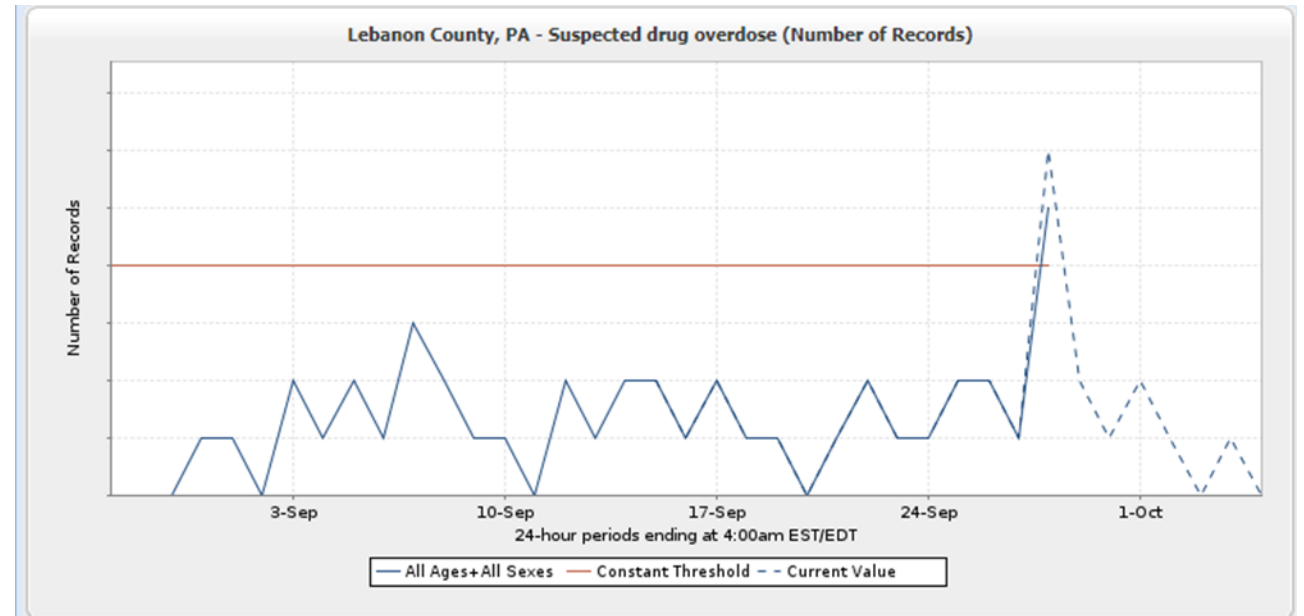
Monitoring of acute care interactions in Lebanon County, PA identified 5 interactions. Suspected drug overdose includes the following classification: suspected drug overdose (pennsylvania overdose-related classifier). All interactions occurred between September 27, 2023 4:00 AM EDT and September 28, 2023 4:00 AM EDT.

Using Constant Threshold analysis, these 5 interactions exceed the threshold of 4.00.

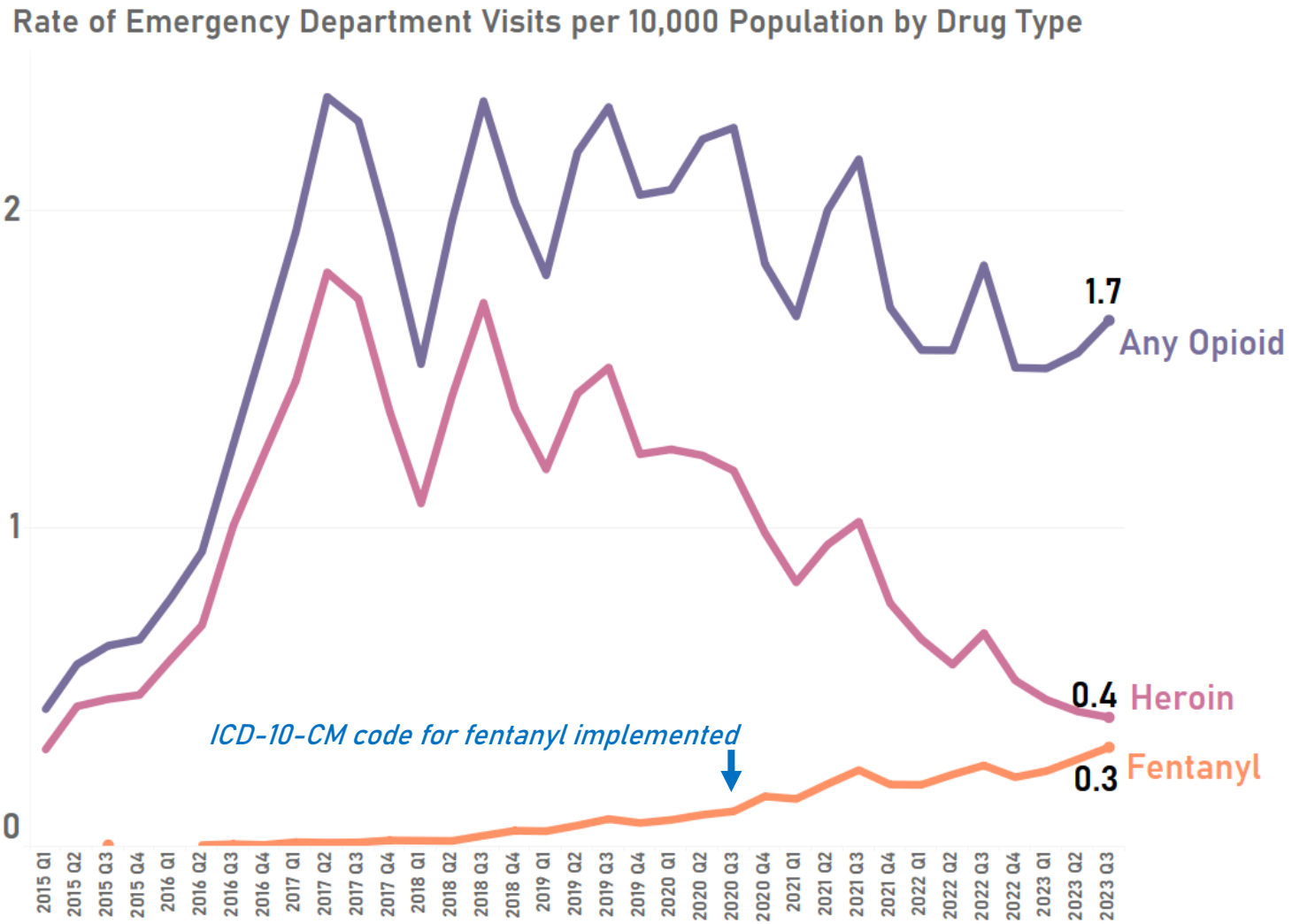
The time of the anomaly was 4:00 AM EDT.

Summary

Time of Anomaly	September 28, 2023 4:00:00 AM EDT
Time Detected	September 28, 2023 5:02:43 AM EDT
Indication	Acute Care Interactions
Classification(s)	suspected drug overdose (pennsylvania overdose-related classifier)
Location	Lebanon County, PA
Analysis Method	Constant Threshold
Data Conditioning Method	No Data Conditioning
Results of Analysis	5 (Number of Cases)
Records Totaled By	Facility Location

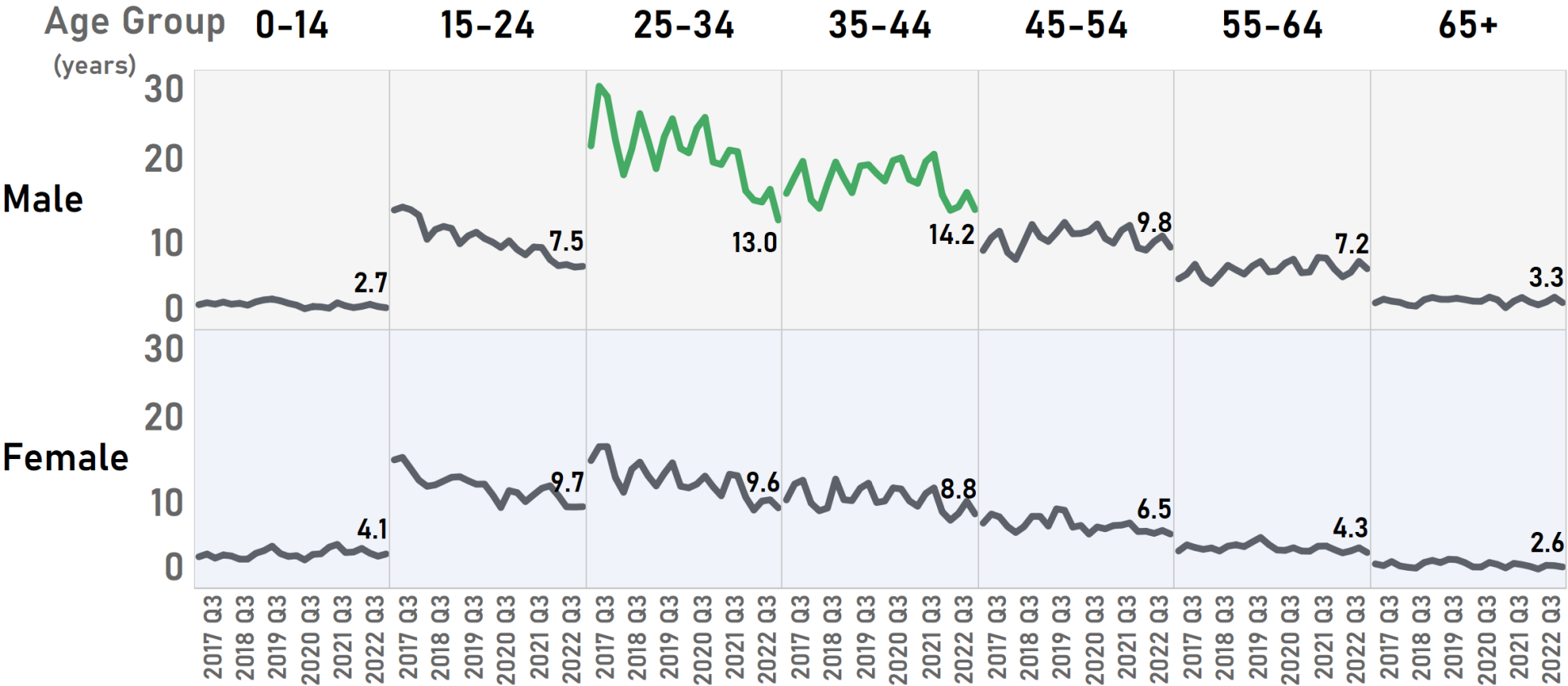


Emergency department visits for non-fatal overdoses involving **fentanyl** have been increasing, while **heroin** related ED visits have been decreasing.



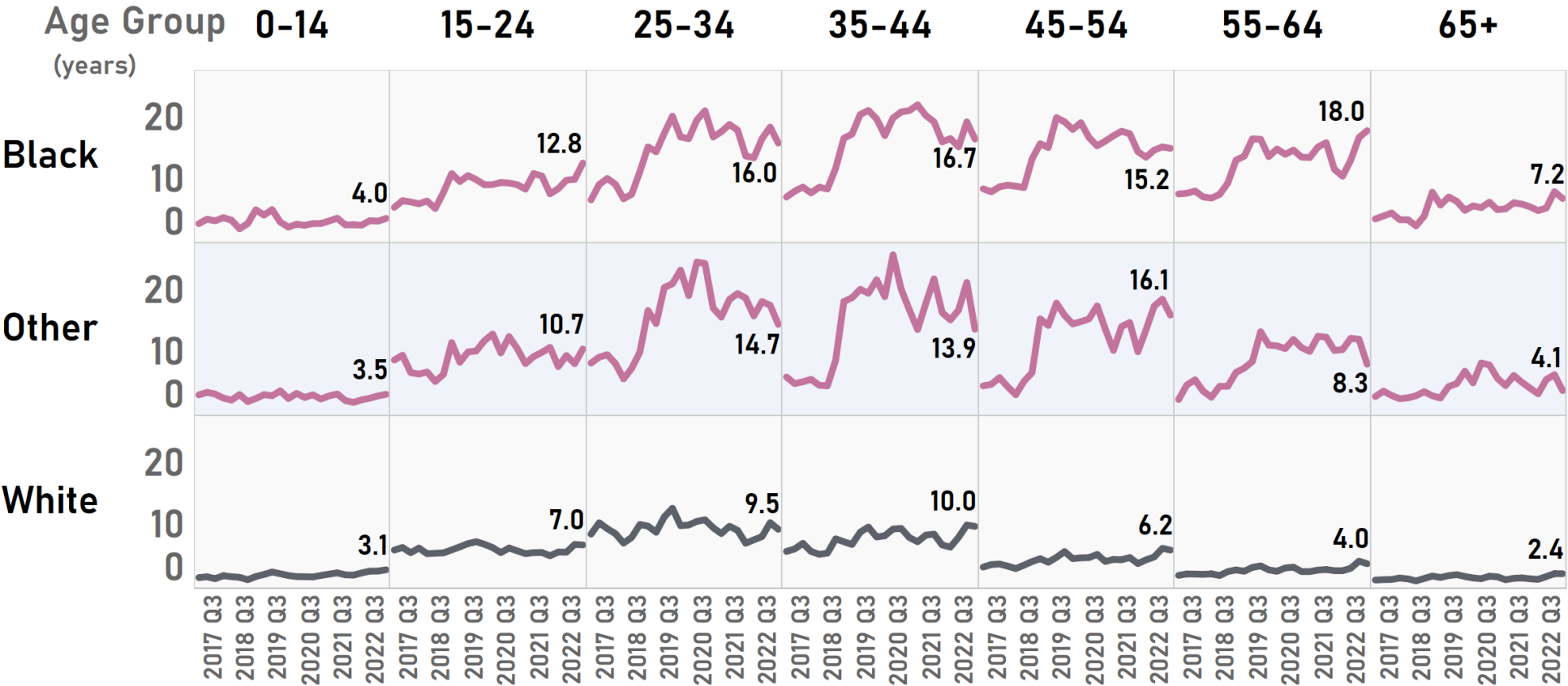
Emergency department visits for non-fatal overdoses differ by sex and age, males ages 25 to 34 and 35 to 44 have the highest rates.

Rate of Emergency Department Visits per 10,000 Population



Persons of color, across all age groups, have higher rates of emergency department visits for non-fatal overdoses than white persons.

Rate of Emergency Department Visits per 10,000 Population

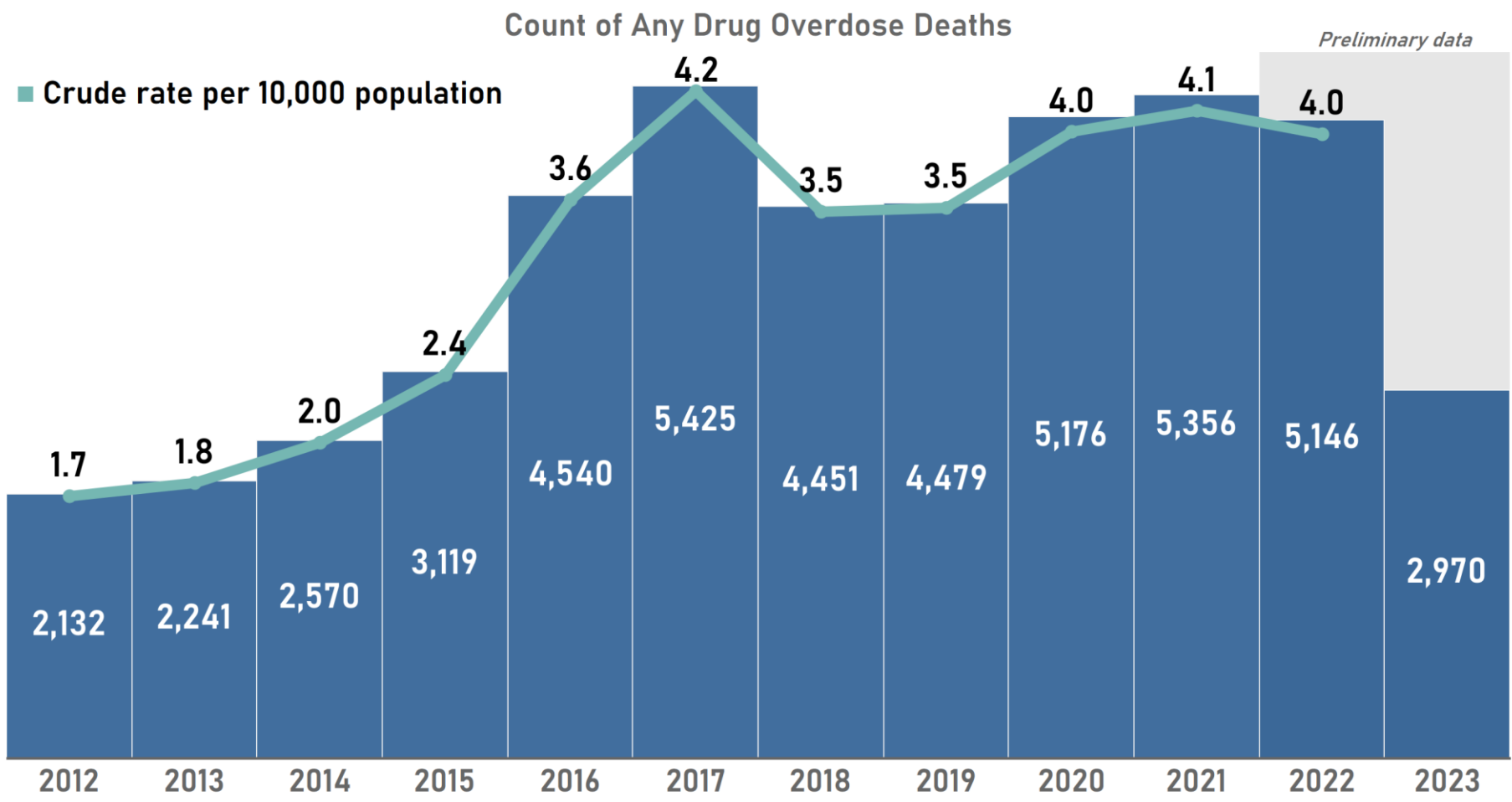


Other races include persons who identify as Asian, Native Hawaiian/Pacific Islander, American Indian/Alaska Native, and Other Race



Fatal overdose trends

Drug overdose deaths have been increasing in Pennsylvania, and since 2012, the overdose death rate has more than doubled.



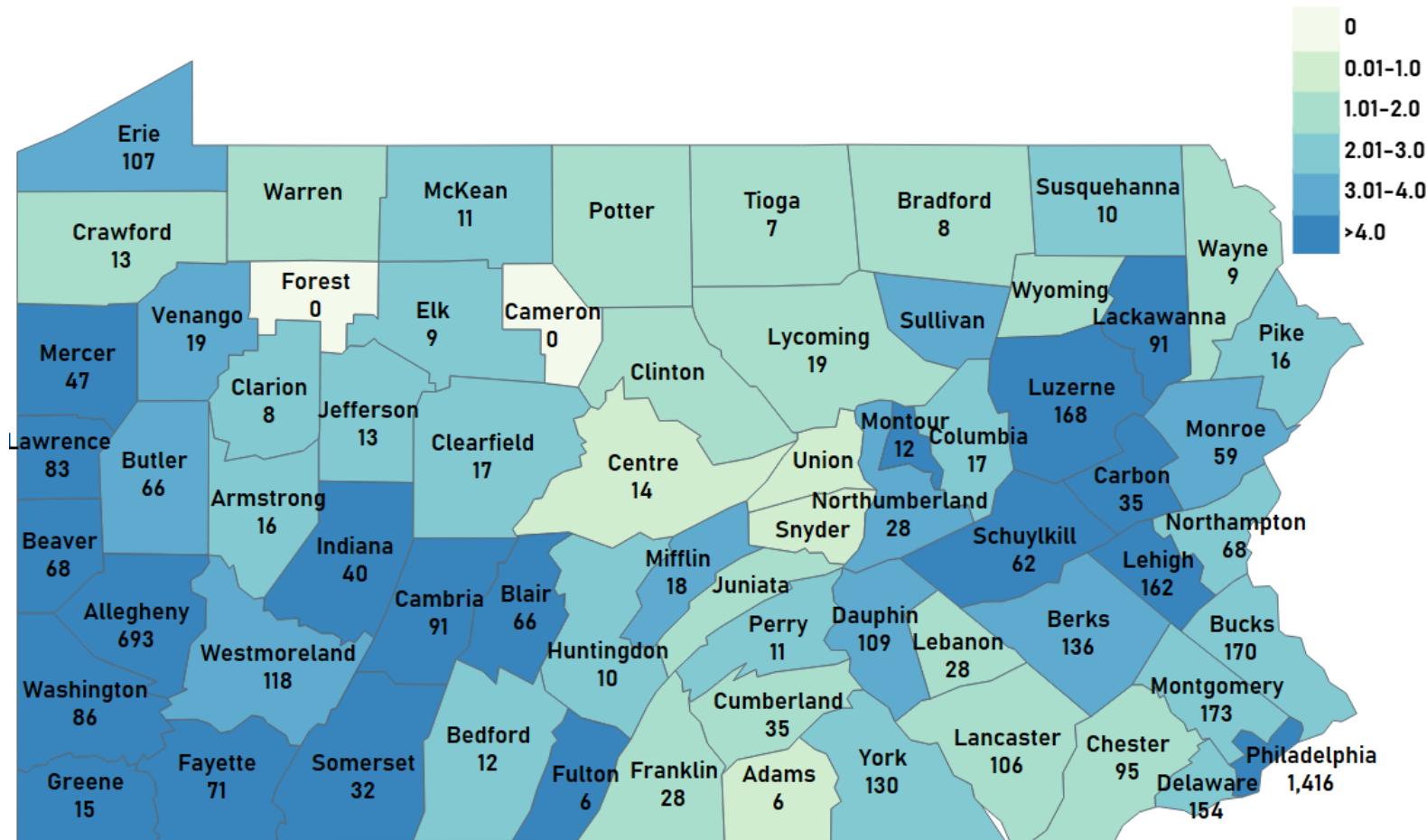
- Overdoses include illicit, prescription, or over-the-counter drugs and exclude alcohol-only related overdoses
- Counts do not include suicides or homicides where someone intended to harm another person by poisoning
- 2022 and 2023 death data is preliminary, based on death record data as of October 2023. Death records for overdose deaths are often delayed by 3-6 months and 2022/2023 counts may change.



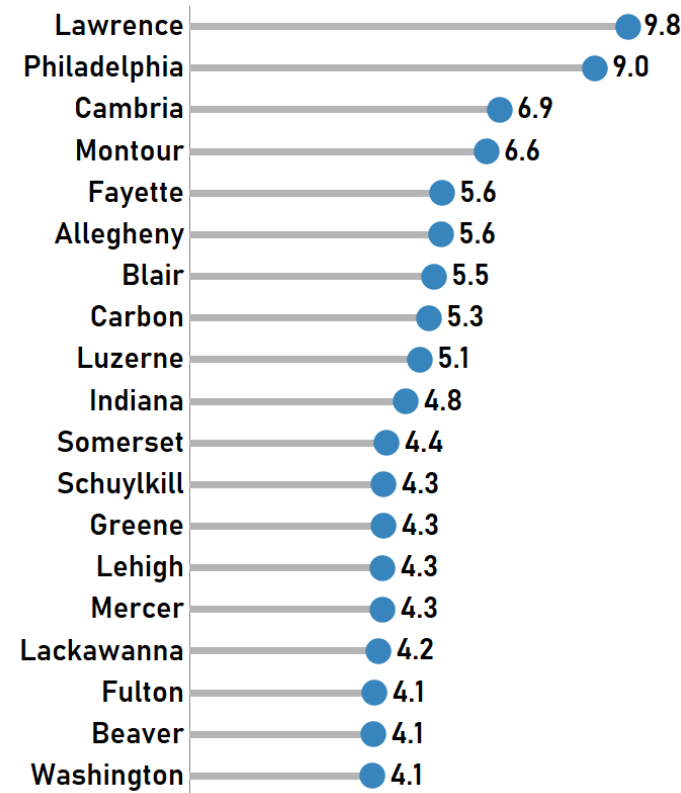
The overdose death rate varies by county in Pennsylvania, in 2022, there were 19 counties with rates higher than the state average.

County-level counts of Any Drug overdose deaths

Crude overdose death rate per 10,000 population



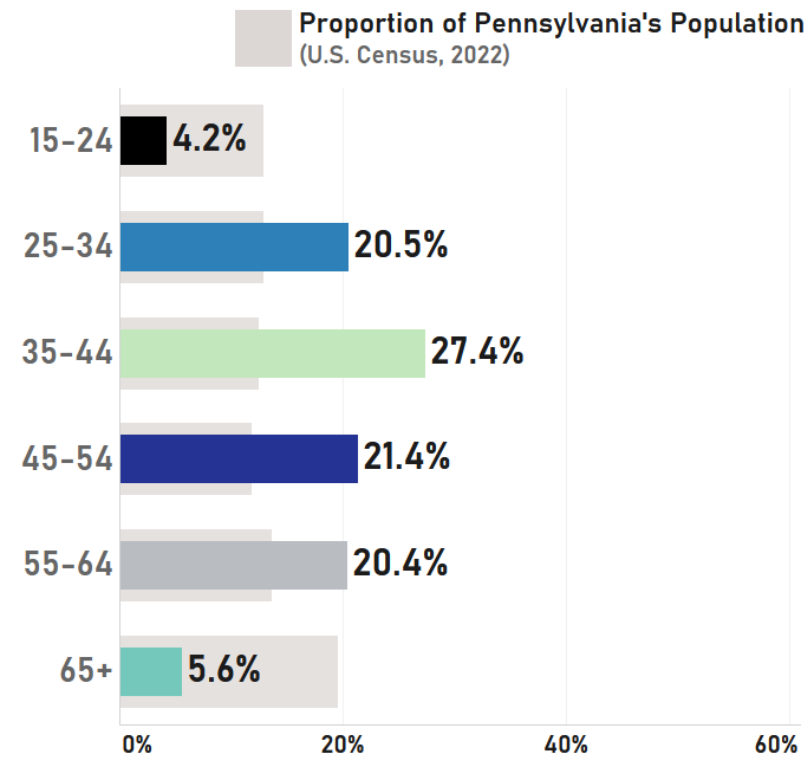
Crude overdose death rate per 10,000 population



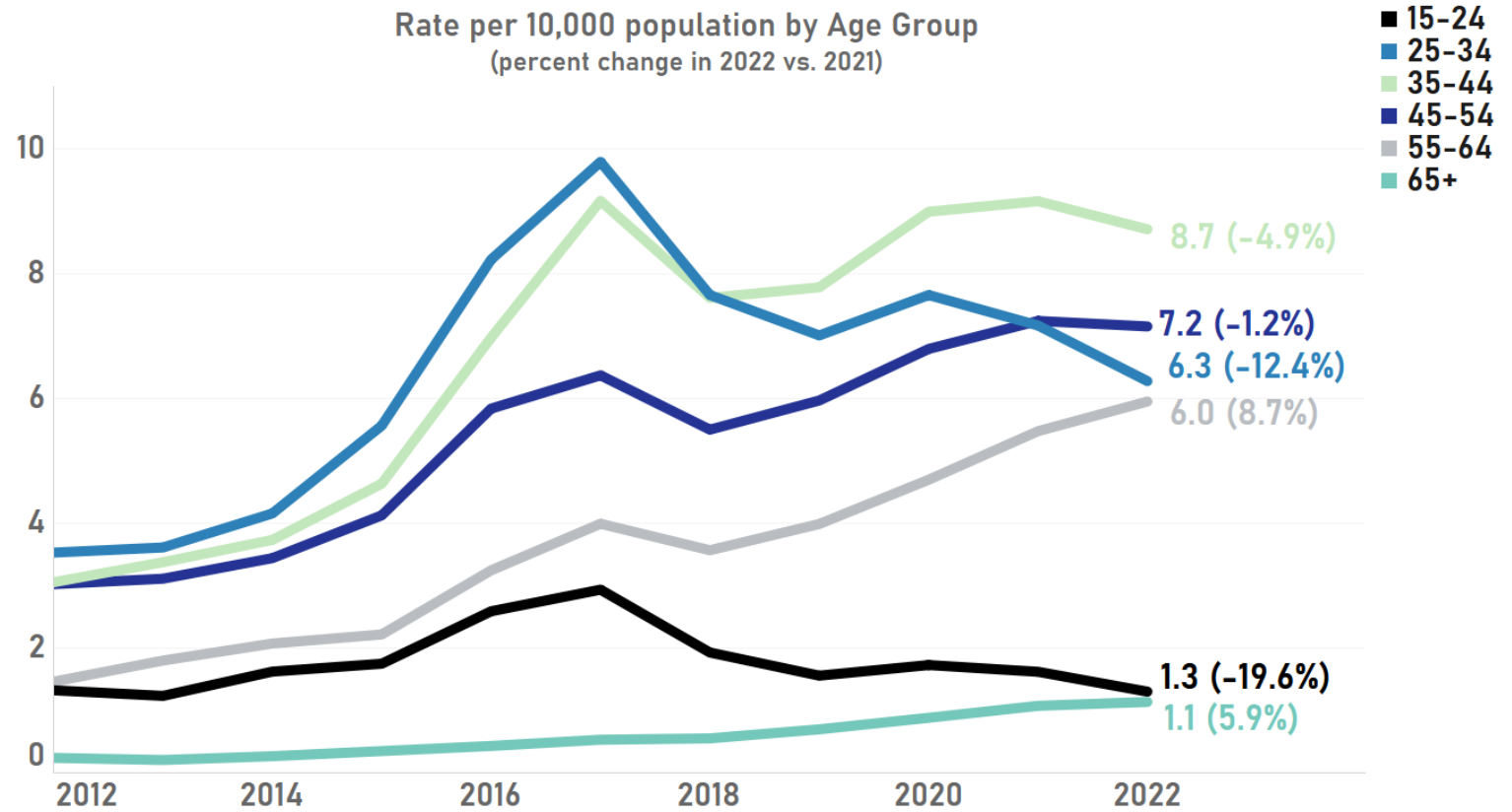
Fatal overdose trends – demographic trends

Adults aged 35 to 44 experienced the most fatal overdoses in 2022, while the rate was higher in 2022 vs. 2021 for adults aged 55 to 64 and over 65.

Proportion of Overdose Deaths by Age Group, 2022

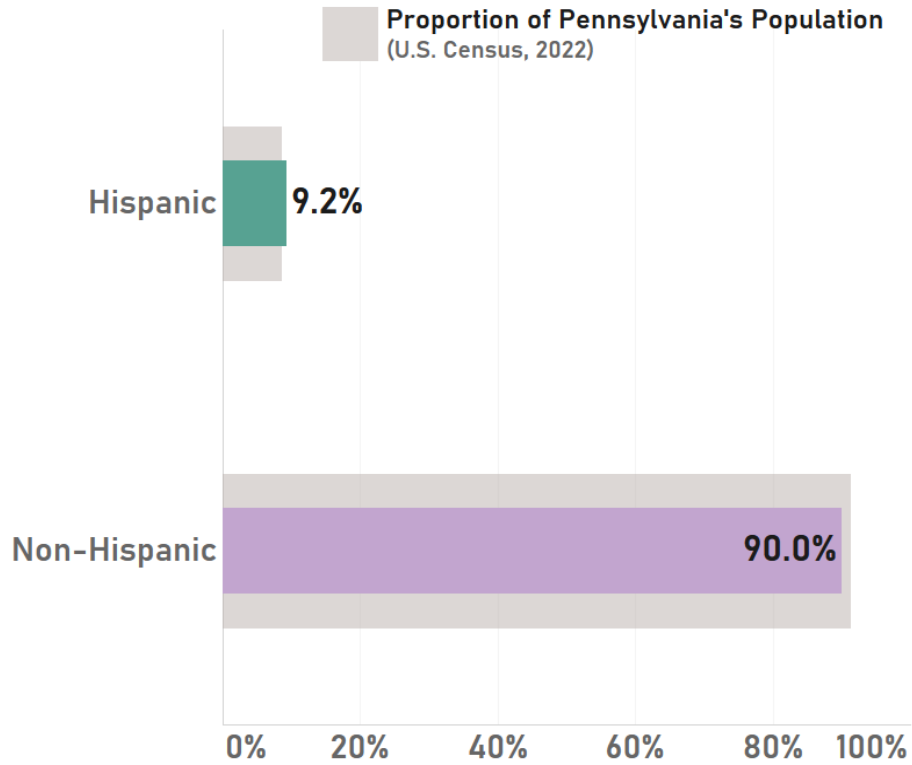


Rate per 10,000 population by Age Group
(percent change in 2022 vs. 2021)

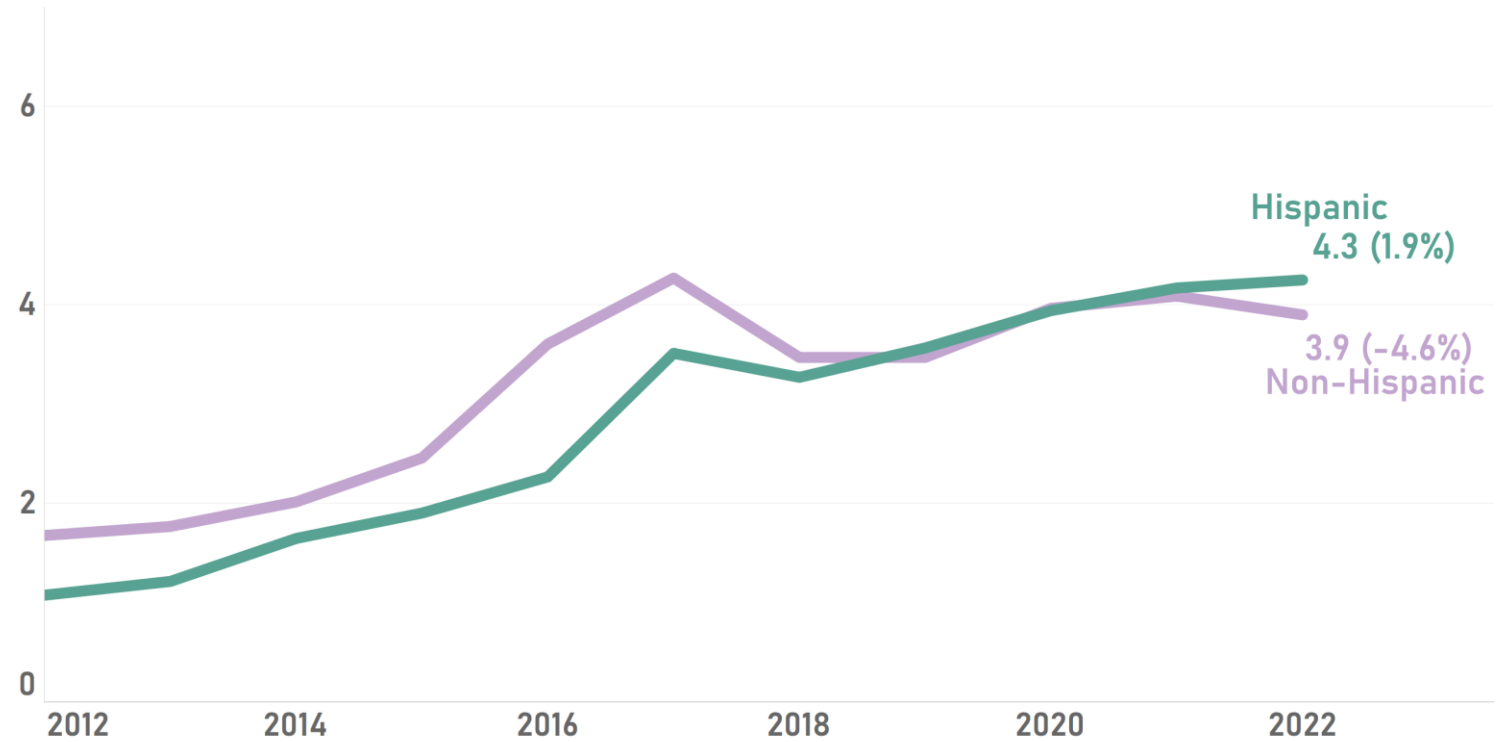


While 90% of overdoses occur among non-Hispanic persons, the overdose death rate among Hispanic persons now exceeds non-Hispanic persons.

Proportion of Overdose Deaths by Ethnicity, 2022

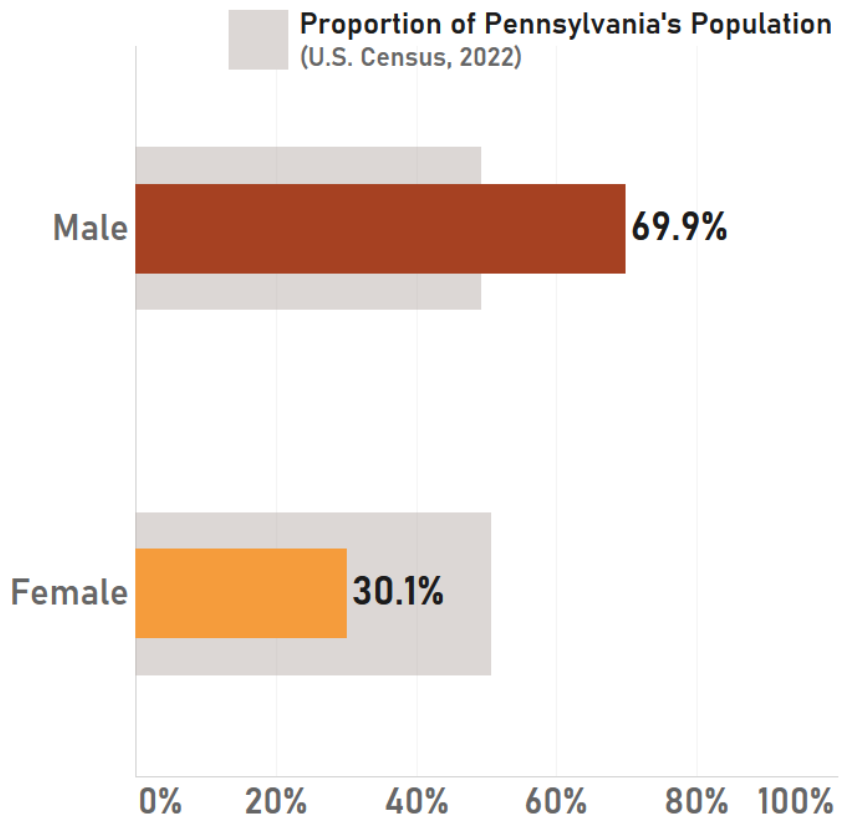


Rate per 10,000 population by Ethnicity
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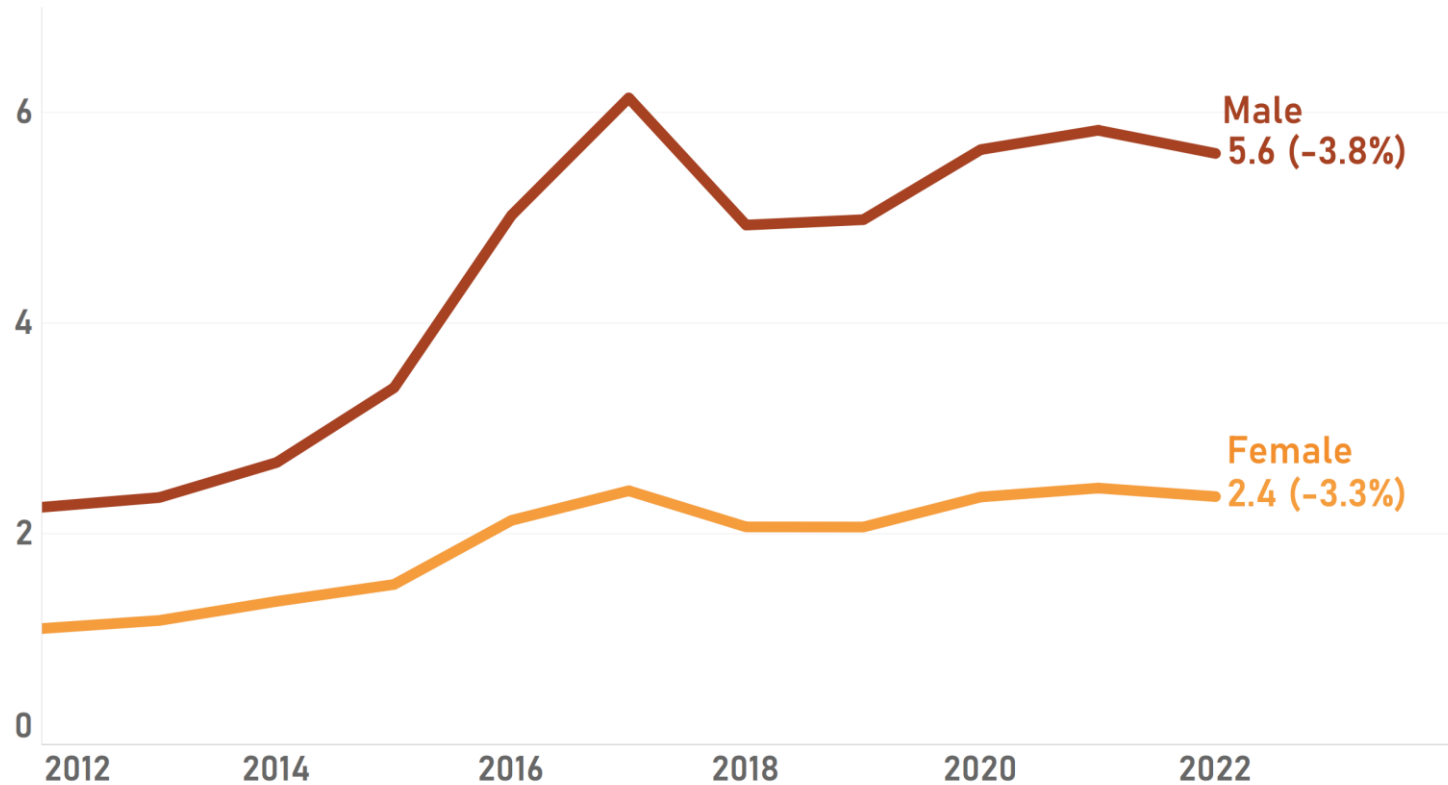


Nearly 70% of all fatal overdoses occur among **males**, the overdose death rate among **males** is more than twice as high as the rate among **females**.

Proportion of Overdose Deaths by Sex, 2022

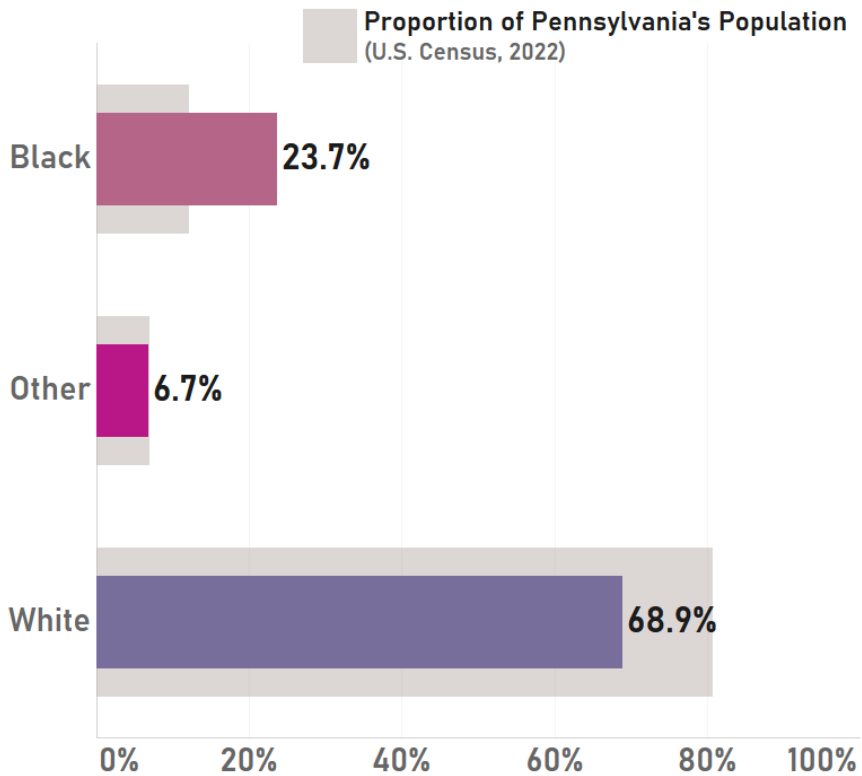


Rate per 10,000 population by Sex
(percent change in 2022 vs. 2021)

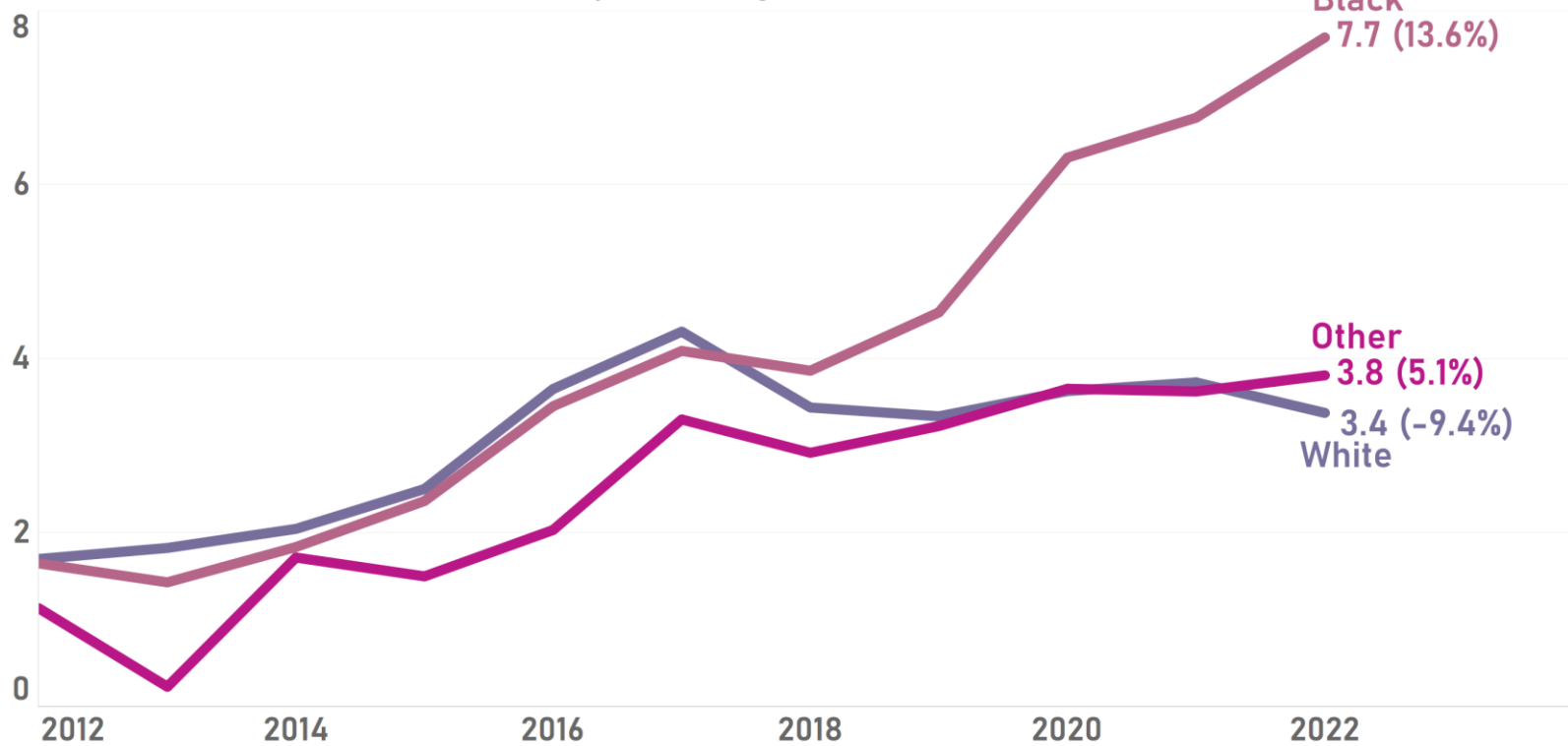


In 2022, drug overdoses disproportionately affected **Black** persons. Since 2018, the gap between **white** and **Black** persons has been widening.

Proportion of Overdose Deaths by Race, 2022



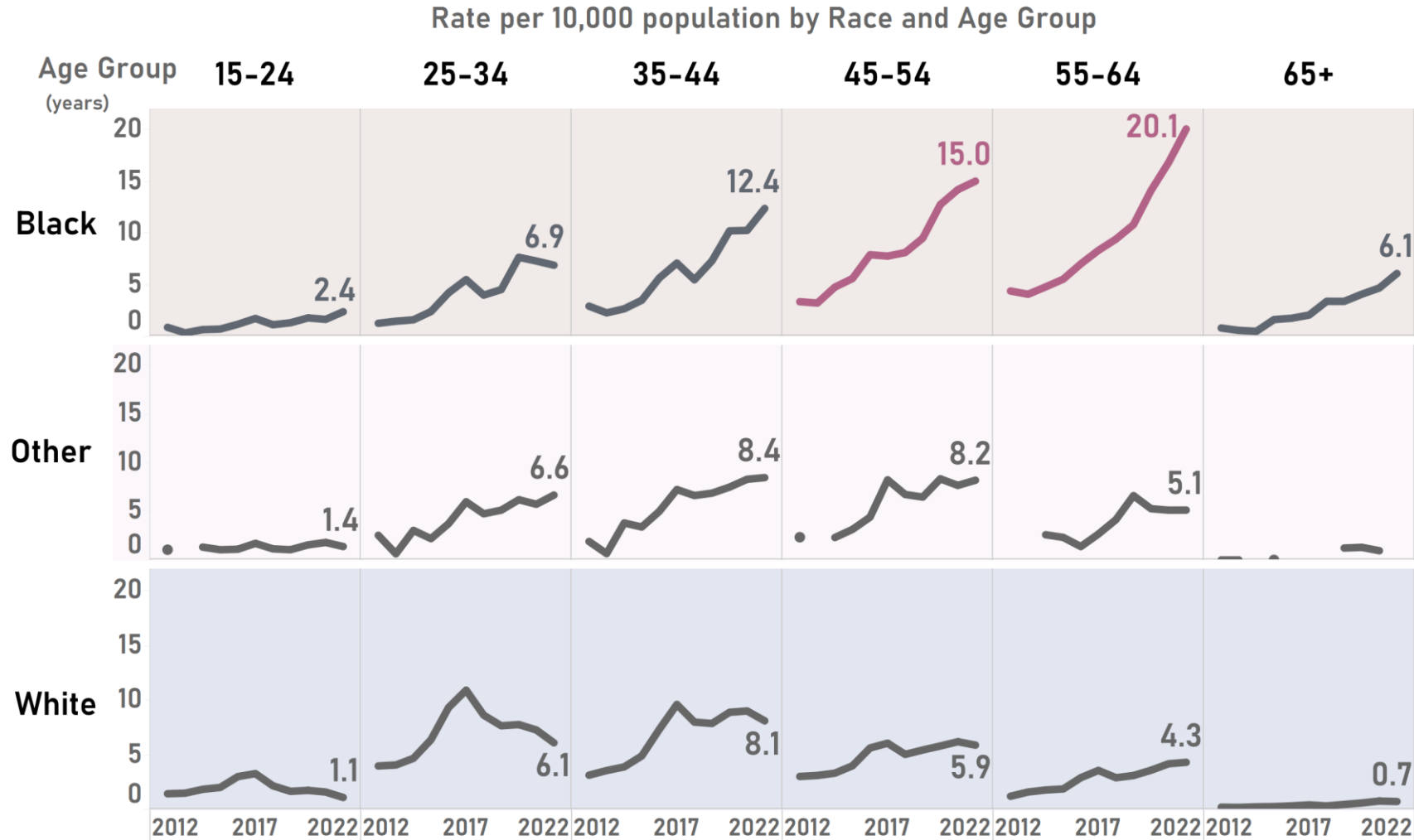
Rate per 10,000 population by Race
(percent change in 2022 vs. 2021)



Other races include persons who identify as Asian, Native Hawaiian/Pacific Islander, American Indian/Alaska Native, and Other Race

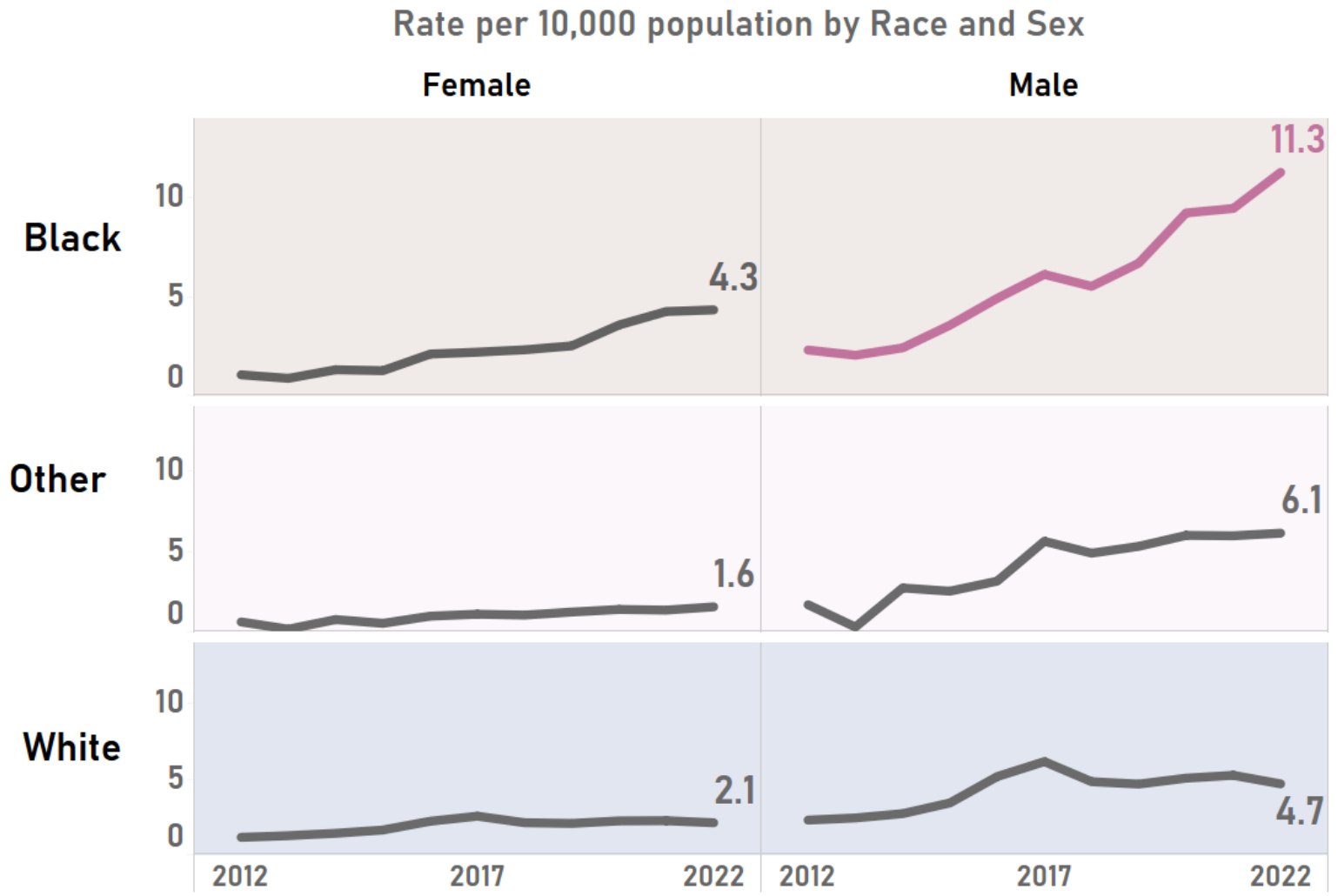


The rates of overdose death differ by race and age, with Black adults ages 45 to 54 and 55 to 64 experiencing the highest rates of overdose in 2022.



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The rates of overdose death differ by race and sex, **Black males** experience substantially higher overdose death rates compared to all other groups.

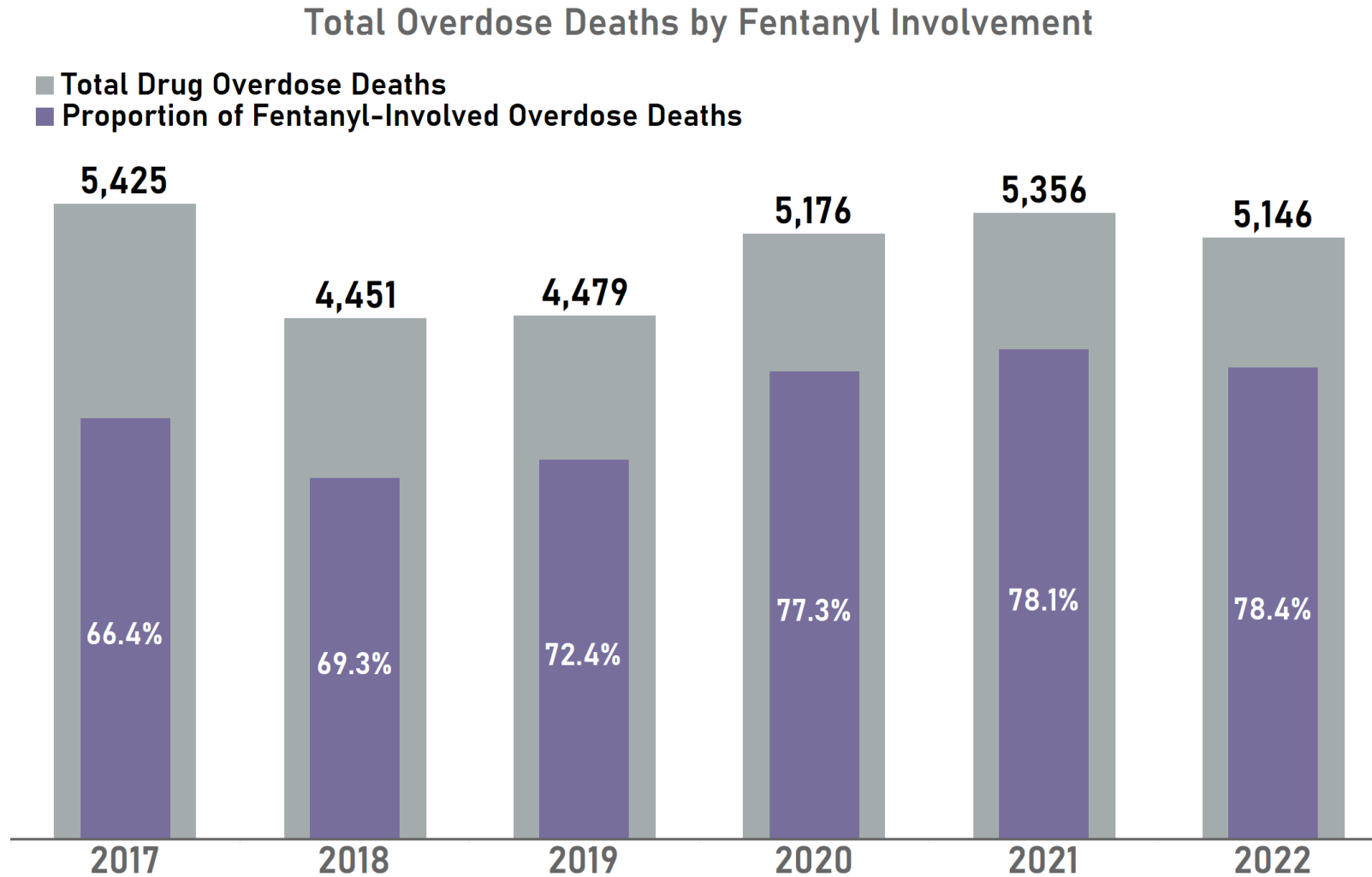


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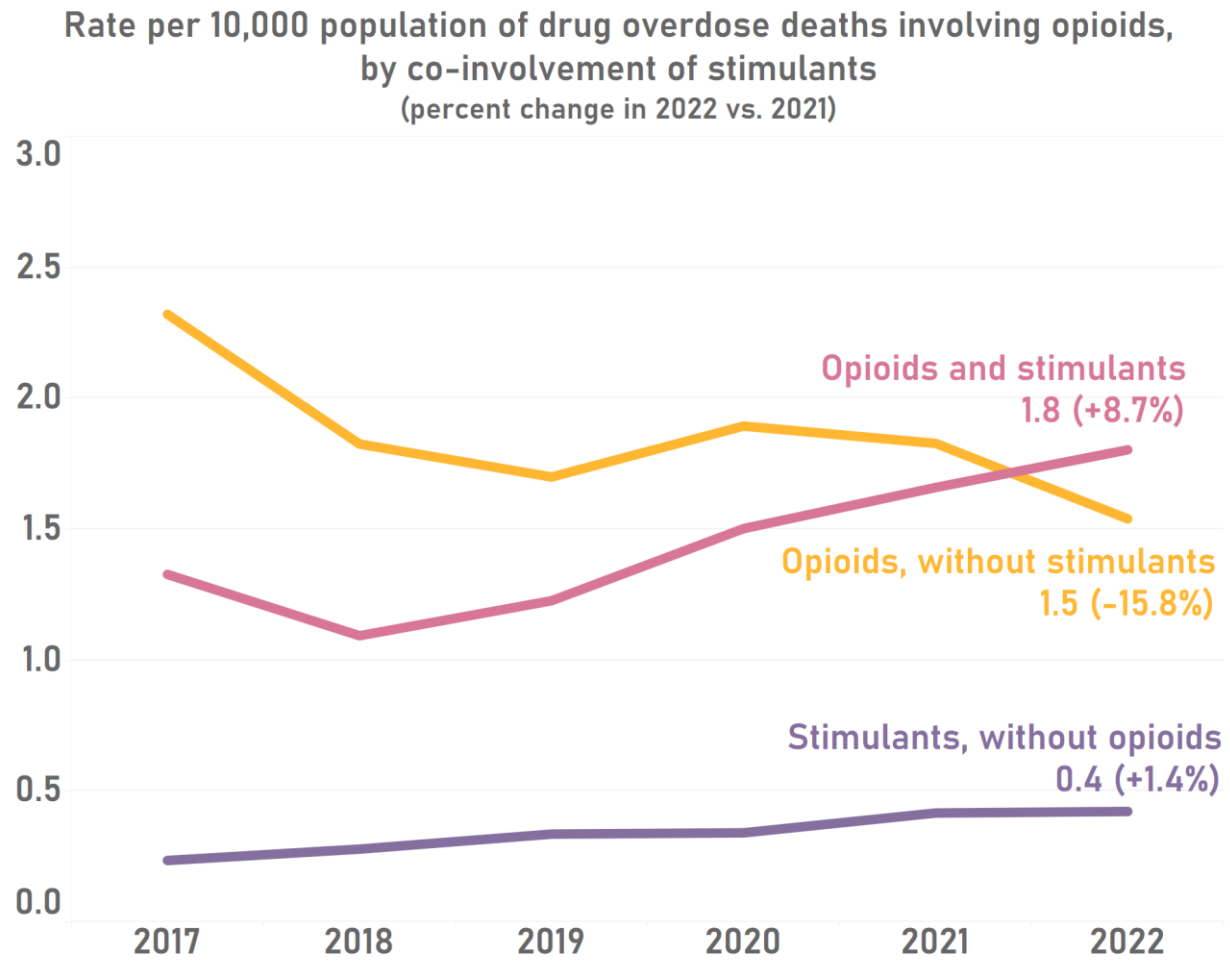


Fatal overdose trends – drug specificity

The current overdose epidemic is largely being driven by synthetic fentanyl, more than 78% of overdose deaths involved **fentanyl** in 2022.



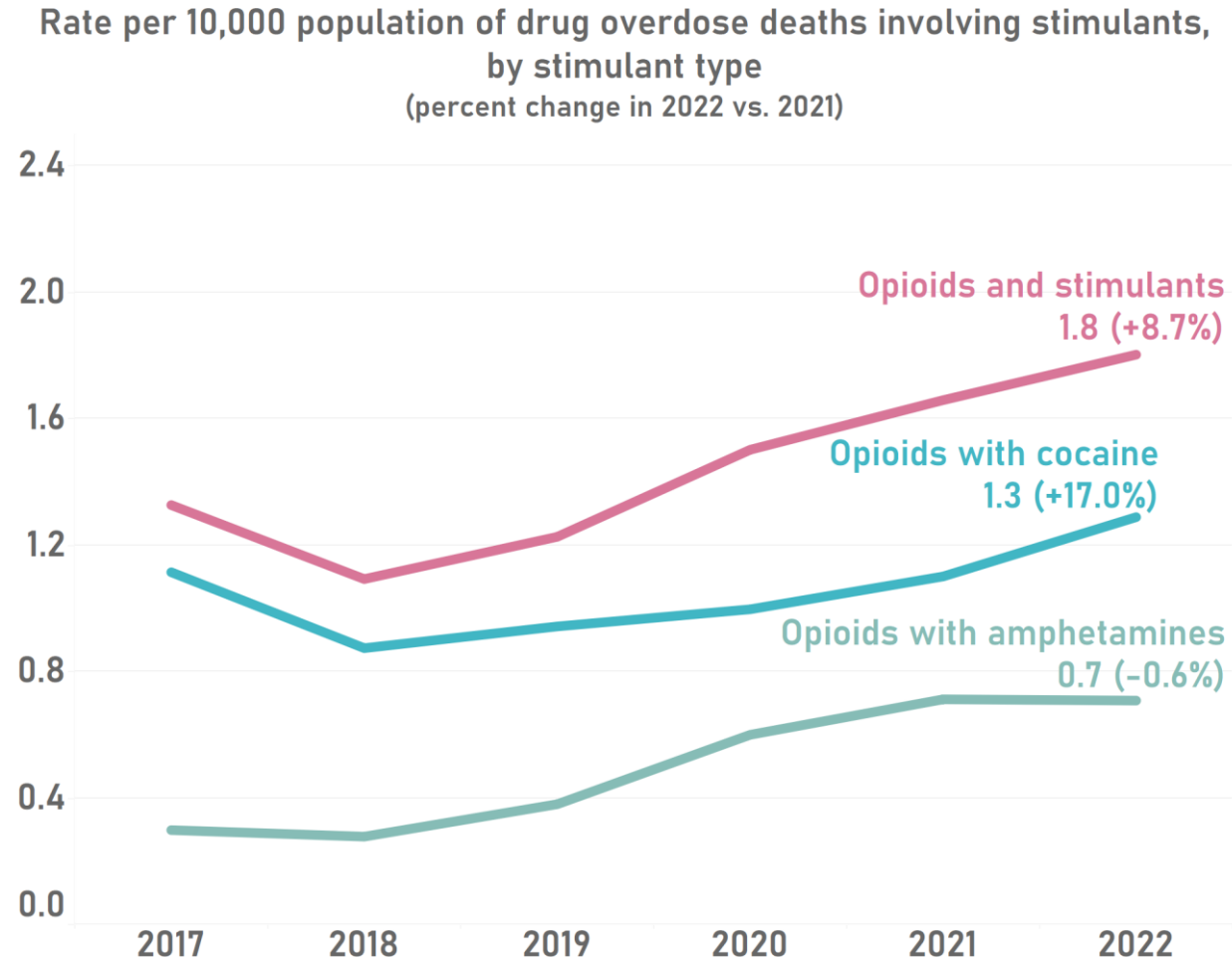
In 2022, the rate of drug overdose deaths involving **opioids and stimulants surpassed the rate of **opioids without stimulant** co-involvement.**



- Opioid deaths have ≥ one opioid as cause of death (fentanyl, heroin, prescription opioids, or any other opioid)
- Stimulant deaths have ≥ one stimulant as cause of death (cocaine, amphetamines, central nervous stimulants, or any other stimulant)
- Overdose deaths can involve more than one substance, ≤5% of overdose deaths are missing toxicology data

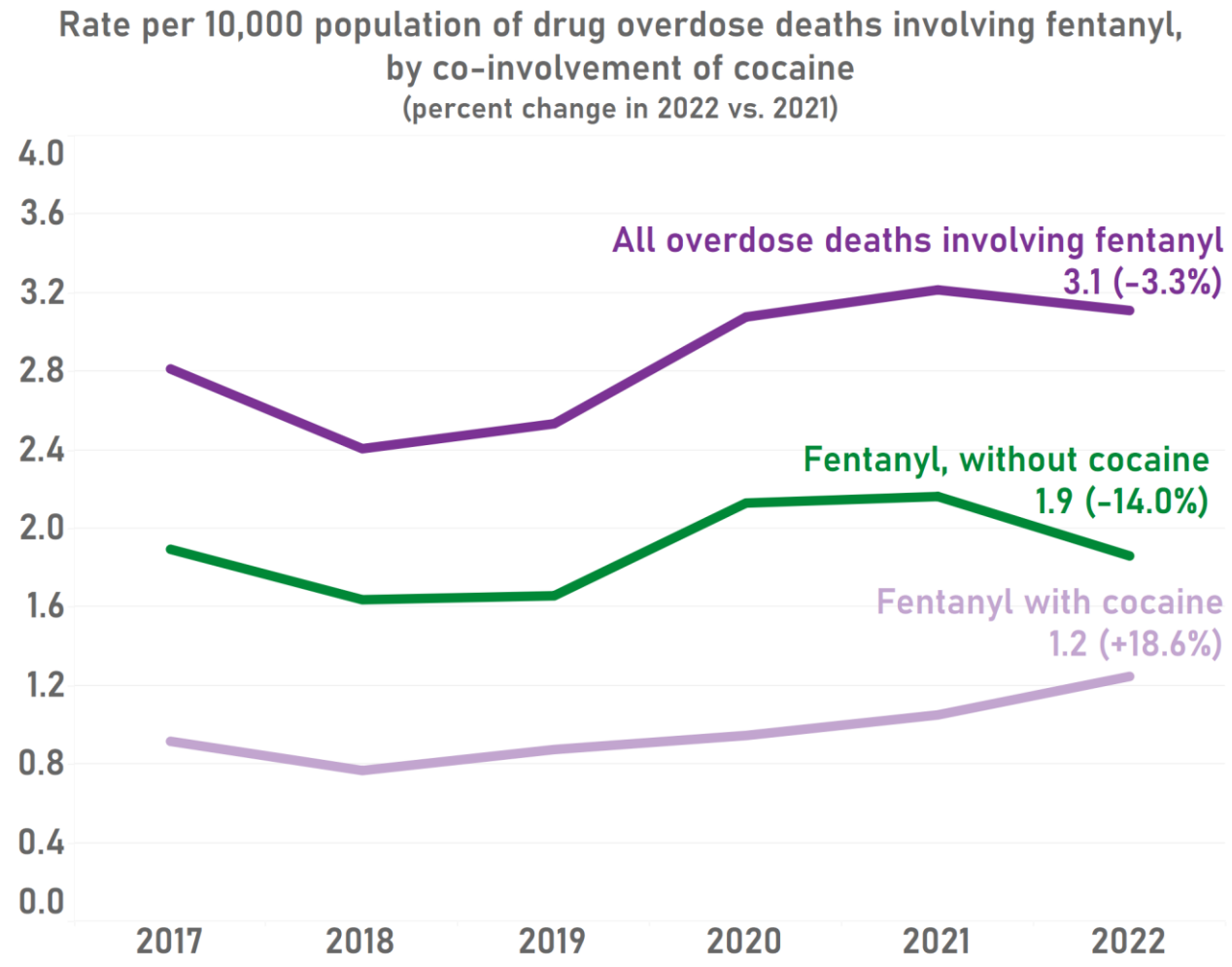


The increase in the rate of drug overdose deaths involving both **opioids and stimulants** in 2022 is being driven by deaths involving **opioids and cocaine**.



- Opioid deaths have \geq one opioid as cause of death (fentanyl, heroin, prescription opioids, or any other opioid)
- Stimulant deaths have \geq one stimulant as cause of death (cocaine, amphetamines, central nervous stimulants, or any other stimulant), amphetamines include both methamphetamines and amphetamines
- Overdose deaths can involve more than one substance, \leq 5% of overdose deaths are missing toxicology data

The rate of drug overdose deaths involving both fentanyl and cocaine increased in 2022 from 2021, **fentanyl without cocaine** decreased.

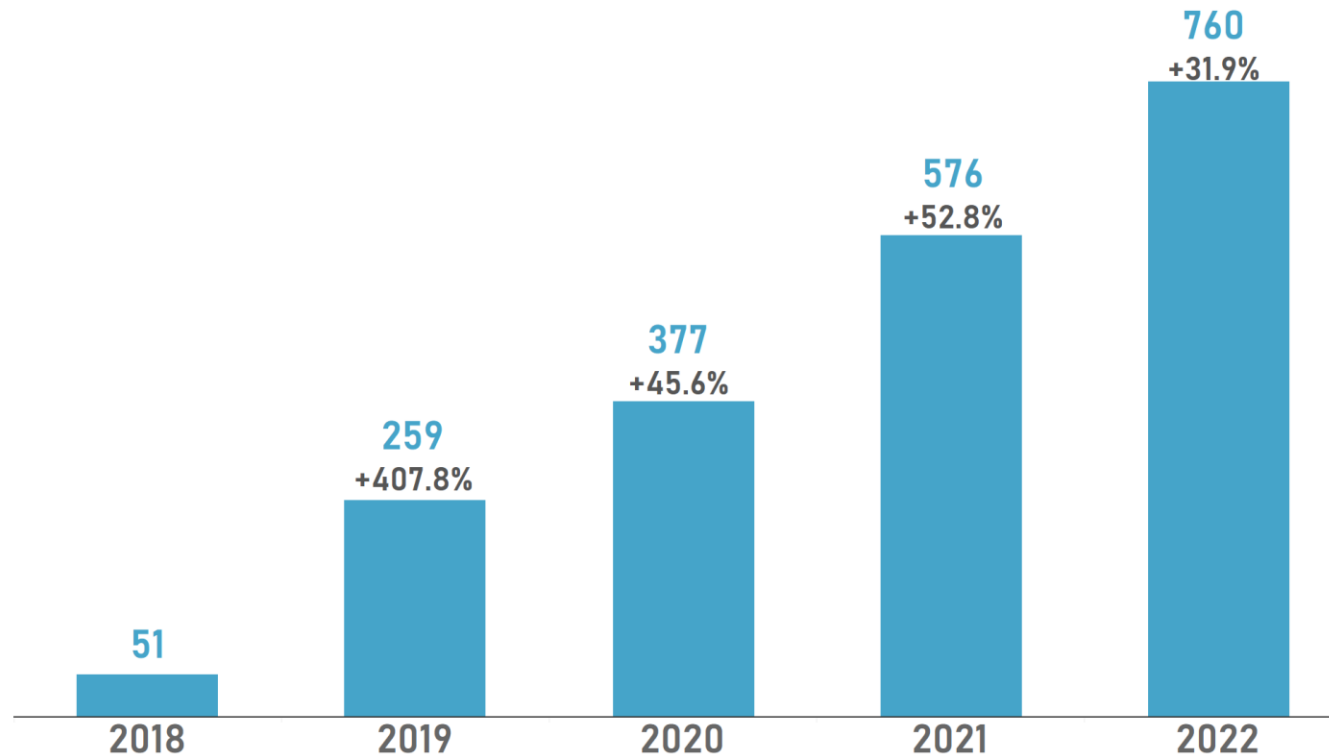


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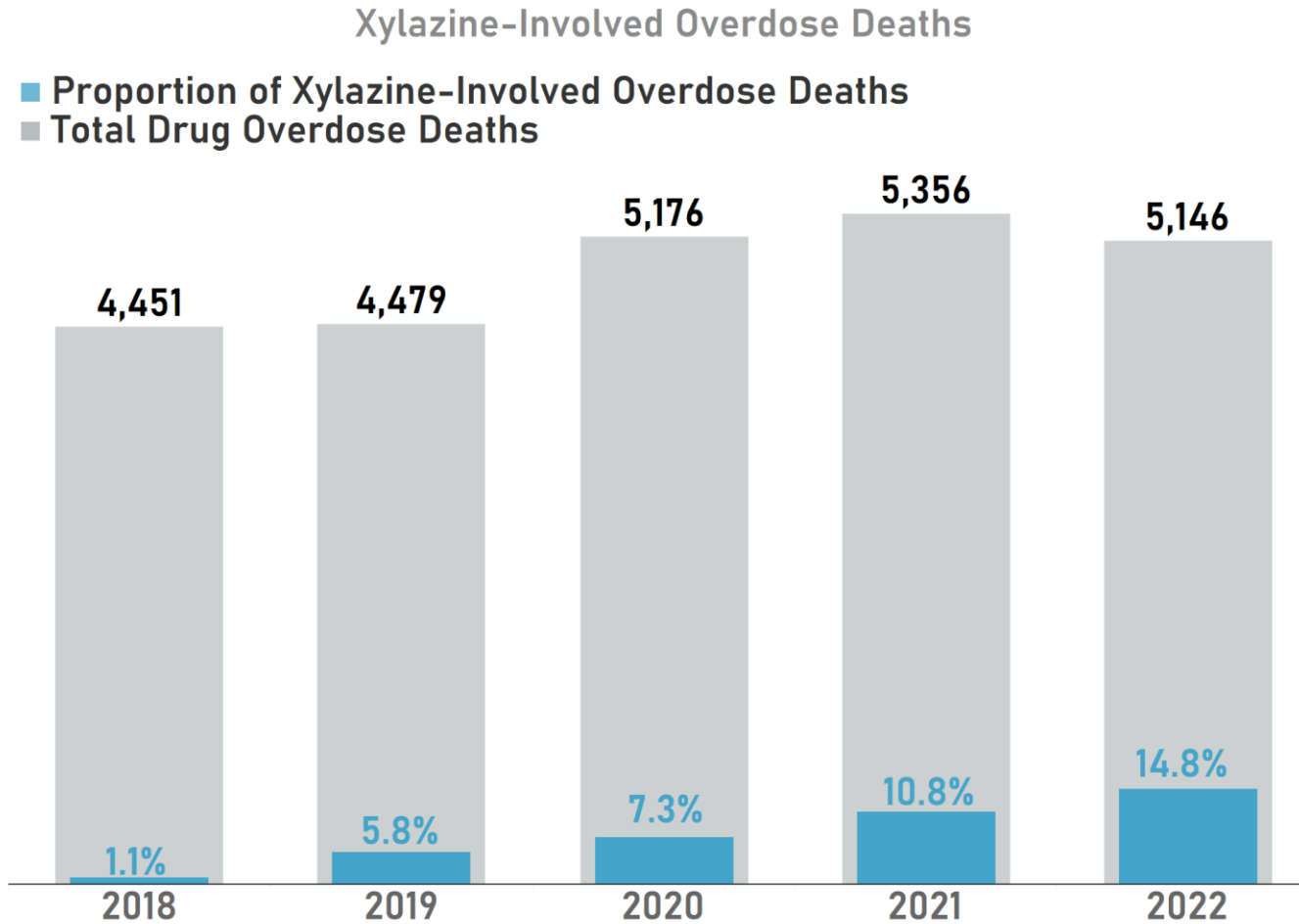
Xylazine was first listed as a cause of death in 2018 in Pennsylvania, and in 2022, **xylazine** contributed to death in 31.9% more deaths than in 2021.

Xylazine-Involved Overdose Deaths
with Percent Change from Prior Year



Not all standard toxicology testing includes xylazine, counts are likely underestimated.

While the prevalence of **xylazine** is increasing, in 2022, it was listed as a cause of death in less than 15% of the total overdose deaths.



Not all standard toxicology testing includes xylazine, counts are likely underestimated.



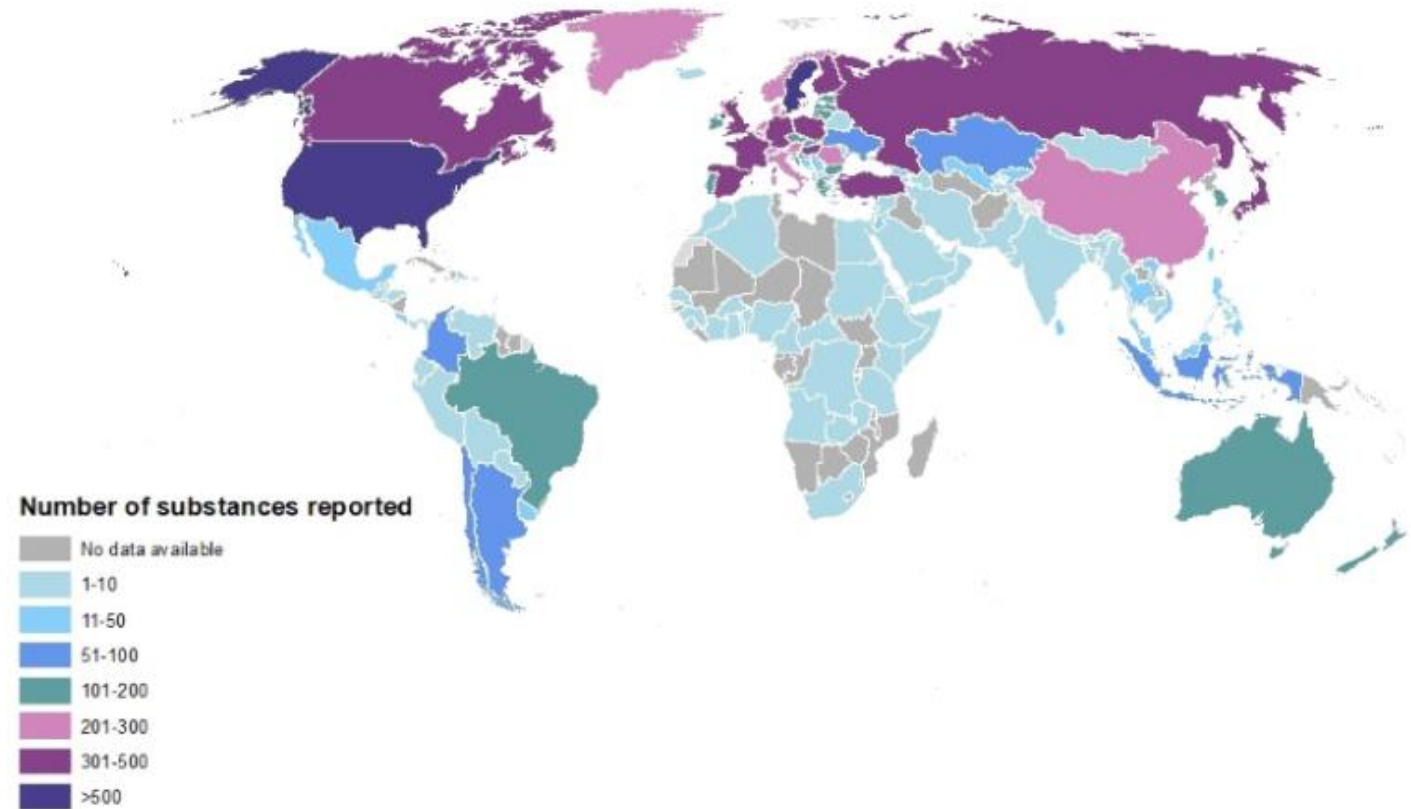
New and novel substances

New and novel psychoactive substances (NPS) are monitored by the United Nations Office on Drugs and Crime.

UNODC defines NPS as:


- Substances of abuse, either in a pure form or a preparation, that are not controlled by one of the United Nations drug conventions, but which may pose a public health threat
- New does not refer to new inventions, but substances that have recently become available

United Nations Office on Drugs and Crime, Global emergence of new psychoactive substances up to December 2022:



Nitazenes are possible new and novel substances of potential concern in Pennsylvania.

- Fewer than 5 unintentional overdose deaths involving nitazene analogs identified since it was first identified in the US in 2019
 - Detected in the NW and NE health districts



Department of
Public Health
CITY OF PHILADELPHIA

Philadelphia Department of Public Health
Division of Substance Use Prevention and Harm Reduction

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*Medical Director, Division of Substance Use
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Health Alert

Nitazene analogs, a novel class of synthetic opioids more potent than fentanyl, detected in Philadelphia
December 21, 2022

SUMMARY POINTS

- Nitazene analogs are synthetic opioids that are up to 40 times more potent than fentanyl
- First identified in the United States in 2019
- First identified in Philadelphia as early as October 2022
- Individuals who experience an opioid overdose after using nitazene analogs will respond to naloxone (e.g., Narcan®).

Source: hip.phila.gov/document/3203/PDPH-HAN_Alert_2_NitazeneAnalog_12.21.2022.pdf/

Designer benzodiazepines are possible new and novel substances of concern in Pennsylvania.

- Monitoring for past several years
- Less than 40 unintentional overdose deaths involving designer benzodiazepines in 2022
 - ▾ Etizolam most common

List of benzodiazepine NPS that have been reported by Member States to the UNODC Early Warning Advisory (EWA) and benzodiazepine NPS that were observed based on other sources of information

3-hydroxyphenazepam

4-chlorodiazepam

Adinazolam

Alprazolam triazolobenzophenone derivative

Bromazolam

Clonazolam

Cloniprazepam

Deschloroetizolam

Desmethylflunitrazepam

Diclazepam

Etizolam⁴²

Flubromazepam

Flubromazolam

Flunitrazolam

Meclonazepam

Metizolam

Nifoxipam

Nitrazolam

Norfludiazepam

Phenazepam⁴³

Pyrazolam

Zapizolam

Relying on standard toxicology panels obtained from overdose decedents or syndromic surveillance is not ideal for identifying new and novel substances.

1. Syndromic surveillance does not typically include toxicology results
2. Toxicology data for overdose decedents can be delayed months before trend analyses can be conducted
3. Often requires additional and/or expanded panels for NPS
 - Costly
 - Not standardized use

Response to new and novel substances

- Collaborative project, partnering with:
 - ▣ Four health systems to send de-identified discarded samples for toxicology testing from ED visits for suspected overdoses
 - ▣ DOH Bureau of Laboratories to perform the toxicology testing
 - ▣ Health Monitoring Systems (HMS) to receive and track toxicology data
- Anticipate to start receiving data in late 2024

▶ Thank you!

For additional information on Drug Overdose Deaths, as well as Overdose Related Emergency Department Visits, please visit the [Drug Overdose Surveillance Interactive Data Report](#)

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