Poisoning Death Review Report
Montgomery County, 2019

Public Health – Dayton & Montgomery County
Prepared by Epidemiology Section
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Executive Summary

285

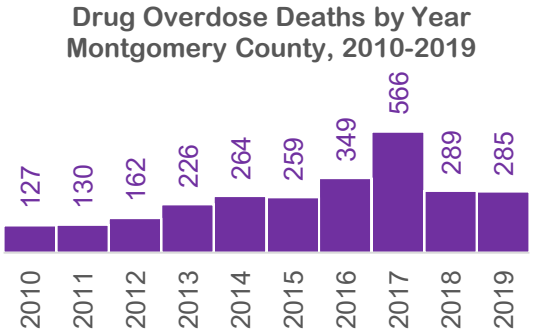
Number of Drug Overdose Deaths that Occurred in Montgomery County in 2019

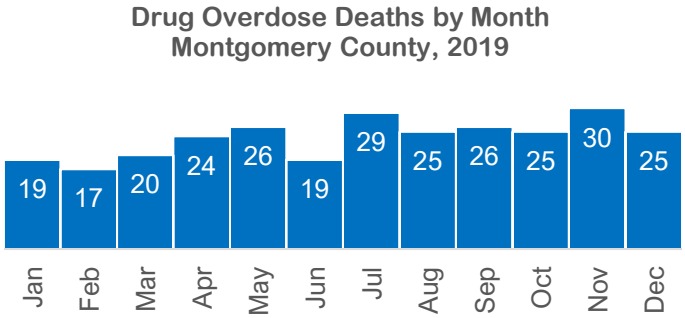
The Poisoning Death Review report provides an overview of accidental drug overdose deaths occurring in Montgomery County. The tables and charts that follow provide information on the number of deaths, the drugs involved, and information about individuals who died from a drug overdose.

This report is accompanied by an Overdose Fatality Review (OFR) addendum that summarizes information from interviews with friends and family members of individuals who died of an overdose. The OFR addendum also provides information on the Key Findings and Recommendations developed by the OFR Committee.

Number of Drug Overdose Deaths

- In 2019, there were 285 drug overdose deaths in Montgomery County, similar to 289 in 2018. The number of deaths per month increased in the second half of 2019, reaching a high of 30 in November.





Demographics

Demographic attributes of the 285 individuals who died of an overdose are below. The most common demographic characteristics were male, White, between the ages of 35 and 44, a high school diploma or GED but no college, single, and receiving Medicaid.

Demographic Attributes Among Overdose Deaths
Montgomery County, 2019

Sex

Male	64%
Female	36%

Race

White	75%
Black	22%
Other	2%

Age

<18	0.4%
19-24	5%
25-34	25%
35-44	31%
45-54	21%
55-64	16%
65+	2%

Highest Education

< High School	29%
High School or GED	47%
Any College	21%

Marital Status

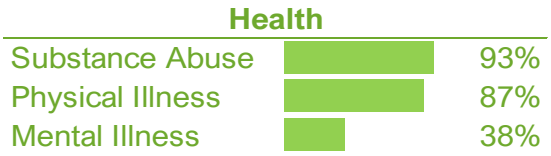
Single	54%
Divorced	24%
Married	15%
Other	5%

Insurance

Medicaid	66%
Medicare	14%
Private	13%
Other	8%

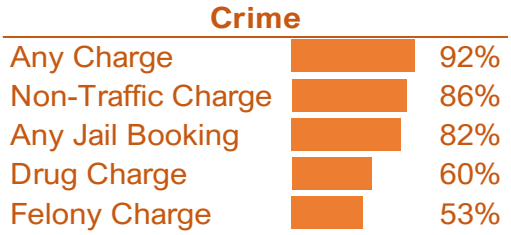
Health

- 93% of individuals who died of a drug overdose in 2019 had a reported substance abuse history.
  - 17% had a hospital overdose visit within 1 year of death.
- 87% of individuals had a reported physical illness. The three most common health problems being heart disease (48%), hypertension (41%) and obesity (35%).
- 38% had a reported history of mental health problems. The most common illnesses were anxiety and depression.



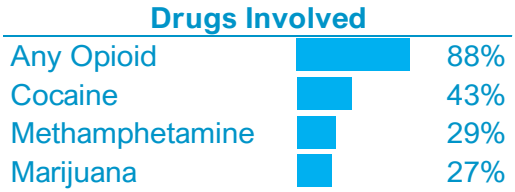
Criminal History

- 92% of individuals had a prior criminal charge in Montgomery County or a county nearby.
- 54% had an interaction with the criminal justice system within one year of death.

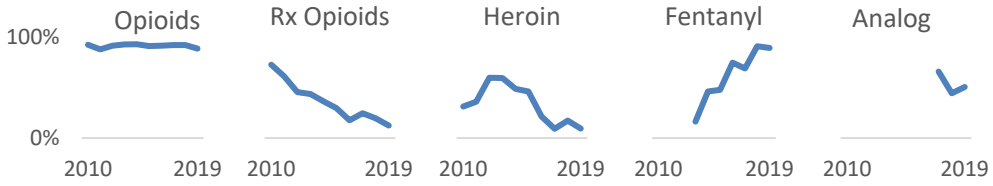


Drugs Present in Toxicology Screen

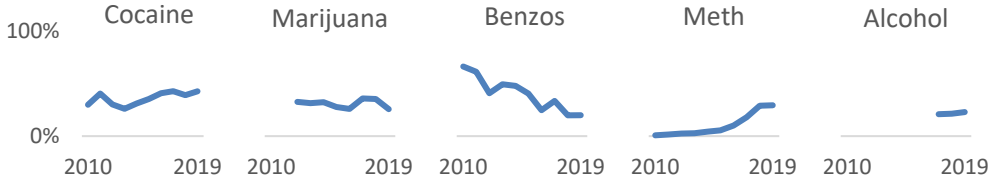
- 88% of overdose deaths had opioids present in the toxicology screen. Illicit fentanyl was the most common opioid.
- Cocaine, methamphetamine, and marijuana were the most common non-opioids in 2019.



- Between 2010 and 2019, the percent of deaths involving any opioid remained stable.
  - The percent involving a prescription opioid declined.
  - The percent involving heroin increased slightly toward the beginning of the decade before declining.
  - The percent, including illicit fentanyl, increased.



- Between 2010 and 2019, the percent of deaths involving cocaine and marijuana remained relatively stable.
  - The percent involving benzodiazepines decreased.
  - The percent involving methamphetamines increased.



Introduction

Poisoning Death Review

The Poisoning Death Review report uses information from the Montgomery County Coroner's Office, the Ohio Department of Health, the local hospital system, and the criminal justice system to provide the community with an overview of data regarding the life and death of individuals who died of a drug overdose. This report provides demographic and health characteristics, as well as information on the circumstances of death and substances used for all individuals who died of a drug overdose that occurred in Montgomery County in 2019.

Methodology

The Montgomery County Coroner's Office collects data on suspected accidental drug overdoses that occurred within Montgomery County and shares this data with Public Health on a weekly basis. When all cases for a given month have been finalized, the Coroner's Office provides Public Health with a complete list of cases as well as autopsy findings, results from toxicology screens, and investigator's notes.

The drug overdose data from the Coroner's Office are linked with the most recent mortality data provided by the Ohio Department of Health (ODH), including a range of demographic information. Public Health staff then review the Coroner's report and investigator's notes to record physical and mental illness, circumstances of death, and substances found in the toxicology screen.

Data relating to hospital visits are provided by Ascend Innovations Inc., a partner of the Greater Dayton Area Hospital Association. Through a grant from the Bureau of Justice Assistance, Ascend provides de-identified hospital data to Public Health regarding insurance, mental and physical health, diagnoses of a substance use disorder, and prior overdose hospital visits.

Criminal history is collected from JusticeWeb, a portal that aggregates information from criminal justice agencies. Police incident reports are reviewed when available. Population data are obtained from the American Community Survey (2014-2018 5-year estimates), administered by the United States Census Bureau. Death rates are calculated per 100,000 residents; counts of Montgomery County residents dying from an overdose are derived from ICD-10 codes in death data from ODH. Because all death investigations in Ohio for 2019 have not yet been finalized, ODH classifies data for 2019 as partial and incomplete as of the writing of this report.

Overdose Fatality Review

Public Health formed an Overdose Fatality Review Committee, modeled after Child Fatality Review Committees already in existence, to better inform prevention efforts. Such teams are in practice in many counties in Ohio and across the country. They can identify and champion efforts to help decrease the number of overdose deaths in Montgomery County. Using aggregate data and deidentified case narratives, the committee develops recommendations to reduce the incidence of overdose deaths that are shared with the Community Overdose Action Team for implementation. More information is available in the 2019 Overdose Fatality Review addendum that accompanies this report.

Overdose Trends

Overdose Deaths by Year

Two hundred eighty-five (285) accidental drug overdose deaths occurred in Montgomery County in 2019; this similar to 2018 when there were 289 deaths.

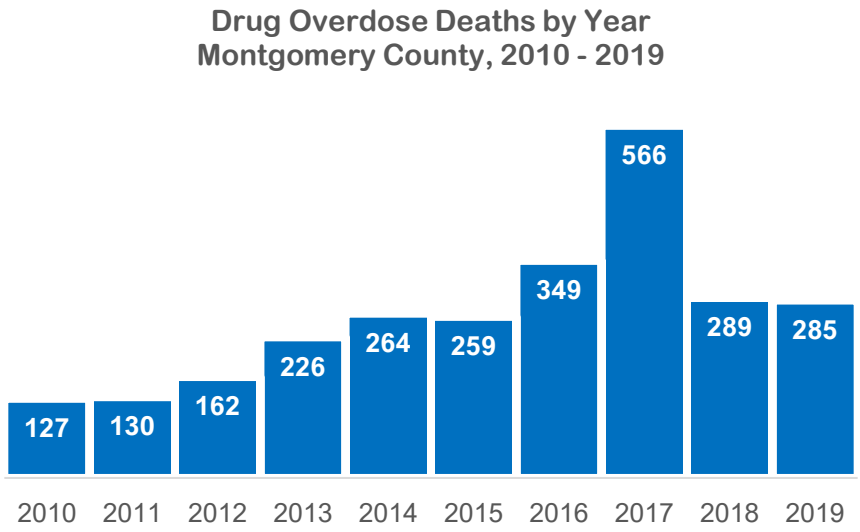


Figure 1: Overdose Deaths in Montgomery County by Year, 2010-2019

Overdose Deaths by Month

The number of overdose deaths in Montgomery County decreased beginning in May of 2017, reaching a low of 14 in March 2018. The number of overdose deaths was higher in the second half of the year in 2018 and 2019.

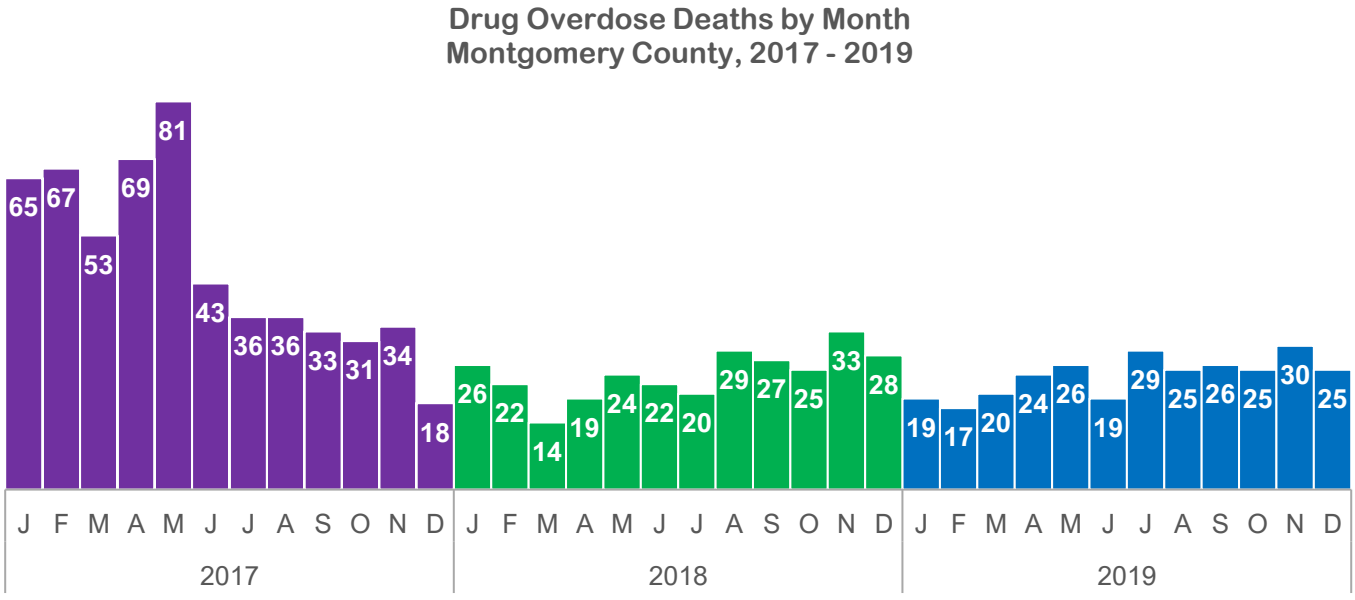


Figure 9: Overdose Deaths in Montgomery County by Month, 2017-2019

Demographics

Sex

In 2019, 64% (183 of 285) of individuals who died of an overdose in Montgomery County were male; 36% (102) were female.

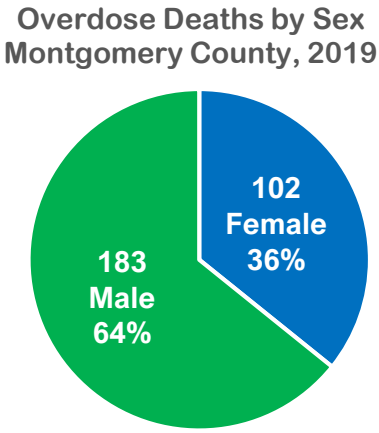


Figure 10: Overdose Deaths in Montgomery County by Sex, 2019

The proportion of individuals who died from an overdose who were men increased nearly 20% between 2010 and 2017 (from 57% to 68%), fell to 60% in 2018, and increased slightly to 64% in 2019.

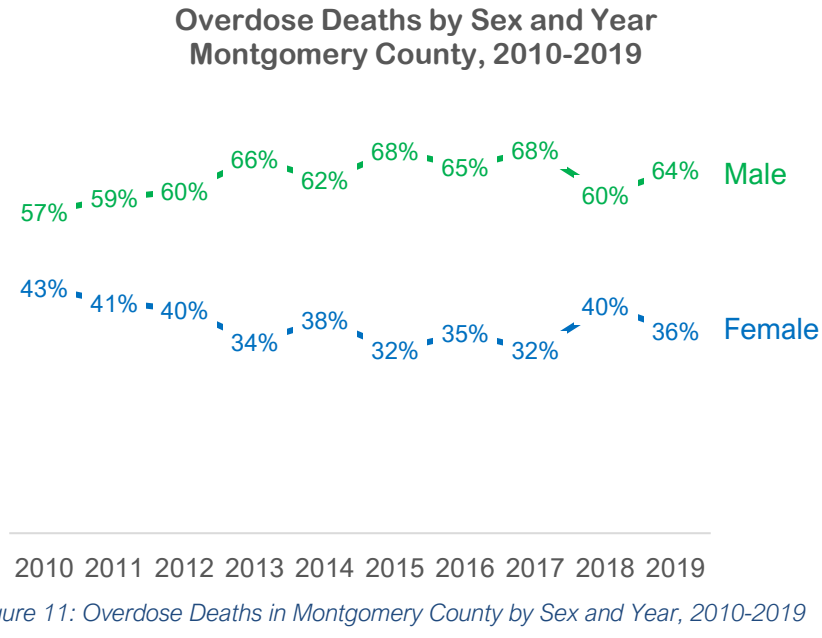


Figure 11: Overdose Deaths in Montgomery County by Sex and Year, 2010-2019

Race

Whites accounted for 75% (215 of 285) of overdose deaths that occurred in Montgomery County in 2019, a 3.4 times higher percent than Blacks (22%).

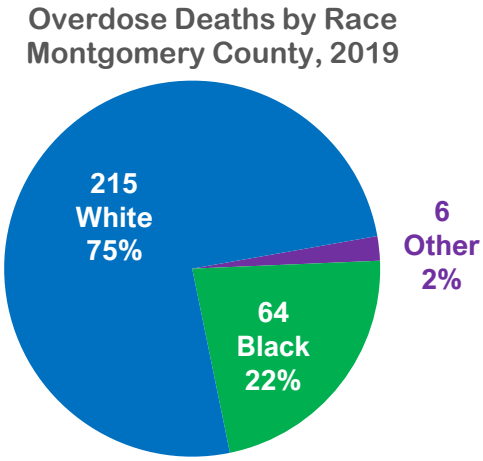


Figure 12: Overdose Deaths in Montgomery County by Race, 2019

The proportion of individuals who died from an overdose who were Black doubled (from 10% to 22%) between 2010 and 2019.

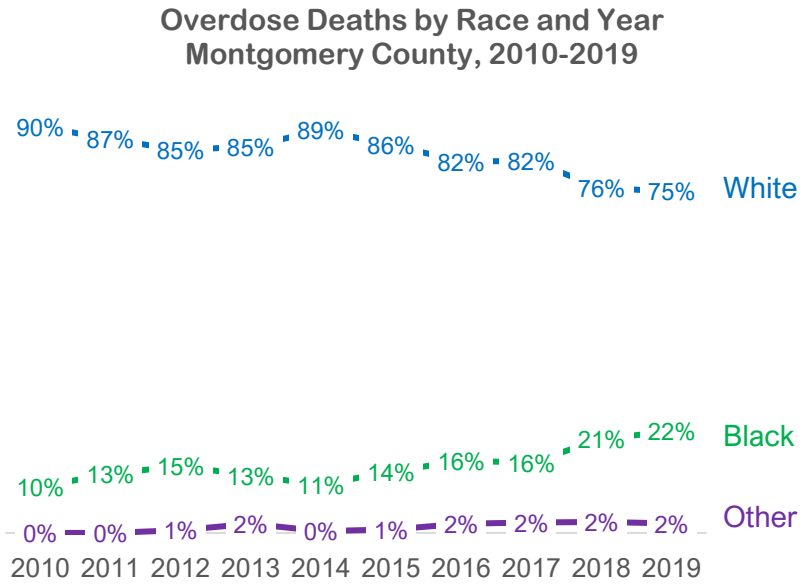


Figure 13: Overdose Deaths in Montgomery County by Race and Year, 2010-2019

Age

The most common age group among individuals who died of a drug overdose in 2019 was 35-44 years, accounting for 31% (88 of 285) of all overdose deaths. The next most common age group was 25-34 years, at 25% (70) of deaths. This is consistent with prior years.

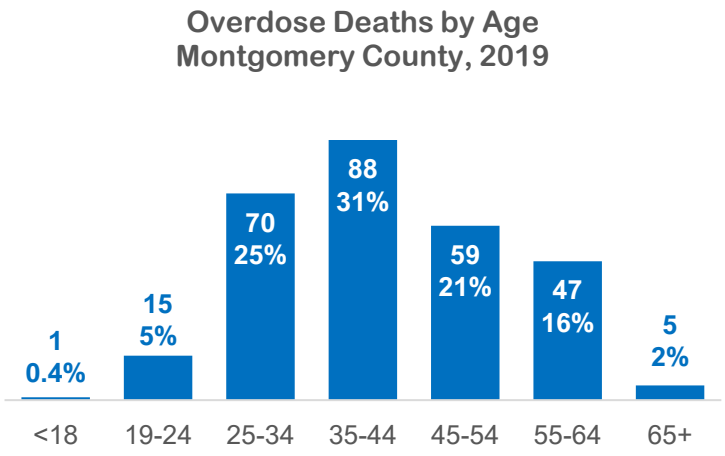


Figure 14: Overdose Deaths in Montgomery County by Age, 2019

Education

Forty-seven percent (47%) of individuals who died of an overdose had a high school diploma or GED but no college education (133 of 285). Just under one in three (29%) had less than a high school education and 21% had any college education. This is an increase from 2017 when 5% had any college education.

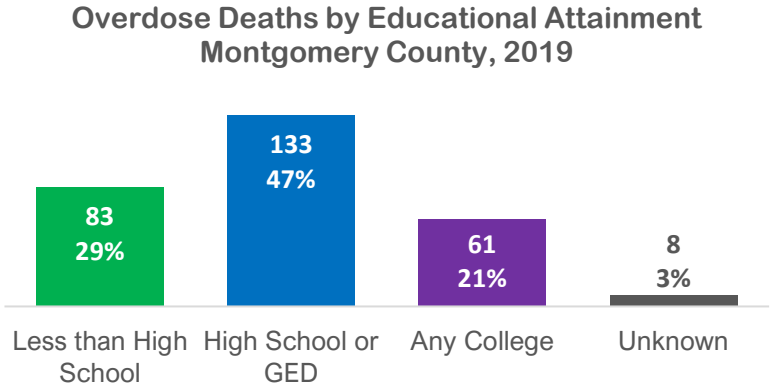


Figure 15: Overdose Deaths in Montgomery County by Educational Attainment, 2019

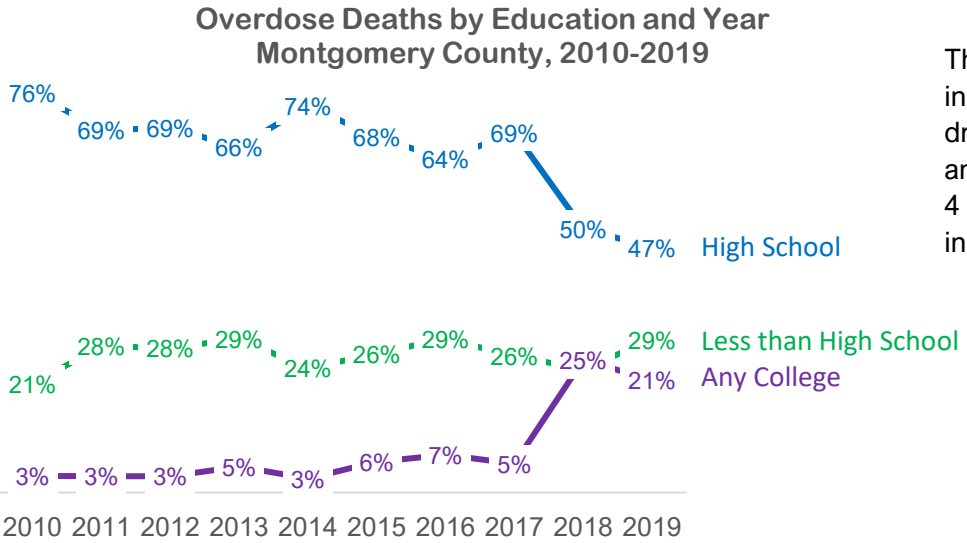


Figure 16: Overdose Deaths in Montgomery County by Educational Attainment and Year, 2010-2019

Note: Education is unknown for 8 individuals

The proportion of individuals who died of a drug overdose who had any college education was 4 times higher in 2019 than in 2017.

Marital Status

Fifty-four percent (54%) of individuals who died of an overdose were single, 24% were divorced, and 15% were married. This is consistent with prior years.

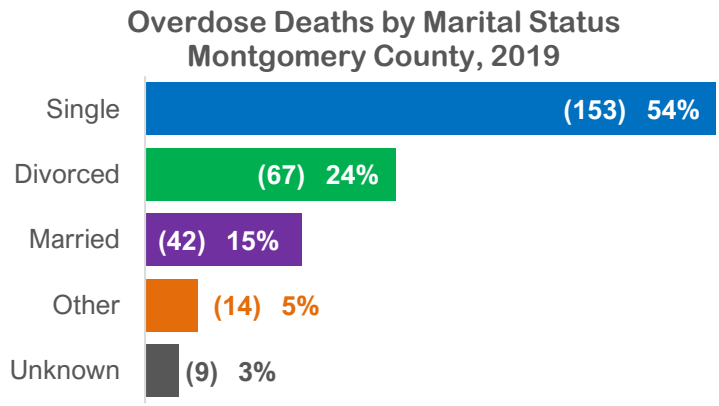


Figure 17: Overdose Deaths in Montgomery County by Marital Status, 2019

Occupation

Of the 234 individuals who died of an overdose and had an occupation reported by family, 42% were employed in manual labor, 21% were service workers, and 10% were unemployed.

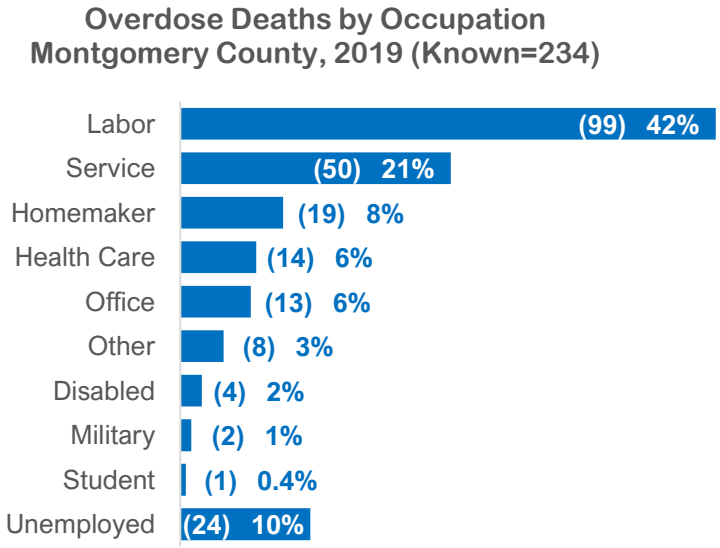


Figure 18: Overdose Deaths in Montgomery County by Occupation, 2019

Insurance

Of the 213 individuals who died of an overdose and who had a visit at an area hospital between 2016 and the date of death, 66% paid for their most recent visit with Medicaid, 14% with Medicare, 13% with commercial insurance, and 8% paid with another insurance type.

The 66% percent of individuals who paid with Medicaid represents a decline from 72% in 2018.

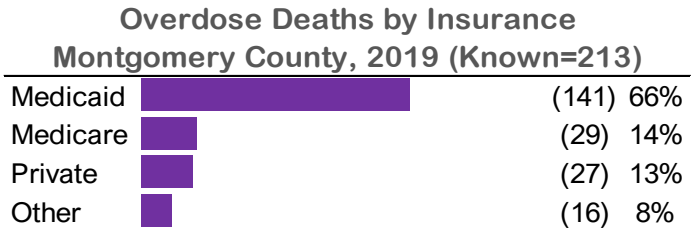


Figure 19: Overdose Deaths in Montgomery County by Insurance, 2019

Health

Individuals with physical health problems may have an increased risk of opioid use and may also have an increased risk of overdose. Conditions associated with a higher risk of overdose among opioid users include HIV, Hepatitis C, liver disease, lung disease, and depression[1]. Information on physical illness, mental illness, and prior substance abuse are collected from autopsy findings and investigator notes from the Coroner's Office or provided by Ascend Innovations, Inc.

Physical Illness

In 2019, 87% of individuals who died of a drug overdose had a reported physical illness. The most common illnesses were heart disease, hypertension, obesity, chronic pain, and COPD*.

Physical Illnesses Among Overdose Deaths
Montgomery County, 2019

Physical Illness	#	%
Heart Disease	136	48%
Hypertension	116	41%
Obesity	101	35%
Chronic Pain	64	22%
COPD*	59	21%
Kidney Disease	51	18%
Asthma	51	18%
Other Liver Disease	50	18%
Hepatitis C	39	14%
Sleep Disorder	33	12%
Diabetes	28	10%

*Chronic Obstructive Pulmonary Disease

Table 1: Physical Illnesses Among Overdose Deaths in Montgomery County, 2019

Mental Illness

Thirty-eight percent (109 of 285) of individuals who died of a drug overdose had a reported mental health condition. The most common diagnoses were anxiety (21%) and depression (18%).

Substance Abuse and Prior Overdoses

- 93% (265) of individuals who died of an overdose had a reported history of substance abuse
  - 86% (244) had substance abuse reported to the coroner
  - 60% (170) had a drug charge indicating illegal substance use
  - 48% (137) had a hospital visit for substance abuse
- 26% (74) had a hospital visit for an overdose between 2016 and death
  - This represents a decrease from 36% in 2018
  - 17% (49) had an overdose visit within one year of death
    - 13% (36) had an overdose visit within six months of death
  - 9% (25) had more than one visit

[1] World Health Organization. "Information sheet on opioid overdose." November 2014. http://www.who.int/substance_abuse/information-sheet/en/. Accessed April 10, 2018.

Criminal History

Criminal charges, court cases, and jail time reflect both an individual's behavior and contact they have with the criminal justice system. Officers and other personnel can use these interactions to provide resources and referrals to individuals at risk of overdose, especially those who have had an overdose before. This information was retrieved from JusticeWeb.

Lifetime Criminal History

Of the 285 individuals who died of an overdose:

- 92% (262) had any type of criminal charge
- 86% (245) had a non-traffic charge
- 82% (235) had any jail booking in their lifetime
  - 8% increase over 76% in 2018
- 60% (170) had a drug charge
- 53% (150) had a felony charge

The most common charges were drug/paraphernalia possession, robbery/theft, OVI, and disorderly conduct.

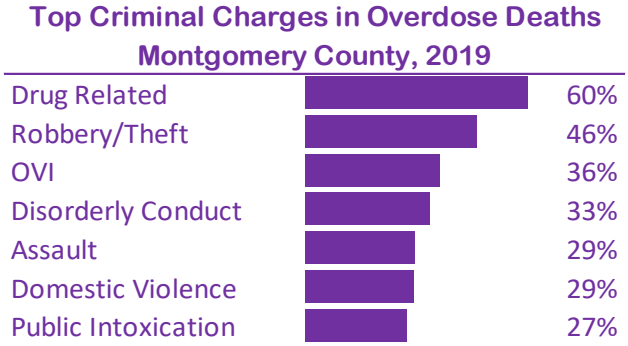
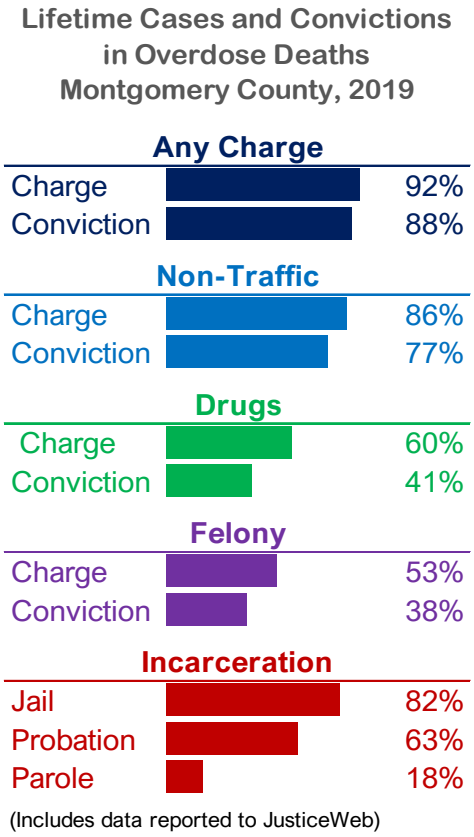


Figure 20: Criminal Charges Among Overdose Deaths in Montgomery County, 2019



(Includes data reported to JusticeWeb)

Figure 21: Criminal History Among Overdose Deaths in Montgomery County, 2019

Criminal Justice System Contact

Of the 285 individuals who died of a drug overdose, 54% had contact with the criminal justice system within 1 year of death, 17% had contact within 1 month of death, and 6% had contact within 1 week of death.

Time of Last Criminal Justice Contact by Type of Interaction
Montgomery County, 2019

	Any Contact	Release from Jail	Drug-Related
Ever	91%	82%	60%
Within 1 Year	54%	37%	21%
Within 1 Month	17%	11%	6%
Within 1 Week	6%	4%	2%

Table 2: Time Since Criminal Justice Contact Among Overdose Deaths in Montgomery County, 2019

Note: Additional criminal history information for overdose deaths in 2019 can be found in Appendix I.

Incident Information

Location of Overdose Death

In 2019, 76% percent of incidents occurred at the individual's home or that of a friend or family member. This is similar to 2018.

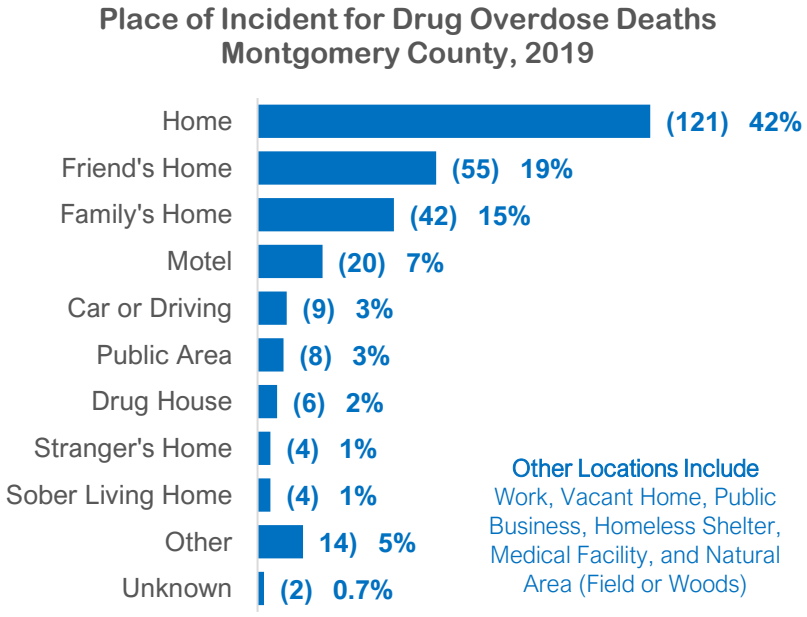


Figure 22: Place of Incident Among Drug Overdose Deaths in Montgomery County, 2019

Alone at the Time of Overdose

Sixty-two percent (62%) of individuals who died of a drug overdose in 2019 were reported to be alone at the time of overdose. This is similar to 2018.

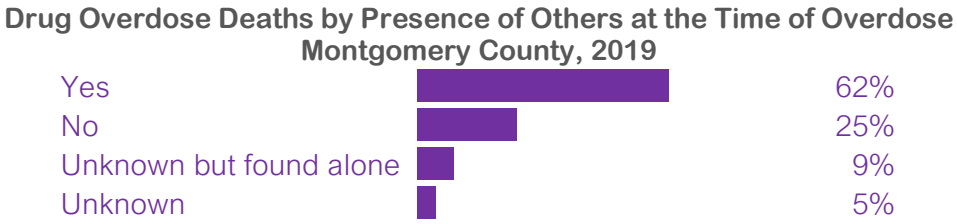


Table 3: Drug Overdose Deaths by Presence of Others in Montgomery County, 2019

Reported Period of Abstinence

Eighteen percent (18%) of individuals were reported to have been in a facility (jail or treatment facility) and four percent were reported to be sober/in recovery within one month of death. The percent who was recently in jail or treatment represents a slight increase from 14% in 2018.

Naloxone Administration

Just over one in three (37%) individuals were given naloxone at the time of overdose according to the Coroner's notes and toxicology screens. This is consistent with 2018. Four percent of individuals are known to have received naloxone administered by bystanders.

Drugs Involved in Overdose Deaths

The increase in overdose deaths in 2017 was associated with the appearance of more lethal drugs in the local supply. Illicit fentanyl and fentanyl analogs are extremely potent opioids that contributed to this increase. Fentanyl, one of its analogs, or both were present in 236 cases in 2019, 83% of all overdose deaths. This is similar to the percent of deaths in 2017 and 2018 involving one or both of these drugs.

Most Common Drugs in Toxicology Screens

Opioids were the most common substance found in toxicology screens, appearing in 88% of cases. This is twice as many overdose deaths as cocaine, the next most common drug mentioned.

Definition of a Drug Mention

A Drug Mention means that a substance was found in the individual's body at the time of hospital admission or after death, as reported in the Montgomery County Coroner's toxicology screen. The substance was not necessarily the cause of death and individuals may have multiple substances in their system at the time of death, so percentages may sum to more than 100%.

Drug Mentions in Overdose Deaths
Montgomery County, 2019

Substance	# of Deaths	% of Deaths
Any Opioid	251	88%
Cocaine	122	43%
Methamphetamine	84	29%
Marijuana	76	27%
Alcohol	69	24%
Benzodiazepines	60	21%
Antidepressants	52	18%
Antihistamines/Sleep Aids	44	15%

Table 4: Drug Mentions Among Overdose Deaths in Montgomery County, 2019

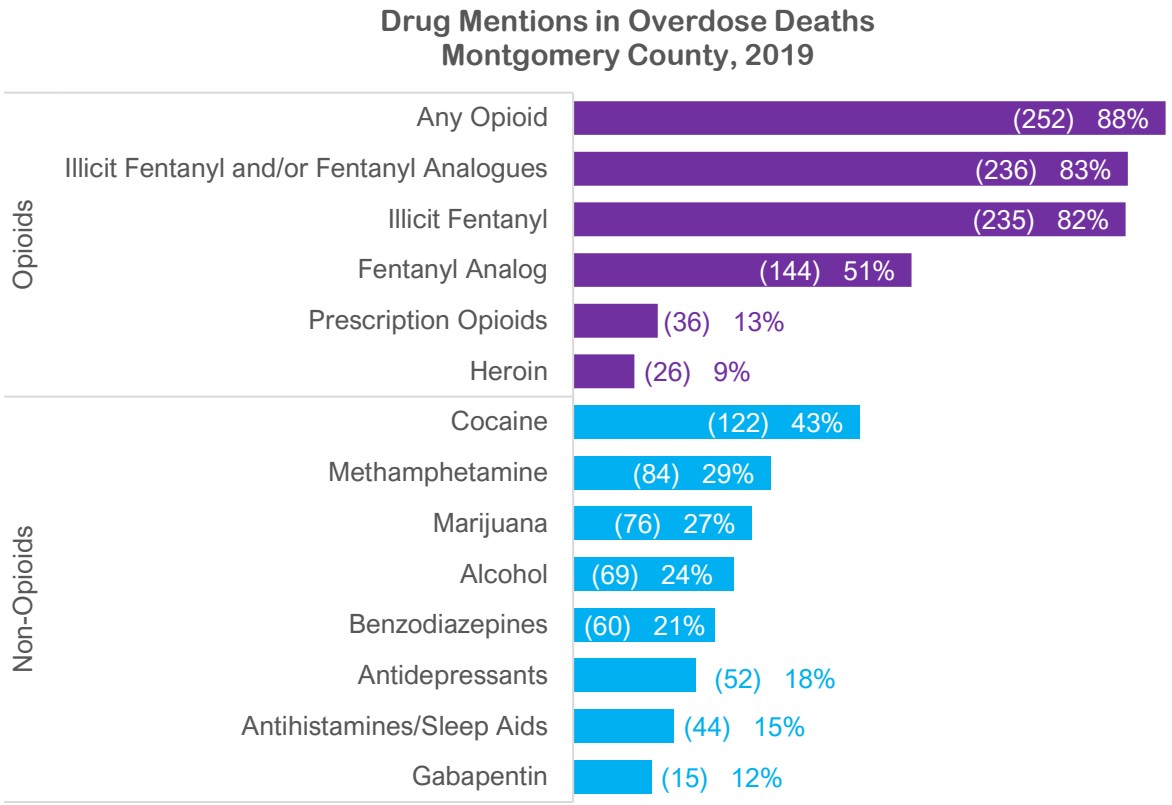


Figure 23: Drug Mentions Among Overdose Deaths in Montgomery County, 2019

Opioids

Opioids appeared in 88% of overdose deaths in 2018, a proportion consistent with prior years.

88%

Percent of Drug Overdose Deaths Involving Opioids

Figure 20 shows overdose deaths with opioid mentions between 2010 and 2019. The bar chart represents the total number of overdose deaths involving opioids, while the line chart shows the percent of all overdose deaths that involved opioids.

While the percent of cases with opioids remained stable between 2010 and 2019, the number of overall and opioid-related overdose deaths increased dramatically between 2010 and 2017 before declining in 2018 and remaining stable in 2019. The number of overdose deaths involving opioids was 52% lower in 2019 than in 2017 (251 vs. 520).

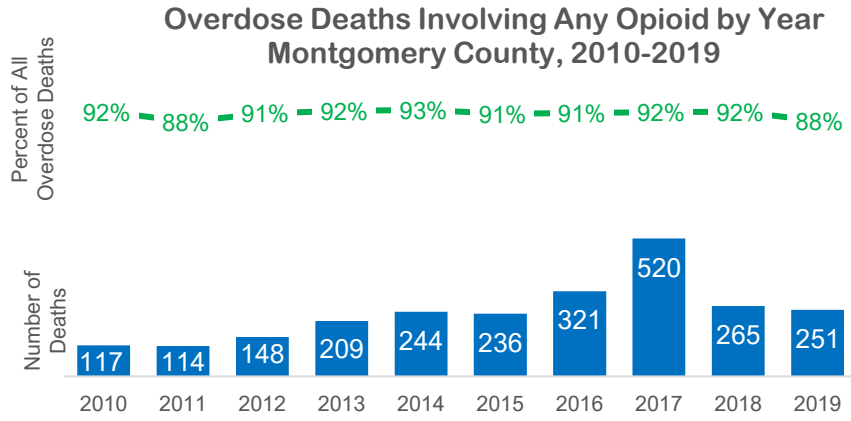
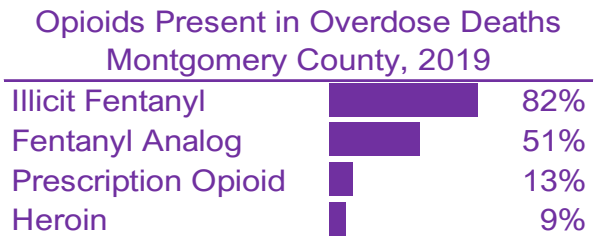


Figure 24: Opioid Overdose Deaths Among Overdose Deaths in Montgomery County, 2010-2019

Opioids Present in Overdose Deaths

Illicit fentanyl and fentanyl analogs and were the most common opioids in 2019, appearing in 82% and 51% of opioid overdose deaths, respectively. These often appeared in combination with other substances.

The most common mentions of opioids are as follows:



Note: A full list of opioid combinations found in toxicology screens in 2019 can be found in Appendix I.

Figure 25: Opioids Present Among Overdose Deaths in Montgomery County, 2019

Prescription Opioids

The percent of overdose deaths involving prescription opioids (excluding fentanyl) decreased by 83% between 2010 and 2019. These prescription drugs appeared in the individuals' toxicology screens. It is unknown if they received a prescription, obtained the drugs illicitly, or both.

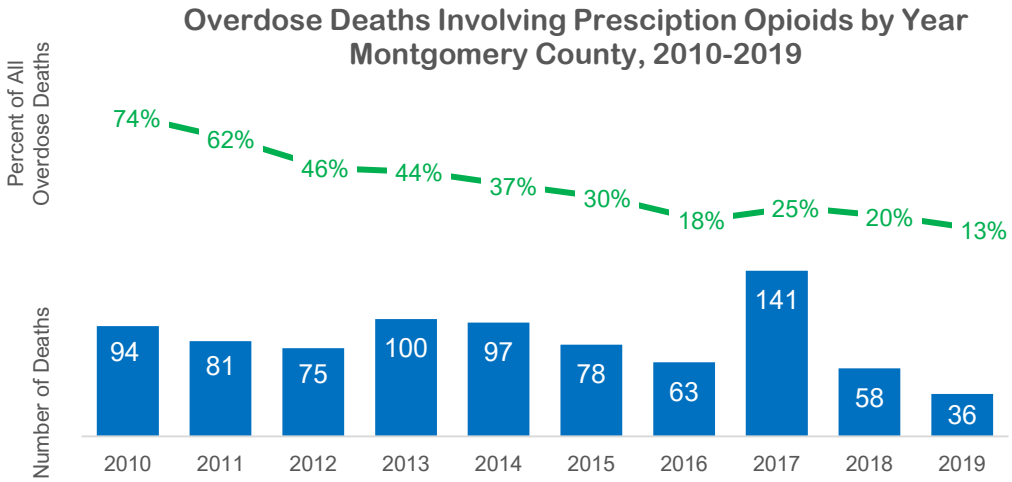


Figure 26: Prescription Opioids Among Overdose Deaths in Montgomery County, 2010-2019

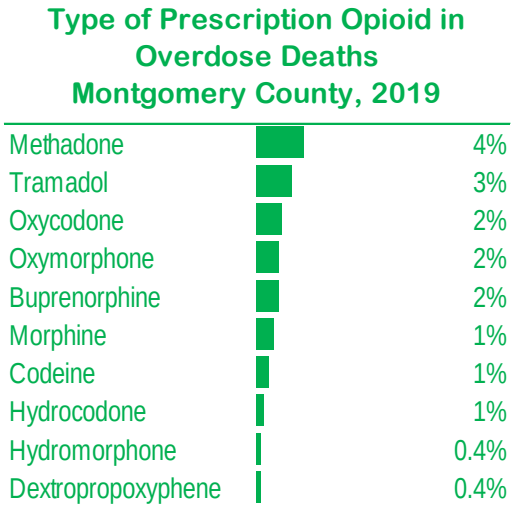


Figure 27: Prescription Opioids Present Among Overdose Deaths in Montgomery County, 2019

Buprenorphine, an opioid used to treat substance use disorder, was found in the toxicology screens for 5 overdose deaths in 2019.

Note:
Information on prescription opioids present in overdose deaths between 2010 and 2019 can be found in Appendix I.

Heroin

Heroin appeared in nearly 60% of overdose deaths in 2012 and 2013 and 9% in 2019. Between 2013 and 2019, the percent of deaths involving heroin declined by 84%.

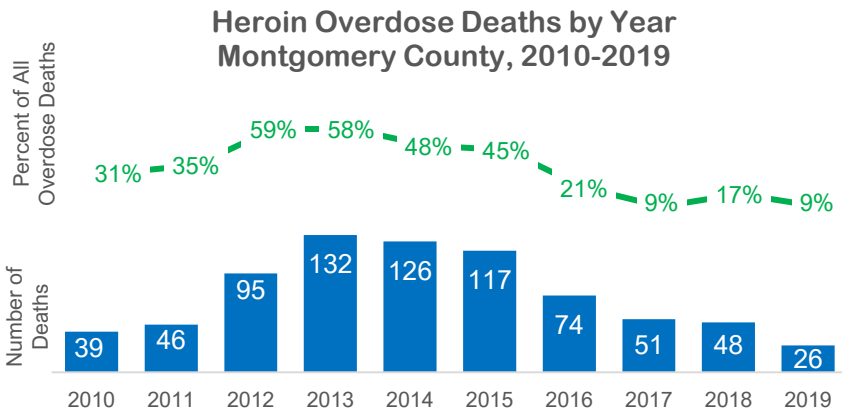


Figure 28: Heroin Among Overdose Deaths in Montgomery County, 2010-2019

Illicit Fentanyl and/or Fentanyl Analogs

Overdose deaths with mentions of illicit fentanyl and/or fentanyl analogs increased in number and percent between 2014 and 2017. The number of deaths involving these synthetic opioids declined in 2018, and the percent of overdoses involving these drugs remained stable in 2019.

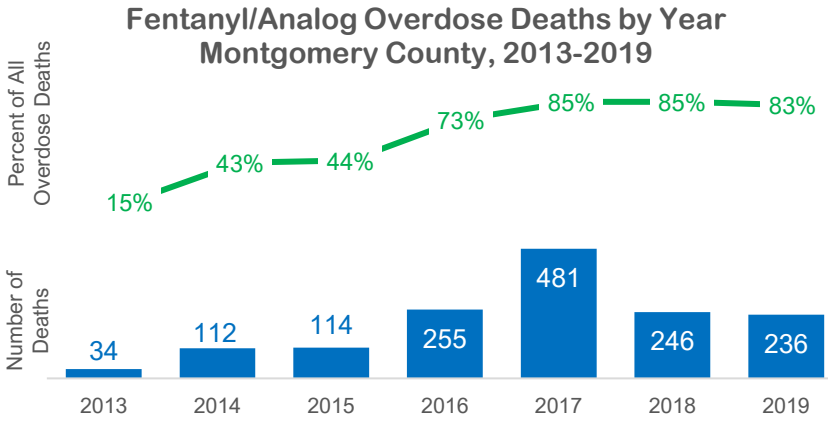


Figure 29: Fentanyl and/or Analogs Among Overdose Deaths in Montgomery County, 2013-2019

Illicit Fentanyl

Overdose deaths with mentions of illicit fentanyl increased in number between 2013 and 2017; the percent of all deaths involving illicit fentanyl continued to increase through 2018 and remained stable in 2019.

In 2019, 82% of deaths involved illicit fentanyl. This is similar to 2018.

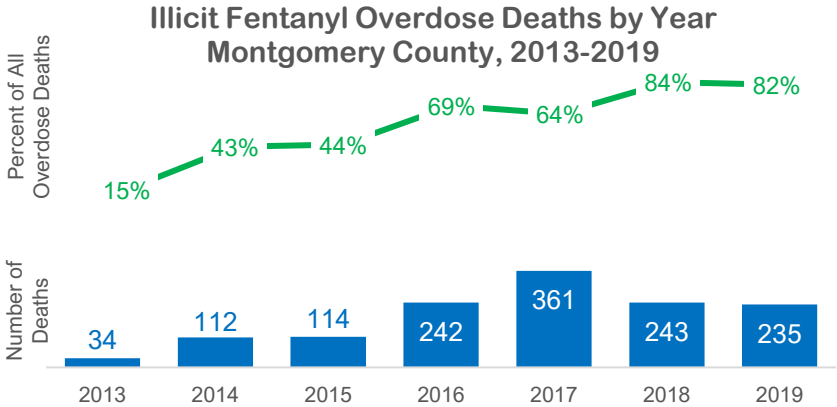


Figure 30: Illicit Fentanyl Among Overdose Deaths in Montgomery County, 2013-2019

Fentanyl Analogs

Fentanyl analogs are drugs that are similar in structure to fentanyl but can be far more potent. The Miami Valley Crime Laboratory began routinely testing for fentanyl analogs in late 2016.

The percent of deaths involving fentanyl analogs decreased by 33% between 2017 and 2018, then increased slightly in 2019.

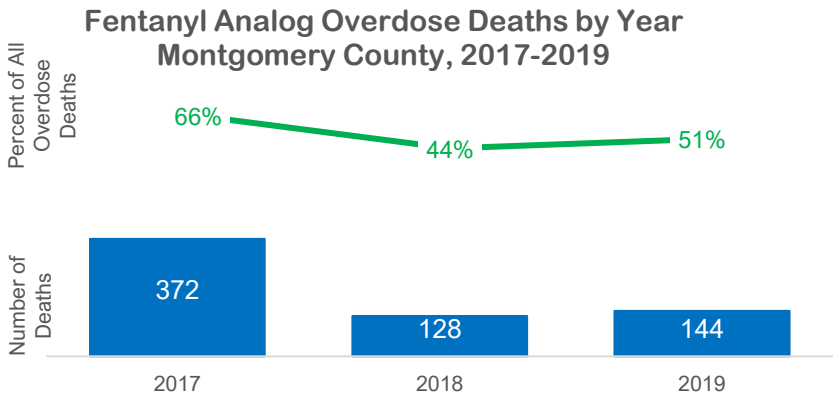


Figure 31: Fentanyl Analogs Among Overdose Deaths by Year, 2017 – 2019

Types of Fentanyl Analogs

Desproprionyl fentanyl was the most common fentanyl analog present in overdose deaths in both 2018 and 2019. Carfentanil, which was present in 41% of all overdose deaths in 2017, was present in only 1.4% in 2019.

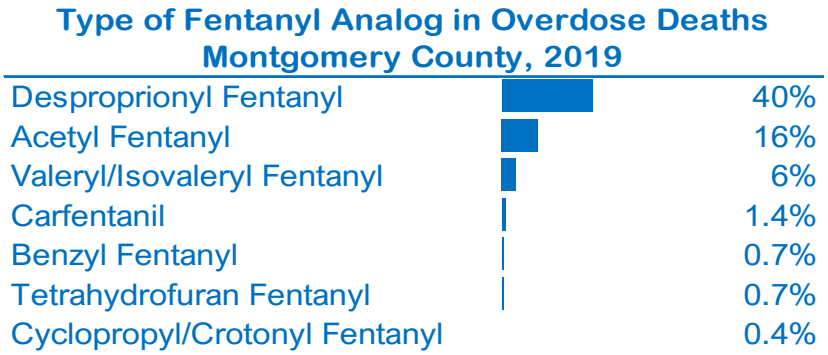


Figure 32: Fentanyl Analogs Present Among Overdose Deaths in Montgomery County, 2019

Note:
Additional information on fentanyl analogs can be found in the Appendix.

Individuals can have multiple fentanyl analogs in their system at the time of death, so percentages may sum to more than 100%.

Cocaine

In 2019, 43% of drug overdose deaths involved cocaine. This is consistent with recent years; between 2016 and 2018, cocaine was involved in 41% of all overdose deaths.

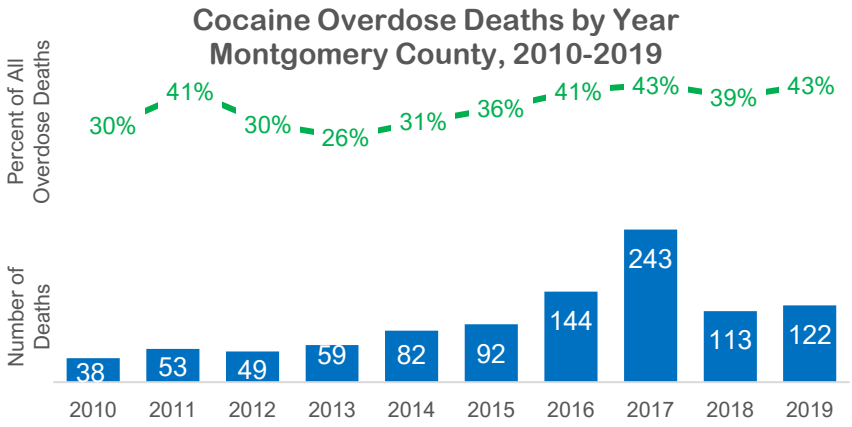


Figure 33: Cocaine Among Overdose Deaths in Montgomery County, 2010-2019

Of the 122 overdose deaths involving cocaine, 107 (nearly 9 in 10) also involved opioids.

Methamphetamine

The percent of deaths involving methamphetamine increased from 1% in 2010 to 29% in 2018 and 2019.

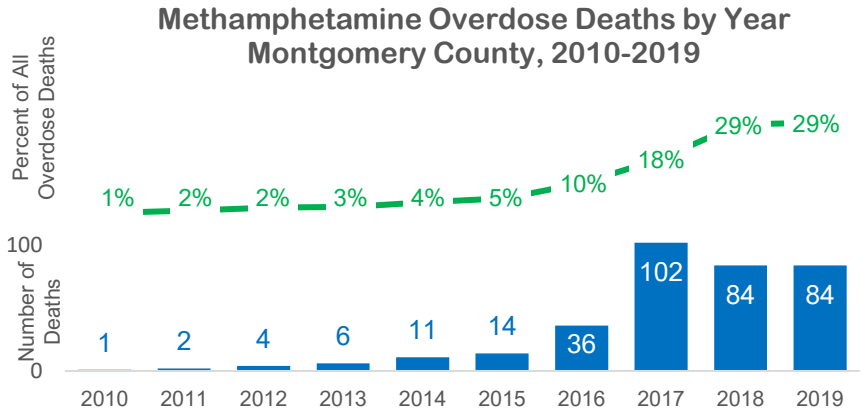


Figure 34: Methamphetamine Among Overdose Deaths in Montgomery County by Year, 2010-2019

Methamphetamine was involved in nearly 30% of overdose deaths in 2018 and 2019, an increase over prior years. Nearly nine in ten deaths involving methamphetamine also had opioids present.

Marijuana

In 2019, 27% of drug overdose deaths involved marijuana. This is a decline from 2017 and 2018 but consistent with prior years.

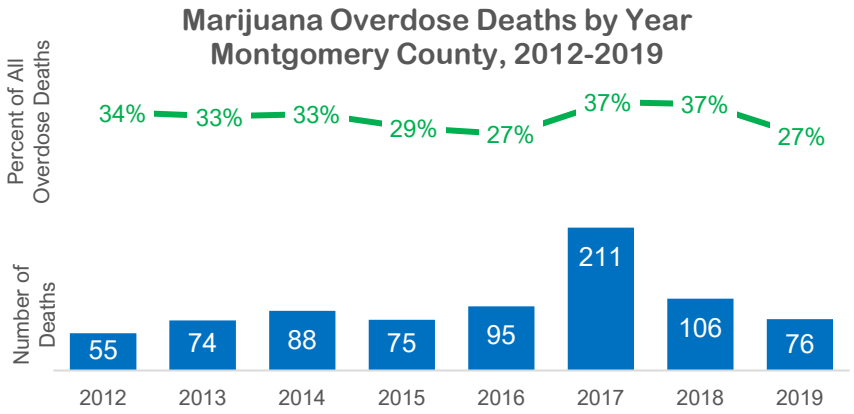


Figure 35: Marijuana Among Overdose Deaths in Montgomery County by Year, 2012-2019

Of the 76 overdose deaths involving marijuana, 95% (72) also involved opioids.

Antidepressants

In 2019, one or more antidepressants appeared in 16% of drug overdose deaths. The percent of deaths involving antidepressants decreased between 2010 and 2015, then increased from 2016 to 2018.

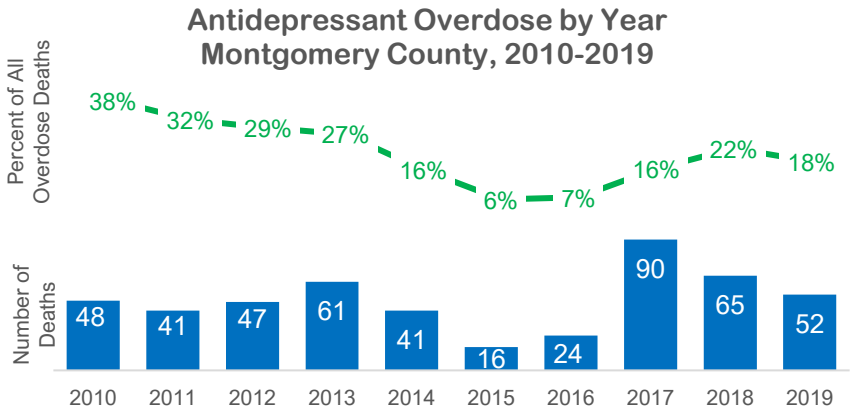


Figure 36: Antidepressant Among Overdose Deaths in Montgomery County by Year, 2010-2019

Of the 52 overdose deaths involving antidepressants, 90% (47) also involved opioids.

Benzodiazepines

In 2019, 21% of overdose deaths mentioned benzodiazepines in the toxicology report. The percent of deaths with benzodiazepines present decreased by 70% between 2010 and 2019.

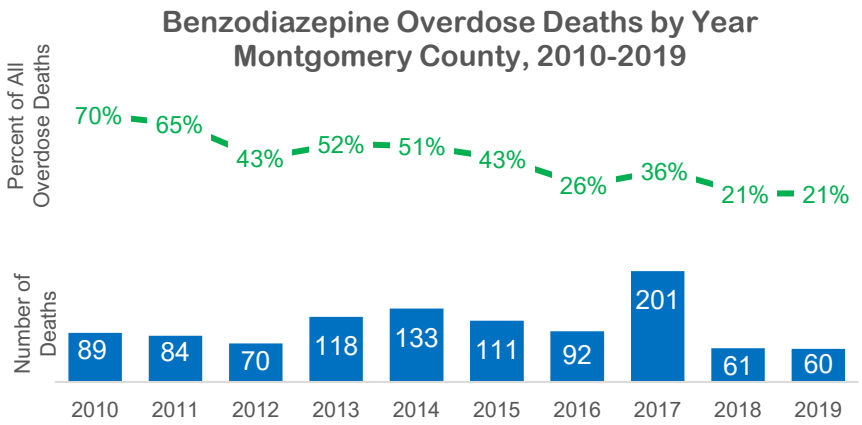


Figure 37: Benzodiazepine Among Overdose Deaths in Montgomery County, 2010-2019

Xanax (alprazolam) was the most common benzodiazepine, appearing in 42% of all deaths involving benzodiazepines.

Type of Benzodiazepine in Overdose Deaths
Montgomery County, 2019

Alprazolam	42%
Clonazepam	35%
Diazepam	30%
Etizolam	5%
Lorazepam	3%
Oxazepam	3%
Chlordiazepoxide	2%
Temazepam	2%
Flualprazolam	2%

Table 5: Type of Benzodiazepine Among Overdose Deaths in Montgomery County, 2019

Individuals can have multiple benzodiazepines in their system at the time of death, so percentages may sum to more than 100%.

92% of deaths involving benzodiazepines also had mentions of opioids.

Note:
Information on opioids present in overdose deaths involving benzodiazepines between 2010 and 2019 can be found in Appendix I.

Gabapentin

Gabapentin is a non-opioid anti-convulsant used to treat nerve pain. Illicit use of gabapentin has increased over the past few years, including recreational use and self-treatment for symptoms of opioid withdrawal[2].

Studies have found gabapentin use to be associated with opioid deaths[3]. Ohio requires reporting of gabapentin prescriptions and sales to the Ohio Automated Rx Reporting System (OARRS),[4] and Kentucky classified gabapentin as a Schedule V controlled substance[5].

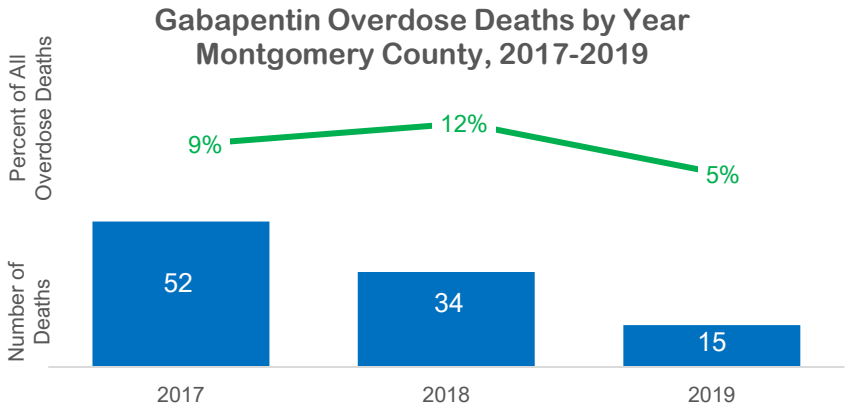


Figure 38: Gabapentin Among Overdose Deaths in Montgomery County, 2017-2019

Of the 15 overdose deaths that mentioned gabapentin, 93% also included opioids.

Five percent of overdose deaths in 2019 involved gabapentin. This is 58% lower than in 2018.

Alcohol

In 2019, 24% of overdose deaths mentioned alcohol in the toxicology report. This is similar to 2017 and 2018, when 22% of deaths involved alcohol.

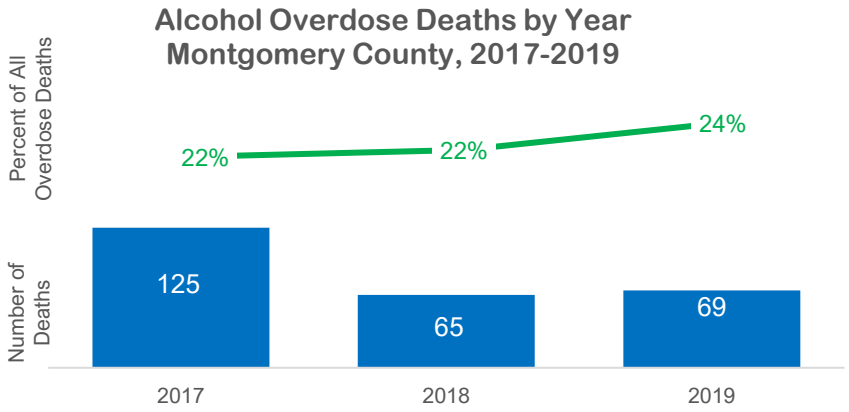


Figure 39: Alcohol Among Overdose Deaths in Montgomery County, 2017-2019

87% of deaths involving alcohol also had a mention of opioids.

[2] Ohio Substance Abuse Monitoring Network. "Neurontin® Widely Sought for Illicit Use." February 2017.
[3] Gomes T, Juurlink DN, Antoniou T, Mamdani MM, Paterson JM, van den Brink W (2017) Gabapentin, opioids, and the risk of opioid-related death: A population-based nested case–control study. PLoS Med 14(10): e1002396. https://doi.org/10.1371/journal.pmed.1002396.
[4] Ohio Administrative Code, 4729-37-12.
[5] 902 Kentucky Administrative Regulations, 55:035.

Drug Mentions by Demographics and Health Status

Drugs involved in overdose deaths differed by demographic attributes, including race, age, sex, marital status, occupation, and insurance type. Some drugs were also more common among individuals with a physical or mental illness, or among individuals who experienced prior drug overdoses.

Demographic Attributes

Race

Whites were **5.8 times** more likely than Blacks to have a mention of **methamphetamines** and **3 times** more likely to have a mention of **prescription opioids**. They were also more likely to have a mention of **gabapentin**, **benzodiazepines**, **heroin**, and **fentanyl analogs**.

Blacks were more likely than whites to have a mention of **cocaine**, **alcohol**, and **marijuana**.

Opioids are labeled in blue.

Non-opioids are labeled in gray.

White		Black
5.8 times ↑ Methamphetamine *(36% vs 6%)*	3 times ↑ Prescription Opioids *(14.4% vs 4.7%)*	92% ↑ Cocaine *(69% vs 36%)*
93% ↑ Gabapentin *(6% vs 3%)*	69% ↑ Benzodiazepines *(24% vs 14%)*	72% ↑ Alcohol *(34% vs 20%)*
64% ↑ Heroin *(10.2% vs 6.3%)*	28% ↑ Fentanyl Analogs *(54% vs 42%)*	31% ↑ Marijuana *(33% vs 25%)*

Age

Those **under the age of 35** were more likely than those who were older to have a mention of **marijuana** and **fentanyl analogs**.

Individuals **35 and over** were **2.8 times** more likely to have a mention of **gabapentin** and **2.7 times** more likely to have a mention of **antihistamines/sleep aids**. They were also more likely to have a mention of **prescription opioids**, **heroin**, **benzodiazepines**, and **cocaine**.

Under 35		35 and Over	
43% ↑ Marijuana *(34% vs 24%)*	2.8 times ↑ Gabapentin *(7% vs 2%)*	2.7 times ↑ Antihistamines/Sleep Aids *(19% vs 7%)*	51% ↑ Prescription Opioids *(14.1% vs 9.3%)*
12% ↑ Fentanyl Analogs *(55% vs 49%)*	44% ↑ Heroin *(10.1% vs 7.0%)*	42% ↑ Benzodiazepines *(23% vs 16%)*	33% ↑ Cocaine *(46% vs 35%)*

Sex

Men were more likely than women to have a mention of **methamphetamines**.

Women were **4.9 times** more likely to have a mention of **gabapentin**. They were also more likely to have a mention of **antidepressants**, **cocaine**, **prescription opioids**, **antihistamines/sleep aids**, and **benzodiazepines**.

Men

67% ↑
Methamphetamine
(34% vs 21%)

Women

4.9 times ↑
Gabapentin
(11% vs 2%)

94% ↑
Antidepressants
(26% vs 14%)

57% ↑
Cocaine
(56% vs 36%)

44% ↑
Prescription Opioids
(16% vs 11%)

36% ↑
Antihistamines/Sleep Aids
(19% vs 14%)

20% ↑
Benzodiazepines
(24% vs 20%)

Marital Status

Singles were **more likely** than others to have a mention of **marijuana**.

Singles were less likely than others to have a mention of **prescription opioids**, **antidepressants**, or **any opioid**.

Single

21% ↑
Marijuana
(29% vs 24%)

53% ↓
Prescription Opioids
(9% vs 19%)

30% ↓
Antidepressants
(14% vs 20%)

9% ↓
Any Opioid
(85% vs 93%)

Education

Individuals who **never attended college** were more likely than those who had to have a mention of **methamphetamines**.

Those who attended **any college** were more likely to have a mention of **antihistamines/sleep aids** and **antidepressants**.

Never Attended College

43% ↑
Methamphetamine
(31% vs 21%)

Any College

77% ↑
Antihistamines/Sleep Aids
(23% vs 13%)

38% ↑
Antidepressants
(23% vs 17%)

Occupation

Individuals in **service** occupations were **more likely** than others to have a mention of **marijuana** and **fentanyl analogs** and less likely to have a mention of **benzodiazepines.**

Individuals working in **manual labor** were **slightly more likely** than others to have a mention of **any opioid** and **illicit fentanyl** and **less likely** to have a mention of **cocaine**.

Unemployed individuals were **more likely** than others to have a mention of **cocaine** and **fentanyl analogs** and **less likely** to have a mention of **marijuana** and **alcohol**.

Service

42% ↑ Marijuana *(34% vs 24%)*

62% ↓ Benzodiazepines *(10% vs 27%)*

13% ↑ Fentanyl Analogs *(56% vs 49%)*

Labor

8% ↑ Any Opioid *(93% vs 86%)*

46% ↓ Cocaine *(28% vs 53%)*

8% ↑ Illicit Fentanyl *(86% vs 79%)*

Unemployed

58% ↑ Cocaine *(63% vs 40%)*

55% ↓ Marijuana *(13% vs 28%)*

17% ↑ Fentanyl Analogs *(58% vs 50%)*

34% ↓ Alcohol *(17% vs 25%)*

Insurance

Individuals with **private insurance** were **more likely** than others to have a mention of **benzodiazepines** and **fentanyl analogs** and **less likely** to have a mention of **alcohol**.

Individuals covered by **Medicaid** were **more likely** than others to have a mention of **methamphetamine** and **less likely** to have a mention of **antidepressants** and **prescription opioids**.

Individuals covered by **Medicare** were **more likely** than others to have a mention of **cocaine and less likely** to have a mention of **marijuana** and **illicit fentanyl**.

Private Insurance

91% ↑ Benzodiazepines *(37% vs 19%)*

40% ↓ Alcohol *(15% vs 25%)*

21% ↑ Fentanyl Analogs *(52% vs 43%)*

Medicaid

55% ↑ Methamphetamine *(30% vs 20%)*

33% ↓ Antidepressants *(19% vs 29%)*

48% ↓ Prescription Opioids *(9% vs 18%)*

Medicare

32% ↑ Cocaine *(55% vs 42%)*

51% ↓ Marijuana *(14% vs 28%)*

11% ↓ Illicit Fentanyl *(72% vs 81%)*

Note: Further information on substances present by demographic group in overdose deaths in 2019 can be found in Appendix I.

Health Status

Physical Health

Opioids

Individuals with a physical illness were:

- Thirteen percent (13%) **less likely** to have a mention of **fentanyl analogs** than those without a physical illness (50% vs. 57%).
- Sixty-one percent (61%) **more likely** to have mention of **prescription opioids** (14% vs. 5%).
- **Half as likely** to have a mention of **heroin** (8% vs. 16%).

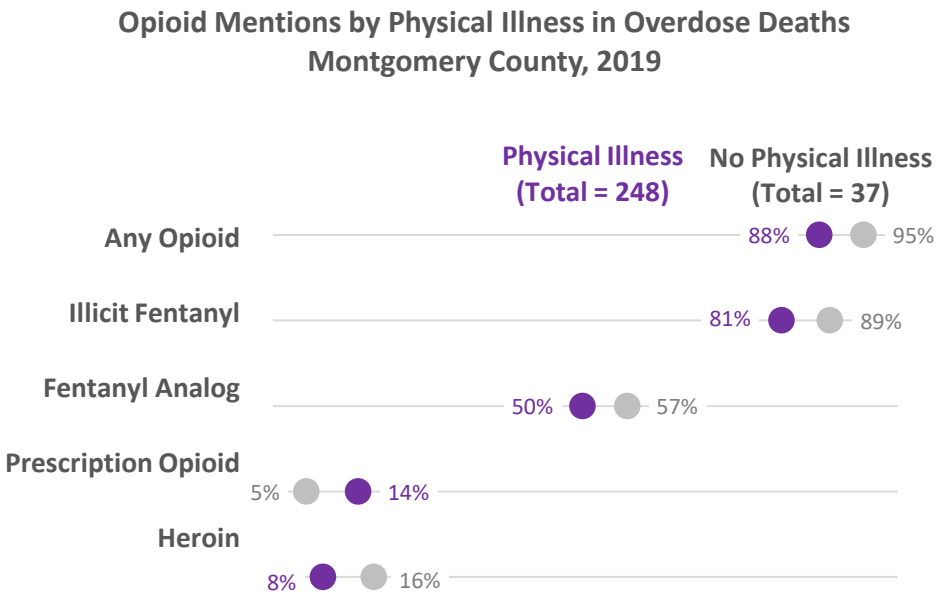


Figure 40: Opioid Mentions by Physical Illness Among Overdose Deaths in Montgomery County, 2019

Non-Opioids

Individuals with a physical illness were:

- Forty-five percent (45%) **less likely** to have a mention of **methamphetamines** than those without a physical illness (27% vs. 49%).
- Nearly two and a half times (2.4X) **more likely** to have a mention of **antidepressants** (20% vs. 8%).
- Twenty-eight percent (28%) **less likely** to have a mention of **marijuana** (24% vs. 35%).

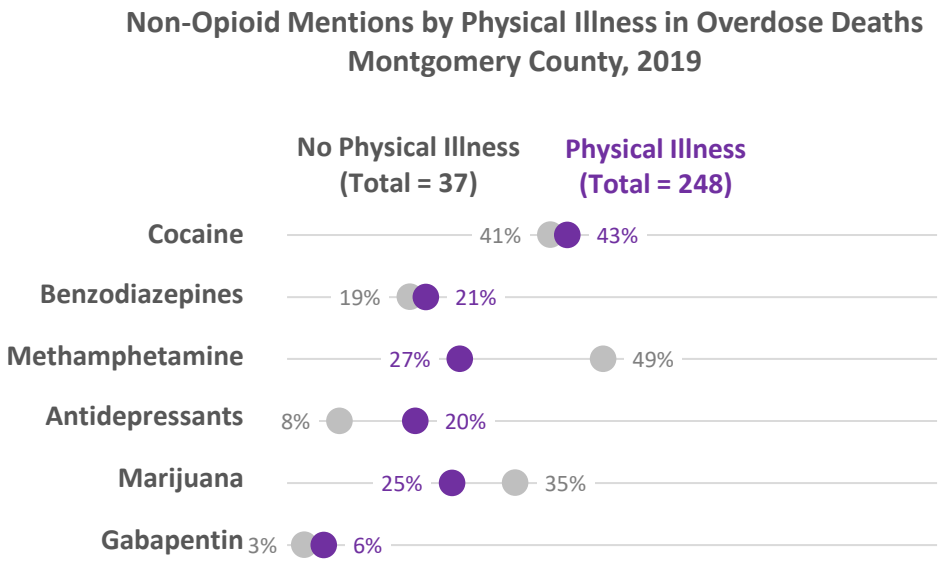


Figure 41: Non-Opioid Mentions by Physical Illness Among Overdose Deaths in Montgomery County, 2019

Mental Health

Opioids

Individuals with a recorded mental illness were:

- Nineteen percent (19%) **less likely** to have a mention of **fentanyl analogs** than those without a mental illness (44% vs. 55%).
- Thirty-one percent (31%) **more likely** to have a mention of **prescription opioids** (16% vs. 11%).

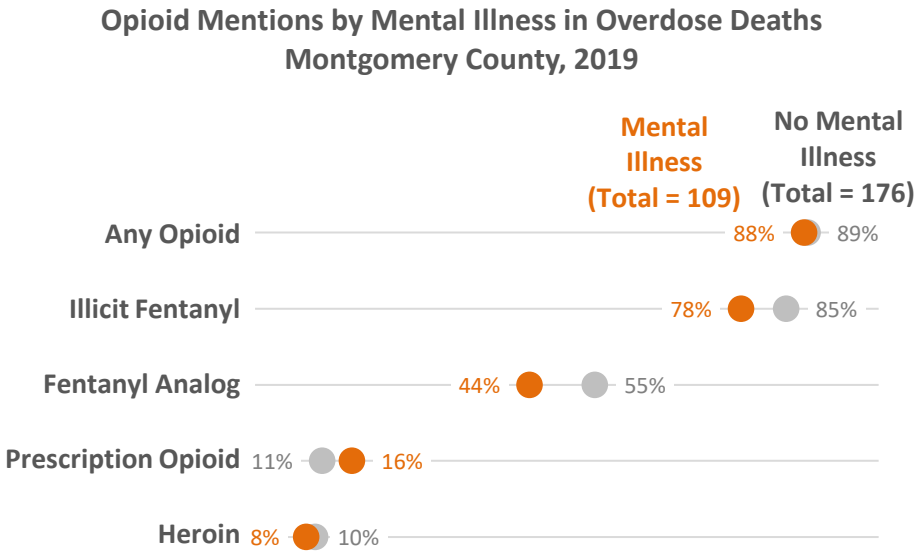


Figure 42: Opioid Mentions by Mental Illness Among Overdose Deaths in Montgomery County, 2019

Non-Opioids

Individuals with a mental illness were:

- Fifteen percent (15%) **less likely** to have a mention of **cocaine** than were those without a mental health diagnosis (39% vs. 45%).
- Thirty-four percent (34%) **more likely** to have a mention of **benzodiazepines** (27% vs. 18%).
- Nearly three times (2.8X) **more likely** to have a mention of **antidepressants** (30% vs. 11%).
- Three times (3.2X) **more likely** to have a mention of **gabapentin** (9% vs. 3%)

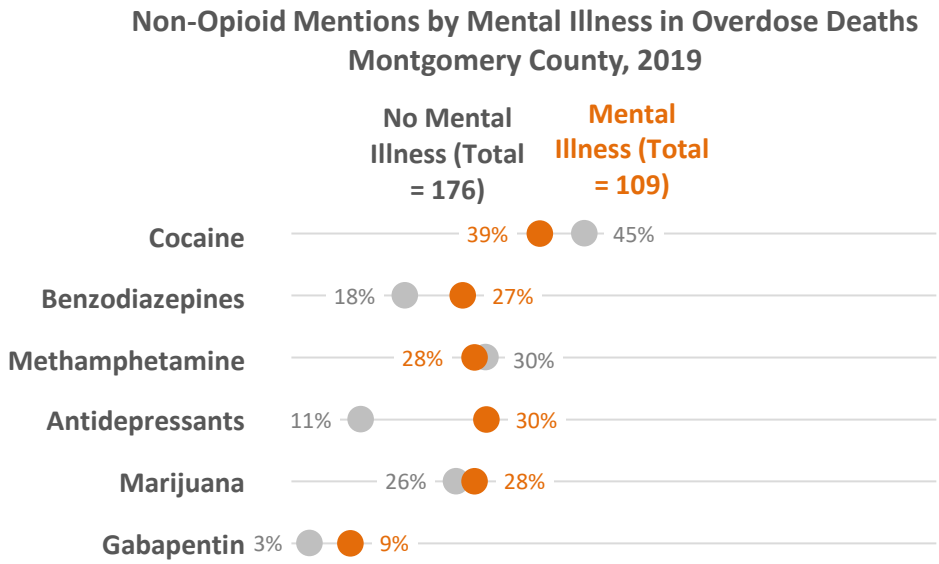


Figure 43: Non-Opioid Mentions by Mental Illness Among Overdose Deaths in Montgomery County, 2019

Prior Overdose Hospital Visits

Opioids

Individuals with a prior overdose visit to an area emergency department were:

- Twenty percent (20%) **more likely** to have a mention of **fentanyl analogs** than were those without such a visit (7% vs. 15%)
- **Half as likely** (46%) to have a mention of **prescription opioids** (7% vs. 15%)

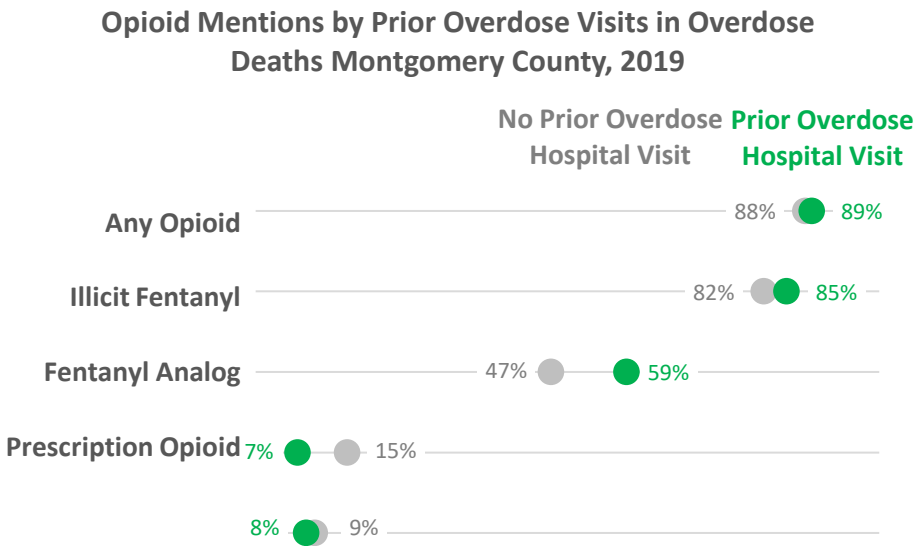


Figure 44: Opioid Mentions by Prior Overdose Hospital Visits Among Overdose Deaths in Montgomery County, 2019

Non-Opioids

Individuals with a prior overdose visit to an area emergency department were:

- Thirty percent (30%) **less likely** to have a mention of **cocaine** than were those without (32% vs. 46%).
- Twenty-six percent (26%) **more likely** to have a mention of **methamphetamine** (36% vs. 27%).
- Sixty-three percent (63%) **more likely** to have a mention of **antidepressants** (26% vs 16%).
- Nineteen percent (19%) **more likely** to have a mention of **marijuana** (31% vs. 25%).

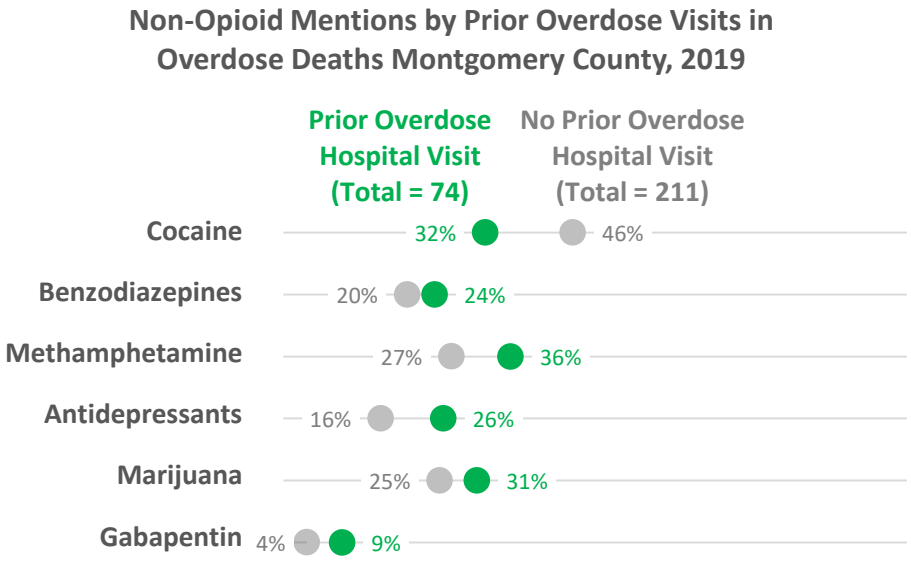


Figure 45: Non-Opioid Mentions by Prior Overdose Hospital Visits Among Overdose Deaths in Montgomery County, 2019

Location
Incident of Overdose

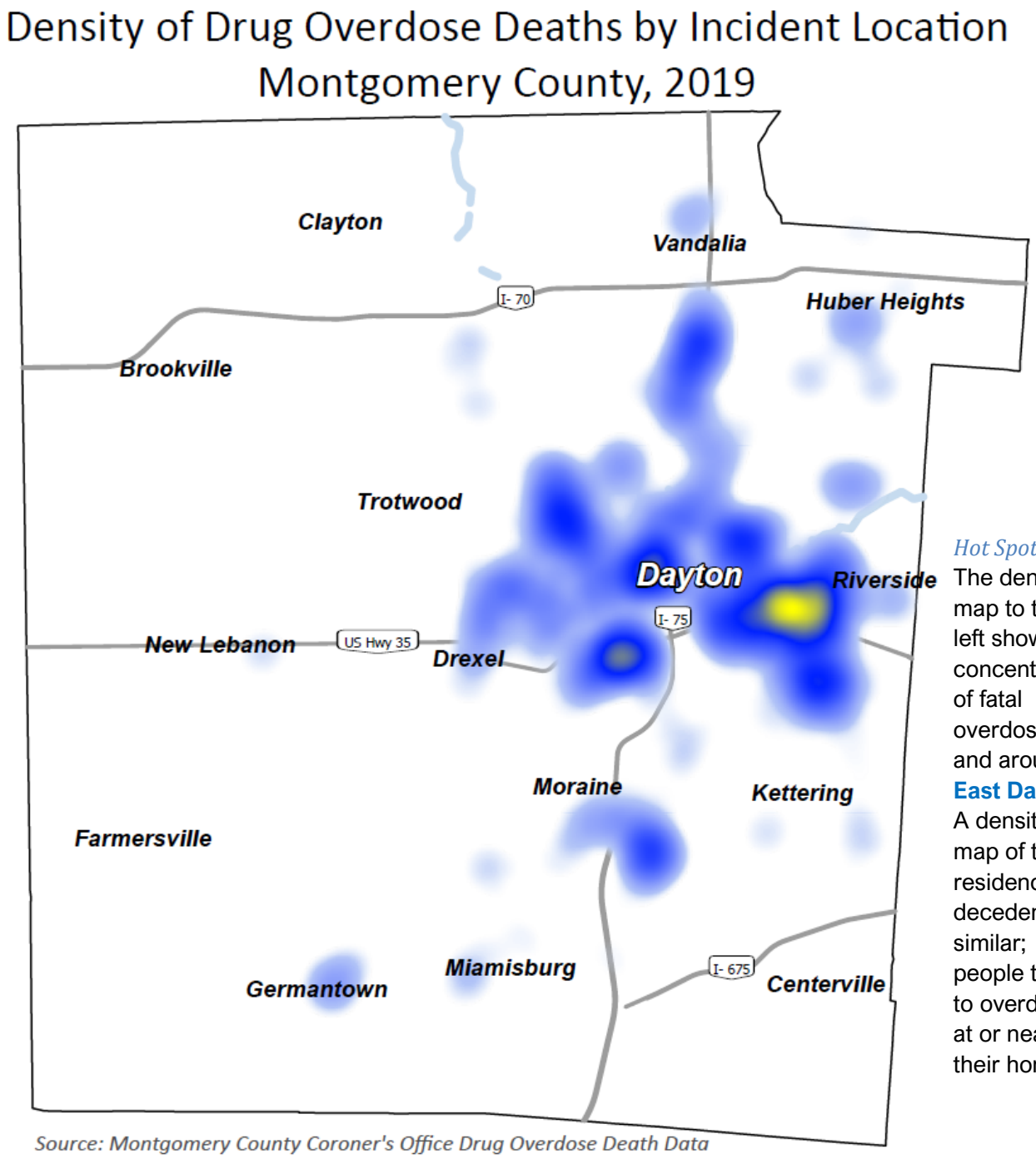


Figure 46: Density Map of Incident Location Among Overdose Deaths in Montgomery County, 2019

Hot Spots

The density map to the left shows the concentration of fatal overdoses in and around **East Dayton**. A density map of the residence of decedents is similar; people tend to overdose at or near their home.

Density of Drug Overdose Deaths by Incident Location and Year
Montgomery County, 2017 - 2019

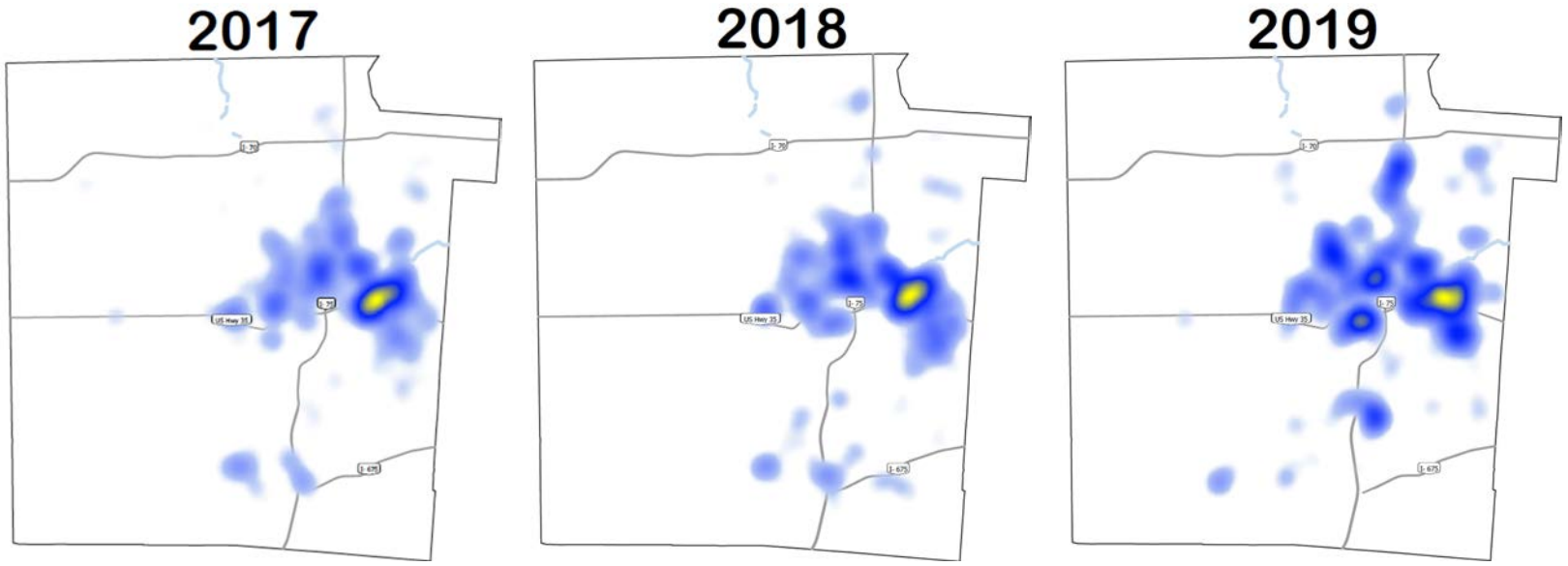
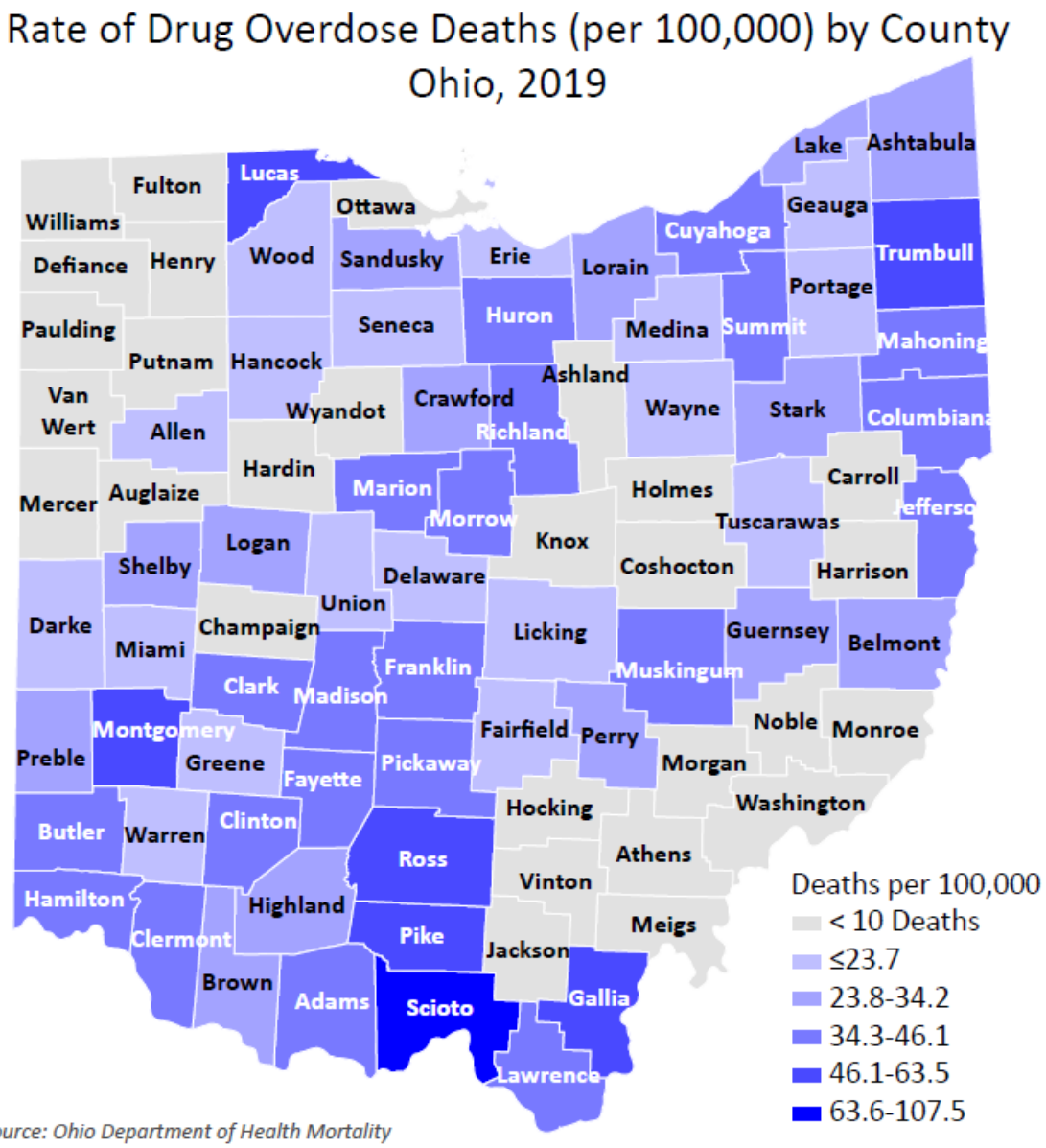


Figure 47: Density Map of Incident Location Among Overdose Deaths in Montgomery County by Year, 2017-2019

Between 2017 and 2019, the location of fatal overdoses became less concentrated. While East Dayton (especially zip codes 45403, 45410, and 45420) remained a major hot spot, new areas of concern have emerged in zip codes 45402, 45406, 45414, 45417, and 45439.

County of Residence



Source: Ohio Department of Health Mortality
**Note: 2019 data are preliminary and subject to change*
Rates for counties with fewer than ten overdose deaths have been suppressed.

Figure 48: Map of Drug Overdose Rates by County, 2019

DRUG OVERODSE RATE BY COUNTY

The maps on the next four pages show rates of drug overdose deaths by residence.

- This page shows rates of drug overdose deaths by county in 2019, Page 33 shows these rates for 2010-2019.
- Montgomery County had the highest overdose death rate in 2017, the sixth highest in 2018, and the fifth highest in 2019.
- Twenty-eight counties had fewer than ten deaths in 2019; their data were suppressed.
- Pages 34 and 35 show rates of overdose death by zip code and year.

Age-Adjusted Drug Overdose Death Rates (Deaths per 100,000 Residents) by County and Year
Ohio, 2010-2019

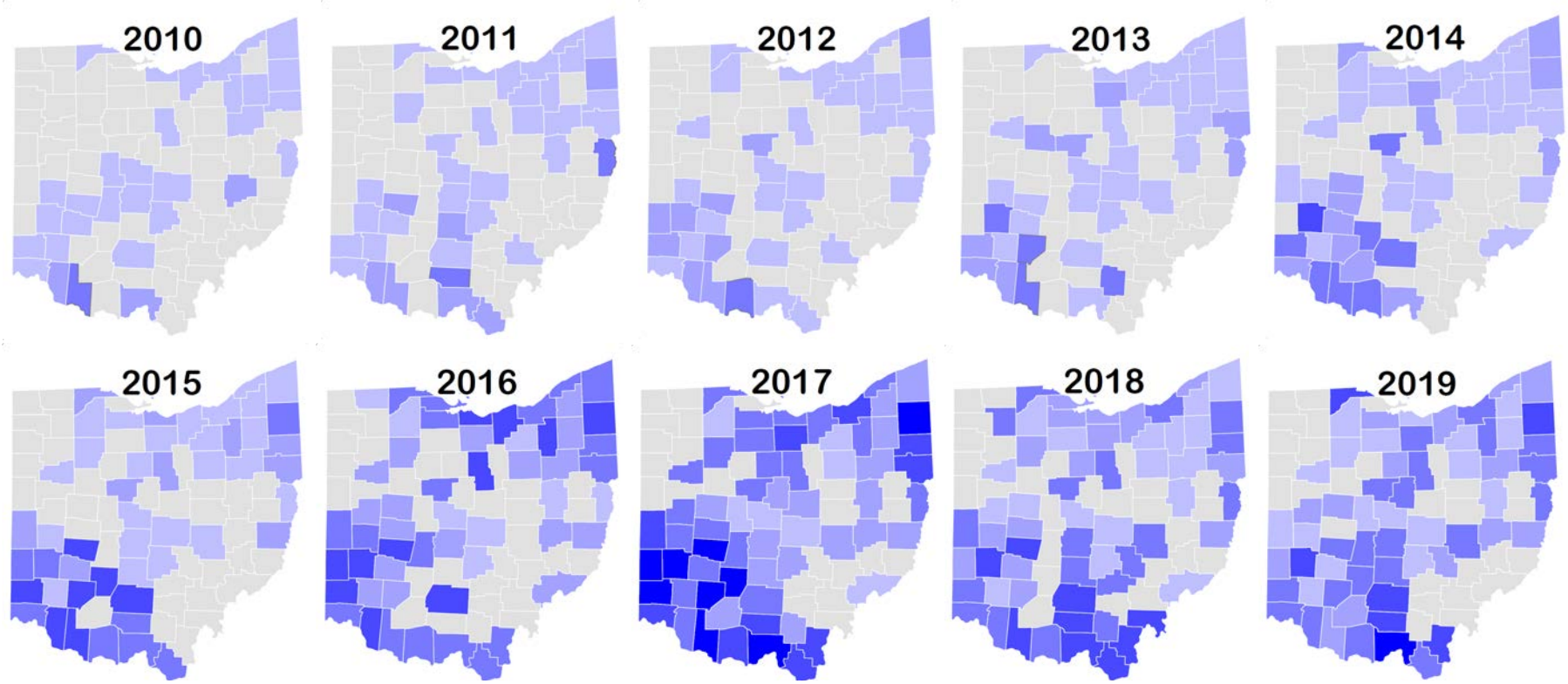


Figure 49: Map of Drug Overdose Death Rate by County, 2010-2019
Note: 2019 ODH Mortality Data are preliminary and subject to change

The rate of overdose deaths increased in counties across Ohio between 2010 and 2017 before declining in 2018. In 2017, Montgomery County had the highest rate of overdose deaths in Ohio. In 2018 and 2019, other counties had a higher rate of overdose deaths.

Zip Code of Residence

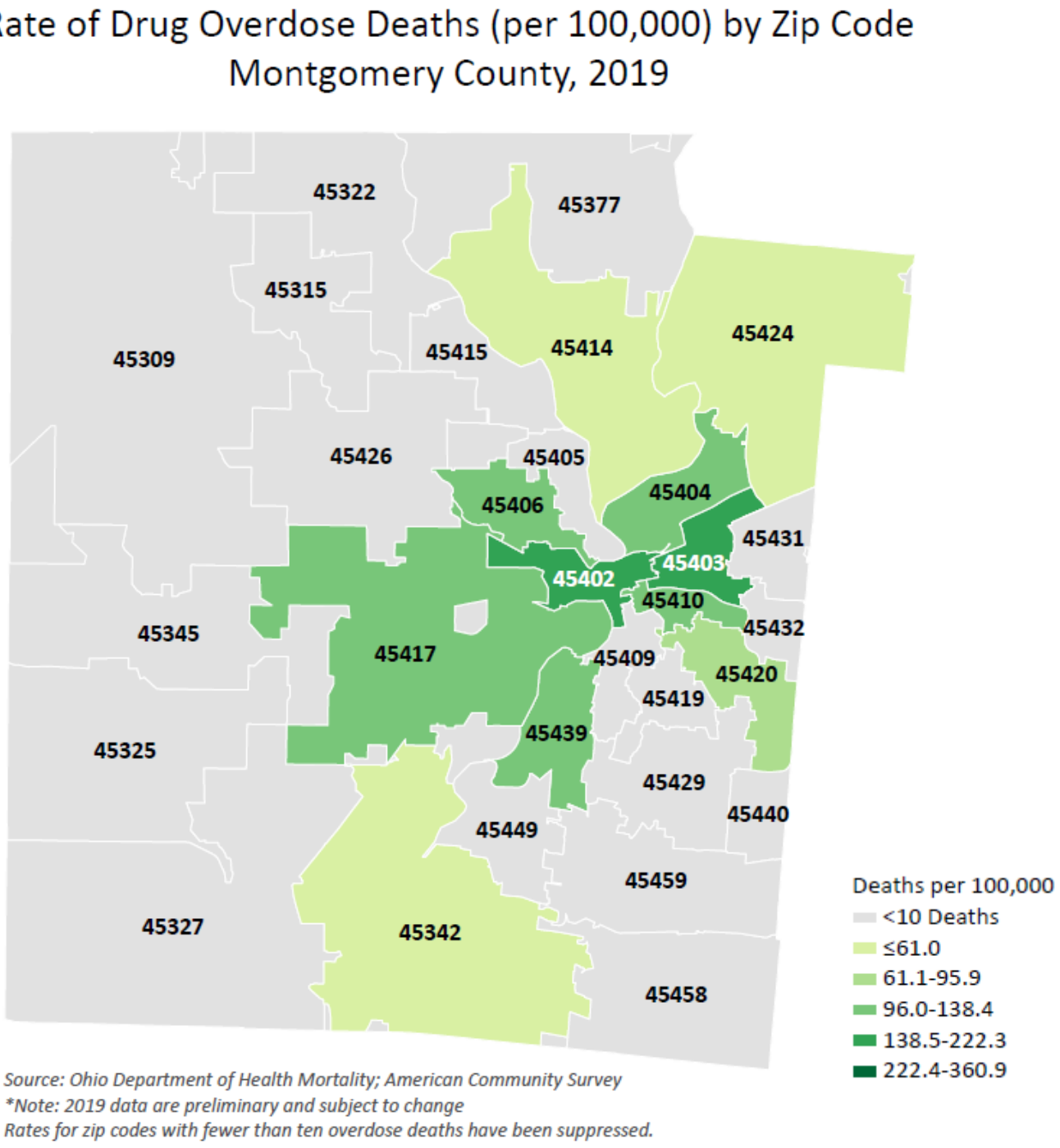


Figure 50: Map of Drug Overdose Death Rates by Zip Code, 2019

Zip codes 45402 and 45403 in Dayton, Ohio have the highest rate of overdose deaths in Montgomery County. Zip codes that include hot spots of overdose incidents may not be included in this map because they have fewer than ten total deaths, because individuals overdosed at a place other than home, or because several zip codes converge in an area with a high number of deaths.

Drug Overdose Death Rates (Deaths per 100,000 Residents) by Zip Code and Year
Montgomery County, 2010-2019

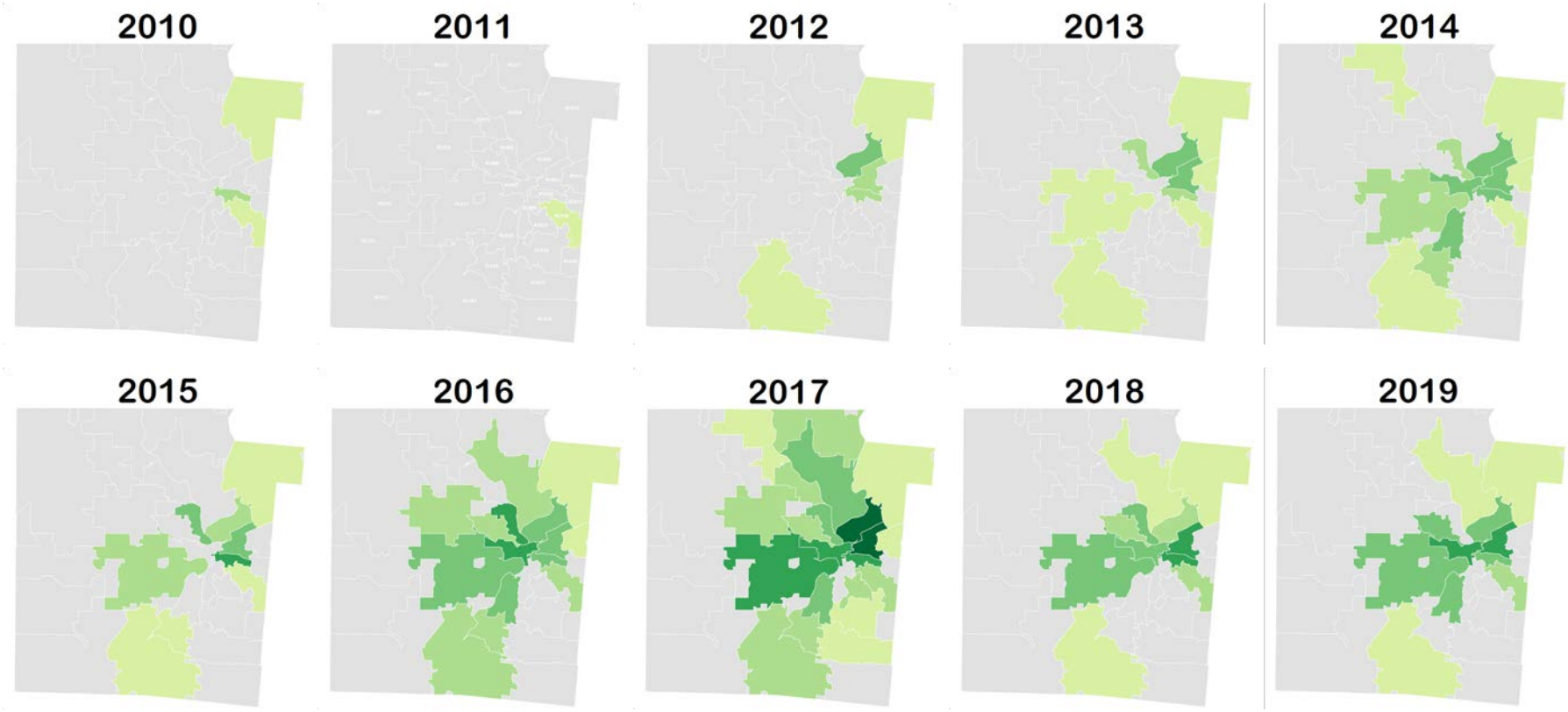


Figure 51: Map of Drug Overdose Death Rate by Zip Code, 2010-2019
Note: 2019 ODH Mortality Data are preliminary and subject to change

Between 2010 and 2017, more zip codes throughout Montgomery County saw an increase in the rate of overdose deaths. While the rate declined in most zip codes between 2017 and 2019, 45402 was also high in 2019.

Appendix I: Data Tables

Demographic Attributes

Demographic Information in Overdose Deaths, Montgomery County, 2010-2019

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 #	2019 %	2010-2019 #	2010-2019 %
Race	White	90%	87%	85%	75%	89%	86%	82%	82%	76%	215	75%	2,177	82%
	Black	10%	13%	15%	11%	11%	14%	16%	16%	21%	64	22%	410	15%
	Other	0%	0%	1%	2%	0%	1%	2%	2%	3%	6	2%	43	2%
	Unknown	0%	0%	0%	12%	0%	0%	0%	0%	0%	0	0%	28	1%
Gender	Male	57%	59%	60%	58%	62%	68%	65%	68%	60%	183	64%	1,683	63%
	Female	43%	41%	40%	30%	38%	32%	35%	32%	40%	102	36%	947	36%
	Unknown	0%	0%	0%	12%	0%	0%	0%	0%	0%	0	0%	28	1%
Age	<18	1%	1%	0%	0%	0%	1%	0%	0%	0%	1	0.4%	9	0%
	18-24	13%	5%	4%	4%	6%	7%	6%	5%	4%	15	5%	148	6%
	25-34	22%	22%	28%	26%	29%	26%	29%	27%	26%	70	25%	705	27%
	35-44	28%	26%	19%	28%	26%	29%	28%	30%	29%	88	31%	748	28%
	45-54	18%	32%	33%	27%	24%	22%	19%	21%	22%	59	21%	605	23%
	55-64	16%	14%	14%	13%	14%	14%	16%	14%	17%	47	16%	392	15%
	65+	2%	1%	2%	3%	2%	2%	2%	2%	2%	5	2%	51	2%
Education	<HS	21%	28%	28%	29%	24%	26%	29%	26%	24%	83	29%	701	26%
	HS	76%	69%	69%	66%	74%	68%	64%	69%	50%	133	47%	1,696	64%
	College	3%	3%	3%	5%	3%	6%	7%	5%	25%	61	21%	236	9%
	Unknown	1%	1%	1%	2%	0%	1%	1%	0%	1%	8	3%	25	1%
Marital Status	Single	41%	39%	47%	43%	44%	51%	52%	52%	53%	153	54%	1,306	49%
	Divorced	26%	25%	30%	32%	31%	25%	27%	26%	27%	67	24%	720	27%
	Married	29%	31%	15%	19%	22%	20%	16%	16%	16%	42	15%	492	19%
	Widowed	2%	2%	7%	3%	2%	2%	4%	4%	3%	9	3%	88	3%
	Separated	2%	3%	0%	2%	0%	1%	0%	1%	1%	5	2%	27	1%
	Unknown	0%	1%	0%	0%	1%	1%	0%	1%	1%	9	3%	25	1%
Insurance	Private	-	-	-	-	-	-	-	-	8%	27	9%	51	9%
	Medicaid	-	-	-	-	-	-	-	-	58%	141	49%	309	54%
	Medicare	-	-	-	-	-	-	-	-	11%	29	10%	61	11%
	Other	-	-	-	-	-	-	-	-	3%	16	6%	24	4%
	Unknown	-	-	-	-	-	-	-	-	20%	72	25%	129	22%
Occupation	Labor	-	-	-	-	-	-	-	-	39%	99	35%	211	37%
	Service	-	-	-	-	-	-	-	-	19%	50	18%	106	18%
	Healthcare	-	-	-	-	-	-	-	-	6%	14	5%	30	5%
	Office	-	-	-	-	-	-	-	-	4%	13	5%	24	4%
	Homemaker	-	-	-	-	-	-	-	-	6%	19	7%	36	6%
	Other	-	-	-	-	-	-	-	-	9%	15	5%	42	7%
	Unemployed	-	-	-	-	-	-	-	-	10%	24	8%	53	9%
	Unknown	-	-	-	-	-	-	-	-	7%	51	18%	72	13%
Total Deaths		127	130	162	226	264	259	349	566	289	285		2,657	

Table 6: Full Demographic Information in Overdose Deaths in Montgomery County, 2010-2019

Physical and Mental Illness in Overdose Deaths
Montgomery County, 2018-2019

	Physical Illness						Mental Illness					
	2018		2019		2018-2019		2018		2019		2018-2019	
	#	%	#	%	#	%	#	%	#	%	#	%
Any Reported Illness	**258**	**89%**	**247**	**87%**	**505**	**88%**	**143**	**49%**	**109**	**38%**	**252**	**44%**
Reported to Coroner	217	75%	222	78%	439	76%	45	16%	49	17%	94	16%
Hospital Diagnosis	237	82%	228	80%	465	81%	125	43%	96	34%	221	39%
Last Hospital Visit	**Any Hospital Visit**						**Mental Health Visit**					
Less than 1 Week	35	12%	28	10%	63	11%	5	2%	7	2%	12	2%
1 Week, less than 1 Month	49	17%	43	15%	92	16%	22	8%	15	5%	37	6%
1 Month, less than 6 Months	88	30%	83	29%	171	30%	47	16%	35	12%	82	14%
6 Months, less than 1 year	35	12%	41	14%	76	13%	22	8%	22	8%	44	8%
1 or more years	36	12%	31	11%	67	12%	27	9%	14	5%	41	7%
Total Deaths	**289**	**100%**	**285**	**100%**	**574**	**100%**	**289**	**100%**	**285**	**100%**	**574**	**100%**

Table 7: Physical and Mental Illness Among Overdose Deaths in Montgomery County, 2018-2019

Types of Physical Illness in Overdose Deaths
Montgomery County, 2018-2019

	2018		2019		2018-2019	
	#	%	#	%	#	%
Heart Disease	136	47%	136	48%	272	47%
Hypertension	132	46%	116	41%	248	43%
Obesity	128	44%	101	35%	229	40%
Chronic Pain	84	29%	64	22%	148	26%
COPD	48	17%	59	21%	107	19%
Kidney Disease	54	19%	51	18%	105	18%
Other Liver	52	18%	50	18%	102	18%
Asthma	48	17%	51	18%	99	17%
Hepatitis C	49	17%	39	14%	88	15%
Sleep Disorder	38	13%	33	12%	71	12%
Diabetes	40	14%	28	10%	68	12%
Thyroid Disease	30	10%	17	6%	47	8%
Seizures	22	8%	20	7%	42	7%
Headaches	21	7%	20	7%	41	7%
Injury/Surgery	15	5%	23	8%	38	7%
Arthritis	10	3%	16	6%	26	5%
GI Disorder	14	5%	10	4%	24	4%
Other Resp Disease	2	1%	15	5%	17	3%
Infections	3	1%	14	5%	17	3%
Stroke	4	1%	9	3%	13	2%
Cancer	8	3%	4	1%	12	2%
Fibromyalgia	8	3%	3	1%	11	2%
Hepatitis B	7	2%	3	1%	10	2%

Table 9: Types of Physical Illness Among Overdose Deaths in Montgomery County, 2018-2019

Types of Mental Illness in Overdose Deaths
Montgomery County, 2018-2019

	2018		2019		2018-2019	
	#	%	#	%	#	%
Anxiety	93	32%	61	21%	154	27%
Depression	80	28%	52	18%	132	23%
PTSD	20	7%	25	9%	45	8%
Bipolar Disorder	35	12%	22	8%	57	10%
Delusions/Psychosis	15	5%	20	7%	35	6%
Other Mental Illness	21	7%	16	6%	37	6%
Unspecified	10	3%	11	4%	21	4%
Personality Disorder	7	2%	9	3%	16	3%
Phobia	0	0%	2	1%	2	0%
Conduct Disorder	2	1%	1	0%	3	1%
OCD	5	2%	1	0%	6	1%
Insomnia	2	1%	0	0%	2	0%

Table 8: Types of Mental Illness Among Overdose Deaths in Montgomery County, 2018-2019

Substance Abuse and Drug Overdose

Substance Abuse and Overdose History Among Overdose Deaths
Montgomery County, 2018-2019

	2018		2019		2018-2019	
	#	%	#	%	#	%
Reported Substance Use	**271**	**94%**	**265**	**93%**	**536**	**93%**
Reported to Coroner	230	80%	244	86%	474	83%
Hospital Diagnosis	155	54%	137	48%	292	51%
Drug Charge	177	61%	170	60%	347	60%
Time Since SUD Visit						
Less than 1 Week	5	2%	7	2%	12	2%
1 Week, less than 1 Month	26	9%	18	6%	44	8%
One Month, less than 6 Months	40	14%	41	14%	81	14%
6 Months, less than 1 year	31	11%	27	9%	58	10%
1 or more years	38	13%	28	10%	66	11%
Prior Overdose Hospital Visit	**104**	**36%**	**74**	**26%**	**178**	**31%**
Time Since OD						
Less than 1 Week	7	2%	7	2%	14	2%
1 Week, less than 1 Month	5	2%	6	2%	11	2%
One Month, less than 6 Months	30	10%	23	8%	53	9%
6 Months, less than 1 year	18	6%	13	5%	31	5%
1 or more years	44	15%	25	9%	69	12%
Number of ODs						
1	57	20%	49	17%	106	18%
2	22	8%	13	5%	35	6%
3	13	4%	7	2%	20	3%
4	9	3%	3	1%	12	2%
>4	3	1%	2	1%	5	1%
Total Overdose Deaths	**289**	**100%**	**285**	**100%**	**574**	**100%**

Source: Montgomery County Coroner's Office, GDAHA Healthcare Database, JusticeWeb

Table 10: Substance Abuse Among Overdose Deaths in Montgomery County, 2018-2019

Criminal History

Decedents with Criminal History, 2017-2019

	2017		2018		2019	
	#	%	#	%	#	%
Any Charge	540	95%	271	94%	262	92%
Any Conviction	529	93%	257	89%	252	88%
Non-Traffic Charge	-	-	246	85%	245	86%
Non- Traffic Conviction	-	-	226	78%	219	77%
Any Jail Booking	473	84%	221	76%	235	82%
Drug Charge	340	60%	177	61%	170	60%
Drug Conviction	254	45%	126	44%	116	41%
Felony Charge	332	59%	153	53%	150	53%
Felony Conviction	239	42%	111	38%	109	38%
Total Deaths	566	100%	289	100%	285	100%

Table 11: Criminal History Among Overdose Deaths in Montgomery County, 2017-2019

Time Since Contact with Criminal Justice System, 2017-2019

	All Contacts				Jail Release				Drug-Related			
	2017	2018	2019		2017	2018	2019		2017	2018	2019	
	%	%	#	%	%	%	#	%	%	%	#	%
Ever	95%	94%	262	91%	84%	76%	235	82%	60%	61%	170	60%
Within 1 Year	2%	61%	154	54%	0%	48%	108	38%	0%	39%	60	21%
Within 1 Month	8%	20%	48	17%	3%	16%	30	11%	3%	13%	17	6%
Within 1 Week	5%	10%	18	6%	1%	7%	11	4%	1%	8%	6	2%

Table 12: Time Since Contact with the Criminal Justice System Among Overdose Deaths, 2017-2019

Prior Criminal Charges, 2018-2019

Charge	2018		2019		2018-2019	
	#	%	#	%	#	%
Drug Related	177	61%	170	60%	347	60%
Robbery/Theft	122	42%	131	46%	253	44%
Disorderly Conduct	99	34%	95	33%	194	34%
OVI	86	30%	103	36%	189	33%
Assault	78	27%	84	29%	162	28%
Domestic Violence	73	25%	82	29%	155	27%
Public Intoxication	73	25%	78	27%	151	26%
Obstructing Official Business	49	17%	53	19%	102	18%
Trespassing	49	17%	48	17%	97	17%
Open Container	44	15%	43	15%	87	15%
Criminal Damage	38	13%	42	15%	80	14%
Fraud	29	10%	42	15%	71	12%
Menacing	32	11%	37	13%	69	12%
Receiving Stolen Property	31	11%	35	12%	66	11%
Resisting Arrest	28	10%	32	11%	60	10%
Weapons Charges	33	11%	27	9%	60	10%
Hit Skip	25	9%	31	11%	56	10%

Table 13: Prior Criminal Charges Among Overdose Deaths, 2018-2019

Incident

Circumstances of Fatal Overdose
Montgomery County, 2018-2019

	2018		2019		2018-2019	
	#	%	#	%	#	%
Location						
Home	122	42%	121	42%	243	42%
Friend's Home	47	16%	55	19%	102	18%
Family's Home	53	18%	42	15%	95	17%
Motel	16	6%	20	7%	36	6%
Public Area (incl Street)	15	5%	8	3%	23	4%
Car or Driving	6	2%	9	3%	15	3%
Sober Living Home	7	2%	4	1%	11	2%
Drug House	3	1%	6	2%	9	2%
Vacant Home	5	2%	3	1%	8	1%
Stranger's Home	3	1%	4	1%	7	1%
Public Business	3	1%	3	1%	6	1%
Work	3	1%	3	1%	6	1%
Unknown	2	0.7%	2	0.7%	4	0.7%
Homeless Shelter	0	0.0%	2	0.7%	2	0.3%
Hospital	1	0.3%	1	0.4%	2	0.3%
Natural Area	1	0.3%	1	0.4%	2	0.3%
Other Medical Facility	1	0.3%	1	0.4%	2	0.3%
Jail	1	0.3%	0	0.0%	1	0.2%
Alone at the Time of Overdose						
Yes	187	65%	176	62%	363	63%
Unknown but found alone	26	9%	26	9%	52	9%
No	63	22%	70	25%	133	23%
Unknown	13	5%	13	5%	26	5%
Abstinence Within 1 Month of Death						
Yes	41	14%	52	18%	93	16%
In Facility	*0*	*0.0%*	*1*	*0.4%*	*1*	*0.2%*
Sober	*10*	*3%*	*9*	*3%*	*19*	*3%*
No	147	51%	221	78%	368	64%
Unknown	0	0.0%	2	0.7%	2	0.3%
Naloxone Administered						
Yes	106	37%	106	37%	212	37%
First Responder	*102*	*35%*	*95*	*33%*	*197*	*34%*
Bystander	*3*	*1%*	*11*	*4%*	*14*	*2%*
Unknown	*3*	*1%*	*1*	*0.4%*	*4*	*1%*
No	174	60%	174	61%	348	61%
Unknown	8	3%	5	2%	13	2%
Total	288	100%	285	100%	573	100%

Table 14: Circumstances of Overdose Deaths, 2018-2019

Drug Mentions

Presence of Opioids in Overdose Deaths in Montgomery County, 2010-2019

Year	Total Deaths	Any Opioid		Illicit Fentanyl/ Fentanyl Analog		Illicit Fentanyl		Prescription Opioids		Fentanyl Analog		Heroin	
		# of Deaths	% of All Deaths	#	%	#	%	#	%	#	%	#	%
2010	127	117	92%	9	7%	9	7%	94	74%			39	31%
2011	130	114	88%	8	6%	8	6%	81	62%			46	35%
2012	162	148	91%	9	6%	9	6%	75	46%			95	59%
2013	226	209	92%	34	15%	34	15%	100	44%			132	58%
2014	264	244	93%	112	43%	112	43%	97	37%			126	48%
2015	259	236	91%	114	44%	114	44%	78	30%			117	45%
2016	349	321	91%	255	73%	242	69%	63	18%	32	9%	74	21%
2017	566	520	92%	481	85%	361	64%	141	25%	372	66%	51	9%
2018	289	265	92%	246	85%	243	84%	58	20%	128	44%	48	17%
2019	285	251	88%	236	83%	235	82%	36	13%	144	51%	26	9%
2010-2019	**2,657**	**2,425**	**91%**	**1,504**	**57%**	**1,367**	**51%**	**823**	**31%**	**676**	**25%**	**754**	**28%**

Table 15: Opioid Mentions by Year Among Overdose Deaths in Montgomery County, 2010-2019

Opioids

Opioid Combinations in Opiate Overdose Deaths in Montgomery County, 2017-2019

Opioid Combinations	2017	2018	2019		Opiates Mentioned			
	% of Opioid Deaths	% of Opioid Deaths	# of Deaths	% of Opioid Deaths	Fentanyl Analogs	Illicit Fentanyl	Prescription Opioids	Heroin
Fentanyl Analogs & Illicit Fentanyl	36%	34%	115	46%	X	X		
Illicit Fentanyl	13%	31%	76	30%		X		
Illicit Fentanyl & Heroin	1%	6%	7	3%		X		X
Illicit Fentanyl & Prescription Opioids	5%	5%	9	4%		X	X	
Fentanyl Analogs, Illicit Fentanyl & Heroin	1%	5%	14	6%	X	X		X
Fentanyl Analogs Illicit Fentanyl & Prescription Opioids	8%	5%	10	4%	X	X	X	
Prescription Opioids	6%	5%	13	5%			X	
Fentanyl Analogs, Illicit Fentanyl, Prescription Opioids & Heroin	3%	3%	4	2%	X	X	X	X
Illicit Fentanyl, Prescription Opioids & Heroin	2%	3%	0	0%		X	X	X
Fentanyl Analogs	20%	1%	1	0.4%	X			
Heroin	1%	1%	1	0.4%				X
Fentanyl Analogs & Prescription Opioids	2%	0.4%	0	0%	X		X	
Prescription Opioids & Heroin	1%	0.4%	0	0%			X	X
Fentanyl Analogs, Prescription Opioids & Heroin	1%	0%	0	0%	X		X	X
Fentanyl Analogs & Heroin	0.4%	0%	0	0%	X			X

Table 16: Opioid Combinations in Toxicology Screens Among Overdose Deaths, 2017-2019

Note: U-4770 - 2016 (4 deaths); 2017 (4 deaths); 2018 (0 deaths)

Prescription Opioids

Prescription Opioid Overdose Deaths by Type and Year in Montgomery County, 2010-2019

Prescription (Rx) Opioid Deaths	2010 %	2011 %	2012 %	2013 %	2014 %	2015 %	2016 %	2017 %	2018 %	2019 #	2019 %	2010-2019 #	2010-2019 %
Oxycodone	31%	31%	33%	24%	29%	28%	35%	35%	22%	6	17%	243	30%
Methadone	44%	53%	27%	31%	13%	14%	13%	16%	19%	11	31%	211	26%
Hydrocodone	33%	23%	20%	22%	43%	26%	24%	13%	22%	2	6%	197	24%
Morphine	12%	12%	15%	16%	29%	37%	27%	24%	29%	4	11%	177	22%
Tramadol	9%	6%	12%	15%	5%	6%	6%	11%	21%	8	22%	86	10%
Codeine	4%	4%	1%	4%	3%	4%	2%	4%	12%	3	8%	34	4%
Oxymorphone	2%	0%	8%	0%	4%	5%	2%	1%	9%	5	14%	29	4%
Hydromorphone	1%	0%	0%	1%	4%	6%	2%	1%	17%	1	3%	25	3%
U-47700	0%	0%	0%	0%	0%	0%	6%	6%	0%	0	0%	13	2%
Buprenorphine	0%	0%	0%	0%	0%	0%	0%	0%	7%	5	14%	9	1%
Dextropropoxyphene	0%	0%	0%	0%	0%	0%	0%	0%	0%	1	3%	1	0%
Total Deaths	94	81	75	100	97	78	63	141	58	36	100%	823	100%

Table 18: Prescription Opioid Mentions by Year Among Overdose Deaths in Montgomery County, 2010-2019

Fentanyl Analogs

Fentanyl Analog Overdose Deaths by Substance and Year Montgomery County, 2017-2019

	2017 #	2018 #	2019 #	2019 %	2017-2019 #	2017-2019 %
Carfentanil	63%	14%	4	3%	257	40%
Despropionyl Fentanyl	30%	41%	113	78%	275	43%
Acetyl Fentanyl	4%	48%	46	32%	123	19%
Acryl Fentanyl	20%	0%	0	0%	73	11%
Furanyl Fentanyl	18%	2%	0	0%	70	11%
Fluorobutryl Fentanyl	3%	9%	0	0%	24	4%
Valeryl/Isovaleryl Fentanyl	1%	10%	18	13%	34	5%
Cyclopropyl/Crotonyl Fentanyl	2%	0%	1	1%	9	1%
Cyclopropyl Fentanyl	1%	0%	0	0%	3	0%
Butyryl/Isobutyryl Fentanyl	1%	1%	0	0%	3	0%
Benzyl Fentanyl	1%	4%	2	1%	9	1%
Methoxy Acetyl Fentanyl	1%	2%	0	0%	5	1%
Tetrahydrofuran Fentanyl	1%	2%	2	1%	7	1%
Total Fentanyl Analog Overdose Deaths	372	128	144		644	

Table 19: Fentanyl Overdose Deaths by Year and Type of Fentanyl Analog in Montgomery County, 2017-2019

Cocaine

Cocaine Overdoses
Montgomery County by Year, 2010-2019

Year	Total Overdose Deaths	Cocaine Overdoses	
		# of Deaths	% of Total
2010	127	38	30%
2011	130	53	41%
2012	162	49	30%
2013	226	59	26%
2014	264	82	31%
2015	259	92	36%
2016	349	144	41%
2017	566	243	43%
2018	289	113	39%
2019	285	122	43%
2010-2019	2,657	995	37%

Table 20: Cocaine Overdose Deaths by in Montgomery County, 2010-2019

Cocaine Overdoses by Opioid Presence and Year, 2010-2019

Year	Cocaine	Any Opioid		Illicit Fentanyl		Fentanyl Analogs		Prescription Opioids		Heroin	
		# of Deaths	% of all Cocaine Deaths	#	%	#	%	#	%	#	%
2010	38	33	87%	3	8%			26	68%	15	39%
2011	53	45	85%	0	0%			23	43%	29	55%
2012	49	43	88%	1	2%			18	37%	32	65%
2013	59	50	85%	4	7%			13	22%	41	69%
2014	82	78	95%	39	48%			28	34%	49	60%
2015	92	80	87%	40	43%			15	16%	47	51%
2016	144	133	92%	109	76%	13	9%	10	7%	33	23%
2017	243	225	93%	156	64%	165	68%	47	19%	18	7%
2018	113	104	92%	98	87%	52	46%	22	19%	14	12%
2019	122	107	88%	102	84%	58	48%	15	12%	9	7%
2010-2019	995	898	90%	552	55%	288	29%	217	22%	287	29%

Table 21: Opioid Mentions in Cocaine Overdoses by Year in Montgomery County, 2010-2019

Marijuana

Marijuana Overdoses in Montgomery County by Year, 2012-2019

Year	Total Overdose Deaths	Marijuana Overdoses	
		# of Deaths	% of Total
2012	162	55	34%
2013	226	74	33%
2014	264	88	33%
2015	259	75	29%
2016	349	95	27%
2017	566	211	37%
2018	289	106	37%
2019	285	76	27%
2012-2019	2,400	780	32%

Table 22: Marijuana Overdose Deaths by Year in Montgomery County, 2012-2019

Marijuana Overdoses by Opioid Presence and Year, 2012-2019

Year	Marijuana Overdose Deaths	Any Opioid		Illicit Fentanyl		Fentanyl Analogs		Prescription Opiates		Heroin	
		# of Deaths	% of all Marijuana Deaths	#	%	#	%	#	%	#	%
2012	55	48	87%	1	2%			19	35%	37	67%
2013	74	70	95%	10	14%			30	41%	51	69%
2014	88	82	93%	43	49%			29	33%	43	49%
2015	75	71	95%	30	40%			22	29%	41	55%
2016	95	93	98%	70	74%	11	12%	16	17%	22	23%
2017	211	200	95%	136	64%	147	70%	43	20%	23	11%
2018	106	103	97%	92	87%	47	44%	27	25%	19	18%
2019	76	72	95%	66	87%	43	57%	7	9%	7	9%
2010-2019	780	739	95%	448	57%	248	32%	193	25%	243	31%

Table 23: Opioid Mentions in Marijuana Overdose Deaths by Year in Montgomery County, 2012-2019

Antidepressants

Antidepressant Overdoses in Montgomery County by Year, 2010-2019

Year	Total Overdose Deaths	Antidepressant Overdoses	
		# of Deaths	% of Total
2010	127	48	38%
2011	130	41	32%
2012	162	47	29%
2013	226	61	27%
2014	264	41	16%
2015	259	16	6%
2016	349	24	7%
2017	566	90	16%
2018	289	65	22%
2019	285	52	18%
2010-2019	2,657	485	18%

Table 24: Antidepressant Overdose Deaths by Year in Montgomery County, 2010-2019

Antidepressant Overdoses by Opioid Presence and Year, 2010-2019

Year	Antidepressant Overdose Deaths	Any Opioid		Illicit Fentanyl		Fentanyl Analogs		Prescription Opiates		Heroin	
		# of Deaths	% of all Antidepressant Deaths	#	%	#	%	#	%	#	%
2010	48	45	94%	3	6%	0	0%	37	77%	12	25%
2011	41	36	88%	4	10%	0	0%	29	71%	12	29%
2012	47	42	89%	3	6%	0	0%	29	62%	18	38%
2013	61	55	90%	5	8%	0	0%	37	61%	27	44%
2014	41	39	95%	15	37%	0	0%	26	63%	14	34%
2015	16	14	88%	2	13%	0	0%	13	81%	1	6%
2016	24	21	88%	5	21%	2	8%	15	63%	3	13%
2017	90	83	92%	55	61%	49	54%	35	39%	9	10%
2018	65	60	92%	54	83%	32	49%	23	35%	16	25%
2019	52	47	90%	44	85%	28	54%	9	17%	5	10%
2010-2019	485	442	91%	190	39%	111	23%	253	52%	117	24%

Table 25: Opioid Mentions in Antidepressant Overdose Deaths by Year in, 2010-2019

Methamphetamine

Methamphetamine Overdoses in Montgomery County by Year, 2010-2019

Year	Total Overdose Deaths	Methamphetamine Overdoses	
		# of Deaths	% of Total
2010	127	1	1%
2011	130	2	2%
2012	162	4	2%
2013	226	6	3%
2014	264	11	4%
2015	259	14	5%
2016	349	36	10%
2017	566	102	18%
2018	289	84	29%
2019	285	84	29%
2010-2019	**2,657**	**344**	**13%**

Table 26: Methamphetamine Overdose Deaths by Year in Montgomery County, 2010-2019

Methamphetamine Overdoses by Opiate Presence and Year, 2010-2019

Year	Methamphetamine Overdose Deaths	Any Opiate		Illicit Fentanyl		Fentanyl Analogs		Prescription Opiates		Heroin	
		# of Deaths	% of all Meth Deaths	#	%	#	%	#	%	#	%
2010	1	1	100%	0	0%			1	100%	0	0%
2011	2	1	50%	0	0%			0	0%	1	50%
2012	4	3	75%	1	25%			2	50%	3	75%
2013	6	5	83%	2	33%			2	33%	3	50%
2014	11	10	91%	3	27%			1	9%	9	82%
2015	14	12	86%	6	43%			3	21%	5	36%
2016	36	33	92%	22	61%	3	8%	6	17%	12	33%
2017	102	94	92%	65	64%	78	76%	12	12%	3	3%
2018	84	76	90%	72	86%	31	37%	12	14%	12	14%
2019	84	74	88%	72	86%	47	56%	5	6%	5	6%
2010-2019	**344**	**309**	**90%**	**243**	**71%**	**159**	**46%**	**44**	**13%**	**53**	**15%**

Table 27: Opioid Mentions in Methamphetamine Overdose Deaths by Year, 2010-2019

Benzodiazepines

Benzodiazepine Overdoses in Montgomery County by Year, 2010-2019

Year	Total Overdose Deaths	Benzodiazepine Overdoses	
		# of Deaths	% of Total
2010	127	89	70%
2011	130	84	65%
2012	162	70	43%
2013	226	118	52%
2014	264	133	51%
2015	259	111	43%
2016	349	92	26%
2017	566	201	36%
2018	289	61	21%
2019	285	60	21%
2010-2019	2,657	1,019	38%

Table 28: Benzodiazepine Overdose Deaths by Year in Montgomery County, 2010-2019

Benzodiazepine Overdoses by Opioid Presence and Year, 2010-2019

Year	Benzodiazepine	Any Opiate		Illicit Fentanyl		Fentanyl Analogs		Prescription Opiates		Heroin	
		# of Deaths	% of all Benzo Deaths	#	%	#	%	#	%	#	%
2010	89	84	94%	5	6%	0	0%	73	82%	24	27%
2011	84	80	95%	5	6%	0	0%	64	76%	28	33%
2012	70	64	91%	5	7%	0	0%	43	61%	35	50%
2013	118	115	97%	16	14%	0	0%	67	57%	65	55%
2014	133	127	95%	58	44%	0	0%	60	45%	64	48%
2015	111	109	98%	43	39%	0	0%	48	43%	53	48%
2016	92	89	97%	60	65%	1	1%	32	35%	18	20%
2017	201	190	95%	125	62%	131	65%	74	37%	18	9%
2018	61	54	89%	45	74%	23	38%	21	34%	16	26%
2019	60	55	92%	45	75%	30	50%	17	28%	10	17%
2010-2019	1,019	967	95%	407	40%	185	18%	499	49%	331	32%

Table 29: Opioid Mentions in Benzodiazepine Overdose Deaths by Year, 2010-2019

Benzodiazepine Deaths by Type and Year, 2010-2019

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019		2010-2019	
	#	#	#	#	#	#	#	#	#	#	%	#	%
Alprazolam	73%	70%	57%	64%	52%	48%	52%	40%	59%	25	42%	551	54%
Clonazepam	34%	26%	33%	39%	29%	38%	35%	21%	15%	21	35%	306	30%
Diazepam	25%	20%	31%	25%	32%	26%	25%	28%	20%	18	30%	272	27%
Lorazepam	4%	2%	6%	5%	11%	5%	4%	3%	0%	2	3%	49	5%
Chlordiazepoxide	0%	0%	0%	0%	0.8%	0.9%	0.0%	1%	3%	1	2%	7	0.7%
Oxazepam	0%	0%	0%	0%	0.0%	0%	0%	0%	3%	2	3%	4	0.4%
Etizolam	0%	0%	0%	0%	0.0%	0%	0%	0%	0%	3	5%	3	0.3%
Temazepam	0%	0%	0%	0%	0.0%	0%	0%	0%	3%	1	2%	3	0.3%
Flualprazolam	0%	0%	0%	0%	0.0%	0%	0%	0%	0%	1	2%	1	0.1%
Total Benzodiazepine Deaths	89	84	70	118	133	111	92	201	61	60	100%	1,019	100%

Table 30: Type of Opioid in Benzodiazepine Overdose Deaths by Year, 2010-2019

Antihistamines/Sleep Aids

Antihistamines/Sleep Aids Overdoses in Montgomery County by Year, 2018-2019

Year	Total Overdose Deaths	Antihistamines/ Sleep Aids Overdoses	
		# of Deaths	% of Total
2018	289	65	22%
2019	285	44	15%
2018-2019	574	109	19%

Table 32: Antihistamine/Sleep Aid Overdose Deaths by Year in Montgomery County, 2018-2019

Antihistamines/Sleep Aids Overdoses by Opioid Presence and Year, 2018-2019

Year	Antihistamines/ Sleep Aids Overdose Deaths	Any Opioid		Illicit Fentanyl		Fentanyl Analogs		Prescription Opiates		Heroin	
		# of Deaths	% of Antihistamine Deaths	#	%	#	%	#	%	#	%
2018	65	60	92%	54	83%	32	49%	20	31%	16	25%
2019	44	42	95%	38	86%	28	64%	7	16%	5	11%
2018-2019	109	102	94%	92	84%	60	55%	27	25%	21	19%

Table 31: Opioid Mentions in Antihistamine/Sleep Aid Overdose Deaths by Year, 2018-2019

Alcohol

Alcohol Overdoses in Montgomery County by Year, 2017-2019

Year	Total Overdose Deaths	Alcohol Overdoses	
		# of Deaths	% of Total
2017	566	125	22%
2018	289	65	22%
2019	285	69	24%
2017-2019	1,140	259	23%

Table 33: Alcohol Overdose Deaths by Year in Montgomery County, 2017-2019

Alcohol Overdoses by Opioid Presence and Year, 2017-2019

Year	Alcohol Overdose Deaths	Any Opioid		Illicit Fentanyl		Fentanyl Analogs		Prescription Opiates		Heroin	
		# of Deaths	% of all Alcohol Deaths	#	%	#	%	#	%	#	%
2017	125	116	93%	77	62%	78	62%	34	27%	9	7%
2018	65	61	94%	59	91%	30	46%	9	14%	8	12%
2019	69	59	86%	58	84%	32	46%	9	13%	7	10%
2010-2019	259	236	91%	194	75%	140	54%	52	20%	24	9%

Table 34: Opioid Mentions in Alcohol Overdose Deaths by Year, 2017-2019

Gabapentin

Gabapentin Overdoses in Montgomery County by Year, 2017-2019

Year	Total Overdose Deaths	Gabapentin Overdoses	
		# of Deaths	% of Total
2017	566	52	9%
2018	289	34	12%
2019	285	15	5%
2017-2019	1,140	101	9%

Table 35: Gabapentin Overdose Deaths by Year in Montgomery County, 2017-2019

Gabapentin Overdoses by Opioid Presence and Year, 2017-2019

Year	Gabapentin Overdose Deaths	Any Opioid		Illicit Fentanyl		Fentanyl Analogs		Prescription Opioids		Heroin	
		# of Deaths	% of all Gabapentin Deaths	#	%	#	%	#	%	#	%
2017	52	50	96%	27	52%	22	42%	30	58%	8	15%
2018	34	34	100%	27	79%	14	41%	13	38%	7	21%
2019	15	14	93%	11	73%	8	53%	7	47%	3	20%
2017-2019	101	98	97%	65	64%	44	44%	50	50%	18	18%

Table 36: Opioid Mentions in Gabapentin Overdose Deaths by Year, 2017-2019

Drug Mentions by Demographic Attributes

Opioids

Opioid Mentions by Demographic Group, Montgomery County, 2019

		Total	Any Opioid		Synthetic Opioid		Illicit Fentanyl		Fentanyl Analog		Heroin		Prescription Opioid	
			#	%	#	%	#	%	#	%	#	%	#	%
Race	White	215	193	90%	178	83%	177	82%	116	54%	22	10%	31	14%
	Black	64	55	86%	54	84%	54	84%	27	42%	4	6%	3	5%
Gender	Male	183	164	90%	154	84%	154	84%	92	50%	18	10%	20	11%
	Female	102	88	86%	82	80%	81	79%	52	51%	8	8%	16	16%
Age	Under 35	86	77	90%	72	84%	72	84%	47	55%	6	7%	8	9%
	35 and Over	199	175	88%	164	82%	163	82%	97	49%	20	10%	28	14%
Education	<HS	83	70	84%	65	78%	65	78%	40	48%	8	10%	12	14%
	HS	133	120	90%	113	85%	112	84%	66	50%	13	10%	18	14%
	College	61	56	92%	52	85%	52	85%	34	56%	5	8%	6	10%
Marital Status	Single	153	130	85%	126	82%	126	82%	79	52%	13	8%	14	9.2%
	Divorced	67	63	94%	55	82%	55	82%	33	49%	8	12%	13	19%
	Married	42	38	90%	34	81%	33	79%	20	48%	4	10%	8	19%
Insurance	Private	27	22	81%	22	81%	22	81%	14	52%	2	7%	5	19%
	Medicaid	141	123	87%	115	82%	114	81%	62	44%	13	9%	13	9%
	Medicare	29	24	83%	21	72%	21	72%	11	38%	2	7%	5	17%
Occupation	Labor	99	92	93%	85	86%	85	86%	47	47%	11	11%	12	12%
	Service	50	43	86%	40	80%	40	80%	28	56%	6	12%	5	10%
	Other	61	52	85%	48	79%	48	79%	30	49%	4	7%	8	13%
	Unemployed	24	21	88%	20	83%	19	79%	14	58%	1	4.2%	3	13%
Total Deaths		**285**	**252**	**88%**	**236**	**83%**	**235**	**82%**	**144**	**51%**	**26**	**9%**	**36**	**13%**

Table 37: Opioid Mentions by Demographic Categories Among Overdose Deaths, 2019

Non-Opioid Mentions by Demographic Group, Montgomery County, 2019

		Total	Cocaine		Marijuana		Metham-phetamines		Anti-depressants		Alcohol		Antihistamines/ Sleep Aids		Benzo-diazepines		Gabapentin	
			#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Race	White	215	77	36%	54	25%	78	36%	39	18%	43	20%	35	16%	51	24%	13	6%
	Black	64	44	69%	21	33%	4	6%	13	20%	22	34%	9	14%	9	14%	2	3%
Gender	Male	183	65	36%	47	26%	63	34%	25	14%	46	25%	25	14%	36	20%	4	2%
	Female	102	57	56%	29	28%	21	21%	27	26%	23	23%	19	19%	24	24%	11	11%
Age	Under 35	86	30	35%	29	34%	25	29%	17	20%	22	26%	6	7%	14	16%	2	2%
	35 and Over	199	92	46%	47	24%	59	30%	35	18%	47	24%	38	19%	46	23%	13	7%
Education	<HS	83	37	45%	21	25%	22	27%	11	13%	22	27%	9	11%	22	27%	6	7%
	HS	133	54	41%	37	28%	44	33%	25	19%	34	26%	19	14%	23	17%	7	5%
	College	61	28	46%	15	25%	13	21%	14	23%	13	21%	14	23%	14	23%	2	3%
Marital Status	Single	153	70	46%	44	29%	42	27%	21	14%	44	29%	16	10%	24	16%	4	3%
	Divorced	67	21	31%	15	22%	21	31%	15	22%	13	19%	14	21%	21	31%	7	10%
	Married	42	17	40%	11	26%	11	26%	9	21%	10	24%	6	14%	11	26%	2	5%
Insurance	Private	27	10	37%	6	22%	5	19%	8	30%	4	15%	3	11%	10	37%	2	7%
	Medicaid	141	60	43%	41	29%	43	30%	27	19%	35	25%	20	14%	28	20%	7	5%
	Medicare	29	16	55%	4	14%	6	21%	8	28%	7	24%	10	34%	5	17%	1	3%
Occupation	Labor	99	28	28%	28	28%	34	34%	19	19%	25	25%	14	14%	27	27%	3	3%
	Service	50	23	46%	17	34%	14	28%	5	10%	14	28%	6	12%	5	10%	1	2%
	Other	61	33	54%	13	21%	8	13%	17	28%	14	23%	12	20%	16	26%	7	11%
	Unemployed	24	15	63%	3	13%	8	33%	4	17%	4	17%	4	17%	6	25%	1	4%
Total Deaths		**285**	**122**	**43%**	**76**	**27%**	**84**	**29%**	**52**	**18%**	**69**	**24%**	**44**	**15%**	**60**	**21%**	**15**	**5%**

Table 38: Non-Opioid Drug Mentions by Demographic Categories Among Overdose Deaths, 2019

Drug Mentions by Health Status, 2019

	Physical Illness		No Physical Illness		Mental Illness		No Mental Illness		Prior Overdose Hospital Visit		No Prior Overdose Hospital Visit	
	Total = 248		Total = 37		Total = 109		Total = 176		Total = 74		Total = 211	
	#	%	#	%	#	%	#	%	#	%	#	%
Any Opioid	217	88%	35	95%	96	88%	156	89%	66	89%	186	88%
Illicit Fentanyl	202	81%	33	89%	85	78%	150	85%	63	85%	172	82%
Fentanyl Analog	123	50%	21	57%	48	44%	96	55%	44	59%	100	47%
Prescription Opioids	34	14%	2	5%	17	16%	19	11%	5	7%	31	15%
Heroin	20	8%	6	16%	9	8%	17	10%	6	8%	20	9%
Cocaine	107	43%	15	41%	42	39%	80	45%	24	32%	98	46%
Benzos	53	21%	7	19%	29	27%	31	18%	18	24%	42	20%
Methamphetamine	66	27%	18	49%	31	28%	53	30%	27	36%	57	27%
Antidepressants	49	20%	3	8%	33	30%	19	11%	19	26%	33	16%
Marijuana	63	25%	13	35%	31	28%	45	26%	23	31%	53	25%
Gabapentin	14	6%	1	3%	10	9%	5	3%	7	9%	8	4%

Table 39: Drug Mentions by Health Status Among Overdose Deaths in Montgomery County, 2019

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