

# Cleveland Division of Police (Cleveland, Ohio) Drug-Related Overdose Incidents 2020 - 2022

An analysis of City of Cleveland, Ohio, suspected drug-related overdose incidents as reported by Cleveland Division of Police Officers and collected by the Cuyahoga County Prosecutor's Office Crime Strategies Unit for incidents from January 1, 2020 — December 31, 2022

Begun Center for Violence Prevention Research and Education  
Jack, Joseph and Morton Mandel School of Applied Social Sciences  
Case Western Reserve University  
Cleveland, Ohio

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JACK, JOSEPH AND MORTON MANDEL  
SCHOOL OF APPLIED SOCIAL SCIENCES

CASE WESTERN RESERVE  
UNIVERSITY

Begun Center for Violence Prevention  
Research and Education



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## **Acknowledgements**

The Begun Center for Violence Prevention Research and Education in the Jack, Joseph and Morton Mandel School of Applied Social Sciences at Case Western Reserve University promotes social justice and community development by conducting applied, community-based, and interdisciplinary research on the causes and prevention of violence, and by educating and training social workers, teachers, law enforcement and other professionals in the principles of effective violence prevention. The Center also develops and evaluates the impact of evidence-based best practices in violence prevention and intervention, and seeks to understand the influence of mental health, substance use, youth development, and related issues on violent behavior and public health.

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## **A Word about the Data**

Through our work monitoring and researching the ongoing drug epidemic, we understand that utilizing only one source of information to determine how this issue is impacting a community is not sufficient. Agencies that collect information related to drug-overdose are often limited in the scope of the information collected. For this reason, we have provided a comprehensive overview of the CDP data provided to us by CCPO/CSU, and we have also developed a supplemental section at the end of this report that utilizes drug-related death information provided by the CCMEO. These sources combined help us understand both fatal and non-fatal overdose incidents. CDP reports tell one part of a complex and challenging story, while CCMEO information includes the toxicology results, informing what drugs, or drug combinations are impacting the community most.

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# Executive Summary

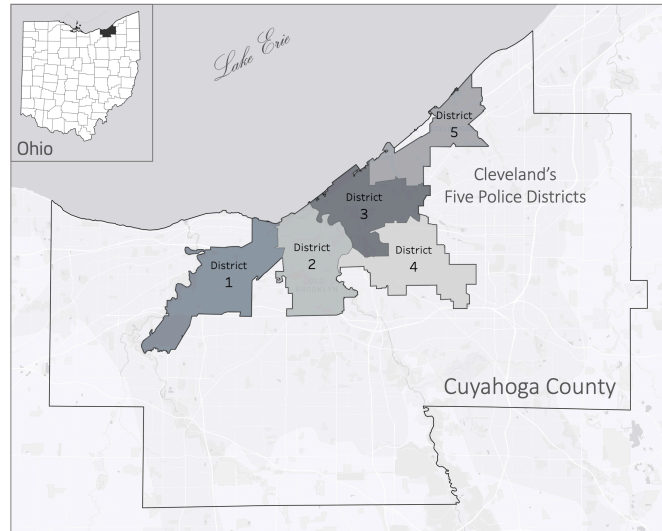
The analysis of suspected drug overdose incidents handled by the Cleveland Division of Police (CDP) between January 2020 and December 2022 reveals important insights into the scope and characteristics of the overdose epidemic in Cuyahoga County. The key findings are as follows:

1. **Overdose Incidents:** CDP responded to 4,948 overdose incidents (751 fatal, 4,197 non-fatal) from 2020 to 2022; an average of 137 incidents per month (20 fatal, 117 non-fatal).
2. **Demographics:** 70.5% of overdoses involved males. The male 25-44 age group represented 40% of all overdoses. 58.4% of overdoses involved White individuals with Black individuals at 37.5%.
3. **Overdose Timing:** Overdose incidents peaked between 3 PM and 9 PM, with the highest frequency on Saturdays.
4. **Overdose Recurrence:** Clusters of individuals experiencing multiple overdoses were noted in several geographic areas, indicating a need for targeted interventions.
5. **Hospital Transports:** 88% of non-fatal overdose incidents (3,692 out of 4,197) resulted in hospital transports. In 8.2% of all overdose incidents (407 out of 4,948), individuals declined treatment or transport.
6. **Residency and Overdoses:** 75.7% of overdoses incidents involved Cleveland residents, the remaining 24.3% were comprised of individuals from 181 other cities and 21 states outside of Ohio.
7. **Overdose Locations:** 60.9% of overdose incidents occurred in residential areas. Notably, these residential locations constituted 83.1% of fatal overdose incidents (624 out of 751).
8. **Impact of Fentanyl-Cocaine Mixtures:** Cocaine and fentanyl mixtures are significantly affecting Black and Hispanic populations, despite a decrease in such deaths among White populations.

These findings demonstrate the complexity overdose incidents in Cleveland, underscoring the need for concerted community, public health, and law enforcement interventions. Focused efforts should include prevention, education for high-risk groups, and raising awareness about the dangers of fentanyl as a possible adulterant or contaminant in cocaine and counterfeit pills. Efforts must intensify around community education on naloxone use and broader harm reduction strategies. Public safety personnel should consider increasing their presence at times and places of highest overdose risk, enhancing drug risk education, and continuing to advocate for naloxone use. Enhancing our collective response also involves partnering with providers for victim support and treatment referrals; leveraging data proactively for informed decision-making; fostering cross-jurisdictional cooperation for a unified response; and advocating for policies that support overdose prevention and harm reduction. These elements are crucial for a comprehensive and effective approach to mitigating the crisis.

## Cleveland Overview

The City of Cleveland is in northern Cuyahoga County on Lake Erie. Cleveland is the largest city in Cuyahoga County and the second largest city in Ohio with an estimated population of 361,607 (U.S. Census, 2022). The Cleveland Division of Police (CDP) employs 1,294 sworn officers whose jurisdiction covers approximately 82.47 square miles split into five districts (City of Cleveland, 2022).



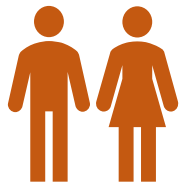
## Overdose Totals by Year

During the reporting period CDP responded to 4,948 suspected overdose incidents: 751 fatal and 4,197 non-fatal. The 2020-2022 dataset compiled by CCPO/CSU analysts was exclusively developed through queries of "Sudden Illness" and "Dead Body" reports accessed through the Cleveland Division of Police's Law Enforcement Records Management System (LERMS). In 2022 more than 300 additional overdose incidents were added to the dataset through queries of several additional report types in LERMS, including "Crisis Intervention Team" (CIT) and "Operating a Vehicle while Impaired" (OVI) reports. It is important to note that the apparent increase in 2022 overdoses is primarily attributable to the expanded data collection approach in that year. Had data collection procedures remained consistent with the previous years, the 2022 counts for suspected overdoses would likely have aligned more closely with those of 2020 and 2021.

**Table 1. CDP Suspected Drug Overdose Incidents. 01 January 2020 to 31 December 2022**

	2020	2021	2022	Total
Non-Fatal	1,319	1,352	1,526	4,197
Fatal	199	279	273	751
<b>Total</b>	<b>1,518</b>	<b>1,631</b>	<b>1,799</b>	<b>4,948</b>

## Demographics

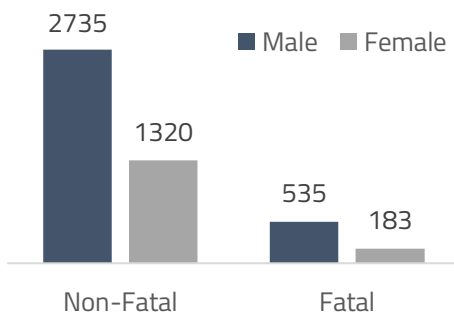


**Males accounted for 70% of all incidents.**

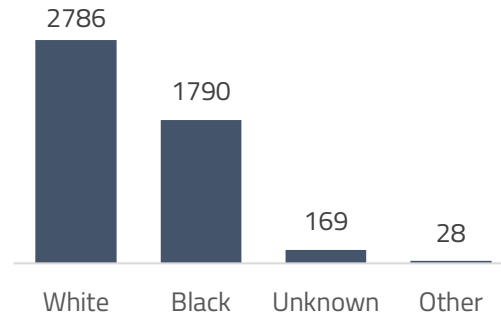
The Cleveland Division of Police reported a total of 4,773 overdose incidents that included gender information. Of these incidents, 3,365 (70.5%) involved males and 1,545 (32.4%) involved females (see Figure 1). Males between 25-44 years of age represented 40% (1,904 incidents) of all suspected overdoses (both fatal and non-fatal). (see

Figure 3). White individuals were involved in 58.4% of the suspected overdose incidents (2,786 out of 4,773). Black individuals accounted for 37.5% of the cases (1,790 out of 4,773). The remaining 4.1% (197 cases) were either categorized as “Other” or was not reported in the CDP data (see Figure 2).<sup>1</sup>

**Figure 1. Overdoses by Gender & Non-fatal/Fatal (n=4,773)**

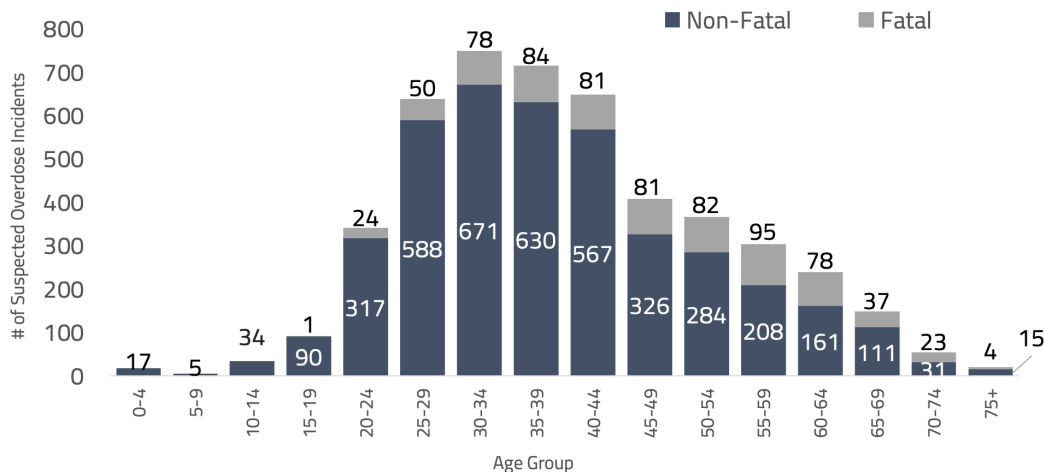


**Figure 2. Overdoses by Race as Reported by CDP Officers (n=4,773)**



**Figure 3. Overdoses by Age and Non-fatal/Fatal (N=4,773)**

Note: No (zero) fatal overdoses were reported for children under 15 years of age.



<sup>1</sup> The race category data presented in this report are collected and reported by police officers. It is important to note that our team cannot verify the accuracy of an individual's race nor ascertain the method used for collecting this variable—whether it was self-reported by the individual, derived from a driver's license, or obtained from another database accessed by law enforcement personnel. The analysis herein is based solely on the information provided to our team by the CCPO Crime Strategies Unit, and we acknowledge the potential limitations of this data collection approach.

# Individuals Experiencing Multiple Overdoses

Among the 4,948 suspected overdose incidents to which CDP responded, 3,921 incidents involved named persons (first and last names) that also included a date of birth. This information was used to calculate how many individuals experienced multiple overdoses.<sup>2</sup>

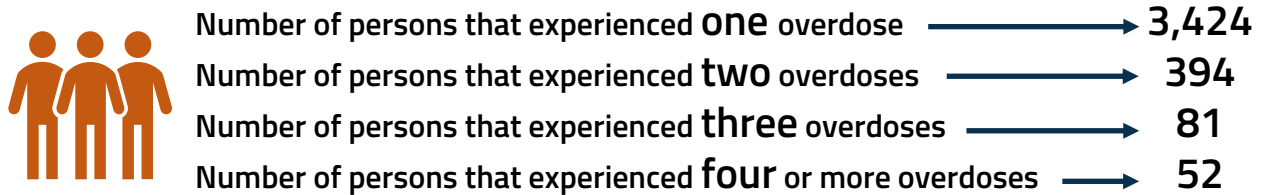
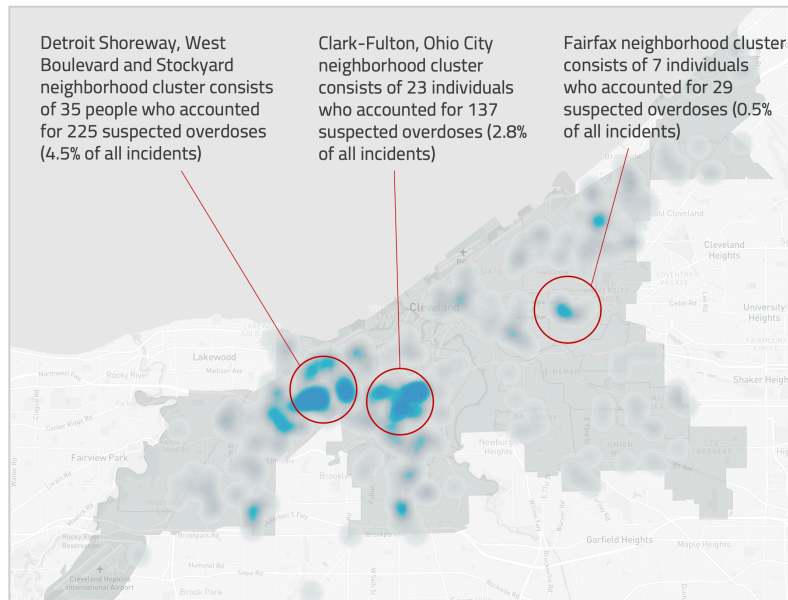


Figure 4 illustrates clusters of locations where CDP responded to the same individuals at least three times over the three-year period. These areas highlight where specific individuals repeatedly required police intervention. Response strategies across the United States have led some communities to implement targeted intervention in areas like these (Dufour, 2022). The aim of these strategies is to address the underlying needs of individuals who frequently rely on public safety services, thereby reducing the demand for such services and providing more focused support to those in need.

**Figure 4. Clusters of High Utilizers: Individuals with 3+ Suspected Overdoses**



**IMPORTANT NOTE:** These incidents are *suspected* overdoses, as reported by responding CDP officers. It is likely this suspected overdose information is not comprehensive, meaning that (a) individuals in Cleveland may have experienced other undocumented or unreported overdoses, (b) some persons may have experienced an overdose in other communities, and/or (c) individuals experiencing overdose may be transported directly to an emergency room by friends or family without the involvement of public safety personnel.

<sup>2</sup> This analysis was conducted by the Begun Center team under the approval of an Institutional Review Board at Case Western Reserve University, ensuring the protection of individual information and identifiers, which are not releasable.

# Temporal Analysis



Peak Time for Overdose  
**3PM - 9PM**

Top Day for Overdose  
**Saturday**

Top Month for Overdose  
**May**

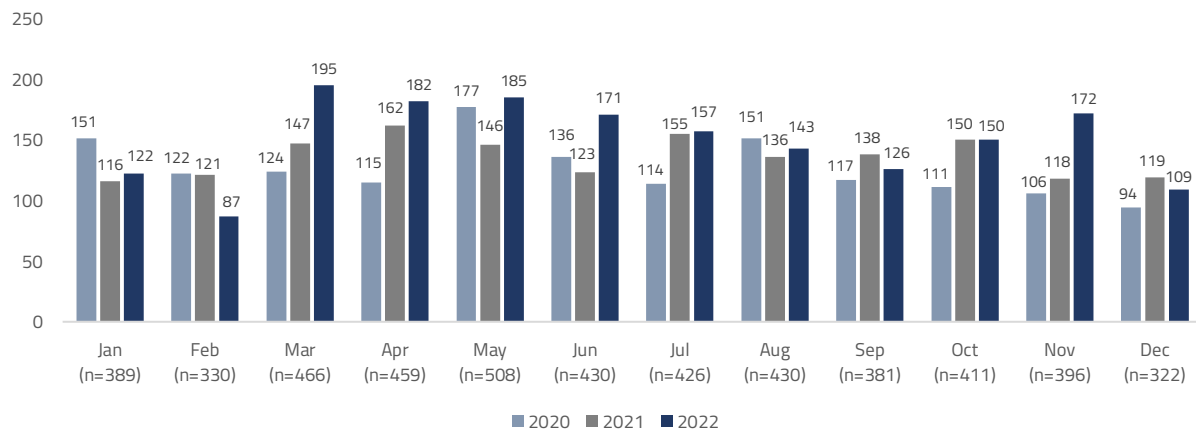
Year, month, day, and hour of the day were analyzed to determine if overdose patterns exist. Most incidents occurred in mid-afternoon to late evening, with peak hours from 3PM to 9PM accounting for 40% of total incidents (1,986 of 4,948) (see Figure 5). Overdose incidents occurred most frequently on Saturdays and least on Mondays. The day and time when the highest number of overdose incidents occurred was Saturdays at 7 PM with 57 incidents.

**Figure 5. Overdose Incidents by Day of the Week and Hour of Day: 2020-2022 (N=4,948)**

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Total
Sun	39	25	20	21	20	16	12	19	23	23	31	38	25	35	30	30	36	48	39	36	28	45	27	22	688
Mon	34	20	17	14	13	14	9	14	15	21	28	30	41	25	27	39	29	42	30	30	42	28	21	34	617
Tue	37	25	18	15	12	14	16	15	13	21	34	26	33	36	31	33	51	48	43	37	44	46	30	34	712
Wed	22	25	24	19	7	7	16	16	13	24	26	28	32	30	38	35	39	45	36	54	44	33	38	38	689
Thu	34	27	18	19	11	10	12	9	24	35	23	26	30	36	33	38	31	40	44	47	29	37	31	34	678
Fri	26	20	25	16	19	11	16	25	26	23	21	31	41	33	41	48	55	37	49	52	56	30	36	38	775
Sat	37	33	39	18	18	23	12	16	24	30	21	37	36	30	31	49	41	37	38	57	42	39	44	37	789
Total	229	175	161	122	100	95	93	114	138	177	184	216	238	225	231	272	282	297	279	313	285	258	227	237	4,948

The month of May had the highest number of incidents at 10.3% (508 of 4,948) (see Figure 6). As previously mentioned, the apparent rise in 2022 overdose incidents is due to the inclusion of over 300 additional cases from expanded data sources like CIT and OVI reports in the Cleveland records management system, rather than a true increase in incidents.

**Figure 6. Overdose Incidents by Month and Year: 2020-2022 (N=4,948)**





## Drugs Causing Overdose



**“Heroin”** was the most frequently reported drug causing overdose but was likely **Fentanyl** in most cases.

Accurate on-scene data collection and analysis of drug types involved in overdoses are crucial for understanding the evolving landscape of substance use and

effectively targeting intervention strategies. This information gathered directly at the incident site by CDP provides some insight into the actual substances contributing to overdoses, which can significantly differ from broader drug prevalence trends.

In many incidents more than one drug type was recorded as the cause for overdose, such as the reporting of “suspected heroin and unknown blue pills.” Additionally, 36% (n=1,578) of incidents included comments from officers identifying an “unknown” drug causing overdose. For incidents in which a drug-type(s) was named, Table 2 illustrates the drugs most frequently identified in incident reports as contributing to suspected overdoses.

There was a high frequency of heroin reports as the suspected drug causing overdoses. The frequent reporting of heroin is in contrast to findings from multiple sources, such as the Ohio Substance Abuse Monitoring Network and the Cuyahoga County Regional Forensic Science Lab which indicate a significantly low presence of heroin in the drug supply. This discrepancy is likely because both users and officers often label what has historically been heroin as “heroin,” when the substance in question is more likely to be fentanyl or a fentanyl analog. Despite awareness among the user community and public safety personnel that fentanyl is the likely drug involved, “heroin” continues to be commonly used as a descriptor.

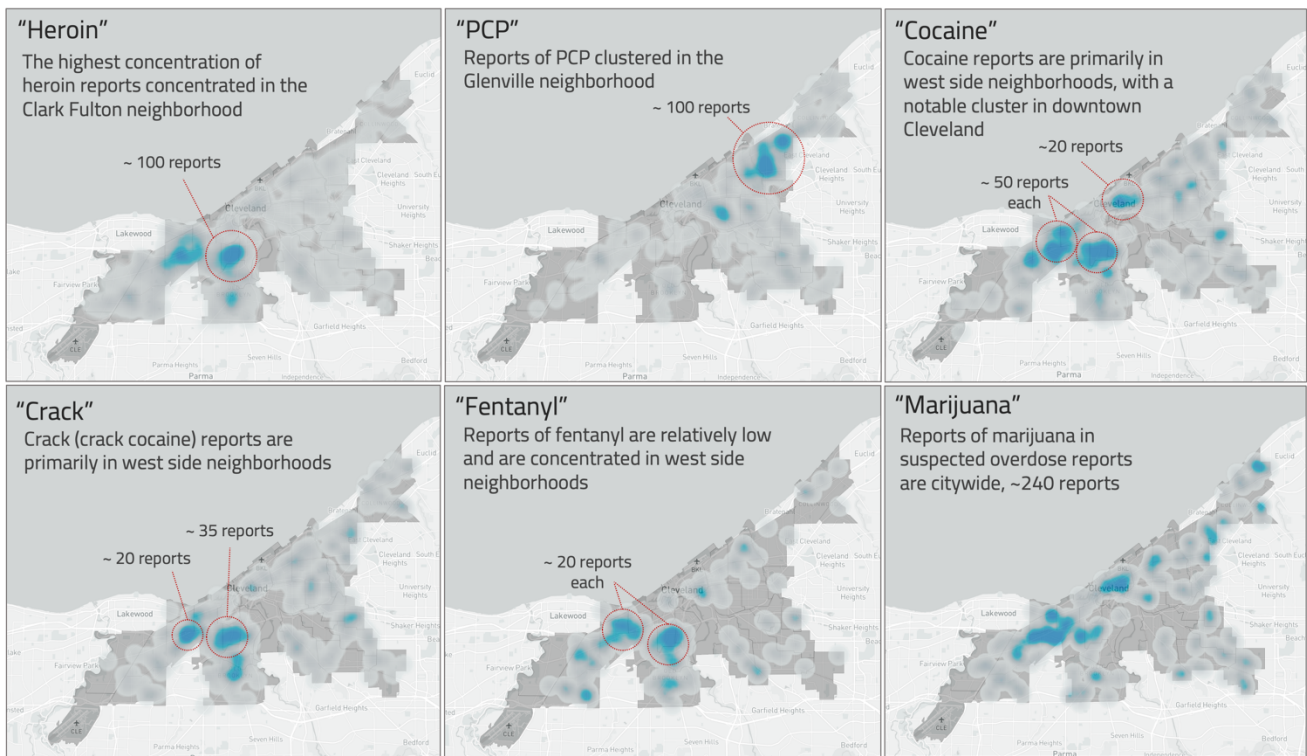
Overall, “heroin” was ranked the highest suspected drug causing an overdose, reported in 19.4% of all overdose incidents (959 of 4,948). Drugs reported as “powder,” “white powder,” “pills,” etc. also were reported relatively frequently, and were likely counterfeit pills or drug mixtures containing fentanyl or fentanyl analogues.

When considering racial demographics, reports of “heroin” in incidents involving White individuals is significantly higher than those involving Black individuals. Conversely, reports of suspected overdose caused by “PCP” were almost entirely reported in incidents involving Black individuals. There are other notable comparisons, such as a high proportion of methamphetamine reports associated with White individuals. This information is valuable in terms of appropriate harm reduction, education, and prevention work in specific communities. Figure 7 maps areas of high density for select drug-types; this geographic analysis can inform various interventions and outreach activities.

**Table 2. Most Frequently Reported Drug Types by Race (White and Black Only) from 2020-2022 (n=3,317)**

Drug Type	White	Black	Total
Heroin	755	159	959
PCP	24	332	367
Cocaine	184	144	344
Crack	143	137	293
Marijuana and "Weed"	111	130	241
"Pill(s)"	128	98	238
Percocet	148	55	217
Methamphetamine	140	30	176
Fentanyl	117	28	148
"Powder"	77	46	130
Xanax	90	16	111
"White Powder"	50	38	93

**Figure 7. Geographic Clusters of Suspected Overdoses by Select Drug Types Density Map Series**

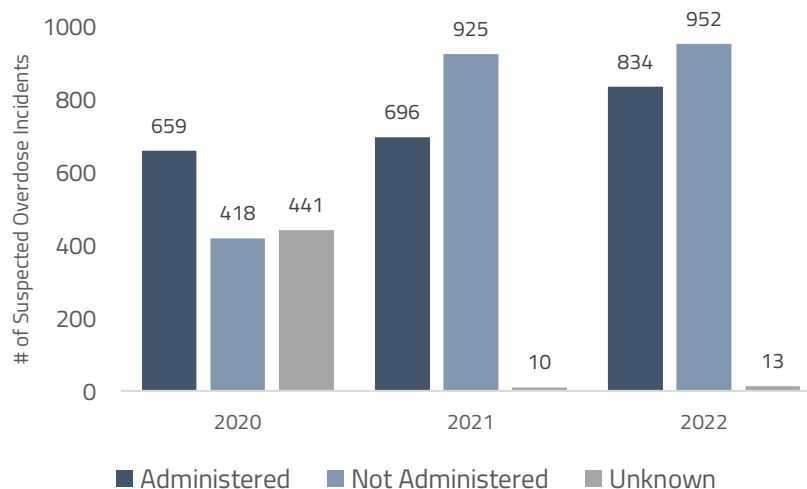


## Naloxone Administration

The dataset offers limited information on naloxone administration. It includes two variables: first, whether naloxone was administered, as indicated by police reports ('yes' or 'no'), and second, the dosage of naloxone administered, measured in milligrams, though this data is not consistently available.

Naloxone was administered in 44.2% of all suspected overdose incidents (2,189 out of 4,948 cases), including 50.4% of non-fatal overdoses (2,114 out of 4,197 cases) and 10% of fatal overdoses (75 out of 751 cases). In residential locations, naloxone was used in 42.8% of overdoses (1,288 out of 3,012 cases), compared to 46.5% in non-residential settings (901 out of 1,936 cases). Of the fatal cases, naloxone was administered in 9.1% of residential overdoses (57 out of 624 cases) and in 14.2% of non-residential overdoses (18 out of 127 cases). In the analysis, 720 incidents were classified as "dead body" reports, with naloxone administration reported in only 69 of these cases. This suggests that the majority of these individuals were likely deceased upon the arrival of public safety responders. Assuming this to be the case, it implies that in 13% (651 out of 4,948) of the incidents, public safety personnel likely had no opportunity to revive the individual.

**Figure 8. Naloxone Administration in Overdose Incidents by Year (N=4,948)**



## Hospital Transport

Of the non-fatal incidents reported by CDP officers (n=4,197), 88% (n=3,692) of the incidents involved individuals who were transported to a hospital. Thirty-five percent of these hospital transports (1,300 out of 3,692 incidents) were to MetroHealth Medical Center (MHMC). Seven Cleveland Clinic hospitals (CCF) combined for 1,450 or 39% incidents, while three University Hospitals (UH) accounted for 605 (see Table 3). It is worth noting that in 8.2% of all overdose incidents (407 of 4,948), individuals refused either treatment or transport.

**Table 3. Hospital Transportation Location (10+ incidents)**

Hospital Reported	Incident Count (# of Transports)
MetroHealth Medical Center	1,300
Cleveland Clinic Fairview Hospital (CCF)	644
Cleveland Clinic Main Campus (CCF)	254
Lutheran Hospital (CCF)	222
Cleveland Clinic Euclid Hospital (CCF)	149
Marymount Hospital (CCF)	102
Lakewood Hospital (CCF)	23
South Pointe Hospital (CCF)	56
University Hospital Main Campus (UH)	557
University Hospital Rainbow Babies and Children’s Hospital (UH)	34
Southwest General Hospital (UH)	14
St. Vincent Charity Hospital	276

## Location



**61%** of all overdoses occurred at **residences**.

**83%** of fatal overdoses occurred at **residences**.

### Location Type

Out of the 4,948 reported incidents, location details were available for 4,813 cases. Residential areas (including apartments and homes) were the most common incident locations, comprising 60.9% (3,012 incidents) of the total. Residential locations accounted for 83.1% of all fatal overdoses (624 out of 751 incidents).

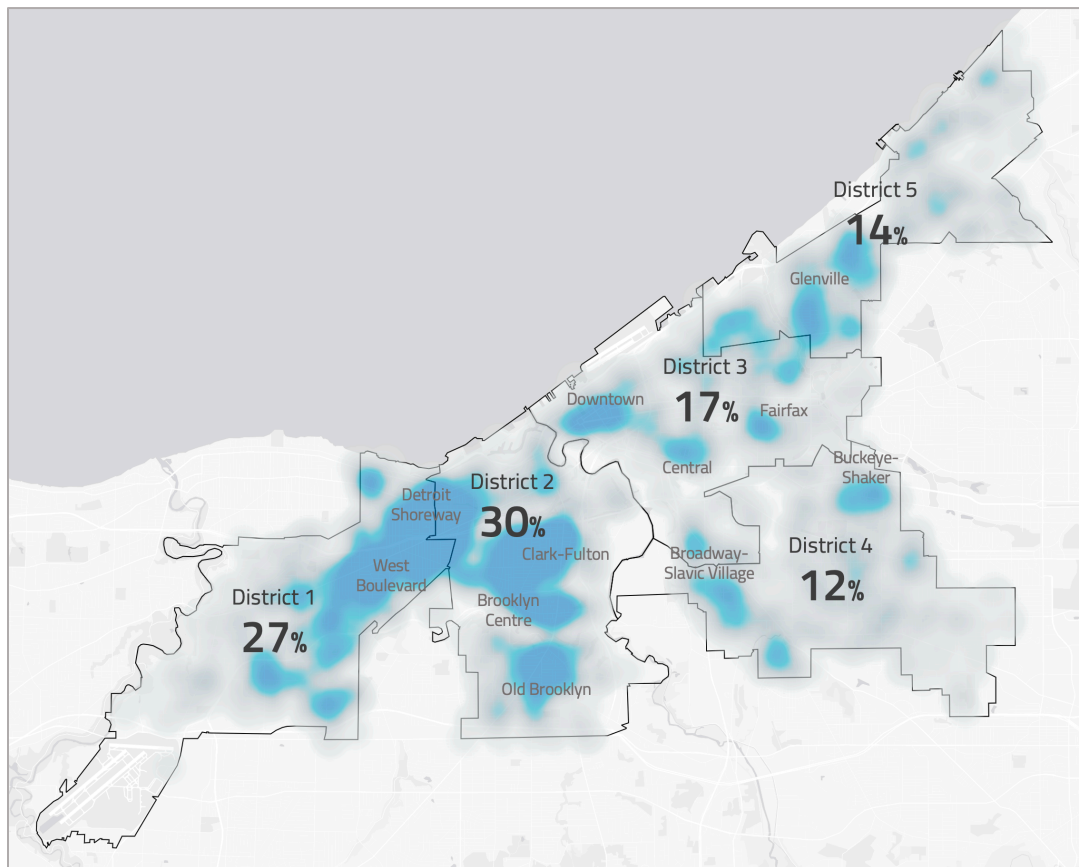
**Table 4. Overdose Incidents by Location Type, Fatal and Non-Fatal Incidents (n = 4,813)**

Location Type	Incident Count	Proportion
Residence	3012	62.6%
Street or Parking Lot	899	18.7%
Business	256	5.3%
Vehicle	230	4.8%
Transitional Housing or Shelter	109	2.3%
Gas station/Convenience Store	86	1.8%
Hospital or Other Health Care	58	1.2%
Hotel/Motel	45	0.9%
Restaurant/Bar	33	0.7%
Other	19	0.4%
School	15	0.3%

## Police Districts

Among the 4,948 overdose incidents, there were 4,926 incidents where the Cleveland police districts were reported. CDP personnel who cover the Second District responded to 30% (1,459 of 4,926) suspected overdose incidents, followed by 27% in the First District (1,329 of 4,926), 17% in the Third District (863 of 4,926), 14% in the Fifth District (675 of 4,926), and 12% in the Fourth District (600 of 4,926).

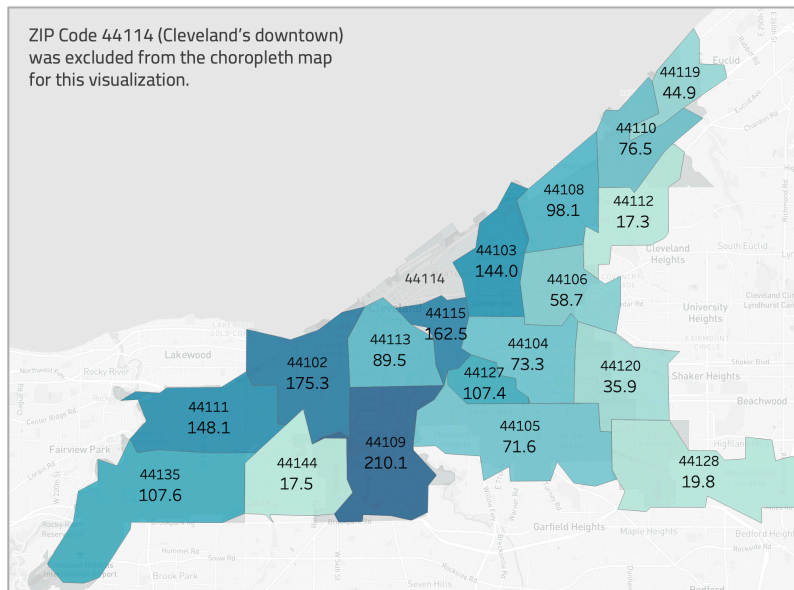
**Figure 9. Proportion of Suspected Overdose Incidents by Police District (n = 4,926)  
Select Neighborhoods Included for Reference with a Density Map Layer**



## ZIP Codes

Incident rates per 10,000 population were computed for each ZIP code. The Cleveland ZIP code 44114 (downtown) recorded the highest rate, with 319.6 incidents per 10,000 population. However, it was excluded from the choropleth map below. This decision was based on the disproportionately low residential population in this area, combined with a high number of overdoses, particularly those occurring at the men's shelter within ZIP code 44114. Such a concentration significantly skews the rate results. To ensure a more accurate and representative visualization, this ZIP code was therefore omitted from the map.

**Figure 10. Rate of Suspected Overdose Incidents by ZIP Code per 10,000 population**



### Residential Information

Among 4,948 suspected overdose incidents that CDP responded to, 75.7% involved Cleveland residents (3,747 of 4,948). The remaining 24.3% (1,201 of 4,948) were individuals from 181 other cities and 21 different states besides Ohio. Non-Cleveland residents experienced fatal overdose in 11% of the incidents (132 of 1,201) while Cleveland residents experienced fatal overdose in 16.5% of the incidents (619 of 3,747).

**Table 5. Reported City of Residence for Individuals Experiencing a Suspected Overdose\***

Reported City of Residence	Incident Count
Cleveland	3,747
Parma	68
Lakewood	62
Euclid	45
Garfield Heights	42
Cleveland Heights	33
Brook Park	32
North Royalton	25
Akron	24
East Cleveland	24
North Olmsted	24
Parma Heights	22
Brunswick	20
Lorain	20
Strongsville	20

\* The top 15 of 181 cities of residence are listed (20+ incident reports)

## Supplemental Drug-Related Mortality Data - CCMEO

This supplemental information pertaining to fatal overdoses among Cleveland residents was provided by CCMEO.<sup>3</sup> Some of these data are publicly available on the Cuyahoga County Board of Health’s [Overdose Data Dashboard](#), which visualizes overdose-related deaths, including select toxicology categories for individuals who died from drug-related causes. Using this information enhances our understanding of fatal overdoses experienced by Cleveland residents.

It is important to note that information from the CCMEO does not align directly with incident response data from the CDP for several reasons. First, not all Cleveland residents who died from drug-related causes did so within the CDP jurisdiction. Second, there may be instances where the CDP responded to an incident without any initial indications of a drug-related fatality, but subsequent toxicology tests conducted by the CCMEO revealed otherwise. Finally, the dataset provided by the CCMEO spans a longer timeframe compared to the overdose incident data available from the CDP. As an example of how these datasets differ, over the same period (2020 to 2022): CCMEO reported 942 drug-related deaths for Cleveland residents while CDP reported that they responded to 620 Cleveland residents who died from suspected drug-related causes.

From 2014 – 2022, CCMEO reported 2,506 fatal overdoses in which the decedent’s residential address was in Cleveland (see Table 6). Like much of Cuyahoga County, Cleveland experienced drastic increases in drug-related deaths in 2016 and 2017 due to the introduction of fentanyl into the drug supply. Fentanyl continues to drive the sustained high numbers of drug-related deaths not only in Cleveland and Cuyahoga County, but across Ohio and the nation. Of particular concern is the combination of cocaine and fentanyl in Black and Hispanic decedents; deaths involving these combinations in these populations have been steadily increasing (see Figures 12-14). Spikes in drug overdose deaths in 2017 and 2019 were linked to the potent fentanyl analog, carfentanil, an anomaly in Northeast Ohio that significantly impacted those years. Its presence has declined sharply since the onset of COVID-19 (Flannery et al., 2020; Millennium Health, 2021; Noriega et al., 2023).

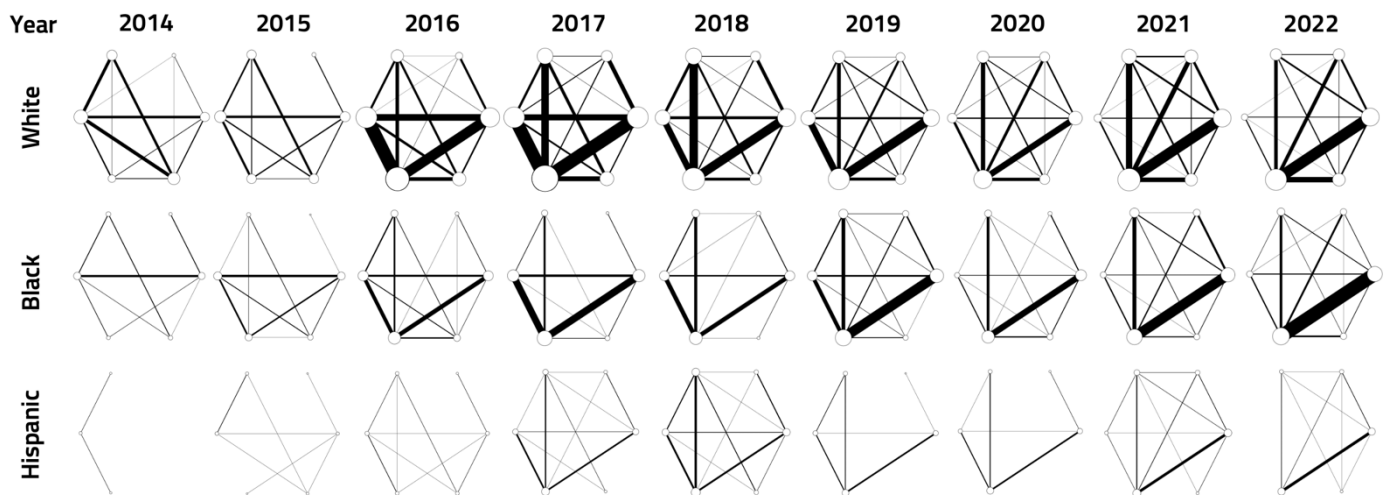
**Table 6. Drug-Related Deaths for Cleveland Residents, 2014 - 2022**

Race/Ethnicity	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total
White (Non-Hispanic)	98	95	207	230	141	154	126	182	141	1,374
Black (Non-Hispanic)	54	58	84	125	82	130	95	142	149	919
Hispanic	7	7	11	28	22	26	34	30	32	197
Other	1	0	1	1	1	1	3	1	7	16
<b>Total</b>	<b>160</b>	<b>160</b>	<b>303</b>	<b>384</b>	<b>246</b>	<b>311</b>	<b>258</b>	<b>355</b>	<b>329</b>	<b>2,506</b>

<sup>3</sup> Drug-related overdose deaths in this section are limited to Cleveland residents, regardless of where the overdose occurred. This choice focuses on the impact on the city’s population and aligns with other sociodemographic data for analysis. Conversely, deaths of non-residents who overdosed in Cleveland are excluded.

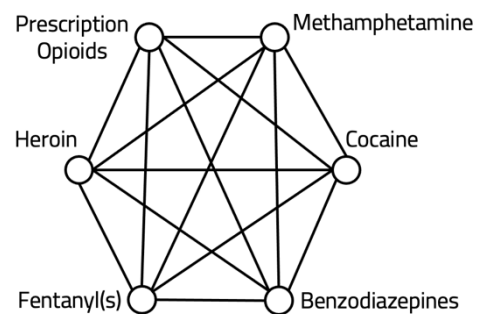
Figure 11 shows evolving drug patterns in Cleveland decedents from 2014 to 2022 and focuses on common drug combinations in drug-related death cases. This visualization also shows how these combinations of drugs have impacted the three primary race/ethnicity demographics in the city.<sup>4</sup> The drug supply has changed, with heroin as the primary factor in 2014, often combined with benzodiazepines. Fentanyl emerged in 2016 leading to record deaths in 2017. By 2022 diverse drug mixtures, particularly fentanyl and cocaine, are prevalent.

**Figure 11. Toxicology “Network” Graph: Visualizing Mixtures of Drugs Reported by CCMEO**



How to interpret Figure 11: The above “networks” of drug connections represent combinations found in toxicology tests, and line thickness indicates their proportion. The circle size reflects individual drug frequency in toxicology results. For example, the highest proportion of combined drugs in Black decedents (Cleveland residents) in 2022 was fentanyl and cocaine (thickest connecting line). Fentanyl was the leading cause of death drug (indicated by the largest circle). See the reference aid on the right.

**Figure 11 Reference Aid**

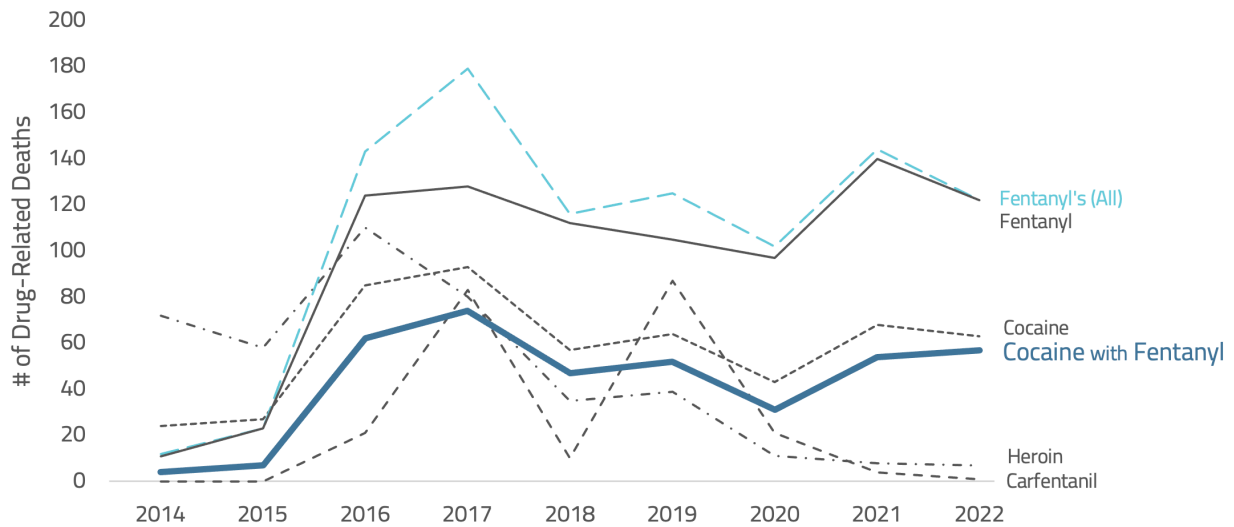


<sup>4</sup> The racial categories 'White' and 'Black' in the toxicology network analysis and visualizations includes individuals from the Hispanic demographic (i.e., 'White Hispanic', and 'Black Hispanic'). In this visualization, there is no separate distinction for 'non-Hispanic White' and 'non-Hispanic Black'. Additionally, despite their relatively smaller numbers, we visualized the entire Hispanic population separately to highlight the trends within this community. This separate visualization is particularly important given the substantial increase in overdose death rates among the Hispanic community since 2014. This approach was adopted to streamline the analysis and simplify the visual representation of the data, while also acknowledging and illustrating significant demographic trends.



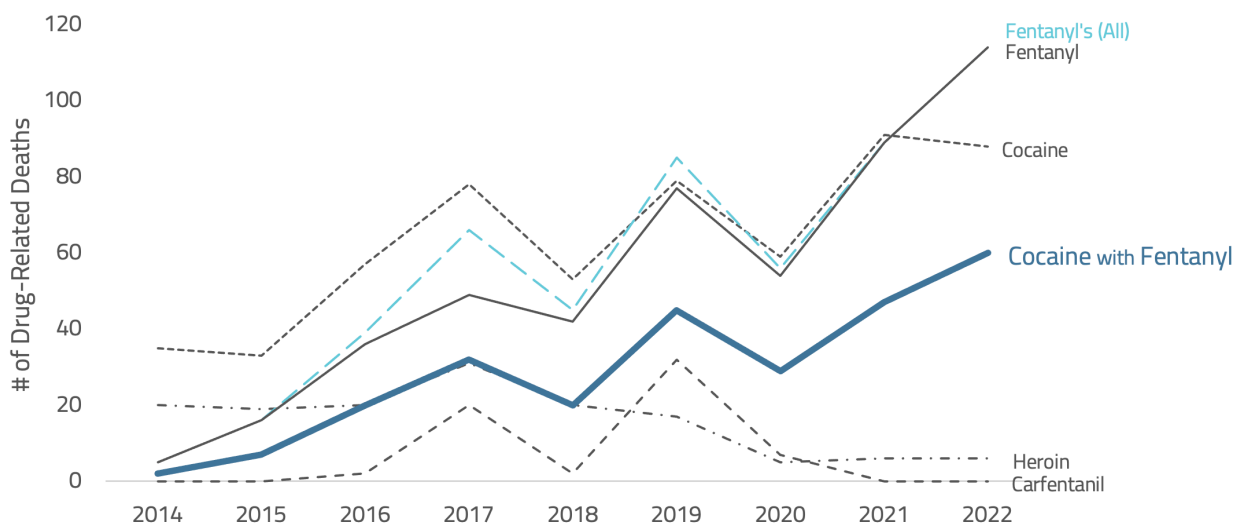
**Figure 12. Select Drug Types in Drug-Related Deaths Among White (Non-Hispanic) Cleveland Residents**

Toxicology analyses reveal that among White residents of Cleveland who died from drug-related causes, there has been a general decline in deaths related to these major drug types, with the exception being **cocaine and fentanyl** mixtures.

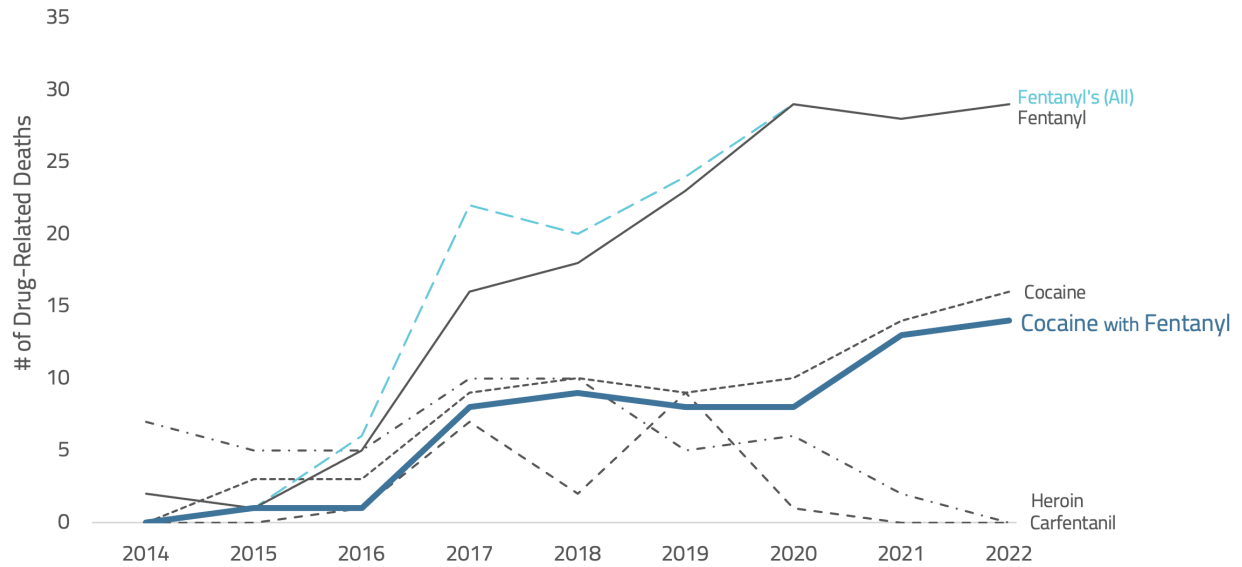


**Figure 13. Select Drug Types in Drug-Related Deaths Among Black (Non-Hispanic) Cleveland Residents**

Toxicology results show that among Black residents of Cleveland who died from drug-related causes, the significant rise in fatalities is primarily due to fentanyl. Moreover, the incidence of **cocaine and fentanyl** mixtures contributing to these deaths has seen a dramatic increase; in 2022 alone such mixtures accounted for 40% (60 out of 149) of all drug-related deaths.



**Figure 14. Select Drug Types in Drug-Related Deaths Among Hispanic Cleveland Residents**  
 Cleveland's Hispanic community, while experiencing fewer overall drug-related deaths, has seen a marked increase in such fatalities since 2014, mirroring the Black population's trends. Toxicology reports indicate that this rise, predominantly driven by fentanyl, often involves **cocaine and fentanyl** mixtures, which accounted for 44% (14 out of 32) of these deaths in 2022.



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