Overdose Response Program Data Brief, June 2026

Suspected Drug Overdose Deaths in Davidson County, TN, 2018-2025

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Key Findings

- The age-adjusted rate of suspected drug overdose deaths in Davidson County decreased 42% since the peak in 2022.
- The racial profile of the overdose epidemic changed in 2020, from the highest death rates being among White residents between 2018 and 2019 to Black residents having the highest rates in 2021 through 2024. In 2024 the age-adjusted death rate among Black residents exceeded that among White residents by 30 deaths per 100,000 residents.
- The difference between male and female fatality rates widened notably from 2020 through 2023, i.e., compared to women's rates, male's rates increased from being 104.6% higher in 2020 to 138% higher in 2023. In 2025, the difference narrowed slightly because the rate for males declined while that for females remained relatively stable.
- The 45-54-year-old age group were consistently at highest risk of overdose deaths from 2018-2025, closely followed by the 55-64-year-old age group.
- Fentanyl detections in toxicology reports have increased by about 47.3% between 2018 and 2024.
- Since 2018, Cocaine has been identified as a cause of death in a greater proportion of Black than White persons. In contrast psychostimulants were identified in a greater proportion of White than Black persons.

Introduction

Overdose deaths among Davidson County residents dramatically increased between 2018 and 2024, from 252 to 370 fatalities, peaking in 2021 at 518 deaths. Overdose surveillance data from 2018 to 2025 are examined in this report to show trends in rates of drug overdose fatalities.

The Davidson County community, much like the rest of the United States, are experiencing the negative consequences of the deadly drug overdose epidemic. In 2013, a "third wave" of opioid-induced deaths was reported nationally with overdoses surging due to opioids like fentanyl, fentanyl analogs, and other illicit synthetic opioids.[1] From 2013 to 2024, the national age-adjusted rate of drug overdose fatalities increased from 13.8 to 24.3 deaths per 100,000 population.[2] Tennessee and Davidson County observed similar trends— in recent years fentanyl has been linked to over 77% of overdose fatalities among Davidson County residents.[3, 4] Overdose deaths are premature deaths as they often occur earlier than the expected length of life (roughly 79 years from birth[5]), and so they increase the years of life lost (YLL) across the county. YLL are the number of years not lived by each person who dies prematurely; the younger the age at death the greater the number of years not lived. The annual YLL of the county is the sum of all the individual YLL of persons who died during a specific year.

The Overdose Monitoring and Response (OMAR) team at the Metro Public Health Department (MPHD) conducts ongoing surveillance of trends and keeps up-to-date information and additional context on the epidemic at https://www.nashville.gov/departments/health/drug-overdose-information[4] . This report examines deaths among Davidson County residents as documented in the Davidson County Medical Examiners database[6], and so the counts and rates will differ from other reports produced by the OMAR team or other sources that do not make this distinction. The focus on Davidson County residents aligns with the mission of the Metro Public Health Department

(MPHD), which is to protect, improve and sustain the health and well-being of all people in Nashville and Davidson County.

Overview of Suspected Drug Overdose Deaths

The age-adjusted rate of drug overdose deaths among Davidson County residents declined 42% in 2025 from its peak in 2022.

- In 2025, there were 298 suspected drug overdose deaths (**Figure 1**) among Davidson County residents (See technical notes for definition) yielding an age-adjusted rate of 47.6 drug overdose deaths per 100,000 persons (**Figure 2**).
- The age-adjusted rate of suspected fatal overdoses increased by 127% from 2018 through 2022 but decreased roughly 42% between 2022 and 2025.
- Between 2023 and 2025 the overdose-associated years of life lost (YLL) declined by 10% as the number of overdose fatalities declined (from 31.2 YLL in 2023 to 28.2 YLL in 2025).

Figure 1. Frequency of suspected drug overdose deaths among Davidson County residents, 2018-2025

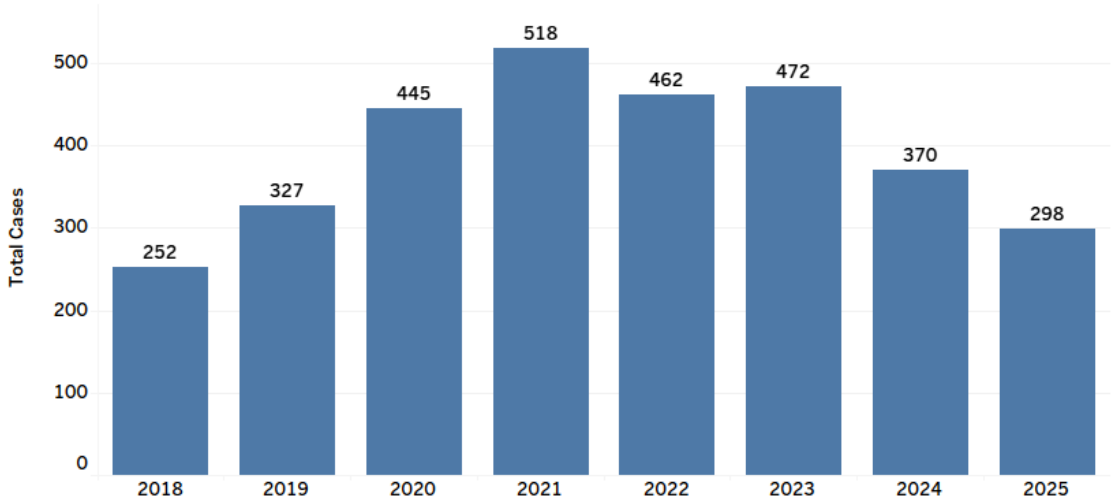
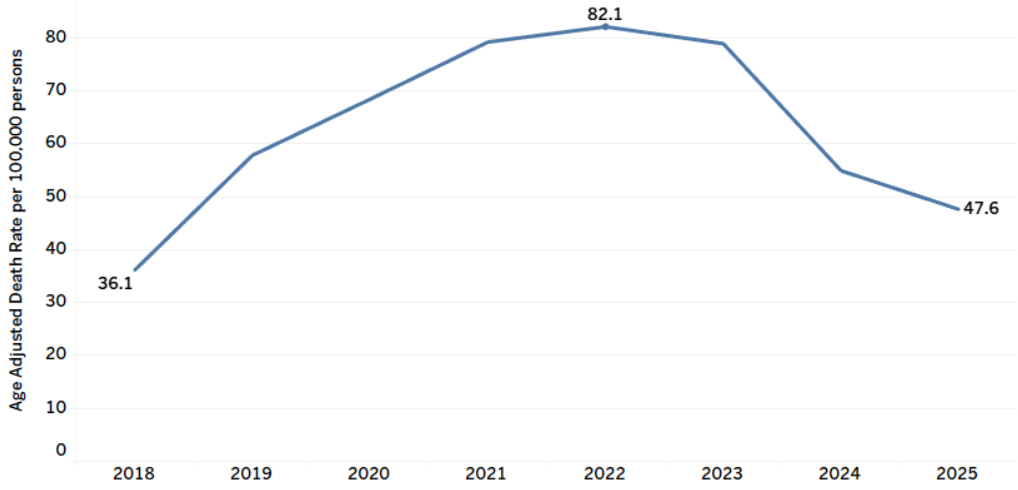


Figure 2. Age-adjusted suspected fatal overdose rate per 100,000 among Davidson County residents, 2018-2025



Fatal Overdoses by Age Group

The overall fatal overdose rate was consistently highest for the 45-54-year-old age group from 2018-2025 in Davidson County, closely followed by the 35-44-year-old age group.

- While fatal overdose rates have been highest for the 45-54-year-old age group (**Figure 3**), the 35-44-year-old age group accounted for the highest percentage of overdose fatalities in 2025 (**Figure 4**).
- Residents between the ages of 25 and 54 accounted for nearly 70% of fatal overdoses in 2025 (**Figure 4**).
- All age groups saw a reduction in mortality rates between 2024 and 2025 with the largest decrease being seen in the age group 15-24 which declined almost 44%.

Figure 3. Age-specific rate of drug overdose deaths per 100,000 Davidson County residents, 2018-2025

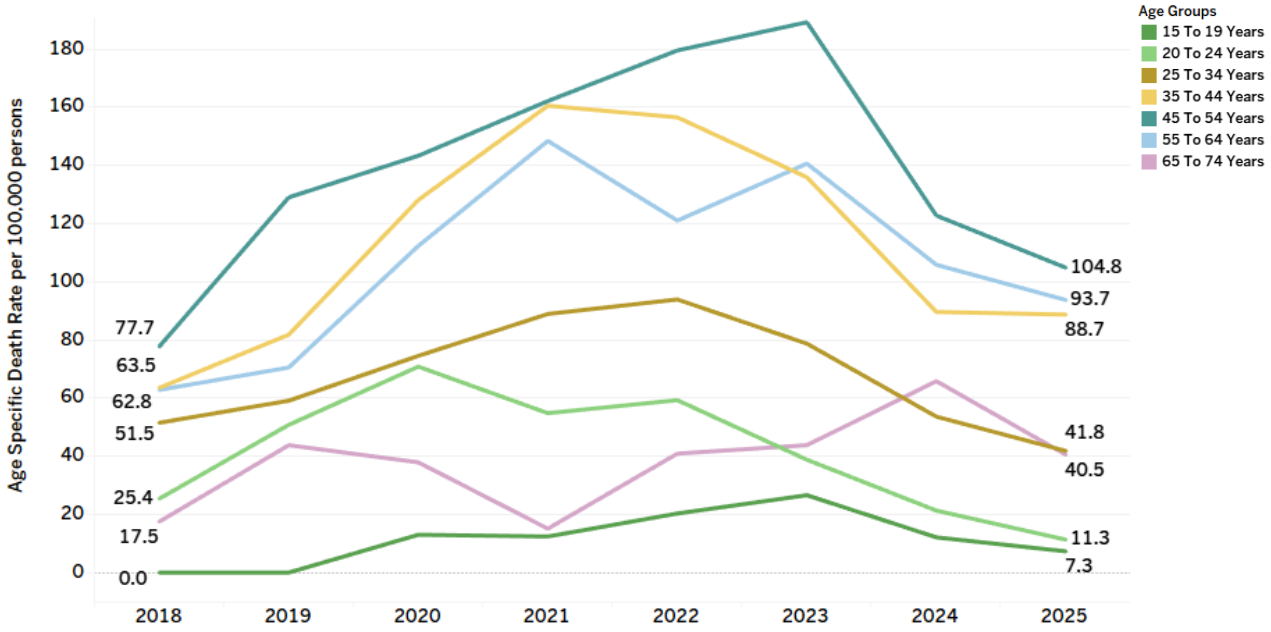


Figure 4. Percentage of drug overdose deaths by age group based on the Davidson County resident population between 15 and 74 years of age, 2018-2025

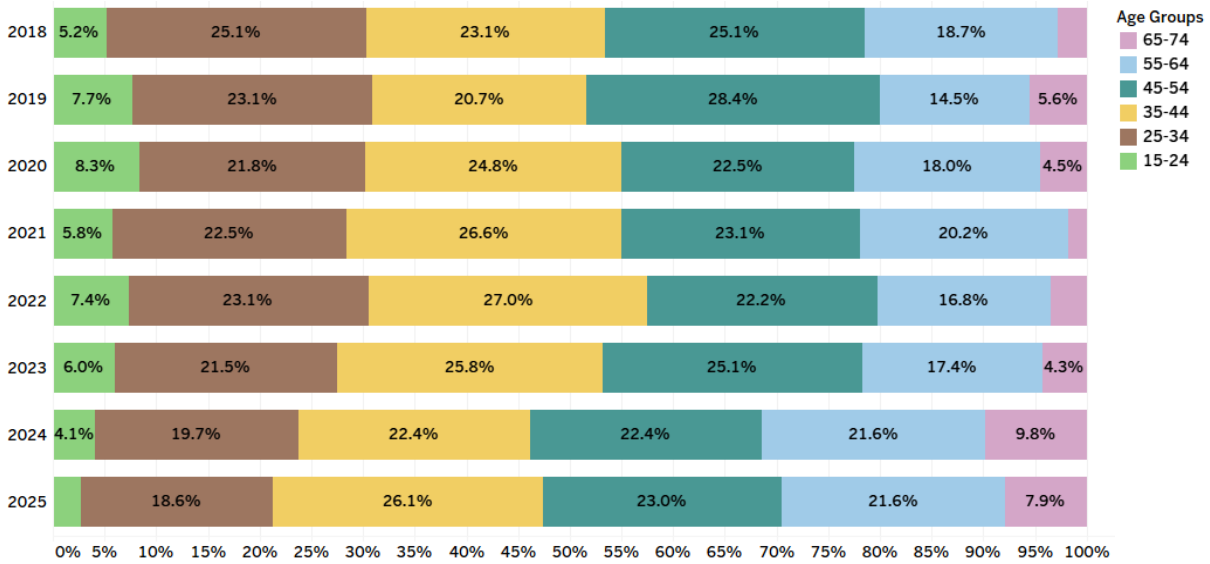


Table 1. Age-specific rate of overdose deaths per 100,000 Davidson County residents, 2024 and 2025

Age Group	Frequency		Rate per 100,000 (95% CI)		Relative Change (%) *	Rate Ratio	
	2024	2025	2024	2025		2024	2025
15-24	16	22	17.2 (8.8-25.7)	9.7 (3.4-16.0)	-43.6	1(ref)	1(ref)
25-34	77	60	53.6 (41.6-65.6)	41.8 (31.2-52.4)	-22.0	3.12	4.31
35-44	95	94	89.6 (71.6-107.7)	88.7 (70.8-106.6)	-1.0	5.21	9.14
45-54	96	82	122.7 (98.2-147.3)	104.8 (82.2-127.5)	-14.6	7.13	10.80
55-64	79	70	105.8 (82.5-129.1)	93.7 (71.8-115.7)	-11.4	6.15	9.66

Abbreviations: CI: confidence interval; ref: referent group. * Absolute change is the difference in the rate between 2024 and 2025. Relative change is absolute change divided by the 2024 rate and multiplied by 100.

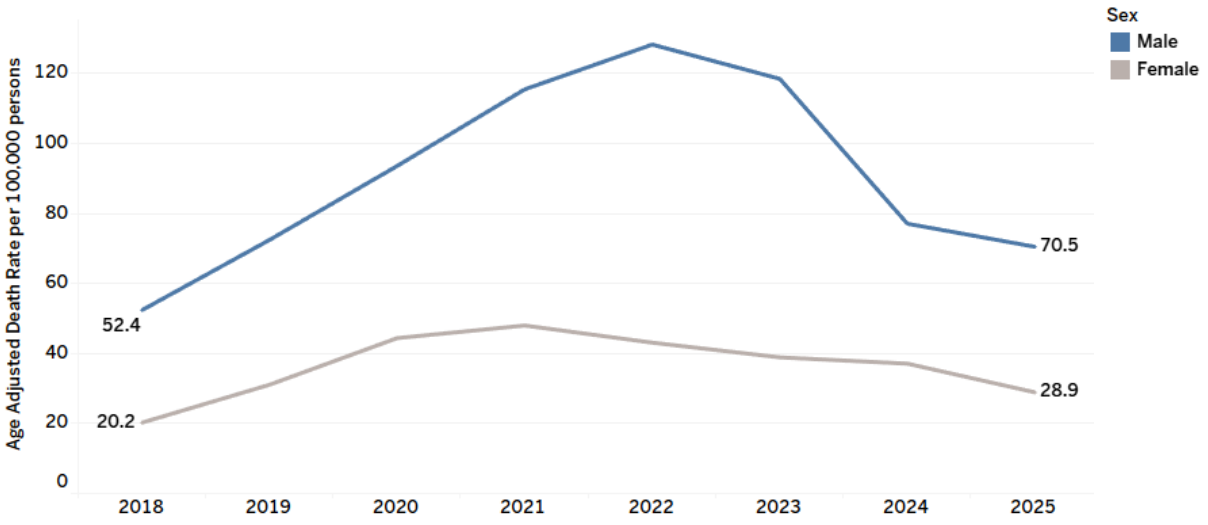
Table 1 shows that every single age group saw a decrease between 2024 and 2025. The largest decrease was seen in the age group 15-24 with a reduction of almost 44%, while the 35-44 age group saw the smallest decrease between the two years with a 1% reduction.

Fatal Overdoses by Sex

The gender disparity in overdose death rates peaked in 2022 and has been narrowing since.

- Between 2018 and 2025, the age-adjusted fatality rate increased by 34.5% among males (52.4 to 70.5 deaths per 100,000) and 43% among females (20.2 to 28.9 per 100,000) (**Figure 5**).
- The greatest disparity was observed in 2022, with a gap of 85.2 deaths per 100,000 as male rates peaked at over 128.3 deaths per 100,000. By 2025, male rates declined sharply to 70.5 per 100,000, while female rates rose and fell steadily, narrowing the gender gap to 41.6 deaths per 100,000 (**Figure 5**).
- Males consistently accounted for a greater percentage of overdose fatalities compared to females (**Figure 6**).

Figure 5. Age-adjusted† drug overdose death rate per 100,000 Davidson County residents by sex, 2018-2025



†Age-adjusted rates are calculated based on the 2000 U.S. standard population.

Figure 6. Percentage of fatal overdoses by sex, Davidson County, 2018-2025

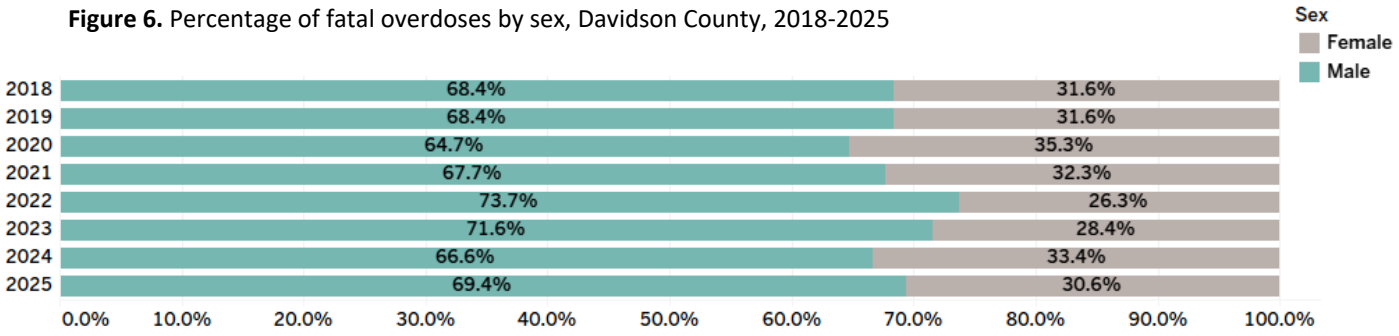


Table 2. Age-adjusted† drug overdose death rate by sex, Davidson County, 2024 & 2025

	Frequency		Rate per 100,000 (95% CI)		Relative Change (%) *	Rate Ratio	
Sex	**2024**	**2025**	**2024**	**2025**		**2024**	**2025**
Female	132	105	36.7 (30.4-42.9)	29.2 (23.6-34.7)	-20.4	1 (ref)	1 (ref)
Male	274	241	80.4 (70.9-89.9)	70.7 (61.8-79.7)	-12.1	2.19	2.42

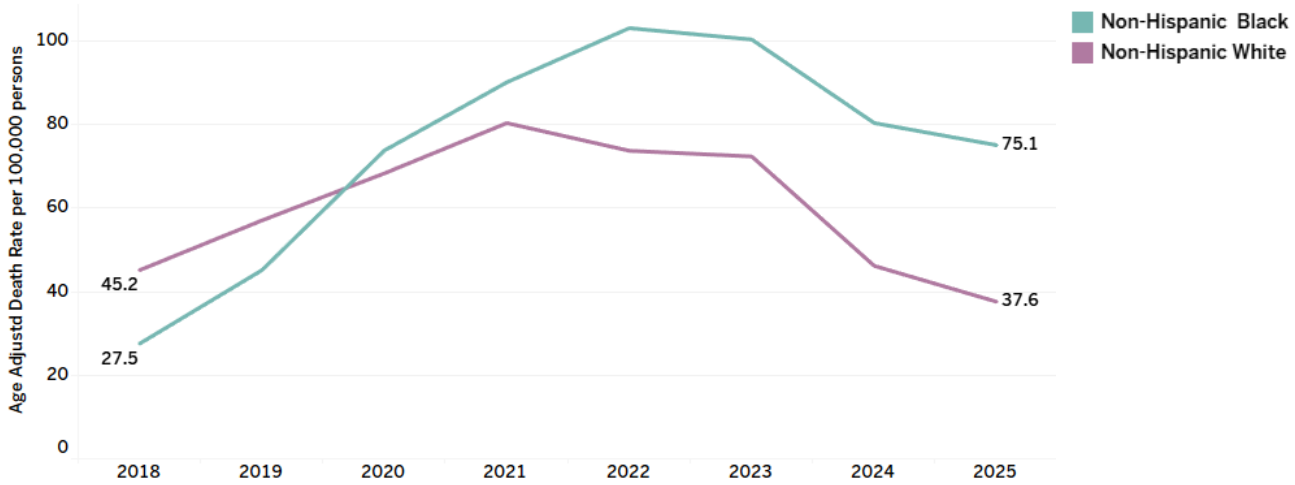
Abbreviations: CI: confidence interval; ref: referent group. †Age-adjusted rates are calculated based on the 2000 U.S. standard population. For the age group, crude rates are given. * Absolute change is the difference in the rate between 2024 and 2025. Relative change is absolute change divided by the 2024 rate and multiplied by 100. Rate ratio <1 indicates that the comparison group has lower mortality than the reference group. Rate ratio >1 indicates that the comparison group has higher mortality than the reference group.

Fatal Overdoses by Race

The burden of fatal overdoses has significantly shifted, now overburdening Black communities despite White residents still comprising the largest proportion of fatalities.

- In 2025, the fatal overdose rate was greater among Black or African American residents (75.1 deaths per 100,000 population) than White residents (37.6 deaths per 100,000 population) **(Figure 7**).
- White residents have consistently had the largest proportion of fatal overdoses from 2018 to 2025. However, this proportion has declined from 82.8% in 2018 to 61.9% in 2025, highlighting a notable shift in racial distribution of fatal overdoses (**Figure 8**).
- In 2018, the Black to White rate ratio was 0.61, indicating a lower risk among Black residents and an increased risk for White residents. By 2025, the ratio had reversed to 1.99, indicating an increased risk for Black residents and a decreased risk for White residents (**Table 3**).

Figure 7. Age-adjusted† drug overdose death rate per 100,000 Davidson County residents by race, 2018-2025



†Age-adjusted rates are calculated based on the 2000 U.S. standard population.

Figure 8. Percentage of fatal overdoses by race, Davidson County, 2018-2025

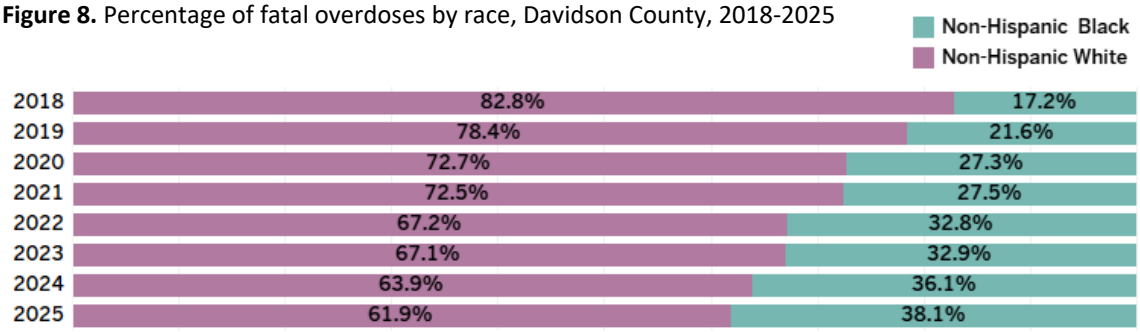


Table 3. Age-adjusted rate† of suspected drug overdose fatalities by race group, Davidson County, 2023 & 2024

	Frequency		Rate per 100,000 (95% CI)		Relative	Rate Ratio	
Race	**2024**	**2025**	**2024**	**2025**	**Change (%) ***	**2024**	**2025**
White	227	182	46.2 (40.2-52.9)	37.6 (32.2-43.8)	-18.6	1 (ref)	1 (ref)
Black	155	143	80.4 (68.0-94.8)	75.1 (63.1-89.2)	-6.6	1.74	1.99

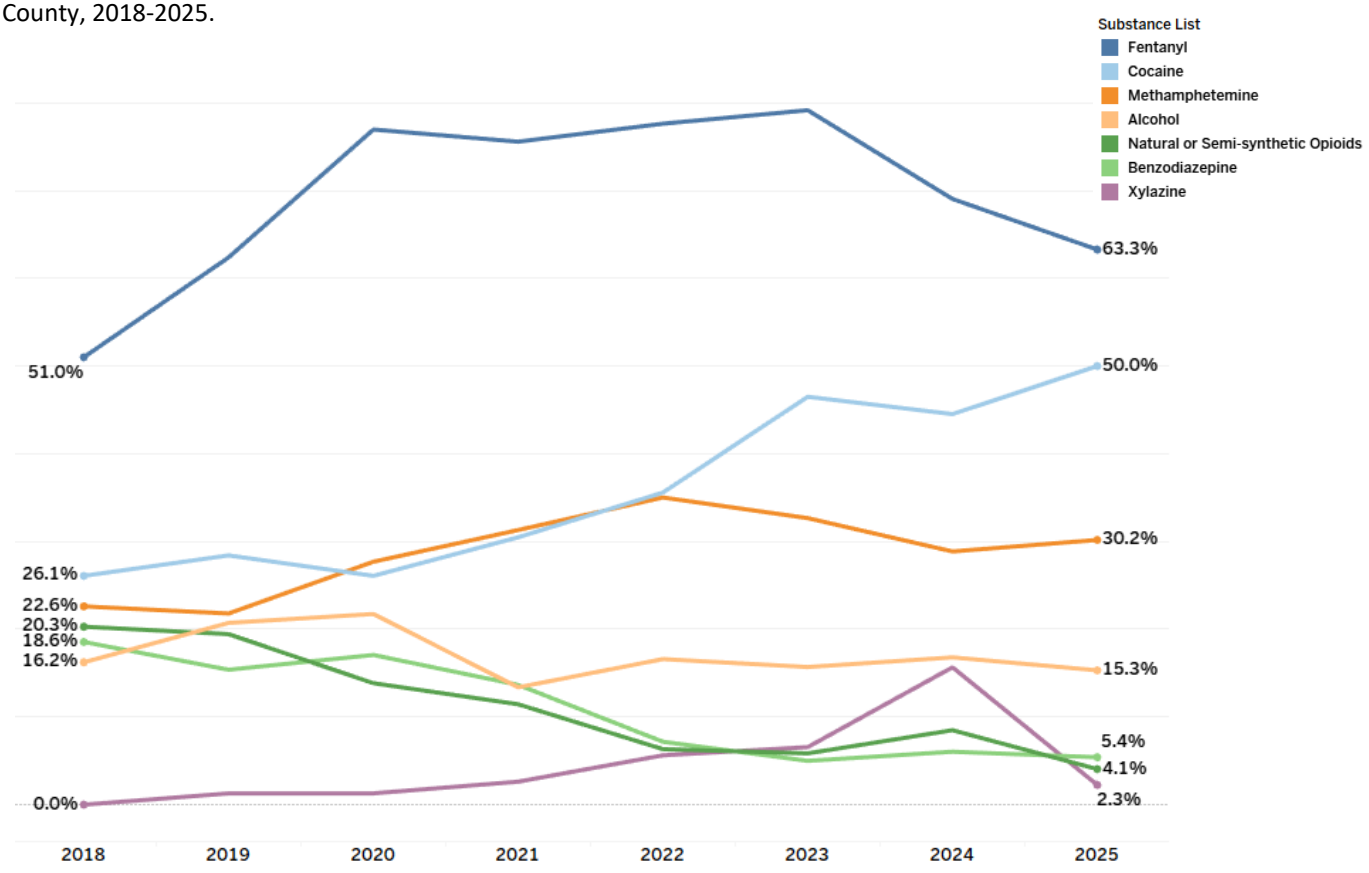
Abbreviations: CI: confidence interval; ref: referent group. †Age-adjusted rates are calculated based on the 2000 U.S. standard population. For age groups, crude rates are given. * Absolute change is the difference in the rate between 2023 and 2024. Relative change is absolute change divided by the 2023 rate and multiplied by 100. Rate ratio <1 indicates that the comparison group has lower mortality than the reference group. Rate ratio >1 indicates that the comparison group has higher mortality than the reference group.

The Toxicology of Fatal Overdoses

Since 2020, fentanyl has consistently been detected and identified as a cause of death (COD) in approximately two-thirds of all fatal suspected drug overdoses.

- In 2025, fentanyl was detected in roughly 63% of suspected drug overdose fatalities. This is a 8.4% decrease from 2024 **(Figure 9)**.
- Following fentanyl, in 2025, cocaine and psychostimulants (like methamphetamines) were the most detected substances identified as a cause of death (COD) at 50% and 30% respectively.

Figure 9. Percentage of the top 7 cause of death (COD) substances among fatal drug overdoses by year, Davidson County, 2018-2025.

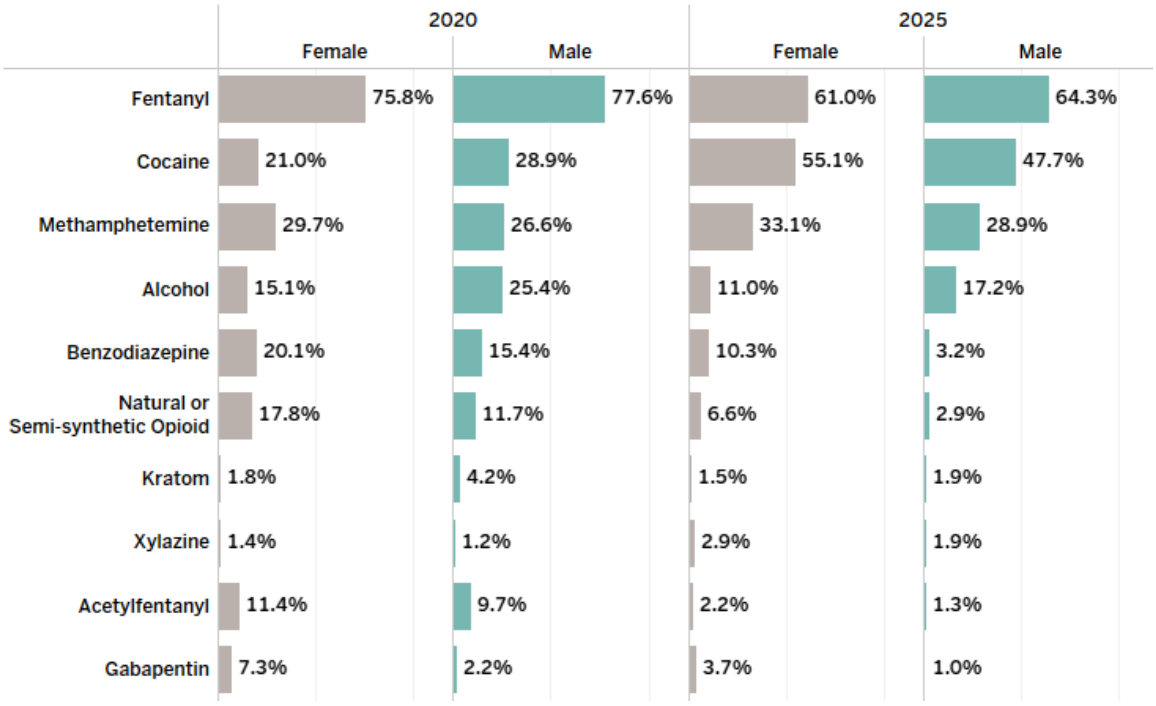


The Toxicology of Fatal Overdoses by Sex

The proportion of overdose deaths in which fentanyl was detected and identified as a cause of death (COD) has been similar between males and females from 2020 through 2025.

- Fentanyl identification as a COD has decreased among both male and female decedents (**Figure 10**).
- Cocaine has been identified as a COD in a greater proportion of females than males in 2025.
- From 2020 to 2025, the percentage of cocaine detections as a COD increased among males (65.1%) and females (162.4%).
- From 2020 to 2025, identification of benzodiazepines as COD has decreased significantly among male (-79.2%) and female (-48.8%) decedents.

Figure 10. Percentage of cause of death substances among fatal drug overdoses by sex, Davidson County, 2020 & 2025



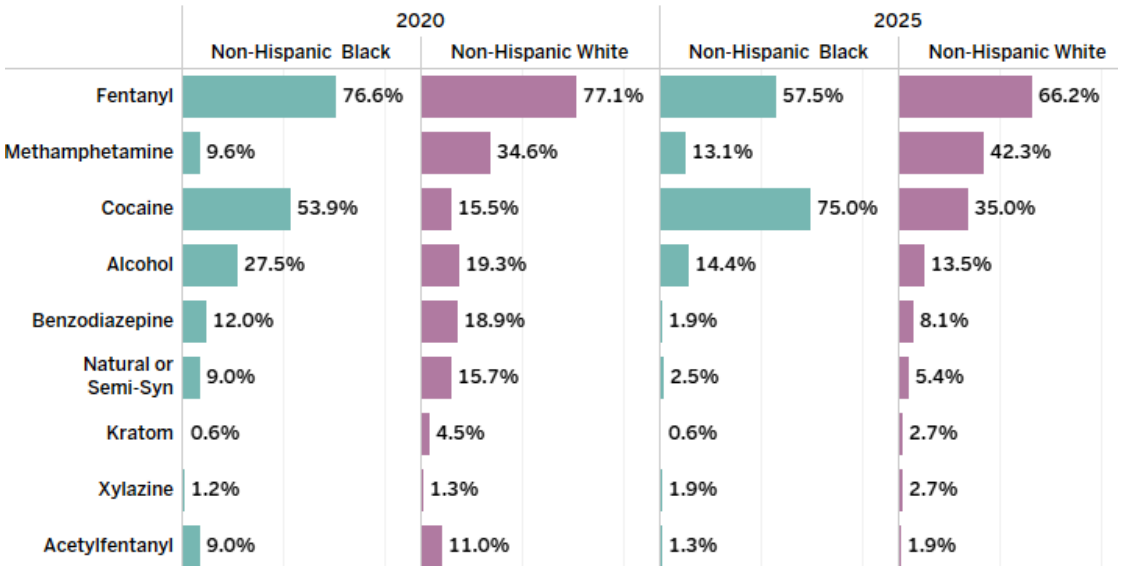
Note: Percentages may vary due to missing values for sex, and to multi-substance detections per overdose event.

The Toxicology of Fatal Overdoses by Race

The proportion of overdose deaths in which fentanyl was detected and identified as a cause of death (COD) is greater in White persons compared to Black persons.

- Fentanyl detections have decreased across all race/ethnicities, and each year the level of detections among Black vs. White persons have been comparable **(Figure 11)**.
- In 2025, cocaine was identified as a COD in approximately 75% of overdose deaths among Black persons compared to among 35% of White persons. Compared to 2020, this represented an increase in cocaine detection of 39.1% and 125.8% among Black and White persons, respectively.
- In 2025, psychostimulants were identified in approximately 42% of overdose deaths among White persons compared to among 13% of Black persons.

Figure 11. Percentage of cause of death substances among fatal drug overdoses by race, Davidson County, 2020 & 2025



Note: Percentages may vary due to missing values for race/ethnicity and to multi-substance detections per overdose event.

Polysubstance Use

The proportion of overdose deaths involving both fentanyl and stimulants has increased from 2018 through 2024.

- From 2024 to 2025, the proportion of overdose fatalities involving fentanyl overall decreased from 69.9% to 64.8%, not shown in Table 4.
- Cases with a combination of fentanyl with cocaine and/or psychostimulants increased by 11.3%.
- Detections of fentanyl and cocaine combinations have increased by 16.1% (44.6% to 51.8%) **(Table 4)**.

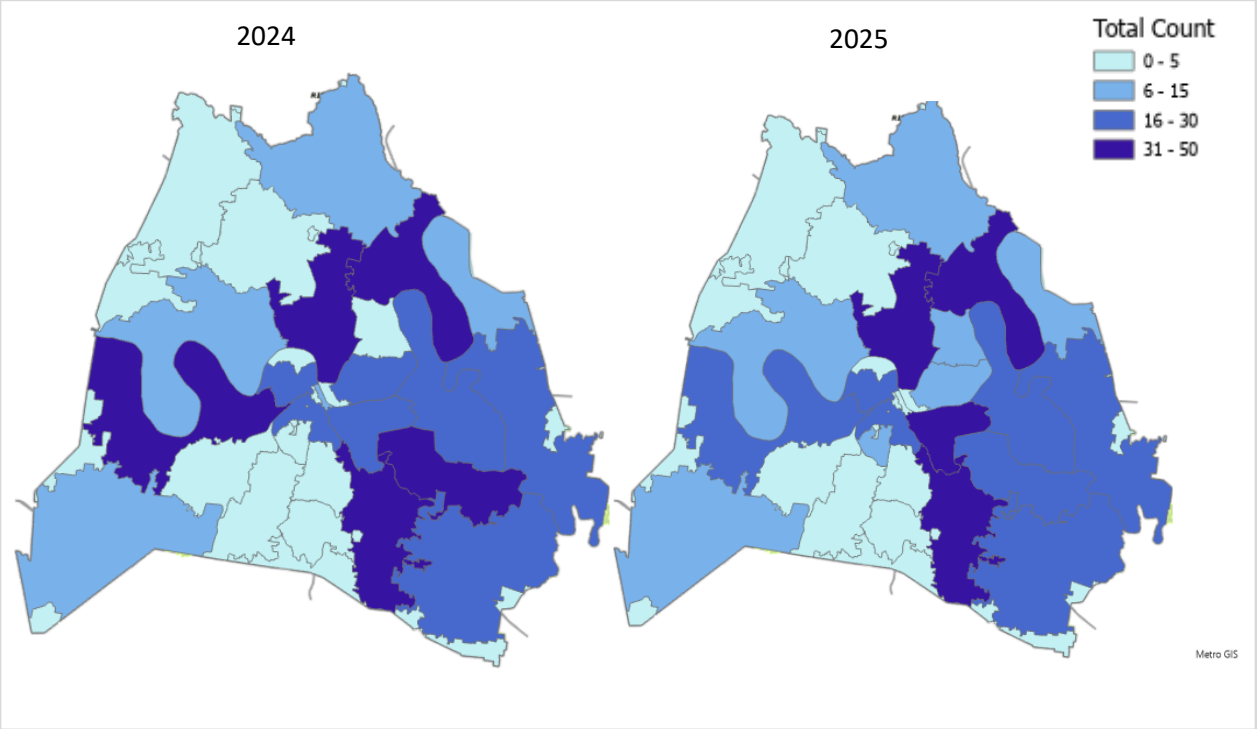
Table 4. Percentage of suspected fatal drug overdoses involving fentanyl in which stimulants were detected, Davidson County, 2024-2025

	2024	2025
Fentanyl	325	274
% Fentanyl Cases with Cocaine and/or Pyschostimulant	65.2	72.6
% Fentanyl Cases with Cocaine Only	44.6	51.8
% Fentanyl Cases with Pyschostimulants Only	20.6	20.8
% Fentanyl Cases with Both Cocaine and Pyschostimulants	7.4	11.7

Note: These categories are not mutually exclusive, so percentages may not add up to 100.

Zip Code Distribution 2024 and 2025

Figure 12. Total Suspected Drug Overdose Deaths by Incident Zip Code, Davidson County, 2024-2025



The top 5 zip codes for the total number of suspected drug overdose deaths in 2024 were 37115, 37211, 37207, 37217, and 37209 **(Figure 12)**. The top 5 zip codes for 2025 were 37211, 37210, 37115, 37207, and 37013. Two of the top zip codes saw a reduction in deaths compared to 2024, 37115 (-26%) and 37210 (-23%). Based on socio-economics data and community vulnerability assessments, these zip codes are traditionally low-income and relatively deprived areas in Davidson County and surrounding counties.[7, 8] The data-driven responses to the local drug overdose crisis, including community outreach and distribution of harm reduction tools, also tend to concentrate in these areas.

Limitations

Racial/ethnic designations are generally subject to classification errors. Therefore, there is the potential for misclassification of the race variable even if, as in this brief, the race variable is restricted to White and Black/African American races due to the paucity of data in reference sources. The demographic categories of "other" race groups, and the <15 and over 65-year-old age groups were excluded from this brief because they contained too few observations for presentation or rate calculations. These restrictions limit the scope of disparity analysis as it excludes mortality involving other racial/ethnic, cultural, or linguistic minorities. Secondly, the Medical Examiner (ME) data contained observations for individuals whose residency status was unknown, and these were excluded from subcounty analysis. While every effort is made to distinguish overdoses involving illicit drugs or illicit drug use, the fatal overdoses reported in this brief may include overdoses with non-illicit substances.

Conclusion

Suspected overdose fatalities have had a persistent impact on people across Davidson County. Countywide, the rate of overdose fatalities more than doubled between 2018 and 2025. Consistently, however, the highest rates were in the traditionally low-income and relatively deprived areas in Davidson County and surrounding counties. Males, those in the 45-to-54-year-old age group, and Black persons experienced the highest age-adjusted fatality rates. Fentanyl continues to be detected and identified as a cause of death (COD) in most overdose deaths. However, co-detection of fentanyl and stimulants (cocaine and psychostimulants) has become increasingly common. It is unclear if this polysubstance use is intentional or unintentional. The role of race in determining the substances taken together with fentanyl and the implications of these patterns of drug use/exposure, will need further investigation.

Overall, our data indicate that drug overdose fatalities may be disproportionately affecting Black persons and males in the 45-54 years age range. Similar trends have been reported at the national level and involve other racial/ethnic minorities. A recent CDC report indicates that between 2021 and 2022, rates were highest among American Indian or Alaska Native people.[9] Gleaning from national trends, other racial/ethnic, cultural and/or linguistic and minority communities that are not reported in this brief (due to small numbers) are likely impacted disproportionately in Davidson County as well.[9-11] Further exploration and analysis of this data is necessary and ongoing. Specifically, the additional evaluation is focused on social determinants of health to inform county-specific, multisectoral, and culturally responsive surveillance and prevention efforts. With additional analysis, this information can support the development of equitable public health interventions in collaboration with community partners. Given the history of housing segregation,[11] the incorporation of geospatial analytics, particularly of fatality hotspots further informs the targeting of prevention and harm reduction interventions to high-risk communities in Davidson County.

Local Responses

Since 2019, the Metro Public Health Department has led a collective impact strategy to address the overdose crisis in Davidson County and surrounding High Impact Area (HIA) counties (Cheatham, Dickson, Montgomery, Rutherford and Wilson Counties). The collaborative partners include public health and public safety agencies, healthcare providers, and community stakeholders. The strategy focuses on real-time overdose surveillance and harm reduction, particularly through near-real time data sharing, increased Naloxone availability and public education on overdose response. The primary goal of the strategy is to save as many lives as possible.

A team of epidemiologists manages data collection and analysis, sharing insights with prevention specialists, emergency responders, community outreach workers, treatment providers, and local officials – such as policymakers and council members. This data-driven approach allows for dynamic responses to changing hotspots and risk patterns across the HIA region.

The strategy's success is evident in declining overdose death statistics. In Davidson County, overdose deaths decreased from 518 in 2021 to 298 in 2025, a continuation of reductions observed since 2022. The overdose-associated Years of Life Lost (YLL) dropped from 31.2 years in 2023 to 28.0 years in 2025, representing approximately 3 years of life saved per prevented overdose. Community outreach efforts and the distribution of harm reduction tools are increasingly concentrated in areas with high mortality rates including the placement of 4 Narcan vending machines in high-activity areas around the county. There also has been an incredible effort to place OneBoxes^{tm} in establishments across the county. Therefore, this collective impact strategy to address the overdose crisis needs to be sustained by increasing the level of investments in harm reduction tools and interventions that link individuals with substance use disorders to evidence-based treatments and remove access barriers.

Technical Notes

Data presented in this report are provisional. Annual rates are calculated per 100,000 Davidson County residents and utilize the 2018-2023 ACS 5-year population estimates as the denominator.[12] The numerator is the total number of deaths suspected to be caused by drug overdose. For age-stratified rates, crude rates are provided. For total overdose deaths and stratification by sex and race, rates were age-adjusted based on the 2000 U.S. standard population using the direct method. Confidence intervals were used to conservatively evaluate statistical significance (p-value <0.05). SAS 9.4 was used to clean, categorize, and analyze data. Tableau was used for data visualization.

Data on suspected fatal overdoses was obtained from the Davidson County Medical Examiner. The medical examiner database (DIDI) was searched for diagnosis codes indicating a drug overdose with illicit drugs, prescription drugs, or a not otherwise specified (NOS) substance among decedents assigned a Davidson County injury location.[6] Cases included both accidental and intentional overdoses. We did not delineate between illicit versus prescribed substances. Davidson County residency was determined based on the zip code of residence and injury location. Inclusion criteria selected records with a Davidson County zip code or an injury location in Davidson County. The list of Davidson County zip codes is available from the Metropolitan Government of Nashville and Davidson County, Planning Department.[4] However, some cases were missing residential information, and these cases were included in the county-wide rate but excluded from subcounty (zip code) rate calculations. Therefore, the counts and rates in this report will differ from those reported in the weekly and quarterly surveillance reports or elsewhere,[4] because these other reports reflect all deaths occurring in Davidson County regardless of the decedents' residency status.

For subcounty analysis, cases missing residential information necessary to determine residency status were excluded, but included for county-level estimation and analysis. The demographic categories of "other" race groups, and the <15 and >65-year-old age groups contained too few observations for presentation or rate calculations based on suppression of 20 cases or fewer. Gender identity and ethnicity were not provided in this data set. Finally, there is potential for misclassification of race.

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Acknowledgments

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