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WAKE COUNTY

Drug Overdose Integrated Epidemiologic Profile



Public Health



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TABLE OF CONTENTS

1.0	Contributors and Suggested Citation.....	3
2.0	Overview	5
3.0	Executive Summary.....	5
4.0	Data Sources.....	8
5.0	Strengths and Limitations	9
6.0	Geographical Composition and Demographic Profile of General Population, Wake County, NC.....	10
7.0	Drug Overdose Mortality-Total Deaths	17
8.0	Drug Overdose Mortality-Demographics and Geographical Analyses.....	20
9.0	Drug Overdose Mortality-Drug Types.....	23
9.1	Emerging Substance: Nitazenes.....	27
10.0	Drug Overdose Morbidity-Total Emergency Department Visits	28
11.0	Drug Overdose Morbidity-Emergency Department Visit Demographics and Geographical Analyses	29
12.0	In Conclusion	34
13.0	References	35

2.0 OVERVIEW

In 2022, an average of 296 people died from drug overdoses each day in the United States (U.S.).¹¹ Both fatal and nonfatal overdoses continue to affect individuals, families, and communities—locally and nationally. This report presents overdose counts and rates, with separate data on deaths and nonfatal incidents. Behind each number is a real person, and the ripple effects of substance use extend far beyond the individual to their loved ones and support networks.

The 2024 Wake County Drug Overdose Integrated Epidemiologic Profile describes the burden of the drug overdose crisis on the population of Wake County in terms of socio-demographic and geographic characteristics of people experiencing drug overdoses. The profile represents a data-driven resource for local level partners and community members to understand current drug overdose trends, patterns, and possible risk factors in Wake County.

Goals of this Drug Overdose Integrated Epidemiologic Profile:

- Describe the socio-demographic characteristics of the general population in Wake County for comparison to overdose statistics,
- Use data to provide a thorough description of drug overdose morbidity and mortality among various populations (age, race, sex, ZIP Code, etc.) in Wake County, and
- Provide insights for overdose prevention.

3.0 EXECUTIVE SUMMARY

The number of drug overdose deaths in the U.S. in 2023 was 3.5 times higher than in 2003, although drug overdose deaths decreased by 3% between 2022 (107,941 deaths) and 2023 (105,007 deaths).¹ In North Carolina, more than 41,500 individuals have lost their lives to overdoses between 2000 and 2023.² In Wake County, there were more than 1,800 overdose deaths from 2010 to 2023, with the annual deaths slightly decreasing from 2022 (241) to 2023 (233).² Plateauing increases were seen at the state level, and national levels slightly decreased during the same period as well.²

Opioids are a class of drugs that include the illegal drug heroin, synthetic opioids such as fentanyl, and pain relievers available legally by prescription, such as oxycodone (OxyContin®), hydrocodone (Vicodin®), codeine, morphine, and many others.

The increase in overall drug overdose deaths is driven by opioids and other substances mixed or cut with opioids. This is demonstrated in the three waves of the opioid epidemic. The first wave of deaths from the opioid epidemic began in the late 1990s when there was a rise in prescription opioid overdose deaths.¹ The second started around 2010 with a rise in heroin-specific overdose deaths, and the third wave only a few years later around 2013 with a rise in synthetic opioid overdose deaths.¹ At the national and state levels, there is evidence of a fourth wave starting around 2018, where rates of overdose deaths rose and then stayed at elevated levels through 2022.

Similar to national trends, drug overdose deaths (including non-opioid substances) in Wake County increased from 28 deaths in 2000 to 233 deaths in 2023. Nationally, between 2022 and 2023, a 3% decrease in overdose deaths was observed.⁹ Further decreases are expected for 2024 at the state and national levels once the deaths have been fully investigated and finalized.



More than 41,500 North Carolinians lost their lives to drug overdoses between 2000 and 2023.²

Substance use disorder (SUD), recognized as a medical condition, affects the brain and changes behavior.³ It involves some pattern of regular or compulsive substance use. Addiction is the result of psychological or physiological dependence on that use. There is not one single driving factor that leads to addiction; it is a confluence of many factors and anyone can have substance use disorder.³ In 2022, more than one in six Americans aged 12 or older reported experiencing a SUD.³



There were more than 1,800 drug overdose deaths in Wake County between 2010 and 2023.

According to the U.S. Census Bureau estimates, there were 1,190,275 residents of Wake County as of July 2023. This shows a growth of 30% in Wake County residents since the 2010 Census (population as of the 2010 count was 900,993). Based on 2023 estimates, approximately 61% of the county population are under the age of 45 and approximately 55% are between the ages of 25 and 64. 51% of the population is female. Additionally, Wake County is 56% Non-Hispanic White, 18.6% Non-Hispanic Black, and 11.5% Hispanic. Other races and mixed-race are included in Table 2 of this report. Tables 3-7 provide additional information on the sociodemographic composition of Wake County residents including marital status, education level, socioeconomic status, employment status, and health insurance coverage, all of which can be risk factors for substance use and drug overdoses.

The risk of an opioid overdose for individuals using cocaine, methamphetamine, or other non-opioid illicit substances in the 1990s and early 2000s would have been minimal. The risk of overdose during the current wave of the opioid epidemic is much higher due to a rise in synthetic opioids such as fentanyl, and non-opiates such as cocaine now being “cut” (diluted or mixed) with fentanyl without the user knowing.

Fentanyl was originally created to legally manage pain from cancer. It entered the illicit drug market because it was cheaper than heroin for dealers and gave their product a higher potency. It is now being mixed in at a broader distribution level. Now, illicit fentanyl looks like other drugs when in powder form. It is commonly mixed with drugs such as heroin, cocaine, and methamphetamine and molded into pills that are made to resemble other prescription opioids. Fentanyl is up to 50 times stronger than heroin and 100 times stronger than morphine.⁴ Synthetic opioids like fentanyl contribute to nearly 70% of overdose deaths.⁴ In 2022, The U.S. Drug Enforcement Administration (DEA) found that approximately 6 out of 10 pills seized by the DEA were laced with a potentially fatal dose of fentanyl.⁵ This is why “one pill can kill” in the current drug market.⁵ Overdose deaths of Wake County residents that included fentanyl had a rate of 10.8 per 100,000 population in 2023, which was slightly lower than the peak in 2021 but higher than the rate of 7.1 per 100,000 in 2019.

4.0 DATA SOURCES

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, 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 profile, 2023 American Community Survey (ACS) (Census Bureau) estimates are used.

North Carolina Disease Event Tracking and Epidemiologic Collection Tool (NC DETECT)

This profile uses emergency department (ED) data from NC DETECT. NC DETECT is North Carolina's statewide syndromic surveillance system. It was created by the North Carolina Division of Public Health (NC DPH) in 2004 in collaboration with the Carolina Center for Health Informatics (CCHI) in the UNC Department of Emergency Medicine to address the need for early event detection and timely public health surveillance in North Carolina using a variety of secondary data sources.

Authorized users are currently able to view data from emergency departments, North Carolina Poison Control, and emergency medical services (data from Fall 2024 and onward), as well as pilot data from select urgent care centers. NC DETECT is designed, developed, and maintained by CCHI staff with funding by the NC DPH. New functionality is added regularly based on end user feedback. This report includes 5-year trend (2020–2024) ED data.

North Carolina Department of Health and Human Services (NCDHHS) Opioid and Substance Use Action Plan

To address the overdose crisis, the NCDHHS worked with community partners to develop North Carolina's Opioid and Substance Use Action Plan. From that collaboration, the Opioid and Substance Use Action Plan interactive data dashboard was built. The data dashboard provides integration and visualization of state, regional, and county-level metrics for partners across North Carolina to track progress toward reaching the goals outlined in the plan.

NCDHHS Injury and Violence Prevention Branch

The NCDHHS Injury and Violence Prevention Branch website includes statewide summary data, a link to the Opioid and Substance Use Action Plan Data Dashboard, monthly data updates, and county-level data. This branch of NCDHHS also provides data for drug overdoses, along with other injuries, by customizable requests. Some of the overdose death data for Wake County, particularly broken up by demographic categories, were provided through requests made to the Injury and Violence Prevention Branch in 2024 and the first quarter of 2025.

5.0 STRENGTHS AND LIMITATIONS

The 2024 Wake County Drug Overdose Integrated Epidemiologic Profile 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. Data from the North Carolina Overdose Epidemic Data interactive dashboard include many data points that can be compared with other counties and to statewide rates. NC DETECT data are near real-time data from Wake County emergency departments that are updated daily and can demonstrate trends in non-fatal overdoses.

The NCDHHS Injury and Violence Prevention Branch website has additional data available for all counties and statewide and can provide specific data for Wake County upon request by the WCHHS Epidemiology Program. Overdose data provided by the Branch and through the Overdose and Substance Use Action Plan data dashboard include information and trends by demographic categories including biological sex, age, race, and ethnicity.

While there are many strengths in the data sources that are included in this profile, some limitations must be acknowledged. There is a significant delay in the reporting and finalization of death data in North Carolina. Due to this delay, the death data in this report is through 2023, as 2024 data have not been finalized. NC DETECT data are de-identified to some degree, resulting in classifiers not capturing all overdoses. Additionally, non-standard reporting across hospital systems can make this data hard for the system to interpret.

Finally, EMS data reporting into NC DETECT was interrupted from July 2023 to December 2024, and data are missing for this time period. EMS data are not included in this year's report.

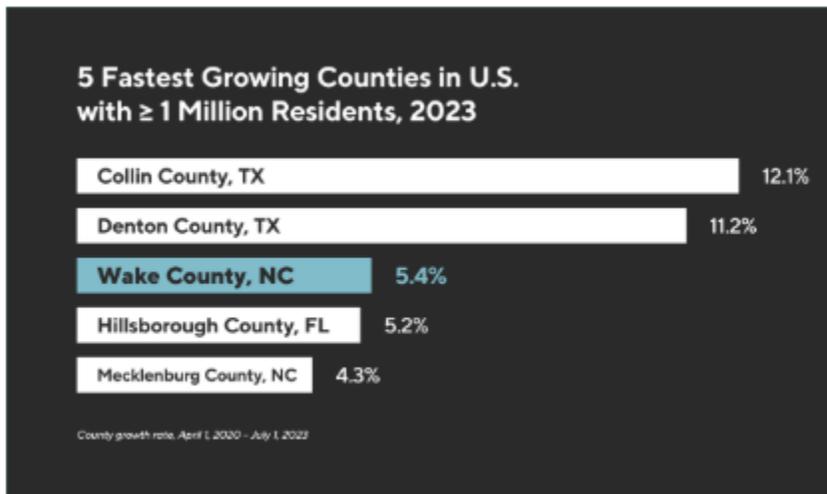
6.0 GEOGRAPHICAL COMPOSITION AND DEMOGRAPHIC PROFILE OF GENERAL POPULATION, WAKE COUNTY, N.C.

Figure 1. Geographical Location of Wake County, N.C.



Wake County, with a population of over 1 million, is growing more than twice as fast as the rest of North Carolina, adding approximately 51 new residents per day and 225,000 over the past decade. A significant portion of this growth is attributed to an aging population, as U.S. Census Bureau estimates from April 2020 to July 2022 show that 48% of new residents were 55 and older.¹⁰

Figure 2. The Five Fastest Growing Counties in the United States with 1 million or Greater Residents, 2023



Demographic Profile

In 2023, the median age of people living in Wake County was 37.7 years. More than half of the population (55.2%) in Wake County is between the ages of 25 and 64 years. Nearly one third of the population (31.4%) is younger than 25 years old and about 13.4% of the population is 65 years and older. The female to male ratio in Wake County is 100:95.9.

Table 1: Population Distribution by Age Group and Sex, Wake County, NC 2023

Age Group	Males N = 582,915	%	Females N = 607,360	%	Total Population N = 1,190,275	%
<15	112,425	19.3%	108,018	17.8%	220,443	18.5%
15-24	77,045	13.3%	76,174	12.5%	153,219	12.9%
25-34	84,682	14.5%	87,984	14.5%	172,666	14.5%
35-44	88,507	15.1%	91,748	15.1%	180,255	15.1%
45-54	82,851	14.2%	83,786	13.8%	166,637	14.0%
55-64	67,293	11.5%	70,523	11.6%	137,816	11.6%
65+	70,112	12.0%	89,127	14.6%	159,239	13.4%

Source: 2023 American Community Survey 1-Year Estimates, United States Census Bureau

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

The four largest ethnic groups in Wake County are White (Non-Hispanic, single race) (56.0%), Black or African American (Non-Hispanic, single race) (18.6%), Hispanic or Latino (11.5%) and Asian (Non-Hispanic, single race) (8.8%) (Table 2).

Table 2: Population Distribution by Race and Ethnicity, Wake County, NC 2023

Race and Ethnicity	Total Population *1,190,275	%
Hispanic or Latino	137,414	11.5%
White Non-Hispanic, single race	666,121	56.0%
Black or African American Non-Hispanic, single race	221,946	18.6%
American Indian/Alaska Native Non-Hispanic, single race	2,633	0.2%
Asian Non-Hispanic, single race	104,741	8.8%
Native Hawaiian and Other Pacific Islander Non-Hispanic, single race	361	0.0%
Two or more races Non-Hispanic	48,794	4.1%

Source: 2023 American Community Survey 1-Year 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 current table.

Poverty, Income and Education

In 2023, the median household income for Wake County was \$102,918 compared to \$70,804 for North Carolina. About 7.1% of the Wake County population lived below the federal poverty level, compared to 12.8% for the state (Table 3).

More than half (58.8%) of the population aged 25 years and older in Wake County has a bachelor’s degree or higher. While 13.3% of the population has a high school diploma/GED, only 5.9% of population reported having an education less than high school (Table 4).

Table 3: Socioeconomic Characteristics of Population, Wake County and North Carolina, 2023

Characteristics	Wake County	North Carolina
Median household income	\$102,918	\$70,804
Average per capita income	\$54,866	\$40,414
Below Federal Poverty Level		
Individual	7.1%	12.8%
Male	6.4%	11.5%
Female	7.7%	14.0%
Below Federal Poverty Level by Age Group		
<18	7.6%	17.6%
18-64	6.6%	11.6%
>=65	8.5%	10.9%
Below Federal Poverty Level by Race and Ethnicity		
Hispanic or Latino	10.3%	19.1%
White Non-Hispanic, single race	5.1%	9.3%
Black or African American Non-Hispanic, single race	10.9%	19.4%
American Indian/Alaska Native Non-Hispanic, single race	N	24.7%
Asian Non-Hispanic, single race	6.2%	10.3%
Native Hawaiian and Other Pacific Islander Non-Hispanic, single race	N	19.6%
Two or more races Non-Hispanic	6.9%	14.6%

Table 4: Educational Status of the Population (Age ≥25 Years), Wake County, NC 2023

Education	Males N= 393,445	%	Females N= 423,168	%	Total Population N= 816,613	%
Less than High School	25,752	6.5%	22,525	5.3%	48,277	5.9%
High School Diploma/ GED	53,390	13.6%	55,175	13.0%	108,565	13.3%
Some College, no degree	56,856	14.5%	63,095	14.9%	119,951	14.7%
Associate's degree	22,354	5.7%	36,982	8.7%	59,336	7.3%
Bachelor's degree	138,138	35.1%	148,887	35.2%	287,025	35.1%
Graduate or Professional degree	96,955	24.6%	96,504	22.8%	193,459	23.7%

Source for Tables 3 and 4: 2023 American Community Survey 1-Year Estimates, United States Census Bureau

N= The estimate cannot be displayed because there were an insufficient number of sample cases in the selected geographic area.

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

Marital Status, Employment, and Healthcare Coverage

Table 5 shows marital status information by sex of residents 15 years of age and older in Wake County. More than half (52.8%) of the population reported being married. Additionally, 11.4% of females and 6.4% of males reported being divorced, while 33.4% of the population have never been married, and 3.8% of the population (mostly females) reported being widowed.

Table 6 provides information on the employment status of the civilian labor force of individuals 16 years old and older in Wake County and North Carolina. The civilian labor force, or currently active workforce, is defined as all civilian noninstitutionalized residents who fulfil the requirements for inclusion among the employed or the unemployed. The employed of Wake County (67.9%) are defined as those who work for pay or profit 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 (3.4%) are defined as people without work who are actively seeking a job and currently available to start work.⁸

Table 7 shows the percentage of the Wake County population covered by health insurance compared to the state. More than half (66.9%) of the population has insurance through their employer, 13.5% of the population has Medicare and 11.0% is covered by Medicaid. Additionally, 6.7% reported being uninsured.

Table 5: Marital Status of the Population (Age ≥ 15 years), Wake County, NC 2023

Marital Status (> 15 years)	Males N = 470,490	%	Females N = 499,342	%	Total Population N = 969,832	%
Married	262,807	55.9%	249,032	49.9%	511,839	52.8%
Widowed	8,354	1.8%	28,251	5.7%	36,605	3.8%
Divorced	30,100	6.4%	56,814	11.4%	86,914	9.0%
Never Married	164,590	35.0%	159,244	31.9%	323,834	33.4%

Source: 2023 American Community Survey 1- Year Estimates, United States Census Bureau

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

*Totals include marital status: separated, which is not shown in the current table.

Table 6: Employment Status of the Population (Age ≥ 16 years), Wake County and North Carolina 2023

Employment Status	Wake County		North Carolina	
	Total	%	Total	%
In Labor Force	670,990	70.5%	5,555,824	63.2%
Employed	646,091	67.9%	5,230,146	59.5%
Unemployed	22,714	3.4%	219,760	4.0%

Table 7: Healthcare Coverage in Wake County and North Carolina, 2023

Health Insurance Coverage	Wake County (%)	North Carolina (%)
Employer	66.9%	52.5%
Individual	NSD	NSD
Medicaid	11.0%	19.1%
Medicare	13.5%	19.4%
Military/VA	2.0%	2.9%
Uninsured	6.7%	9.2%

Source for Tables 6 and 7: 2023 American Community Survey 1-Year Estimates, United States Census Bureau

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

NSD = No Statistical Data

7.0 DRUG OVERDOSE MORTALITY-TOTAL DEATHS

Figure 3 shows the top three causes of injury death in Wake County from 2019 to 2023, including unintentional poisoning, falls, and motor vehicle traffic accidents. Drug overdoses make up a majority of the “Poisoning-Unintentional” category. Figure 4 shows the top five causes of injury death. In 2020, unintentional poisonings quickly surpassed unintentional falls to become the leading cause, remaining significantly higher than the other causes until 2023, when rates declined and unintentional falls once again became the top cause of injury death.

Figure 3: Percentage of the Top Three Causes of Injury Death, Wake County, 2019-2023*

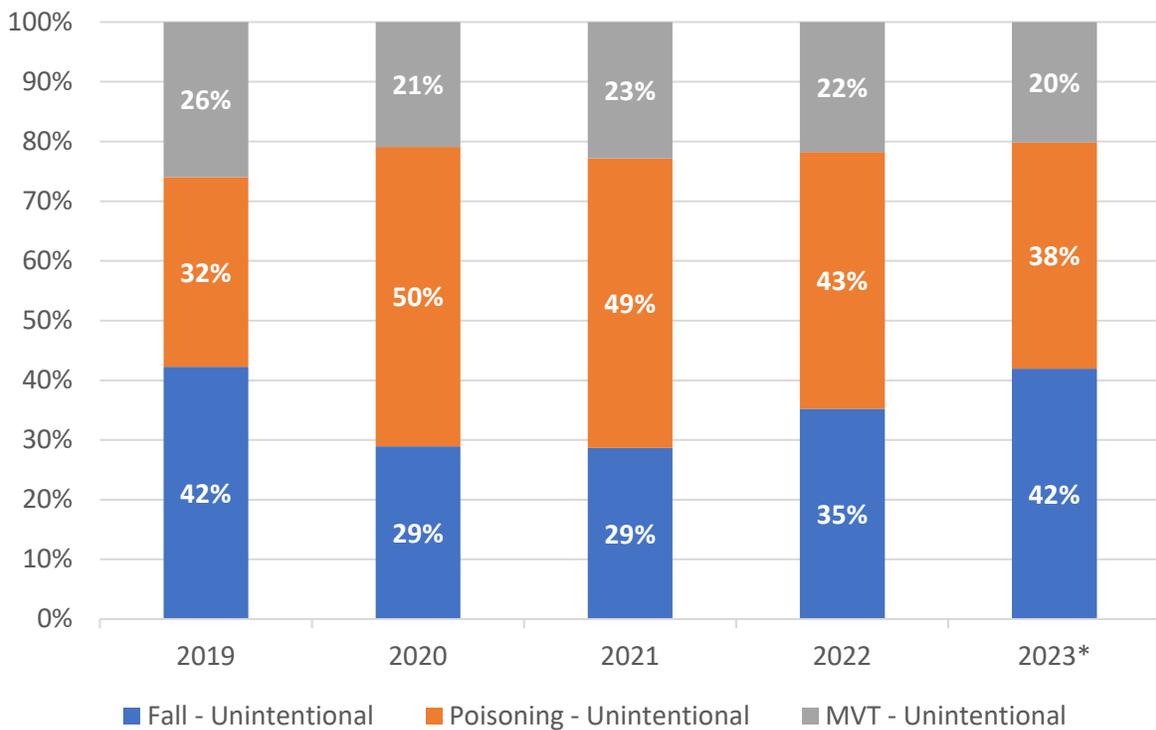
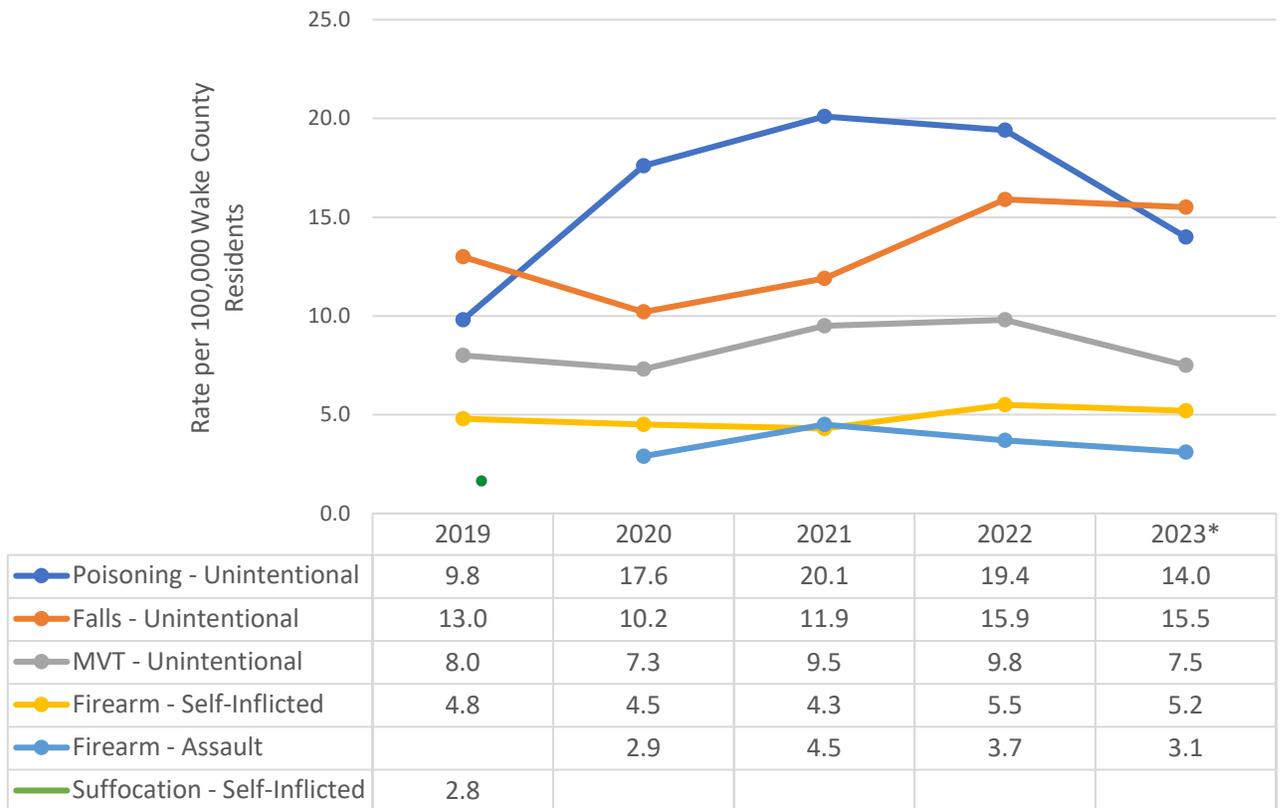


Figure 4: Death Rates, Top Five Causes of Injury Death, Wake County, 2019-2023*



Source for Figures 3 and 4: NCDHHS Division of Public Health, Injury and Violence Prevention Branch, 08/29/2024.
 *2023 data are provisional.

Although overdose deaths remained high in 2023, Wake County experienced a more than 3.3% decrease in overdose fatalities compared to 2022. Figure 5 shows that Wake County’s rate of overdose deaths per 100,000 population decreased in 2023, and the rate remains lower than the statewide rate in North Carolina. Figures 5 and 6 also show that there was a slight decrease in overdose deaths in 2018 and 2019 before the sizable increase in 2020 and 2021. Figures 5 and 6 include deaths involving all types of medications and drugs: opioids (commonly prescription opioids, heroin, and synthetic narcotics like fentanyl and fentanyl-analogues), stimulants (cocaine, methamphetamine), benzodiazepines, and others. These figures include fatal overdoses of all intents; however, over 90% of these deaths are unintentional. Societal and financial effects of the COVID-19 pandemic may have contributed to the increase in overdose deaths in 2020 and 2021.

Figure 5: Drug Overdose Death Rates, NC Compared to Wake County, 2000-2023

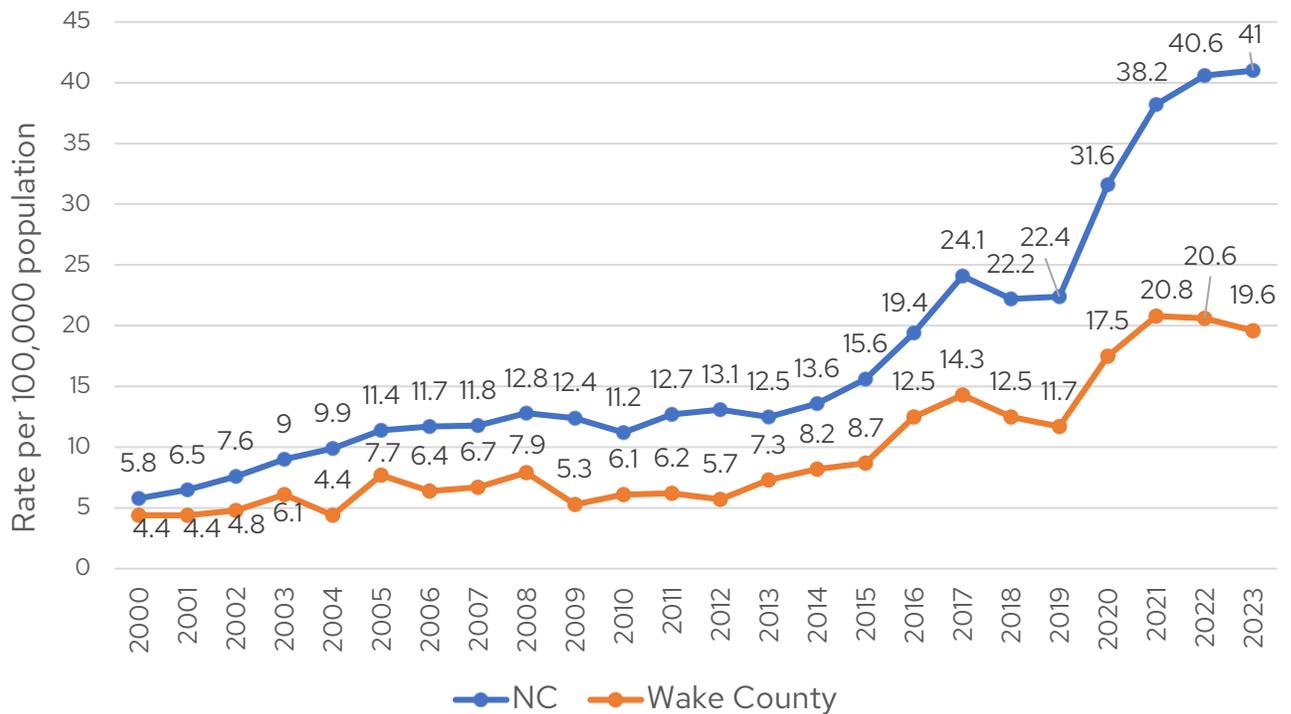
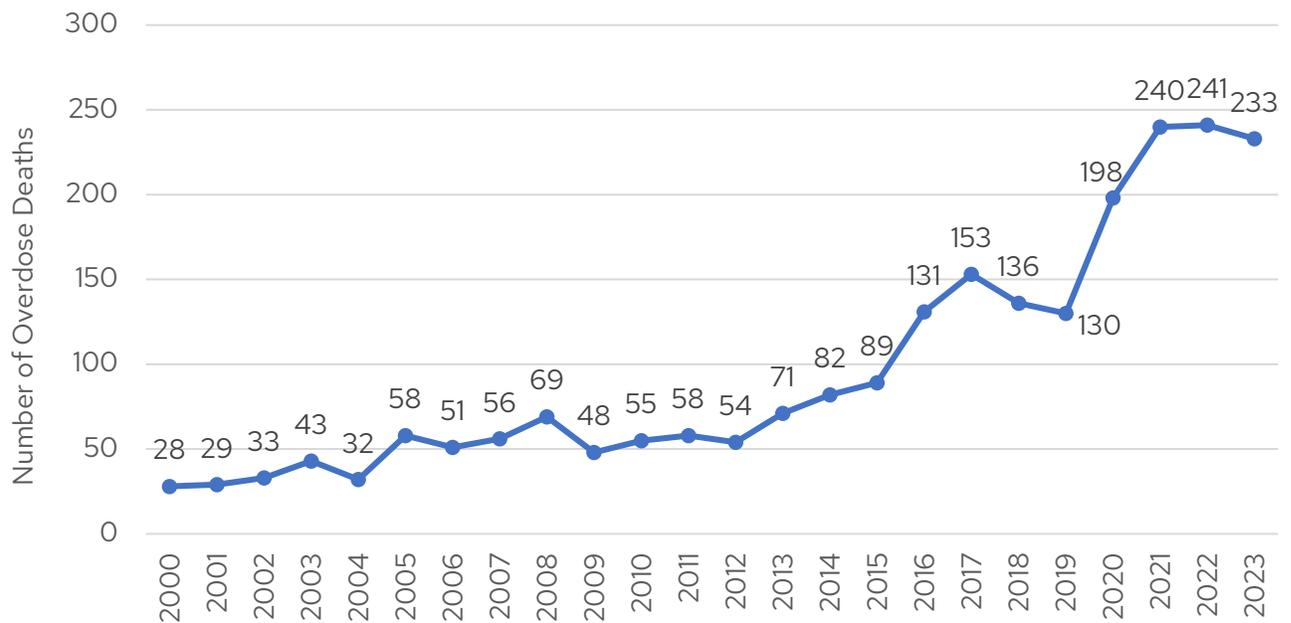


Figure 6: Drug Overdose Death Counts in Wake County, 2000-2023



Source for Figures 5 and 6: North Carolina Overdose Epidemic Data interactive dashboard, NCDHHS. 03/03/2025.

8.0 DRUG OVERDOSE MORTALITY-DEMOGRAPHICS AND GEOGRAPHICAL ANALYSES

The demographic breakdown shown in Table 8 is for unintentional poisoning deaths. Drug overdoses make up a large majority of unintentional poisoning deaths, but other unintentional poisonings, such as alcohol poisonings, are also included. As of August 2024 (as 2023 data provided in this report are provisional), there were 934 unintentional poisoning deaths in Wake County from 2019–2023, an increase (8.5%) from 2018–2022. Like previous years, males (74.4%), White Non-Hispanics (61.0%), and people ages 25–54 (71.8%) had the highest percentages of unintentional poisoning deaths. Notably, the poisoning death rate among Black Non-Hispanic individuals increased from 21.3 per 100,000 during 2018–2022 to 25.9 per 100,000 during 2019–2023.

Table 8: Unintentional Poisoning Deaths, Wake County, 2019–2023*

Characteristic	Number	Percent	Rate per 100,000
Sex			
Female	239	25.6	8.1
Male	695	74.4	24.7
Race and Ethnicity**			
White (NH)	570	61.0	17.0
Black (NH)	292	31.3	25.9
American Indian (AI)/Alaska Native (AN) (NH)	***	***	***
Asian (NH)	12	1.3	2.5
Hispanic	49	5.3	7.6
Other (NH)/Unknown	8	0.9	-
Age Group			
0-14	***	***	***
15-24	115	12.3	15.4
25-34	274	29.3	32.5
35-44	255	27.3	29.5
45-54	142	15.2	17.5
55-64	117	12.5	17.5
65+	31	3.3	4.3
Total	934	100	16.2

- : rate not calculated for other/unknown due to unknown not having a category or total population count to calculate a rate from. *2023 data are provisional. **"NH" means Non-Hispanic ethnicity. ***Number, percentage, and rate suppressed for counts 1-4.

Table 9 provides marital status and education information for Wake County residents who died from an unintentional poisoning death between 2019 and 2023. Individuals who were never married represent the highest percentage of unintentional poisoning deaths among marital status groups. The most common level of education attained for individuals that died of an unintentional poisoning death was a high school diploma or GED; these trends occurred across all five years between 2019 and 2023.

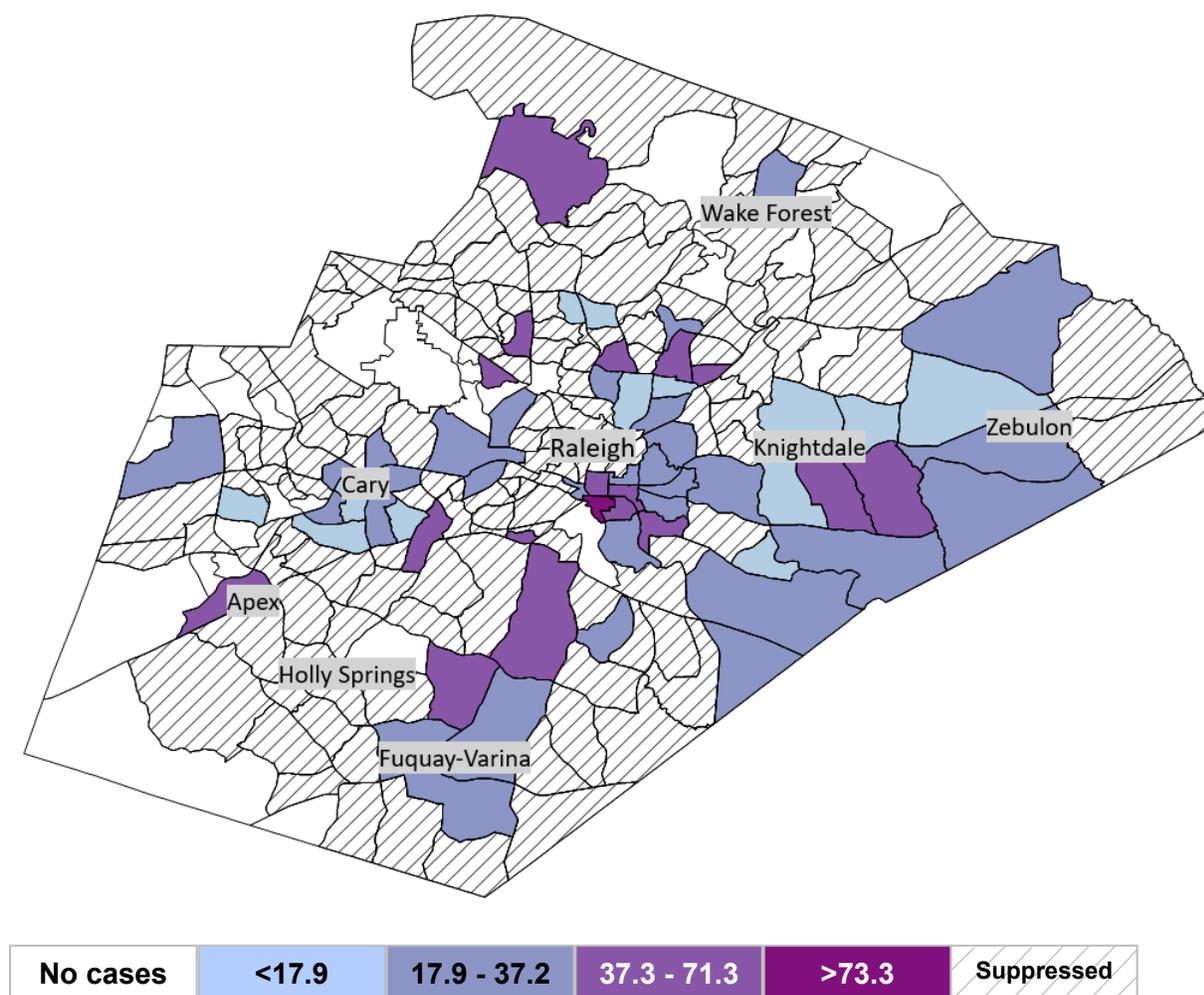
Table 9: Unintentional Overdose Deaths by Marital Status and Education Level, Wake County, 2019-2023*

	2019		2020		2021		2022		2023*	
	Number	Percent								
Marital Status										
Married	23	21.1%	31	15.6%	27	11.6%	33	14.5%	38	17.3%
Divorced	12	11.0%	34	17.1%	36	15.5%	41	18.1%	32	14.5%
Married but separated	***	***	5	2.5%	8	3.4%	5	2.2%	8	3.6%
Never Married	65	59.6%	118	59.3%	155	66.8%	142	62.6%	130	59.1%
Widowed	***	***	7	3.5%	***	***	***	***	6	2.7%
Not Classifiable	***	***	***	***	***	***	***	***	6	2.7%
Education Level										
8th grade or less	***	***	***	***	5	2.2%	6	2.6%	7	3.2%
9th-12 grade, no diploma	13	11.9%	22	11.1%	39	16.8%	41	18.1%	45	20.5%
High school graduate or GED completed	41	37.6%	84	42.2%	104	44.8%	99	43.6%	94	42.7%
Some college credit but no degree	33	30.3%	44	22.1%	38	16.4%	45	19.8%	35	15.9%
Associate degree	9	8.3%	22	11.1%	12	5.2%	12	5.3%	12	5.5%
Bachelor's degree	10	9.2%	14	7.0%	22	9.5%	17	7.5%	20	9.1%
Master's degree	***	***	***	***	7	3.0%	***	***	***	***
Doctorate	0	0.0%	***	***	***	***	0	0.0%	0	0.0%
Unknown	***	***	***	***	***	***	***	***	***	***
Total	109		199		232		227		220	

Source for Tables 8 and 9: NCDHHS Division of Public Health, Injury and Violence Prevention Branch (08/2024 and 3/2025, respectively). *2023 data are provisional. ***Number, percentage, and rate suppressed for counts 1-4.

Figure 7 shows a geographical analysis of drug overdose death data presenting the rate of unintentional drug overdose deaths by census tract in Wake County. The census tracts with the highest rates are dispersed throughout the county, spanning the west, east, north and south. Census tracts with 1-4 drug overdose deaths during the period, 2019-2023 were suppressed from the map. All census tracts highlighted in the map had 5 or more drug overdose deaths between 2019 and 2023.

Figure 7: Wake County All Medication/Drug Overdose Rates per 100,000 Population Mapped by Census Tract, All Intent, 2019-2023

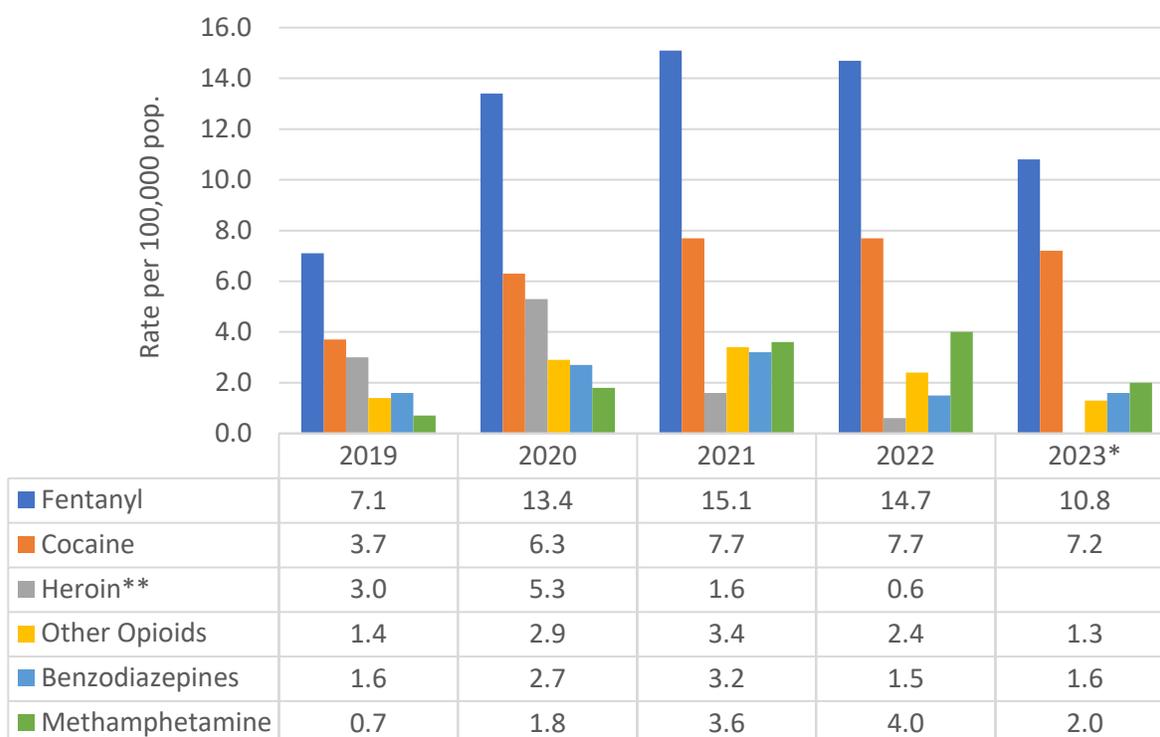


Source for Figure 7: NCDHHS Division of Public Health, Injury and Violence Prevention Branch, 3/2025.

9.0 DRUG OVERDOSE MORTALITY-DRUG TYPES

Figure 8 below shows rates of drug overdose deaths that contain positive toxicology reports of certain substances. It should be noted that one drug overdose death can be counted in multiple substance categories. Many drug overdose deaths have positive toxicology results for multiple substances. Figure 8 shows a substantial increase in drug overdose deaths involving fentanyl through 2021. In 2023, drug overdose mortality declined across all drug categories except benzodiazepines, which remained at a level similar to what was observed in 2022.

Figure 8: Overdose Death Rates by Substance, Wake County, 2019-2023*



Source for Figure 8: NCDHHS Division of Public Health, Injury and Violence Prevention Branch, 08/2024. *2023 data are provisional. **2023 rate for heroin is suppressed due to low counts (1-4). Note: Overdose deaths usually involve a combination of drugs. Individual deaths may be reported in more than one category.

Table 10 shows fentanyl-involved overdose deaths increased by 11.5% from 2018-2022 to 2019-2023. Additionally, these increases ranged from slight to significant by sex, race and ethnicity, and age group, highlighting the widespread impact of fentanyl across the population.

Table 10: Fentanyl-Involved Overdose Deaths, Wake County, 2019-2023*

Characteristic	Number	Percent	Rate per 100,000
Sex			
Female	179	25.4	6.1
Male	527	74.6	18.7
Race/Ethnicity**			
White (NH)	432	61.2	12.9
Black (NH)	220	31.2	19.5
American Indian (AI)/Alaska Native (AN) (NH)	***	***	***
Asian (NH)	8	1.1	1.7
Hispanic	37	5.2	5.7
Other (NH)/Unknown	7	1.0	0.0^
Age Group			
0-14	***	***	***
15-24	102	14.4	13.6
25-34	231	32.7	27.4
35-44	194	27.5	22.4
45-54	98	13.9	12.1
55-64	66	9.3	9.9
65+	15	2.1	2.1
Total	706	100	12.3

Table 11 shows that the overall cocaine overdose death rate increased by 15.8% from 2018-2022 to 2019-2023. Black non-Hispanics continue to be disproportionately represented among cocaine deaths. During 2019-2023, Black Non-Hispanics died from cocaine overdoses at more than triple the rate of White Non-Hispanics and more than six times the rate of Hispanics. Males died from cocaine overdoses at a substantially higher rate than females. Similar to fentanyl-involved overdose deaths, slight increases are observed by race and ethnicity and age group as well.

Table 11: Cocaine Overdose Deaths, Wake County, 2019–2023*

Characteristic	Number	Percent	Rate per 100,000
Sex			
Female	93	24.7	3.2
Male	284	75.3	10.1
Race/Ethnicity**			
White (NH)	169	44.8	5
Black (NH)	180	47.7	16
American Indian (AI)/Alaska Native (AN) (NH)	***	***	***
Asian (NH)	6	1.6	1.2 ^
Hispanic	16	4.2	2.5
Other (NH)/Unknown	5	1.3	0.0 ^
Age Group			
0-14	***	***	***
15-24	23	6.1	3.1
25-34	106	28.1	12.6
35-44	112	29.7	12.9
45-54	69	18.3	8.5
55-64	56	14.9	8.4
65+	11	2.9	1.5
Total	377	100.0	6.6

The heroin overdose death rate decreased by 25% from 2018–2022 to 2019–2023. Between 2019 and 2023, by sex, the highest heroin overdose death rate was observed among males. Among racial and ethnic groups, White (Non-Hispanic) individuals had the highest rate, and the 25–34 age group experienced the highest rate among all age groups (Table 12).

Table 12: Heroin Overdose Deaths, Wake County, 2019-2023*

Characteristic	Number	Percent	Rate per 100,000
Sex			
Female	23	18.9	0.8
Male	99	81.1	3.5
Race/Ethnicity**			
White (NH)	89	73.0	2.7
Black (NH)	24	19.7	2.1
American Indian (AI)/Alaska Native (AN) (NH)	***	***	***
Asian (NH)	***	***	***
Hispanic	7	5.7	1.1 ^
Other (NH)/Unknown	***	***	***
Age Group			
0-14	***	***	***
15-24	19	15.6	2.5
25-34	41	33.6	4.9
35-44	38	31.1	4.4
45-54	12	9.8	1.5
55-64	9	7.4	1.3 ^
65+	***	***	***
Total	122	100.0	2.1

Source for Tables 10, 11, and 12: NCDHHS, Division of Public Health, Injury and Violence Prevention Branch, 08/2024.

^For counts between 5-9, interpret the rate with caution. *2023 data are provisional. ** "NH" means Non-Hispanic ethnicity. ***Number, percentage, and rate suppressed for counts 1-4.

9.1 EMERGING SUBSTANCE IN THE DRUG MARKET: NITAZENES

Nitazenes are a class of synthetic opioids developed in the 1950s that were never approved for medical use and are currently being sourced from China and mixed with other drugs.^{6,7}

Isotonitazene (generally referred to as “nitazene” or “ISO”) is a particular synthetic opioid that was first identified around 2019 in the drug supply in the Midwest and has since moved into the southern states and along the eastern seaboard.^{6,7}

Similarly to fentanyl, another type of synthetic opioid, ISO’s high potency comes with an increased risk of overdose. Data shows that ISO binds to and activates the same receptor as fentanyl and other similar synthetic opioids. This binding and activation are what leads to the higher potential for both addiction and overdose.^{6,7} Observed in a mice study, ISO is more potent than morphine as an analgesic. Having such a drug within the current drug supply poses incredible danger to those in the U.S. As more than 75% of overdose deaths in the U.S. involved a synthetic opioid (fentanyl, ISO, or a lesser known one) in 2021.^{6,7}

Naloxone and any other opioid antagonists can combat the effects of isotonitazene. Laboratories such as the University of North Carolina at Chapel Hill (UNC) Street Drug Analysis lab can test for this substance. The UNC Street Drug Analysis Lab provides test kits to organizations and will test samples sent to them using their kits for free and anonymously. More information on the UNC Street Drug Analysis Lab can be found [here](#).

In powder form, ISO can appear yellow, brown, or off-white in color. DEA regional forensic laboratories have seen this drug mixed into heroin and/or fentanyl.^{6,7} Below are a few pictures of ISO previously confiscated by the DEA. The coloring in the powder form can be similar to heroin while pressed pills (powder that is shaped and pressed together to look like a prescription pill) can come in other colors such as blue (see below).

Figure 9: Pictures Showing Different Forms of Isotonitazene

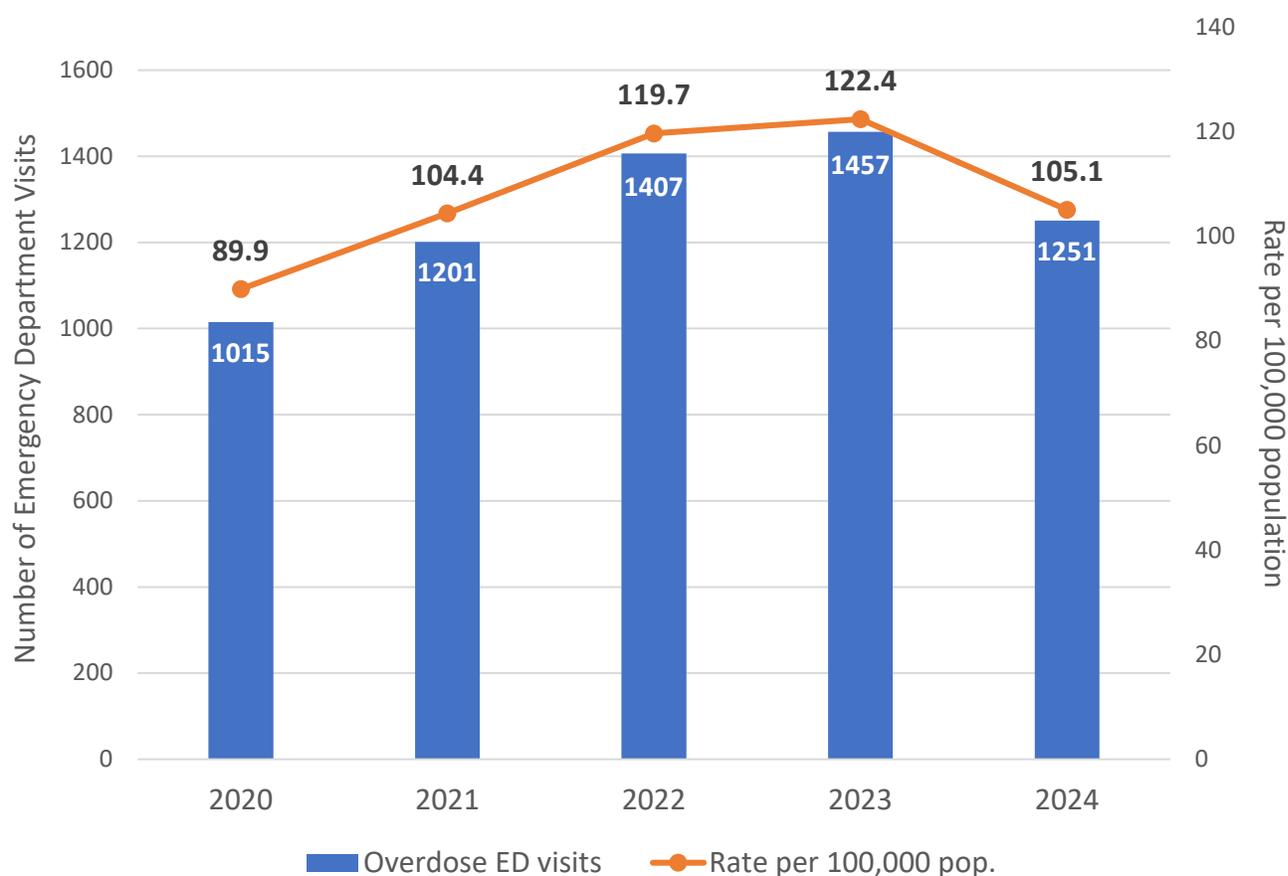


Source: U.S. Drug Enforcement Administration (DEA), <https://www.dea.gov/stories/2022/2022-06/2022-06-01/new-dangerous-synthetic-opioid-dc-emerging-tri-state-area>, accessed 3/21/2025.

10.0 DRUG OVERDOSE MORBIDITY-TOTAL EMERGENCY DEPARTMENT VISITS

From 2020 to 2024, there were approximately 6,331 emergency department (ED) visits for suspected drug overdoses of unintentional or undetermined intent in Wake County. This metric has been steadily increasing, even when accounting for the increase in Wake County's overall population, until 2024 which has a decrease that can be seen below in Figure 10.

Figure 10: Unintentional or Undetermined Intent Medication or Drug Overdose Emergency Department (ED) Visits, Wake County, 2020-2024*



Source: NC DETECT, NCDHHS Division on of Public Health, UNC School of Medicine, 03/03/2025, and U.S. Census Bureau for annual population estimates. *2024 rate calculation using 2023 population estimates (2024 annual estimates not available as of creating this graphic).

11.0 DRUG OVERDOSE MORBIDITY-EMERGENCY DEPARTMENT VISIT DEMOGRAPHICS AND GEOGRAPHICAL ANALYSES

The demographic characteristics of individuals visiting an Emergency Department (ED) for suspected drug overdoses are shown throughout Figures 11-14. The highest portion of unintentional or undetermined overdose-related ED visits from 2020-2024 occurred in the 25-44-year-old age group, with the second largest age group being 45-64-year-olds. Males were more likely to visit the ED for a suspected drug overdose compared to females, as shown in Figure 13. Whites had more visits to the ED for suspected drug overdose compared to all other races. Figure 12 shows ED visits for unintentional and undetermined drug overdoses among the White population began to decline in 2023. In contrast, visits among the Black population increased in 2023 but declined in 2024. Figure 14 indicates that in 2024, as in previous years, the largest proportion of ED overdose visits involved individuals with private insurance (40%), and the remaining 60% were covered by Medicaid, Medicare, other government programs, self-pay, or had unknown insurance status. Between 2022 and 2024, the proportion of overdose-related ED visits among Medicaid recipients increased, while visits classified as self-pay decreased.

Figure 11: Unintentional or Undetermined Intent Medication or Drug Overdose Emergency Department (ED) Visits by Age Group, Wake County, 2020-2024

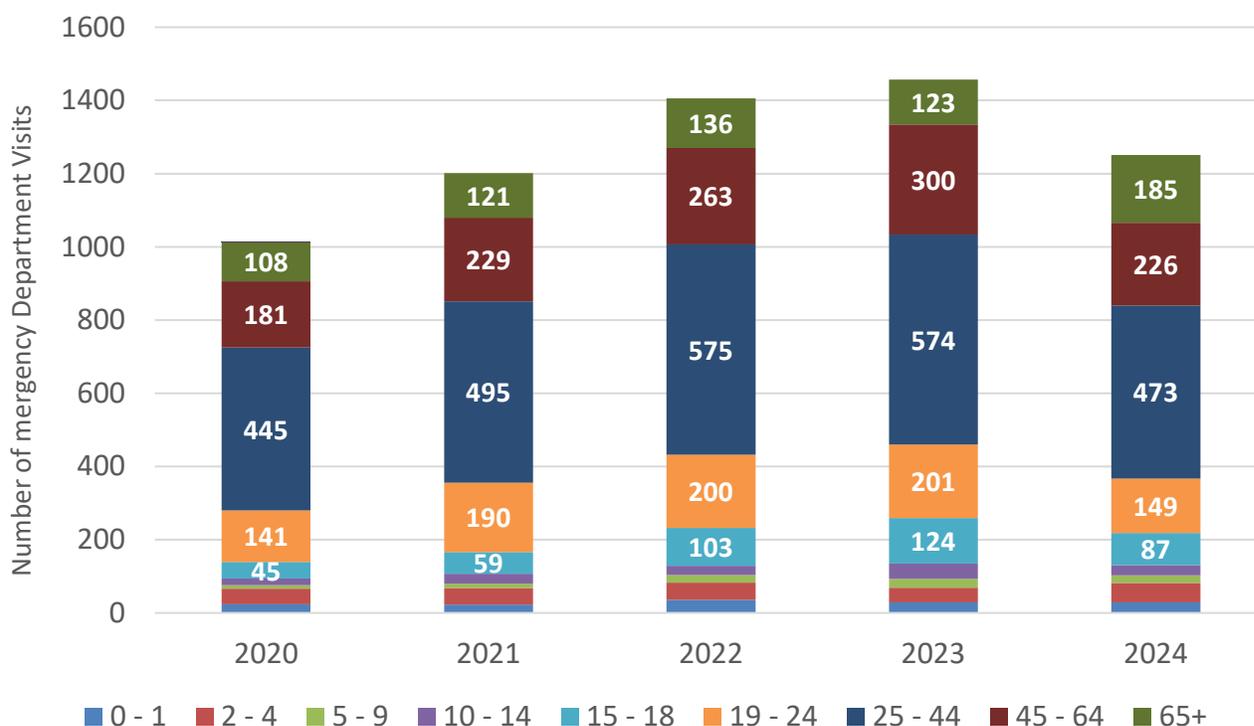


Figure 12: Unintentional or Undetermined Intent Medication or Drug Overdose Emergency Department (ED) Visits by Race, Wake County, 2020-2024

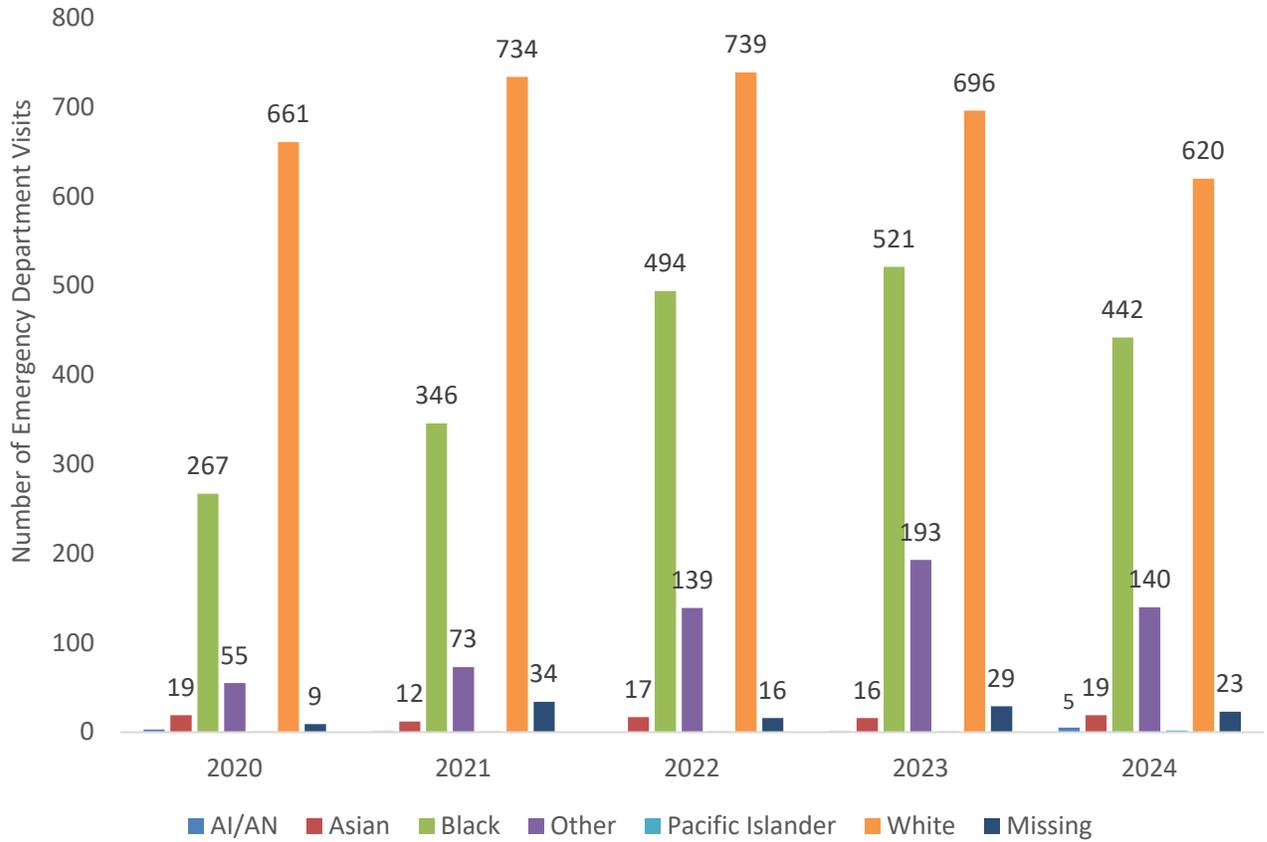


Figure 13: Unintentional or Undetermined Intent Medication or Drug Overdose Emergency Department (ED) Visits by Sex, Wake County, 2020-2024

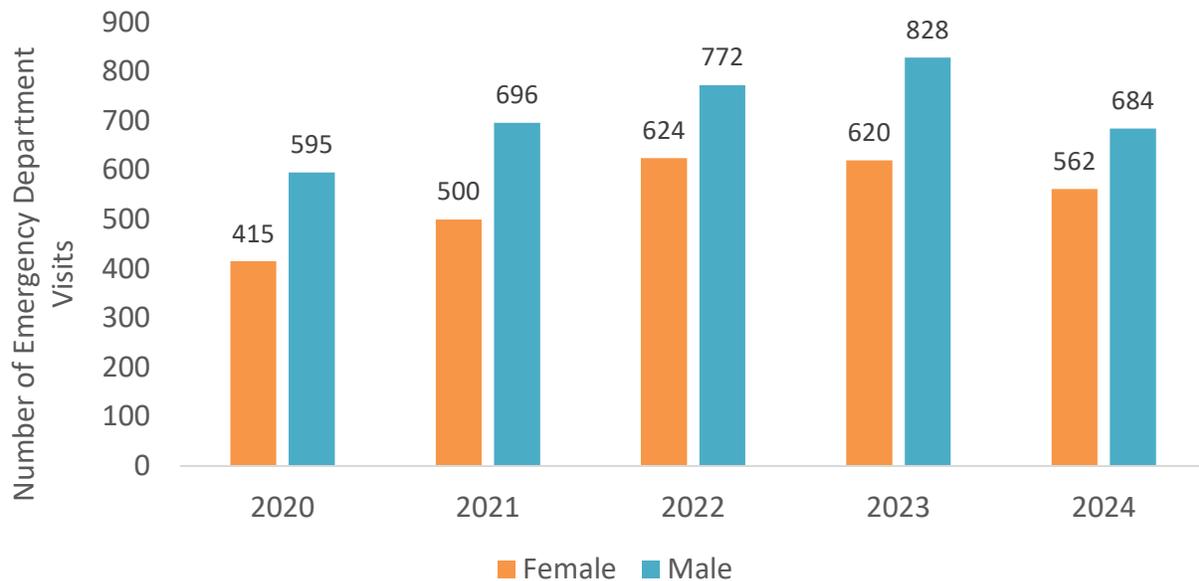
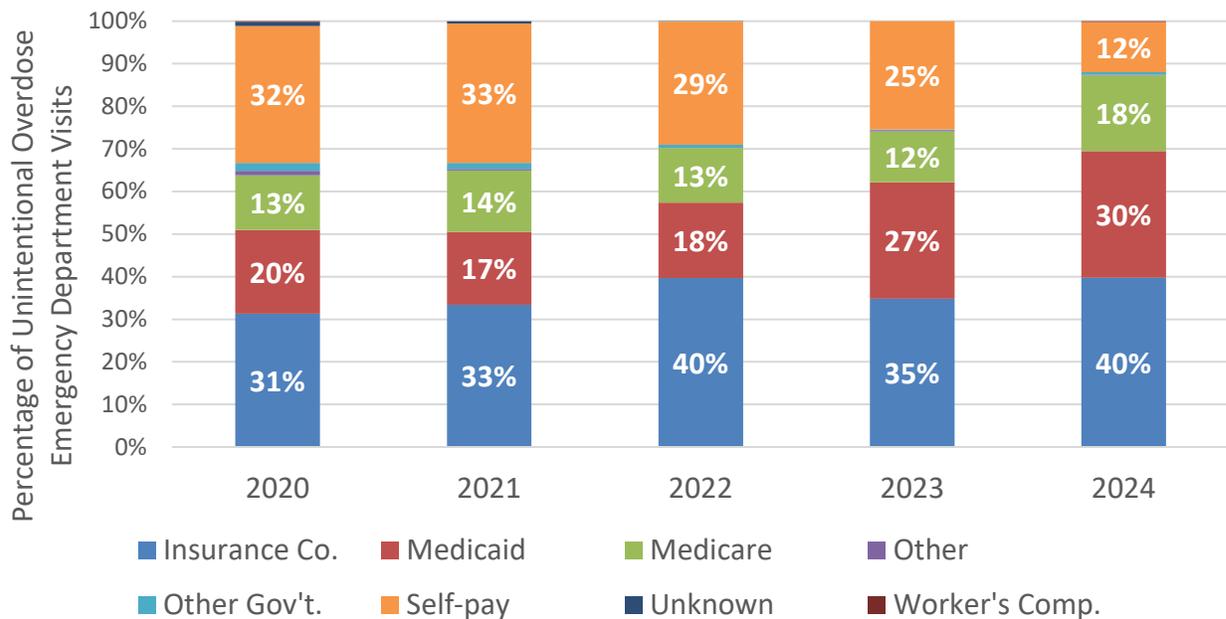


Figure 14: Insurance Status of Unintentional or Undetermined Intent Medication or Drug Overdose Emergency Department (ED) Visits, Wake County, 2020-2024



Source for Figures 11, 12, 13 & 14: NC DETECT, NCDHHS Division of Public Health, UNC School of Medicine, 03/03/2025

Geographical Analysis

Figure 15 shows a geographical analysis of NC DETECT data presenting the number of ED visits due to all drug overdose by the patient's residential zip code for 2020-2024. The Wake County patient residential zip code with the highest number of ED visits due to all drug/medication overdoses during this period was 27610.

Table 13 shows the top 10 zip codes for ED visits related to all drug and specific drug overdoses. All of the top three zip codes are at least partially in Raleigh.

Figure 15: Number of ED Visits for All Drug/Medication Overdoses in Wake County by Patient Residential Zip Code, 2020-2024

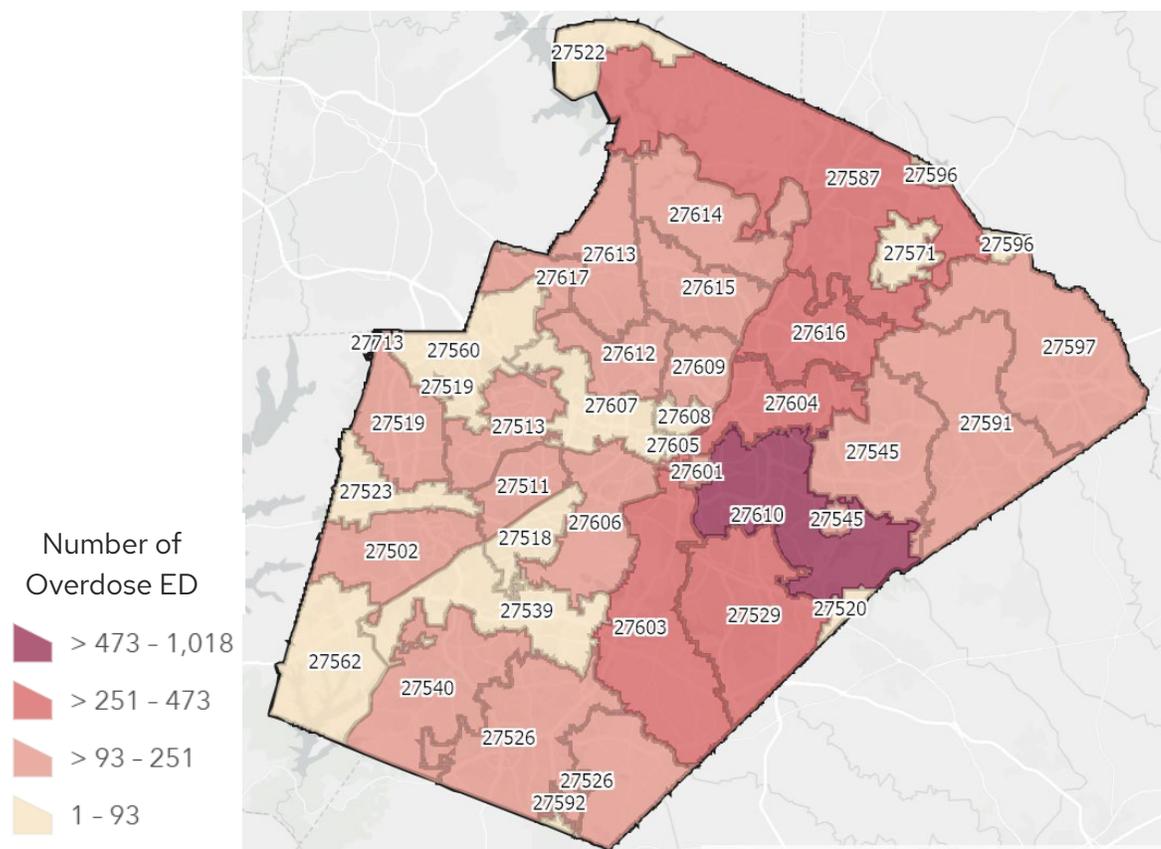


Table 13: Top 10 Zip Codes for All Drug/Medication Overdose ED Visits, Wake County, 2020-2024

Patient Residential Zip Code	Number of Overdose ED Visits
27610	1018
27603	473
27529	344
27587	328
27604	326
27616	308
27526	251
27609	239
27606	217
27545	201

Source for Figure 15 and Table 13: NC DETECT, NCDHHS Division of Public Health, UNC School of Medicine, 03/03/2025.

12.0 IN CONCLUSION

This integrated epidemiologic profile provides guidance for drug overdose prevention and control efforts by combining multiple data sources and identifying populations most affected by drug overdoses in Wake County. Recent trends show that males were consistently more likely to die from an overdose and visit the ED for a suspected drug overdose than females. Between 2019 and 2023, the Non-Hispanic Black population had a higher rate of dying from an unintentional poisoning (majority of drug overdoses) than the Non-Hispanic White population. The 25–34 and 35–44 age groups accounted for over 50% of unintentional poisoning deaths in Wake County between 2019 and 2023. Wake County saw a substantial increase in fentanyl-related deaths through 2021. In 2022 and 2023, deaths involving most drug types—including cocaine and heroin—began to decline, while deaths involving benzodiazepines remained stable.

Nitazenes, particularly isotonitazene, are a group of emerging synthetic opioids in the drug market. Originally developed in the 1950s, nitazenes were never approved for legal use in the U.S., unlike fentanyl, which has licensed medical applications for pain management. These substances are often found mixed with other opioids and pose a high risk of addiction and overdose—comparable to fentanyl and greater than heroin or prescription opioids. Labs such as the UNC Street Drug Analysis Lab can detect nitazenes, and naloxone remains effective in reversing their effects, as it is an opioid antagonist.

Emergency department data indicate that individuals aged 25 to 44 accounted for the largest share of visits related to unintentional or undetermined drug overdoses. While ED visits among the White population began to decline in 2023, visits among the Black population increased that year before declining in 2024. In terms of insurance status, the largest proportion of overdose-related ED visits in 2024 involved individuals with private insurance, though a majority were covered by public programs, self-pay, or had unknown coverage. From 2022 to 2024, visits among Medicaid recipients increased, while self-pay visits declined.

Geographic analyses of drug overdose deaths and ED visit information from NC DETECT were able to be conducted. Between 2019 and 2023, the census tracts with the highest drug overdose death rates are dispersed throughout the county, spanning the west, east, north and south. The patient residential zip code with the highest count of ED visits for drug overdoses between 2020 and 2024 was 27610. This report delves into the sociodemographic factors of Wake County in general and then specifically drug overdose deaths and drug overdose morbidity. The intent of this report is to inform and support prevention and harm reduction strategies with a focus on populations at higher risk for drug overdoses within Wake County.

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