



Drug Overdose Deaths, Saint Louis County, 2019-2023

Introduction

This brief provides an update on drug overdose deaths that occurred in Saint Louis County in 2023. A new case definition was adopted with the data presented in this report to reflect drug overdose deaths. Drug overdose deaths for this brief were identified using text-based “Cause of Death” fields, the manner of death, and how the injury occurred. The presence of any of the following key words denotes drug overdose; “intoxication”, “acute intoxication”, “toxicity”, “toxic effects”, “use of medications, and “use of drugs”. This change will limit the comparability of this report to previous annual briefs. For more details on this change please see the methodology section found at the end of this report.

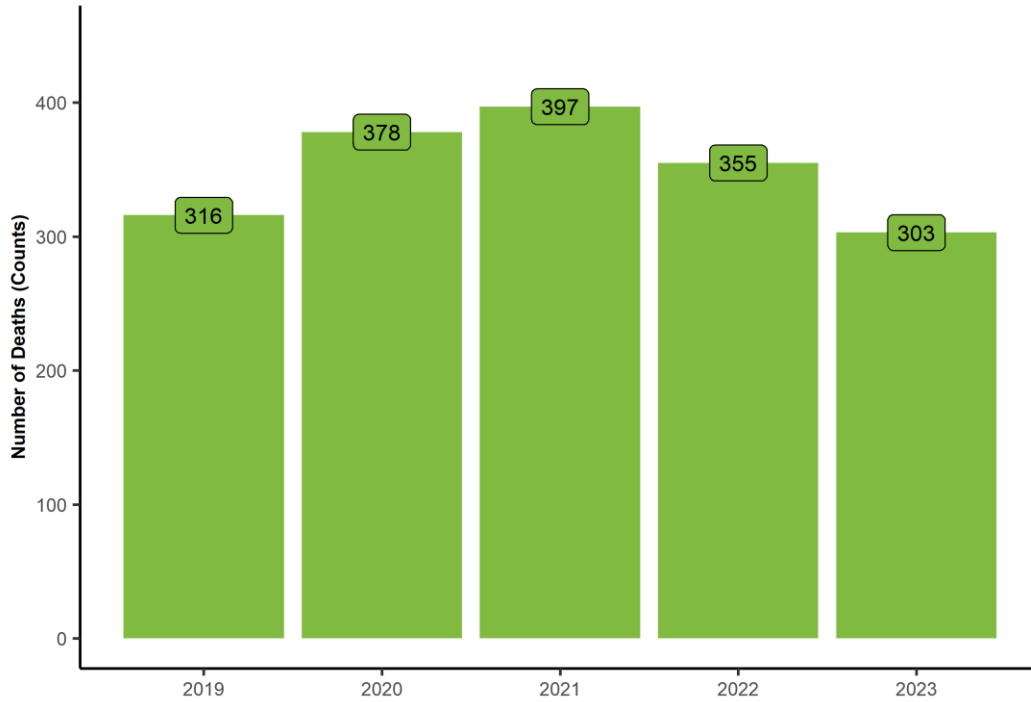
Key Findings:

- In 2023, 303 Drug overdose deaths occurred in Saint Louis County.
- Drug overdose deaths in Saint Louis County decreased for the second year in a row (2022 and 2023).
- The overdose death rate for Black males was three times higher than the rate for the next closest demographic group.
- Fentanyl was present in 75% of all fatal overdoses.
- Between 2019 and 2023, there were 30 drug overdose deaths involving children three years old or younger.

The data utilized in this brief was provided by the Saint Louis County Medical Examiner’s Office and is provisional data, with numbers subject to change as more cases are closed. The data reflect deaths that have occurred within Saint Louis County, regardless of the decedent’s place of residence.

A note on terminology: Saint Louis County Department of Public Health acknowledges the distinctions between “opioids” and “opiates”, as well as the varied terminology used to describe them. For consistency and in an effort to maintain comparability with the work being done in other jurisdictions, the term “opioids” will be used throughout this report to encompass both opioids and opiates.

Figure 1. Overdose Deaths in Saint Louis County, 2019-2023



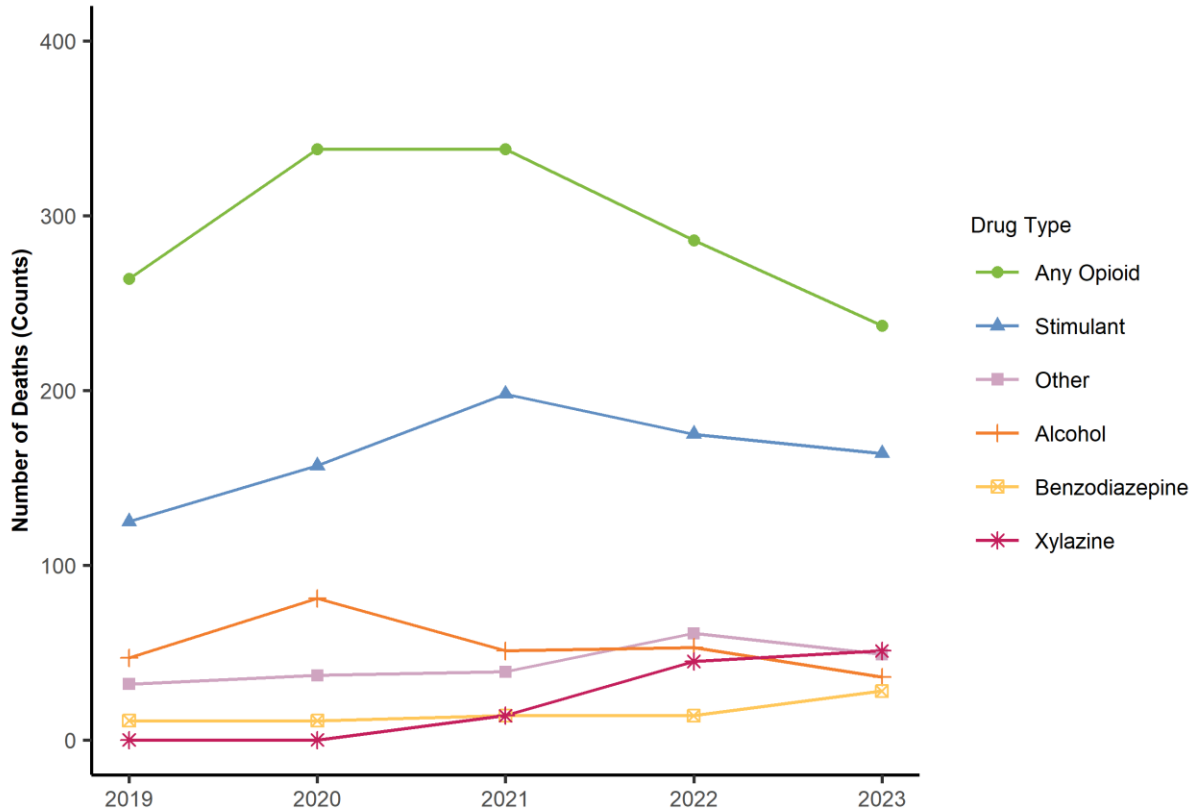
Source: St. Louis County Medical Examiner's Office

- In 2023, there were **303 drug overdose deaths** in Saint Louis County, a 15% decrease from the number of deaths that occurred in the County in 2022.
- This marks the second year in a row in which drug overdose deaths decreased, and a 24% decrease from the record number of drug overdose deaths that occurred in 2021.
- The decrease in deaths in 2023 is in line with national trends, where provisional data suggest that drug overdose deaths declined in the United States for the first time since 2018¹

Toxicological Findings

Toxicology results found in the data from the Medical Examiner's Office can help provide crucial insights into the drug usage patterns that lead to fatal overdose. This section will focus on the involvement that various drug types have in fatal overdose and highlight general trends.

Figure 2. Overdose Deaths by Drug Type in Saint Louis County, 2019-2023



Data Note: Drug class breakouts are not mutually exclusive; deaths with multiple drugs are counted towards each drug class

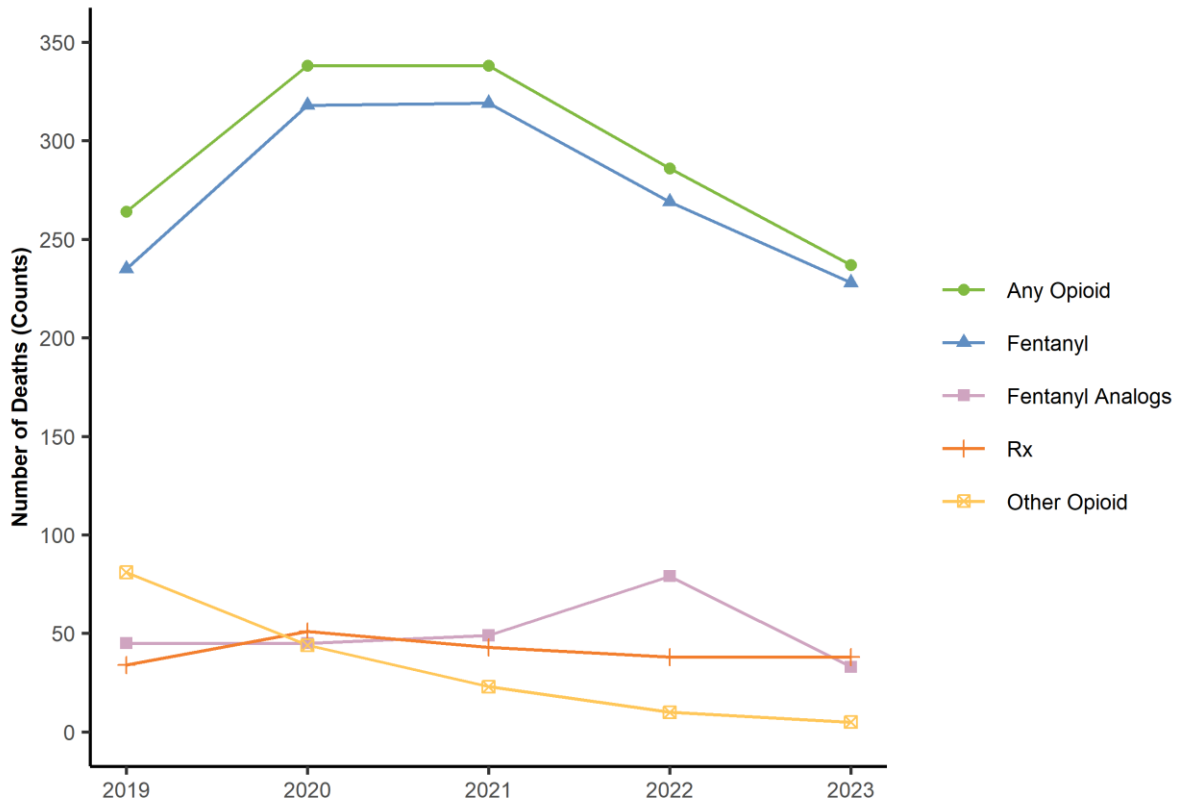
Table 1. Number of Deaths by Drug Type, 2019-2023

Drug Type	2019	2020	2021	2022	2023
Any Opioid	264	338	338	286	237
Stimulant	125	157	198	175	164
Other	32	37	39	61	49
Alcohol	47	81	51	53	36
Benzodiazepine	11	11	14	14	28
Xylazine	0	0	14	45	51

The above table and visual display how many deaths each drug type contributed to for each year since 2019. The categories are non-mutually exclusive. As a result, deaths with multiple substances will be counted towards each drug type. The number of deaths attributed to each drug type decreased for most categories in 2022. However, it is also important to consider each drug type's involvement as a proportion of overdose deaths that they contributed to. Many of these trends remained consistent with the trends of the past five years.

- Opioids continue to be the drug type involved in the most overdose deaths.
- In 2023, opioids (synthetic, semi-synthetic, etc.) were present in 78% of drug overdose deaths.
- Stimulants were involved in 54% of fatal overdoses in 2023, compared to 49% in the previous year.
- The number of deaths involving benzodiazepines in 2023 doubled in comparison to 2022.
- In 2023, 96% of deaths where a benzodiazepine (27 of 28) was present also involved 1 or more other substances. Fentanyl co-occurred most often.
- In 2023, xylazine, a veterinary sedative that has appeared more frequently in the last three years, was involved in 51 drug overdose deaths. Xylazine was always present with fentanyl or a fentanyl analog.
- The “Other” category includes drugs that did not fall into another major category (gabapentin, kratom, difluoroethanes, etc.). Between 2019 and 2023, other drugs have been involved in an average of 44 deaths per year.

Figure 3. Number of Deaths by Type of Opioid Involved, 2019-2023



Data Note: Breakouts are not mutually exclusive; deaths with multiple opioids present are counted towards each drug type

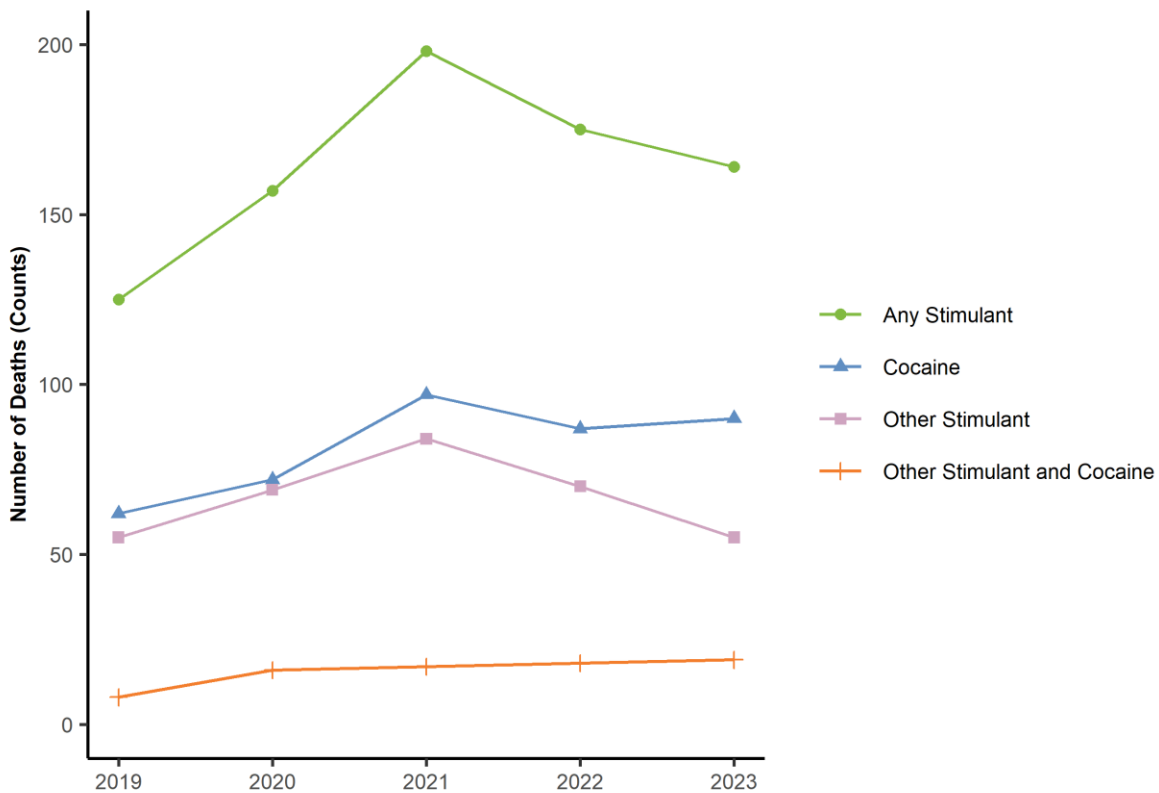
Table 2. Number of Deaths by Type of Opioid Involved, 2019-2023

Opioid	2019	2020	2021	2022	2023
Any Opioid	264	338	338	286	237
Fentanyl	235	318	319	269	228
Fentanyl Analogs	45	45	49	79	33
Rx	34	51	43	38	38
Other Opioid	81	44	23	10	5

- Deaths involving an opioid have decreased by 30% since 2021.
- In 2023, an opioid was present in 237 drug overdose deaths.
- Fentanyl remains a major culprit in fatal overdoses, as it was present in 75% of all drug overdoses and 96% of overdoses that involved an opioid in 2023.

- In 2023, fentanyl analogs (acetyl fentanyl, acryl fentanyl, fluorofentanyl, etc.) were present in 33 deaths.
- Between 2019 and 2023, prescription opioids (Rx) were present in an average of 40 deaths per year.
- The “Other Opioid” category accounts for deaths where heroin or an unspecified opioid was present. This category has declined steeply over the past five years as the number of deaths where heroin is present has declined.

Figure 4. Number of Stimulant Overdose Deaths, 2019-2023



Data Note: Drug class breakouts are mutually exclusive by stimulant type; will add up to equal 'Any Stimulant'

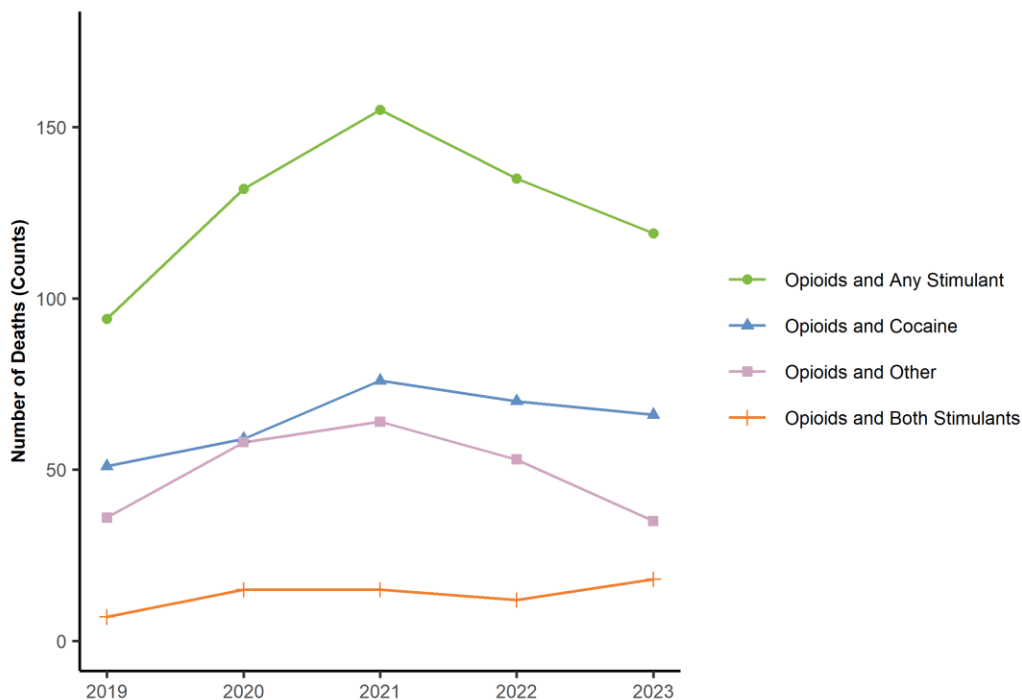
Table 3. Number of Deaths by Type of Stimulant Involved, 2019-2023

Stimulant	2019	2020	2021	2022	2023
Any Stimulant	125	157	198	175	164
Cocaine	62	72	97	87	90
Other Stimulant	55	69	84	70	55
Other Stimulant and Cocaine	8	16	17	18	19

A brief note on the data presented in the above visual and table: the categories are mutually exclusive by the type of stimulant involved and will add up to the “any stimulant” total. Deaths involving “other stimulants” refers to the presence of methamphetamine or in limited cases, another amphetamine.

- Between 2019 and 2023, a stimulant was present in 47% of overdose deaths.
- While many of the drug types presented dropped to below 2019 numbers, stimulants were involved in the 3rd highest number of deaths over the past five years.
- Cocaine was present in two-thirds of all deaths that had a stimulant present. In a majority of these deaths, cocaine was present in combination with one or more other drugs. Only 20% (23/109) of cocaine-involved deaths were cocaine alone.

Figure 5. Number of Overdose Deaths with Stimulants and Opioids Present, 2019-2023



Data Note: Drug class breakouts are mutually exclusive by stimulant type; will add up to equal 'Any Stimulant'

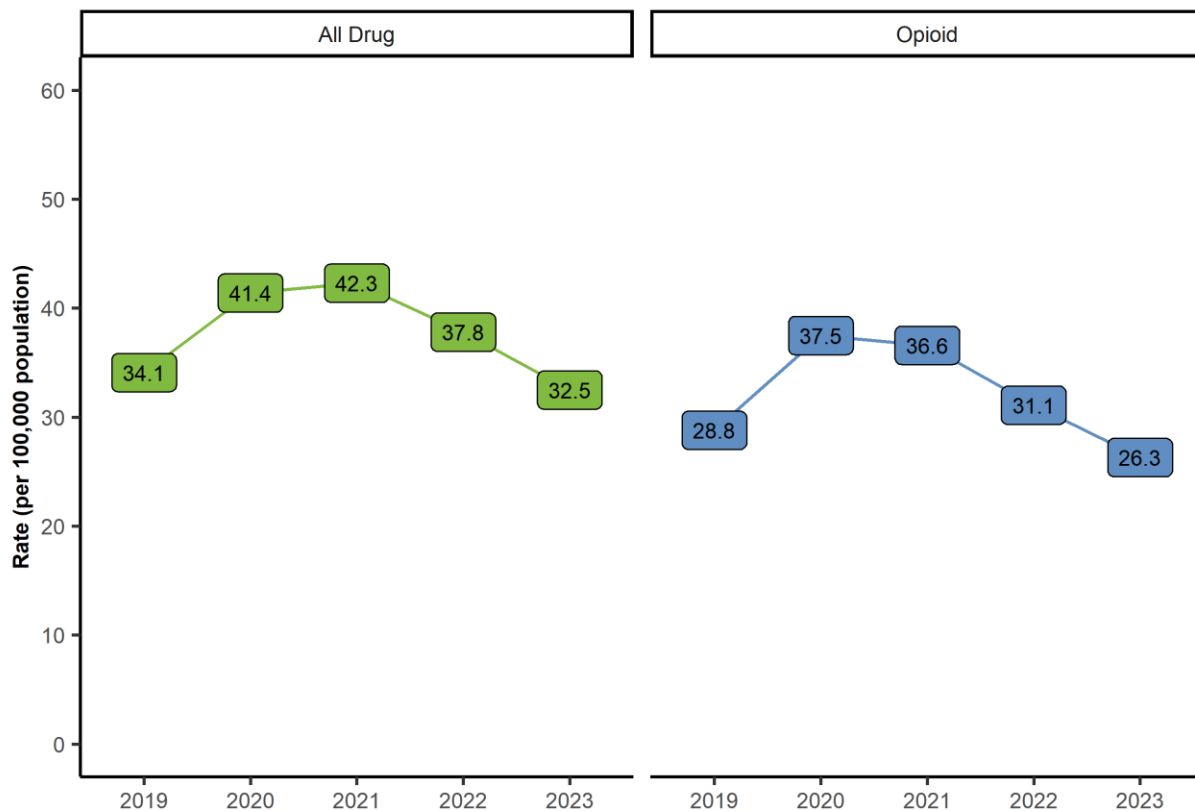
Table 4. Number of Deaths Where Stimulants and Opioids Co-Occur, 2019-2023

Combinations	2019	2020	2021	2022	2023
Opioids and Any Stimulant	94	132	155	135	119
Opioids and Cocaine	51	59	76	70	66
Opioids and Other	36	58	64	53	35
Opioids and Both Stimulants	7	15	15	12	18

The categories presented in the above visual and table are mutually exclusive by the type of stimulant involved and will add up to the “opioids and any stimulant” total. Deaths involving “other stimulants” refers to the presence of methamphetamine or in limited cases, another amphetamine. Deaths where an opioid, cocaine, and other stimulant are present are referred to as opioids and both stimulants.

- Opioids and stimulants were one of the most common co-occurring drug combinations in fatal overdoses over the past five years.
- In 2023, opioids and a stimulant of any kind were present together in 39% of drug overdose deaths.
- Between 2019 and 2023, an opioid and cocaine co-occurred together more often than other stimulant and opioid combinations. In 2023 alone, an opioid and cocaine accounted for more than half of stimulant and opioid deaths.
- Deaths where an opioid, cocaine, and other stimulant (opioids and both stimulants) are all present have remained consistent over the past four years.

Figure 6. Drug Overdose Death Rates by Drug Type, 2019-2023



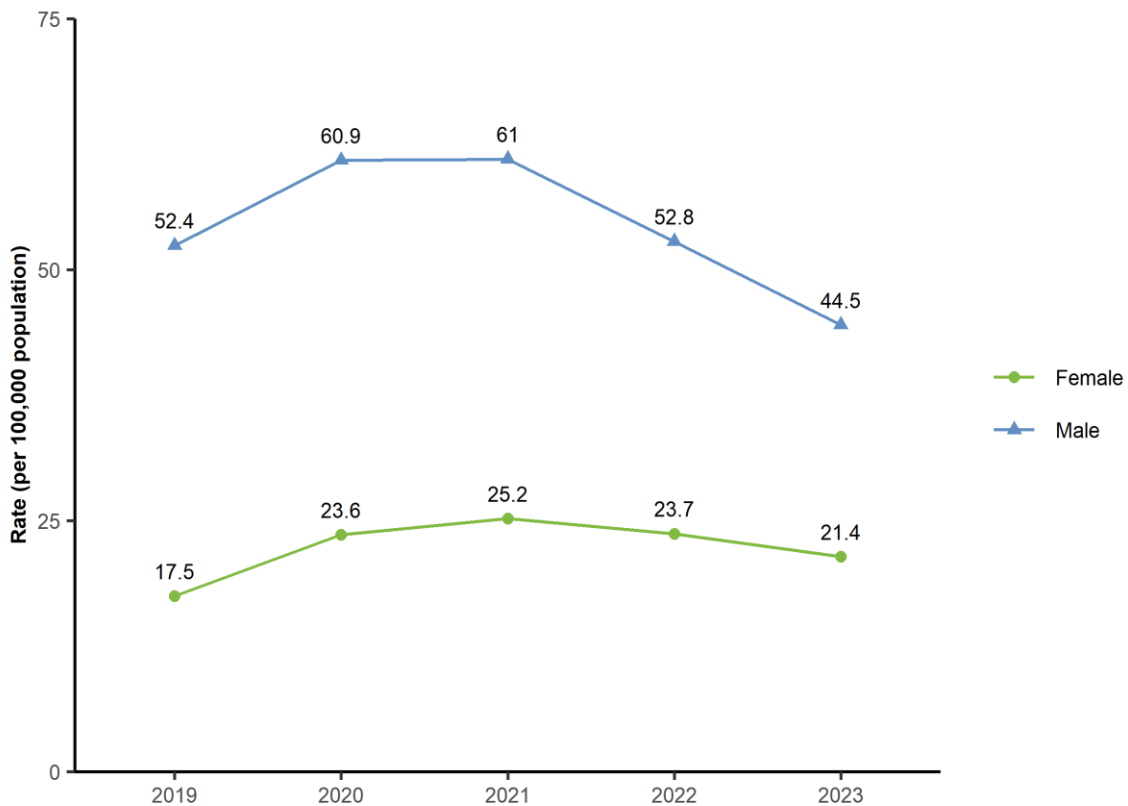
Source: St. Louis County Medical Examiner's Office

- In 2023, the age-adjusted drug overdose rate was 32.5 deaths per 100,000 population
- The age-adjusted rate for drug overdose deaths involving an opioid was 25.6 per 100,000 population
- Both are the lowest rates of all drug and opioid-involved overdose death that Saint Louis County has seen since 2017.

Demographic Insights

The demographic data presented in this section help to highlight who is present in the data and how they may be impacted in comparison to other groups. A better understanding of who is present in the data can lead to stronger initiatives that result in decreased overdose deaths. Analyzing demographic data also gives an opportunity to see how trends within drug overdose deaths change over time.

Figure 7. Drug Overdose Mortality Rates by Sex, 2019-2023

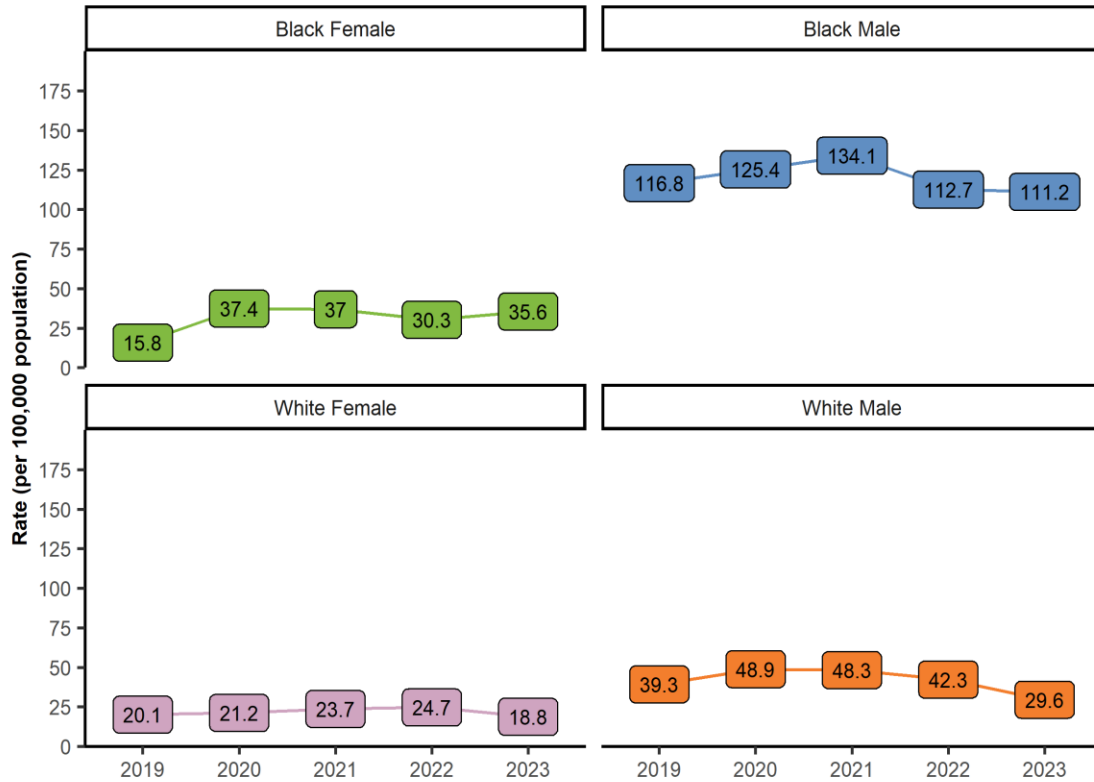


Source: St. Louis County Medical Examiner's Office

- In 2023, the age-adjusted drug overdose rate was 44.5 deaths per 100,000 population for males and 21.4 deaths per 100,000 population for females.
- Males had a sizeable drop in overdose death rate in 2023, with a 16% (39 fewer deaths) decline compared to 2022.

- Females also had a decrease of 10% in age-adjusted drug overdose rate (13 fewer deaths) when compared to 2022.
- Even with declines in 2023, the death rate for females remains higher than it was five years ago.

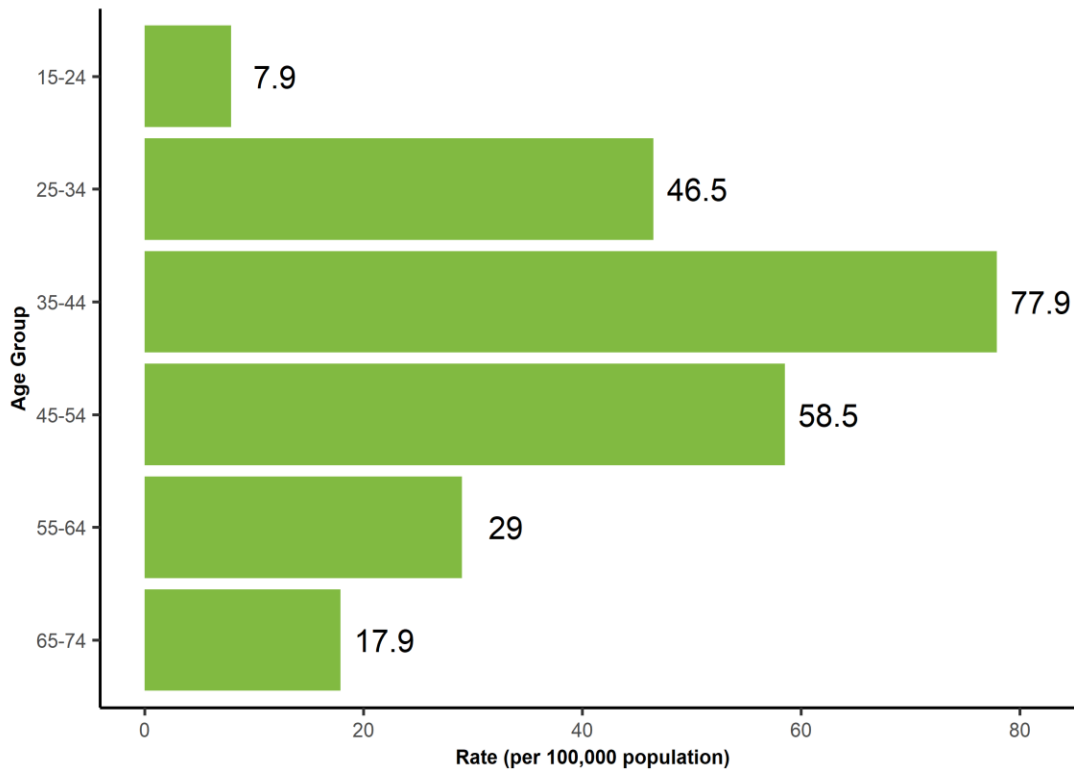
Figure 8. Drug Overdose Mortality Rates by Race and Sex, 2019-2023



Source: St. Louis County Medical Examiner's Office

- In 2023, Black women were the sole demographic group of those presented in **Figure 6.** to experience an increase in age-adjusted mortality rate (35.6 per 100,000 population), compared to 2022.
- The overdose death rate for Black men decreased slightly in 2023 (8 fewer deaths) but remained the highest rate for any single race and sex demographic group at 111.2 deaths per 100,000 population.
- Even with the decrease in mortality rate for Black men in 2023, a disparity in overdose rates continues to persist, with Black men dying at a rate three times higher than the next demographic group.
- White men had the largest decrease in mortality rate, with the rate decreasing by 30%, compared to 2022.
- White women also experienced a decrease in mortality rate in 2023, down 24% from the previous year

Figure 9. Drug Overdose mortality rates by age group, 2023



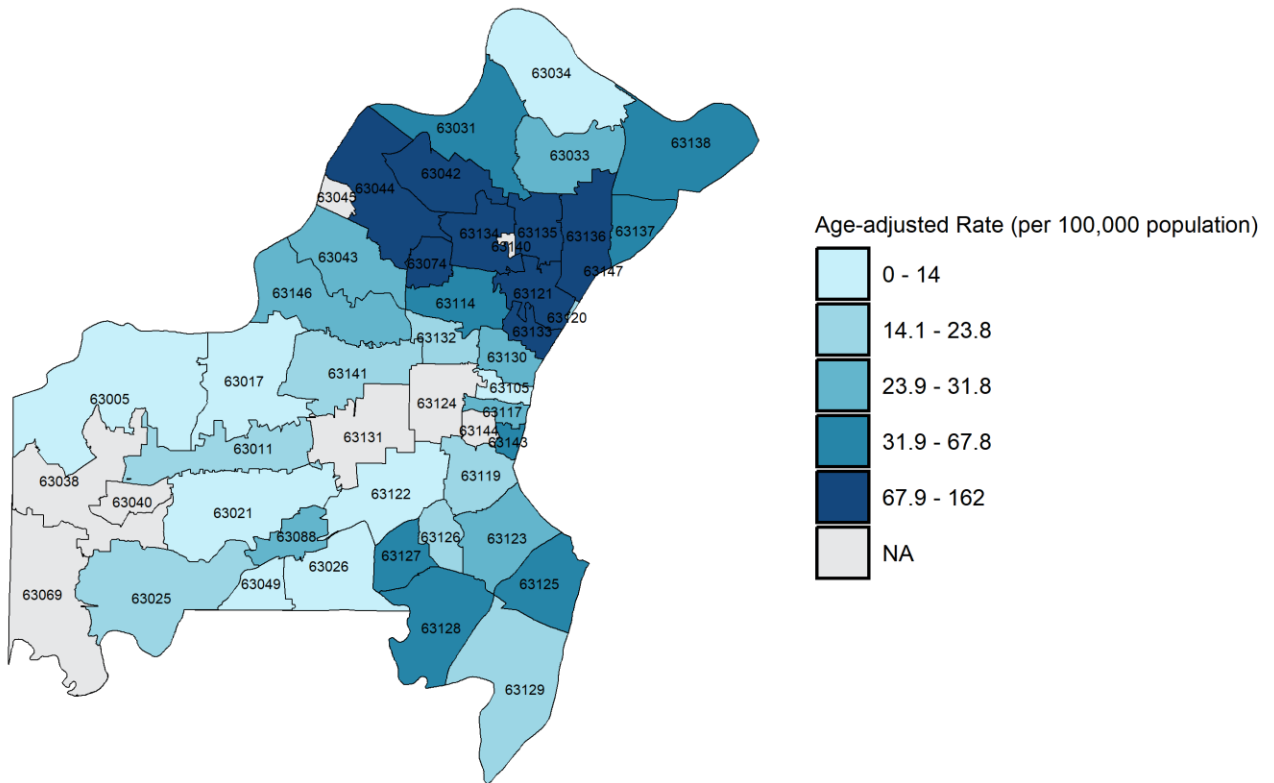
Data Note: The 0-14 and 75+ age groups do not appear on this visual due to counts between 1 and 6 for 2023

- In 2023, age-specific mortality rates were significantly higher for the 35-44 age group (77.9 per 100,000 population), compared to other age groups.
- The 45-54 and 25-34 age groups were the next largest rates.
- Age-specific mortality rates decreased with the older the age group over 54 and the younger the age group under 25.
- The 0-14 and 75+ age groups do not appear in **Figure. 8** due to small counts. Both categories had between 1 and 6 deaths in 2023.
- Between 2019 and 2023, there were 31 deaths in the 0-14 age group and 30 of the 31 deaths involved children three years old or younger. This total includes stillbirths.
- Over the five-year period, there were 13 deaths in the 75+ age group.
- The 15-24 age group saw a decrease of 70% in age-specific mortality (24 fewer deaths) compared to 2022.
- The 25-34 and 55-64 age groups also saw large decreases in age-specific deaths, with 12 and 10 fewer deaths, respectively.

Geography of Overdose Deaths

Overdose data from the Medical Examiner's Office offers unique insights into where fatal overdoses take place. The map below displays age-adjusted overdose mortality rates by zip code of where deaths occurred.

Map 1. Drug Overdose Deaths by Zip Code of Occurrence, 2019-2023



Source: St. Louis County Medical Examiner's Office

- Between 2019 and 2023, 63133 (162.1 per 100,000 population) and 63121 (107.8 per 100,000 population) were the two zip codes with the highest age-adjusted drug overdose death rates.
- Over the five-year period, the largest number of deaths (182) occurred in zip code 63136, an average of 36 deaths per year.
- The Inner and Outer North geographical regions of Saint Louis County continued to be the hardest hit by drug overdose deaths. South Saint Louis County also had several zip codes with higher overdose death rates.

Conclusion

2023 was the second year in a row in which the number of drug overdose deaths decreased in Saint Louis County. Fentanyl continues to be a major cause for concern, as it was present in 75% of all drug overdose deaths. The impact of stimulants should not be underestimated; they were present in 47% of drug overdose deaths and often occurred in combination with other drugs; primarily some form of opioid.

Individuals aged 35-54 died at the highest rates, followed closely by those aged 25-34. In 2023, males died at a rate two times larger than females. Black females were the only race and sex demographic group to experience an increase in drug overdose death rate. White males experienced a 30% reduction in drug overdose death rate. Black males showed declines in deaths during 2023, but a large disparity remains, as Black males died at a rate 3 times higher than any other demographic group. Drug overdose deaths were dispersed widely throughout Saint Louis County over the past five years, with most zip codes having at least one overdose death. Between 2019 and 2023, zip codes within Inner and Outer North Saint Louis County had the highest rates of drug overdose death.

While the overall decrease in drug overdose deaths is cause for optimism, it is crucial to remember that 303 lives were lost to drug overdose throughout the year. Several demographic groups continue to be more vulnerable to drug overdose death. Saint Louis County Department of Public Health is committed to supporting collaborative efforts that address drug overdose.

Methods

Data for this dashboard was provided by the Saint Louis County Medical Examiner's Office. Each year, the Medical Examiner's Office, which is part of the Saint Louis County Department of Public Health (DPH), provides updated data on drug overdose deaths that have occurred in Saint Louis County. Data from the medical examiner's office is considered provisional and subject to change as cases continue to be finalized.

Case Definition

- Drug overdose deaths are identified using text-based "Cause of Death" fields, the manner of death, and how the injury occurred.
- The presence of the following key words denotes drug overdose: "intoxication", "acute intoxication", "toxicity", "toxic effects", "use of medications", and "use of drugs."
- The data includes all drug overdose deaths that have occurred in Saint Louis County and is not limited by place of residence.

Age-adjusted Rates (per 100,000 population): a method that allows for comparison across groups and time periods with different age makeups.

Age-specific Rates (per 100,000 population): used to calculate the rate of overdose death within an age group. This is utilized within the "Drug Overdose Rates by Age Group"

visual. *Due to low counts, the 'Age Groups' visual does not display the 0-14 and 75+ trend.

Population Estimates: The American Community Survey (ACS) was used to generate five-year population estimates that serve as the denominator(s) for rate calculation.

Small Counts/Data Suppression: To protect privacy, organizational standards require that counts of greater than 0 and less than 6 are suppressed within this brief.

Rates calculated with counts between 6 and 12 generally do not meet precision standards (an RSE > 30). These rates are displayed in the brief.

At the time this report was prepared, the 2023 ACS 5-year estimates had not been released, so 2022 population estimates were used instead. Age-adjusted and age-specific rates and 95% confidence intervals were calculated in SAS and R, using population estimates from ACS. The rates were age-adjusted to the 2000 U.S. population.

Limitations

Data from the medical examiner's office is considered provisional and subject to change as cases continue to be finalized. This may result in small changes in rate and counts each year when the brief is updated. All decedents, regardless of place of residence, are included in the data for this brief. This inclusion leads to an imperfect match between numerator and denominator when performing rate calculations. The decision was made to proceed with all decedents in order to present the clearest and timeliest picture of overdose deaths that take place within Saint Louis County. In death cases, gender identity and sexual orientation information is not directly available and binary sex is reported by the Medical Examiner. Race/ethnicity data can also be limited in medical examiner data. Some race/ethnicity groups may have small counts, making it challenging to accurately present the health data of these groups while maintaining privacy standards.

Resources

In an effort to address the needs of community members who may be directly impacted by the overdose epidemic, the following are brief examples of Saint Louis County Department of Public Health resources. The resources listed below are just a few of the available options and a more comprehensive list can be found at:

<https://stlouiscountymo.gov/st-louis-county-departments/public-health/substance-use-resources/>

Harm Reduction

Naloxone is available for community members free of charge, no ID required, and no questions asked, at all three Saint Louis County clinic locations and by mail. DPH also provides training and naloxone to organizations that are interested in becoming naloxone distribution sites for community members at risk of witnessing or experiencing an opioid overdose. Further information can be found at:

<https://stlouiscountymo.gov/st-louis-county-departments/public-health/substance-use-resources/naloxone-and-overdose-resources/>

John C. Murphy Health Center
6121 N Hanley Rd #2003, Berkeley, MO 63134

South County Health Center
4580 South Lindbergh Blvd, Sunset Hills, MO 63127

North Central Community Health Center
4000 Jennings Station Road, Pine Lawn MO 63121

Treatment and Recovery

Saint Louis County Department of Public Health is supportive of community members at all stages of the substance use cycle. For those interested in treatment or recovery options, Saint Louis County Department of Public Health operates three community health centers that offer comprehensive, confidential patient-centered preventive and primary health care. The health centers are open to all community members, regardless of ability to pay. As part of the available primary-care offerings, providers at all three clinics are equipped to offer medication-assisted treatment (MAT). MAT combines behavioral health support with medications to create a sustainable recovery. To make an appointment or for more information, please call 314-615-0500.

For members of the community interested in other treatment or recovery options, the Substance Abuse and Mental Health Services Administration (SAMHSA) offers free, 24/7 treatment and referral information, available in both English and Spanish, via their confidential hotline at 1-800-662-4357, or through searchable treatment locators at their website <https://findtreatment.gov/locator>.

References

1. National Center for Health Statistics. May 15th, 2024. U.S. Overdose Deaths Decrease in 2023, First Time Since 2018. Centers for Disease Control and Prevention.
https://www.cdc.gov/nchs/pressroom/nchs_press_releases/2024/20240515.htm.

Suggested Citation

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For questions and comments related to this brief, please email CAdams@stlouiscountymo.gov.