OVERDOSE DATA TO ACTION: 2023

An update to *Overdose Data to Action: Trends in Substance Use, Overdose, and Treatment in the Quinnipiack Valley and New Haven*

DataHaven
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Prepared by
Kelly Davila, MA, MS, Senior Research Associate, DataHaven

With assistance from
Kara Sepulveda, MPH, Public Health Programs Assistant, QVHD

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The Quinnipiack Valley Health District (QVHD) provides public health and other services to the residents of Bethany, Hamden, North Haven, and Woodbridge, Connecticut.

DataHaven is a non-profit organization with a 30-year history of public service to Connecticut. Our mission is to empower people to create thriving communities by collecting and ensuring access to data on well-being, equity, and quality of life. DataHaven is a formal partner of the National Neighborhood Indicators Partnership of the Urban Institute in Washington, DC.

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Executive Summary

This report focuses on the four-town Quinnipiack Valley Health District (QVHD), including the towns of Bethany, Hamden, North Haven, and Woodbridge, plus New Haven, which is served by the New Haven Health Department (NHHD). Collectively, the five-town area is referred to as the "region."

Unintentional, Fatal Overdoses

- 2022 was a record-high year for fatal overdoses in the five-town region, with 154 overdose deaths recorded.
- In New Haven, the overdose fatality rate as of May 2023 was 81.5 per million residents, much higher than the state average of 27.9 and the QVHD rate of 27.1.
- As of May, 2023, 87 percent of overdose deaths in the region involved opioids, 79 percent involved fentanyl, 48 percent involved cocaine, 26 percent involved ethanol, 13 percent involved xylazine, and 6 percent involved heroin.
- Heroin's presence in fatal overdoses has been rapidly declining. Xylazine-involved overdoses are on the rise. There have been 53 xylazine-related overdoses in the region since routine testing began in 2019.
- Since 2018, fentanyl has established itself as the top substance found in overdose deaths. It is now associated with an average of 11 fatal overdoses per month in the five-town region.
- Yale's Center for Clinical and Community research has detected fentanyl in 93 percent of opioid samples tested between October 2022 and October 2023. Xylazine has been detected in 26 percent of opioid samples.
- After converging, overdose death rates for white people have dropped below those of Black and Latino people, statewide and regionally. In the five-town area, the overdose death rate for Black people is 71.0 per million residents; for Latinos, 63.2; and for white people, 51.2.
- Females comprise about one-quarter of overdose deaths regionally and they are notably more likely to involve benzodiazepines than males.
- In New Haven, heroin is more prevalent in white populations and fentanyl in Latino populations. Cocaine use is elevated among females and the Black population. Ethanol is consistently present in about 30 percent of unintentional overdose deaths. Xylazine deaths are elevated among Latinos.
- In the QVHD region, fentanyl and cocaine are more commonly seen in overdoses among Black and Latino populations. Ethanol is present in a third of overdoses among Latinos, elevated from the regional average of less than a quarter.

Intentional, Fatal Overdoses

- From 2020 to 2022, there were 9 intentional, fatal overdoses in the five-town region—too few to assess trends.

Nonfatal Overdoses

- There were 5,504 accidental, nonfatal overdoses recorded in the region between 2018 and 2022 for an average of 1,101 per year. There are about 10 nonfatal overdoses for every fatal overdose in the region.
- By ZIP code, *rates* of nonfatal overdoses are highest in 06510 (downtown New Haven, which may be used as a default or to track overdoses on the New Haven Green, but has a small population due to its small size) and 06519 (The Hill), but counts are highest in 06511 (Central New Haven) which has the highest population in the region.
- Opioids are the primary substance involved in nonfatal overdoses regionally.
- Men are twice as likely as women to be involved in nonfatal overdoses in the region, and nonfatal overdose rates in New Haven are about twice those of the four-town QVHD region.

Intentional, Nonfatal Overdoses (Suicide Attempts by Poisoning)

- From August 1, 2021 through June 30,2023 (with a data overlap in July 2022—see notes for Table 7), there were 312 emergency department visits for suicide attempt by poisoning among residents in the five-town region. It is important to note that these may not have involved opioids or illicit drugs at all.
- There are an average of 2.4 attempted suicides by poisoning per fatal overdose in the five-town area.

9-1-1 Calls Involving Overdose

- Of the 554 runs related to overdose between July 2021 and July 2023, 245 or 44 percent were related to heroin and 51 or 9 percent were related to fentanyl.
- Naloxone was administered during 504 of the 554 runs (91 percent) between July 2021 and July 2023.
- Fire departments and EMS were most likely to administer naloxone. Each administered naloxone in 39 percent of runs where naloxone was given. Bystanders administered it in 18 percent of runs, and all others including police administered it in 6 percent of runs.

Controlled Substances

- According to DEA data, of all eight Connecticut counties, New Haven County pharmacies sold the most opioid pills per capita, averaging 31 per person per year between 2006 and 2019. Prescription pill distribution peaked in 2012 and has been declining since.
- Controlled substance prescriptions administered by Connecticut pharmacies increased from 2014 to 2021, but the number of prescriptions for opioids and benzodiazepines have decreased as a share of all controlled substance prescriptions. In 2021, opioid prescriptions comprised 19 percent of all controlled substance prescriptions in Connecticut.

Syringe Service Programs

- Since 2017, millions of items have been administered to about 4,000 substance users in the five-town region, including approximately 23,000 fentanyl test strips, 12,000 crack kits, and 6,000 naloxone kits. The total syringe return rate is 54.3 percent.

Overdose Treatment

- In 2020, Connecticut ranked fourth nationwide for the rate of treatment admissions that had illicit opioids (e.g., heroin) listed as the primary substance for treatment.
- Of the roughly 16,000 people in Connecticut admitted to treatment for opiates or heroin in 2020, 88 percent had been in treatment at least once before. More than a third had been in treatment five or more times.
- Locally, admissions specifically related to substance use have decreased since 2019, likely due to the pandemic.
- There are 183 providers in the region authorized to provide medication assisted treatment (e.g., buprenorphine treatment), or approximately one provider for every 1,058 adults in the five-town area.

Public Naloxone Availability

- Fifty-one pharmacies in the region have pharmacists who are authorized to dispense naloxone and train on its proper use.
- In 2023, naloxone was approved by the FDA as an over-the-counter medication and is now available at local drug stores in every town in the region for about $45 per box.
- Local health departments also provide naloxone to residents, free of charge. Contact your local health department to learn what resources are available.

Encounters for Medical and Social Assistance

- From 2012 to 2021, hospital encounters for substance use rose more than 10 percent in Connecticut overall, as well as in Hamden and New Haven.
- Statewide, the average rate of 2-1-1 requests for substance use assistance have increased since 2020 in all areas. Call rates in New Haven are more than twice the state average.

Structural Drivers Related to Overdose

- Several structural drivers are known to be associated with high rates of overdose, including various measures of financial insecurity, community dissatisfaction, and poor overall health.
- Of the 12 ZIP codes in the region, 06519 (The Hill) experiences high rates of overdose alongside higher rates of financial insecurity, distrust of neighbors, and overall fair or poor health.

Program Models

- Overdose prevention centers help to prevent fatal overdoses when an individual uses drugs alone and when reversal aids like naloxone are not available. They are also a source for information, support, and other services.
- A growing body of scholarship suggests that addressing structural drivers are important to help reduce overdose fatalities. A study in Massachusetts found that in municipalities where wraparound services were offered to people who overdosed, 21 percent saw a drop in overdose fatalities.
- Housing First initiatives help individuals with substance use disorder first establish permanent housing, then connect them with other services to improve their overall wellbeing, including substance use prevention programs.
- Histories of substance use or incarceration related to substance use create barriers to employment for many individuals. Workforce programs aimed at reducing stigma around prior substance use that combine substance use prevention programming help individuals keep jobs and improve financial wellbeing.
- For individuals facing re-entry or who have both substance use and mental health disorders, programs that provide multiple supports have shown promise in reducing substance use and promoting better quality of life through housing, employment, education, and mental health support.

Recommendations

- Advocate for additional or improved data to better understand:
    - Trends in overdoses specifically among the homeless population.
    - Trends in nonfatal overdoses among smaller racial/ethnic groups, such as the Asian, Native American, and Pacific Islander population. These trends may need to be compared to statewide information.
    - Naloxone distribution through pharmacies now that it is available over-the-counter.
- Improve capacity to further analyze the role of various socioeconomic factors in drug use and overdose.
- Continue to educate drug users on the prevalence of fentanyl and xylazine in the drug supply.
- Continue to provide fentanyl rapid test strips, naloxone kits, and other harm reduction products through trusted outreach networks.
- Educate the public on the importance of naloxone in reversing overdose and invest in programs to provide training and materials to acquire it more easily.
- Encourage policies that may support the education on the danger of misuse and/or co-prescription of naloxone with controlled substance opioids (e.g., pain management).
- Expand capacity to determine whether more medication assisted treatment is needed in the region. This may include analyzing whether existing programs are consistently at capacity or whether workforce development or provider training is needed.
- Explore strategies to improve treatment retention and reduce recidivism / relapse for drug users who are in treatment. Where possible, combine efforts and funding to include programs that expand access to technology or transportation.
- Invest in multi-pronged programs that include upstream factors related to substance use including job training, employment services, and affordable, stable housing.

Introduction

This report updates *Overdose Data To Action: Trends in Substance Use, Overdose, and Treatment in the Quinnipiack Health District and New Haven*, originally released in July 2021.[1] That report summarizes data trends related to overdose, substance use, harm prevention, and related metrics, and provides recommendations to inform programs developed by the Quinnipiack Valley Health District (QVHD) and New Haven Health Department's (NHHD) joint effort to reduce overdoses through the Overdose Data to Action (OD2A) grant administered through the Connecticut Department of Public Health (CTDPH) via the Centers for Disease Control and Prevention (CDC). This update was compiled between May and December, 2023, using the latest available data.

Primary Data Collection

Primary data collection consisted of two efforts. The first was an online survey, available in English and Spanish, that included several questions related to substance use awareness. In all, 21 responses were collected between August and November, 2023. Given the small sample size, only a short summary of findings are provided in Appendix A.

The second was a series of 40 intercept surveys collected during Overdose Awareness Day on the New Haven Green on August 31, 2023. Intercept surveys are qualitative surveys designed to be quick and informal, to collect as much data as possible in a short time. Questions asked included substances of concern, why they are a concern, and what the health department can do to help. A summary of findings is provided in Appendix A.

Secondary Data Collection

The data in this report were collected through numerous sources, including the DataHaven Community Wellbeing Survey, the American Community Survey, Connecticut Department of Public Health, Connecticut Office of the Chief Medical Examiner, U.S. Drug Enforcement Agency, U.S. Substance Abuse and Mental Health Services Administration, among others. See Figure and Table Notes at the end of this document, as well as footnotes, for more information on sources for each graphic in this report.

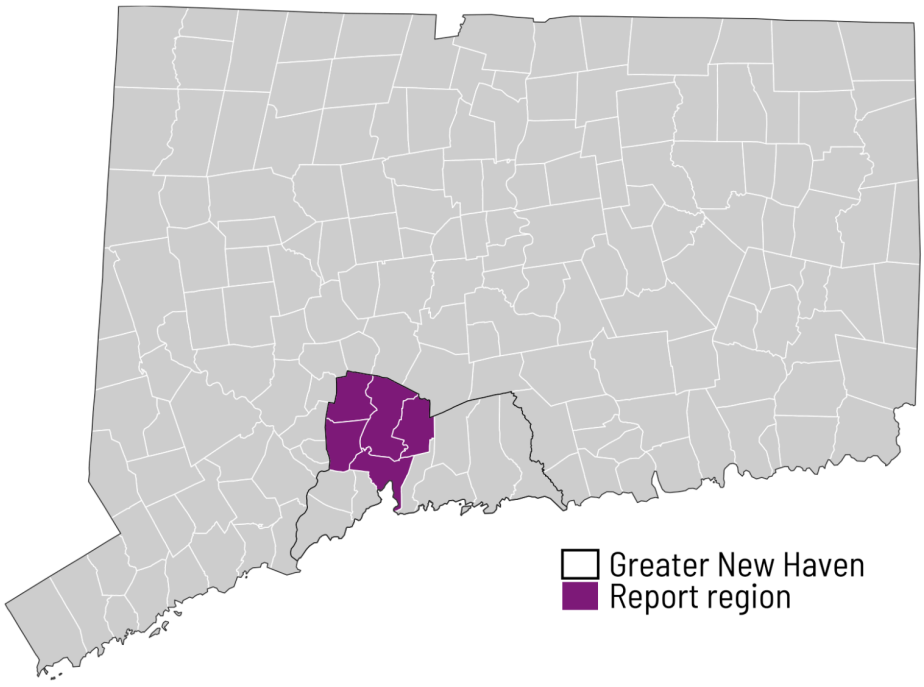
[1] Davila, K. (2021, August 8). *Overdose Data to Action: Trends in Substance Use, Overdose, and Treatment in the Quinnipiack Valley Health District and New Haven*. https://ctdatahaven.org/reports/overdose-data-action-trends-substance-use-overdose-and-treatment-quinnipiack-valley-health

Overview

In 2018, 25 percent of adults in the Greater New Haven region said they knew someone who had died of overdose, including 5 percent who lost a family member, and 13 percent who knew two or more people who had died. In 2021, 30 percent of adults in Greater New Haven knew someone who had struggled with addiction to opiates in the past three years, including 11 percent of Black adults and 10 percent of adults ages 18–34 who said they themselves had struggled.[2] Overdose prevention is informed by an awareness of the potentially fatal consequences of overdose. Information on the demographics of people dying from overdose, as well as the substances involved in fatal overdoses, may help improve the circumstances leading to these fatalities.

The data that follow describe the four-town Quinnipiack Valley Health District (including the towns of Bethany, Hamden, North Haven, and Woodbridge) along with New Haven. Collectively, this report will refer to that grouping of five towns as the "region." The region comprises a large portion of the 13-town Greater New Haven area. Some data presented in this report are only available for the Greater New Haven area and will be indicated.

Figure 1: Map of the five-town region within Greater New Haven and Connecticut



[2] DataHaven analysis (2023) of 2018 and 2021 DataHaven Community Wellbeing Survey.

Unintentional, Fatal Overdoses

Between 2015 and May 31, 2023,[3] the five-town region recorded 788 unintentional overdose deaths—an average of 93 per year. While the worst year for fatal overdoses nationally and statewide was in 2021, the number of unintentional overdoses in the region continued to rise in 2022, with 154 in the five-town area, surpassing the previous record high in 2021 by 7 deaths. Note that these do not include overdoses with undetermined intentionality.

Table 1: Unintentional overdose deaths: counts, and averages by area, January 1, 2015–May 31, 2023

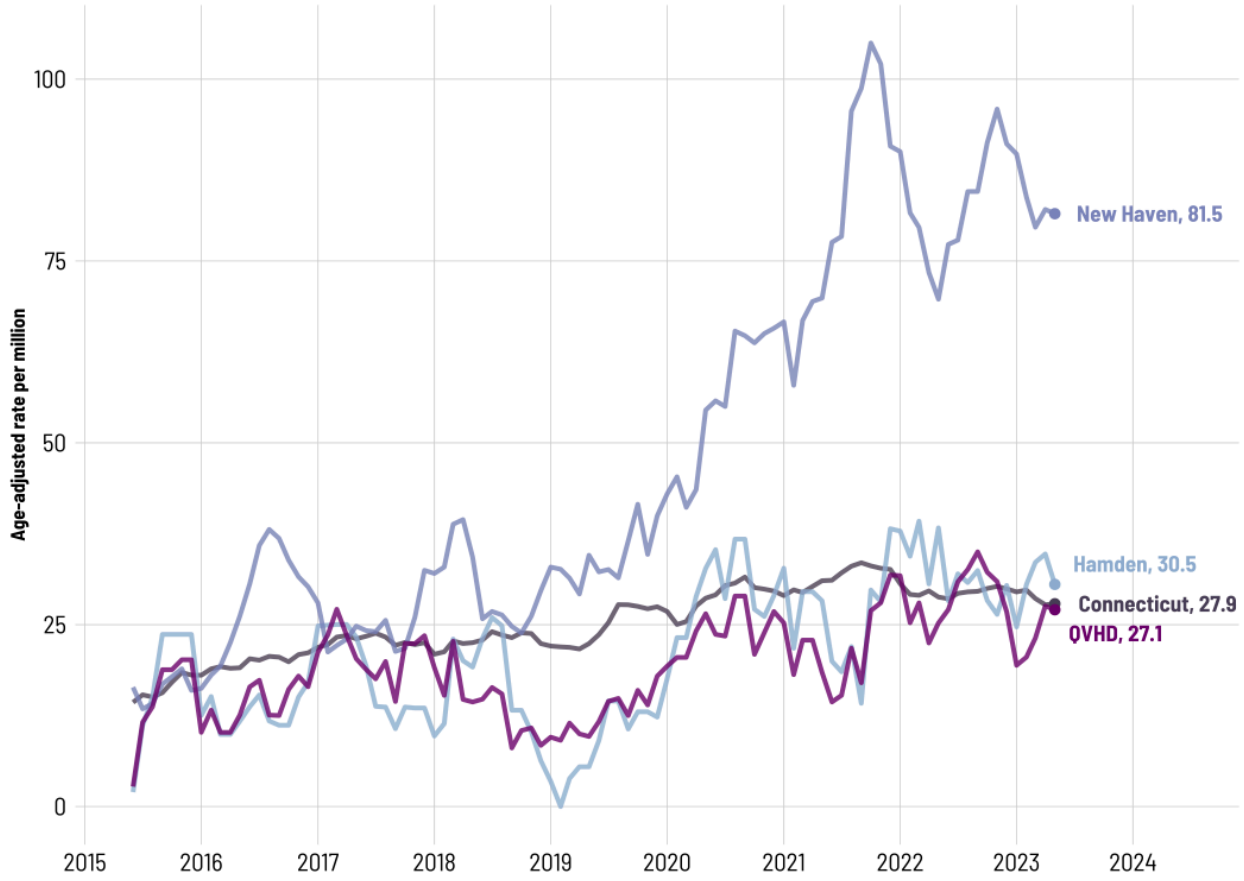
Year	CT	QVHD	Bethany	Hamden	New Haven	North Haven	Wood-bridge
2015	686	14	1	9	27	3	1
2016	861	20	0	12	45	7	1
2017	963	23	3	11	41	7	2
2018	946	12	0	10	41	2	0
2019	1,083	17	2	8	58	7	0
2020	1,261	29	0	23	91	5	1
2021	1,396	27	0	22	120	5	0
2022	1,294	30	0	20	124	6	4
2023*	523	13	2	9	55	2	0
TOTAL	9,013	185	8	124	602	44	9
ANNUAL AVG.	1,060	22	1	15	71	5	1

* 2023 data covers the period from January 1 to May 31 and is still considered preliminary

[3] Data from OCME is dated July 2023, but the last full month of data in that dataset is May 2023.

In the four-town QVHD region, the six-month rolling average of age-adjusted, unintentional, fatal overdoses is 27.1 per million residents—lower than the statewide average of 27.9 per million. New Haven's rate of 81.5 per million is about three times higher than the statewide average, and appears to have increased sharply since 2020.

Figure 2: Age-adjusted rate of unintentional overdose fatalities, January 1, 2015–May 31, 2023



Because of their low counts of unintentional overdose fatalities, rolling averages are not available for Bethany, North Haven, or Woodbridge. Deaths from those towns are counted in the QVHD rolling average.

The COVID-19 pandemic greatly exacerbated the severity of the opioid crisis. Limited access to intervention and treatment was one driving factor in the increase in overdose deaths. Coupled with unprecedented social and economic stressors, restricted mental health support has also been cited as a factor.[4]

As with nearly all aspects of the economy, drug supply chains were disrupted, leading individuals to rely on drugs or drug sources they were not already familiar with. The growing prevalence of fentanyl has contributed to the sharp rise in fatal overdoses, but the emergence of xylazine—a strong sedative for which there is no Narcan-like antidote—likely also contributed to numerous unintentional overdoses.[5] Lastly, mandated social isolation during the pandemic led to more individuals taking drugs alone when they might have otherwise been near someone who could render aid in the event of overdose.

[4] Ghose, R., Forati, A. M., & Mantsch, J. R. (2022 April). Impact of the COVID-19 pandemic on opioid overdose deaths: A spatiotemporal analysis. *Journal of Urban Health 99*(2), 316–327. https://doi.org/10.1007%2Fs11524-022-00610-0

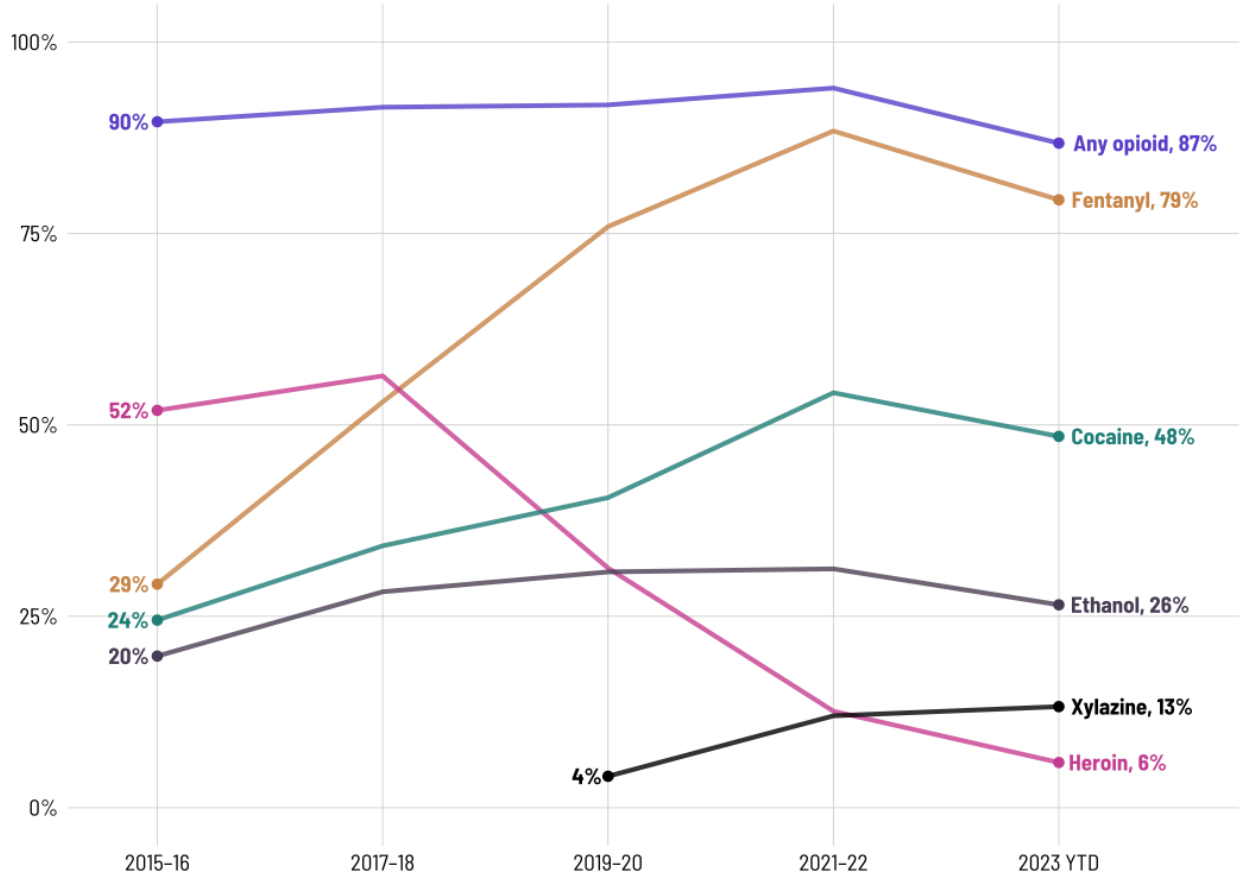
[5] Klobucista, C. & Martinez, A. (2023, April 19). *Fentanyl and the U.S. opioid epidemic.* Council on Foreign Relations. https://www.cfr.org/backgrounder/fentanyl-and-us-opioid-epidemic

Trends By Substance

Nearly all overdose deaths in the region involve opioids, and in recent years, specifically illicitly manufactured fentanyl and fentanyl analogs. Fentanyl is a dangerous substance that has often been identified in drugs without the user's knowledge (see Table 4).

Ethanol (alcohol) has been consistently present in a quarter of unintentional, fatal overdoses in the region. The share of unintentional, fatal overdoses where heroin is detected have declined sharply while opioids in general remain present in nearly all unintentional, fatal overdoses, driven by a sharp rise in fentanyl. Cocaine, once present in about a quarter of unintentional, fatal overdoses, is now present in about half. Xylazine, an emerging substance, appears to be increasing in prevalence but it was likely not on standard toxicology screenings until 2019.

Figure 3: Share of unintentional overdose deaths involving select substances, January 1, 2015–May 31, 2023



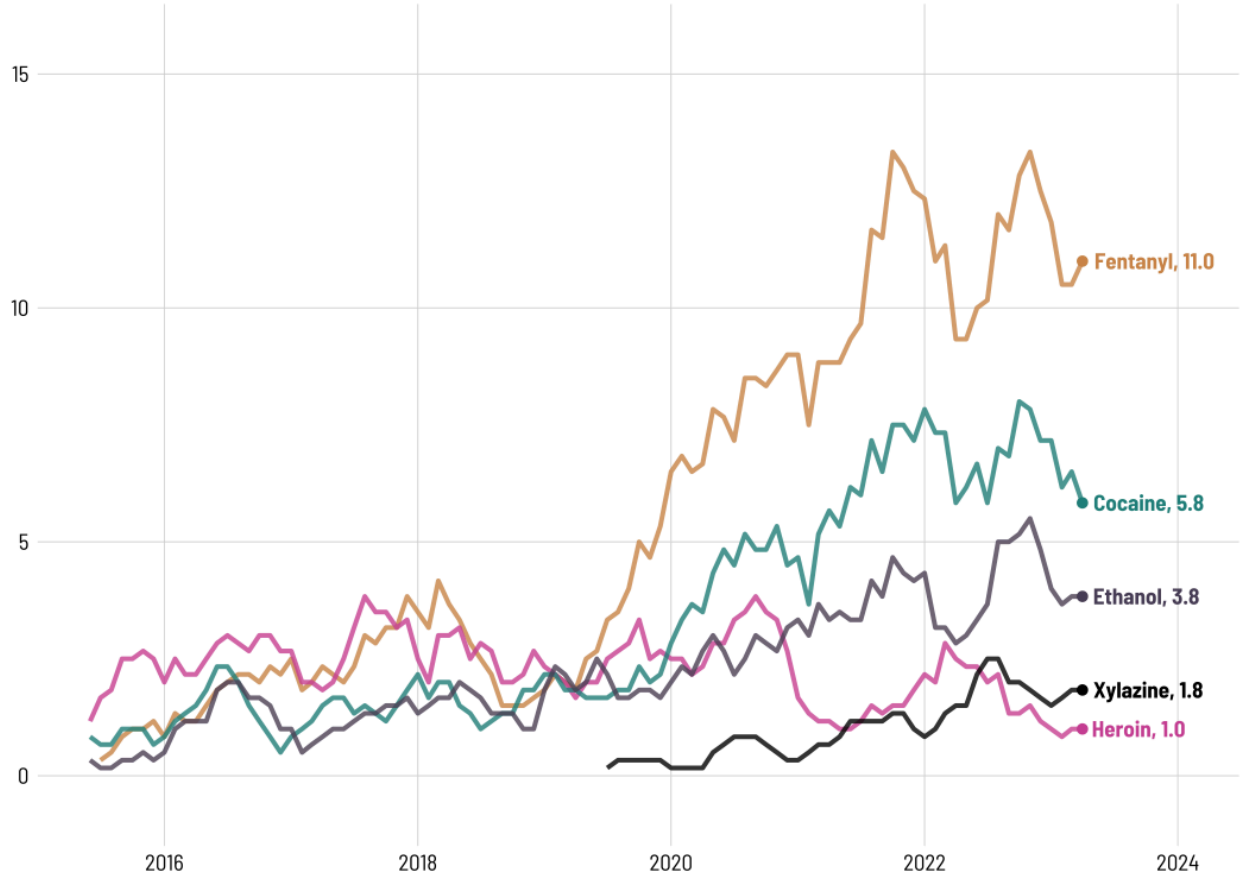
The table below summarizes the count of unintentional deaths by substance for the period from 2015 to May 31, 2023. Polysubstance overdoses are common, so the values in Table 2 and Figure 3 do not add up to the total number of overdose deaths (see Table 1).

Table 2: Unintentional overdose deaths by substance and area, pooled January 2015–May 2023 data

Substance	Bethany	Hamden	New Haven	North Haven	Woodbridge
Total overdose deaths	8	124	602	44	9
Any opioid	8	121	545	40	9
Heroin	3	42	159	15	5
Cocaine	3	47	276	14	1
Benzodiazepine	3	33	88	14	5
Ethanol	2	30	181	13	0
Fentanyl (incl. analog)	5	87	438	27	4
Xylazine	0	6	41	5	1

Fentanyl's prevalence in fatal overdoses has steeply increased in recent years. The figure below illustrates the trend in substances involved in unintentional, fatal overdoses regionally. As of the end of 2022, the prevalence of fentanyl in unintentional, fatal overdoses had quadrupled since 2018, and as of 2023 is associated with more than 11 deaths every month in the five-town area. The next most common substance found in the region is cocaine, which is found in an average of six deaths per month. See Table 4 for additional information on fentanyl in the area drug supply.

Figure 4: Crude average monthly unintentional drug-related fatalities regionwide, by substance, January 1, 2015–May 31, 2023



Emergence of Xylazine

Xylazine, a sedative drug used in veterinary applications, is on the rise in the illicit drug supply since it is commonly incorporated as a cutting agent in other substances, particularly opioids. While naloxone can reverse overdose involving opioids, there is no specific antidote for xylazine, making it particularly deadly.

Data on xylazine in overdose deaths is limited in Connecticut and may not have been systematically collected prior to 2019. Since data has been collected in mid-2019 through the latest available data in May 2023, there have been 53 unintentional overdose deaths involving xylazine in the five-town region: 12 in the QVHD region and 41 in New Haven (see Table 2) with a discernible increase in 2022.

Table 3: Annual Xylazine-related overdose deaths, 2019–2023

Area	2019	2020	2021	2022	January 1–May 31, 2023
Connecticut	63	132	272	307	114
QVHD	1	3	11	18	8
New Haven	1	3	2	5	1

Yale's Center for Clinical and Community Research provided information on drug samples tested for the presence of fentanyl and xylazine from the local drug supply. Between October 2022 and October 2023, they tested a combined total of 216 samples, of which 60 percent were positive for fentanyl and 16 percent were positive for xylazine. Opioids comprised the majority of the samples and also had the highest rate of contaminants.

Table 4: Samples from the area drug supply tested for the presence of fentanyl and xylazine, by substance, October 2022–October 2023, pooled

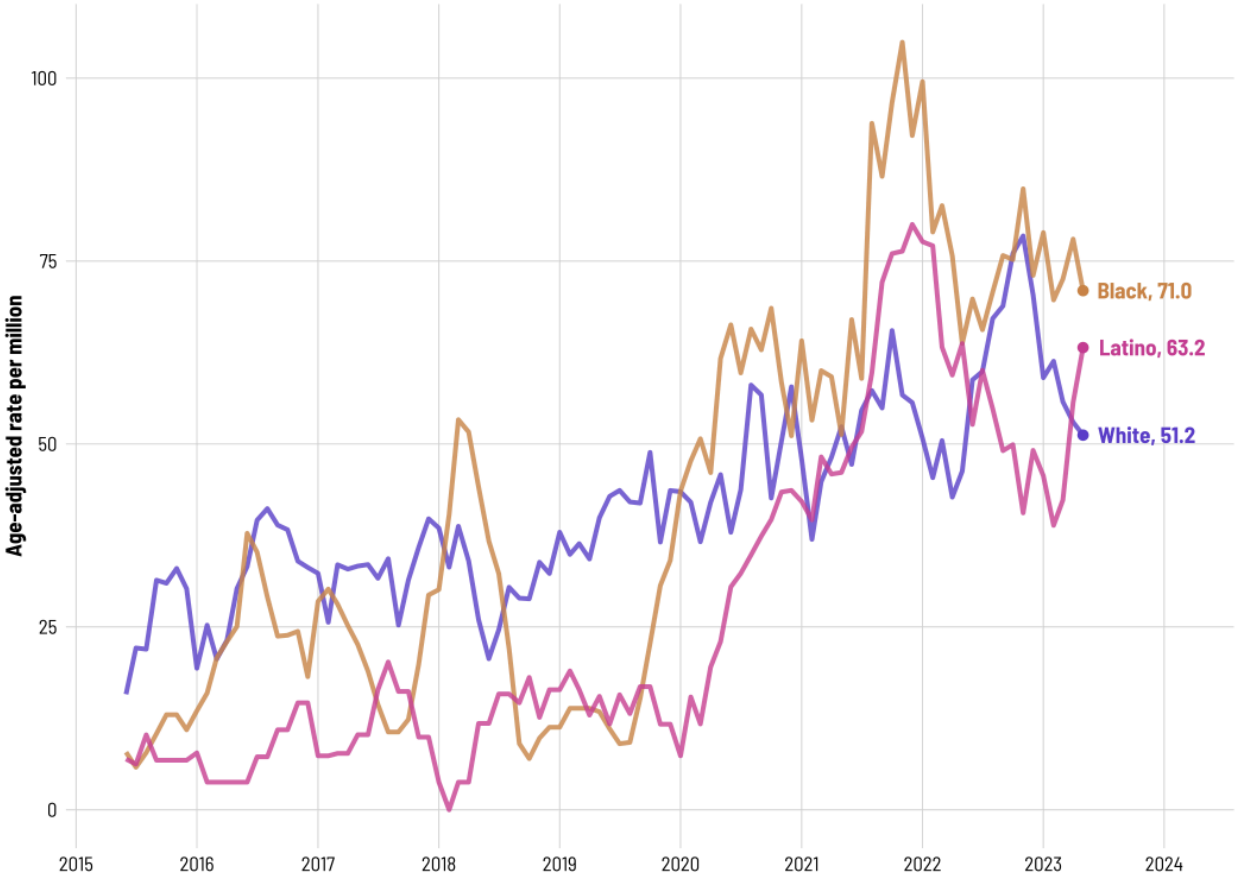
Primary substance	Samples tested	Fentanyl-positive	Xylazine-positive
Opioid	135	93%	26%
Crack/Cocaine	66	3%	0%
Other	14	14%	0%

Trends by Race, Ethnicity, Sex, and Age

Age-adjusted unintentional overdose death rates by race/ethnicity appeared to converge in 2021, but now rates for Black and Latino people in the region are greater than for the white population. The apparent impact of COVID–19 on unintentional overdose death rates was smaller for white populations than Black or Latino populations in late 2021, but steeper in late 2022.

Figure 5: Regional age-adjusted unintentional overdose death rates by race/ethnicity, January 1, 2015–May 31, 2023

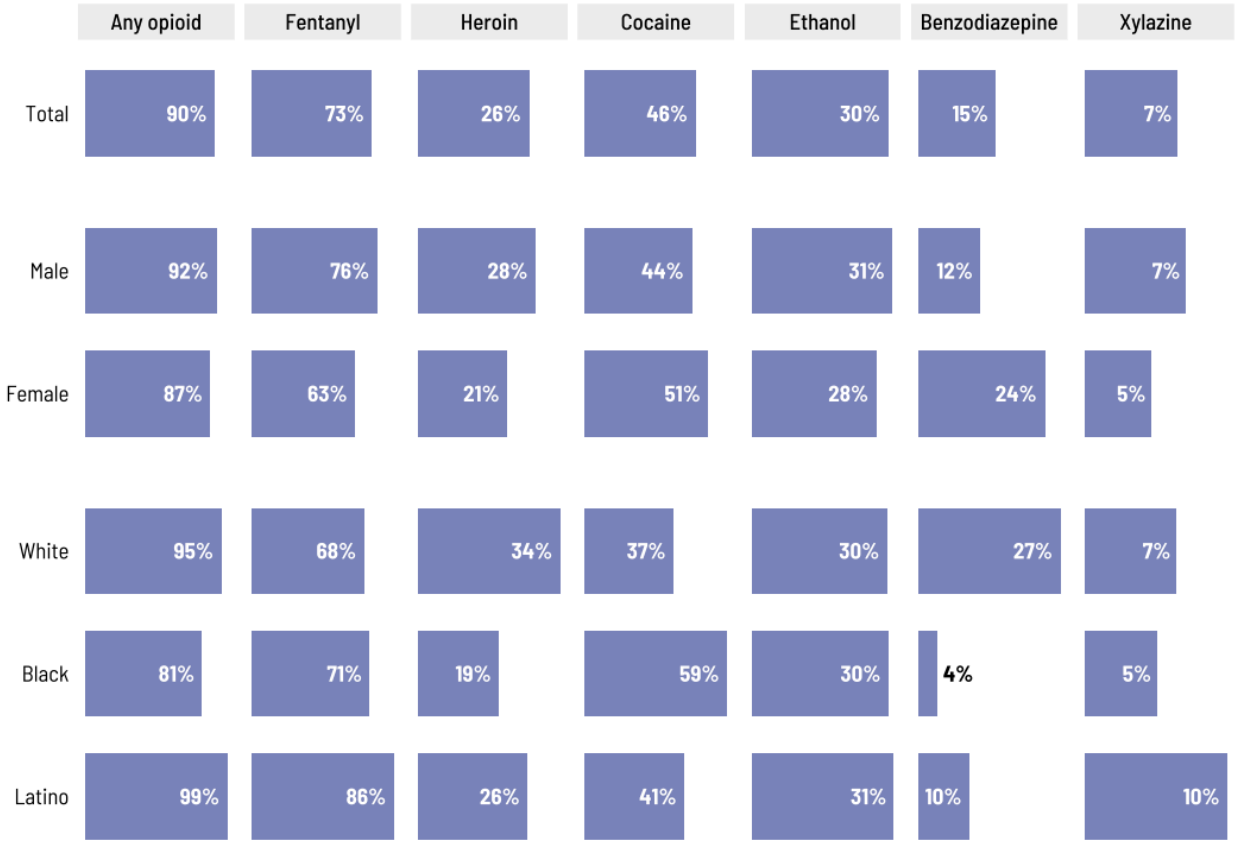
Six-month rolling average



Overdose fatalities are more common among males than females. Regionwide, between 2015 and 2022, an average of 22 deaths per year were among females, or 25 percent of all overdose deaths. However, the composition of substances found varies by race/ethnicity and sex.

In New Haven, opioid use is particularly high among white and Latino groups, with heroin in particular more prevalent in white populations and fentanyl in Latino populations. Benzodiazepines are more prevalent among females and white populations. Cocaine use is elevated among females and the Black population. Ethanol is consistently present in about 30 percent of unintentional overdose deaths in New Haven, and xylazine is present in fewer than one in ten deaths citywide.

Figure 6: Share of substances present in unintentional overdose deaths by demographic, New Haven, pooled January 1, 2015–May 31, 2023 data



Meanwhile, in the QVHD region, unintentional opioid overdoses are consistently high, but fentanyl and heroin are slightly less prevalent among females. Fentanyl is more commonly seen in Black and Latino populations and among males, while heroin is elevated among Latino populations and among males. Half of unintentional overdose deaths in the QVHD region among females have involved benzodiazepines, perhaps suggesting a need for prescription monitoring since this class of drug is commonly prescribed (see Figure 22). Cocaine is present in half of all unintentional overdose deaths among Black and Latino populations. Ethanol is present in a third of overdoses among Latinos, elevated from the regional average of less than a quarter.

Figure 7: Share of substances present in unintentional overdose deaths by demographic, QVHD region, pooled January 1, 2015–May 31, 2023 data

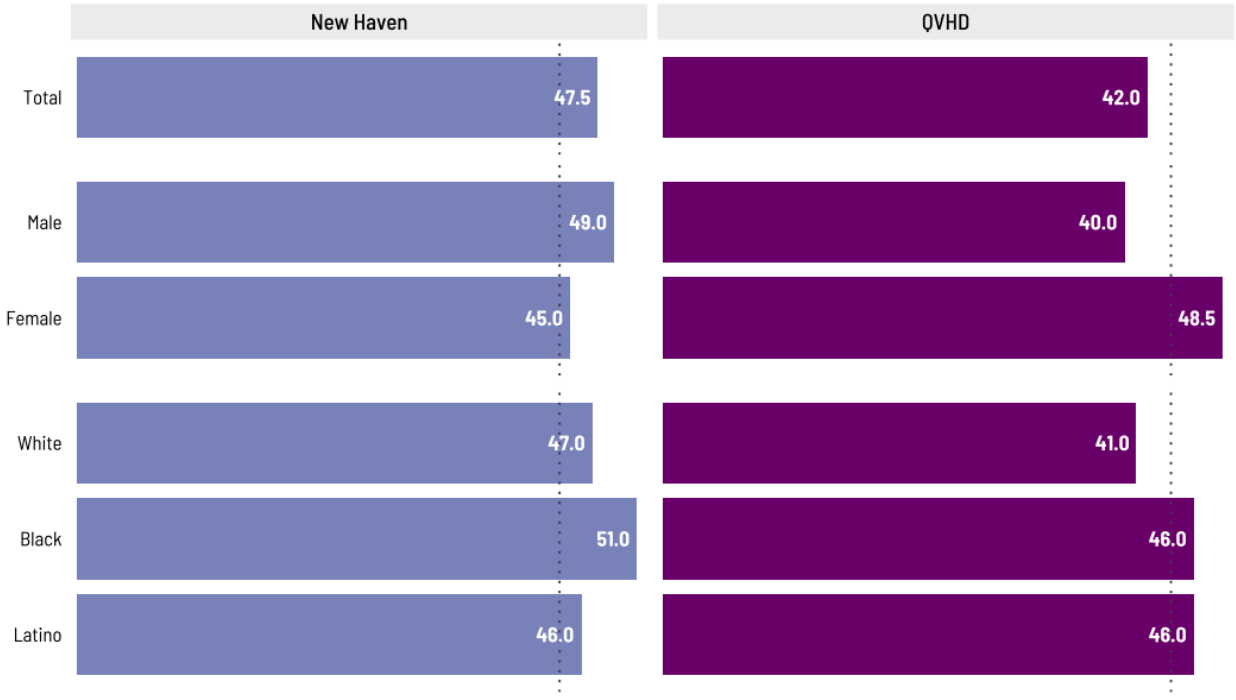
The median age at death from unintentional overdose statewide is 44 years, ranging from a high of 47 in 2021 and 2022 to a low of 41 in 2017. Regionally, the median age at death ranges from a low of 41 years in 2015 and 2017, to a high of 51 years in 2022. These measures do not show a clear trend upward despite the high value in 2022.

Median ages at death in New Haven trend higher while ages in the QVHD region trend lower. In New Haven, the median age at death for unintentional overdose fatalities is highest among the Black population (51 years) and lowest among the Latinos (46 years). In the QVHD region, both Black and Latino populations have a higher median age at death compared to the white population. Both regions have fewer than 10 overdose deaths among people of other races/ethnicities so the median age at death for those populations cannot be estimated.

Females in the QVHD region have the highest median age at death at 48.5 years, 8.5 years older than males. In New Haven, females have a lower median age at death (45 years) than males (49 years).

Figure 8: Median age at death (years) by area and group, pooled January 1, 2015–May 31, 2023 data

Vertical line represents the state median (total)



Intentional, Fatal Overdoses

From 2020 to 2022, there were nine intentional, fatal overdoses (suicides) in the five-town region, including five in New Haven, two in Hamden, one in North Haven, and one in Woodbridge. All involved multiple substances. Three involved opiates. Given such small numbers, no real trends can be assessed.

Nonfatal Overdoses

Nonfatal overdoses can also be split by intentionality. Intentional overdoses are determined by medical professionals to be the result of self-harm, where accidental overdoses can occur when too much of a drug is taken or the wrong drug was taken. While suicide-attempt data was provided separately, nonfatal overdose data provided by EpiCenter data appears to also contain those attempts, and it is not possible to remove the specific records because each dataset provided only pooled data. Data specifically on suicide attempts by poisoning as derived from the Office of Injury and Violence Prevention at DPH can be found following section.

Because EpiCenter data provided for this report includes nonfatal overdoses regardless of intentionality, overdose counts for the years 2020 onward are higher than reported in the previous version of this report. Between 2018 and 2019, there was an average of 715 accidental, nonfatal overdoses per year in the region, but the EpiCenter data from 2020 to 2022 show a strong upward trend. From 2020 to 2022, that value nearly doubled to an average of 1,358 nonfatal overdoses per year in the region. There was an annual average of 10 nonfatal overdoses per fatal overdose between 2020 and 2022.

Table 5 below summarizes the EpiCenter data received in the previous report (2018–2019) and the current report update (2020–2022). Values from 2020 have been updated since the last report.

Table 5: Nonfatal overdoses by area, 2018–2022

Year	Bethany	Hamden	New Haven*	North Haven	Woodbridge	Region
2018	5	109	524	47	9	694
2019	12	126	551	42	5	736
2020	17	193	1,031	58	17	1,316
2021	12	174	1,152	49	18	1,405
2022	13	196	1,064	62	18	1,353
TOTAL	59	798	4,322	258	67	5,504
ANNUAL AVG.	12	160	864	52	13	1,101

* Data were received by ZIP code and aggregated up to the town level for this table. East Haven and New Haven share two ZIP codes. For those, counts have been weighted by the share of the population living in New Haven. This assumes an even distribution of overdoses across the population, which is not likely. Any ZIP code that does not exist geographically (e.g., 06501) has been dropped.

Given the large jump in nonfatal overdoses reported, only trends from 2020 to 2022 will be used in the remainder of this section.

Data in this section were provided by ZIP code. Since some ZIP codes are shared between cities, weighted values were used in tabulations. This will only affect values for New Haven, as all other towns occupy 99 percent or more of their ZIP code areas. In this section, rates will be given per 10,000 population. Refer to Table 6 for populations by ZIP code.

Downtown New Haven (06510) has the highest rate of nonfatal overdoses in the region. However, this area contains the New Haven Green, where several overdoses have occurred, and which may serve as a catch-all ZIP code for the New Haven area if first responders do not know a patient's ZIP code. The ZIP code itself is geographically small and has a comparatively low population, so despite high counts of overdoses in the downtown area, it cannot be assumed only residents are overdosing. Therefore, the rate is considered artificially high.

Figure 9: Annual average rate of nonfatal overdoses by ZIP code, pooled 2020–2022 data

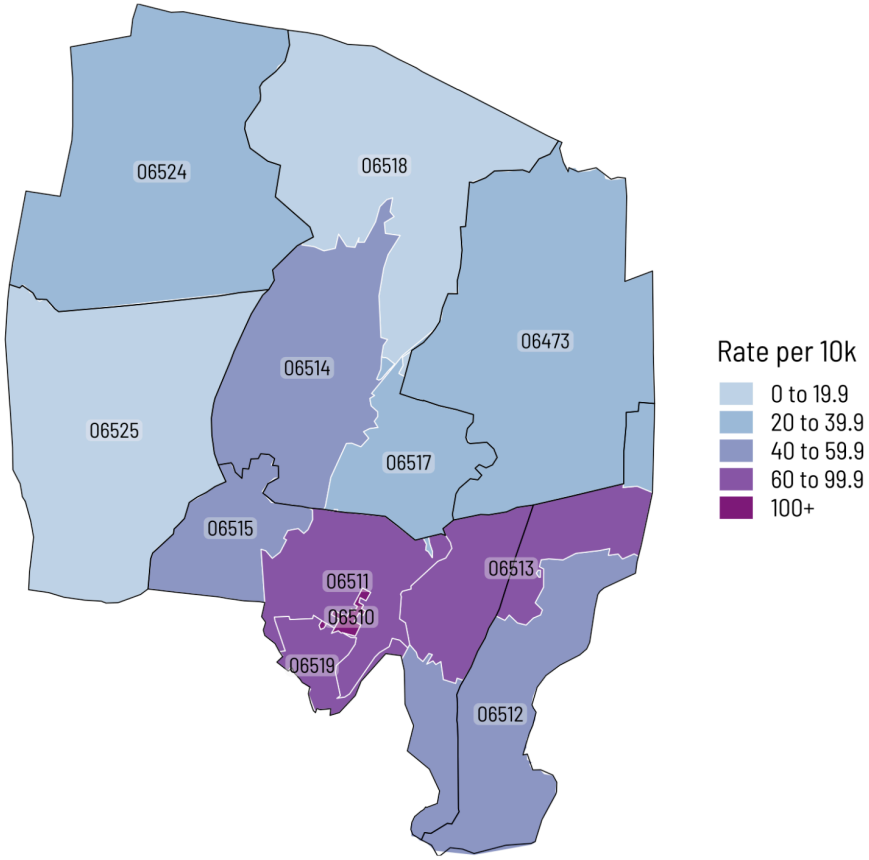


Table 6: Nonfatal overdoses by ZIP code, 2020–2022

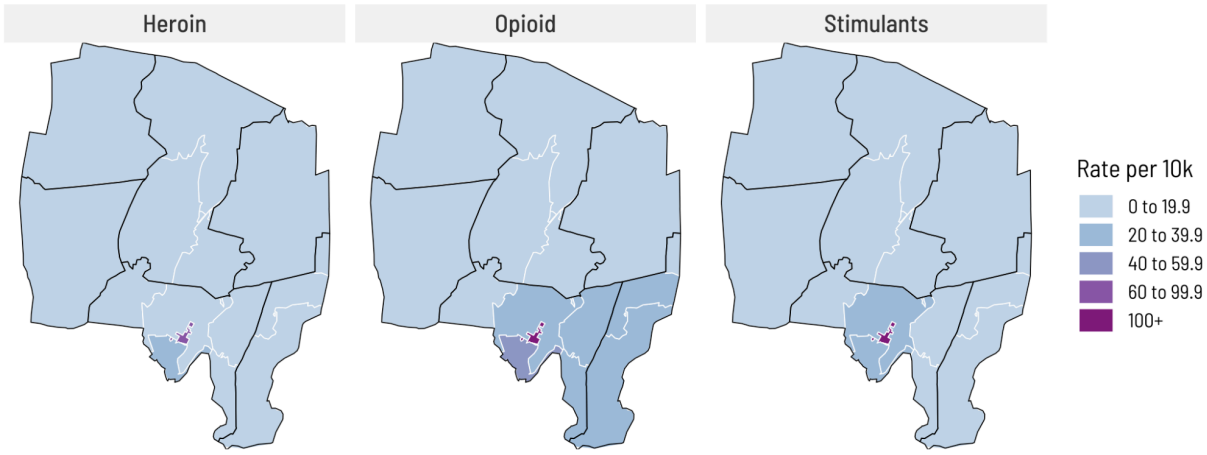
ZIP Code	Approximate neighborhood/town	Primary town	Population (2021)	Total nonfatal overdoses, 2020–2022	Rate per 10,000 (shown in Figure 9)
06473	North Haven	North Haven	24,614	169	22.9
06510*	Downtown New Haven	New Haven	3,942	360	304.0
06511	Central New Haven	New Haven	54,856	1,185	72.0
06512**	The Annex/East Haven	New Haven, East Haven	28,711	496	57.6
06513**	Fair Haven/East Haven	New Haven, East Haven	38,790	748	64.3
06514	Highwood/The Mix	Hamden	26,710	327	40.8
06515	Westville/Amity	New Haven	18,937	251	44.2
06517	Whitneyville/Spring Glen	Hamden	14,445	149	34.4
06518	Mount Carmel	Hamden	20,210	87	14.3
06519	The Hill	New Haven	16,090	470	97.4
06524	Bethany	Bethany	5,331	42	26.3
06525	Woodbridge	Woodbridge	9,073	53	19.5

* 06510 contains counts likely including at the New Haven Green, so this rate is considered to be artificially high.

** ZIP codes 06512 and 06513 are split between New Haven and East Haven. This table includes all nonfatal overdoses for 06512 and 06513 regardless of town of residence.

As with fatal overdoses, opioids are the most common substance involved in nonfatal overdoses. Note that Figure 12 shows the rate by ZIP code regardless of the population split between New Haven and East Haven.

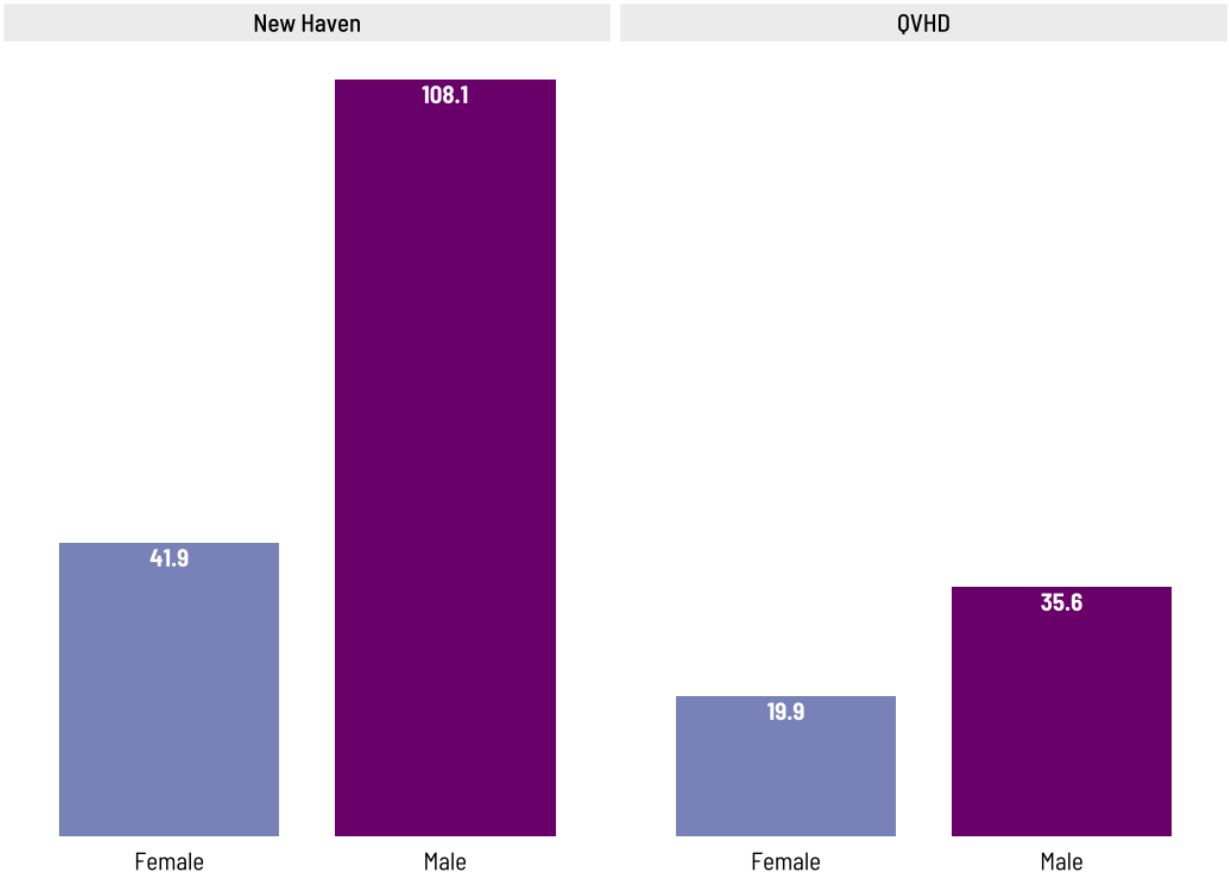
Figure 10: Annual average rate of nonfatal overdoses by ZIP code and substance, pooled 2020–2022 data



The charts that follow in this section group nonfatal overdoses involving any drug and all ZIP codes belonging to each region, as data were not provided which gave counts by ZIP code or town.

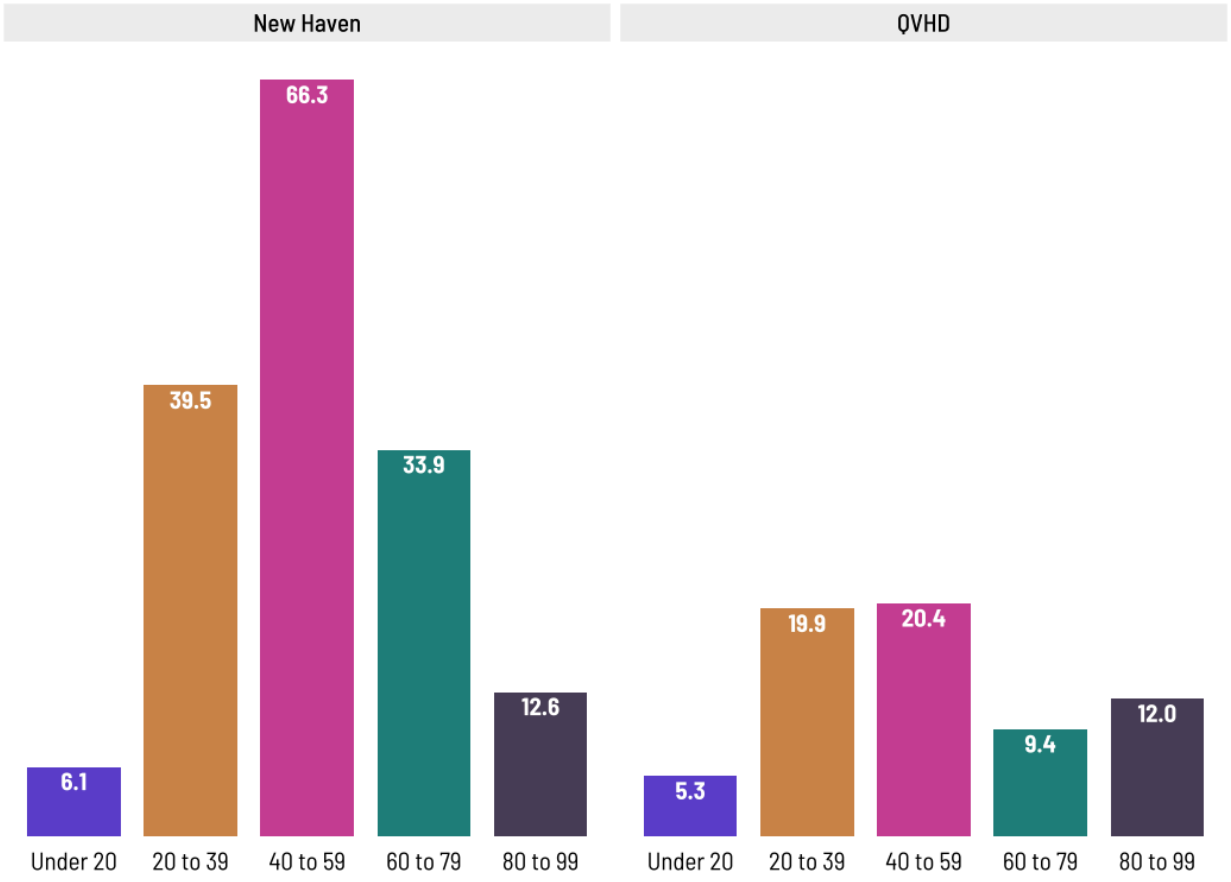
As with fatal overdoses, accidental, nonfatal overdoses are more common among males.

Figure 11: Annual average rate of nonfatal overdoses per 10,000 population by region and sex, pooled 2020–2022 data



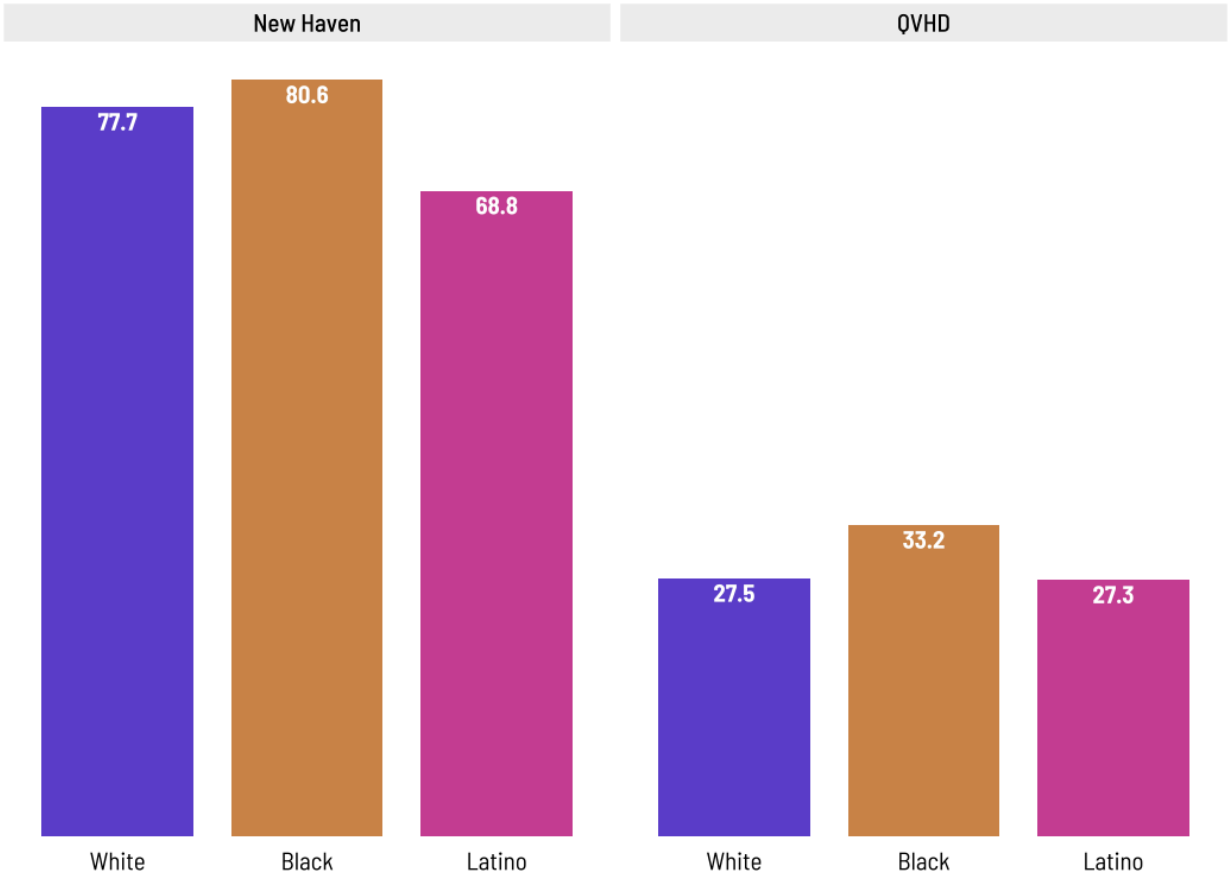
The two regions have comparable rates of nonfatal overdoses for people under 20 years and 80 years or older, but in New Haven, rates are nearly double those in QVHD for other age groups.

Figure 12: Annual average rate of nonfatal overdoses per 10,000 population by region and age group, pooled 2020–2022 data



By race/ethnicity, New Haven has rates of nonfatal overdoses by race/ethnicity that are more than double the rates in the QVHD region.

Figure 13: Annual average rate of nonfatal overdoses per 10,000 population by region and race/ethnicity, pooled 2020–2022 data



Intentional, Nonfatal Overdoses (Suicide Attempts by Poisoning)

As opposed to the 2021 report which included record-level information on intentional overdoses, this section will primary focus on attempted suicides by poisoning for the time period covering August 1, 2021 through June 30, 2023, and reported through the Office of Injury and Violence Prevention at DPH. The data in this section are pooled from two reports, one spanning the period between August 1, 2021 through July 31, 2022; and a second from July 1, 2022 through June 30, 2023. There is one month of overlap (July 2022). It is not possible to account for that overlap with the data provided by CTDPH.

Intentionality is determined by medical professionals. For nonfatal cases, this is often determined just before or during emergency department visits. These visits can be classified as suicidal ideation and/or suicide attempt, with attempts further defined by mechanism (e.g., asphyxiation, poisoning, etc.).

It is important to note that not all poisoning attempts involve opioids or other illicit drugs. Data is not available for this update on the substance involved in attempted suicides by poisoning.

Much of the data for these visits are suppressed due to low counts, so counts and rates in this section, especially for QVHD, should be considered estimates only.

Regionally, during the period from August 1, 2021 through June 30, 2023, with a data overlap in July 2022, there were 11,711 visits to the emergency department for suicidal ideation, more than 80 percent of which were for residents of New Haven. Of the total regional visits for suicidal ideation, 2,576 (or 22 percent) were for suicide attempts. Data for attempted suicide by poisoning is suppressed for Bethany, North Haven, and Woodbridge, but the region saw at least 289 visits for suicide attempts by poisoning, or 11 percent of all visits related to a suicide atttempt.

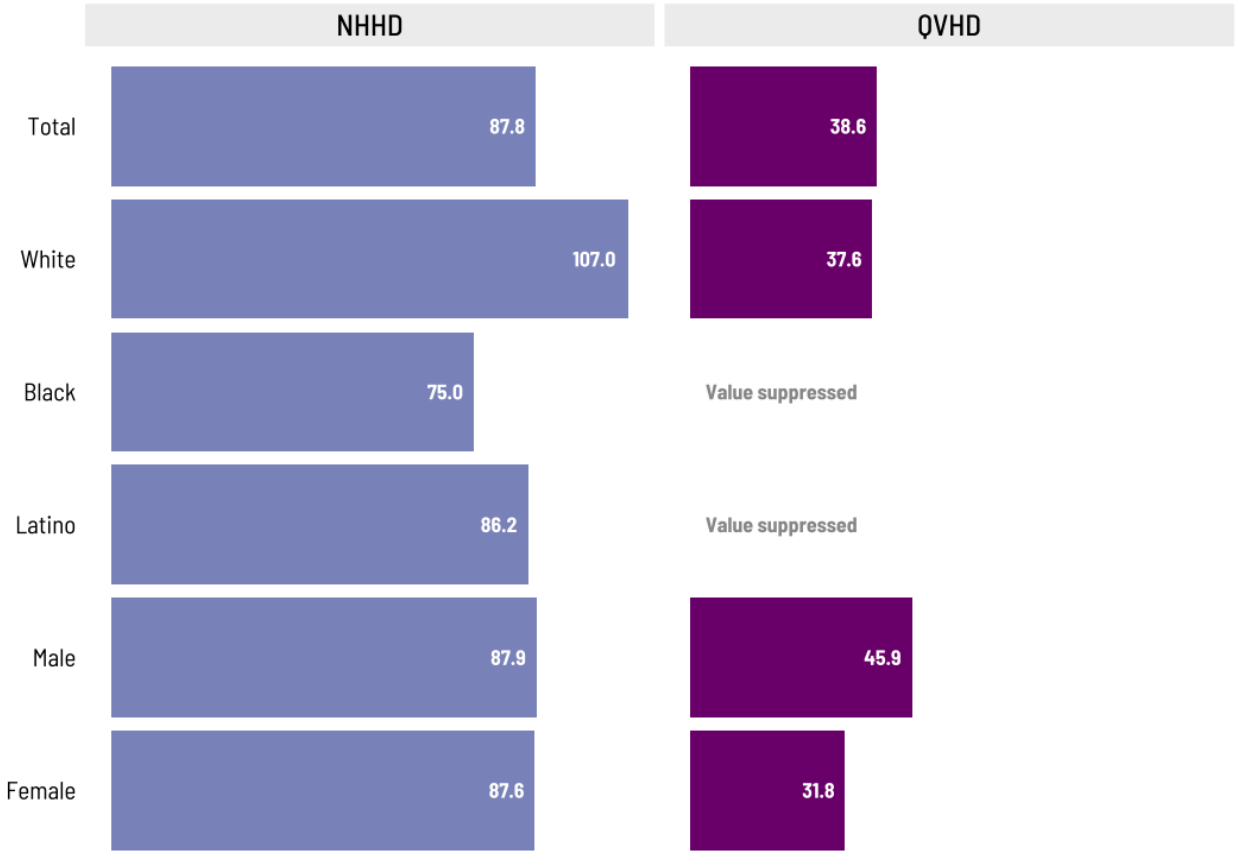
There are about 2.4 overdose deaths per attempted suicide by poisoning in the QVHD region, and 2.5 in New Haven.

Table 7: Emergency department visits for suicidal ideation, suicide attempts, and suicide attempts by poisoning, by town of residence, pooled August 1, 2021–June 30, 2023 data, with July 2022 overlap

Area	ED visits for suicidal ideation	ED visits for suicide attempt (any)	ED visits for suicide attempt by poisoning
QVHD	2,264	510	77
Bethany	94	24	Value suppressed
Hamden	1,604	366	54
North Haven	454	61	Value suppressed
Woodbridge	113	22	Value suppressed
New Haven	9,446	2,103	235

By demographics and overall, New Haven has higher rates of emergency department visits for attempted suicide by poisoning. Rates for white residents are also elevated, as are rates for males in the QVHD region.

Figure 14: Annual average rate of emergency department visits for attempted suicide by poisoning, per 100,000 residents by demographic, pooled August 1, 2021–June 30, 2023 data, with July 2022 overlap

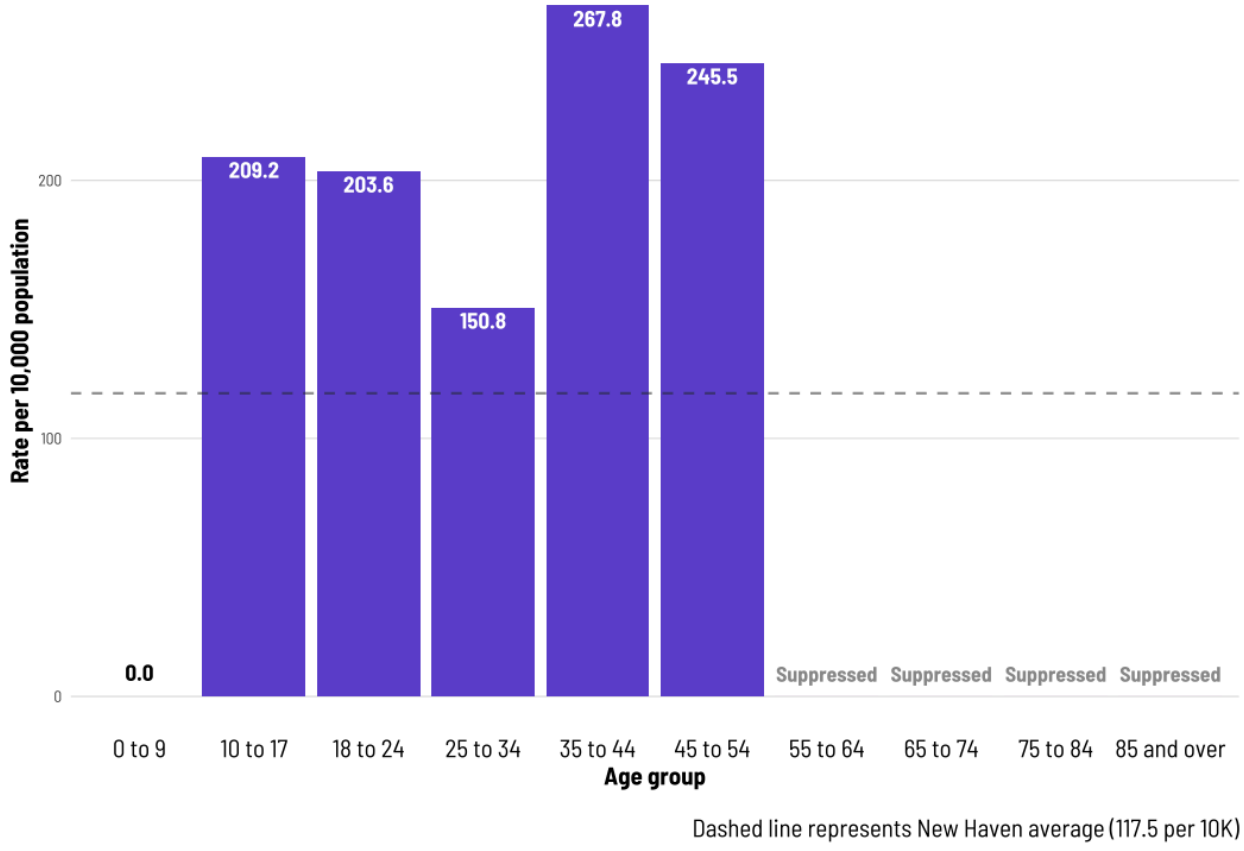


While data are provided by age, they are suppressed for nearly every age group in the QVHD region.

The figure below shows data for New Haven only.

For the six age groups for which data are not suppressed, five have elevated rates of attempted suicide by poisoning compared to the town average, but for residents ages 0 to 9, the value is a true zero. We can infer that values for the remaining four age groups also have below-average rates.

Figure 15: Annual average rate of emergency department visits for attempted suicide by poisoning, per 100,000 residents in New Haven, by age group, pooled August 1, 2021–June 30, 2023 data, with July 2022 overlap



9-1-1 Calls Involving Overdose

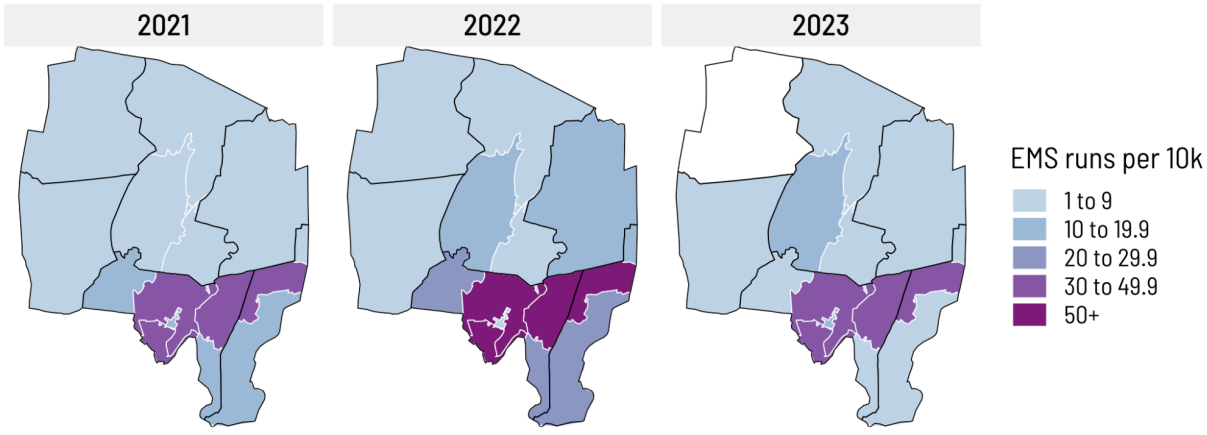
As part of the Statewide Opioid Reporting Directive (SWORD), first responders call in suspected overdoses to the Connecticut Poison Control Center (CPCC). These data do not include overdoses that were not called into CPCC or overdoses where 9-1-1 was not called. While these do not capture all overdoses in the region, they can identify geographical patterns of overdose. EMS runs for overdose increased in 2022 in nearly every town in the region.

Table 8: Overdose-related EMS runs by town and year, July 2021–July 2023

Area	2021	2022	2023	Total	Annual Average
Bethany	2	1	0	3	1
Hamden	18	25	21	64	21.3
New Haven	152	267	154	573	191
North Haven	4	16	6	26	8.7
Woodbridge	1	6	4	11	3.7

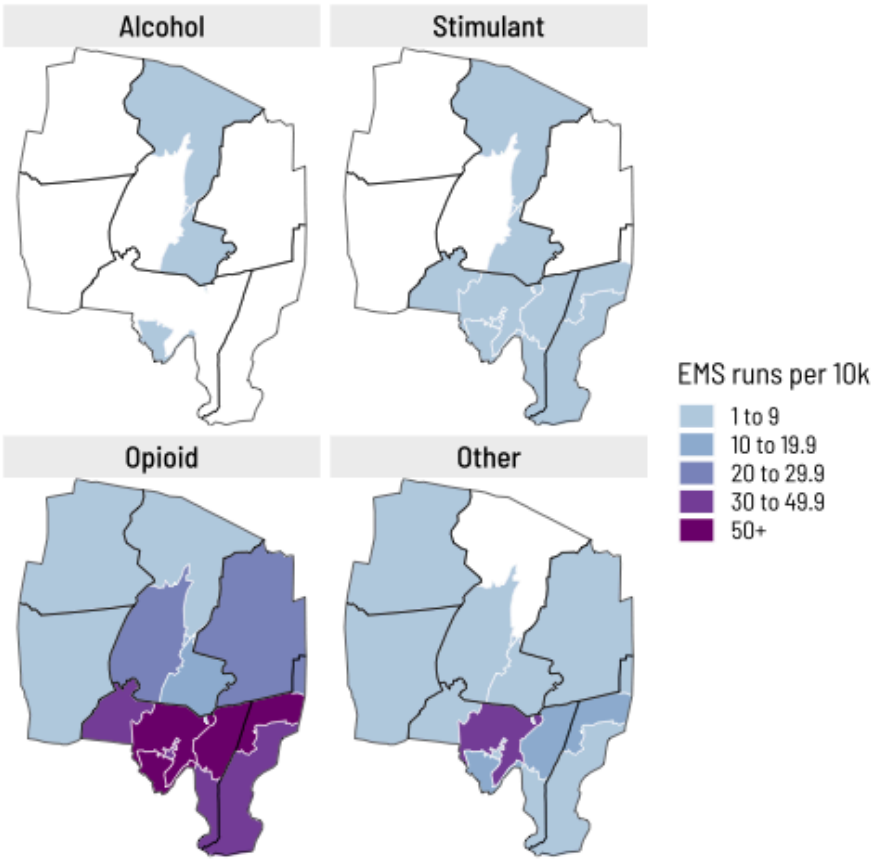
In New Haven, runs are concentrated in the area surrounding downtown, Fair Haven, and the Hill.

Figure 16: Overdose-related EMS runs, per 10,000 population, July 2021–July 2023



Data indicate the suspected substance for the overdose. Opioids are by far the most commonly suspected substance associated with overdose runs. Of the 554 runs related to overdose in the three-year period, 245 or 44 percent were related to heroin and 51 or 9 percent were related to fentanyl.

Figure 17: Overdose-related EMS runs, per 10,000 population, by class of suspected substance, July 2021–July 2023 pooled



Naloxone Use in Emergency Medical Contexts

Naloxone was administered during 504 of the 554 runs (91 percent) related to potential opioid overdose. An additional 115 runs where opioids were not the suspected class of drug in the overdose also included naloxone. The table below summarizes the person who administered naloxone by town and year. Tracking this data may be helpful to determine if bystanders or the public at large are increasingly carrying and/or using naloxone.

Fire departments administered naloxone during the most runs in the five-town region, closely followed by emergency medical services (EMS). It should be noted that firefighters often also have training, experience, or certification as emergency medical technicians, so the distinction here is more administrative than role-based. Bystanders administered naloxone at 81 occurrences and police at just 14, indicating police could be more involved in naloxone administration.

Table 9: Number of opioid runs involving naloxone by person administering naloxone, July 2021–July 2023 pooled

	Fire Department	EMS	Bystander	Police	All others
Count	198	195	81	14	16
Share	39%	39%	16%	3%	3%

Controlled Substances

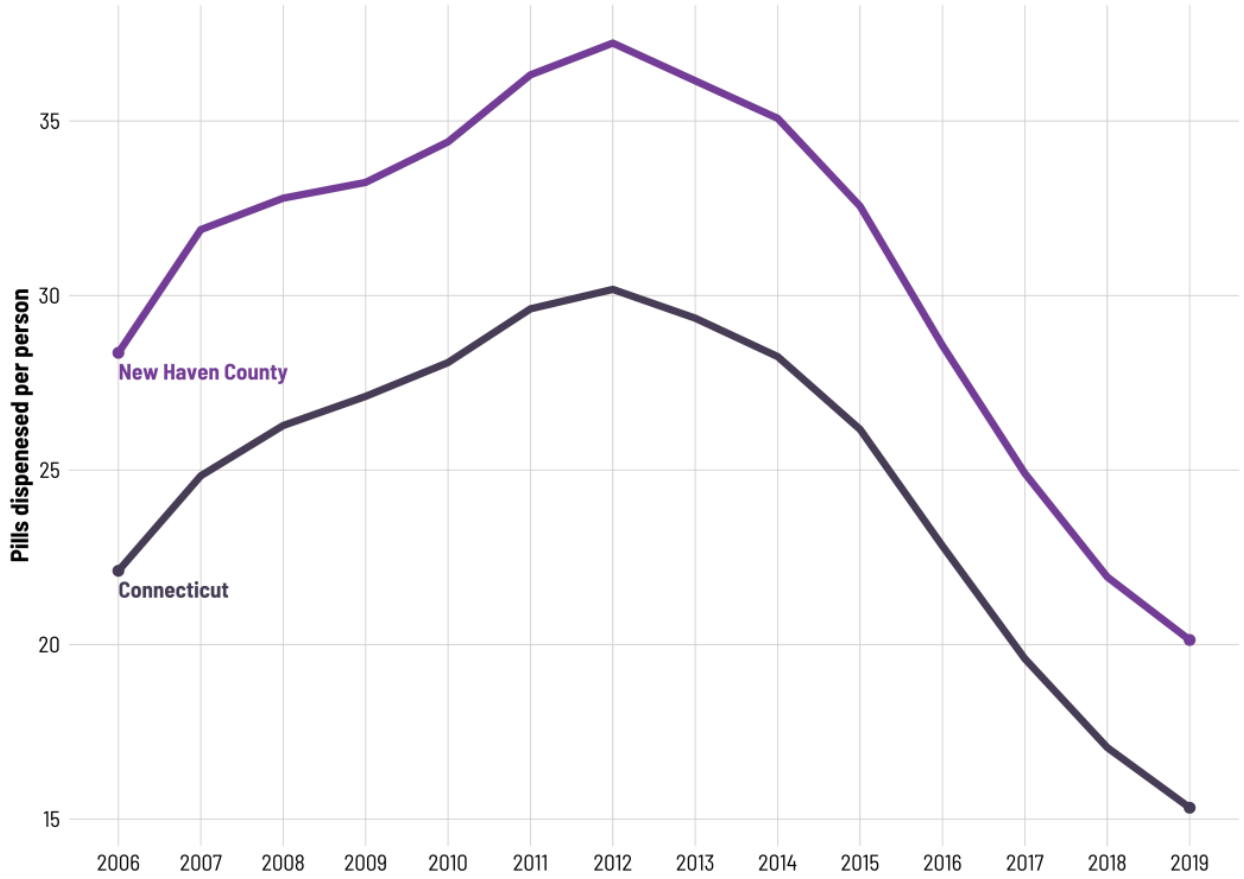
Opioids prescribed for pain management may lead to an opioid addiction. Tracking the number of opioid prescriptions pills administered is one way to understand if there is a potential for opioid pills to be misused. However, data tracking efforts towards this purpose can be piecemeal. In this section, data come from separate sources and cannot be combined. Therefore, this section follows each dataset chronologically.

Prescription Opioid Pills

The Washington Post acquired and published a large database of opioid pills as they are created and transported from manufacturer to pharmacy.[6] The data below summarize the available information from that database for the five-town region, New Haven County, and Connecticut.

Of all eight Connecticut counties, New Haven County pharmacies sold the most opioid pills per capita, averaging 31 per person per year between 2006 and 2019. Prescription pill distribution peaked in 2012 in Connecticut and New Haven County and has been declining since.

Figure 18: Prescription opioid pills dispensed annually per person, 2006–2019

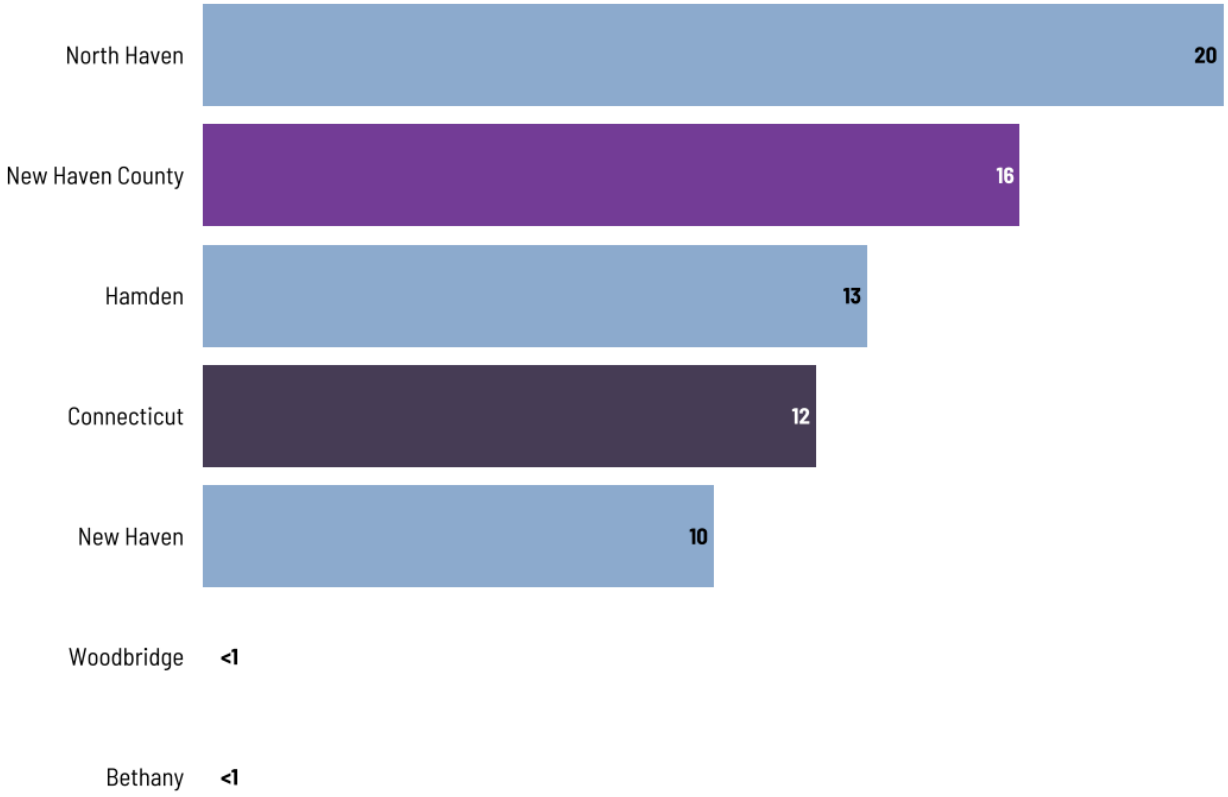


[6] For additional information on The Washington Post's coverage of its acquisition of ARCOS data and major findings, see references at https://wpinvestigative.github.io/arcos/.

Due to limitations of this dataset, for this analysis, pills are aggregated by pharmacy and grouped into towns by pharmacy location. In some towns, residents may have prescriptions filled elsewhere, such as a location closer to work rather than in the town where they live.

North Haven pharmacies sold more opioid pills per capita (20 per person over the 14-year period) than Hamden (13) and New Haven (10). Note that the last report pooled all opioid pills across years, while this report uses an annual average per person.

Figure 19: Prescription opioid pills dispensed per person, by area, 2006–2019

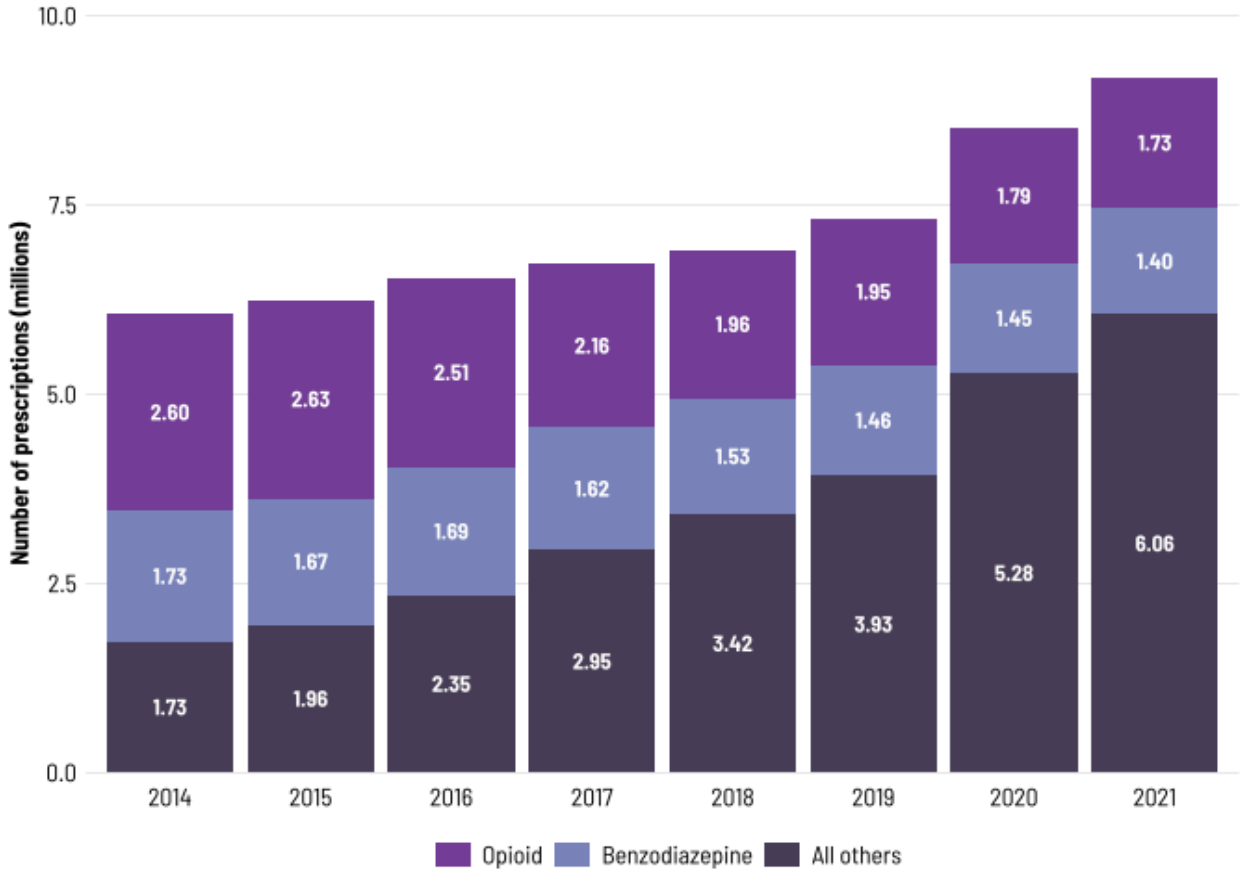


Controlled Substance Prescriptions

Pharmacists track the number of controlled substances dispensed when filling prescriptions. It is important to note that these data differ from the data above in that they are prescriptions, not pills.

Not all controlled substances are opioids. Controlled substance prescriptions have increased from 2014 to 2021, but the number of prescriptions for opioids and benzodiazepines decreased as a share of controlled substance prescriptions, while Schedule II prescriptions increased (which include barbiturates—sedatives used to treat sleep disorders—in addition to opioids and benzodiazepines).[7] In 2021, of the nearly 9.2 million prescriptions for controlled substances that were filled in Connecticut, 1.7 million (19 percent) were for opioids.

Figure 20: Controlled substance prescriptions dispensed by type, Connecticut, 2014–2021



[7] Connecticut Department of Health and Human Services (2021). Controlled substance prescriptions by DEA schedule per year. https://data.ct.gov/Health-and-Human-Services/Column-Chart-CS-Prescriptions-by-DEA-Drug-Schedule/r23v-q7ww.

Syringe Service Programs

Syringe service programs are harm reduction strategies intended to help people who use drugs. In addition to providing needle exchanges, these programs provide other items that help reduce injury or infection and provide information on treatment options for clients served. Between 2017 and 2022, millions of items were provided to clients in the Quinnipiack Valley and New Haven Health Districts. Items are distributed by the Yale New Haven Health Community Health Care Van and Sex Workers' Alliance Network (SWAN).

Given the major disruption caused by COVID-19, and naloxone kits that emerged in the data in 2020, the table below groups years into pre- and post-pandemic time periods and provides data for 2020 on its own. Items in the table below represent items distributed and clients served in the combined QVHD and NHHD areas.

Table 10: Syringe service program clients served, items distributed, and syringes exchanged, 2017–2022

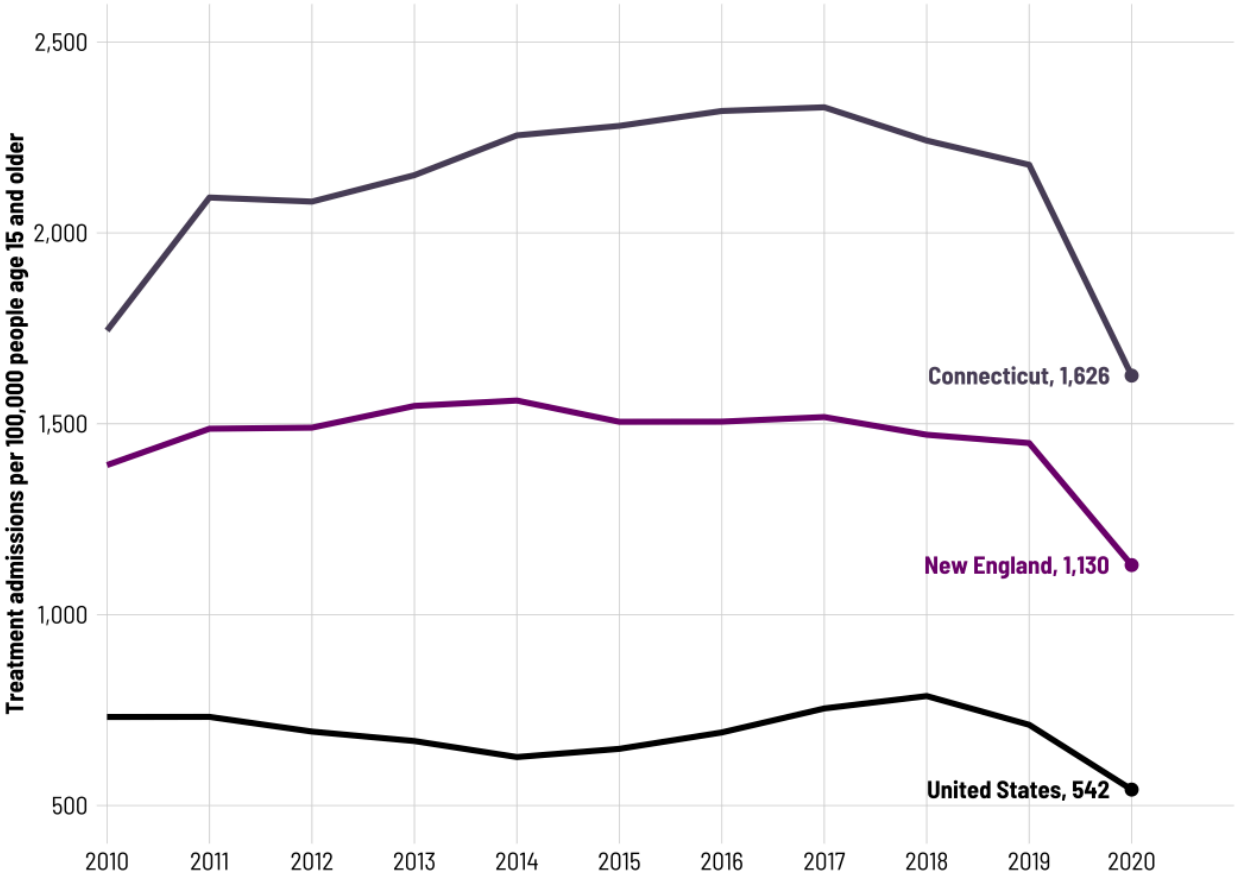
Category	2017–2019	2020	2021–2022	Total
Clients served (deduplicated)	1,682	270	2,047	3,999
Crack kits administered	2,174	1,131	8,759	12,064
Fentanyl test strips administered	7,753	1,226	14,129	23,108
Naloxone kits administered	N/A	791	5,241	6,032
Syringes distributed	637,532	297,557	945,628	1,880,717
Syringes collected	318,179	119,480	582,856	1,020,515
Syringe return rate	49.9%	40.2%	61.6%	54.3%

Overdose Treatment

For those who receive treatment, the most thorough data available is through the SAMHSA Treatment Episode Dataset. Due to privacy restrictions, these data are only available at the state level, but they include client-level and treatment type information on admissions to drug treatment facilities. Facilities receiving specific state and federal funding are required to report data annually, making the dataset a useful resource to infer the state of substance use treatment at the state level.

Between 2010 and 2018, New England had the highest rate of admissions to substance use treatment facilities of all U.S. divisions. Since 2018, the Western Mountain region has had slightly higher admission rates. In 2020, the rate of admissions in New England was 1,130 per 100,000 people ages 15 and older. Connecticut's rate exceeded that at 1,626—the highest admissions rate in New England and third highest of states in the nation behind only Arizona and South Dakota.

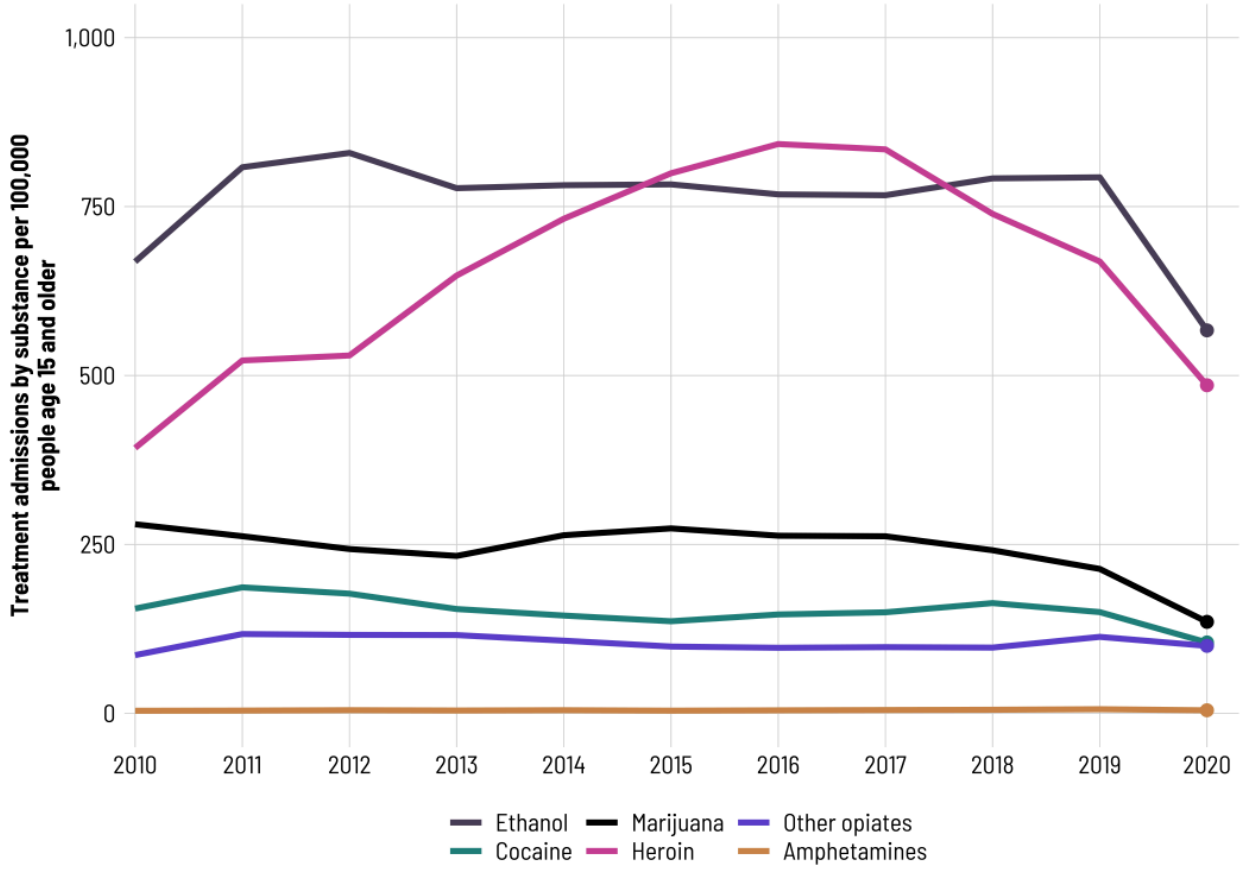
Figure 21: Drug Treatment Admission Rates by Area, 2010–2020



In 2020, Connecticut ranked fourth nationwide for the rate of treatment admissions that had illicit opioids (e.g., heroin) listed as the primary substance for treatment. All states in New England except New Hampshire also ranked in the top 10, along with Delaware, Michigan, New Jersey, and New York.

Ethanol (alcohol) remains the most prevalent primary substance for treatment statewide. Admissions related to heroin peaked between 2015 and 2017, but appear to be declining, while those related to non-heroin opiates and synthetics held relatively steady. Of the roughly 16,000 people in Connecticut admitted to treatment for opiates or heroin in 2020, 88 percent had been in treatment at least once before. More than a third had been in treatment five or more times.

Figure 22: Drug Treatment Admission Rates by Primary Substance, Connecticut, 2010–2020



Locally, admissions specifically related to substance use have decreased since 2019, perhaps due to the pandemic. Table 11 summarizes the rate of admissions by a patient's town of residence (note: these are not unduplicated client admissions—if an individual entered treatment twice, they would count as two admissions). Statewide, admissions decreased by 3 percent between 2018 and 2022. In the QVHD region, all towns but Bethany also saw a decrease, with the greatest drop in Woodbridge, as well as New Haven. Rates in the QVHD region are less than half the statewide rate, while New Haven has greater rates than the state.

Table 11: Substance use treatment admission rates per 100,000 people ages 15 and up, by area, FY 2014–2022

Area	FY 2018 Admission Rate per 100,000	FY 2022 Admission Rate per 100,000	Pct. Change 2018–2022
Connecticut	1,727	1,672	-3.2%
QVHD	631	619	-1.9%
Bethany	461	507	+10.0%
Hamden	689	679	-1.4%
North Haven	566	561	-0.9%
Woodbridge	507	425	-16.2%
New Haven	2,063	1,858	-9.9%

Medication Assisted Treatment

In 2022, 48 percent of treatment admissions related to any substance in Connecticut had medication assisted treatment available to patients.[8] There are 183 providers in the region authorized to provide medication assisted treatment (e.g., buprenorphine treatment), or approximately one provider for every 1,058 adults in the five-town area.[9] It is important to note that not all of these providers are accepting patients or actively prescribing buprenorphine. Because of the volume of hospitals and clinics in New Haven compared to surrounding towns, there are significantly more providers in New Haven than any other town in the region.

Table 12: Medication assisted treatment certified providers by area, 2022

Area	Number of MAT providers	Population ages 15+ (2021)	Providers per population ages 15+
Connecticut	931	3,002,297	3,225
QVHD	19	83,935	4,418
Bethany	0	4,338	N/A
Hamden	9	51,978	5,775
North Haven	9	20,320	2,258
Woodbridge	1	7,299	7,229
New Haven	164	109,606	668

Because many individuals seek treatment multiple times,[10] outpatient treatment programs may need to repeatedly engage patients to prevent overdose. Relapse is unfortunately very common in any substance use treatment program, so additional analysis to determine which engagement methods or programs work to reduce relapse may be beneficial.

[8] See notes for Table 10.

[9] SAMHSA Buprenorphine Practitioner Locator data compiled by DataHaven combined with population data via ACS 2017–2021 5-year estimates.

[10] See notes for Figure 21.

Public Naloxone Availability

In Connecticut, any prescriber, including primary care doctors, may write a prescription for naloxone to any person. More than 700 pharmacies in Connecticut can dispense naloxone to those with a prescription, and many pharmacies (including 51 in the region) have pharmacists who are authorized to prescribe, train, and dispense naloxone, making those locations a one-stop-shop for receiving naloxone. Both QVHD and NHHD are also able to train and dispense naloxone.

Most commercial insurance policies as well as Medicaid cover naloxone prescriptions, although there may be a copay to consumers. However, public knowledge of naloxone's broad availability may be limited, and stigma remains around acquiring naloxone prescriptions, especially relating to the inclusion of a naloxone prescription on an individual's electronic medical record. Still, one strategy for reducing overdoses related to opioids as well as increasing awareness of the availability of naloxone may be the co-prescription of naloxone with controlled substance opioids.

Additionally, in 2023, naloxone was approved by the FDA as an over-the-counter medication and is now available at local drug stores for about $45 per box.[11] Although it is not available in several dozen Connecticut towns, it is available in the QVHD regions as well as New Haven.[12] While not affordable to all, people may be more likely to obtain naloxone when they are assured there will be no insurance or medical record data to trace back to them.

For more information on the use of naloxone in the emergency medical context, see Table 9.

[11] *FDA Approves First Over-the-Counter Naloxone Nasal Spray*. (2023, March 29). FDA News Release. https://www.fda.gov/news-events/press-announcements/fda-approves-first-over-counter-naloxone-nasal-spray

[12] Martinéz, J. L. (2023, April 12). *Narcan will soon be sold over-the-counter, but not in 28 CT towns.* CT Mirror. https://ctmirror.org/2023/04/12/ct-narcan-pharmacy-naloxone-opioid-overdose/

Encounters for Medical and Social Assistance

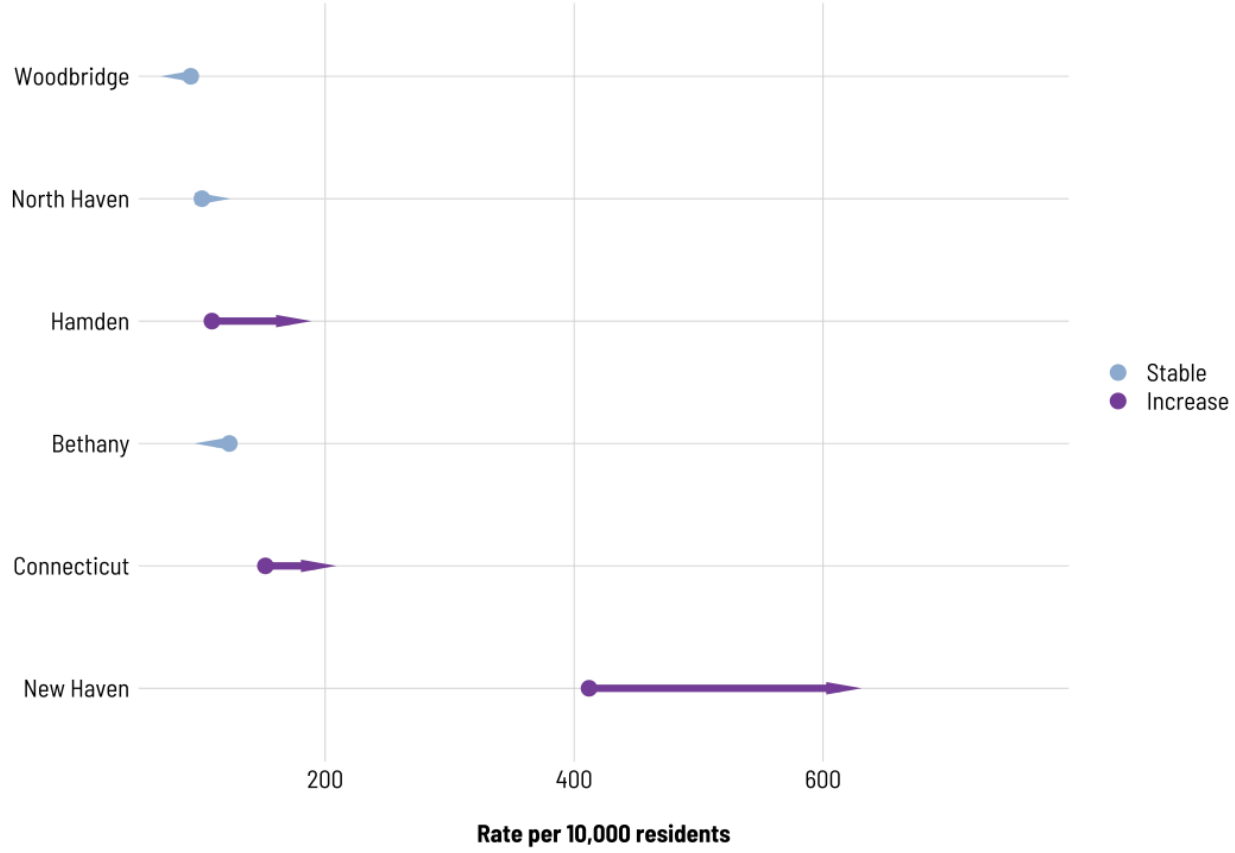
Information about requests for medical or social assistance related to substance use can help reveal insights related to readiness for treatment or the need for naloxone and other harm prevention materials. These services may be a point of contact to identify upstream mechanisms that contribute to substance misuse and overdose.

Hospital Encounters Related to Substance Use

According to the Connecticut Hospital Association, from 2012 to 2021, age-adjusted hospital encounters for substance use rose in Connecticut overall, as well as in Hamden and New Haven. Encounter rates were relatively stable (i.e., the rate of change was less than 10 percent) in Bethany, North Haven, and Woodbridge. Encounters include hospitalizations as well as emergency department visits.

Figure 23: Age-adjusted hospital encounter rates for substance use

Change from 2012–2014 to 2018–2021



2-1-1 Requests for Help with Substance Use

Connecticut 2-1-1 (CT211) provides an invaluable service to residents by connecting them with resources to help address pressing social needs, including help with substance use. These resources may include treatment or harm reduction programs. Statewide, the average rate of requests for substance use assistance have increased since 2020 in all areas, although rates appear to be dropping in Bethany. Call rates in New Haven are more than twice the state average.

Table 13: Summary details of CT211 requests for substance use services, January 1, 2018–October 21, 2023

Area	Annual average calls per 10k population age 15+, 2018–2019	Annual average calls per 10k population age 15+, 2020–2021	Annual average calls per 10k population age 15+, 2022–October 31, 2023
Connecticut	19.8	22.8	31.7
Bethany	10.4	17.3	11.3
Hamden	13.6	17.0	23.7
New Haven	41.8	52.6	66.5
North Haven	10.3	17.5	23.9
Woodbridge	3.4	2.7	5.2

Structural Drivers Related to Overdose

Structural drivers of health are the "upstream" challenges an individual may face due to systemic properties of society, or a set of policies that a community may maintain, which may result in "downstream" barriers to overall good health and wellbeing. The term "structural drivers" is preferred to "social determinants" of health in this report because those aspects neither determine nor predict behaviors, nor are they a motivator for health outcomes. However, a better understanding of the conditions in which people live and how those conditions affect health outcomes, is important, and should be framed in the contexts of the processes that perpetuate them.[13]

While some actions at the individual level are associated with overdose—for example, a history of drug use—many of the so-called "determinants," including poverty, low educational attainment, and others,[14] are likely to be associated with systemic processes. Legacies of racialized policies in systems such as schools and workplaces are often to blame for inequitable conditions that are more commonly experienced by Black, Latino, and other people of color, as well as Indigenous populations, and queer populations. For example, Black children are more likely to experience disciplinary actions at school that may lead to suspension or expulsion, then fewer opportunities that lead to lower formal educational attainment, then lower income, with poor health care access and potential exposure to preventable health outcomes.[15]

Policies can be crafted to modify systems, protect communities, and improve public health and wellbeing. While this may include the development and expansion of harm reduction and treatment programs, it can also include policies designed to dismantle the systemic inequalities that lead to poor health outcomes in the first place.

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[13] Brown, T.H. & Homan, P. (2022, May 6). The future of social determinants of health: Looking upstream to structural drivers. *The Milbank Quarterly, 101*(S1), 36-60. https://onlinelibrary.wiley.com/doi/epdf/10.1111/1468-0009.12641.

[14] Altekruse, S. F., Cosgrove, C. M., Altekruse, W. C., Jenkins, R. A., & Blanco, C. (2020, January 17). Socioeconomic risk factors for fatal opioid overdoses in the United States: Findings from the Mortality Disparities in American Communities Study (MDAC). *PLOS ONE*. https://doi.org/10.1371/journal.pone.0227966

[15] See Abraham, A., Seaberry, C., Davila, K., & Carr, A. (2023). *Greater New Haven Community Wellbeing Index 2023*. https://ctdatahaven.org/reports/greater-new-haven-community-wellbeing-index and Davila, K., Seaberry, C., & Abraham, M. (2023, August). *Health Equity in Connecticut 2023*. https://ctdatahaven.org/reports/health-equity-connecticut-2023

Below, we combine overdose data at the ZIP code level with other data to illustrate the interconnectedness of these indicators.

Figure 24 shows the rate of fatal overdoses in the region, by ZIP code. Table 14 on the following page provides more detail, including the exact rates and neighborhood names most closely associated with each.

Figure 24: Fatal overdoses by ZIP code, January 1, 2020—May 31, 2023, annualized

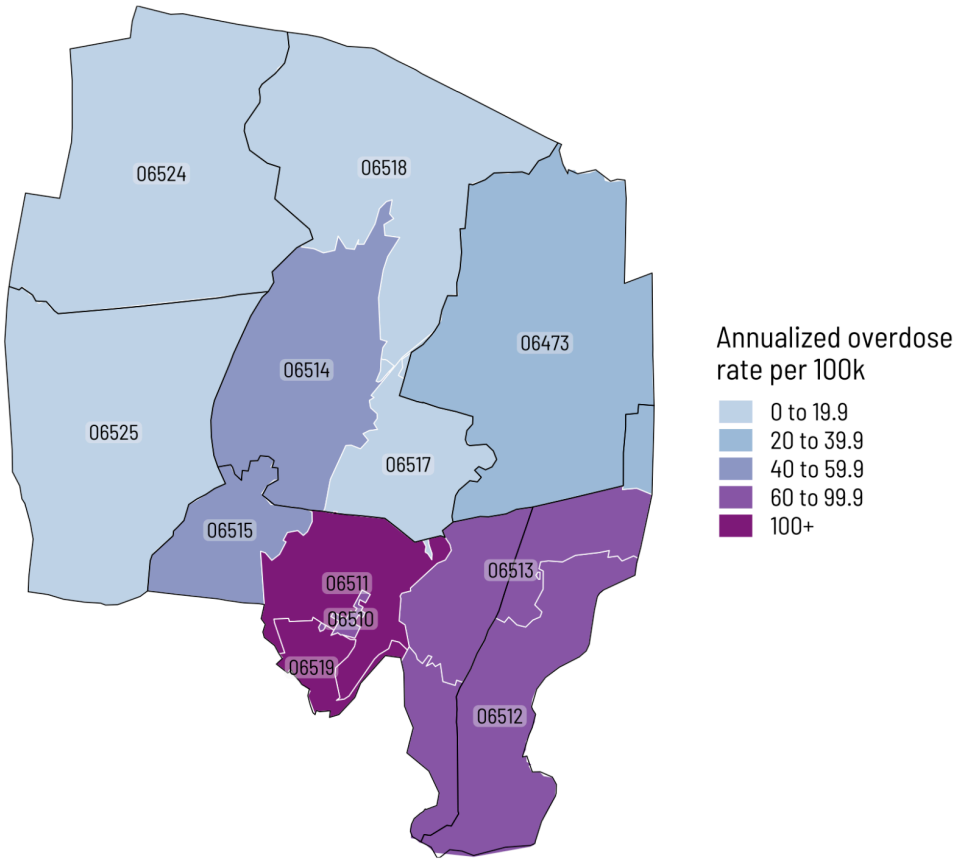


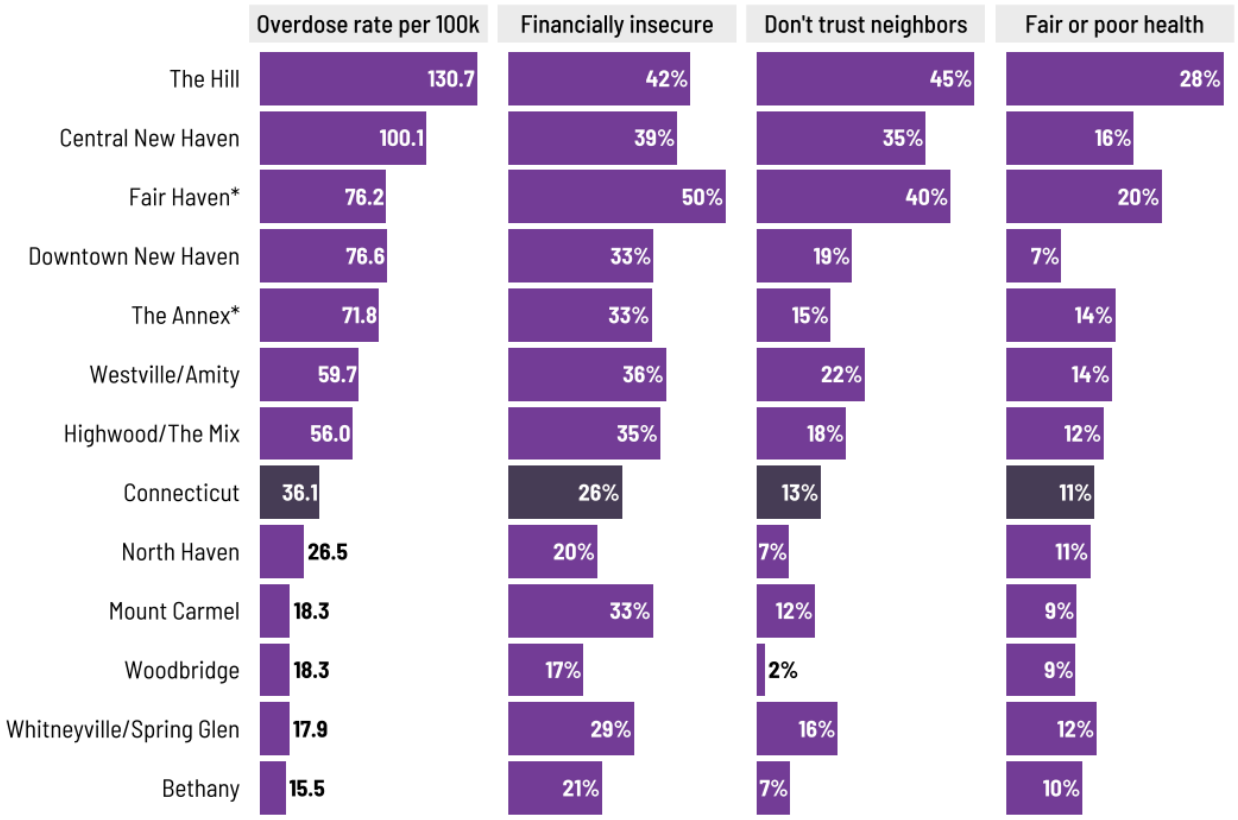
Table 14: Fatal overdoses by ZIP code, January 1, 2020–May 31, 2023, annualized

ZIP Code	Approximate neighborhood/town	Primary town	Total fatal overdoses	Rate per 100,000 (shown in Figures 24 and 25)
06473	North Haven	North Haven	18	26.5
06510	Downtown New Haven	New Haven	7	76.6
06511	Central New Haven	New Haven	161	100.1
06512**	The Annex/East Haven	New Haven, East Haven	73	71.8
06513**	Fair Haven/East Haven	New Haven, East Haven	104	76.2
06514	Highwood/The Mix	Hamden	52	56.0
06515	Westville/Amity	New Haven	32	59.7
06517	Whitneyville/Spring Glen	Hamden	11	17.9
06518	Mount Carmel	Hamden	11	18.3
06519	The Hill	New Haven	64	130.7
06524	Bethany	Bethany	2	15.5
06525	Woodbridge	Woodbridge	5	18.3

** ZIP codes 06512 and 06513 are split between New Haven and East Haven. This table includes all fatal overdoses for 06512 and 06513 regardless of town of residence.

Figure 25 orders the named ZIP code areas by their overdose rates and includes three additional indicators related to financial security, community trust, and overall health. Where overdose rates are high, other indicators of personal and community wellbeing are low. All ZIP codes in New Haven and one in Hamden (Highwood/The Mix) have higher overdose rates as well as higher rates of financial insecurity, community trust, and self-reported health than the state average.

Figure 25: Fatal overdoses by ZIP code, January 1, 2020—May 31, 2023, annualized, and select socioeconomic indicators



* These ZIP codes cross into East Haven.

The Hill, notably, has some of the highest rates in each category. Not coincidentally, areas in The Hill were "rated" poorly in historical redlining maps—as "Definitely Declining" or "Hazardous"—the consequences of which have permeated throughout the systemic challenges and opportunities facing residents of the area even today.[16] These include low rates of homeownership (28 percent in The Hill compared to 66 percent statewide), high rates of poverty (30 percent in The Hill compared to 10 percent statewide).[17] As of 2020, about 1.5 percent of residents of The Hill, a predominantly Black neighborhood, were currently incarcerated compared to one-quarter of one percent of the State population.[18]

[16] Seaberry, C. (2018, May 5). *Housing Segregation in Greater New Haven*. https://ctdatahaven.org/reports/ct-data-story-housing-segregation-greater-new-haven

[17] American Community Survey 2021 5-year estimates.

[18] Abraham, A., Seaberry, C., Davila, K., & Carr, A. (2023). *Greater New Haven Community Wellbeing Index 2023*. https://ctdatahaven.org/reports/greater-new-haven-community-wellbeing-index

In areas where financial insecurity is high, other correlated indicators are also elevated. Food insecurity is high in The Hill, where 41 percent of households receive SNAP benefits (food stamps) compared to 23 percent statewide and less than 10 percent in Bethany and Woodbridge. Likewise, housing insecurity is very high—54 percent of households in The Hill are housing cost-burdened, meaning they pay more than 30 percent of their income towards housing. This rate is halved in North Haven where 25 percent of households are cost-burdened, lower than the state average of 34 percent.[19]

Community trust is correlated with overall life satisfaction. Where distrust is high, life dissatisfaction is also high. Once again, rates for community distrust in The Hill are more than 3 times the state average. Similarly, the share of adults reporting being dissatisfied with the area where they live is 25 percent in The Hill compared to 12 percent in the state and just 4 percent in Woodbridge.[20]

Finally, self-rated health tends to be lower in areas where populations struggle with the above financial difficulties and community dissatisfaction. More than a quarter of adults in The Hill rate their health as fair or poor—more than twice the state average. Similarly, lower self-rated mental health is elevated where overdose rates are high. Nineteen percent of adults in The Hill and 18 percent in Central New Haven say they are in fair or poor mental health, compared to 10 percent in Woodbridge and 13 percent statewide.[21]

[19] American Community Survey 2021 5-year estimates.
[20] DataHaven analysis (2023) of 2015, 2018, and 2021 DataHaven Community Wellbeing Survey.
[21] See notes for Figure 25.

Program Models

As the body of scholarship linking socioeconomic indicators to opioid and other drug use continues to expand, several policies have been enacted in an effort to address the structural drivers affecting quality of life in an effort to reduce overdose. One study analyzed 58 municipalities in Massachusetts and found that the municipalities where programs exist to connect individuals to social services after they overdose saw, on average, a 21 percent reduction in overdoses.[22] The Brandeis Opioid Resource Connector is a well-annotated list of more than 200 programs aimed at reducing overdose through harm reduction and comprehensive programs that address the structural drivers of substance misuse.[23]

Overdose Prevention Centers

Harm reduction for substance users intends to limit the negative effects of drug use—at worst, fatal overdose—by providing resources for preventing overdose, often in a safe or supervised environment.[24] The chances of a fatal overdose increase when an individual uses drugs alone and when reversal aids like naloxone are not available. Overdose prevention centers help to prevent those occurrences. A concurrent benefit of overdose prevention centers is providing information, support, and other services.

OnPoint NYC is an overdose prevention center that launched in November, 2021 and in its first year of operation purported to have prevented more than 600 overdose deaths. An independently-reviewed quality assessment determined that the program was well-utilized and associated with declines in overdose risk.[25,26] However, the program still faces legal scrutiny under federal law due to the illicit status of the substances often consumed in the

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[22] Kimmel, S. D., Xuan, Z., Yan, S., Lambert, A. M., Formica, S. W., Green, T. C., Carroll, J. J., Bagley, S. M., Rosenbloom, D., Beletsky, L., & Walley, A. Y. (2023, October). Characteristics of post-overdose outreach programs and municipal-level opioid overdose in Massachusetts. *International Journal of Drug Policy 120*. https://doi.org/10.1016/j.drugpo.2023.104164

[23] Brandeis Opioid Policy Research Collaborative. (2020). *Opioid Resource Connector*. https://opioid-resource-connector.org/frontpage

[24] National Institutes of Health. (2023, August). *Overdose Prevention Centers*. https://nida.nih.gov/research-topics/overdose-prevention-centers

[25] OnPoint NYC. (2023). *Year One Baseline Report*. https://onpointnyc.org/baseline-annual-report-2023/

[26] Harocopos, A., Gibson, B. E., Saha, N., McRae, M. T., See, K., Rivera, S., & Chokshi, D. A. (2022, July). First two months of operation at first publicly recognized overdose prevention centers in U. S. JAMA Network Open 5(7). https://doi.org/10.1001/jamanetworkopen.2022.22149

center.[27] In Canada, similar programs operate legally, and provide detailed data to the Canadian government which show similar findings as the New York program.[28] A bill that would support the presence and funding of similar programs in Connecticut was considered in 2023, although the committee that proposed the bill planned on not moving forward with the program at this time.[29]

Housing First Initiatives

Housing First is an approach that aims to connect people experiencing homelessness with permanent housing which can then serve as a platform for assisting them with improving other aspects related to their quality of life.[30] Pathways to Housing is a Housing First, Philadelphia-based, community-led program that uses street outreach to first help stabilize housing situations for substance users with opioid use disorder who also face chronic homelessness. Once housing is stabilized, wraparound services are provided.[31] Preliminary, peer-reviewed evidence suggests that the Housing First model does work to stabilize housing for people experiencing chronic homelessness, and does help improve some aspects of their overall health. Evidence also finds no increase in substance use among some programs.[32]

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[27] Otterman, S. (2023, August 8). *Federal officials may shut down overdose prevention centers in Manhattan*. New York Times. https://www.nytimes.com/2023/08/08/nyregion/drug-overdoses-supervised-consumption-nyc.html

[28] DelVillano, S., de Groh, M., Morrison, H., & Do, M. T. (2019 March). Supervised injection services: A community-based response to the opioid crisis in the City of Ottawa, Canada. *Health Promotion and Chronic Disease Prevention in Canada 39*(3). https://doi.org/10.24095/hpcdp.39.3.03

[29] McQuaid, H. (2023, March 27). *Public health committee scales back safe drug use site proposal*. CT News Junkie. https://ctnewsjunkie.com/2023/03/27/public-health-committee-scales-back-safe-drug-use-site-proposal

[30] National Alliance to End Homelessness. (2022, March 20). *Housing First*. https://endhomelessness.org/resource/housing-first/

[31] Pathways to Housing PA. (n.d.). https://pathwaystohousingpa.org/

[32] Baxter, A. J., Tweed, E. J., Katikireddi, S. V., & Thomson, H. (2019, February 18). Effects of Housing First approaches on health and well-being of adults who are homeless or at risk of homelessness: Systematic review and meta-analysis of randomized controlled trials. *Journal of Epidemiological Community Health 73*. 379—387. https://doi.org/10.1136/jech-2018-210981

Improving Opportunities for Employment

Many people with opioid use disorder or who have been previously justice-involved for substance use face steep challenges to finding employment. The New Hampshire Recovery Project is a workplace-based model aimed at reducing the stigma associated with a history of substance misuse in the workplace. The program offers no-cost training on substance use, harm reduction, and behavioral health.[33] It has been replicated in Nevada as well as Connecticut.[34,35]

Programs Addressing Multiple Structural Drivers Simultaneously

For some individuals—especially those facing re-entry or who have both substance use and mental health disorders—programs that provide multiple supports have shown promise in reducing substance use and promoting better quality of life through housing, employment, education, and mental health support.

The Detroit Recovery Project addresses the needs of Detroiters with a strategy they call a "Multi-Pathway Approach" that combines traditional counseling and referral services with non-clinical, peer-led support. Their programs help with stabilizing housing, then provide education and employment referrals alongside social and family support.[36]

Access to Recovery is a six-month program established by the Commonwealth of Massachusetts to address the needs of people with substance use disorder who are undergoing re-entry. In addition to recovery coaching, enrollees are connected to programs with vouchers to access stable, sober housing, connected with career-building classes, and meet with case managers to ensure their basic needs are met and their substance use is effectively managed.

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[33] New Hampshire Office of the Governor. (2018, March 27). *Recovery Friendly Workplace*. https://www.recoveryfriendlyworkplace.com/

[34] Nevada Department of Health and Human Services. (2019, April). *Nevada Recovery Friendly Workplace Toolkit*. https://nevadaworksitewellness.org/wp-content/uploads/2019/04/Nevada-Recovery-Friendly-Workplace-Toolkit.pdf

[35] DrugFreeCT. (n.d.). *The Recovery Friendly Workplace Toolkit*. https://www.drugfreect.org/Customer-Content/www/CMS/files/DHMAS001_RFW-Toolkit-Full.pdf

[36] Detroit Recovery Project, Inc. (n.d.). *Recovery4Detroit*. https://www.recovery4detroit.com/

Conclusion

Overdose fatalities in the region have been increasing since 2018 and, as of the time of writing, were higher in 2022 than any other year. The prevalence of fentanyl is a major driver in overdose deaths, and is now present in about 80 percent of overdose deaths, although xylazine is an emerging substance of concern that should continue to be monitored. Nonfatal overdoses are also increasing in the region. There are an average of 10 nonfatal overdoses for every fatal overdose as of 2022.

Opioid prescriptions are falling while harm reduction services are improving. Notably, naloxone is now available over the counter, without a prescription, in each of the five towns covered by this report. Treatment admissions have declined in recent years, due primarily to the COVID-19 pandemic. The region has more than 180 medication assisted treatment providers, but availability may still be limited as the increase in substance use disorder continues to rise.

Several structural drivers are known to be associated with high rates of overdose, including various measures of financial insecurity, community dissatisfaction, and poor overall health. A growing body of scholarship suggests that these structural drivers are important to address in order to reduce overdose fatalities. A selection of programs are highlighted in the Program Models chapter that describe several such approaches.

Appendix A: Survey Summaries

Primary data collection consisted of two efforts. The first was an online survey, available in English and Spanish, that included several questions related to substance use awareness. In all, 21 responses were collected between August and November, 2023. Given the small sample size, only a short summary of findings are provided here. Responses have been filtered for residents of the five-town region covered by this report and there were at least 2 respondents from each town.

The second was a series of 40 intercept surveys collected during Overdose Awareness Day on the New Haven Green on August 31, 2023. Intercept surveys are qualitative surveys designed to be quick and informal, to collect as much data as possible in a short time. Questions asked included substances of concern, why they are a concern, and what the health department can do to help. A summary of findings is provided in Appendix A.

Online Survey Summary

Asked how big an issue several substances were in their areas, large proportions of respondents did not know. In the table below, the majority response is highlighted. Other than ethanol (alcohol), many of the responses are essentially a tossup. Public education may be necessary for residents to understand the dangers of various substances.

Table 15: Share of respondents by how they perceive the severity of select substances in their areas

Substance	"Serious" or "Very serious"	"Not very serious" or "Not at all serious"	"Don't know enough in order to say"
Ethanol (alcohol)	**60%**	**5%**	**35%**
Heroin/opioids	**48%**	**NA**	**52%**
Counterfeit pills	**47%**	**NA**	**53%**
Stimulants/crack/cocaine	**57%**	**NA**	**43%**
Synthetic opioids/fentanyl	**55%**	**NA**	**45%**
Other substances/xylazine	**48%**	**NA**	**52%**

More than half of respondents (57 percent) said the opioid crisis has gotten worse over time, while 24 percent said it had improved and 19 percent said it has stayed about the same. In Connecticut and nationally, overdose deaths—driven largely by fentanyl—have become such a concern that life expectancy has dropped due in part to overdoses. COVID-19 has also played a role. However, 77 percent acknowledged that there is a great deal of stigma surrounding drug use and substance misuse. A majority (68 percent) say the crisis is largely driven by both legal and illegal opioids.

Asked to what extent certain entities or issues are responsible for the opioid crisis, nearly half (43 percent) blamed pharmaceutical companies. In the table below, responses are provided in descending order of primary responsibility.

Table 16: Share of respondents who say certain entities or issues bear at least some responsibility for the opioid crisis

Entity/Issue	Share who say the entity bears some responsibility	Share who say the entity is MOST responsible
Pharmaceutical companies	**95%**	**43%**
Unmanaged mental health issues	**91%**	**24%**
Unmanaged drug dependence	**91%**	**19%**
Doctors overprescribing painkillers	**91%**	**5%**
Social and economic pressures	**91%**	**5%**
Lack of public awareness	**75%**	**5%**
Not enough regulation	**81%**	**0%**
Not enough law enforcement	**67%**	**0%**
Moral failings of individuals	**48%**	**0%**

When asked if they support or oppose certain harm reduction programs, respondents were generally supportive, with slightly less support for active-use facilities like supervised drug use sites and syringe exchange programs.

Table 17: Share of respondents who support select harm reduction programs

Program	Share who support	Share who oppose	"Don't know enough in order to say"
Harm reduction products like narcan	71%	24%	5%
Rehab inside correctional facilities	91%	5%	5%
Methadone treatment	67%	10%	24%
Supervised use sites	52%	20%	29%
Prescription drug monitoring programs	85%	5%	10%
Syringe exchange programs	60%	25%	15%

Finally, respondents were asked about their awareness of several harm reduction efforts related to naloxone and fentanyl. Ninety-one percent knew fentanyl is present in street drugs,, but only 43 percent knew fentanyl test strips are a reliable way to test for it. Similarly, 86 percent know that naloxone works to reverse opioid overdose, and 62 percent said they knew it was available over the counter. Forty-three percent knew QVHD and NHHD could train on naloxone and provide it free of charge. Just 38 percent had already been trained on how to use naloxone.

In summary, public awareness on the escalating opioid crisis and the mechanisms in place for reducing overdose fatality can be improved. Drawbacks to this survey are the small sample size and inability to distinguish whether respondents use drugs themselves. Awareness of the danger of opioids and other substances may be more concentrated among drug users, as will be discussed in the following section.

Intercept Survey Summary

On August 31, 2023, staff from DataHaven and QVHD collected 40 responses during Overdose Awareness Day on the New Haven Green. Given the location, the majority of respondents (about 80 percent) were New Haven residents, but other respondents were from Hamden, Meriden, Milford, Waterbury, West Haven. Given the opportunity to engage with many people who have had experience with substance use, all responses are summarized here regardless of the respondent's town of residence.

Intercept surveys are designed to be short and informal. As such, four questions were asked. In many cases, respondents will continue to discuss and add detail to their responses, which were then recorded. The four main questions asked were:

- What substance do you think is the biggest problem in the community?
- Why do you think that is?
- What do you think the city or health department can do to help?
- Which town do you live in?

Fentanyl was mentioned about half the time as the substance that is the biggest problem in the community, followed by heroin, cocaine, and crack. Asked why, about half said because fentanyl is easy to get. Several also mentioned that fentanyl is very addictive or very deadly. A few mentioned that the fact users may not know if their drug is laced as scary and unexpected.

Asked what governments and health departments can do about it, no single answer stood out. While no single response stood out, many mentioned more education on the dangers of drug use, more sober activities for adults and youth, more drug prevention and harm reduction resources, more professional help or caseworkers doing direct street outreach. Several also mentioned that narcan should be more readily available.

One comment that stood out was an individual who said drugs were easier to get in New Haven than a job or an apartment or friends, especially if someone has been incarcerated or charged with a drug-related crime ("We need to make getting a job easier than getting drugs.").

Overall, participants in the intercept surveys differed slightly in their awareness of overdose issues than respondents to the online survey, although both agreed that more public awareness and harm reduction strategies are needed.

Figure and Table Notes

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TIGER/Line shapefiles from the U.S. Census Bureau.

Figure 2: Age-adjusted rate of unintentional overdose fatalities, January 1, 2015–May 31, 2023
DataHaven analysis (2023) of data from the Connecticut Office of the Chief Medical Examiner.

Figure 3: Share of unintentional overdose deaths involving select substances, January 1, 2015–May 31, 2023
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Figure 4: Crude average monthly unintentional drug-related fatalities regionwide, by substance, January 1, 2015–May 31, 2023
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Figure 7: Share of substances present in unintentional overdose deaths by demographic, QVHD region, pooled January 1, 2015–May 31, 2023 data
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Figure 8: Median age at death (years) by area and group, pooled January 1, 2015–May 31, 2023 data
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Figure 9: Annual average rate of nonfatal overdoses by ZIP code, pooled 2020–2022 data

DataHaven analysis (2023) of data provided by the New Haven Health Department retrieved from EpiCenter.

Figure 10: Annual average rate of nonfatal overdoses by ZIP code and substance, pooled 2020–2022 data
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Figure 11: Annual average rate of nonfatal overdoses per 10,000 population by region and sex, pooled 2020–2022 data
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Figure 12: Annual average rate of nonfatal overdoses per 10,000 population by region and age group, pooled 2020–2022 data
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Figure 14: Annual average rate of emergency department visits for attempted suicide by poisoning, per 100,000 residents by demographic, pooled August 1, 2021–June 30, 2023 data, with July 2022 overlap
DataHaven analysis (2023) of data from the Connecticut Department of Public Health Office of Injury and Violence Prevention's Connecticut Suicidal Ideation and Self Harm Emergency Department Visit Report.

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Figure 18: Prescription opioid pills dispensed annually per person, 2006–2019
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Figure 24: Fatal overdoses by ZIP code, January 1, 2020—May 31, 2023, annualized
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Figure 25: Fatal overdoses by ZIP code, January 1, 2020—May 31, 2023, annualized, and select socioeconomic indicators
DataHaven analysis (2023) of data from multiple sources. Overdose rate per 100,000: See notes for Figure 2. Financial insecurity and distrust of neighbors: DataHaven analysis of data from the 2015, 2018, 2021, and 2022 DataHaven Community Wellbeing Survey using multilevel regression with poststratification to generate reliable estimates for small areas (ZIP codes) using relatively small sample sizes. Fair or poor health: CDC PLACES Zipcode Tabulation Area (ZCTA) estimates, 2023.

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Table 14: Fatal overdoses by ZIP code, January 1, 2020–May 31, 2023, annualized
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Table 15: Share of respondents by how they perceive the severity of select substances in their areas
DataHaven analysis (2023) of data collected from surveys conducted on behalf of QVHD and NHHD for the purposes of this report. See the Methods subsection in the Introduction for more details. The survey data is a convenience sample and is therefore not representative of the population.

Table 16: Share of respondents who say certain entities or issues bear at least some responsibility for the opioid crisis
See notes for Table 15.

Table 17: Share of respondents who support select harm reduction programs
See notes for Table 15.