

**THE 2021 CUYAHOGA  
COUNTY DRUG OVERDOSE  
INTEGRATED EPIDEMIOLOGIC  
PROFILE**

July 2022

OVERDOSE DATA TO ACTION (OD2A)

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## DISCLAIMER

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## EXECUTIVE SUMMARY

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In 2020, according to the Centers for Disease Control and Prevention (CDC), nearly 92,000 people died of drug overdoses in the United States (U.S.); this is the highest annual total on record, contributing to drug overdose deaths being a leading cause of injury-related death.<sup>1,2</sup> Overdose deaths involving opioids, including prescription opioids, heroin, and synthetic opioids (like fentanyl) have increased over 6 fold since 1999.<sup>3</sup> Drug overdoses continue to impact communities across the U. S., including Cuyahoga County (CC), Ohio. When compared to all other counties in Ohio, CC ranked second in total number of overdose deaths in 2019.<sup>4</sup> Between 2015 and 2020, a total of 2,824 unintentional drug overdose deaths (UDODs) of residents of CC were reported. In 2020, fentanyl and fentanyl analogues were involved in 82.2% of UDODs. For that same year, data shows that drug poisoning accounted for nearly half (48.4%) of unintentional deaths among CC residents. From 2016-2020, there were also 25,956 emergency department (ED) visits for suspected drug overdoses in CC (Table 12).

According to the 2019 U. S. Census estimates (most recent data available at time of report), 1,247,451 people reside in CC. More than half of residents (52.5%) were between the ages of 25-64 years; 29.9% were younger than 25 years, and 17.8% were 65 or older (median age=40.4) (Table 1). Based on analyses of Ohio vital statistics, the highest rate of UDODs in CC occurred among adults aged 35-44 in 2020; with a rate of 71.1 UDODs per 100,000 people (Table 9). The next highest rate of UDODs in 2020 occurred among adults aged 55-64; with a rate of 62.8 UDODs per 100,000 people.

In 2019, less than half (47.7%) of the population of CC consisted of males, yet males accounted for more than half of the UDODs in 2019 and in 2020. Non-Hispanic Black males had the second highest rate of UDODs in 2020; with a rate of 38.4 UDODs per 100,000 people (Table 9). Although the overall counts of UDODs in the Hispanic population were lower than other race/ethnic groups in 2019 and 2020, this group experienced the highest rate of UDODs in both years. The Hispanic population also experienced a 32% increase in UDODs from 2019 to 2020.

Additional demographic information such as marital status and education represent other potential risk/protective factors for UDODs. The U.S. Census Bureau reported that in 2019, 39% of residents in CC were never married and 27.8% of the population attained a high school diploma or GED, the most common level of education (Table 5 and 6). Vital statistics data show that in 2019 and 2020, the majority of UDODs occurred among never married individuals (56% and 60.7%, respectively) and over 50% of UDODs were among individuals with a high school diploma or GED (Table 10).

UDODs regularly include a combination of drugs that contributed to one's death; with many deaths involving fentanyl and fentanyl analogues. Fentanyl and fentanyl analogues remained the highest contributor to UDODs through 2020 in CC; this is the highest percentage of UDODs involving fentanyl and its analogs in a 5-year period (Figure 9). Heroin related UDODs have steadily decreased after peaking in 2016; 2020 data show that heroin related UDODs have decreased by more than half since 2016 (Figure 7). Cocaine related UDODs peaked in 2017, and 2020 data show that UDODs involving cocaine have decreased by 10% compared to 2019. Though psychostimulant related UDODs (such as methamphetamine) have contributed to the fewest deaths in comparison, this drug category has steadily increased since 2016 and surpassed natural and semi-synthetic opioids UDODs in 2020. Compared to 2020, preliminary 2021 data shows similar trends in the prevalent drug groups contributing to the number of UDODs. Fentanyl and fentanyl analogues were the leading contributor in

UDODs in 2021 followed by cocaine. Conversely, carfentanil related UDODs remain low, resulting in 6 deaths from 2020 to 2021.

From 2016 to 2020, there were over 25,000 emergency department (ED) visits for suspected drug overdoses in CC. The greatest percentage of drug-related ED visits from 2016-2020 occurred in the 35-49 year olds category which accounted for 27.3% of visits, followed closely by 25-34 year olds, accounting for 26.2% of visits. The average age of a person visiting an ED for a suspected overdose was 38 years. Males were more likely to visit the ED for a suspected drug overdose compared to females (58.6% vs 41.4%, respectively). Whites were more likely to visit the ED for suspected drug overdose compared to Blacks (52.1% vs 27.8%, respectively). Visits to the ED by White persons decreased from 2019 to 2020 while visits by Black persons increased from 2019 to 2020 (Figure 13). Collectively, the greatest number of drug overdoses presenting in the ED occurred in White males, ages 35-49.

Naloxone distribution is one of many major resources that is used to combat opioid overdose-related deaths in CC. Naloxone is a medication that has the ability to reverse an overdose caused by an opioid drug such as heroin, fentanyl, or other prescription pain medications.<sup>5</sup> When Naloxone is administered during an overdose, it blocks the effects of opioids on the brain and quickly restores breathing. It is also known by the brand name, Narcan®. Between 2017 and 2021, there were 28,031 doses of naloxone administered by emergency medical services (EMS) providers in CC (Figure 19). The highest total naloxone doses administered occurred in 2017 with 7,817 doses. From 2017 to 2018, there was a 44.3% decrease in the number of naloxone administrations, followed by a 39% increase in 2019. The number of naloxone administrations in 2020 and 2021 have slightly decreased since 2019.

The top five ZIP Codes, based on decedent residence, with the highest rate of UDODs from 2016-2020 were: 44127, 44109, 44102, 44135, and 44111 (Table 11). The highest number of ED visits for suspected drug overdose and naloxone doses administered both occurred in ZIP Codes 44109 and 44102 (Figures 18 and 21).

In summary, this DOIEP provides information on drug overdose mortality and morbidity (ED visits and EMS naloxone administration) in CC, including descriptive statistics, rates, and geographic analyses. Combining multiple data sources creates a more comprehensive picture of the drug overdose burden locally. Assessment of the epidemiology of the overdose crisis in CC as outlined in this profile is an important component of overdose prevention, as it provides information to effectively guide prevention and care activities for diverse organizations. The profile may also provide education and insight to healthcare providers, first responders, policymakers, and other stakeholders, including the public. Data included are based on currently available information and will continue to be updated annually.

## OVERVIEW: DRUG OVERDOSE INTEGRATED EPIDEMIOLOGIC PROFILE (DOIEP)

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The Drug Overdose Integrated Epidemiologic Profile (DOIEP) was made possible through the Overdose Data to Action (OD2A) grant from the Centers for Disease Control and Prevention (CDC). OD2A focuses on understanding the complex nature of the drug overdose epidemic using an interdisciplinary, comprehensive and cohesive public health approach. There are several strategies in the OD2A grant including both surveillance and prevention. The DOIEP was conducted as part of surveillance strategy 3, which focuses on implementing innovative surveillance. The DOIEP was adopted from a CDC and Health Resources and Services Administration (HRSA) document called the Integrated Epidemiologic Profile (IEP).<sup>6</sup> This document described the burden of HIV/AIDS using multiple data sources to inform prevention and program planning, implementation and evaluation. The OD2A grant uses the IEP model as a foundation for the DOIEP.

The Cuyahoga County DOIEP describes the burden of the drug crisis on the population of Cuyahoga County in terms of socio-demographic and geographic characteristics of persons experiencing substance use disorder. The profile represents a data-driven resource for local level partners and community members to understand current drug overdose trends, patterns and risk factors in Cuyahoga County and make recommendations for allocating drug overdose prevention and care resources, planning programs and evaluating programs and policies.

Goals of this DOIEP report:

- Describe the socio-demographic characteristics of the general population in Cuyahoga County for comparison to overdose statistics
- Provide a thorough description of drug overdose morbidity and mortality among various populations (age, race, sex, ZIP Code, etc.) in Cuyahoga County using data
- Identify trends and characteristics representing risk and protective factors for drug overdoses in Cuyahoga County
- Provide insights for overdose prevention

## DATA SOURCES

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Data from various sources were analyzed for this DOIEP including United States Census Bureau data, Vital Statistics death certificate data, EpiCenter emergency department visit data, and Ohio EMS naloxone administration data. Future editions may include additional data.

### United States Census Bureau

The Census Bureau collects and provides information about the people and economy of the United States. The Census Bureau's website (<http://www.census.gov/>) includes data on demographic characteristics of the population, family structure, educational attainment, income level, housing status, and the proportion of persons who live at or below the federal poverty level. State and county-specific data are easily accessible, and valuable to understand a population. In this DOIEP, 2019 ACS 5-year data are reported, the latest complete data available for use.

### Ohio Department of Health (ODH) Vital Statistics System

This DOIEP uses death certificate data from the Ohio Department of Health (ODH) Vital Statistics System. ODH uses the *International Classification of Disease, Tenth Revision* (ICD-10) to code deaths. ODH categorizes causes of deaths into six "External Injury Intent" types: Homicide, Legal Intervention of War, Natural, Suicide, Undetermined, and Unintentional. Accidental drug poisoning deaths, or unintentional drug overdose deaths (UDODs) as described in this report, fall into the "Unintentional" category. Among decedents with UDOD as the underlying cause, the type of drug is indicated by the following ICD-10 multiple cause-of-death codes: illicit and prescription opioids (T40.0, T40.1, T40.2, T40.3, T40.4, or T40.6); benzodiazepines (T42.4); cocaine (T40.5); and methamphetamines (T43.6). Vital Statistics data are used in this DOIEP to provide insights on fatal overdoses, specifically UDODs, of those who resided in Cuyahoga County between 2015 and June 2021 (note 2021 data are preliminary and incomplete). In-depth analyses of 2020 data (the most recent complete year of data available) are provided.

### EpiCenter

EpiCenter is a syndromic surveillance system managed by ODH that monitors suspected drug overdoses and many other health events presenting in emergency departments (ED). In 2016, ODH developed three opioid-related classifiers based on chief complaint data: suspected drug overdose, suspected drug overdose due to opioid, and suspected drug overdose due to heroin. In 2020, ODH developed a fourth classifier: suspected drug overdose due to stimulants. ODH retroactively updated all EpiCenter data from 2016 to 2020 to correctly reflect all four classifiers. The classifiers build upon one another and one individual can be a part of multiple classifiers; therefore, this report includes a general all drug overdose category and specific drug overdose category which includes the opioid, heroin, and stimulant classifiers grouped together for analysis. These classifiers support non-fatal overdose surveillance and anomaly (spike alert) detection; also known as an Epi-Alert. EpiCenter data are used in this DOIEP to provide insights on drug overdose morbidity in Cuyahoga County between January 2016 through December 2021 (note 2021 data are preliminary).

## **Ohio Department of Public Safety’s Emergency Medical Services (EMS) Incidence Reporting System (EMSIRS)**

The Ohio Department of Public Safety’s Emergency Medical Services (EMS) Incidence Reporting System (EMSIRS) records naloxone dose administrations provided by local EMS agencies participating in EMSIRS and the number of EMS 9-1-1 response events that mention “narcan” or “naloxone” in the Medication Given Description, Situation Complaint Statement, or Patient Care Report Narrative. Naloxone is a medication used as treatment to reverse an opioid overdose.<sup>12</sup> The Ohio State Board of Emergency Medical, Fire and Transportation Services has statutory authority over EMSIRS and supervises its operations. For this report, 2016 -2021 quarterly data are examined.

## **STRENGTHS AND LIMITATIONS**

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The 2021 DOIEP provides important information that local partners can use as a resource for prevention strategies. Strengths of this profile include robust datasets and detailed analyses. Comprehensive population demographics data from the Census Bureau offer community context. The Vital Statistics System captures data on all deaths of Cuyahoga County residents and has hundreds of variables for analysis. These data can be compared across community or with other counties across the state. EpiCenter data are submitted by local hospital systems and urgent care centers in near real-time and have become an important resource for tracking trends in ED visits for drug overdoses. EpiCenter also administers Epi-Alerts when hospitals are seeing a spike in overdose ED visits. Lastly, most naloxone dose administrations in Cuyahoga County are recorded into EMSIRS which can be used to better understand the burden of overdoses on EMS providers and communities.

While there are many strengths in the data sources that are included in this profile, some limitations must be acknowledged. Due to the COVID-19 pandemic, 2020 United States Census Bureau data collection was interrupted, therefore the most recent Census data available and used in this profile are 2019 data. A time lag exists in reporting for Vital Statistics and finalization of these data; ODH can take up toward a year to fully finalize datasets. Therefore, validated county vital statistics data indicating cause of death for 2021 deaths are incomplete; in this report, only the first 6 months of 2021 data are included. Also, 2020 data has not yet been finalized and therefore is still considered preliminary. EpiCenter data are de-identified to some degree, classifiers do not capture all overdoses, and non-standard reporting across hospital systems can make these data hard to interpret. EpiCenter temporarily stopped administering alerts in the first three quarters of 2021 due to transitioning to a new syndromic surveillance system ESSENCE, then transitioned back to EpiCenter. EMS data are listed as total dose administrations and not per person administrations; therefore, it is not known how many doses of naloxone an individual receives. Administrations of naloxone may be part of standard EMS protocols. An incident in which EMS responded and administered naloxone may not necessarily have been an opioid-related overdose but protocols led to administration of the medication and the incident was reported as such. Also, not all EMS agencies report to EMSIRS.



# GEOGRAPHY AND SOCIODEMOGRAPHIC COMPOSITION OF THE POPULATION OF CUYAHOGA COUNTY, OH

## Geographical Description of Cuyahoga County

Cuyahoga County is located in the northeastern area of Ohio, a Midwest state in the United States. Housing the City of Cleveland, it is the second most-populated county in Ohio with a population of about 1.24 million people, and the 39<sup>th</sup> largest county in the state by land area at 457 square miles. Between 2017 and 2018 the population of Cuyahoga County, OH declined from 1.25 million to 1.24 million, a -0.373% decrease.<sup>8</sup> Cuyahoga County, OH borders Lake Erie and Geauga County, OH, Lake County, OH, Lorain County, OH, Medina County, OH, Portage County, OH, and Summit County, OH (Figure 1).

**Figure 1: Geographical Location of Cuyahoga County, OH**



<sup>7</sup>Data Source: Worldatlas.com. Accessed December 10, 2021. [Cuyahoga County, Ohio / Map of Cuyahoga County, OH / Where is Cuyahoga County? \(worldatlas.com\)](https://www.worldatlas.com/usa/ohio/cuyahoga-county/)

## Demographic Composition

The types and level of services needed by community members are highly related to the demographic make-up of the community, in particular age, gender, race, income levels, access to health insurance, etc. Table 1 shows that in 2019, the median age of people living in Cuyahoga County was 40.4 years. More than one-half (52.5%) of Cuyahoga County residents are between the ages of 25 and 64 years; 25.4% are 25 to 44 years old and 27.1% are 45 to 64 years old. Nearly one third of residents (29.9%) are younger than 25 years old with 15 to 24 years old representing 12.6%, 5 to 14 years old representing 11.5%, and children less than 5 years old representing 5.8% of the county's population. The remainder of Cuyahoga County's residents (17.8%) are age 65 or older. The female to male ratio in Cuyahoga County, OH is 100:91.

**Table 1. Population Distribution by Age Group and Sex, Cuyahoga County, OH 2019**

| Age Group (years) | Males     |       | Females   |       | Total Population |       |
|-------------------|-----------|-------|-----------|-------|------------------|-------|
|                   | N=594,606 | %     | N=652,845 | %     | N=1,247,451      | %     |
| <15               | 109,598   | 18.4% | 105,403   | 16.2% | 215,001          | 17.3% |
| 15-24             | 78,983    | 13.3% | 78,233    | 12.0% | 157,216          | 12.6% |
| 25-34             | 84,104    | 14.1% | 88,503    | 13.6% | 172,607          | 13.9% |
| 35-44             | 69,120    | 11.6% | 74,144    | 11.4% | 143,264          | 11.5% |
| 45-54             | 75,692    | 12.7% | 83,669    | 12.8% | 159,361          | 12.8% |
| 55-64             | 84,547    | 14.3% | 94,088    | 14.4% | 178,635          | 14.3% |
| 65+               | 92,562    | 15.6% | 128,805   | 19.8% | 221,367          | 17.8% |

<sup>12</sup>Source: 2019 American Community Survey estimates, United States Census Bureau.

Note: Percentages may not sum to 100% due to rounding.

The Census Bureau estimates that more than half (58.9%) of Cuyahoga County, OH residents are White (Non-Hispanic). Black or African American (Non-Hispanic) residents make up 29.2% of the population. The remainder of the population identified themselves as Hispanic (5.9%), Asian (3.0%), Native American (0.1%) or two or more races (2.5%) (Table 2).

**Table 2: Population Distribution by Race/Ethnicity, Cuyahoga County, OH 2019**

| Race/Ethnicity     | Total Population |       |
|--------------------|------------------|-------|
|                    | *N=1,247,451     | %     |
| Non-Hispanic White | 734,951          | 58.9% |
| Non-Hispanic Black | 364,770          | 29.2% |
| Hispanic or Latino | 74,024           | 5.9%  |
| Asian              | 37,507           | 3.0%  |
| Two or more races  | 31,150           | 2.5%  |
| Native American    | 1,678            | 0.1%  |

<sup>13</sup>Source: 2019 American Community Survey estimates, United States Census Bureau.

Note: Percentages may not sum to 100% due to rounding.

\*This is the total including residents who identified as “other” race, which is not shown in the race/ethnicity category.

### Poverty, Income, and Education

According to the rankings based on poverty rate, Cuyahoga County is the 13<sup>th</sup> most poverty stricken county in Ohio.<sup>10</sup> In 2019 it was reported that 16.2% of individuals residing in Cuyahoga County live below the federal poverty level, compared to 13.1% for the state (Table 3). Of those residing in CC, 18.5% of females and 16.3% of males live below the federal poverty level. One quarter (25.5%) of children less than 18 years old and 10.9% of residents aged 65 years and older live below the federal poverty level. When broken down by race and ethnicity, 31.3% of individuals who identified as Non-Hispanic Black, 10.2% of Non-Hispanic White individuals, 28.4% of Hispanic or Latino individuals, 13.9% of Asian individuals, and 35.5% of Native American individuals live below the federal poverty level. The average personal income in Cuyahoga County is \$33,114 and the median household income is \$50,366; both are below overall Ohio rates.

**Table 3: Socioeconomic Characteristics of Population, Cuyahoga County, OH and Ohio 2019**

| Characteristic                                     | Cuyahoga County | Ohio     |
|--|-----------------|----------|
| <b>Income</b>                                      |                 |          |
| Average Per Capita Income                          | \$33,114        | \$31,552 |
| Median Household Income                            | \$50,366        | \$56,602 |
| <b>Federal Poverty Level</b>                       |                 |          |
| Individuals  | 16.2%           | 13.1%    |
| Female   | 18.5%           | 15.2%    |
| Male   | 16.3%           | 12.7%    |
| <b>Federal Poverty Level by Age Group (years)</b>  |                 |          |
| <18  | 25.5%           | 19.9%    |
| 18-64  | 16.6%           | 13.4%    |
| ≥65  | 10.9%           | 8.1%     |
| <b>Federal Poverty Level by Race and Ethnicity</b> |                 |          |
| Native American                                    | 35.5%           | 25.3%    |
| Non-Hispanic Black                                 | 31.3%           | 29.6%    |
| Hispanic or Latino                                 | 28.4%           | 24.7%    |
| Asian  | 13.9%           | 13.2%    |
| Non-Hispanic White                                 | 10.2%           | 11.1%    |

<sup>14</sup>Source: 2019 American Community Survey estimates, United States Census Bureau.

Note: Percentages may not sum to 100% due to rounding.

The State of Homelessness data for Cuyahoga County, shown in table 4, draws from the nationwide Point-in-Time Count that occurred in January 2020, just a few weeks before COVID-19 was declared a national emergency. Therefore, these data do not reflect any changes brought about by the pandemic.<sup>11</sup> In Cuyahoga County, an estimated 1,675 individuals were homeless in 2020, of which 1,566 (93.5%) were reported to be sheltered and 109 (6.5%) were unsheltered. A total of 171 (10.2%) were chronically homeless, 168 (10%) were veterans, and 110 (6.6%) were unaccompanied youths. Table 4 shows how homelessness in Cuyahoga County has fluctuated through the years of 2015-2020. Homelessness has been associated with reduced access to care, engagement in harmful behaviors such as substance abuse, lower survival rate, and reduced adherence to treatment.

**Table 4: Homelessness in Cuyahoga County, Ohio 2015-2020**

| Overall Homelessness | 2015    |       | 2016    |       | 2017    |       | 2018    |       | 2019    |       | 2020    |       |
|----------------------|---------|-------|---------|-------|---------|-------|---------|-------|---------|-------|---------|-------|
|                      | N=1,943 | %     | N=1,697 | %     | N=1,727 | %     | N=1,808 | %     | N=1,618 | %     | N=1,675 | %     |
| <b>Unsheltered</b>   | 68      | 3.5%  | 74      | 4.3%  | 97      | 5.6%  | 78      | 4.3%  | 106     | 6.6%  | 109     | 6.5%  |
| <b>Sheltered</b>     | 1,875   | 96.5% | 1,623   | 95.6% | 1,630   | 94.3% | 1,730   | 95.7% | 1,512   | 93.4% | 1,566   | 93.5% |
| <b>Chronic</b>       | 215     | 11%   | 175     | 10.3% | 115     | 6.7%  | 172     | 9.5%  | 212     | 13.1% | 171     | 10.2% |
| <b>Family</b>        | 393     | 20.2% | 337     | 19.9% | 367     | 21.3% | 431     | 23.8% | 390     | 24.1% | 360     | 21.5% |
| <b>Individual</b>    | 1,550   | 79.8% | 1,360   | 80.1% | 1,360   | 78.8% | 1,377   | 76.2% | 1,228   | 75.9% | 1,315   | 78.5% |
| <b>Veteran</b>       | 326     | 16.8% | 202     | 11.9% | 172     | 9.9%  | 159     | 8.8%  | 135     | 8.3%  | 168     | 10%   |
| <b>Youth</b>         | 112     | 5.8%  | 110     | 6.5%  | 93      | 5.4%  | 116     | 6.4%  | 118     | 7.3%  | 110     | 6.6%  |

<sup>15</sup>Source: US Department of Housing and Urban Development.

The most recent available data on educational data are from the 2019 American Community Survey. The most common level of education attained in Cuyahoga County among people aged 25 years and older is a high school diploma or its equivalent (27.8%) (Table 5). While 19.0% of residents 25 years and older reported having a bachelor’s degree; 21.7% reported having some college education, but no degree. Of the population 25 years and older in Cuyahoga County, 2.9% of residents reporting less than a high school education.

**Table 5: Educational Attainment (Population Age ≥25 Years) in Cuyahoga County, OH 2019**

| Education                       | Males     |       | Females   |       | Total Population |       |
|---------------------------------|-----------|-------|-----------|-------|------------------|-------|
|                                 | N=406,025 | %     | N=469,209 | %     | N= 875,234       | %     |
| Less than High School           | 11,595    | 2.9 % | 13,640    | 2.9%  | 25,235           | 2.9%  |
| High School Diploma/GED         | 116,621   | 28.7% | 126,353   | 26.9% | 242,977          | 27.8% |
| Some College, no degree         | 85,793    | 21.1% | 104,166   | 22.2% | 189,959          | 21.7% |
| Associate’s Degree              | 26,782    | 6.6%  | 41,724    | 8.9%  | 68,506           | 7.8%  |
| Bachelor’s Degree               | 79,400    | 19.6% | 87,210    | 18.6% | 166,610          | 19.0% |
| Graduate or Professional Degree | 54,841    | 13.5% | 63,257    | 13.5% | 118,098          | 13.5% |

<sup>16</sup>Source: 2019 American Community Survey estimates, United States Census Bureau.

Note: Percentages may not sum to 100% due to rounding.

### Marital Status, Employment, and Healthcare Coverage

Table 6 provides marital status information by gender for the population of Cuyahoga County that is 15 years of age and over. Of this population, 42% reported being married. Additionally 10.9% of males and 13.4% of females reported being divorced, while 39% of residents aged 15+ have never been married, and 6.7% of the population (largely females) reported being widowed.

**Table 6: Marital Status (Population Age ≥15 Years) in Cuyahoga County, OH 2019**

| Marital Status | Males     |       | Females   |       | Total Population |       |
|----------------|-----------|-------|-----------|-------|------------------|-------|
|                | N=485,008 | %     | N=547,442 | %     | N=1,032,450      | %     |
| Married        | 214,807   | 44.2% | 219,200   | 40.0% | 434,007          | 42.0% |
| Divorced       | 52,699    | 10.9% | 73,442    | 13.4% | 126,141          | 12.2% |
| Never Married  | 202,584   | 41.8% | 200,388   | 36.6% | 402,972          | 39.0% |
| Widowed        | 14,918    | 3.1%  | 54,412    | 9.9%  | 69,330           | 6.7%  |

<sup>17</sup>Source: 2019 American Community Survey estimates, United States Census Bureau.

Note: Percentages may not sum to 100% due to rounding.

Table 7 provides information on the employment status of the civilian labor force that is at least 16 years old and over for Cuyahoga County and the state of Ohio. The civilian labor force, or currently active workforce, is defined as all civilian noninstitutionalized residents who fulfill the requirements for inclusion among the employed or the unemployed. The employed of Cuyahoga County (58.3%) are defined as those who work for pay or profit for at least one hour a week, or have a job, but are temporarily on leave due to illness, industrial action, etc. Those that are unemployed (4.8%) are defined as people without work, but are actively seeking for a job and currently available to start work.

**Table 7: Employment Status (Population Age ≥16 Years) in Cuyahoga County, OH and Ohio 2019**

| Characteristic                         | Cuyahoga County |       | Ohio      |       |
|--|-----------------|-------|-----------|-------|
|  | Total           | %     | Total     | %     |
| Civilian Labor Force 16 Years and Over | 642,329         | 63.1% | 5,909,927 | 63.2% |
| Employed                               | 593,418         | 58.3% | 5,595,444 | 59.8% |
| Unemployed                             | 48,911          | 4.8%  | 314,483   | 3.4%  |

<sup>14</sup>Source: 2019 American Community Survey estimates, United States Bureau.

Note: Percentages may not sum to 100% due to rounding.

Table 8 displays the distribution of healthcare coverage in Cuyahoga County, compared to the entire state of Ohio. A 2019 population survey found that 47.2% of Cuyahoga County residents were covered under their employer health insurance plan. Another 23.1% were insured by Medicaid, 13.3% were insured by Medicare, and 5.34% of Cuyahoga County, residents were uninsured.

**Table 8: Healthcare Coverage in Cuyahoga County, OH and Ohio 2019**

| Health Insurance Coverage | Cuyahoga County |   | Ohio  |
|---------------------------|-----------------|---|-------|
|                           |                 | % | %     |
| Employer                  | 47.2%           |   | 51.2% |
| Individual                | NSD             |   | NSD   |
| Medicaid                  | 23.1%           |   | 17.3% |
| Medicare                  | 13.3%           |   | 13.6% |
| Non-Group                 | 9.75%           |   | 9.96% |
| Military or VA            | 1.26%           |   | 1.27% |
| Uninsured                 | 5.34%           |   | 6.58% |

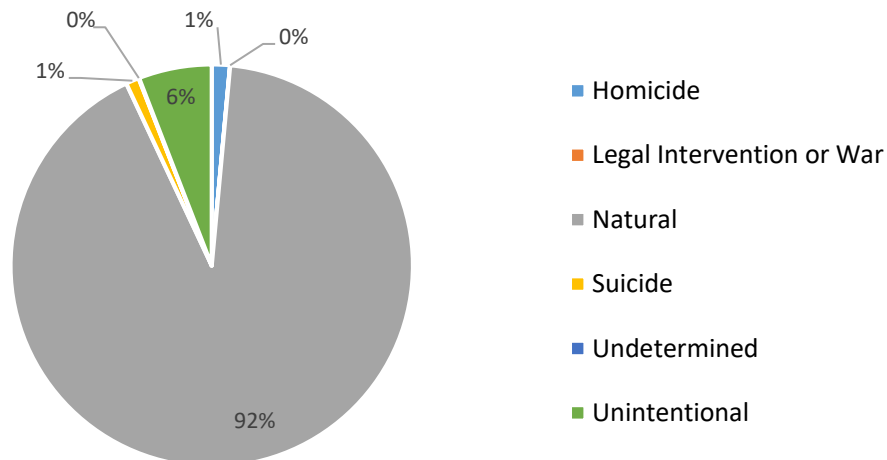
<sup>18</sup>Source: Data USA: Cuyahoga County, OH & Ohio.

Note: Percentages may not sum to 100% due to rounding. NSD = No Statistical Data

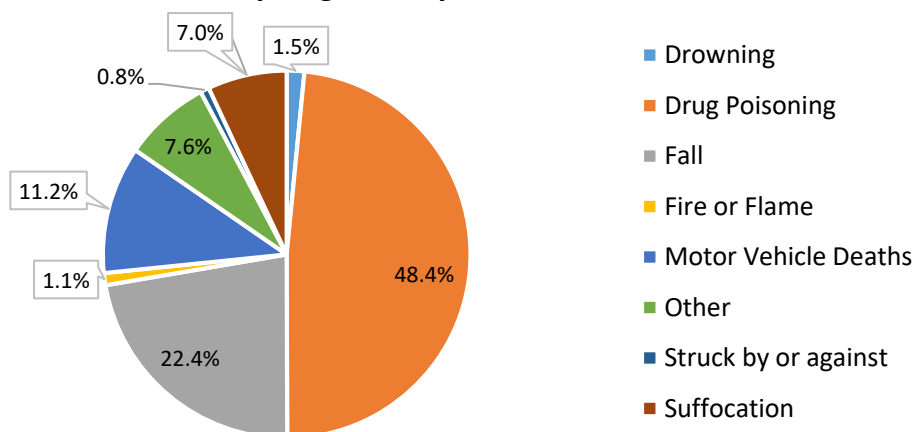
## DRUG OVERDOSE MORTALITY – TOTAL DEATHS

Figure 2 shows the total number of Cuyahoga County resident deaths in 2020 (n=16,175) categorized by the six cause of death types. While 92% of residents experienced a natural cause of death, the second highest cause of death category was unintentional at 6%, representing 951 deaths. Figure 3 details the eight injury types that fall within the unintentional death classification; drug poisoning accounted for nearly half (48.4%) of all unintentional deaths.

**Figure 2. Causes of Death of Those Residing in Cuyahoga County, 2020**

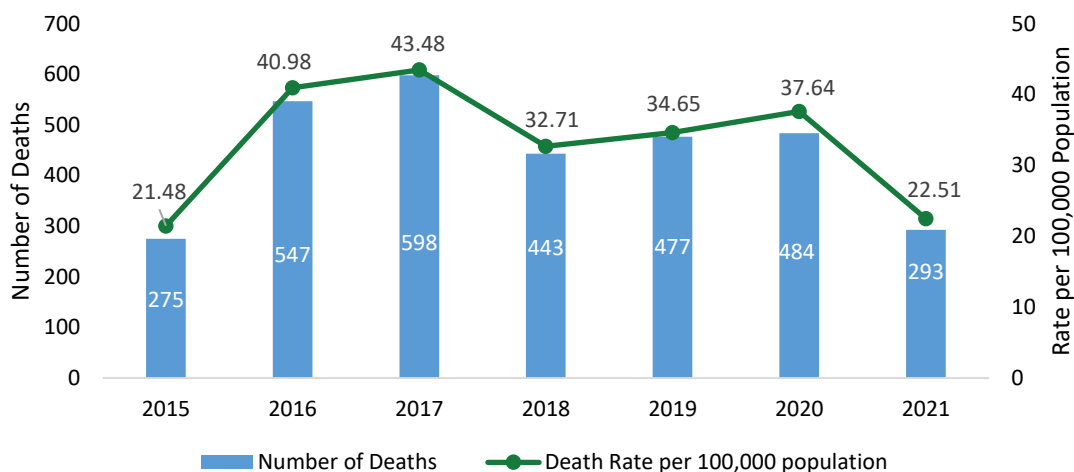


**Figure 3. Causes of Unintentional Death of Those Residing in Cuyahoga County, 2020**



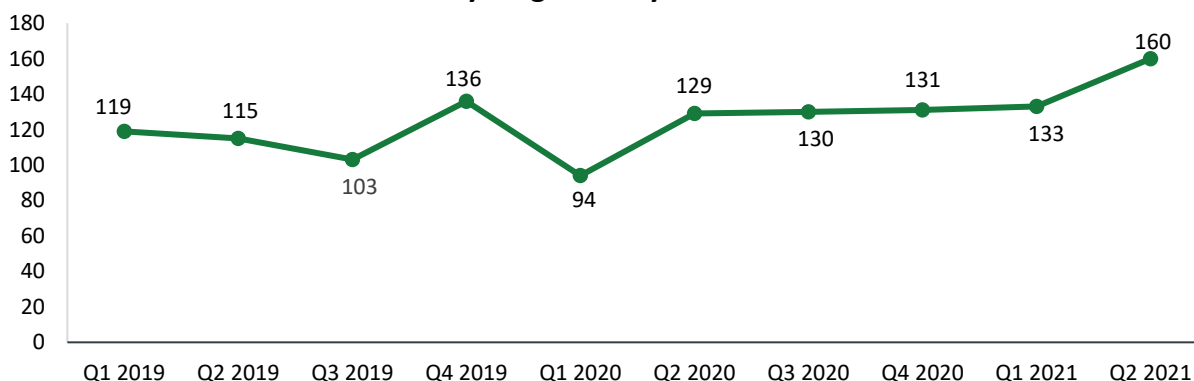
There was a 98.9% increase in unintentional drug overdose deaths (UDODs) between 2015 and 2016. This was the largest increase over a one-year period in the history of Cuyahoga County. The number of UDODs peaked in 2017 with a 9.3% increase from 2016. Although there was a decrease in the number and rate of UDODs in 2018, there was a slight increase in 2019 and another slight increase in 2020. 2021 data shows that there were 293 UDODs in the first 6 months of the year; this total is more than half of the total deaths that were reported in 2020 (see Figure 4), thus it is expected that the overdose deaths total for 2021 will exceed the OD deaths seen in 2018, 2019, and 2020. When data is shown by quarter, there was a peak in UDODs in quarter 4 of 2019 (see Figure 5). Quarter 2 of 2021 may represent another peak, at 160 deaths.

**Figure 4. Number and Age-Adjusted Rate of Unintentional Drug Overdose Deaths in Cuyahoga County, 2015-2021\***



**\*2021 DATA ONLY REFLECTS THE FIRST 6 MONTHS (JANURARY 2021- JUNE 2021) OF THE YEAR THEREFORE IT IS PRELIMINARY AND INCOMPLETE**  
**Note: The death rates presented are age-adjusted to the 2000 U.S. standard population to allow comparisons between different populations.**

**Figure 5. Number of Unintentional Drug Overdose Deaths by Quarter, Cuyahoga County 2019-2021\***



**\*2021 DATA ONLY REFLECTS THE FIRST 6 MONTHS (JANURARY 2021- JUNE 2021) OF THE YEAR THEREFORE IT IS PRELIMINARY AND INCOMPLETE**

## DRUG OVERDOSE MORTALITY – DEMOGRAPHIC AND GEOGRAPHIC ANALYSES

The demographic breakdown of Cuyahoga County resident UDODs occurring in 2019 through mid-year 2021 are shown below in Table 9. In 2020, 35-44 year olds had the highest rate of UDOD compared to 55-64 year olds in 2019. In 2020, more males died of UDODs than females (361 deaths vs 123 deaths respectively); this pattern also occurred in 2019 and in the first 6 months of 2021. In 2020, Non-Hispanic Blacks had a slightly higher overdose death rate than Non-Hispanic Whites. Although the overall counts of UDODs in the Hispanic population were lower than other race/ethnic groups in 2019 and 2020, this group experienced the highest rate of UDODs in both years; this trend persisted in the first half of 2021.

| Age                                       | 2019       |           |                   | 2020       |             |                   | 2021*      |             |                   |
|---|------------|-----------|-------------------|------------|-------------|-------------------|------------|-------------|-------------------|
|   | N          | %         | Rate <sup>1</sup> | N          | %           | Rate <sup>1</sup> | N          | %           | Rate <sup>1</sup> |
| <15                                       | -          | -         | -                 | 2          | 0.4         | <10               | -          | -           | -                 |
| 15-24                                     | 19         | 4.0       | 11.3              | 24         | 5.0         | 14.3              | 16         | 5.5         | -                 |
| 25-34                                     | 92         | 19.3      | 58.2              | 109        | 22.5        | 69                | 57         | 19.5        | -                 |
| 35-44                                     | 104        | 21.8      | 65.5              | 113        | 23.4        | 71.1              | 66         | 22.5        | -                 |
| 45-54                                     | 91         | 19.1      | 46.2              | 102        | 21.1        | 51.7              | 69         | 23.5        | -                 |
| 55-64                                     | 120        | 25.1      | 73.1              | 103        | 21.3        | 62.8              | 65         | 22.2        | -                 |
| 65+                                       | 51         | 10.7      | 25.7              | 31         | 6.4         | 15.6              | 20         | 6.8         | -                 |
| <b>Sex</b>                                |            |           |                   |            |             |                   |            |             |                   |
| Female                                    | 134        | 28.1      | 19.9              | 123        | 25.4        | 18.3              | 88         | 30.0        | -                 |
| Male                                      | 343        | 71.9      | 56.5              | 361        | 74.6        | 59.4              | 205        | 70.0        | -                 |
| <b>Race/Ethnicity<sup>2</sup></b>         |            |           |                   |            |             |                   |            |             |                   |
| Non-Hispanic Black                        | 154        | 32.3      | 40.5              | 146        | 30.2        | 38.4              | 95         | 32.4        | -                 |
| Non-Hispanic White                        | 292        | 67.3      | 38.7              | 291        | 60.1        | 35.7              | 174        | 59.4        | -                 |
| Hispanic                                  | 31         | 6.5       | 50.6              | 41         | 8.5         | 66.9              | 20         | 6.8         | -                 |
| <b>Race/Ethnicity and Sex<sup>2</sup></b> |            |           |                   |            |             |                   |            |             |                   |
| Non-Hispanic Black Females                | 37         | 7.8       | 17.8              | 42         | 8.7         | 20.2              | 23         | 7.8         | -                 |
| Non-Hispanic Black Males                  | 117        | 24.5      | 67.8              | 104        | 21.5        | 60.3              | 72         | 24.6        | -                 |
| Non-Hispanic White Females                | 90         | 20.1      | 21.4              | 73         | 15.1        | 17.3              | 59         | 20.1        | -                 |
| Non-Hispanic White Males                  | 202        | 47.2      | 51.4              | 218        | 45.0        | 55.5              | 115        | 39.2        | -                 |
| Hispanic Females                          | 7          | 1.5       | 22.5              | 8          | 1.7         | 25.7              | 4          | 1.4         | -                 |
| Hispanic Males                            | 24         | 5.0       | 39.2              | 33         | 6.8         | 53.9              | 16         | 5.5         | -                 |
| <b>Total<sup>3</sup></b>                  | <b>477</b> |           | <b>36.2</b>       | <b>484</b> |             | <b>37.6</b>       | <b>293</b> |             | <b>-</b>          |
| <b>Mean Age</b>                           |            | <b>47</b> |                   |            | <b>44.4</b> |                   |            | <b>45.7</b> |                   |

\*2021 DATA ONLY REFLECTS THE FIRST 6 MONTHS OF THE YEAR (JAN 2021-JUN 2021) DUE TO THIS, THE OVERDOSE RATE IS NOT REPORTED.

<sup>1</sup>Death rates for age are age-specific. Death rates for sex and race/ethnicity are age-adjusted to the 2000 U.S. standard population to allow comparisons between different populations.

<sup>2</sup>Other race groups are not shown due to small numbers.

<sup>3</sup>Total includes all unintentional drug overdose deaths in Cuyahoga County.



Table 9 also breaks down these data into demographic subgroups (race/ethnicity and sex). This breakdown shows a stark difference in the rate of UDODs among groups. Despite non-Hispanic White males representing the highest percentage of UDODs each year, non-Hispanic Black males had a higher rate of UDODs than any other group in 2019, 2020, and preliminary 2021. Furthermore, non-Hispanic Black females had a higher rate of UDODs in 2020 when compared to non-Hispanic White females in 2020, but the Hispanic rate remained highest among the female subgroups.

Table 10 provides marital status and education information for persons who died from an UDOD. Individuals who were never married represent the highest percentage of UDODs among marital status groups. The most common level of education attained for individuals that died of UDODs was a high school diploma or GED; these trends occurred in 2019, 2020, and preliminary 2021.

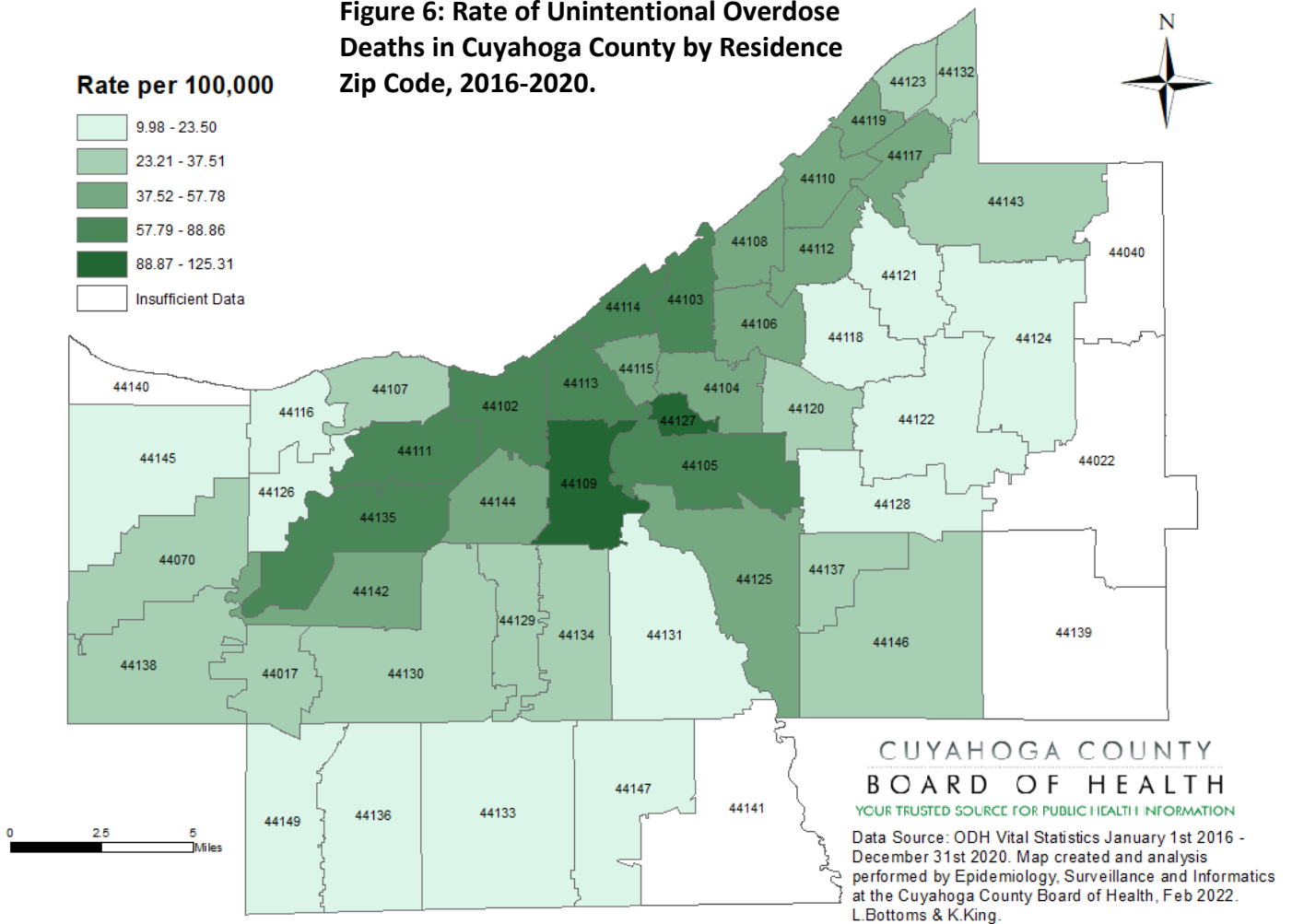
| <b>Table 10: Unintentional Drug Overdose Deaths by Marital Status and Education in Cuyahoga County, 2019-2021</b> |            |      |            |      |            |      |
|---|------------|------|------------|------|------------|------|
|   | 2019       |      | 2020       |      | 2021**     |      |
|   | N          | %    | N          | %    | N          | %    |
| <b>Marital Status</b>   |            |      |            |      |            |      |
| Married   | 53         | 11.1 | 55         | 11.4 | 32         | 10.9 |
| Divorced  | 115        | 24.1 | 114        | 23.6 | 65         | 22.2 |
| Never Married   | 267        | 56.0 | 294        | 60.7 | 179        | 61.1 |
| Other/Unknown   | 42         | 8.8  | 21         | 4.3  | 17         | 5.8  |
| <b>Education</b>  |            |      |            |      |            |      |
| Less than High School   | 83         | 17.4 | 98         | 17.4 | 54         | 18.4 |
| High School Diploma/ GED  | 250        | 52.4 | 261        | 53.9 | 146        | 49.8 |
| Some College  | 54         | 11.3 | 66         | 13.6 | 49         | 16.7 |
| College Degree  | 49         | 10.3 | 38         | 6.9  | 39         | 13.3 |
| Unknown   | 41         | 8.6  | 21         | 4.3  | 5          | 1.7  |
| <b>Total<sup>1</sup></b>  | <b>477</b> |      | <b>484</b> |      | <b>293</b> |      |

**\*\*2021 DATA ONLY REFLECTS THE FIRST 6 MONTHS OF THE YEAR (JAN 2021-JUN 2021)**

<sup>1</sup>Total includes all unintentional drug overdose deaths in Cuyahoga County

Figure 6 shows a geographical analysis of Vital Statistics death data presenting the rate of UDODs by ZIP Code. The Cuyahoga County ZIP Codes with the highest rates of UDODs from 2016-2021 were: 44127 and 44109. Table 11 shows the top 10 residence ZIP Codes for UDODs for this time period.

**Figure 6: Rate of Unintentional Overdose Deaths in Cuyahoga County by Residence Zip Code, 2016-2020.**



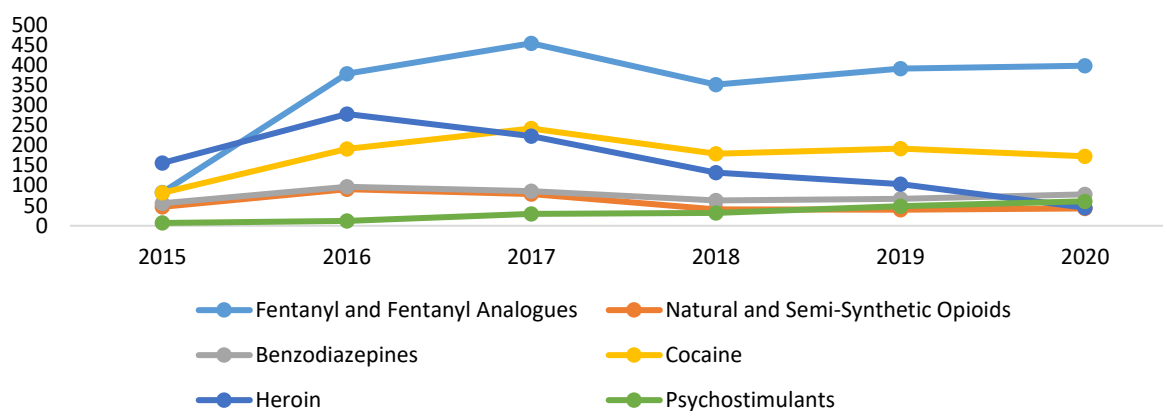
**Table 11: Top 10 Zip Codes for Unintentional Overdose Deaths, 2016-2020**

|          |           |
|----------|-----------|
| 1. 44127 | 6. 44113  |
| 2. 44109 | 7. 44103  |
| 3. 44102 | 8. 44114  |
| 4. 44135 | 9. 44105  |
| 5. 44111 | 10. 44115 |

## DRUG OVERDOSE MORTALITY – DRUG TYPES

Analyses of UDODs by drug type were conducted for 2015-2020. The number of fentanyl related UDODs in Cuyahoga County increased 355% from 2015 to 2016; fentanyl and fentanyl analogues remained the highest contributor to UDODs through 2020. Heroin related UDODs have steadily decreased after peaking in 2016; in 2020 heroin related UDODs decreased by more than half compared to 2019. Cocaine related UDODs steadily increased from 2015 to 2017 and surpassed heroin related deaths since 2017. Although psychostimulant related UDODs (other than cocaine) contributed to the least number of deaths among the drug types examined, this drug category has increased each year and surpassed natural and semi-synthetic opioids in 2020 (see Figure 7).

**Figure 7. Number of Unintentional Drug Overdose Deaths Involving Select Drugs in Cuyahoga County, 2015-2020**



Note: Overdose deaths usually involve a combination of drugs. Individual deaths may be reported in more than one category.

UDODs regularly included a combination of contributing drugs. From 2019 to 2020, there was a substantial increase in deaths related to psychostimulants, with opioids such as fentanyl present (see Figure 8).

**Figure 8. Number of Unintentional Drug Overdose Deaths Involving Select Drug Combinations in Cuyahoga County, 2015-2020**

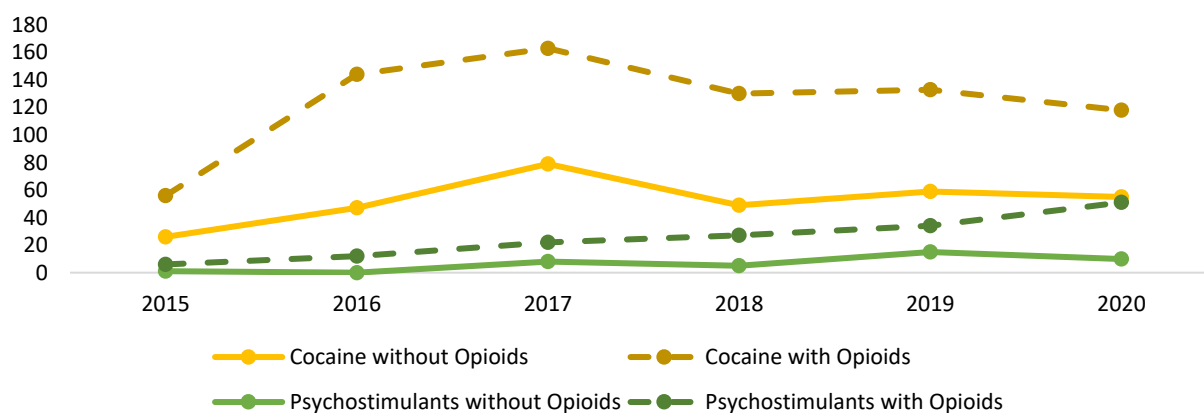
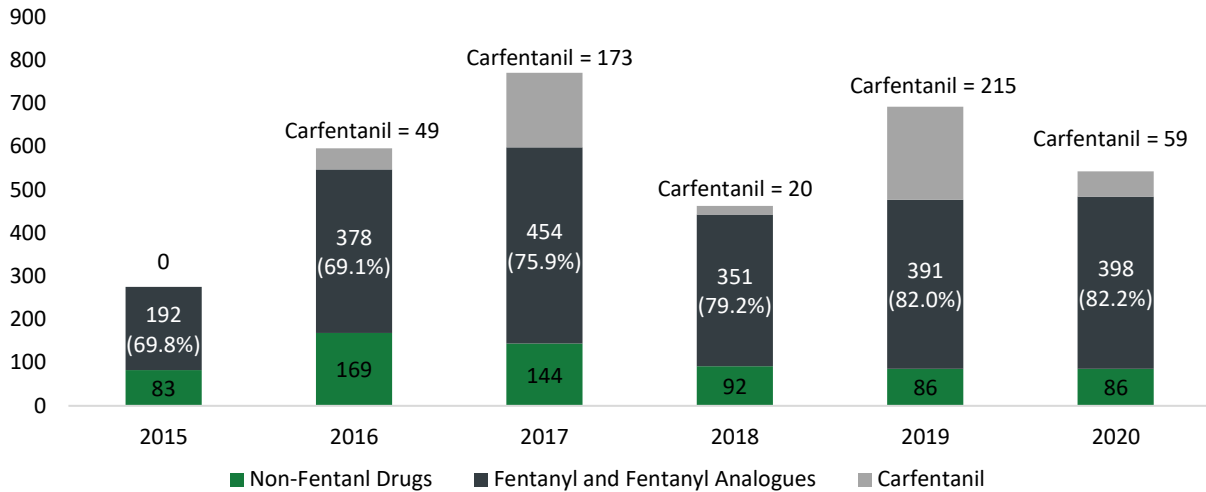


Figure 9 shows a steady increase in the percentage of UDODs due to fentanyl and fentanyl analogues since 2016. Fentanyl continued to drive UDODs in 2020, contributing to a high of 82.2% of UDODs, which is a slight increase from 2019 (82.0%). However, the number of UDODs related to carfentanil peaked in 2019 at 215 deaths. There was over a 70% decrease in carfentanil UDODs in 2020.

**Figure 9. Number and Percentage of Fentanyl-Related Unintentional Drug Overdose Deaths in Cuyahoga County, 2015-2020**



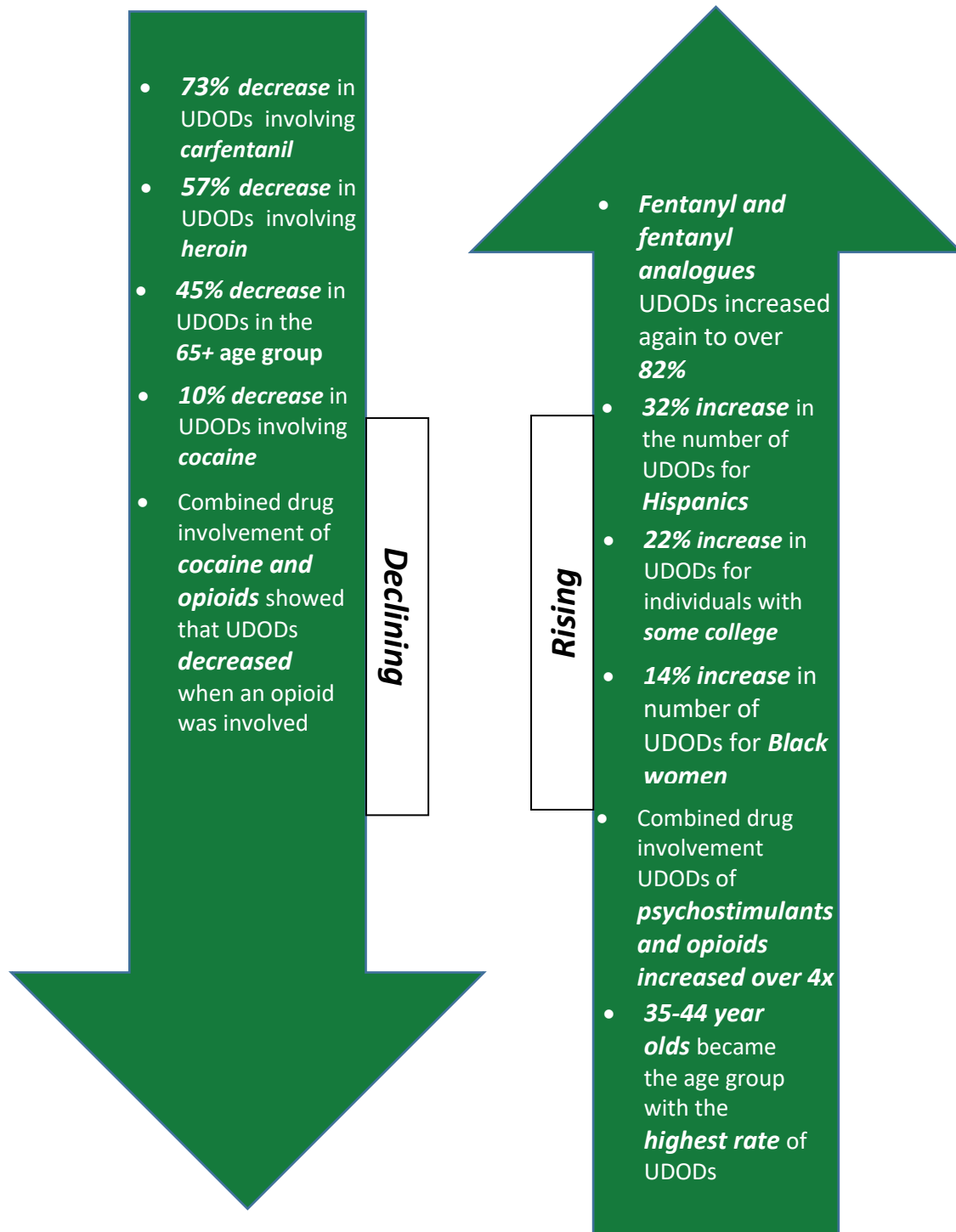
Note: Overdose death usually involve a combination of drugs. Individual deaths may be reported in more than one category.

Compared to 2020, preliminary 2021 data show similar trends in the prevalent drug type groups contributing to the number of UDODs. Fentanyl and fentanyl analogues were the leading contributor in UDODs in 2021 followed by cocaine, while, carfentanil related UDODs remained low with an estimate of 5 deaths from 2020 to 2021, based on preliminary 2021 data.

## DRUG OVERDOSE MORTALITY – SUMMARY

Based on the mortality data presented above, there are specific sub-populations to prioritize for prevention efforts:

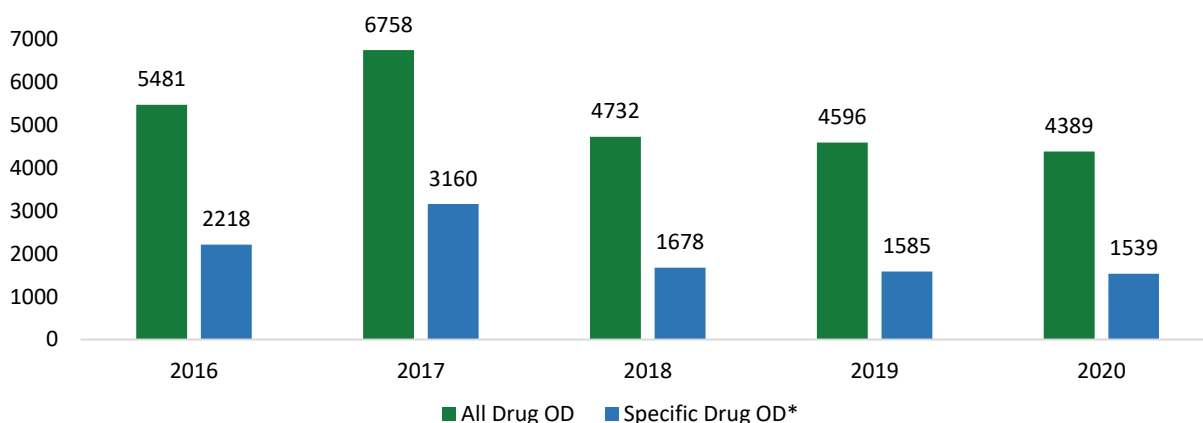
### *From 2019 to 2020:*



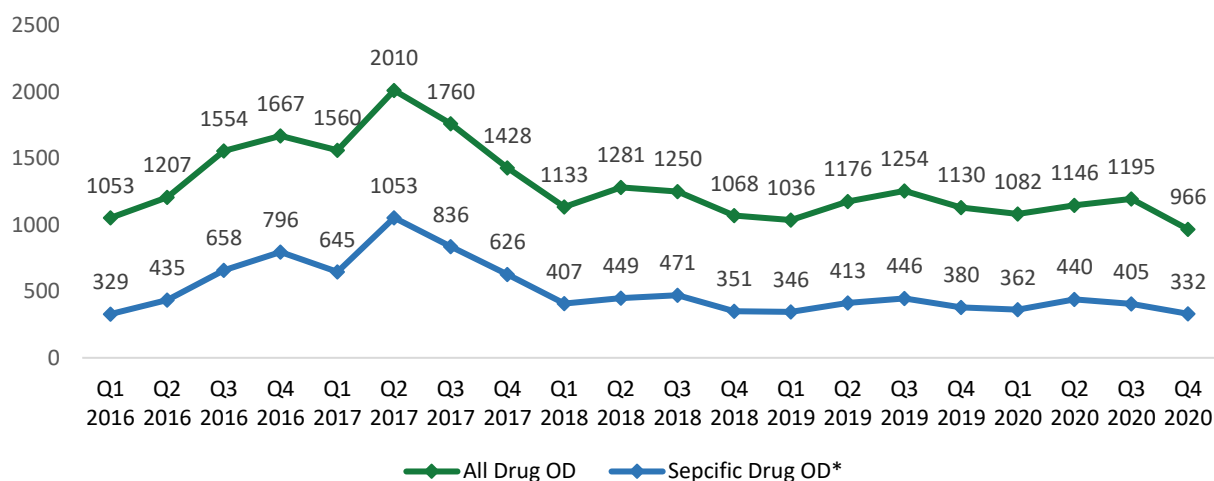
## DRUG OVERDOSE MORBIDITY – TOTAL EMERGENCY DEPARTMENT VISITS

From 2016 to 2020, there were 25,956 emergency department (ED) visits for suspected drug overdoses in Cuyahoga County. Opioids/heroin, or stimulants, were specifically mentioned as the drug type causing overdose in 10,180 (39%) of the visits. The highest total number of ED visits occurred in 2017 with 6,758 suspected drug overdose ED visits; 3,160 of the 6,758 visits were reported as suspected opioid, heroin or stimulant overdoses. From 2017 to 2018 there was a 30% decrease in the number of ED visits for all suspected drug overdoses. After 2018, ED visits slightly declined and in 2019 and 2020 (Figure 10). Quarters two and three of each year (April through September) had the highest volume of ED visits every year studied except 2016 (Figure 11).

**Figure 10: Number of Emergency Department Visits for All Suspected Drug and Specific Drug\* Overdoses, Cuyahoga County 2016-2020**



**Figure 11: ED Visits for All Suspected Drug and Specific Drug\* Overdoses by Quarter, Cuyahoga County 2016-2020**



\*Specific Drug overdose (OD) describes Suspected Drug Overdoses due to opioid/heroin and/or stimulants. It is listed as Specific Drug OD throughout the report and in all figures and graphs.

## DRUG OVERDOSE MORBIDITY – ED VISIT DEMOGRAPHIC AND GEOGRAPHIC ANALYSES

The demographic characteristics of individuals visiting an ED for suspected drug overdoses are shown in Table 12. The highest percentage of drug-related ED visits from 2016-2020 occurred in the 35-49 year old age group accounting for 27% of visits, followed closely by 25-34 year olds, accounting for 26% of visits. Males were more likely to visit the ED for a suspected drug overdose compared to females (58.6% vs 41.4%, respectively). The same trend applied to ED visits for a suspected drug overdose involving specific drugs for males and females (68.9% vs 31.1%, respectively). Whites were more likely to visit the ED for suspected drug overdose compared to Blacks (52.1% vs 27.8%, respectively). The same trend applied to ED visits for a suspected drug overdose involving specific drugs for Whites and Blacks (58.5% vs 18.2%, respectively). The average age of a person visiting an ED for a suspected overdose was 38.2 years while the average age of a person visiting the ED for a suspected overdose involving specific drugs was 39.8 years.

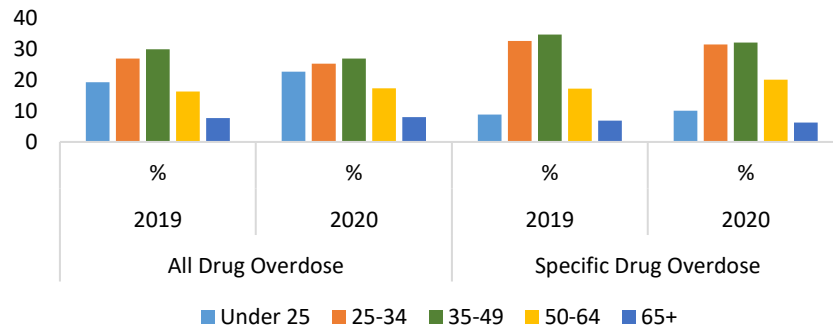
| <b>Table 12: Demographics for ED Visits Due to All Drug Overdose and Specific Drug Overdose, Cuyahoga County 2016-2020</b> |  |              |  |              |
|--|--|--------------|--|--------------|
|  | <b>2016-2020 ED Visits – All Drug Overdose</b> |              | <b>2016-2020 ED Visits – Specific Drug Overdose*</b> |              |
|  | <b>N</b>                                       | <b>(%)</b>   | <b>N</b>   | <b>(%)</b>   |
| <b>Age Group</b>   |  |              |  |              |
| <12  | 1,001  | 3.9          | 66   | 0.7          |
| 12-17  | 1,206  | 4.7          | 71   | 0.7          |
| 18-24  | 3,373  | 13.0         | 987  | 9.7          |
| 25-34  | 6,790  | 26.2         | 3,319  | 32.6         |
| 35-49  | 7,077  | 27.3         | 3,237  | 31.8         |
| 50-64  | 4,572  | 17.6         | 1,976  | 19.4         |
| 65+  | 1,937  | 7.5          | 524  | 5.2          |
| <b>Total</b>   | <b>25,956</b>                                  | <b>100</b>   | <b>10,180</b>  | <b>100</b>   |
| <b>Sex</b>   | <b>N</b>                                       | <b>(%)</b>   | <b>N</b>   | <b>(%)</b>   |
| Male   | 15,224   | 58.6         | 7,011  | 68.9         |
| Female   | 10,732   | 41.4         | 3,169  | 31.1         |
| <b>Total</b>   | <b>25,956</b>                                  | <b>100</b>   | <b>10,180</b>  | <b>100</b>   |
| <b>Race</b>  | <b>N</b>                                       | <b>(%)</b>   | <b>N</b>   | <b>(%)</b>   |
| White  | 13,518   | 52.1         | 5,959  | 58.5         |
| Black  | 7,208  | 27.8         | 1,851  | 18.2         |
| Other  | 1,539  | 5.9          | 635  | 6.2          |
| Unknown  | 3,691  | 14.2         | 1,735  | 17.0         |
| <b>Total</b>   | <b>25,956</b>                                  | <b>100.0</b> | <b>10,180</b>  | <b>100.0</b> |
| <b>Mean and Median Age of ED Visits – All Drug Overdose</b>  |  |              |  |              |
|  | Mean   | 38.2         | Median   | 35.0         |
| <b>Mean and Median Age of ED Visits – Specific Drug Overdose</b>   |  |              |  |              |
|  | Mean   | 39.8         | Median   | 37.0         |

**2019-2020 Demographic Breakdown:** The demographic breakdown of ED visits related to drug overdose and specific drug overdose for 2019 and 2020 show a similar pattern as the aggregate 2016-2020 data (see Figures 12-14). Collectively, the greatest number of drug overdoses occurred among White males, ages 35-49 years.

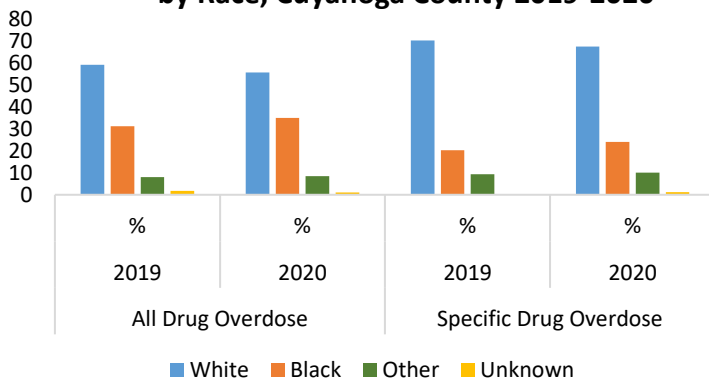
**2019-2020 Demographic Breakdown – All Drug Overdose:** Noted trends for ED visits related to all drug overdose from 2019 to 2020 include: the distribution by age group was relatively stable from 2019 to 2020 except the under 25 age group increased and the 35-39 age group decreased; the proportion of ED visits by White persons decreased while the proportion of ED visits by Black persons increased; the percentages of visits for males and females remained stable from 2019 to 2020.

**2019-2020 Demographic Breakdown – Specific Drug Overdose:** Noted trends for ED visits related to specific drug overdose from 2019 to 2020 include: the 25-34, 35-49 and 65 and up age groups decreased from 2019 to 2020 while the under 25 and 50-64 age groups increased during that time frame; visits among Whites decreased (70.2% vs 67.4%) from while Blacks (20.3% vs 24.0%) and Other races (9.3% vs 10.1%) increased; the percentage of visits for males and females remained stable from 2019 to 2020.

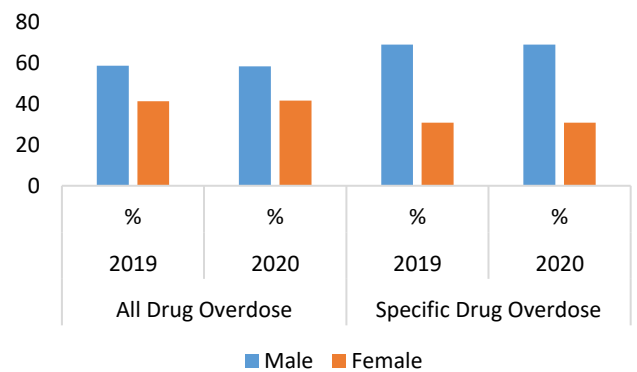
**Figure 12: ED Visits for Overdose by Age, Cuyahoga County 2019-2020**



**Figure 13: ED Visits for Overdose by Race, Cuyahoga County 2019-2020**



**Figure 14: ED Visits for Overdose by Sex, Cuyahoga County 2019-2020**



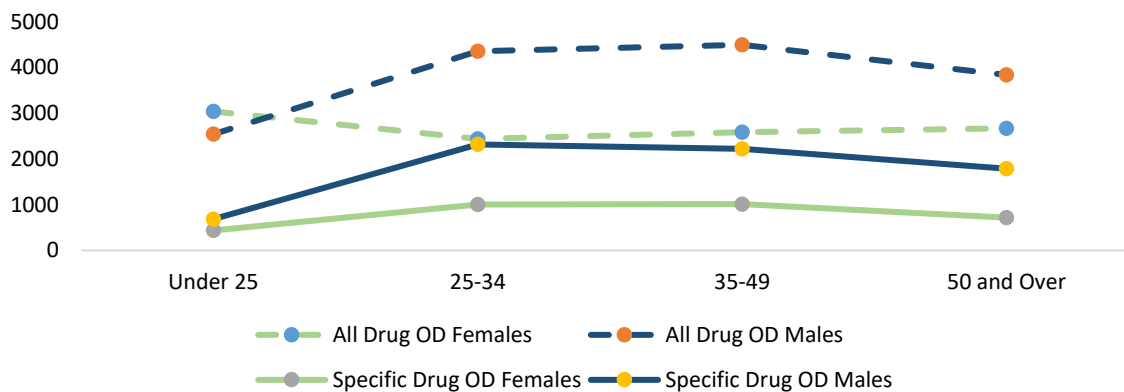


Additional analyses by age, sex and race for 2016-2020 visits to the ED for all suspected drug overdoses and specific drug overdoses are shown in Figures 15-16.

**Sex and Age Breakdown – All Drug Overdose:** Males had a higher number of all drug overdose ED visits than females in all age categories except for the under 25 age group. The 35-49 male age group had the highest number of ED visits followed by the 25-34 male age group (see Figure 15).

**Sex and Age Breakdown – Specific Drug Overdose:** For ED visits due to specific drug overdose, males were higher in all age groups except the under 25 age group. The 25-34 male age group had the highest number of ED visits due to specific drug overdose with 2,317 ED visits. The 25-34 and 35-49 female age groups reported a similar number of ED visits (1,002 and 1,014 respectively), accounting for the highest numbers of ED visits for specific drug overdose for females (see Figure 15).

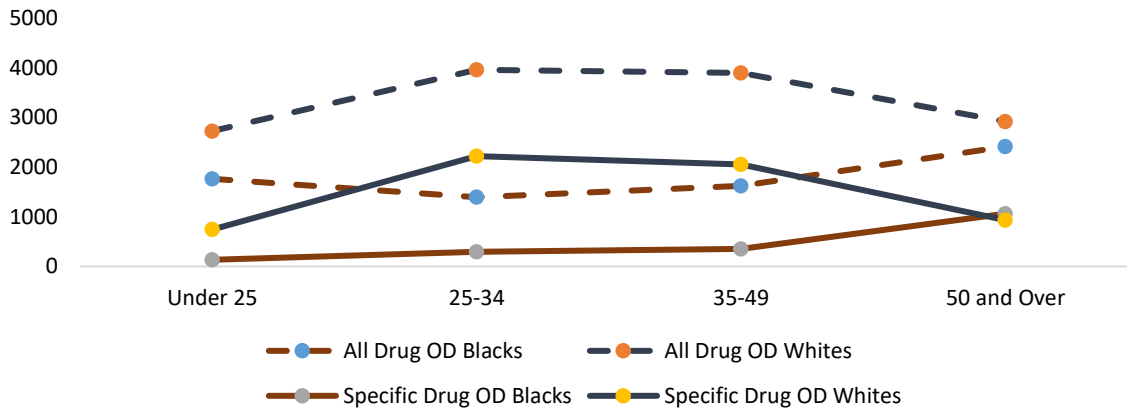
**Figure 15: Number of All Drug and Specific Drug Overdose ED Visits by Age and Sex, Cuyahoga County 2016-2020**



**Race and Age Breakdown – All Drug Overdose:** Whites had a higher number of all drug overdose ED visits than Blacks in all age groups. Whites had the highest number of ED visits due to all drug overdose in the 25-34 age group with 3,965 and the 35-49 age group with 3,903 visits. Blacks had the highest number of ED visits in the 50 and over age group with 2,416 visits followed by the under 25 age group with 1,768 visits (see Figure 16).

**Race and Age Breakdown – Specific Drug Overdose:** Whites had a higher number of specific drug overdose ED visits than Blacks in all age groups except the 50 and over group. Whites had the highest number of ED visits due to specific drug overdose in the 25-34 age group (2,224 visits) and 35-49 age group (2,054 visits). For Blacks, ED visits for specific drug overdose were highest among the 50 and over age group (1,064 visits) and 35-49 age group (354 visits) (see Figure 16).

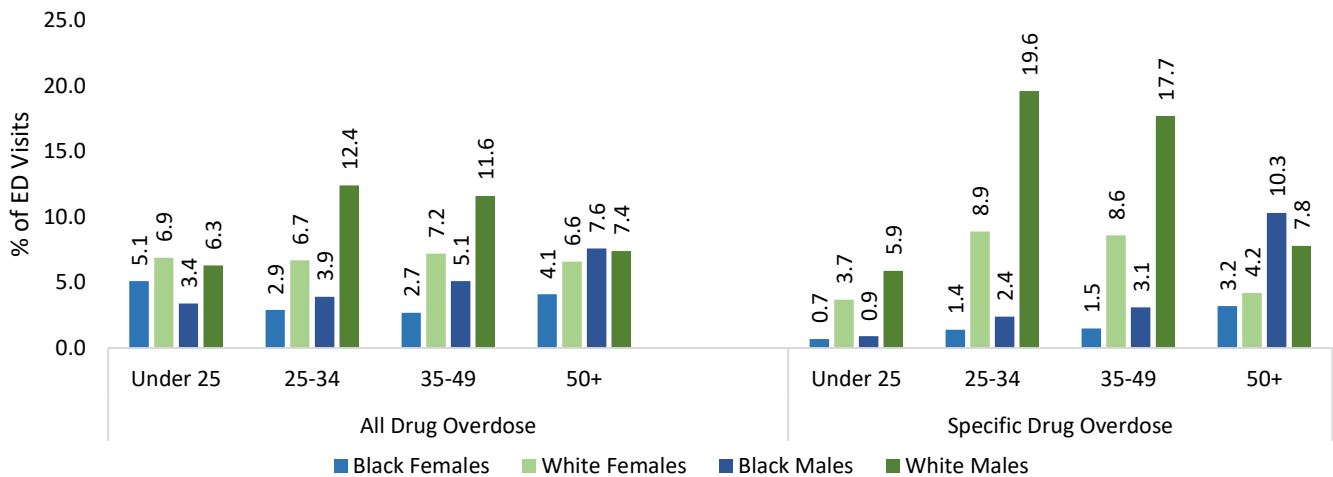
**Figure 16: Number of All Drug and Specific Drug Overdose ED Visits by Age and Race, Cuyahoga County 2016-2020**



**Sex, Age and Race Breakdown – All Drug Overdose:** Figure 17 demonstrates the prevalence of ED visits due to all drug overdose and specific drug overdose in different groups broken out by age, sex and race. White males led age categories 25-34 and 35-49 for highest prevalence of ED visits due to drug overdose. For persons under 25, White females had the highest prevalence of ED visits (6.9%) and for persons 50 and over, Black males had the highest prevalence of ED visits (7.6%). Black females had the lowest prevalence of ED visits for all drug overdose in all age categories other than persons under 25; Black males experienced the lowest prevalence in this group.

**Sex, Age and Race Breakdown – Specific Drug Overdose:** For ED visits due to specific drug overdose, White males had the highest prevalence of ED visits in all age groups except persons 50 and over, which was led by Black males (see Figure 17).

**Figure 17: Percent of ED Visits in Cuyahoga County by Age, Sex and Race, 2016-2020**



**Age-Specific Rates with Sex and Race Breakdown – All Drug Overdose:** Age-specific rates were calculated for ED visits due to all drug overdose in 2016-2020 by age, sex and race. These age-specific rates tell a different story than the prevalence data above. Black females had the highest age-specific rate in the under 25 age group. White males had higher age-specific rates than White females in all age groups. White males had the highest rates in the 25-34 age category. Black males had the highest rate of ED visits for age groups 35-49 and 50 and over, differing from the prevalence data where black males were highest for the 50 and over age category only (see Table 13).

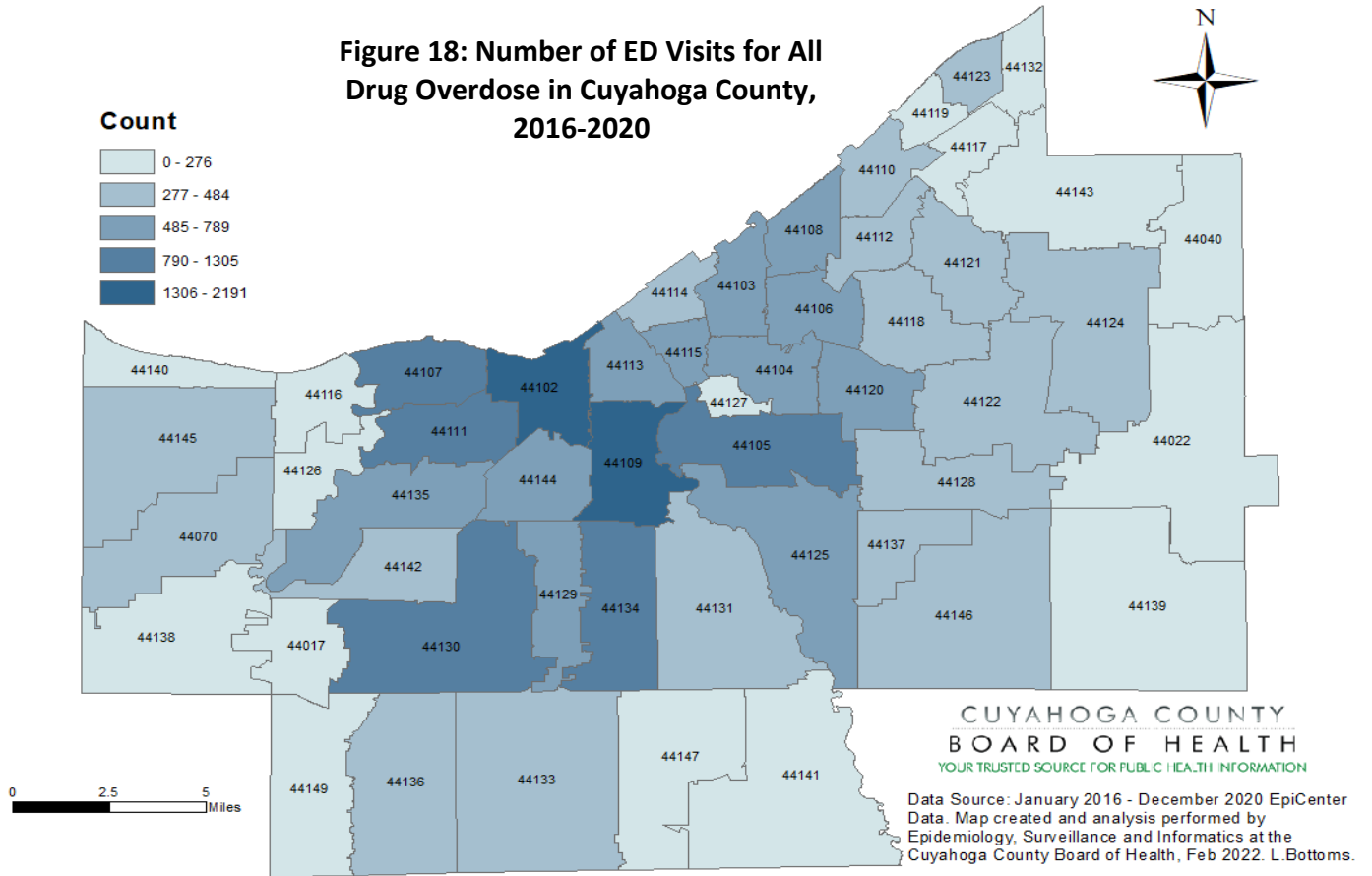
**Age-Specific Rates with Sex and Race Breakdown – Specific Drug Overdose:** Age-specific rates for ED visits due to specific drug overdose in 2016-2020 tell a similar story compared to the prevalence data. White females had higher rates than Black females in all age categories, except for the 50 and over age group. Mirroring the prevalence data, White males had higher rates compared to Black males in all age groups except for the 50 and over age group (see Table 13).

One notable difference between the current data and last year’s rate and prevalence data (reported in our previous DOIEP) is the magnitude of the problem among the 50 and over population. Last year, prevalence data showed only a minor difference between Black and White males in the 50 and over age group. This year, Black males 50 and over had a higher prevalence (10.3% vs 7.8%) and higher rates (49.7 per 100,000 vs 12.2 per 100,000) of ED visits due to specific drug overdose.

| Table 13: Age-Specific Rates for ED Visits for All Drug and Specific Drug Overdose, Cuyahoga County 2016-2020 |                   |               |              |              |                        |               |             |             |
|---|-------------------|---------------|--------------|--------------|------------------------|---------------|-------------|-------------|
|   | All Drug Overdose |               |              |              | Specific Drug Overdose |               |             |             |
|   | Black Females     | White Females | Black Males  | White Males  | Black Females          | White Females | Black Males | White Males |
| Under 25  | <b>102.5</b>      | 94.5          | 68.9         | 82.0         | 5.8                    | 18.9          | 7.4         | <b>29.0</b> |
| 25-34   | 62.9              | 77.4          | 110.5        | <b>141.1</b> | 11.6                   | 38.8          | 25.9        | <b>83.7</b> |
| 35-49   | 64.9              | 85.0          | <b>155.8</b> | 138.0        | 13.2                   | 37.9          | 35.1        | <b>79.6</b> |
| 50 and Over   | 37.5              | 22.7          | <b>96.44</b> | 30.8         | 11.3                   | 5.4           | <b>49.7</b> | 12.2        |

Rates per 100,000 population

**Geographic Analysis:** Figure 18 shows a geographical analysis of EpiCenter data presenting the number of ED visits due to all drug overdose by ZIP Code for 2016-2020. The Cuyahoga County ZIP Codes with the highest number of ED visits due to all drug overdose were 44109 and 44102.



**Table 14:  
Top 10 Zip Codes for ED Visits, 2016-2020**

| All Drug  | Specific Drug |
|-----------|---------------|
| 1. 44109  | 1. 44109      |
| 2. 44102  | 2. 44102      |
| 3. 44111  | 3. 44111      |
| 4. 44105  | 4. 44105      |
| 5. 44107  | 5. 44107      |
| 6. 44130  | 6. 44134      |
| 7. 44134  | 7. 44135      |
| 8. 44135  | 8. 44125      |
| 9. 44129  | 9. 44129      |
| 10. 44125 | 10. 44130     |

Table 14 shows the top 10 ZIP Codes for ED visits related to all drug and specific drug overdoses. Although the top five ZIP Codes were the same across all drug and specific drug overdoses, the last five ZIP Codes differ in order.

**2021 At-A-Glance and Epi-Alerts:** Fewer ED visits related to drug overdose occurred in 2021 compared to 2020 in Cuyahoga County based on preliminary data (see Table 15). In 2021 there were 4,188 ED visits for all drug overdose and of those visits, 1,290 (30.8%) were categorized as specific drug overdose. Trends by age, sex and race in 2021 preliminary data are similar to those observed in 2020 data. Collectively, White males, ages 35-49 reported the highest number of ED visits for all suspected drug overdose and drug overdose due to specific drug.

| <b>Table 15: Number of ED Visits: 2020 and 2021</b> |          |       |               |       |
|---|----------|-------|---------------|-------|
|   | All Drug |       | Specific Drug |       |
|   | 2020     | 2021* | 2020          | 2021* |
| January   | 361      | 316   | 116           | 109   |
| February  | 373      | 334   | 127           | 102   |
| March   | 348      | 383   | 119           | 131   |
| April   | 326      | 336   | 127           | 112   |
| May   | 403      | 409   | 164           | 123   |
| June  | 417      | 322   | 149           | 96    |
| July  | 359      | 376   | 126           | 120   |
| August  | 445      | 383   | 160           | 105   |
| September   | 391      | 356   | 119           | 93    |
| October   | 344      | 356   | 120           | 111   |
| November  | 325      | 309   | 105           | 96    |
| December  | 297      | 308   | 107           | 92    |
| Total   | 4,389    | 4,188 | 1,539         | 1,290 |

\*2021 data are preliminary and subject to change

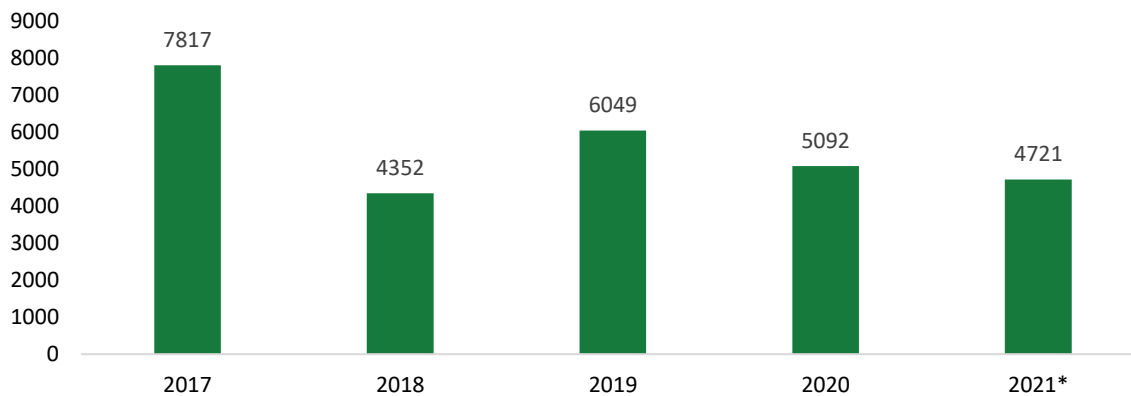
Lastly, the number of Epi-Alerts nearly doubled in 2020 compared to 2019 (see Table 16). From 2016 to 2019, there was an average of 3-4 Epi-Alerts each year. Epi-Alerts are administered when there is a spike in the number of ED visits for suspected drug overdoses. A spike occurs when the number of ED visits is greater than expected by four standard deviations in a 24-hour period. Epi-Alerts were not administered in the first three quarters of 2021 due to data system transitions by the Ohio Department of Health (ODH). In quarter four only one alert occurred (11/8/2021). This alert matched with an overdose death alert administered from the Cuyahoga County Medical Examiner’s Office (CCMEO).

| <b>Table 16: Epi-Alerts Administered due to Suspected Drug Overdose, 2019-2020</b> |          |           |           |           |           |            |
|--|----------|-----------|-----------|-----------|-----------|------------|
| <b>2019</b>  |          |           |           |           |           |            |
| 2/13/2019  | 4/8/2019 | 7/11/2019 | 8/31/2019 | --        | --        | --         |
| <b>2020</b>  |          |           |           |           |           |            |
| 1/15/2020  | 2/1/2020 | 4/1/2020  | 6/8/2020  | 7/25/2020 | 7/29/2020 | 12/19/2020 |

## DATA OVERDOSE MORBIDITY – EMERGENCY MEDICAL SERVICES NALOXONE ADMINISTRATION

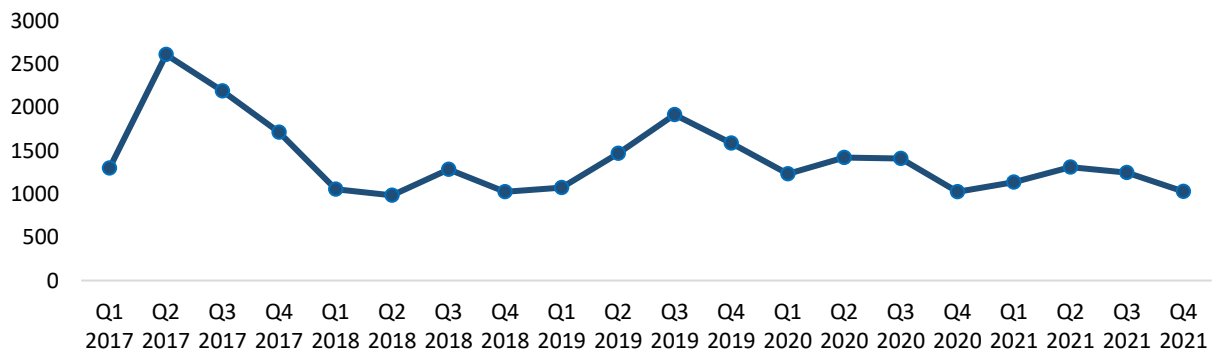
Between 2017 and 2021, there were 28,031 doses of naloxone administered by EMS providers in Cuyahoga County as reported by EMSIRS. The highest total naloxone doses administered occurred in 2017 with 7,817 doses (see Figure 19). From 2017 to 2018, there was a 44.3% decrease in the number of naloxone administrations, followed by a 39% increase in 2019. The number of naloxone administrations in 2020 and 2021 have slightly decreased since 2019. Naloxone administrations by quarter from 2017-2021 are shown in Figure 20.

**Figure 19: EMS Naloxone Administrations in Cuyahoga County, 2017-2021\***



\*2021 data are preliminary and subject to change

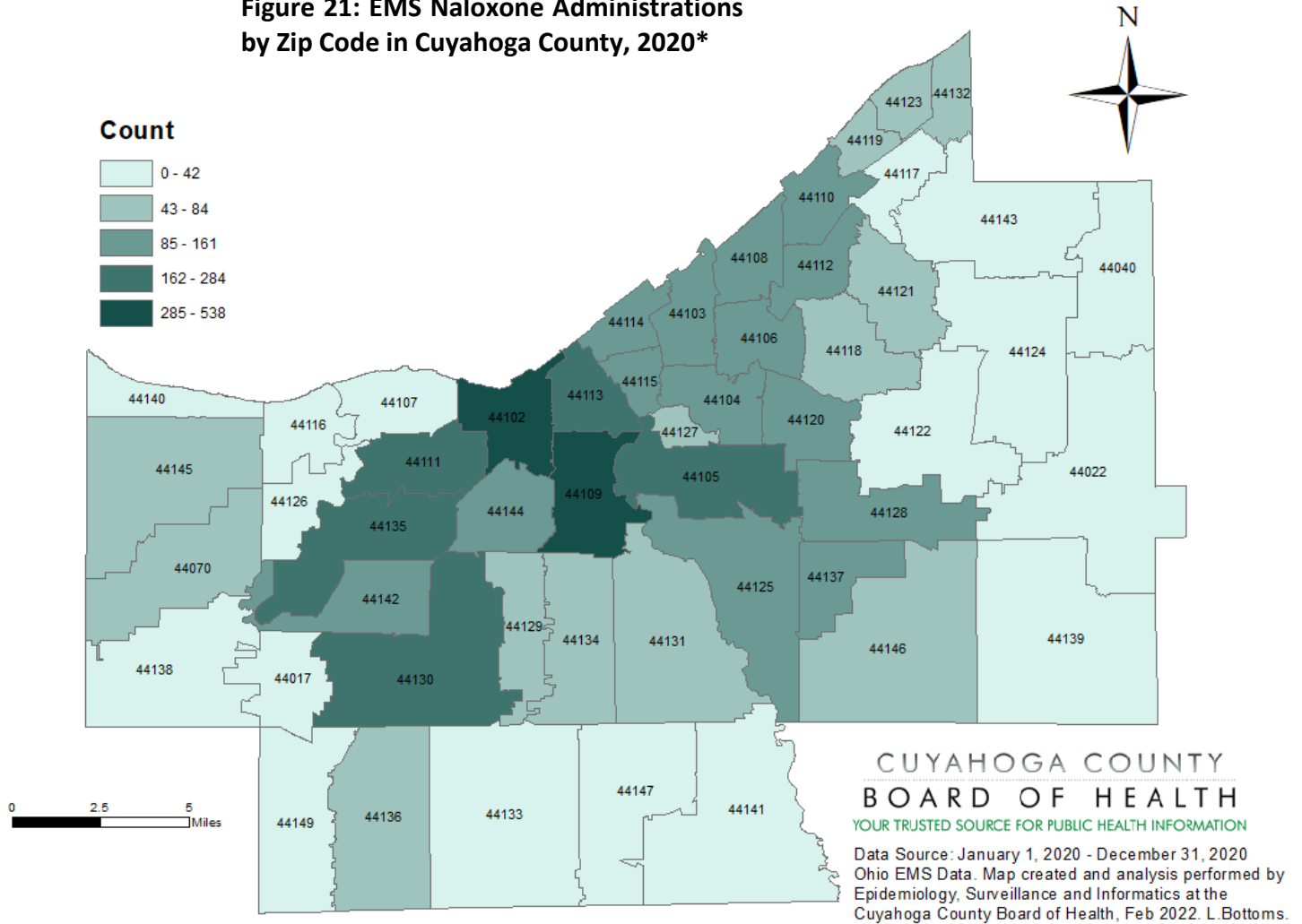
**Figure 20: EMS Naloxone Administrations by Quarter in Cuyahoga County, 2017-2021\***



\*2021 data are preliminary and subject to change

Figure 21 represents a geographical analysis of EMS data showing the number of naloxone administrations by resident ZIP Code in Cuyahoga County. In 2020, the areas with the highest number of naloxone administrations were in the following ZIP Codes: 44109, 44102, 44105, 44111 and 44130. These ZIP Codes had 200 or more naloxone administrations, with the highest being over 535 administrations in 44109. Compared to 2020, ZIP Code 44130 moved into the top five and 44135 dropped out of the top five.

**Figure 21: EMS Naloxone Administrations by Zip Code in Cuyahoga County, 2020\***



\*Not all EMS agencies report to EMSIRS. The accuracy of data reported to EMSIRS is limited by the number of individual EMS agencies submitting data and the accuracy of these submissions

Table 17 reflects a comparison between the number of doses of naloxone administered by EMS agencies throughout Cuyahoga County and the number of EMS naloxone-related incidents in 2019, 2020, and 2021. The total number of doses administered during this period was 16,061. The total number of events in which naloxone was administered was 8,069. The average number of doses per event was 1.99 doses.

**Table 17: Number of Naloxone Doses Administered by EMS and Number of EMS Naloxone-related Incidents**

|                                  | 2019        |             |             |             | 2020        |             |             |             | 2021*       |            |             |             |
|----------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------------|-------------|-------------|
|                                  | Q1          | Q2          | Q3          | Q4          | Q1          | Q2          | Q3          | Q4          | Q1          | Q2         | Q3          | Q4          |
| Naloxone Doses, EMS              | 1,072       | 1,916       | 1,583       | 1,583       | 1,229       | 1,420       | 1,407       | 1,023       | 1,137       | 1,309      | 1,246       | 1,136       |
| Naloxone Events, EMS             | 543         | 731         | 907         | 743         | 587         | 754         | 732         | 547         | 593         | 655        | 665         | 612         |
| Average Naloxone Doses per Event | <b>1.97</b> | <b>2.62</b> | <b>1.75</b> | <b>2.13</b> | <b>2.09</b> | <b>1.88</b> | <b>1.92</b> | <b>1.87</b> | <b>1.92</b> | <b>2.0</b> | <b>1.87</b> | <b>1.86</b> |

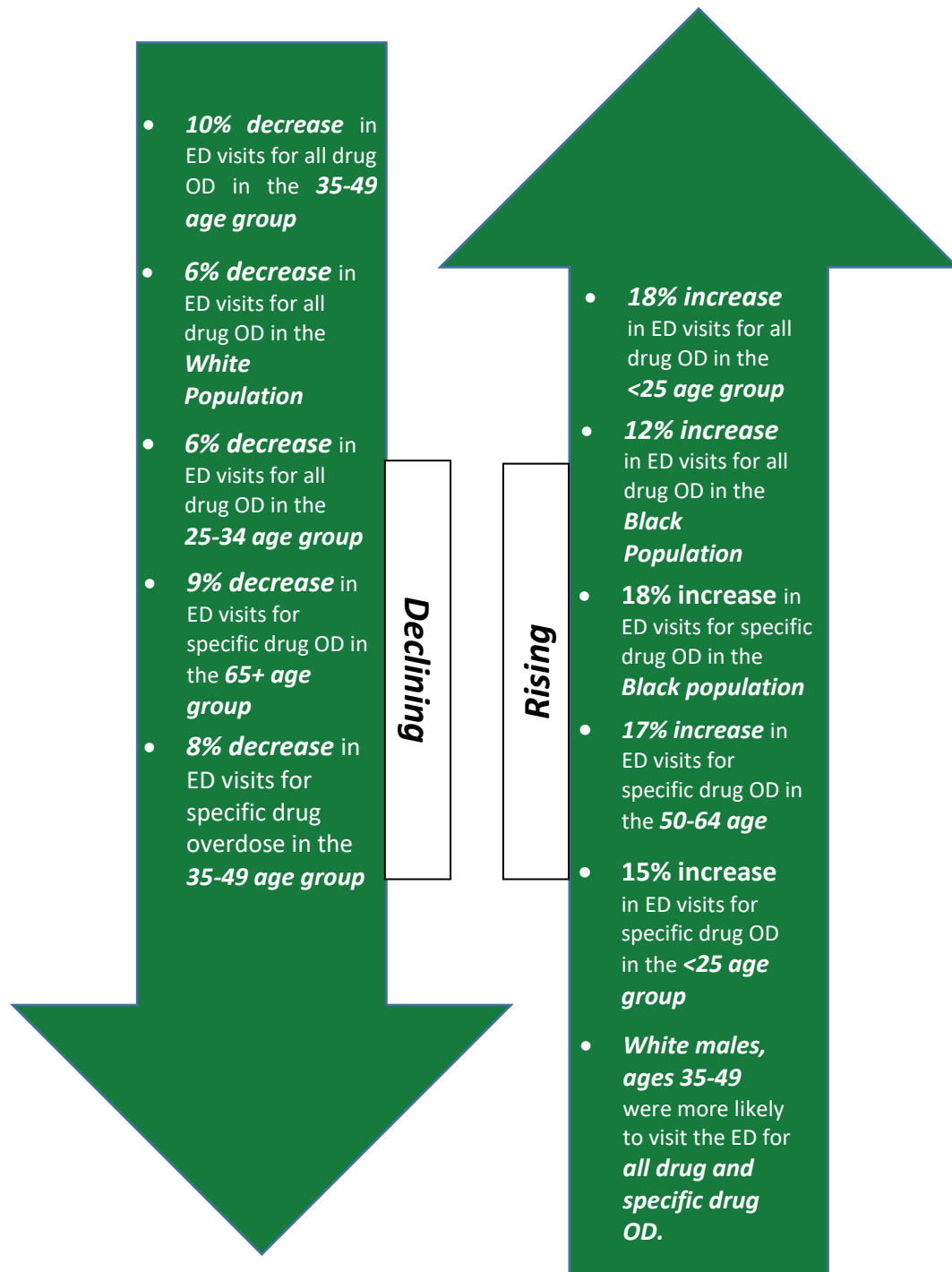
\*2021 data are preliminary and subject to change



## DRUG OVERDOSE MORBIDITY – SUMMARY

Based on the morbidity data presented above, there are specific sub-populations to prioritize for prevention efforts:

### *From 2019 to 2020:*



## DRUG OVERDOSE MORBIDITY – SUMMARY CONTINUED

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- ❖ Rate-specific data showed a difference between older and younger age groups for visits to the ED due to all drug overdose:
  - Black females had the highest age-specific rates in the under 25 age group. In the previous DOIEP, White males had the highest age-specific rate for this age group. Black females had higher age-specific rates in the under 25 and 50 and over age groups while White females had higher age-specific rates in the 25-34 and 35-49 groups.
  - White males had the highest age-specific rates in the 25-34 age group and Black males had the highest age-specific rates in the 35-49 and 50 and over age groups. Last report, White males had the higher age-specific rate in the 35-49 age group.
- ❖ A similar pattern was seen in ED visits due to specific drug overdose:
  - White females and males had higher age-specific rates in the under 50 age groups while Black females and males had higher age-specific rates in the 50 and over age group for ED visits.
- ❖ Analyses showed specific geographic areas of concern. The city of Cleveland has high numbers of ED visits due to drug overdose.
  - Specific ZIP Codes of concern are: 44109, 44102, 44111, 44105 and 44107. The ZIP Codes of concern from last report differed slightly: 44109, 44102, 44111, 44107, and 44130.
- ❖ EMS naloxone administration data parallels ED visit data in terms of annual and quarterly trends. The number of naloxone doses administered by EMS peaked in 2017, dropped in 2018, increased again in 2019 and then decreased in 2020; ED visits followed this same pattern. The highest number of ED visits for suspected drug overdose and naloxone doses administered by EMS both occurred in 44109 and 44102 ZIP Codes.

## FINAL THOUGHTS

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This Integrated Epidemiologic Profile provides guidance for drug overdose prevention and control efforts by combining multiple data sources and identifying populations most affected by the drug overdose in Cuyahoga County. Recent trends show that males were consistently more likely to die from an UDOD and visit the ED for a suspected drug overdose than females. In 2020, non-Hispanic Black males had the highest rate of UDODs. There was a 32% increase in total number of UDODs in the Hispanic community from 2019 to 2020. Vitals data also showed that 82% of all UDODs involved fentanyl and/or fentanyl analogues. ED data suggested that targeted interventions may best be suited for older Black males and females 50 and older; and middle age/younger White males and females under 50.

Naloxone distribution is one of many major resources that is used to combat opioid overdose-related deaths in Cuyahoga County. Geographic analyses of Vital Statistics, EpiCenter, and EMS naloxone administration data were able to be conducted. Top ZIP Codes in EpiCenter ED visit data and EMS naloxone administration data were similar (e.g., 44109, 44102, 44111). However, when comparing where people were living at the time of their ED visit for suspected drug overdose and where naloxone administrations were occurring, data showed that some adjustment in naloxone resources availability could be beneficial. For example, ZIP Codes 44134, 44107 and 44125 were in the top 10 for suspected drug overdose, but naloxone administrations were relatively low in those areas. When comparing morbidity data (EpiCenter and EMS) to mortality data (Vital Statistics), there were a few differences. The top ZIP Codes for rate of UDOD by residence were: 44127, 44109, 44102, 44135, and 44111. Of these, the 44127 ZIP Code (Slavic Village and North Broadway areas) was one where number of ED visits and number of naloxone administrations were very low, but rate of UDODs was very high. ZIP Code 44114 (Downtown Cleveland) was another that made the top 10 for rate of UDODs, but the number of ED visits and naloxone administrations were low. Based on these findings, harm reduction resources could be increased in these areas for improved prevention. We hope that this comprehensive report drives further discussion and direction to identify and assist populations at risk for drug overdoses.

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