Poisoning Death Review Report
Montgomery County, 2018

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

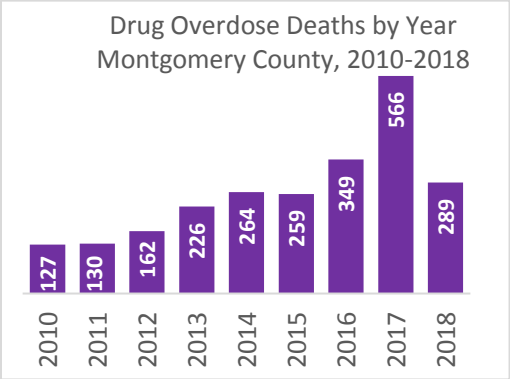
The Poisoning Death Review report provides an overview of accidental drug overdose deaths occurring in Montgomery County. The tables and charts that follow provide information on the number of deaths, the drugs involved, and information about individuals who died from a drug overdose.

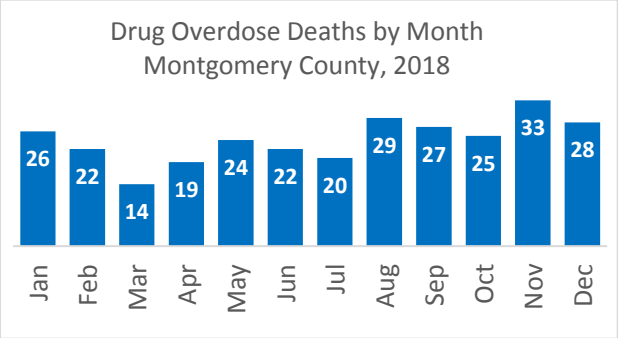
289

Number of Drug Overdose Deaths that Occurred in Montgomery County in 2018

Number of Drug Overdose Deaths

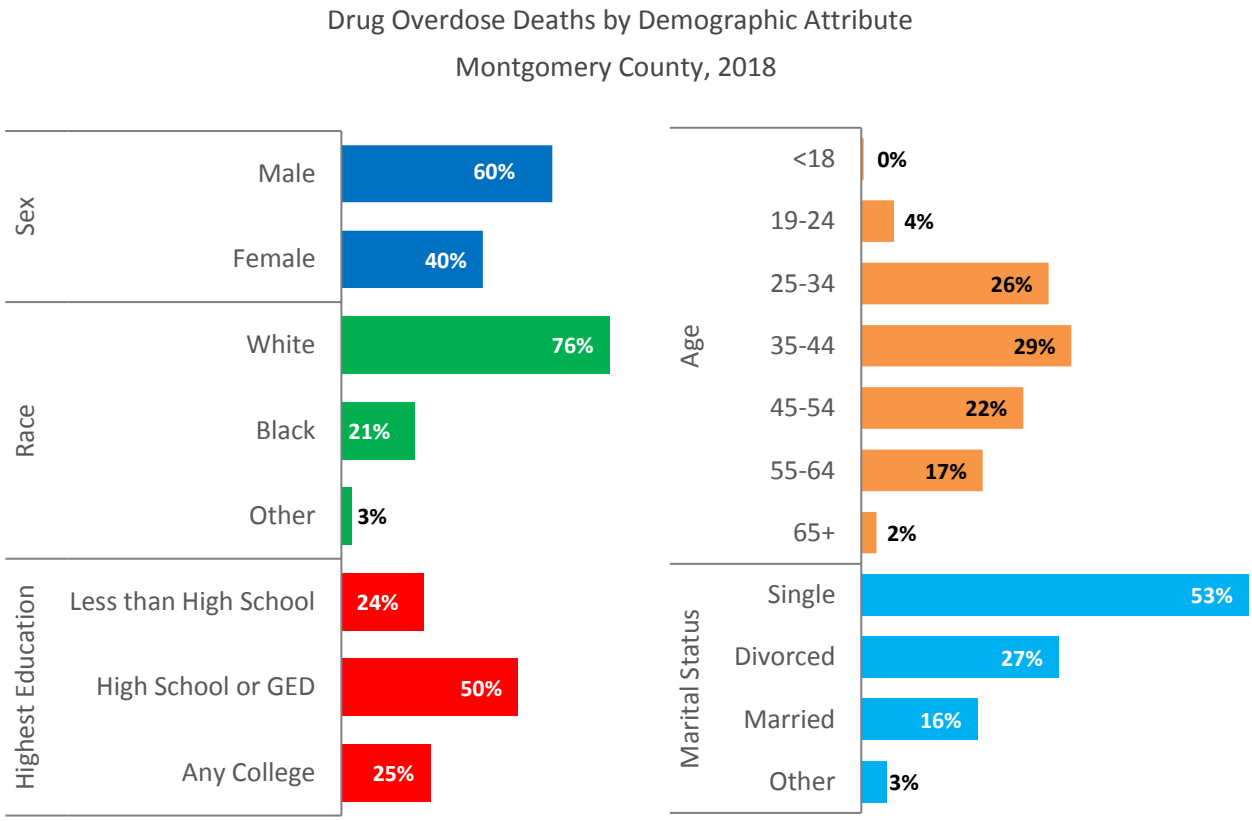
- In 2018, there were 289 drug overdose deaths in Montgomery County, a 49% decrease from 566 in 2017. The number of deaths per month increased in the second half of 2018, reaching a high of 33 in November.





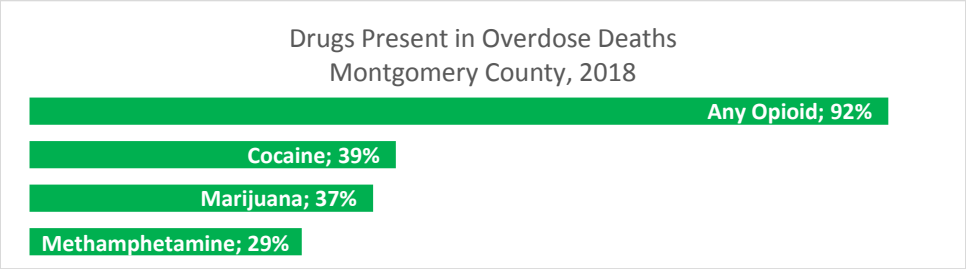
Demographics

Demographic attributes of the 289 individuals who died of an overdose are below:



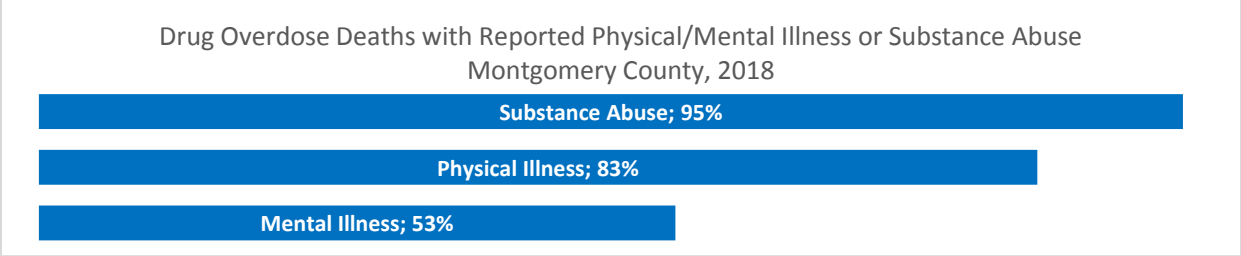
Drugs Present in Toxicology Screen

- 92% of overdose deaths had opioids present in the toxicology screen. Illicit fentanyl was the most common opioid.
- Cocaine, marijuana, and methamphetamine were the most common non-opioids in 2018.



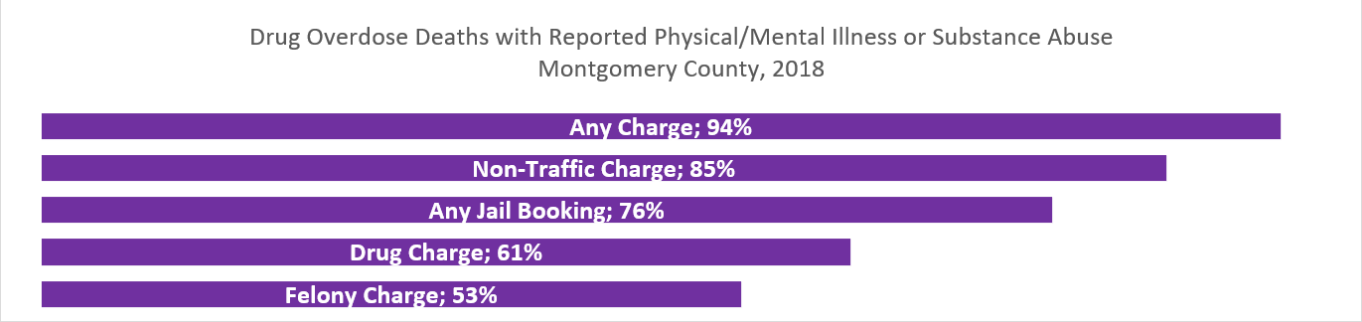
Health

- 95% of individuals had a reported substance abuse history.
- 83% of individuals who died of a drug overdose in 2018 had a reported physical illness with the three most common health problems being heart disease (52%), hypertension (46%) and obesity (41%).
- 53% had a reported history of mental health problems.



Criminal History

- 94% of individuals had a prior criminal charge in Montgomery County or another county nearby.



61%

Of the 271 individuals with prior criminal justice system contact, 164 died within one year of their last interaction.

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 in Montgomery County in 2018.

Public Health – Dayton & Montgomery County (PHDMC) is in the process of improving overdose death data collection and has 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 and can identify and champion efforts to help decrease the number of overdose deaths in Montgomery County.

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 death data provided by the Ohio Department of Health (ODH), which includes 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 substance use disorder, and prior overdose hospital visits.

Criminal history is collected from JusticeWeb, a portal that aggregates information from criminal justice agencies. Population data are obtained from the American Community Survey (2012-2017 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 2018 have not yet been finalized, ODH classifies data for 2018 as partial and incomplete as of the writing of this report.

Overdose Trends

Overdose Deaths by Year

Two hundred eighty-nine (289) accidental drug overdose deaths occurred in Montgomery County in 2018, a 49% decrease from 566 in 2017.

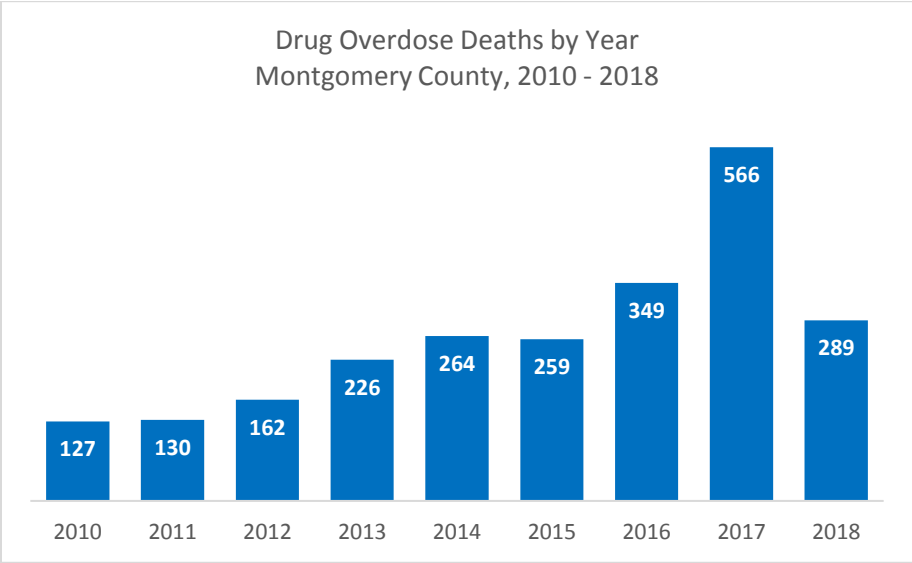


Figure 1: Overdose Deaths in Montgomery County by Year, 2010-2018

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 then increased in fall and winter of 2018, reaching a high of 33 in November.

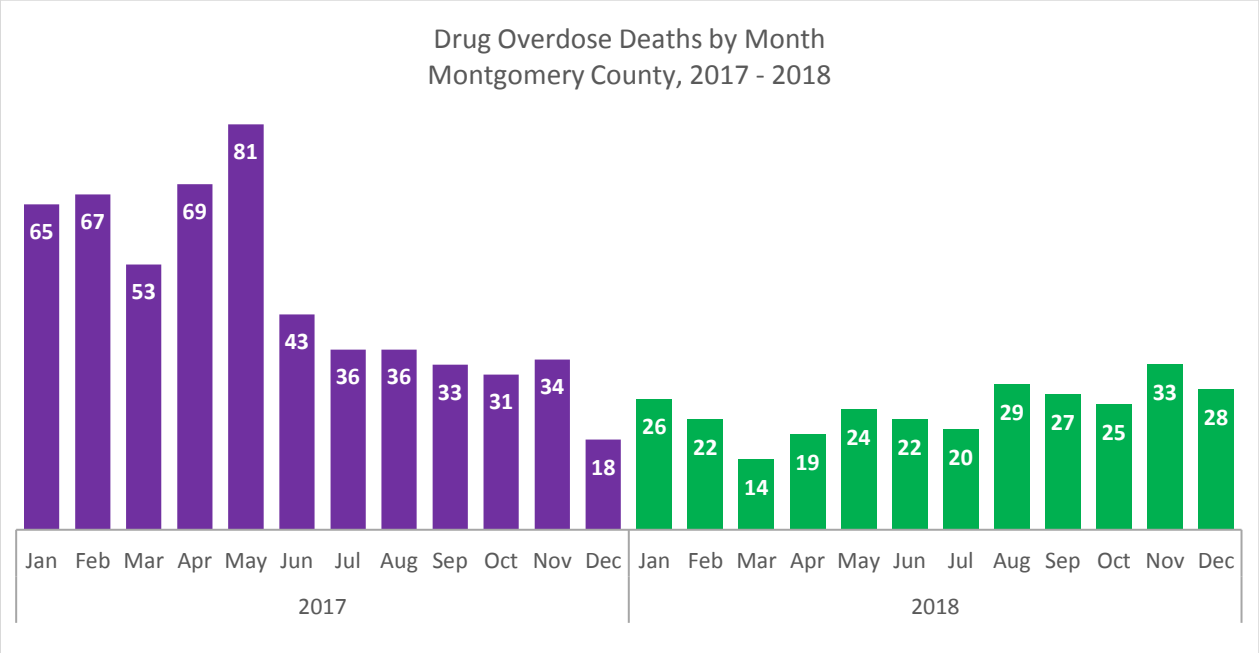


Figure 2: Overdose Deaths in Montgomery County by Month, 2017-2018

Demographics

Sex

In 2018, 60% (173 of 289) of individuals who died of an overdose in Montgomery County were male; 40% (116) were female.

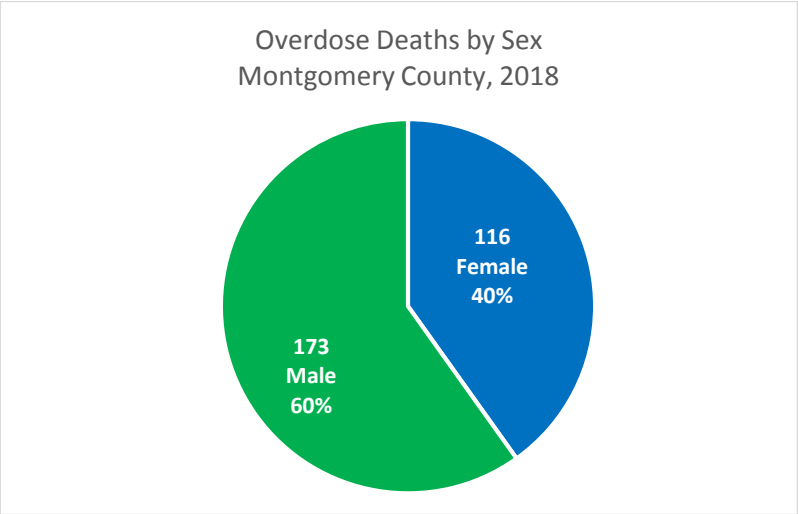


Figure 3: Overdose Deaths in Montgomery County by Sex, 2018

The proportion of individuals who died from an overdose who were men increased nearly 20% between 2010 and 2017 (from 57% to 68%), then decreased by 12% between 2017 and 2018. The proportion who were female increased by 25% (from 32% to 40%) between 2017 and 2018.

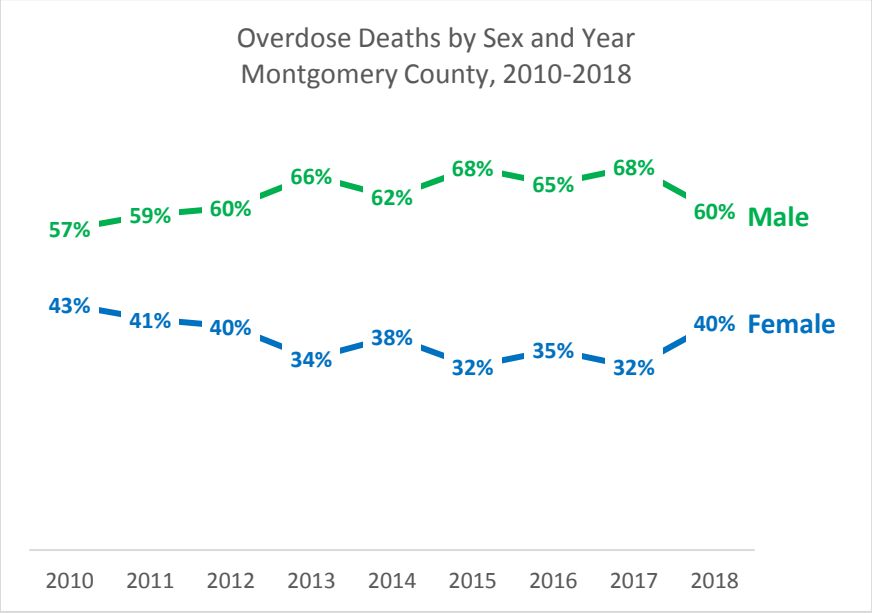


Figure 4: Overdose Deaths in Montgomery County by Sex and Year, 2010-2018

Race

Whites accounted for 76% (220 of 289) of overdose deaths that occurred in Montgomery County in 2018, a 3.6 times higher percent than Blacks (21%).

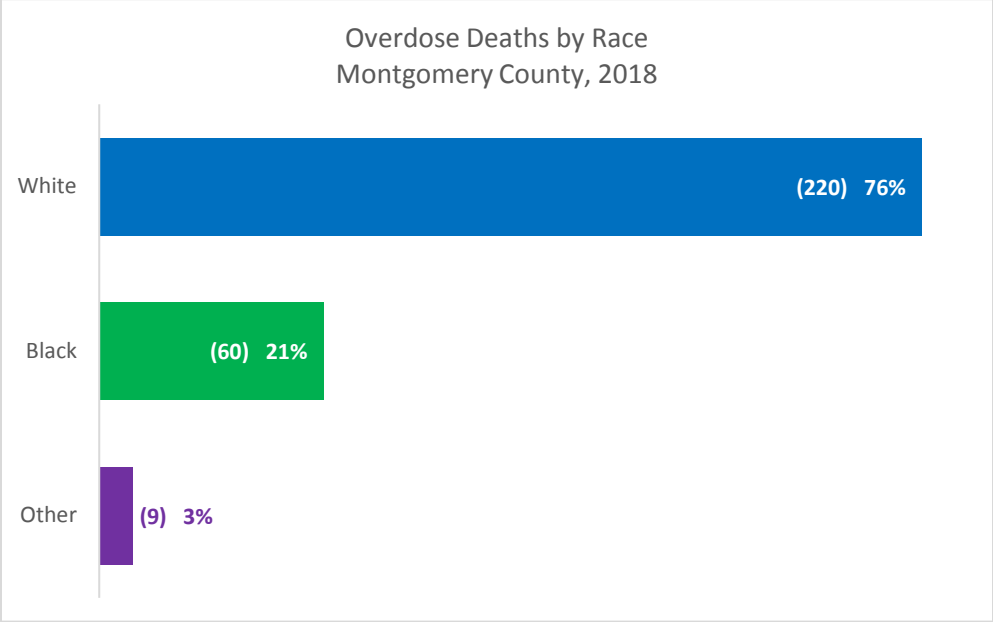


Figure 5: Overdose Deaths in Montgomery County by Race, 2018

The proportion of individuals who died from an overdose who were Black doubled (from 10% to 21%) between 2010 and 2018.

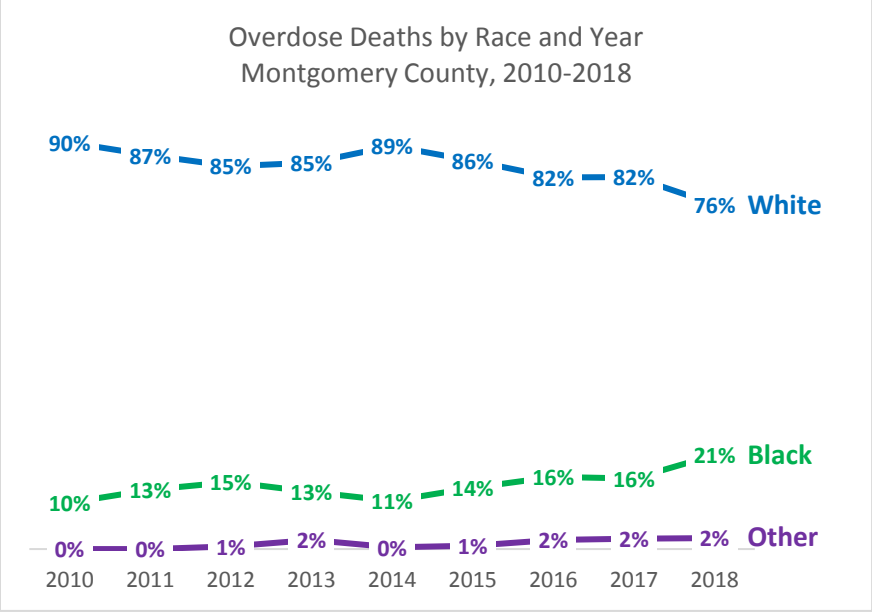


Figure 6: Overdose Deaths in Montgomery County by Race and Year, 2010-2018

Age

The most common age group among individuals who died of a drug overdose in 2018 was 35-44 years, accounting for 29% (83 of 289) of all overdose deaths. The next most common age group was 25-34 years, at 26% (74) of deaths. This is consistent with prior years.

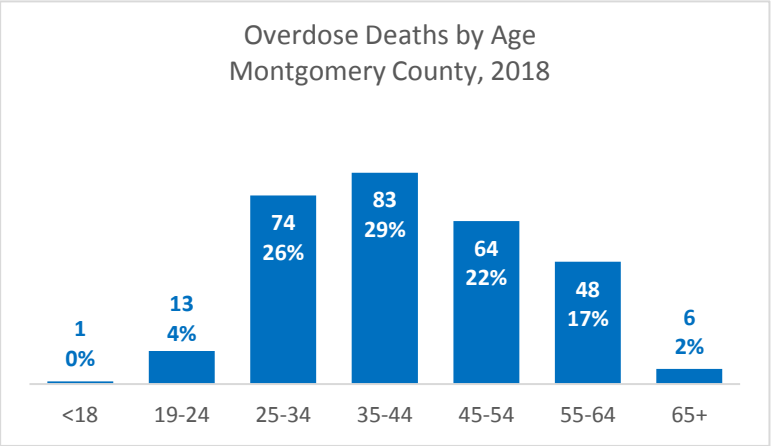


Figure 7: Overdose Deaths in Montgomery County by Age, 2018

Education

Fifty percent (50%) of individuals who died of an overdose had a high school diploma or GED but no college education (145 of 289). Just under one-quarter (24%) had less than a high school education and 25% had any college education. This is an increase from 2017 when 5% had any

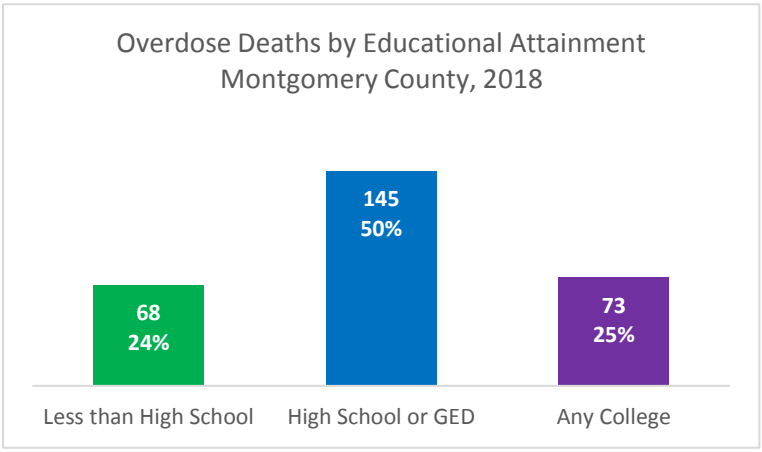


Figure 8: Overdose Deaths in Montgomery County by Educational Attainment, 2018
Note: Education is unknown for three individuals

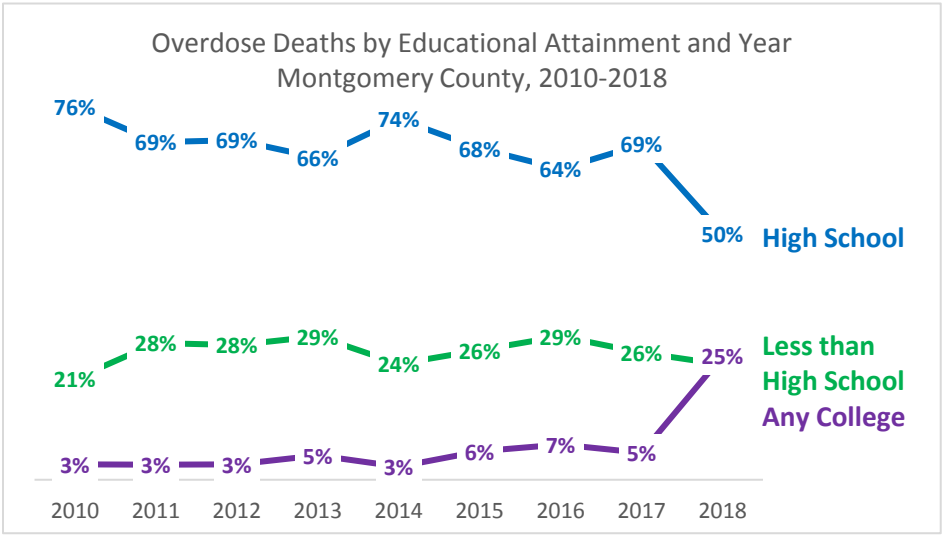


Figure 9: Overdose Deaths in Montgomery County by Educational Attainment and Year, 2010-2018

The proportion of individuals who died of a drug overdose who had any college education was 5 times higher in 2018 than in 2017.

Marital Status

Fifty-three percent (53%) of individuals who died of an overdose were single, 27% were divorced, and 16% were married. This is consistent with prior years.

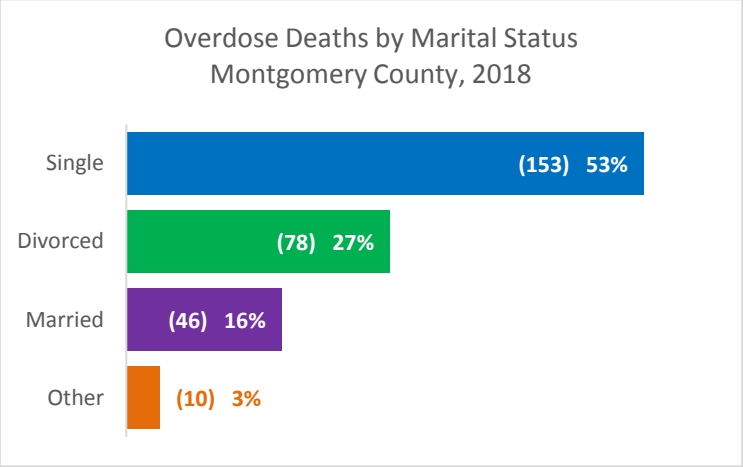


Figure 10: Overdose Deaths in Montgomery County by Marital Status, 2018
Note: Marital Status is unknown for two individuals

Occupation

Of the 289 individuals who died of an overdose and had an occupation reported by family, 39% were in Labor, 19% were in Service, and 10% were Unemployed.

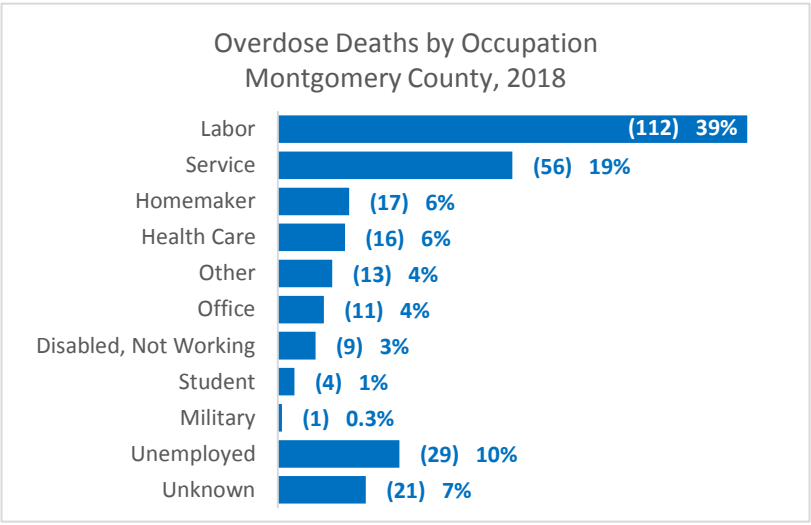


Figure 11: Overdose Deaths in Montgomery County by Occupation, 2018

Insurance

Of the 289 individuals who died of an overdose and who had a visit at an area hospital between 2016 and the date of death, 56% paid for their most recent visit with Medicaid, 11% with Medicare, 10% were Self-Pay, and 8% paid with Commercial Insurance.

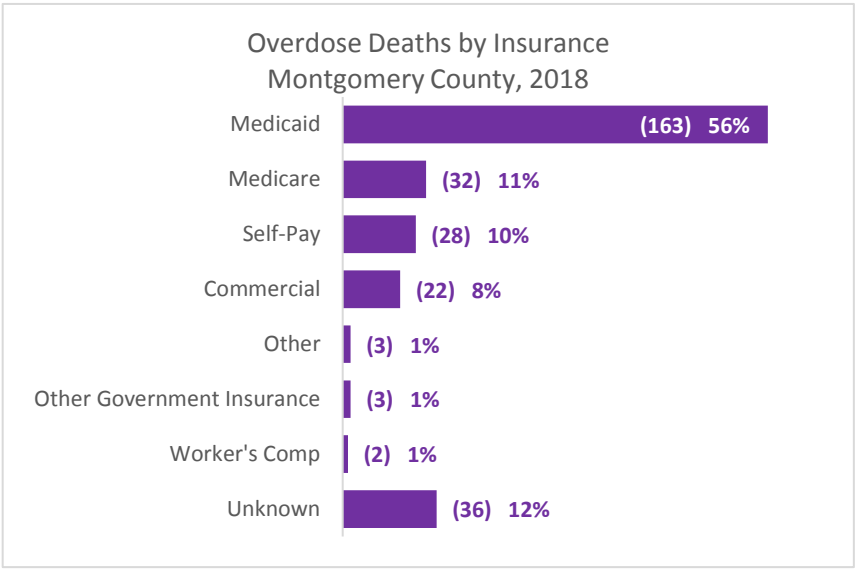


Figure 12: Overdose Deaths in Montgomery County by Insurance, 2018

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 is collected from autopsy findings and investigator notes from the Coroner's Office or provided by Ascend Innovations, Inc.

Physical Illness

In 2018, 83% of individuals who died of a drug overdose had a reported physical illness. The most common illnesses among individuals who died of an overdose in 2018 were heart disease, hypertension, obesity, chronic pain, and kidney disease.

Physical Illnesses Among Overdose Deaths
Montgomery County, 2018

Physical Illness	# of Deaths	% of Deaths
Heart Disease	150	51.9%
Hypertension	132	45.7%
Obesity	118	40.8%
Chronic Pain	79	27.3%
Kidney Disease	64	22.2%
Cirrhosis/Liver Disease	50	17.3%
Asthma	47	16.3%
Hepatitis C	46	15.9%
COPD*	45	15.6%
Diabetes	41	14.2%
Thyroid Disease	29	10.0%
Sleep Disorder	36	12.5%
Seizure Disorder	21	7.3%
Central Nervous System Disorder	20	6.9%
Migraines	19	6.6%

*Chronic Obstructive Pulmonary Disease

Table 1: Physical Illnesses Among Overdose Deaths in Montgomery County, 2018

Mental Illness

Fifty-three percent (153 of 289) of individuals who died of a drug overdose had a reported mental health condition. The most common diagnoses were anxiety (35%), depression (31%), and bipolar disorder (13%).

Substance Abuse and Prior Overdoses

- 95% (275) of individuals who died of an overdose had a reported history of substance abuse
  - 80% (230) had substance abuse reported to the coroner
  - 77% (223) had a hospital visit for substance abuse
  - 61% (177) had a drug charge indicating illegal substance use
- 37% (107) had a hospital visit for an overdose between 2016 and death
  - 19% (54) had an overdose visit within one year of death
    - 12% (36) had an overdose visit within six months of death
  - 18% (53) 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 289 individuals who died of an overdose:

- 94% (271) had any type of criminal charge
- 85% (246) had a non-traffic charge
- 76% (221) had any jail booking in their lifetime
- 61% (177) had a drug charge
- 53% (153) had a felony charge

Lifetime Cases and Convictions in Overdose Deaths
Montgomery County, 2018
(Includes data reported to JusticeWeb)

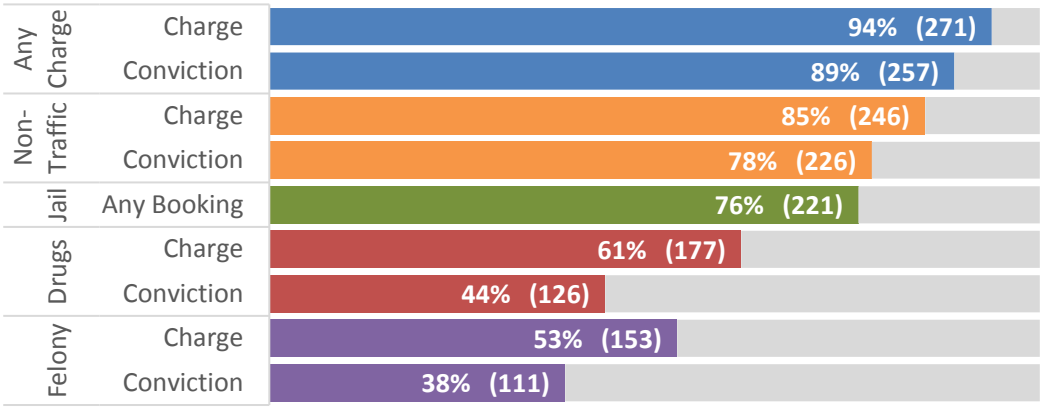


Figure 13: Criminal History Among Overdose Deaths in Montgomery County, 2018

Criminal Justice System Contact

Of the 271 individuals who died of a drug overdose who had any criminal charge in their lifetime, 61% had contact with the criminal justice system within 1 year of death, 20% had contact within 1 month of death, and 10% had contact within 1 week of death.

Time of Last Criminal Justice Contact by Type of Interaction
Montgomery County, 2018

Time Between Last Contact and Death	All Contacts		Jail Release		Drug-related	
	271		221		177	
Death	**#**	**%**	**#**	**%**	**#**	**%**
Within 1 Year	164	61%	107	48%	69	39%
Within 1 Month	53	20%	35	16%	23	13%
Within 1 Week	28	10%	16	7%	15	8%

Table 2: Time Since Criminal Justice Contact Among Overdose Deaths in Montgomery County, 2018

Note:
Additional criminal history information for overdose deaths in 2018 can be found in Table 7 and Table 8 on page 36 in Appendix I.

Incident Information

Location of Overdose Death

In 2018, 77% percent of incidents occurred at the individual's home or that of a friend or family member.

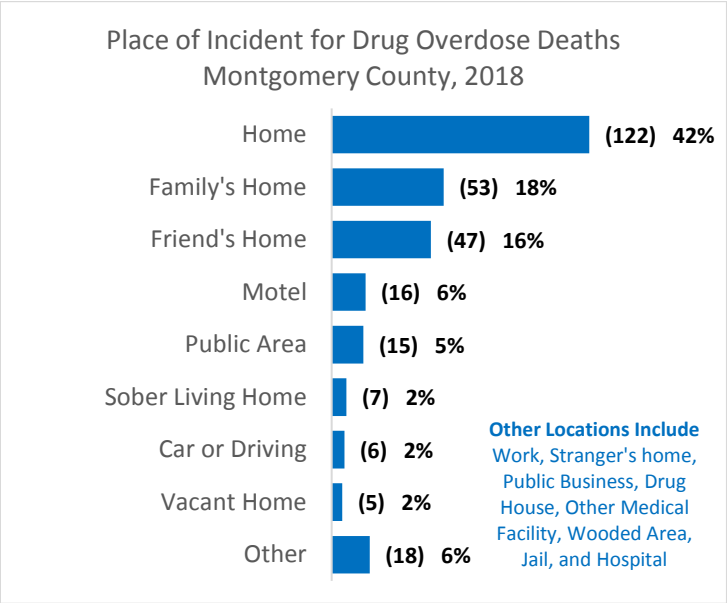


Figure 14: Place of Incident Among Drug Overdose Deaths in Montgomery County, 2018

Alone at the Time of Overdose

Nearly two in three (65%) individuals who died of a drug overdose in 2018 were reported to be alone at the time of overdose.

Drug Overdose Deaths by Presence of Others at the Time of Overdose
Montgomery County, 2018

	#	%
Alone	187	65%
With Others	63	22%
Unknown but Found Alone	26	9%
Unknown	13	4%

Table 3: Drug Overdose Deaths by Presence of Others in Montgomery County, 2018

Reported Period of Abstinence

Fourteen percent (14%) of individuals are known to have been in a facility (jail or treatment facility) and three percent were reported to be sober within one month of death.

Naloxone Administration

Just over one in three (36%) individuals were given naloxone at the time of overdose according to the Coroner's notes and toxicology screens.

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 analogues are extremely potent opioids that contributed to this increase. Fentanyl, one of its analogues, or both were present in 246 cases in 2018, 85% of all overdose deaths. This is similar to the percent of deaths in 2017 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 92% of cases. This is more than twice as many overdose deaths as cocaine, the next most common drug mentioned.

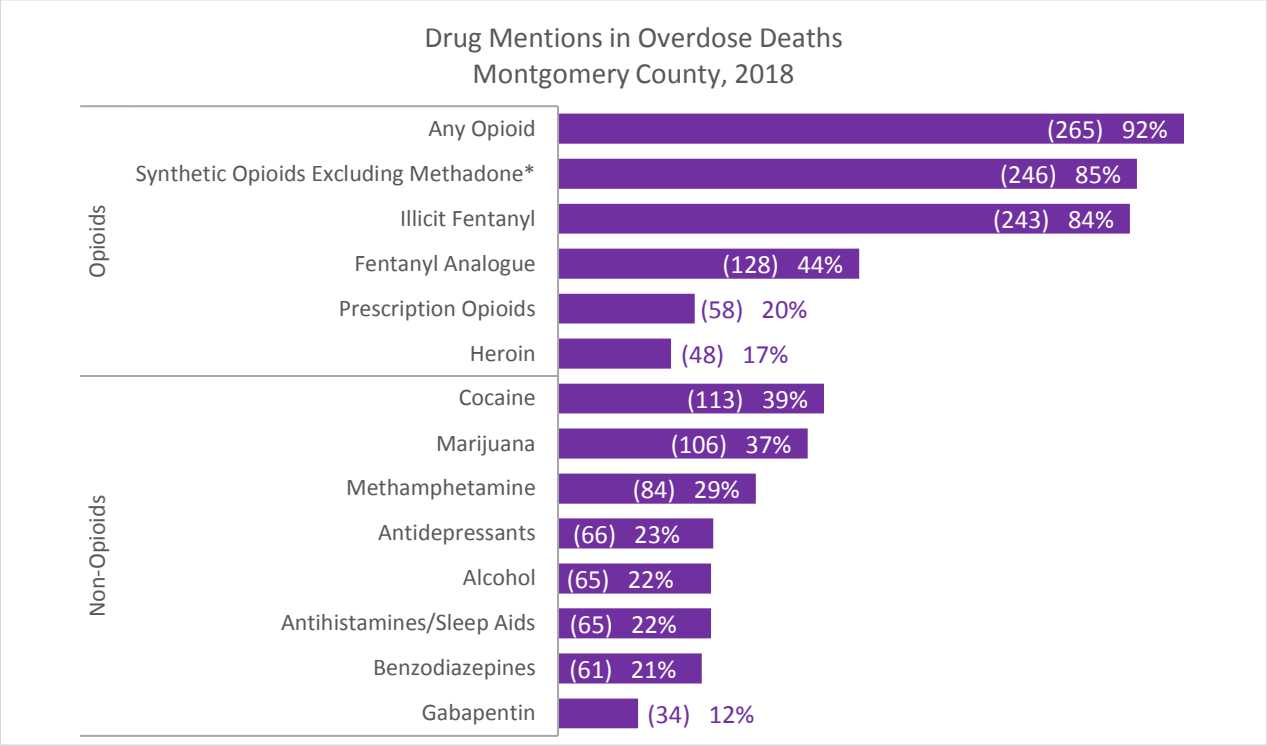
Definition of a Drug Mention

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, 2018

Substance	# of Deaths	% of Deaths
Any Opioid	265	92%
Cocaine	113	39%
Marijuana	106	37%
Methamphetamine	84	29%
Antidepressants	66	23%
Alcohol	65	22%
Antihistamines/Sleep Aids	65	22%
Benzodiazepines	61	21%
Gabapentin	34	12%

Table 4: Drug Mentions Among Overdose Deaths in Montgomery County, 2018



*Includes Illicit Fentanyl and Fentanyl Analogues

Figure 15: Drug Mentions Among Overdose Deaths in Montgomery County, 2018

Opioids

Opioids appeared in 92% of overdose deaths in 2018, a proportion consistent with prior years.

92%

Percent of Drug Overdose Deaths Involving Opioids

Figure 16 shows overdose deaths with opioid mentions between 2010 and 2018. 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 2018, the number of overall and opioid-related overdose deaths increased dramatically between 2010 and 2017 before declining in 2018; the number of overdose deaths involving opioids was 49% lower in 2018 than in 2017 (265 vs. 520).

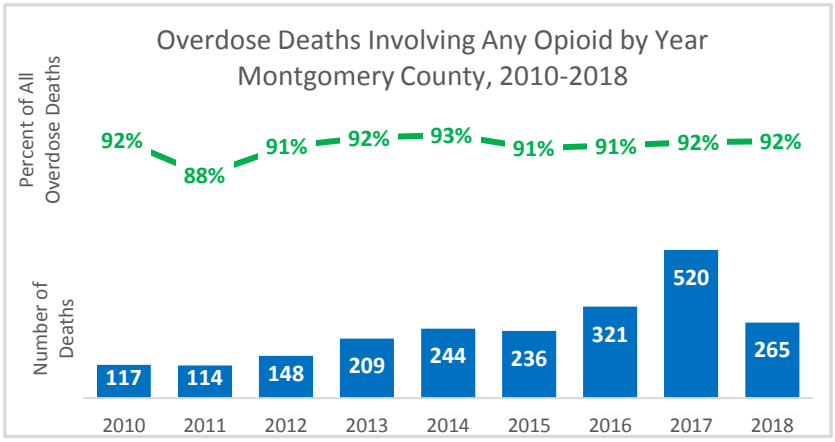


Figure 16: Opioid Overdose Deaths Among Overdose Deaths in Montgomery County, 2010-2018

Most Common Opioid Mentions

Illicit fentanyl and fentanyl analogues and were the most common opioids in 2018, appearing in 84% and 44% of opioid overdose deaths, respectively. These often appeared in combination with other substances.

The most common mentions of opioids are as follows:

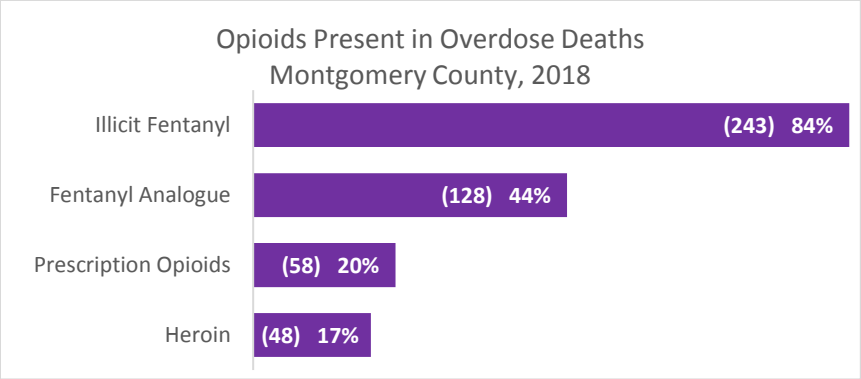


Figure 17: Opioids Present Among Overdose Deaths in Montgomery County, 2018

Note: A full list of opioid combinations found in toxicology screens in 2018 can be found in Table 10 on page 37 in Appendix I.

Prescription Opioids

The percent of overdose deaths involving prescription opioids (excluding fentanyl) decreased by 73% between 2010 and 2018. These prescription drugs appeared in the individuals' toxicology screens; it is unknown if they received a prescription, obtained the drugs illicitly, or both.

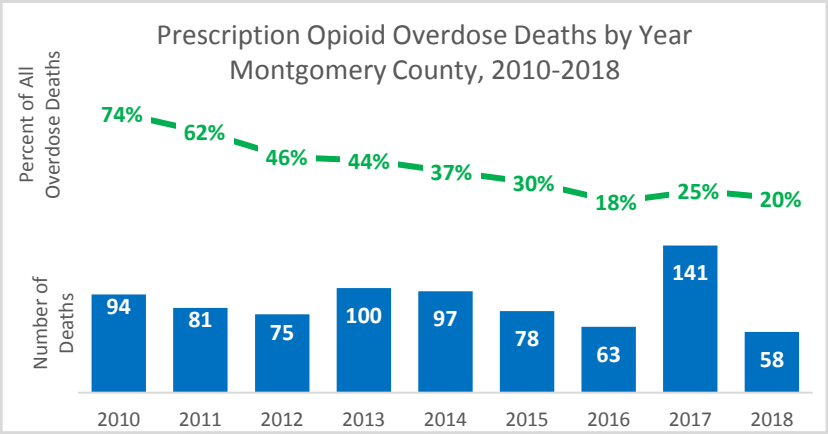


Figure 18: Prescription Opioids Among Overdose Deaths in Montgomery County, 2010-2018

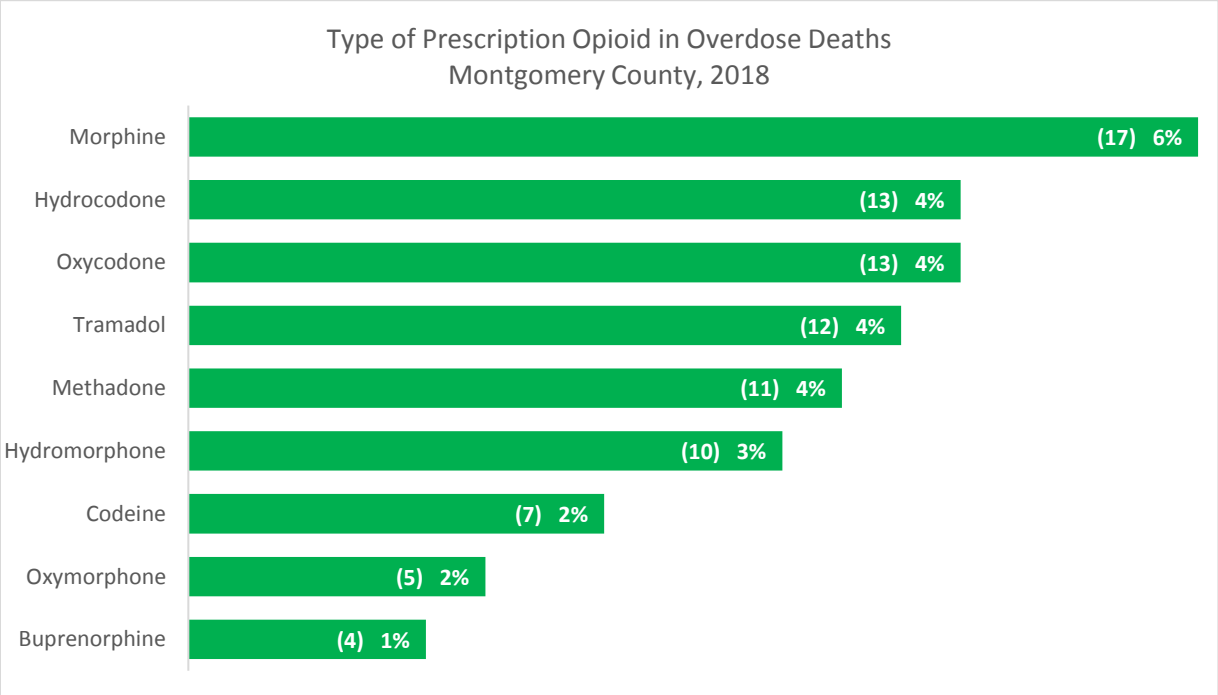


Figure 19: Prescription Opioids Present Among Overdose Deaths in Montgomery County, 2018

Buprenorphine, an opioid used to treat substance use disorder, was found in the toxicology screens for 4 overdose deaths in 2018.

Note:

Information on prescription opioids present in overdose deaths between 2010 and 2018 can be found in Table on page 38 in Appendix I.

Heroin

Heroin appeared in nearly 60% of overdose deaths in 2012 and 2013 and 17% in 2018.

Between 2013 and 2018, the percent of deaths involving heroin declined by 71% (from 58% to 17%).

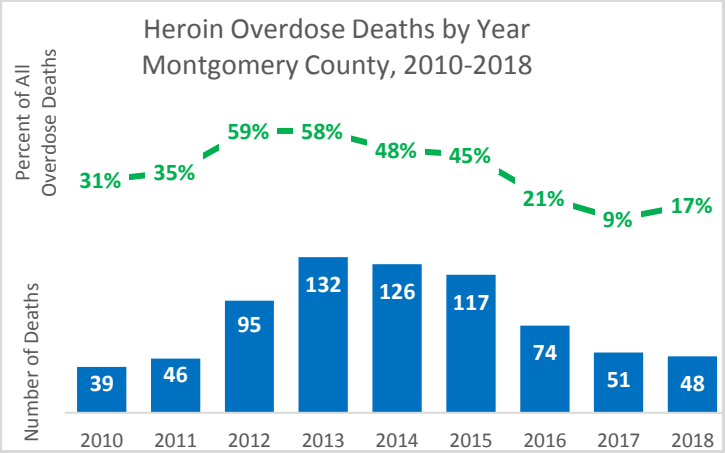


Figure 20: Heroin Among Overdose Deaths in Montgomery County, 2010-2018

Illicit Fentanyl

In 2018, 84% of deaths involved illicit fentanyl. This is an increase from 64% in 2017.

Overdose deaths with mentions of illicit fentanyl increased in number in the second half of 2018, but the percent of total deaths was similar across both time periods. There were 106 deaths involving illicit fentanyl between January and June 2018, representing 83% of all overdose deaths, and 137 between July and December (85% of the total).

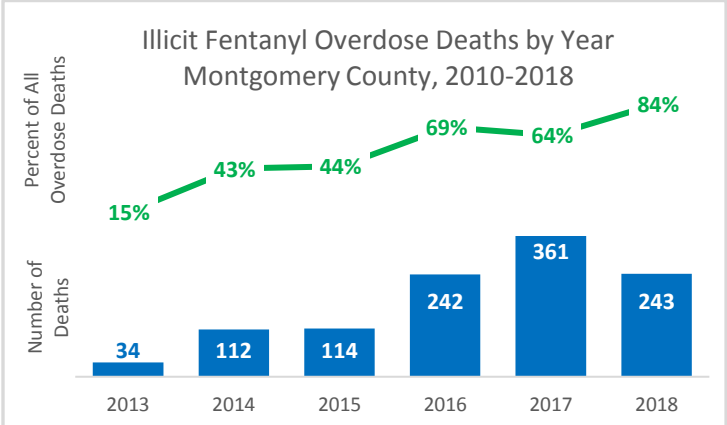


Figure 21: Illicit Fentanyl Among Overdose Deaths in Montgomery County, 2010-2018

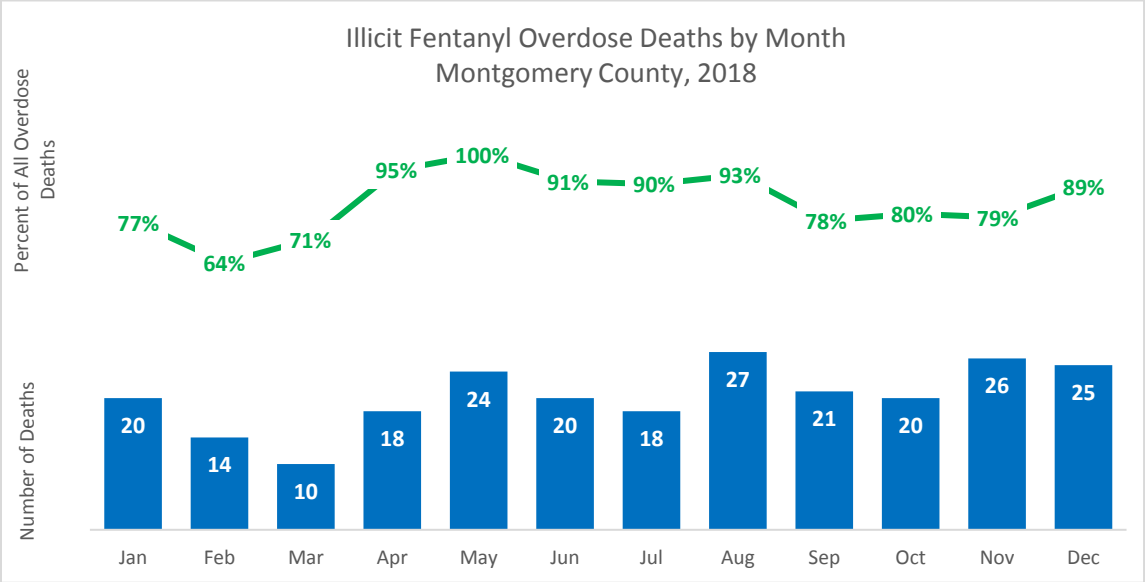


Figure 22: Illicit Fentanyl Among Overdose Deaths in Montgomery County by Month, 2018

Fentanyl Analogues

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

The number of deaths involving fentanyl analogues increased between October 2016 and June 2017, representing 78% of all overdose deaths between April and June of 2017. The number of deaths involving fentanyl analogues, and the proportion of all overdose deaths involving this drug, decreased throughout the remaining months of 2017 and increased slightly throughout 2018.

In 2018, 44% of deaths involved fentanyl analogues. This is a decrease from 66% in 2017.

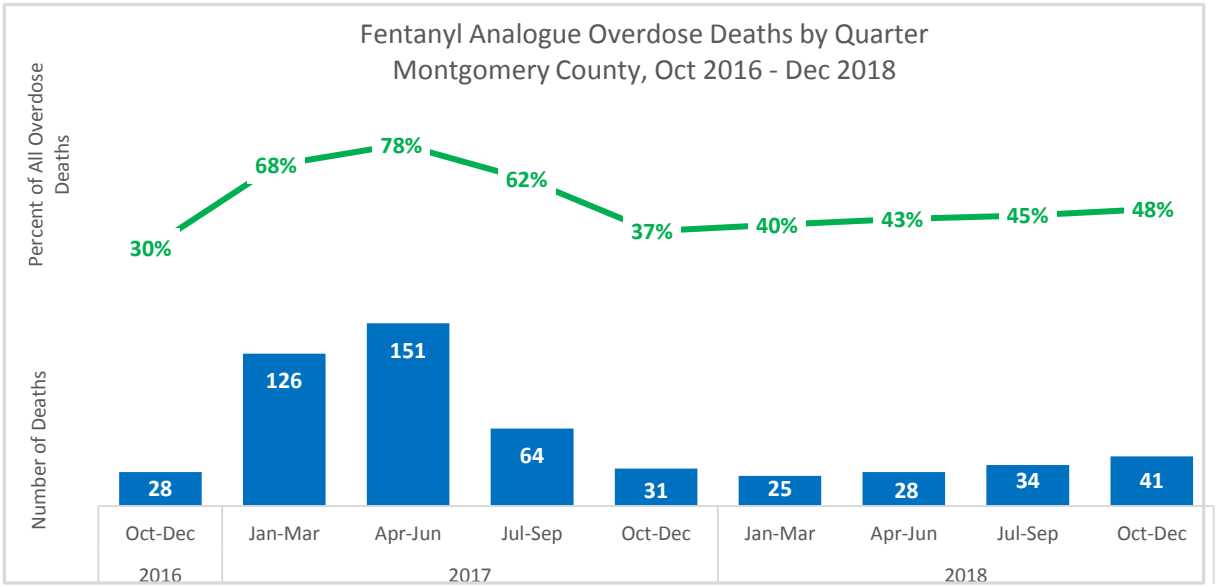


Figure 23: Fentanyl Analogues Among Overdose Deaths by Quarter, Oct 2016 – Dec 2018

Types of Fentanyl Analogues

27% (34 of 128) of individuals with a fentanyl analogue mention had multiple fentanyl analogues in their toxicology screen.

Note:
Information on fentanyl analogues present by month in overdose deaths in 2018 can be found in Table on page 39 in Appendix I.

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

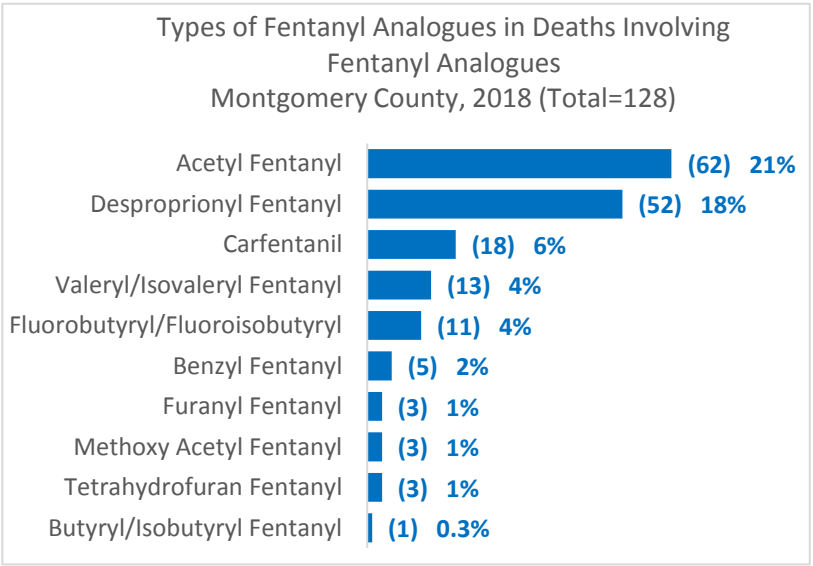


Figure 24: Fentanyl Analogues Present Among Overdose Deaths in Montgomery County, 2018

Cocaine

In 2018, 39% of drug overdose deaths involved cocaine. This is consistent with prior years; between 2010 and 2017, cocaine was involved in 37% of all overdose deaths.

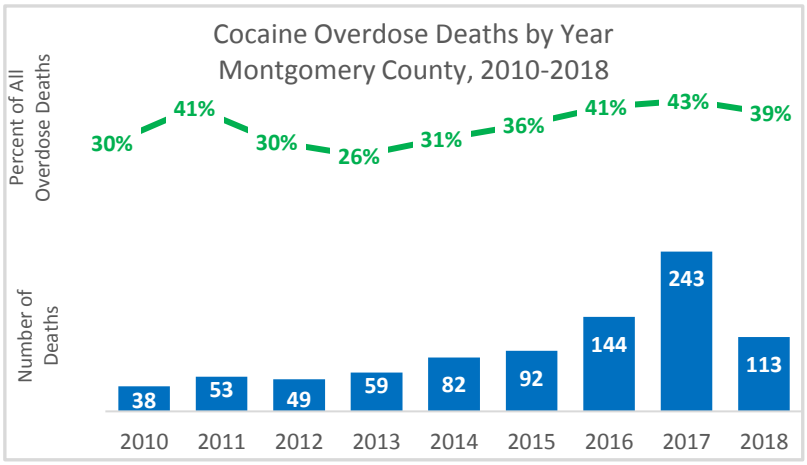


Figure 25: Cocaine Among Overdose Deaths in Montgomery County, 2010-2018

During 2018, the number and percent of deaths involving cocaine declined between July and December.

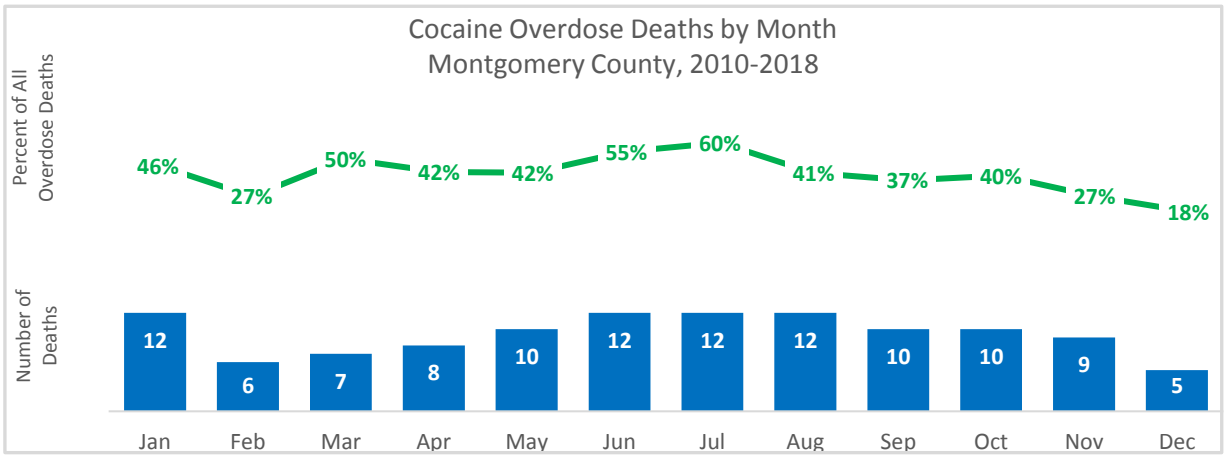


Figure 26: Cocaine Among Overdose Deaths in Montgomery County by Month, 2018

Of the 113 overdose deaths involving cocaine, 104 (more than 9 in 10) also involved opioids.

Marijuana

In 2018, 37% of drug overdose deaths involved marijuana. This is consistent with 2017 but is an increase from prior years.

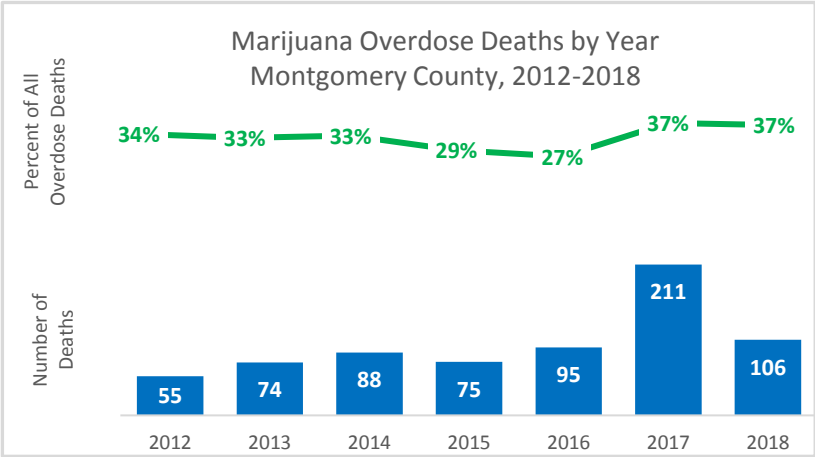


Figure 27: Marijuana Among Overdose Deaths in Montgomery County by Year, 2018

Of the 106 overdose deaths involving marijuana, 97% (103) also involved opioids.

Antidepressants

In 2018, one or more antidepressant appeared in 22% of drug overdose deaths. The percent of deaths involving antidepressants decreased between 2010 and 2015, then increased from 2016 to 2018.

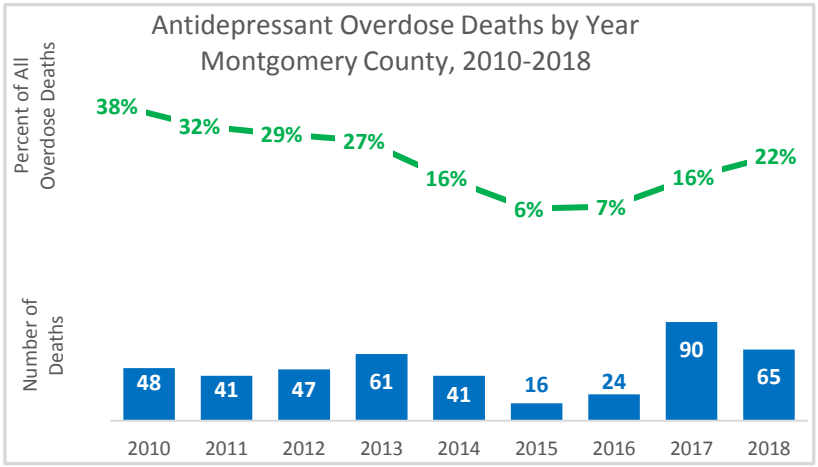


Figure 28: Antidepressant Among Overdose Deaths in Montgomery County by Year, 2018

Of the 65 overdose deaths involving antidepressants, 92% (60) also involved opioids.

Benzodiazepines

In 2018, 21% of overdose deaths mentioned benzodiazepines in the toxicology report. This is a decrease from 70% in 2010.

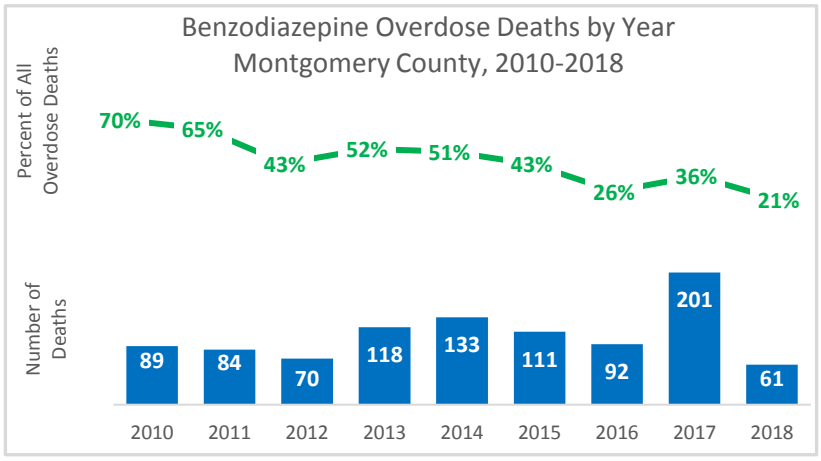


Figure 29: Benzodiazepine Among Overdose Deaths in Montgomery County, 2010-2018

Xanax (alprazolam) was the most common benzodiazepine, appearing in 59% of all deaths involving benzodiazepines.

Type of Benzodiazepines in Overdose Deaths
Montgomery County, 2018

Type of Benzodiazepine	# of Deaths	% of All Benzodiazepine Deaths
Xanax (Alprazolam)	36	59%
Valium (Diazepam)	12	20%
Klonopin (Clonazepam)	9	15%
Restoril (Temazepam)	2	3%
Librium (Chlordiazepoxide)	2	3%
Serax (Oxazepam)	1	2%
Total	**61**	**100%**

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

Table 5: Type of Benzodiazepine Among Overdose Deaths in Montgomery County, 2018

89% of deaths involving benzodiazepines also had mentions of opioids.

Note:
Information on opioids present in overdose deaths involving benzodiazepines between 2010 and 2018 can be found in Table on page 41 in Appendix I.

Methamphetamine

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

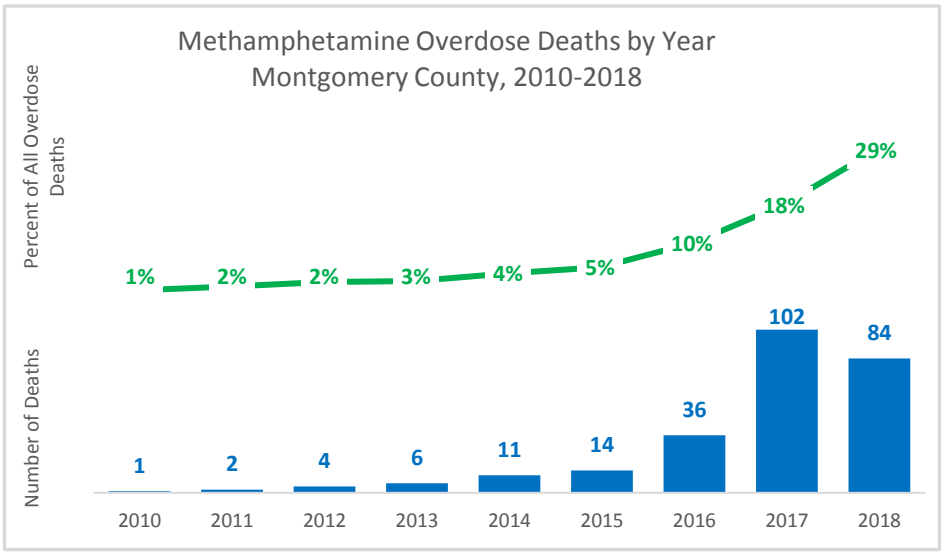


Figure 30: Methamphetamine Among Overdose Deaths in Montgomery County by Year, 2010-2018

The number of deaths with methamphetamine mentions per month increased between January and December 2018.

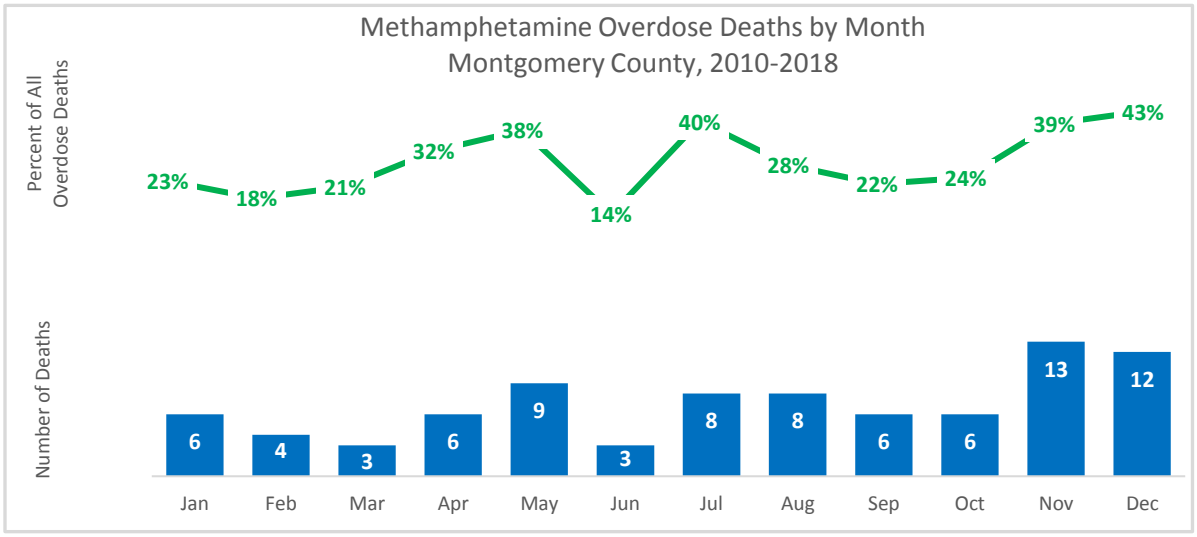


Figure 31: Methamphetamine Among Overdose Deaths in Montgomery County by Month, 2018

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

Note:
Information on opioids present in overdose deaths involving methamphetamine between 2010 and 2018 can be found in Table on page 44 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 of withdrawal effects[2].

Studies have found gabapentin use to be associated with opioid deaths[3]. Because of this, 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].

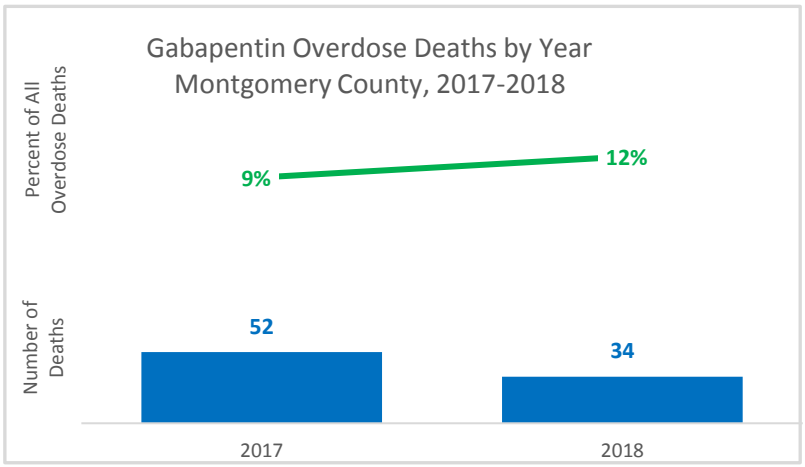


Figure 32: Gabapentin Among Overdose Deaths in Montgomery County, 2017-2018

Twelve percent of overdose deaths in 2018 involved gabapentin. This is 33% higher than in 2017.

Of the 34 overdose deaths that mentioned gabapentin, all 34 also included opioids. Illicit fentanyl was the most common type of opioid present in deaths involving gabapentin.

[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. Some drugs were also more common among individuals with certain physical illnesses, or among individuals who were reported to have a history of substance abuse.

Demographic Attributes

Race

Whites

- The percentage of **Whites** with a mention of **methamphetamine** was more than twice as high than among Blacks (32% vs. 15%). In 2017, Whites were four times more likely than Blacks to have a mention of methamphetamine (21% vs. 5%).
- **Whites** were 23% more likely to have a mention of **benzodiazepines** than Blacks (22% vs. 17%).

Blacks

- **Blacks** were nearly twice as likely as Whites to have a mention of **cocaine** (62% vs. 33%).
- The percentage of **Blacks** with a mention of **heroin** was 32% higher than among Whites (22% vs. 15%).
- The percentage of **Blacks** with a mention of **marijuana** was 28% higher than among Whites (47% vs. 34%).
- **Blacks** were 25% more likely to have a mention of **prescription opioids** than Whites (25% vs. 20%).

Age

Under 35

- The percentage of individuals **under 35** with a mention of **marijuana** was 27% higher than for those 35 and older (45% vs. 33%).
- Individuals **under 35** were 26% more likely to have a mention of **methamphetamine** than were those 35 and over (35% vs. 26%).

35 and Older

- Individuals **35 years and older** were 43% more likely to have a mention of **prescription opioids** than those under 35 (23% vs. 13%).
- The percentage of individuals **35 and older** with a mention of **antidepressants** was 32% higher than for those under 35 (25% vs. 17%).

Sex

Men

- The percent of **men** with **cocaine** in their toxicology screen was 21% higher than women (43% vs. 34%).
- **Men** were 17% more likely to have a mention of **illicit fentanyl** (90% vs. 75%) than were women.

Women

- **Women** were more than twice as likely as men to have a mention of **antidepressants** (35% vs. 14%).
- **Women** were 31% more likely than men to have **benzodiazepines** (26% vs. 18%) in their system at the time of death.

Marital Status

Single

- Thirty-three percent (33%) of **single** individuals had a **methamphetamine** mention, higher than among those who were married (26%) or divorced (20%).

Divorced

- Those who were **divorced** were more likely to have **prescription opioid** (27%) and **cocaine** (46%) mentions than those who were married (22% for prescription opioids and 26% for cocaine) or single (18% for prescription opioids and 40% for cocaine).

Married

- Individuals who were **married** were more likely to have a mention of **heroin** (22%) or **benzodiazepines** (30%) than were single people (15% for heroin and 18% for benzodiazepines) or those who were divorced (19% for each).

Education

No HS Diploma

- Thirty-seven percent (37%) of individuals **without a high school diploma** had a mention of **methamphetamine**, higher than with a high school diploma (30%) or any college (19%).

HS Diploma, No College

- Individuals with a **high school diploma** but no college credits were more likely to have a mention of **heroin** (21%) or than were those with no high school diploma (15%) or any college education (10%). They were more likely to have a mention of **prescription opioids** (23%) than those with any college (16%).

Any College

- Individuals with **any college** education were more likely to have a mention of **cocaine** (44%) or **benzodiazepines** (25%) than were those with less than a high school education (31% for cocaine and 18% for benzodiazepines).

Occupation

Unemployed

- Individuals reported to be **unemployed** were 44% more likely than those who were employed to have mentions of **methamphetamine** than others (45% vs. 25%).

Service

- Individuals in **service** positions were 39% more likely to have a mention of **antidepressants** than were those not in the service sector (32% vs. 20%) and 22% more likely to have a mention of **cocaine** (46% vs. 36%).

Labor

- Twenty-three percent (23%) of individuals in **labor**-related occupations had a mention of a **prescription opioid**. This is 26% higher than those who were not laborers (17%).

Insurance

Medicaid

- Individuals using **Medicaid** to pay for their most recent hospital visit were 41% more likely to have a mention of **antidepressants** (28% vs. 17%) and 17% more likely to have a mention of **methamphetamine** (31% vs. 26%).

Other Insurance

- Twenty-four percent (24%) of those using a payment source **other than Medicaid** for their most recent hospital visit had a mention of **marijuana**; this is 20% higher than among those who did use Medicaid (20%).

Note: Further information on substances present by demographic group in overdose deaths in 2018 can be found in Table on page 45 and Table on page 46.

Health Status

Physical Health

Opioids

Individuals with a physical illness were:

- Forty-three percent (43%) **more likely** to have a mention of **heroin** than those without a physical illness (18% vs. 10%)
- Thirty-three percent (33%) **more likely** to have mention of **prescription opioids**, 33% higher (21% vs. 14%)
- Thirty-one percent (31%) **less likely** to have a mention of **fentanyl analogues** (42% vs. 55%)

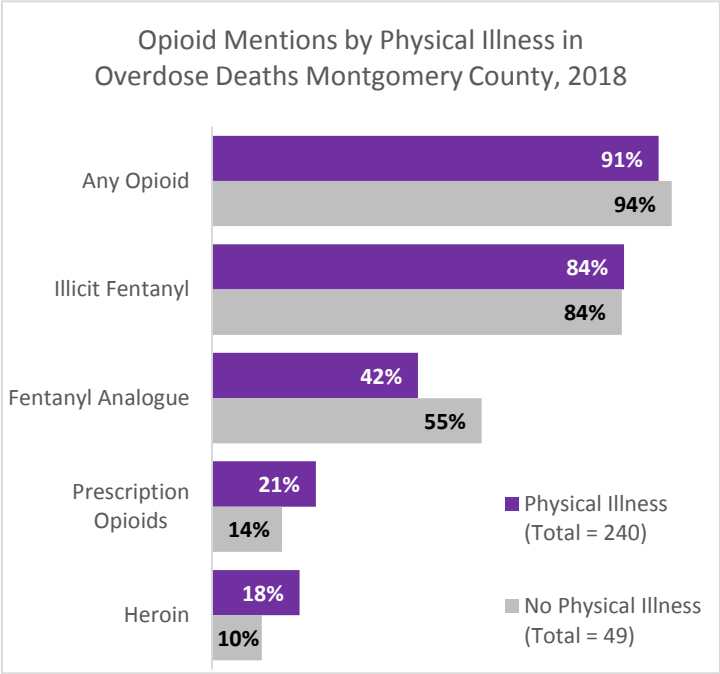


Figure 33: Opioid Mentions by Physical Illness Among Overdose Deaths in Montgomery County, 2018

Non-Opioids

Individuals with a physical illness were:

- Sixty-six percent (66%) **more likely** to have a mention of **benzodiazepines** than those without a physical illness (24% vs. 8%).
- Forty-two percent (42%) **more likely** to have a mention of **antidepressants** (25% vs. 14%).
- Forty-three percent (43%) **less likely** to have a mention of **marijuana** (34% vs. 49%).

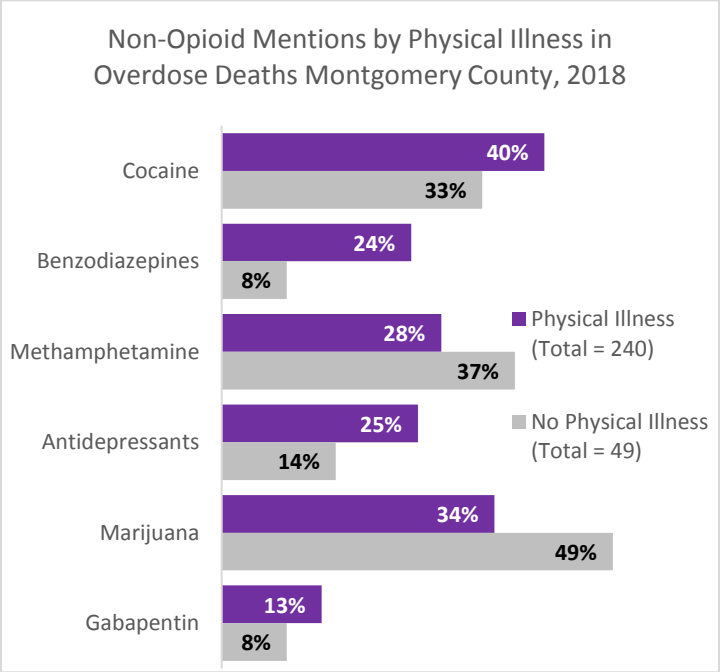


Figure 34: Non-Opioid Mentions by Physical Illness Among Overdose Deaths, 2018

Mental Health

Opioids

Individuals with a mental illness were:

- Forty-five percent (45%) **more likely** to have a mention of **prescription opioids** than those without a mental illness (25% vs. 14%)
- Forty percent (40%) **less likely** to have a mention of **fentanyl analogues** (37% vs. 52%)

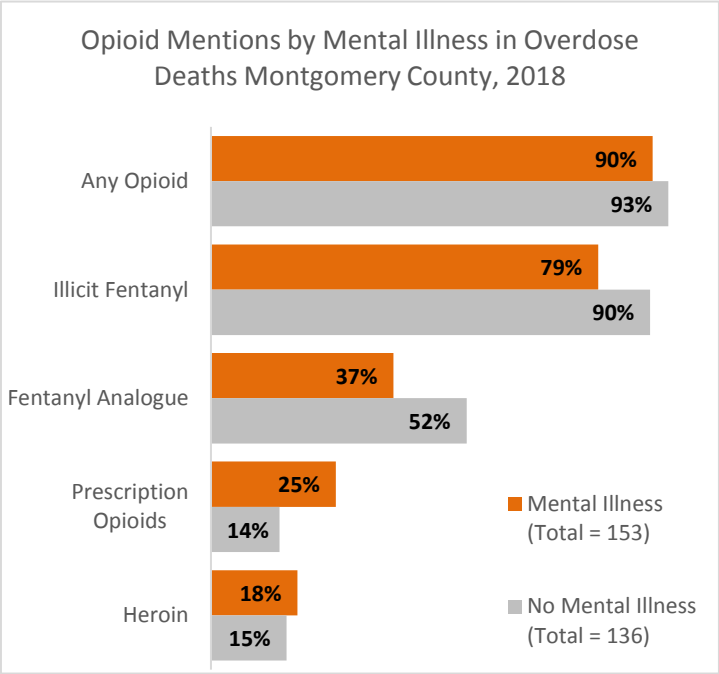


Figure 35: Opioid Mentions by Mental Illness Among Overdose Deaths in Montgomery County, 2018

Non-Opioids

Individuals with a mental illness were:

- Seventy-eight percent (78%) **more likely** to have a mention of **antidepressants** than were those without a mental health diagnosis (36% vs. 8%)
- Sixty percent (60%) **more likely** to have a mention of **benzodiazepines** (29% vs. 12%)
- Forty-six percent (46%) **more likely** to have a mention of **gabapentin** (15% vs. 8%)

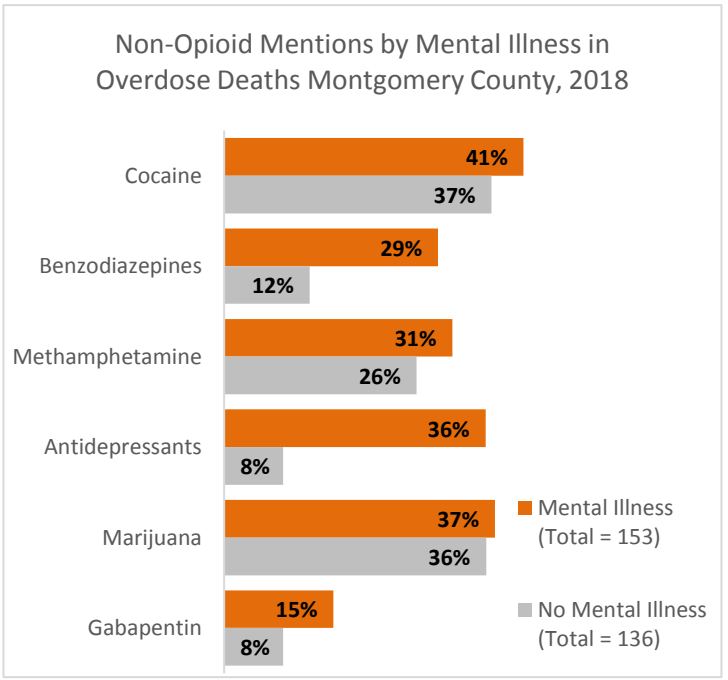


Figure 36: Non-Opioid Mentions by Mental Illness Among Overdose Deaths, 2018

Prior Overdose Hospital Visits

Opioids

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

- Thirty-one percent (31%) **more likely** to have a mention of **heroin** than were those without such a visit (21% vs. 14%)

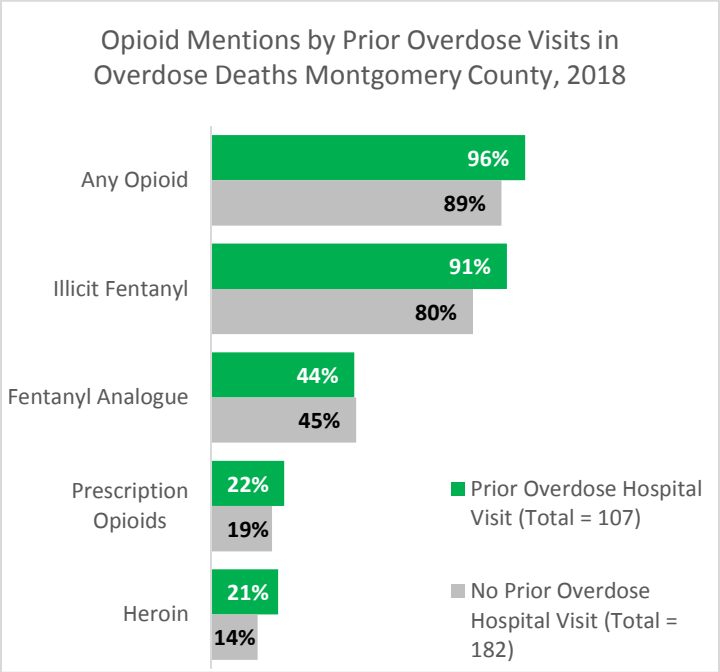


Figure 37: Opioid Mentions by Prior Overdose Hospital Visits Among Overdose Deaths, 2018

Non-Opioids

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

- Thirty-five percent (35%) **more likely** to have a mention of **methamphetamine** than were those without (37% vs. 24%)
- Twenty-six percent (26%) **more likely** to have a mention of **gabapentin** (14% vs. 10%)
- Twenty-six percent (26%) **less likely** to have a mention of **cocaine** (33% vs. 43%)

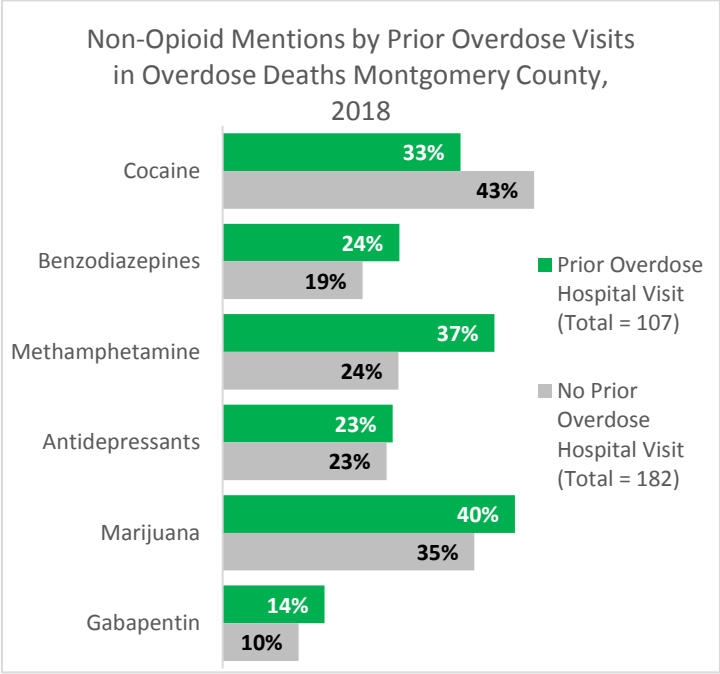


Figure 38: Non-Opioid Mentions by Prior Overdose Hospital Visits Among Overdose Deaths, 2018

Location

Incident of Overdose

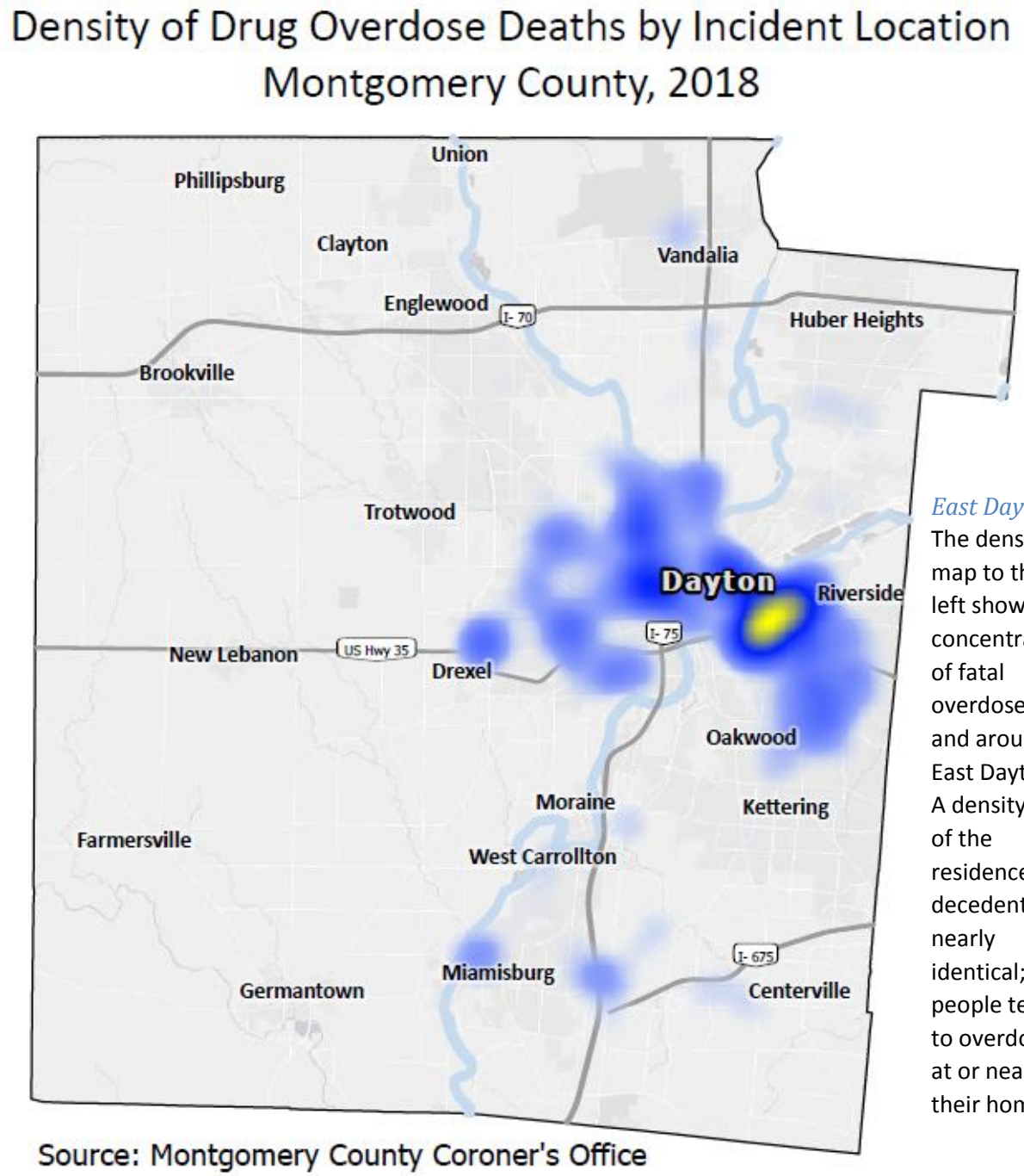


Figure 39: Density Map of Incident Location Among Overdose Deaths in Montgomery County, 2018

East Dayton

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 nearly identical; people tend to overdose at or near their home.

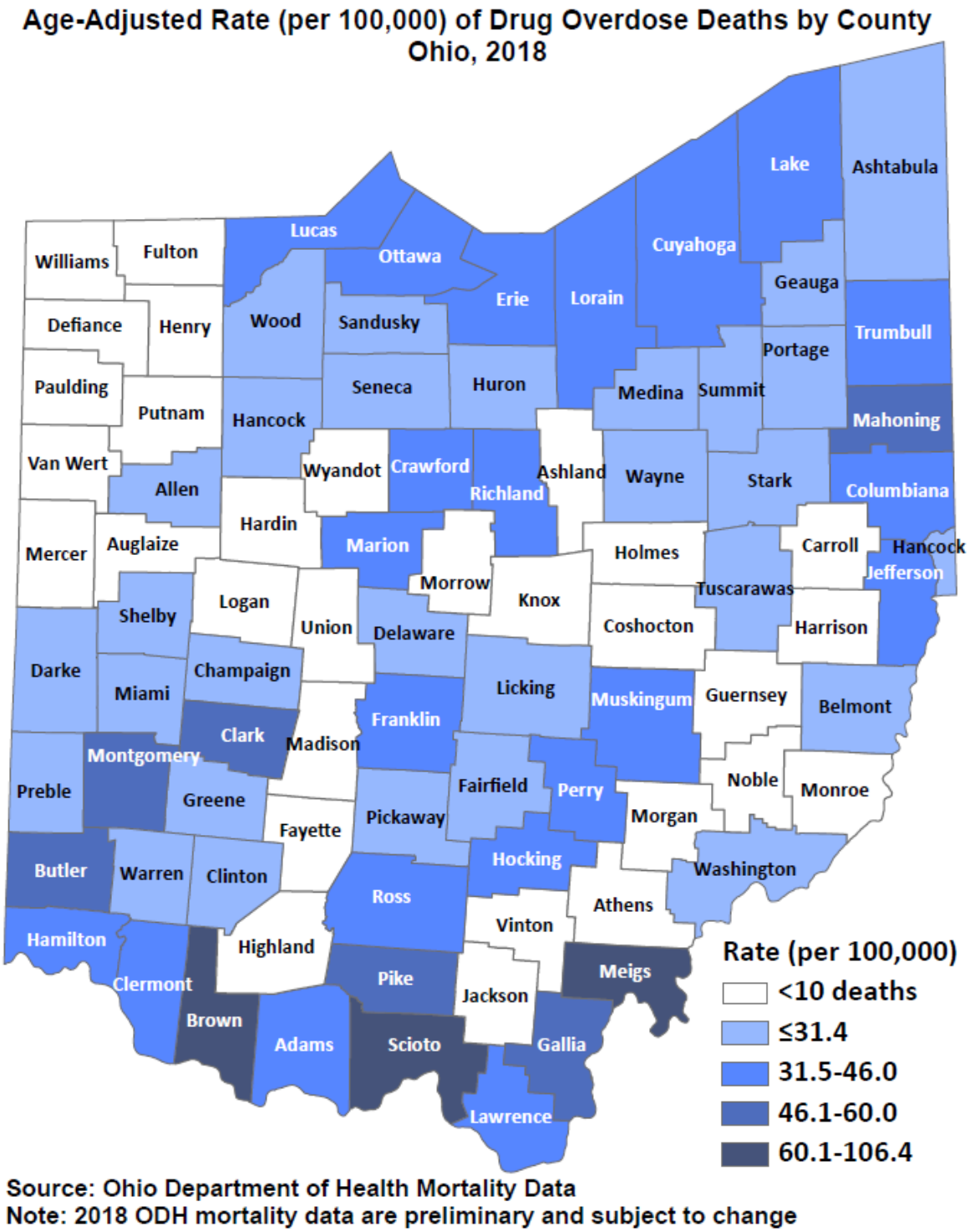


Figure 40: Map of Age-Adjusted Drug Overdose Rates by County, 2018

DRUG OVERODSE RATE BY COUNTY

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

- This page shows rates of drug overdose deaths by county in 2018, Page 33 shows these rates for 2011-2018.
- Montgomery County had the highest age-adjusted overdose rate in 2017, and the fifth highest in 2018.
- Thirty counties had fewer than ten deaths; their data were suppressed.
- Pages 33 and 34 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, 2011-2018

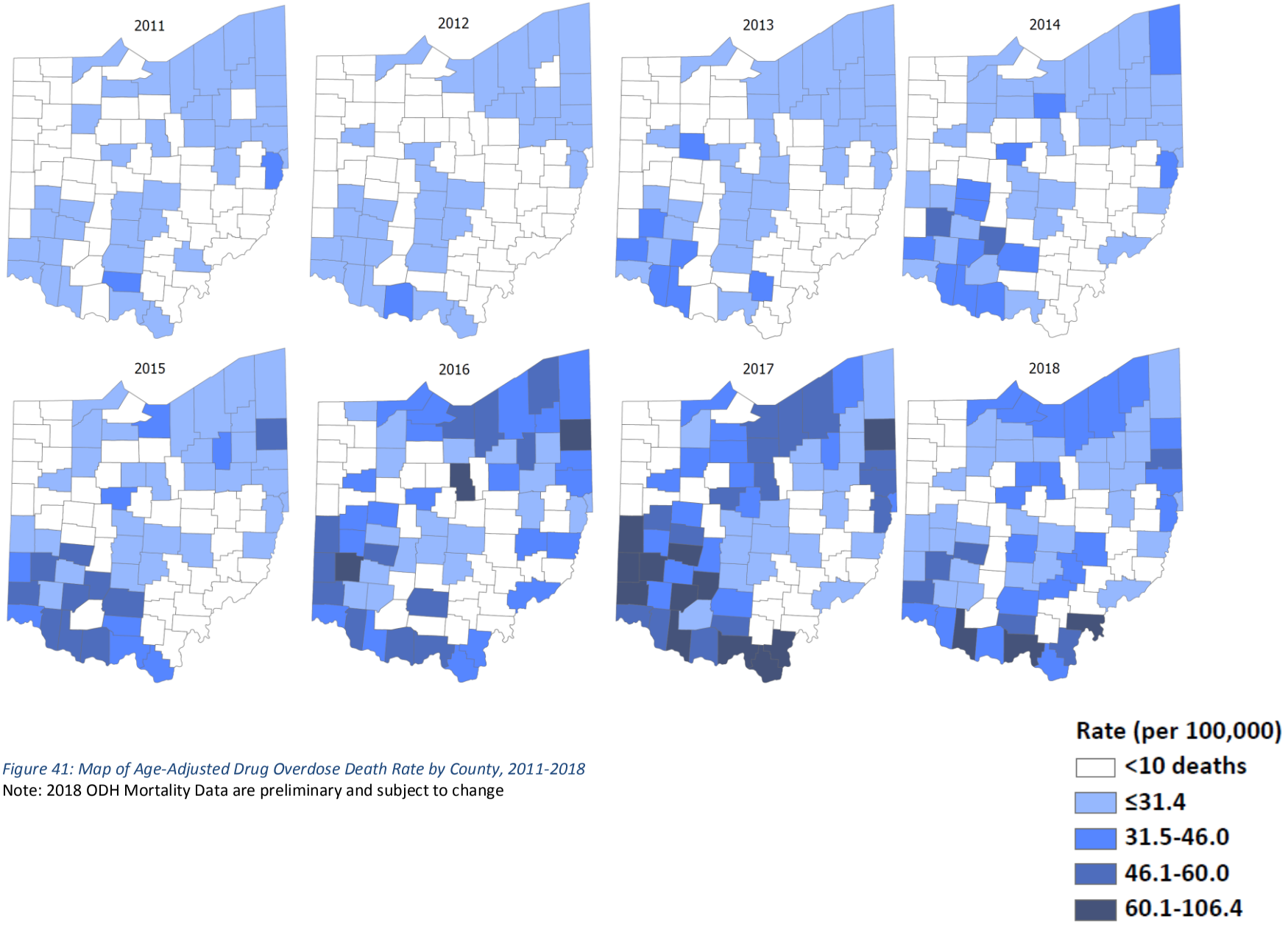
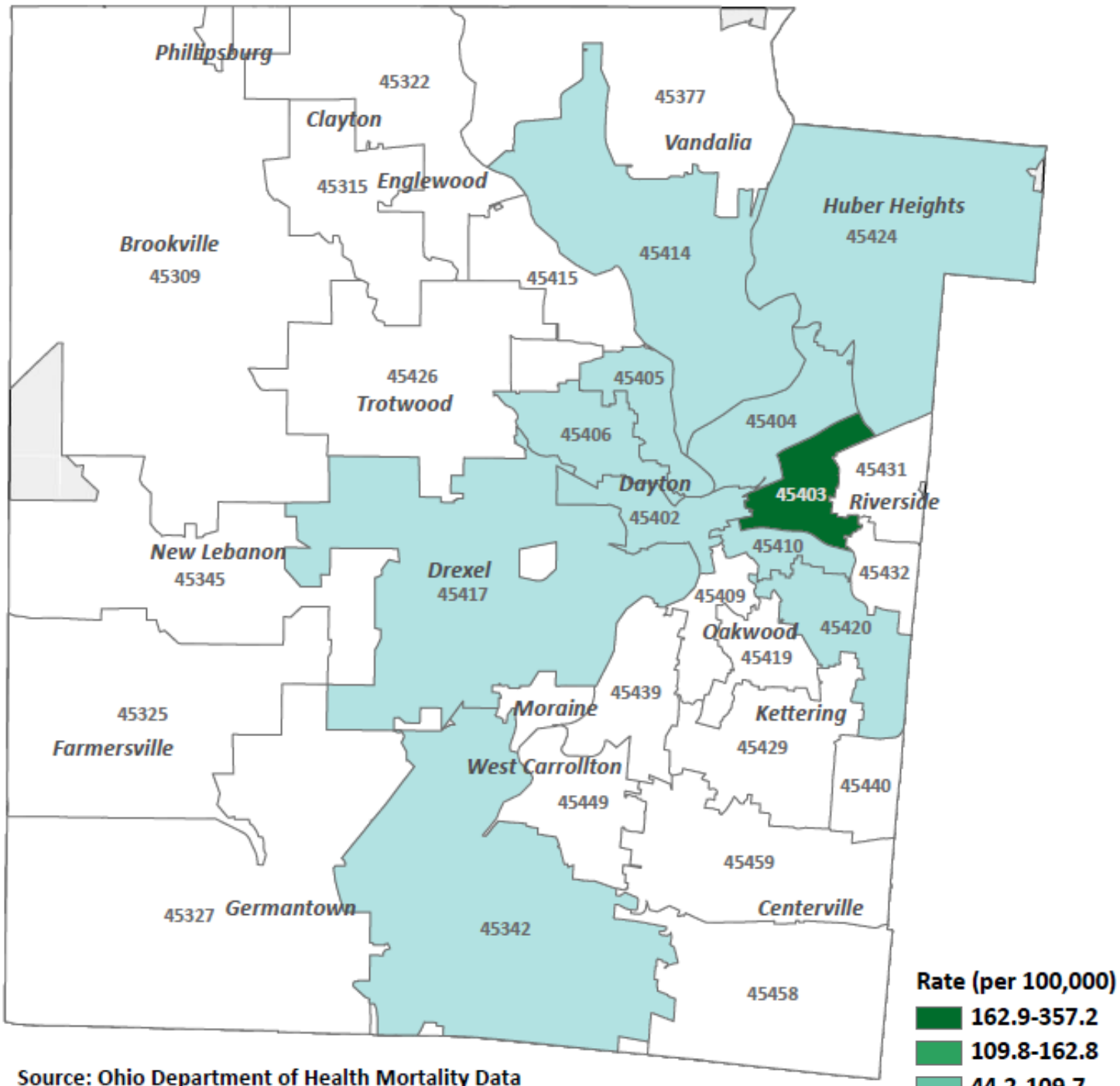


Figure 41: Map of Age-Adjusted Drug Overdose Death Rate by County, 2011-2018
Note: 2018 ODH Mortality Data are preliminary and subject to change

Zip Code of Residence

Age-Adjusted Rate (per 100,000) of Drug Overdose Deaths by Zip Code
Montgomery County, 2018



Source: Ohio Department of Health Mortality Data
Note: 2018 ODH mortality data are preliminary and subject to change

Figure 42: Map of Age-Adjusted Drug Overdose Death Rates by Zip Code, 2018

Drug Overdose Death Rates (Deaths per 100,000 Residents) by Zip Code and Year
Montgomery County, 2011-2018

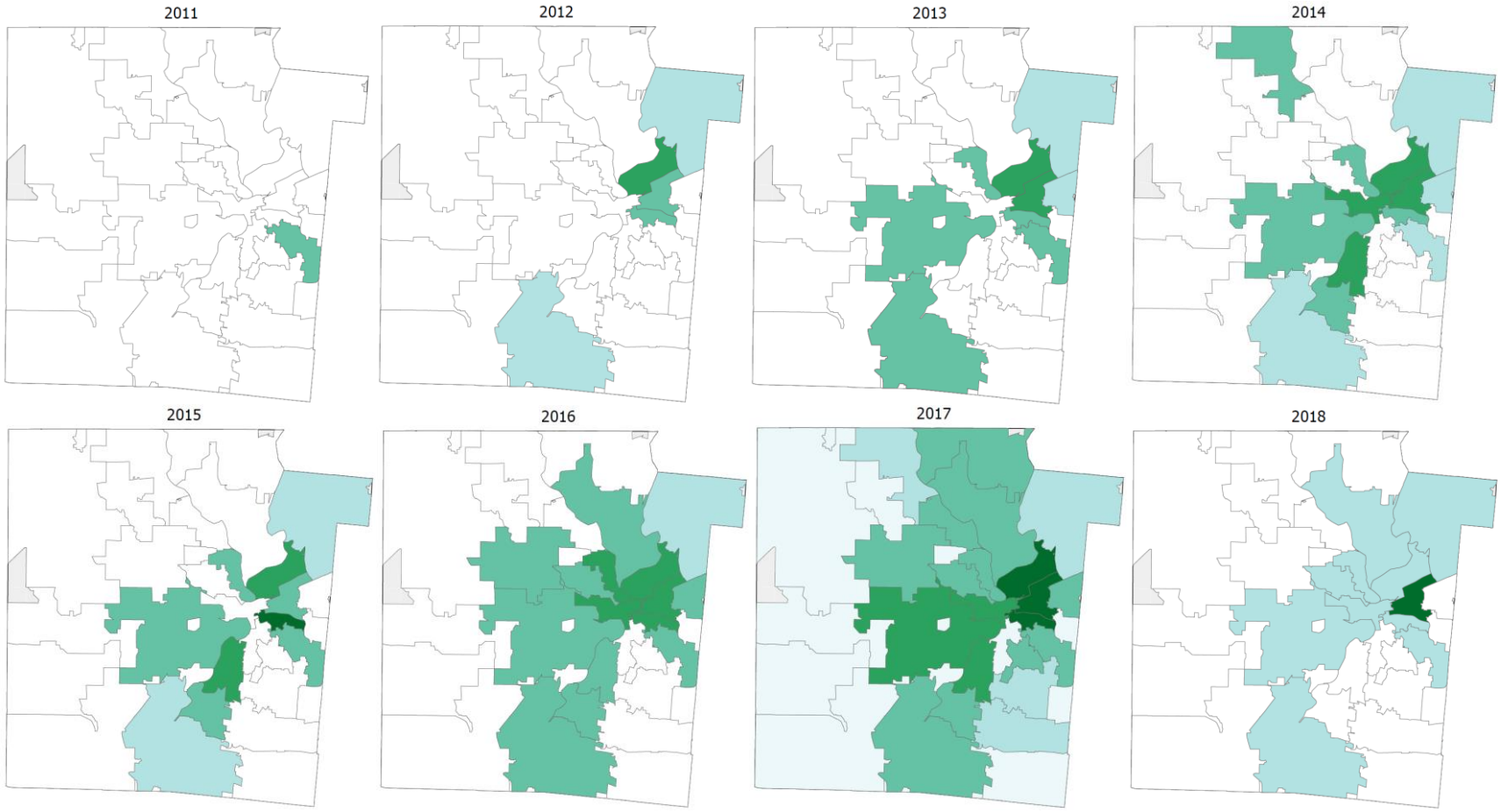


Figure 43: Map of Age-Adjusted Drug Overdose Death Rate by Zip Code, 2011-2018
Note: 2018 ODH Mortality Data are preliminary and subject to change

Demographic Information in Overdose Deaths, Montgomery County, 2010-2018

		2010		2011		2012		2013		2014		2015		2016		2017		2018		2010-2018	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Race	White	114	90%	113	87%	137	85%	169	75%	234	89%	222	86%	288	82%	465	82%	220	76%	1,962	83%
	Black	13	10%	17	13%	24	15%	25	11%	28	11%	35	14%	56	16%	88	16%	60	21%	346	15%
	Other	0	0%	0	0%	1	1%	4	2%	1	0%	2	1%	7	2%	13	2%	9	3%	37	2%
	Unknown	0	0%	0	0%	0	0%	28	12%	0	0%	0	0%	0	0%	0	0%	0	0%	28	1%
	Total	127	100%	130	100%	162	100%	226	100%	263	100%	259	100%	351	100%	566	100%	289	100%	2,373	100%
Gender	Male	72	57%	77	59%	98	60%	131	58%	164	62%	175	68%	227	65%	383	68%	173	60%	1,500	63%
	Female	55	43%	53	41%	64	40%	67	30%	99	38%	84	32%	124	35%	183	32%	116	40%	845	36%
	Unknown	0	0%	0	0%	0	0%	28	12%	0	0%	0	0%	0	0%	0	0%	0	0%	28	1%
	Total	127	100%	130	100%	162	100%	226	100%	263	100%	259	100%	351	100%	566	100%	289	100%	2,373	100%
Age	<18	1	1%	1	1%	0	0%	0	0%	0	0%	2	1%	1	0%	2	0%	1	0.3%	8	6%
	18-24	17	13%	6	5%	6	4%	8	4%	17	6%	17	7%	20	6%	29	5%	13	4%	133	6%
	25-34	28	22%	29	22%	46	28%	59	26%	75	29%	68	26%	102	29%	154	27%	74	26%	635	27%
	35-44	35	28%	34	26%	31	19%	63	28%	68	26%	75	29%	99	28%	172	30%	83	29%	660	28%
	45-54	23	18%	41	32%	53	33%	60	27%	62	24%	57	22%	67	19%	119	21%	64	22%	546	23%
	55-64	20	16%	18	14%	22	14%	30	13%	37	14%	36	14%	55	16%	79	14%	48	17%	345	15%
	65+	3	2%	1	1%	4	2%	6	3%	4	2%	4	2%	7	2%	11	2%	6	2%	46	2%
	Total	127	100%	130	100%	162	100%	226	100%	263	100%	259	100%	351	100%	566	100%	289	100%	2,373	100%
Education	<HS	26	21%	36	28%	44	28%	65	29%	62	24%	68	26%	102	29%	147	26%	68	24%	618	26%
	HS	96	76%	89	69%	111	69%	146	66%	193	74%	174	68%	221	64%	388	69%	145	50%	1,563	66%
	College	4	3%	4	3%	5	3%	11	5%	7	3%	15	6%	25	7%	31	5%	73	25%	175	7%
	Unknown	1	1%	1	1%	2	1%	4	2%	1	0%	2	1%	3	1%	0	0%	3	1%	17	1%
	Total	126	100%	129	100%	160	100%	226	100%	262	100%	257	100%	348	100%	566	100%	289	100%	2,373	100%
Marital Status	Single	52	41%	50	39%	76	47%	98	43%	115	44%	133	51%	183	52%	293	52%	153	53%	1,153	49%
	Divorced	33	26%	32	25%	49	30%	72	32%	82	31%	66	25%	96	27%	145	26%	78	27%	653	28%
	Married	37	29%	40	31%	25	15%	44	19%	58	22%	51	20%	56	16%	93	16%	46	16%	450	19%
	Widowed	3	2%	3	2%	12	7%	6	3%	5	2%	5	2%	14	4%	23	4%	8	3%	79	3%
	Separated	2	2%	4	3%	0	0%	5	2%	1	0%	2	1%	1	0%	5	1%	2	1%	22	1%
	Unknown	0	0%	1	1%	0	0%	1	0%	2	1%	2	1%	1	0%	7	1%	2	1%	16	1%
	Total	127	100%	130	100%	162	100%	226	100%	263	100%	259	100%	351	100%	566	100%	289	100%	2,373	100%

Table 6: Full Demographic Information in Overdose Deaths in Montgomery County, 2010-2018

Criminal History

Decedents with Criminal History, 2017-2018

	2017		2018	
	#	%	#	%
Any Charge	540	95%	271	94%
Any Conviction	529	93%	257	89%
Any Jail Booking	473	84%	221	76%
Non-Traffic Charge	*	*	246	85%
Non- Traffic Conviction	*	*	226	78%
Felony Charge	332	59%	153	53%
Felony Conviction	239	42%	111	38%
Drug Charge	340	60%	177	61%
Drug Conviction	254	45%	126	44%
Total Deaths	566	100%	289	100%

*Data not available

Table 7: Criminal History Among Overdose Deaths in Montgomery County, 2017-2018

Time Since Contact with Criminal Justice System, 2017-2018

	All Contacts				Jail Release				Drug-Related			
	2017		2018		2017		2018		2017		2018	
	#	%	#	%	#	%	#	%	#	%	#	%
Within 1 Year	367	68%	164	61%	236	50%	107	48%	112	33%	69	39%
Within 1 Month	114	21%	53	20%	46	10%	35	16%	20	6%	23	13%
Within 1 Week	52	10%	28	10%	19	4%	16	7%	10	3%	15	8%
Total	**540**	**100%**	**271**	**100%**	**473**	**100%**	**221**	**100%**	**340**	**100%**	**177**	**100%**

Table 8: Days Since Contact with the Criminal Justice System Among Overdose Deaths, 2017-2018

Drug Mentions
Opioids

Presence of Opioid in Overdose Deaths in Montgomery County, 2010-2018

Year	Total Deaths	Any Opioid		Illicit Fentanyl		Prescription Opioids		Heroin		Fentanyl Analogue	
		# of Deaths	% of All Deaths	# of Deaths	% of All Deaths	# of Deaths	% of All Deaths	# of Deaths	% of All Deaths	# of Deaths	% of All Deaths
2010	127	117	92%	9	7%	94	74%	39	31%	0	0%
2011	130	114	88%	8	6%	81	62%	46	35%	0	0%
2012	162	148	91%	9	6%	75	46%	95	59%	0	0%
2013	226	209	92%	34	15%	100	44%	132	58%	0	0%
2014	263	244	93%	112	43%	97	37%	126	48%	0	0%
2015	259	236	91%	114	44%	78	30%	117	45%	0	0%
2016	351	321	91%	242	69%	63	18%	74	21%	32	9%
2017	566	520	92%	361	64%	141	25%	51	9%	372	66%
2018	289	265	92%	243	84%	58	20%	48	17%	128	44%
2010-2018	**2,373**	**2,174**	**92%**	**1,132**	**48%**	**787**	**33%**	**728**	**31%**	**532**	**22%**

Table 9: Opioid Mentions by Year Among Overdose Deaths in Montgomery County, 2010-2018

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

Opioid Combinations in Opioid Overdose Deaths in Montgomery County, 2017-2018

Opioid Combinations	2017	2018		Opioids Mentioned			
	% of Opioid Deaths	# of Deaths	% of Opioid Deaths	Fentanyl Analogues	Illicit Fentanyl	Prescription Opioids	Heroin
Fentanyl Analogues & Illicit Fentanyl	36%	89	34%	X	X		
Illicit Fentanyl	13%	82	31%		X		
Illicit Fentanyl & Heroin	1%	15	6%		X		X
Illicit Fentanyl & Prescription Opioids	5%	14	5%		X	X	
Fentanyl Analogues, Illicit Fentanyl & Heroin	1%	14	5%	X	X		X
Fentanyl Analogues Illicit Fentanyl & Prescription Opioids	8%	13	5%	X	X	X	
Prescription Opioids	6%	13	5%			X	
Fentanyl Analogues, Illicit Fentanyl, Prescription Opioids & Heroin	3%	9	3%	X	X	X	X
Illicit Fentanyl, Prescription Opioids & Heroin	2%	7	3%		X	X	X
Fentanyl Analogues	20%	2	1%	X			
Heroin	1%	2	1%				X
Fentanyl Analogues & Prescription Opioids	2%	1	0.4%	X		X	
Prescription Opioids & Heroin	1%	1	0.4%			X	X
Fentanyl Analogues, Prescription Opioids & Heroin	1%	0	0%	X		X	X
Fentanyl Analogues & Heroin	0.4%	0	0%	X			X

Table 10: Opioid Combinations in Toxicology Screens Among Overdose Deaths, 2017-2018

Prescription Opioids Overdose Deaths by Substance in Montgomery County, 2010-2018

Year	Prescription (Rx) Opioid Deaths	Oxycodone		Methadone		Hydrocodone		Morphine		Tramadol		Codeine		Oxymorphone		Hydromorphone		Buprenorphine	
		# of Deaths	% of Rx Opioid Deaths	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
2010	94	29	31%	41	44%	31	33%	11	12%	8	9%	4	4%	2	2%	1	1%	0	0%
2011	81	25	31%	43	53%	19	23%	10	12%	5	6%	3	4%	0	0%	0	0%	0	0%
2012	75	25	33%	20	27%	15	20%	11	15%	9	12%	1	1%	6	8%	0	0%	0	0%
2013	100	24	24%	31	31%	22	22%	16	16%	15	15%	4	4%	0	0%	1	1%	0	0%
2014	97	28	29%	13	13%	42	43%	28	29%	5	5%	3	3%	4	4%	4	4%	0	0%
2015	78	22	28%	11	14%	20	26%	29	37%	5	6%	3	4%	4	5%	5	6%	0	0%
2016	63	22	35%	8	13%	15	24%	17	27%	4	6%	1	2%	1	2%	1	2%	0	0%
2017	141	49	35%	22	16%	18	13%	34	24%	15	11%	5	4%	2	1%	2	1%	0	0%
2018	58	13	22%	11	19%	13	22%	17	29%	12	21%	7	12%	5	9%	10	17%	4	7%
2010-2018	**787**	**237**	**30%**	**200**	**25%**	**195**	**25%**	**173**	**22%**	**78**	**10%**	**31**	**4%**	**24**	**3%**	**24**	**3%**	**4**	**1%**

Table 11: Prescription Opioid Mentions Among Overdose Deaths in Montgomery County, 2010-2018

Fentanyl Analogues

Fentanyl Analogue Overdose Deaths by Substance in Montgomery County, 2017-2018

Year	Total Fentanyl Analogue Overdose Deaths	Carfentanil		Despropionyl Fentanyl		Acetyl Fentanyl		Acryl Fentanyl		Furanyl Fentanyl		Fluorobutryl Fentanyl		Valeryl/Isovaleryl Fentanyl		Cyclopropyl/Crotonyl Fentanyl		Cyclopropyl Fentanyl		Butyryl/Isobutyryl Fentanyl		Benzyl Fentanyl		Methoxy Acetyl Fentanyl		Tetrahydrofuran Fentanyl	
		# of Deaths	% of Fentanyl Analogue Deaths	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
2017	372	235	63%	110	30%	15	4%	73	20%	67	18%	13	3%	0	0%	8	2%	3	1%	2	1%	2	1%	0	0%	0	0%
2018	128	18	14%	52	41%	62	48%	0	0%	3	2%	11	9%	13	10%	0	0%	0	0%	1	1%	5	4%	3	2%	3	2%
2017-2018	**500**	**253**	**51%**	**162**	**32%**	**77**	**15%**	**73**	**15%**	**70**	**14%**	**24**	**5%**	**13**	**3%**	**8**	**2%**	**3**	**1%**	**3**	**1%**	**7**	**1%**	**3**	**1%**	**5**	**1%**

Table 12: Fentanyl Analogue Mentions Among Overdose Deaths, 2017-2018

Cocaine

Cocaine Overdose Deaths by Year
Montgomery County, 2010-2018

Year	Total Overdose Deaths	Cocaine Overdose Deaths	
		# of Deaths	% of Total
2010	127	38	30%
2011	130	53	41%
2012	162	49	30%
2013	226	59	26%
2014	263	82	31%
2015	259	92	36%
2016	351	144	41%
2017	566	243	43%
2018	289	113	39%
2010-2018	**2,373**	**873**	**37%**

Table 13: Cocaine Overdose Deaths by in Montgomery County, 2010-2018

Cocaine Overdose Deaths by Month
Montgomery County, 2018

Month	Total Overdose Deaths	Cocaine Overdose Deaths	
		# of Deaths	% of Total
January	26	12	46%
February	22	6	27%
March	14	7	50%
April	19	8	42%
May	24	10	42%
June	22	12	55%
July	20	12	60%
August	29	12	41%
September	27	10	37%
October	25	10	40%
November	33	9	27%
December	28	5	18%
2018	**289**	**113**	**39%**

Table 14: Cocaine Overdose Deaths by Month in Montgomery County, 2018

Cocaine Overdose Deaths by Opioid Presence and Year, 2010-2018

Year	Cocaine Overdose Deaths	Any Opioid		Illicit Fentanyl		Fentanyl Analogues		Prescription Opioids		Heroin	
		# of Deaths	% of all Cocaine Deaths	# of Deaths	% of all Cocaine Deaths	# of Deaths	% of all Cocaine Deaths	# of Deaths	% of all Cocaine Deaths	# of Deaths	% of all Cocaine Deaths
2010	38	33	87%	3	8%	0	0%	26	68%	15	39%
2011	53	45	85%	0	0%	0	0%	23	43%	29	55%
2012	49	43	88%	1	2%	0	0%	18	37%	32	65%
2013	59	50	85%	4	7%	0	0%	13	22%	41	69%
2014	82	78	95%	39	48%	0	0%	28	34%	49	60%
2015	92	80	87%	40	43%	0	0%	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%
2010-2018	**873**	**791**	**91%**	**450**	**52%**	**230**	**26%**	**202**	**23%**	**278**	**32%**

Table 15: Opioid Mentions in Cocaine Overdoses by Year in Montgomery County, 2010-2018

Benzodiazepines

Benzodiazepine Overdose Deaths by Year Montgomery County, 2010-2018

Year	Total Overdose Deaths	Benzodiazepine Overdose Deaths	
		# of Deaths	% of Total
2010	127	89	70%
2011	130	84	65%
2012	162	70	43%
2013	226	118	52%
2014	263	133	51%
2015	259	111	43%
2016	351	92	26%
2017	566	201	36%
2018	289	61	21%
2010-2018	**2,373**	**959**	**46%**

Table 16: Benzodiazepine Overdose Deaths by Year in Montgomery County, 2010-2018

Benzodiazepine Overdose Deaths by Month Montgomery County, 2018

Month	Total Overdose Deaths	Benzodiazepine Overdose Deaths	
		# of Deaths	% of Total
January	26	4	15%
February	22	5	23%
March	14	5	36%
April	19	5	26%
May	24	3	13%
June	22	1	5%
July	20	5	25%
August	29	4	14%
September	27	7	26%
October	25	8	32%
November	33	7	21%
December	28	7	25%
2018	**289**	**61**	**21%**

Table 17: Benzodiazepine Overdose Deaths by Month in Montgomery County, 2018

Benzodiazepine Overdose Deaths by Opioid Presence and Year, 2010-2018

Year	Benzodiazepine Overdose Deaths	Any Opioid		Illicit Fentanyl		Fentanyl Analogues		Prescription Opioids		Heroin	
		# of Deaths	% of all Benzo Deaths	# of Deaths	% of all Benzo Deaths	# of Deaths	% of all Benzo Deaths	# of Deaths	% of all Benzo Deaths	# 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%
2010-2018	**959**	**912**	**95%**	**362**	**38%**	**155**	**16%**	**482**	**50%**	**321**	**33%**

Table 18: Opioid Mentions in Benzodiazepine Overdose Deaths by Year, 2010-2018

Marijuana

Marijuana Overdoses in Montgomery County by Year, 2012-2018

Year	Total Overdose Deaths	Marijuana Overdoses	
		# of Deaths	% of Total
2012	162	55	34%
2013	226	74	33%
2014	263	88	33%
2015	259	75	29%
2016	351	95	27%
2017	566	211	37%
2018	289	106	37%
2012-2018	**2,116**	**704**	**33%**

Table 19: Marijuana Overdose Deaths by Year in Montgomery County, 2012-2018

Marijuana Overdoses by Opioid Presence and Year, 2012-2018

Year	Marijuana Overdose Deaths	Any Opioid		Illicit Fentanyl		Fentanyl Analogues		Prescription Opioids		Heroin	
		# of Deaths	% of all Marijuana Deaths	# of Deaths	% of all Marijuana Deaths	# of Deaths	% of all Marijuana Deaths	# of Deaths	% of all Marijuana Deaths	# of Deaths	% of all Marijuana Deaths
2012	55	48	87%	1	2%	0	0%	19	35%	37	67%
2013	74	70	95%	10	14%	0	0%	30	41%	51	69%
2014	88	82	93%	43	49%	0	0%	29	33%	43	49%
2015	75	71	95%	30	40%	0	0%	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%
2012-2018	**704**	**667**	**95%**	**382**	**54%**	**205**	**29%**	**186**	**26%**	**236**	**34%**

Table 20: Opioid Mentions in Marijuana Overdose Deaths by Year in Montgomery County, 2012-2018

Antidepressants

Antidepressant Overdoses in Montgomery County by Year, 2010-2018

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	263	41	16%
2015	259	16	6%
2016	351	24	7%
2017	566	90	16%
2018	289	65	22%
2010-2018	2,373	433	18%

Table 21: Antidepressant Overdose Deaths by Year in Montgomery County, 2010-2018

Antidepressant Overdoses by Opioid Presence and Year, 2010-2018

Year	Antidepressant Overdose Deaths	Any Opioid		Illicit Fentanyl		Fentanyl Analogues		Prescription Opioids		Heroin	
		# of Deaths	% of all Anti-depressant Deaths	# of Deaths	% of all Anti-depressant Deaths	# of Deaths	% of all Anti-depressant Deaths	# of Deaths	% of all Anti-depressant Deaths	# of Deaths	% of all Anti-depressant 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%
2010 - 2018	**433**	**395**	**91%**	**146**	**34%**	**83**	**19%**	**244**	**56%**	**112**	**26%**

Table 22: Opioid Mentions in Antidepressant Overdose Deaths by Year in, 2012-2018

Methamphetamine

Methamphetamine Overdose Deaths by Year
Montgomery County, 2010-2018

Year	Total Overdose Deaths	Methamphetamine Overdose Deaths	
		# of Deaths	% of Total
2010	127	1	1%
2011	130	2	2%
2012	162	4	2%
2013	226	6	3%
2014	263	11	4%
2015	259	14	5%
2016	351	36	10%
2017	566	102	18%
2018	289	84	29%
2010-2018	**2,373**	**260**	**11%**

Table 23: Methamphetamine Overdose Deaths by Year in Montgomery County, 2010-2018

Methamphetamine Overdose Deaths by Month
Montgomery County, 2018

Month	Total Overdose Deaths	Methamphetamine Overdose Deaths	
		# of Deaths	% of Total
January	26	6	23%
February	22	4	18%
March	14	3	21%
April	19	6	32%
May	24	9	38%
June	22	3	14%
July	20	8	40%
August	29	8	28%
September	27	6	22%
October	25	6	24%
November	33	13	39%
December	28	12	43%
2018	**289**	**84**	**29%**

Table 24: Methamphetamine Overdose Deaths by Month in Montgomery County, 2018

Methamphetamine Overdose Deaths by Opioid Presence and Year, 2010-2018

Year	Methamphetamine Overdose Deaths	Any Opioid		Illicit Fentanyl		Fentanyl Analogues		Prescription Opioids		Heroin	
		# of Deaths	% of all Meth Deaths	# of Deaths	% of all Meth Deaths	# of Deaths	% of all Meth Deaths	# of Deaths	% of all Meth Deaths	# of Deaths	% of all Meth Deaths
2010	1	1	100%	0	0%	0	0%	1	100%	0	0%
2011	2	1	50%	0	0%	0	0%	0	0%	1	50%
2012	4	3	75%	1	25%	0	0%	2	50%	3	75%
2013	6	5	83%	2	33%	0	0%	2	33%	3	50%
2014	11	10	91%	3	27%	0	0%	1	9%	9	82%
2015	14	12	86%	6	43%	0	0%	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%
2010-2018	**260**	**235**	**90%**	**171**	**66%**	**112**	**43%**	**39**	**15%**	**48**	**18%**

Table 25: Opioid Mentions in Methamphetamine Overdose Deaths by Year, 2010-2018

Drug Mentions by Demographic Attributes

Opioids

Opioid Drug Mentions by Demographic Categories, 2018

	All Deaths		Any Opioid		Illicit Fentanyl		Fentanyl Analogue		Prescription Opioid		Heroin	
	#	%	#	%	#	%	#	%	#	%	#	%
Gender												
Male	173	60%	164	62%	156	64%	78	61%	30	52%	30	63%
Female	116	40%	101	38%	87	36%	50	39%	28	48%	18	38%
Total	289	100%	265	100%	243	100%	128	100%	58	100%	48	100%
Age												
<18	1	0%	0	0%	0	0%	0	0%	0	0%	0	0%
18-24	13	4%	11	4%	11	5%	3	2%	3	5%	2	4%
25-34	74	26%	70	26%	65	27%	37	29%	8	14%	10	21%
35-44	83	29%	81	31%	75	31%	44	34%	16	28%	9	19%
45-54	64	22%	56	21%	46	19%	18	14%	18	31%	12	25%
55-64	48	17%	43	16%	42	17%	22	17%	13	22%	14	29%
65+	6	2%	4	2%	4	2%	4	3%	0	0%	1	2%
Total	289	100%	265	100%	243	100%	128	100%	58	100%	48	100%
Race												
White	220	76%	203	77%	182	75%	97	76%	43	74%	34	71%
Black	60	21%	54	20%	53	22%	29	23%	15	26%	13	27%
Other	9	3%	8	3%	8	3%	2	2%	0	0%	1	2%
Total	289	100%	265	100%	243	100%	128	100%	58	100%	48	100%
Marital Status												
Single	153	53%	142	54%	135	56%	70	55%	27	47%	23	48%
Divorced	78	27%	75	28%	66	27%	36	28%	21	36%	15	31%
Married	46	16%	41	15%	35	14%	17	13%	10	17%	10	21%
Other	10	3%	5	2%	5	2%	4	3%	0	0%	0	0%
Unknown	2	1%	2	1%	2	1%	1	1%	0	0%	0	0%
Total	289	100%	265	100%	243	100%	128	100%	58	100%	48	100%
Education												
<HS	68	24%	63	24%	59	24%	26	20%	13	22%	10	21%
HS	145	50%	128	48%	117	48%	64	50%	33	57%	31	65%
College	73	25%	71	27%	64	26%	37	29%	12	21%	7	15%
Unknown	3	1%	3	1%	3	1%	1	1%	0	0%	0	0%
Total	289	100%	265	100%	243	100%	128	100%	58	100%	48	100%
Total	253	100%	231	100%	212	100%	107	100%	53	100%	43	100%

Table 26: Opioid Mentions by Demographic Categories Among Overdose Deaths, 2018

Drug Mentions by Demographic Attributes

Non-Opioids

Non-Opioid Drug Mentions by Demographic Categories, 2018

	All Deaths		Cocaine		Marijuana		Methamphetamine		Antidepressants		Benzodiazepines	
	#	%	#	%	#	%	#	%	#	%	#	%
Gender												
Male	173	60%	74	65%	63	59%	50	60%	25	38%	31	51%
Female	116	40%	39	35%	43	41%	34	40%	41	62%	30	49%
Total	289	100%	113	100%	106	100%	84	100%	66	100%	61	100%
Age												
<18	1	0%	0	0%	0	0%	1	1%	0	0%	0	0%
18-24	13	4%	2	2%	6	6%	4	5%	2	3%	4	7%
25-34	74	26%	31	27%	34	32%	26	31%	13	20%	16	26%
35-44	83	29%	27	24%	36	34%	24	29%	21	32%	12	20%
45-54	64	22%	25	22%	18	17%	19	23%	19	29%	17	28%
55-64	48	17%	25	22%	12	11%	9	11%	11	17%	11	18%
65+	6	2%	3	3%	0	0%	1	1%	0	0%	1	2%
Total	289	100%	113	100%	106	100%	84	100%	66	100%	61	100%
Race												
White	220	76%	73	65%	75	71%	71	85%	53	80%	48	79%
Black	60	21%	37	33%	28	26%	9	11%	13	20%	10	16%
Other	9	3%	3	3%	3	3%	4	5%	0	0%	3	5%
Total	289	100%	113	100%	106	100%	84	100%	66	100%	61	100%
Marital Status												
Single	153	53%	61	54%	66	62%	51	61%	37	56%	28	46%
Divorced	78	27%	36	32%	25	24%	20	24%	18	27%	15	25%
Married	46	16%	12	11%	14	13%	9	11%	9	14%	14	23%
Other	10	3%	4	4%	1	1%	3	4%	2	3%	4	7%
Unknown	2	1%	0	0%	0	0%	1	1%	0	0%	0	0%
Total	289	100%	113	100%	106	100%	84	100%	66	100%	61	100%
Education												
<HS	68	24%	21	19%	23	22%	25	30%	16	24%	12	20%
HS	145	50%	60	53%	51	48%	44	52%	32	48%	31	51%
College	73	25%	32	28%	31	29%	14	17%	18	27%	18	30%
Unknown	0	0%	0	0%	1	1%	1	1%	0	0%	0	0%
Total	286	99%	113	100%	106	100%	84	100%	66	100%	61	100%

Table 27: Non-Opioid Drug Mentions by Demographic Categories Among Overdose Deaths, 2018

Drug Mentions by Health Status, 2018

	Physical Illness Total = 240		No Physical Illness Total = 49		Mental Illness Total = 153		No Mental Illness Total = 136		Prior Overdose Hospitalization Total = 107		No Prior Overdose Hospitalization Total = 182	
	#	%	#	%	#	%	#	%	#	%	#	%
Any Opioid	219	91%	46	94%	138	90%	127	93%	103	96%	162	89%
Illicit Fentanyl	202	84%	41	84%	121	79%	122	90%	97	91%	146	80%
Fentanyl Analogue	101	42%	27	55%	57	37%	71	52%	47	44%	81	45%
Prescription Opioids	51	21%	7	14%	39	25%	19	14%	24	22%	34	19%
Heroin	43	18%	5	10%	27	18%	21	15%	22	21%	26	14%
Cocaine	97	40%	16	33%	63	41%	50	37%	35	33%	78	43%
Benzos	57	24%	4	8%	45	29%	16	12%	26	24%	35	19%
Methamphetamine	66	28%	18	37%	48	31%	36	26%	40	37%	44	24%
Antidepressants	59	25%	7	14%	55	36%	11	8%	25	23%	41	23%
Marijuana	82	34%	24	49%	57	37%	49	36%	43	40%	63	35%
Gabapentin	30	13%	4	8%	23	15%	11	8%	15	14%	19	10%

Table 28: Drug Mentions by Health Status Among Overdose Deaths in Montgomery County, 2018

Drug Mentions by Physical Health Condition, 2018

	Heart Disease Total = 150		Hypertension Total = 132		Obesity Total = 118		Chronic Pain Total = 79		Kidney Disease Total = 64		Cirrhosis/Liver Disease Total = 50		Asthma Total = 47		COPD Total = 45		Diabetes Total = 41	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Any Opioid	134	89%	121	92%	112	95%	71	90%	57	89%	42	84%	44	94%	39	87%	37	90%
Illicit Fentanyl	125	83%	113	86%	101	86%	63	80%	51	80%	39	78%	38	81%	34	76%	33	80%
Fentanyl Analogue	62	41%	54	41%	52	44%	24	30%	24	38%	21	42%	20	43%	17	38%	18	44%
Prescription Opioids	33	22%	30	23%	24	20%	20	25%	19	30%	13	26%	15	32%	16	36%	9	22%
Heroin	27	18%	30	23%	19	16%	16	20%	18	28%	11	22%	12	26%	14	31%	10	24%
Cocaine	56	37%	59	45%	47	40%	36	46%	27	42%	20	40%	21	45%	17	38%	17	41%
Benzos	32	21%	29	22%	21	18%	26	33%	20	31%	15	30%	12	26%	13	29%	11	27%
Methamphetamine	44	29%	30	23%	26	22%	18	23%	18	28%	18	36%	11	23%	14	31%	9	22%
Antidepressants	39	26%	34	26%	30	25%	26	33%	13	20%	11	22%	16	34%	12	27%	12	29%
Marijuana	54	36%	44	33%	40	34%	30	38%	22	34%	23	46%	20	43%	14	31%	14	34%
Gabapentin	14	9%	19	14%	15	13%	14	18%	10	16%	7	14%	8	17%	7	16%	9	22%

Table 29: Drug Mentions by Physical Health Condition Among Overdose Deaths, 2018

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