



Florida Department of Health  
Enhanced State Opioid Overdose Surveillance  
FLESOOS.com

# FATAL OPIOID OVERDOSE SURVEILLANCE

FLORIDA 2017 Q3-Q4

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## EXECUTIVE SUMMARY

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The 2017 Q3-Q4 Fatal Opioid Overdose Surveillance is an assessment of the fatal opioid epidemic burden within Florida. The report combines public health data, medical examiner, and toxicology reporting to identify population characteristics that represent the greatest hardship in Florida. Data within this report represents 12 medical examiner districts covering 33 counties that account for approximately 71.76% of all unintentional and undetermined drug overdose deaths in the state of Florida.

Overall, the Florida Enhanced State Opioid Overdose Surveillance Program identified 1,121 opioid-caused deaths. Among decedents:

- 91.9% Florida residents
- 71% men
- 81.8% non-Hispanic
- 9% homeless
- 47% high school or GED graduate
- 42% death at home
- 18% emergency department death
- 19 recently released or admitted from a substance abuse treatment facility
- 37 recently released or admitted from jail, prison, or detention facility
- December 23 represented peak death
- 69.9% other substance abuse besides opiates
- 49 with current mental health treatment
- 6.42% previous drug overdose
- 97 had evidence of an opioid use relapse

**CASE DEFINITION AND DATA SOURCE**

# Fatal Overdose (Mortality), Florida 2017 Q3-Q4

## DATA SOURCE

Fatal overdose counts were abstracted from Florida death certificate and Florida medical examiner reports.

## CASE DEFINITIONS

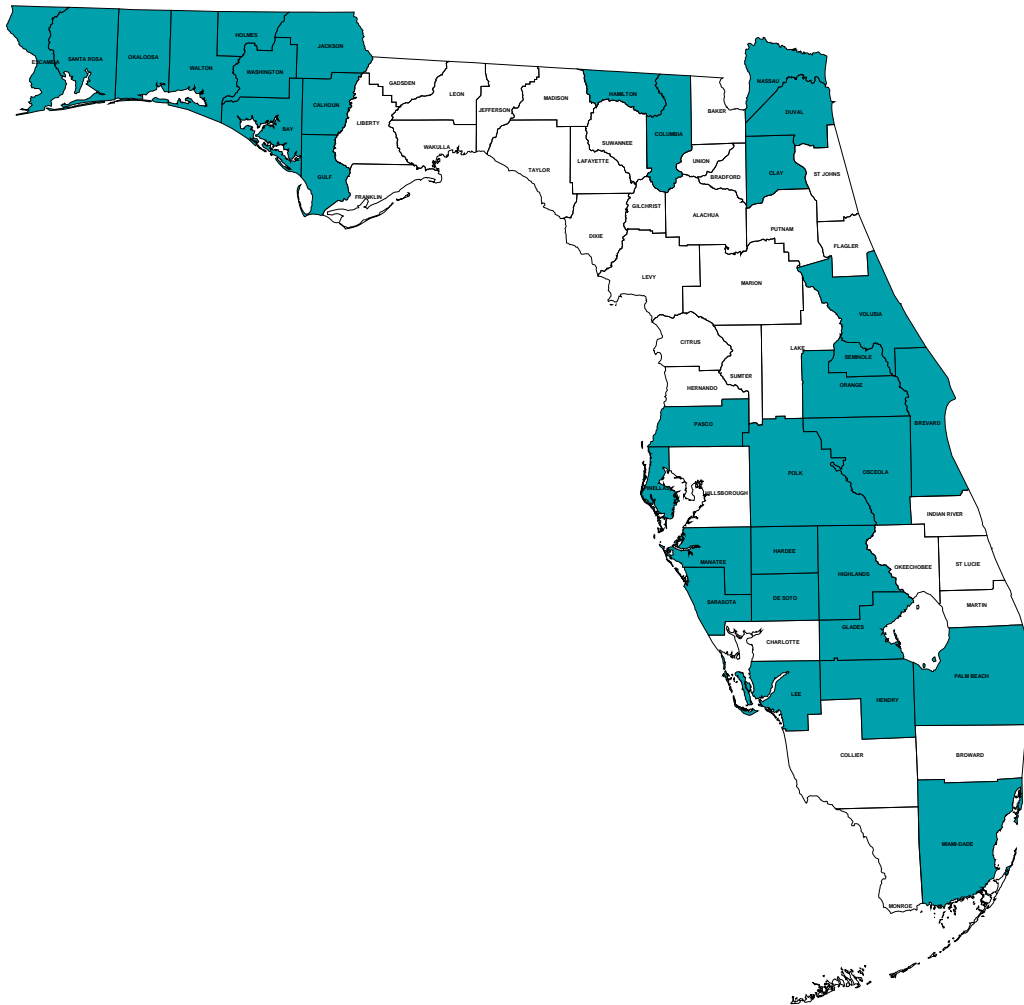
	<i>Death Certificate ICD-10 CM COD</i>	<i>AND a Death Certificate Contributing COD</i>	<i>AND Toxicology</i>
<b><i>Opioid- involved overdose death</i></b>	<b>X40:</b> Unintentional drug poisoning <b>X41:</b> Unintentional drug poisoning <b>X42:</b> Unintentional drug poisoning <b>X43:</b> Unintentional drug poisoning <b>X44:</b> Unintentional drug poisoning <b>Y10:</b> Undetermined intent drug poisoning <b>Y11:</b> Undetermined intent drug poisoning <b>Y12:</b> Undetermined intent drug poisoning <b>Y13:</b> Undetermined intent drug poisoning <b>Y14:</b> Undetermined intent drug poisoning	<b>T40.0:</b> Poisoning by opium <b>T40.1:</b> Poisoning by heroin <b>T40.2:</b> Poisoning by other opioids <b>T40.3:</b> Poisoning by methadone <b>T40.4:</b> Poisoning by synthetic narcotics <b>T40.6:</b> Poisoning by other unspecified narcotics	<b>Substance class:</b> Opioids or opiate

## OTHER DEFINITIONS OR LIMITATIONS

Data within this report represents 12 ME districts covering 33 counties that account for approximately 71.76% of all unintentional and undetermined drug overdose deaths in the State of Florida. Rates per 100,000 persons were estimated using data from the 2016 U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates. In 2016, the estimated population of Florida was 19,934,451. Further, the U.S. Census Bureau estimated an increase of 1.6% for the Floridian population between 2016 to 2017. In 2017, we estimated the population of Florida to be 20,253,402.

## PARTICIPATING DISTRICTS AND COUNTIES

District	County
1	Escambia, Okaloosa, Santa Rosa, and Walton
4	Clay, Duval, Nassau, Columbia and Hamilton
6	Pasco and Pinellas
7	Volusia and Seminole
9	Orange and Osceola
10	Hardee, Highlands, and Polk
11	Miami-Dade
12	Desoto, Manatee, and Sarasota
14	Bay, Calhoun, Gulf, Holmes, Jackson, and Washington
15	Palm Beach
18	Brevard
21	Glades, Hendry, and Lee

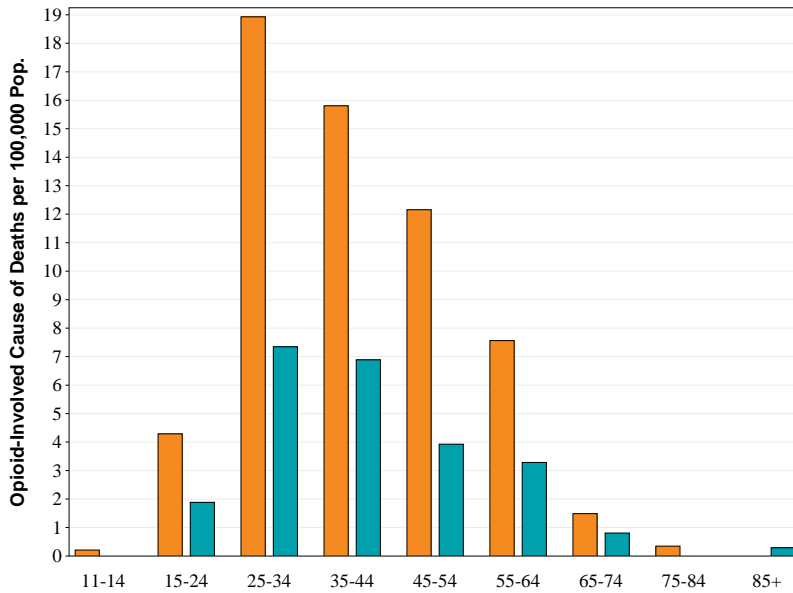
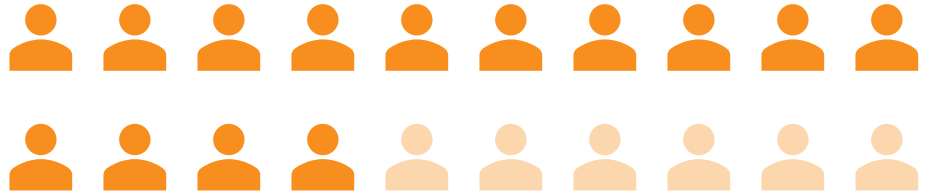


Participating counties



## DEMOGRAPHICS

**Men** account for 71.1% of all opioid-involved cause of deaths



**25-34 year old**

are more likely than any other age group to have an opioid-involved cause of death, but even more so among

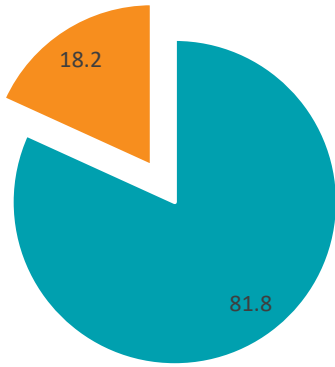
**younger men**

Men	0.2	4.3	18.9	15.8	12.2	7.6	1.5	0.3	0.0
Women	0.0	1.9	7.3	6.9	3.9	3.3	0.8	0.0	0.3

**6% of decedents served in the U.S. Armed Forces**

of which, 47% of death was due to fentanyl, 19% due to heroin, and 12% due to fentanyl analogs or synthetic opioids



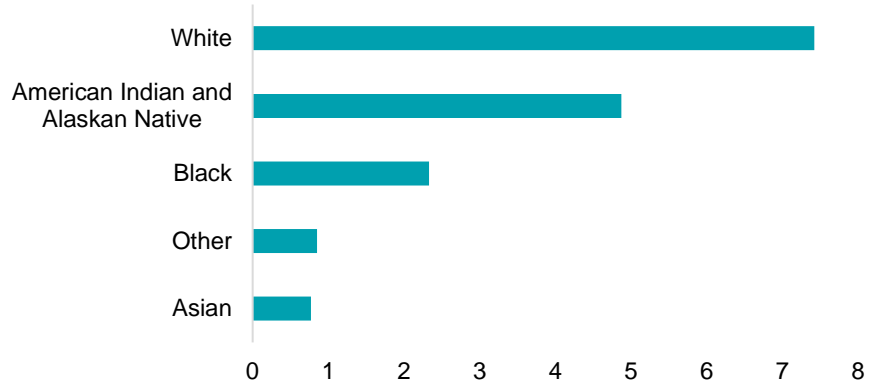


■ Non-Hispanic ■ Hispanic

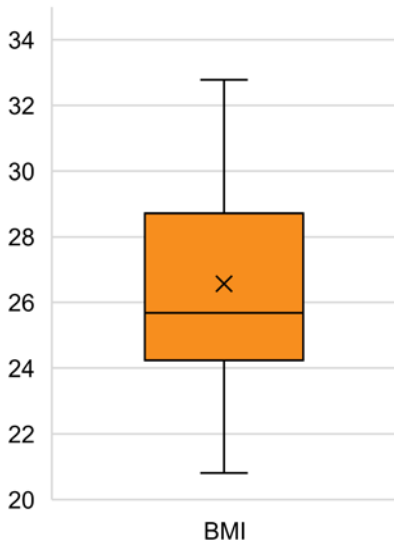
## Non-Hispanics

account for **81.8%** of all opioid-involved cause of deaths

Among non-Hispanics, **Whites** had the highest rate of opioid-involved cause of death



	Asian	Other	Black	American Indian and Alaskan Native	White
■ Opioid-Involved Cause of Death per 100,000 Pop.	0.77	0.85	2.33	4.87	7.42



## 27.95 BMI\* Average

Among opioid-involved overdose decedents

\*BMI: body mass index. Note the figure includes weights for skeletal remains

**96% USA**

country residence among opioid cause of death decedents

Rank	Opioid Cause of Death Count	State Where Born
1	384	Florida
2	118	New York
3	72	New Jersey
4	41	Pennsylvania
5	36	Illinois
6	27	Massachusetts
7	27	Ohio
8	25	California
9	23	Maryland
10	18	Georgia

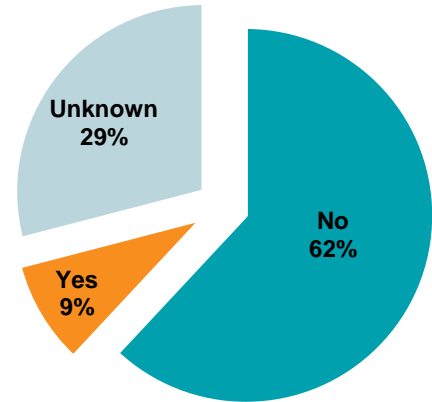
**91.9%**

opioid cause of death decedents are **Florida** residents

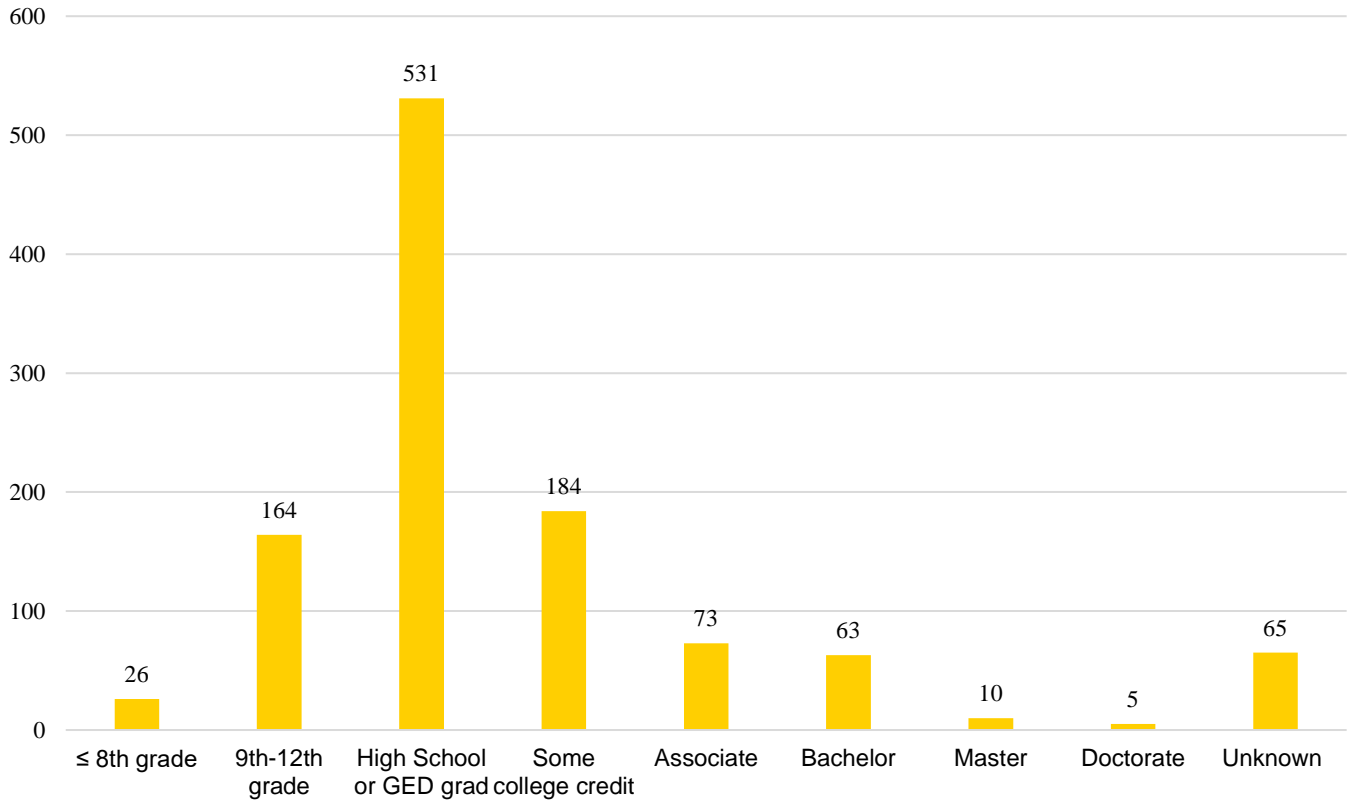


**9%** of opioid cause of death decedents are homeless

Homeless Opioid Death



Decedent Highest Education Level Opioid Cause of Death



High school or GED graduates represent **47%** of opioid cause of death decedents

**42% Home death**



**18% Emergency department death**



**Decedent in Custody when Injured?**

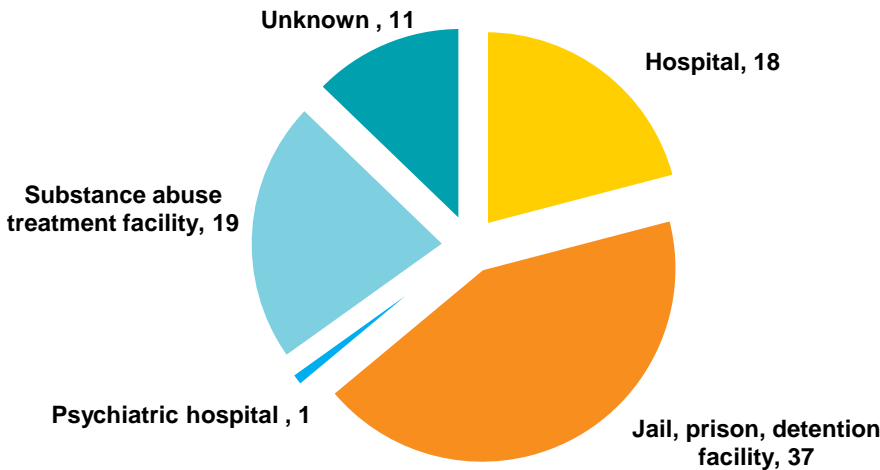
Not in custody (81.98%)

Unknown (17.02%)

In jail or prison (0.46%)

House arrest/Other (0.46%)

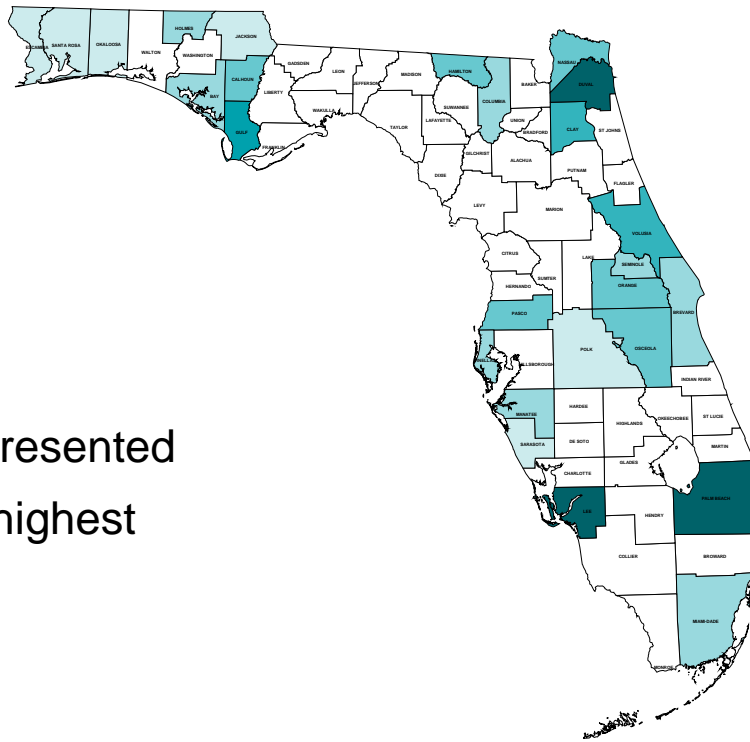
**Opioid death within a month of admitting or release from an institutional setting**



**86 decedents** were in a treatment facility or institutional setting within one month of death

PLACE OF INJURY

Decedent County of Death



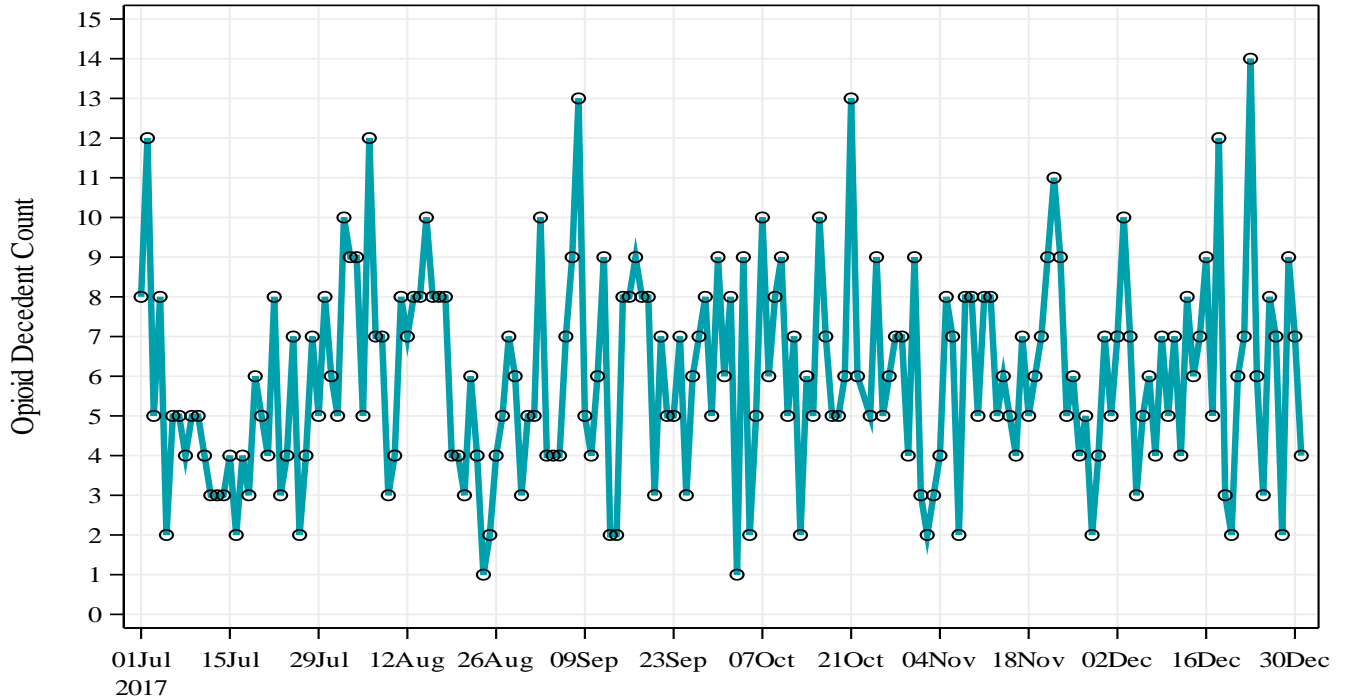
**Duval County** represented the location with the highest rate of opioid fatality

Opioid Cause of Death/100,000 Pop.  \*N/A  0.1-3  3.1-6  6.1-9  9.1-12  12.1-15  15.1+

\*Rates not calculated or observations unavailable.

Rank	Rate per 100,000	County of Death	Rank	Opioid Cause of Death Count	County of Death
1	23.37	DUVAL	1	230	PALM BEACH
2	17.51	PALM BEACH	2	191	DUVAL
3	16.62	LEE	3	130	MIAMI-DADE
4	13.46	GULF	4	110	LEE
5	10.49	VOLUSIA	5	96	ORANGE
6	10.20	CLAY	6	51	VOLUSIA
7	8.220	ORANGE	7	49	PINELLAS
8	8.18	NASSAU	8	37	PASCO
9	7.97	PASCO	9	23	SEMINOLE
10	7.75	OSCEOLA	10	23	OSCEOLA

## PLACE OF INJURY



**December 23** represented peak death at 14 opioid cause of deaths in one day.

Rank	Opioid Cause of Death Count	1 <sup>st</sup> ICD-10-CM Description of Injury	Rank	Opioid Cause of Death Count	Multiple Condition ICD-10-CM Description of Injury*
1	847	X42	1	907	T40.4
2	266	X44	2	418	F19.1
3	4	Y14	3	368	T40.2
4	3	Y12	4	361	T40.5
5	1	Y11	5	233	F19.9

\*Categories are not mutually exclusive. Definitions on page 4.

X42: accidental poisoning by and exposure to narcotics and psychodysleptics, not elsewhere classified

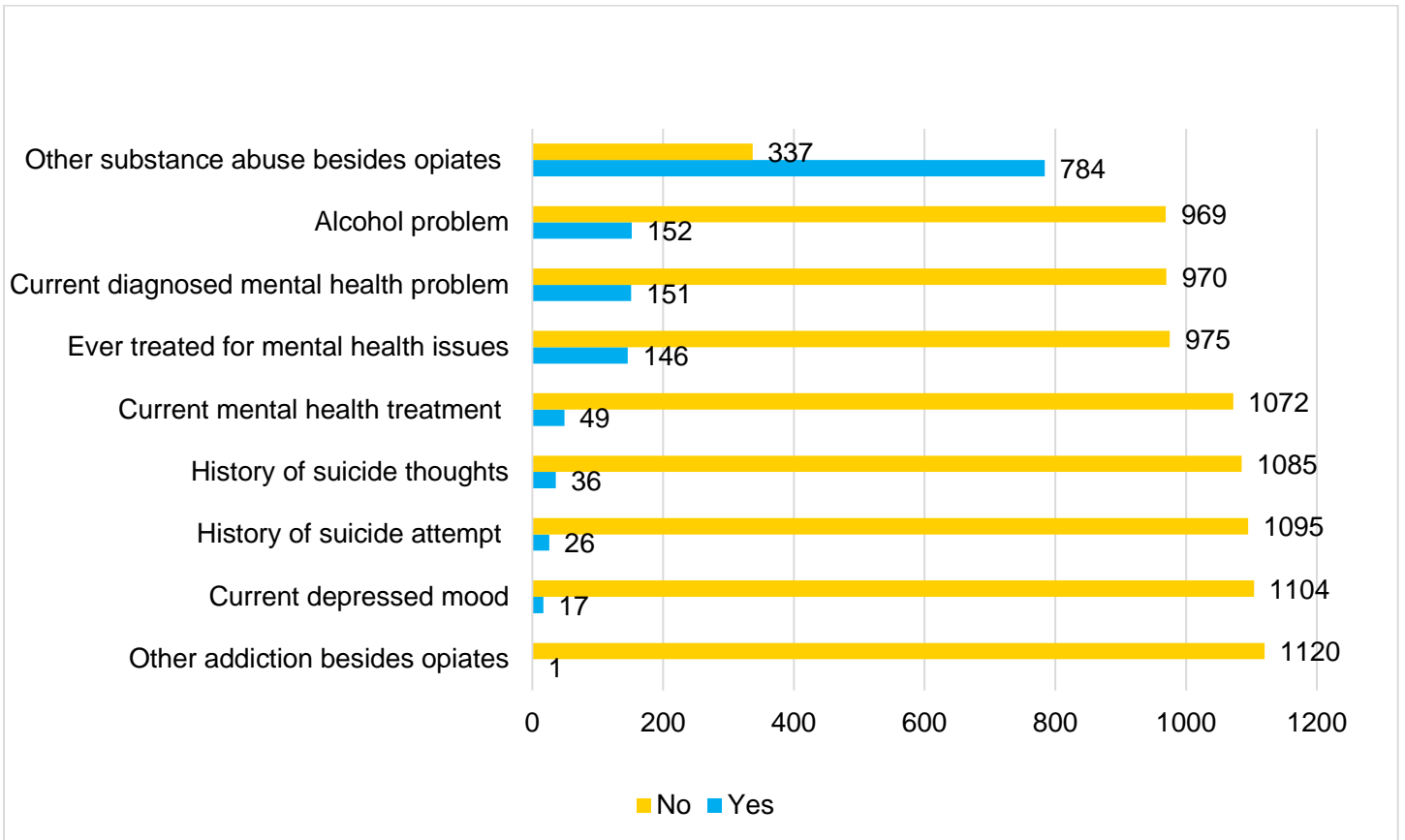
X44: accidental poisoning by and exposure to other and unspecified drugs, medicaments, and biological substances

Y11: poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified, undetermined intent

Y12: poisoning by and exposure to narcotics and psychodysleptics, not elsewhere classified, undetermined intent

Y14: poisoning by and exposure to other and unspecified drugs, medicaments and biological substances, undetermined intent

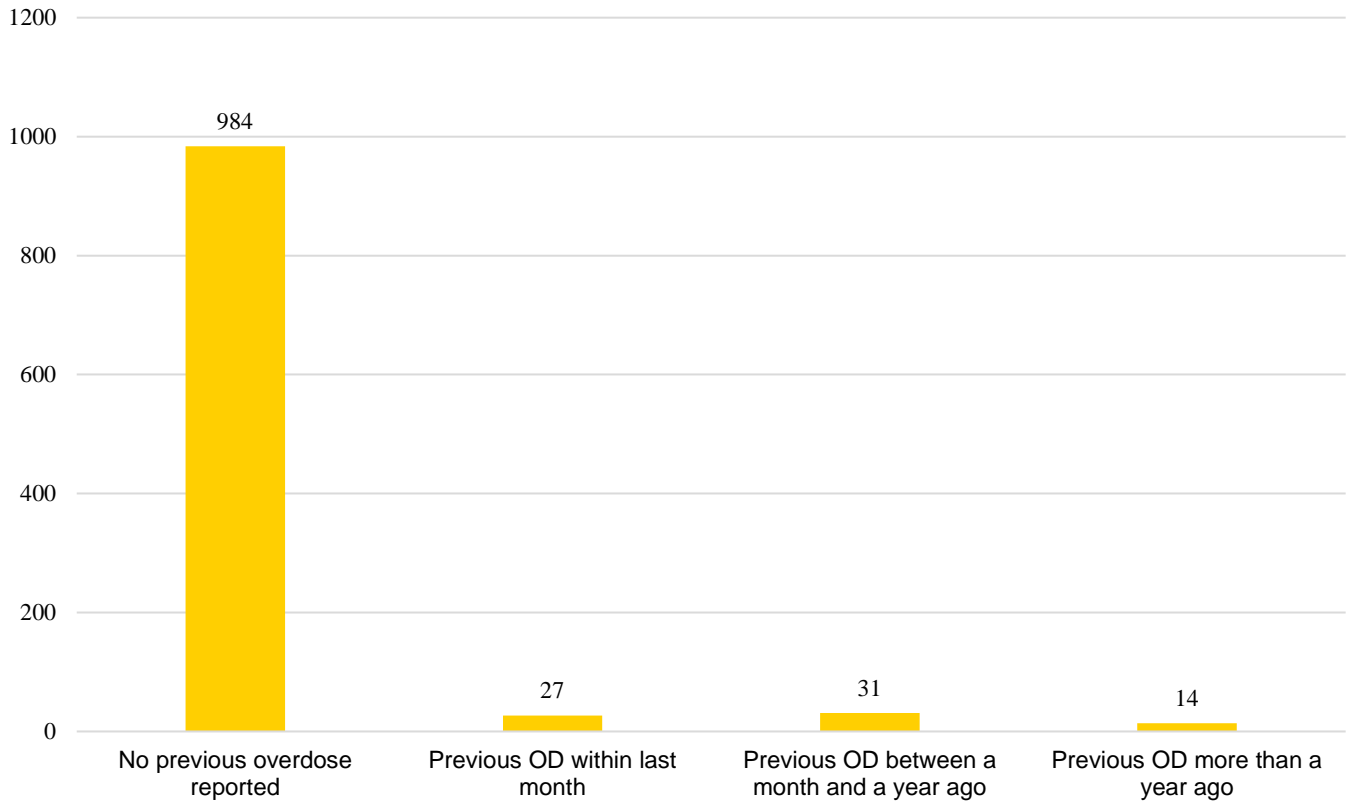
## MENTAL HEALTH, SUBSTANCE ABUSE, AND OTHER ADDICTIONS



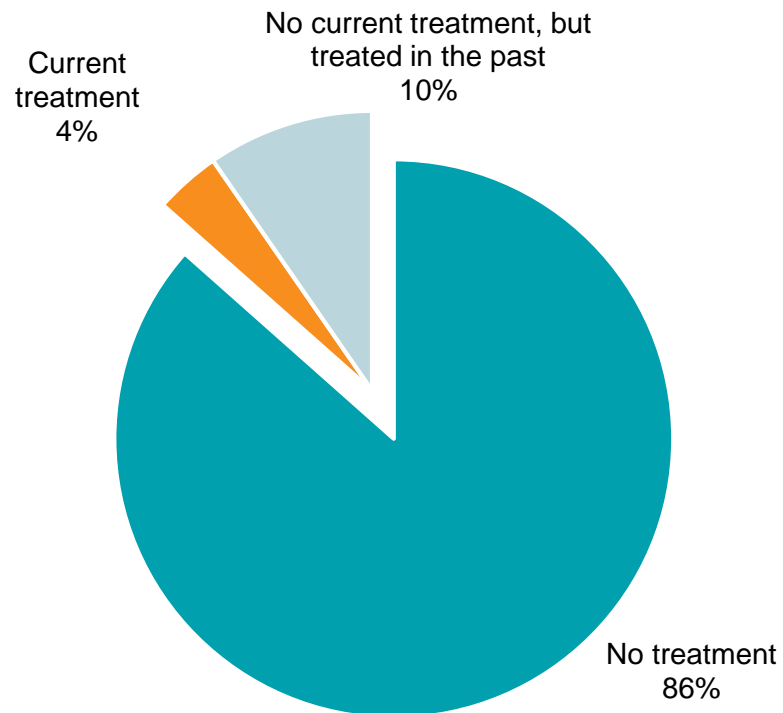
***784 decedents*** had other substance abuse problems, besides opiates, at the time of their death

# OVERDOSE

## Previous drug overdose

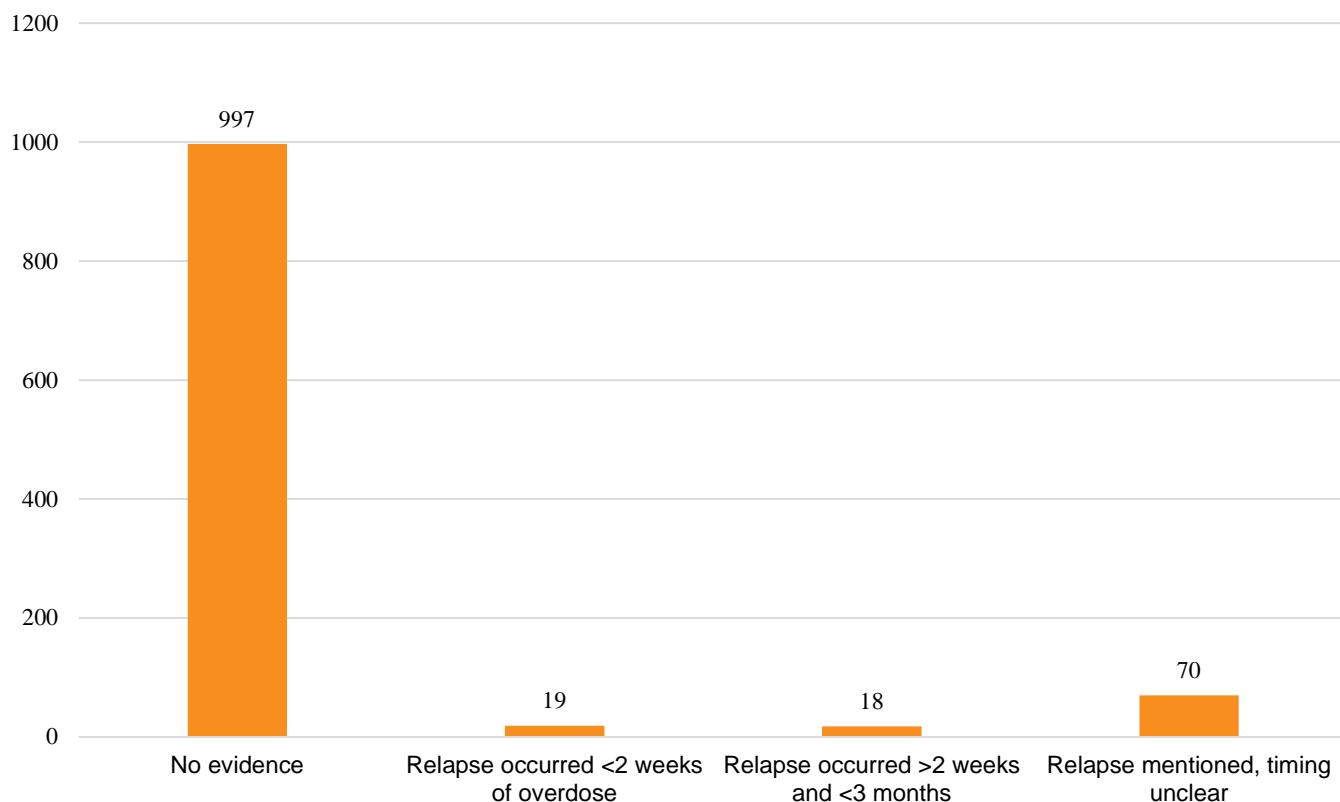


## Treatment for substance abuse

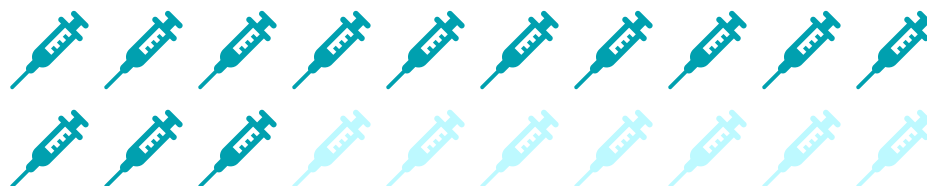


**9.69%** of decedents had evidence of an opioid use relapse

**Recent opioid use relapse**



**65.37%**  
decedents had  
evidence of  
preparing or  
taking drugs



## OVERDOSE

40.14% decedents  
had evidence of

**drug  
injection<sup>1</sup>**



Count	Type*
303	Needles/syringe
154	Cookers
29	Tourniquet
23	Filters
20	Witness report

91 decedents had evidence of **snorting/sniffing  
drugs<sup>2</sup>**

71 decedents had evidence of **ingesting drugs<sup>3</sup>**

35.26% decedents  
had evidence of  
**illicit drugs**



Count	Type*
125	Powder
42	Witness report
5	Counterfeit pills
0	Tar
0	Crystal

\*Categories are not mutually exclusive.

<sup>1</sup> Drug injection: evidence includes items to prepare and inject drugs found at the scene

<sup>2</sup> Snorting/sniffing drugs: evidence includes razor blades or credit cards used to chop and separate powder, as well as straws or tubes for nasal inhalation; powder visible on table/mirror, powder on decedent's nose

<sup>3</sup> Ingesting drugs: Witness reports of taking pills or tablets orally or the discovery of prescription pills or bottles at the scene or on the decedents body, even if not associated with the overdose



8.68% decedents had evidence of **rapid overdose**<sup>1</sup>



Count	Type*
77	Needle inserted or in hand
11	Tourniquet around arm
6	Witness report

19.80% decedents had evidence of **prescription drugs**<sup>2</sup>



Count	Type*
115	Prescribed to victim
96	Unknown who prescribed to

32 decedents had evidence of **naloxone administration**



Count	Type*
11	Unknown personnel
10	EMS
8	Hospital
2	Law enforcement
2	Bystander
1	Other

\*Categories are not mutually exclusive

<sup>1</sup> Rapid overdose: signs that a person died almost immediately after ingesting drugs

<sup>2</sup> Prescription drugs: Every Rx drug on scene, even if not associated with the overdose

## TOXICOLOGY

<b>Opioid Drug Present in Body<sup>1</sup></b>	<b>Drug COD Count</b>	<b>Drug Present Count</b>	<b>Total</b>
Fentanyl	637	39	676
Fentanyl Metabolite	372	53	425
Fentanyl Analogs and Other Synthetic Opioids	344	414	758
Heroin	201	7	208
Heroin Metabolite	157	34	191
Morphine	143	291	425
Oxycodone	112	45	157
Methadone	46	12	58
Hydrocodone	44	36	80
Hydromorphone	24	69	93
Oxymorphone	16	67	83
Tramadol	12	34	46
Codeine	11	109	120
Buprenorphine	9	22	31
Meperidine	1	0	1
Acetylcodeine	0	7	7

COD: cause of death. Cause of death is not mutually exclusive. A decedent may have multiple cause of death drugs.

<sup>1</sup>See Appendix A for included substances for each parent substance.

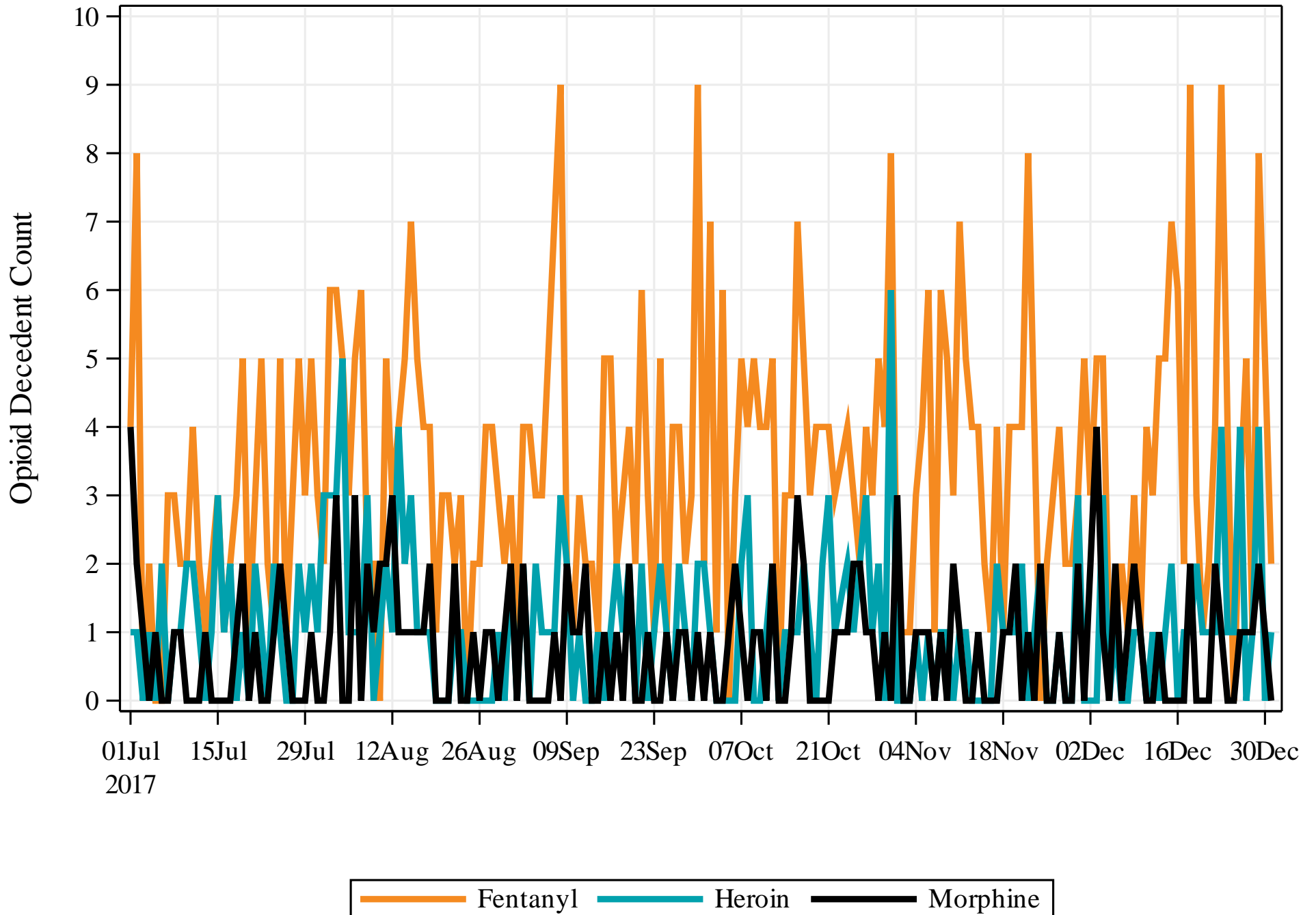
**TOXICOLOGY**

<b>Fentanyl Analogs and Other Synthetic Opioids Present in Body<sup>1</sup></b>	<b>Drug COD Count</b>	<b>Drug Present Count</b>	<b>Total</b>
Carfentanil	140	2	142
Methoxyacetylfentanyl	84	9	93
Acetylfentanyl	69	6	75
Furanylfentanyl	34	6	40
U-47700	11	9	20
Acrylfentanyl	3	0	3
Butyrylfentanyl	1	50	51
Isobutyrfentanyl	1	1	2
Benzylfentanyl	1	0	1
4-ANPP	0	156	156
Crotonyl fentanyl	0	75	75
Cyclopropylfentanyl	0	59	59
4-Fluorofentanyl	0	41	41

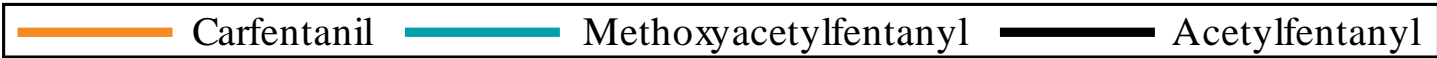
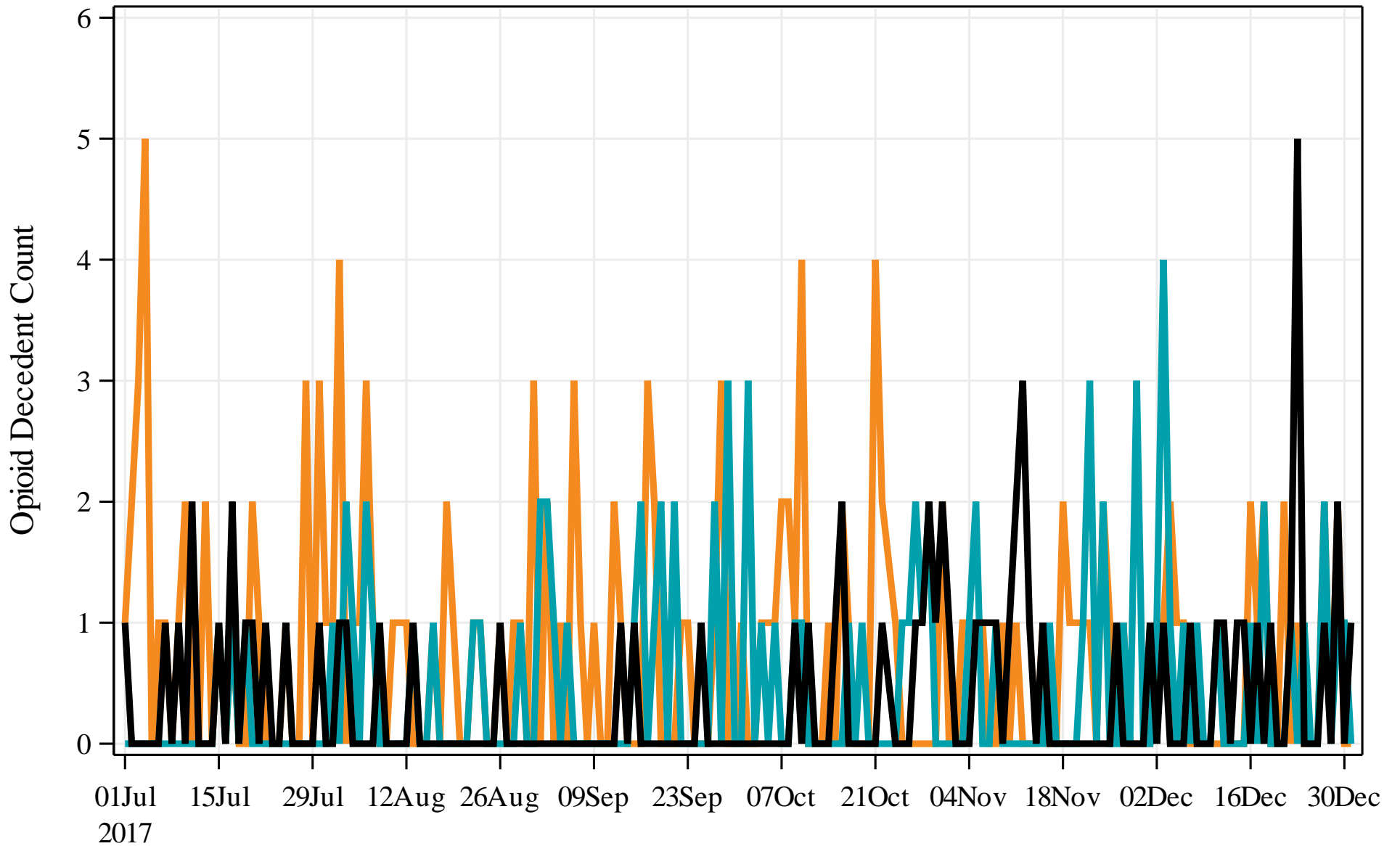
COD: cause of death. Cause of death is not mutually exclusive. A decedent may have multiple cause of death drugs.

<sup>1</sup>See Appendix A for included substances for each parent substance.

# Top Three Cause of Death Non-Fentanyl Analog Opioid Substances Over Time



### Top Three Cause of Death Fentanyl Analog/Synthetic Opioids Over Time



Fentanyl Cause of Death Tree Map Top 10 Co-Occurrent Drugs



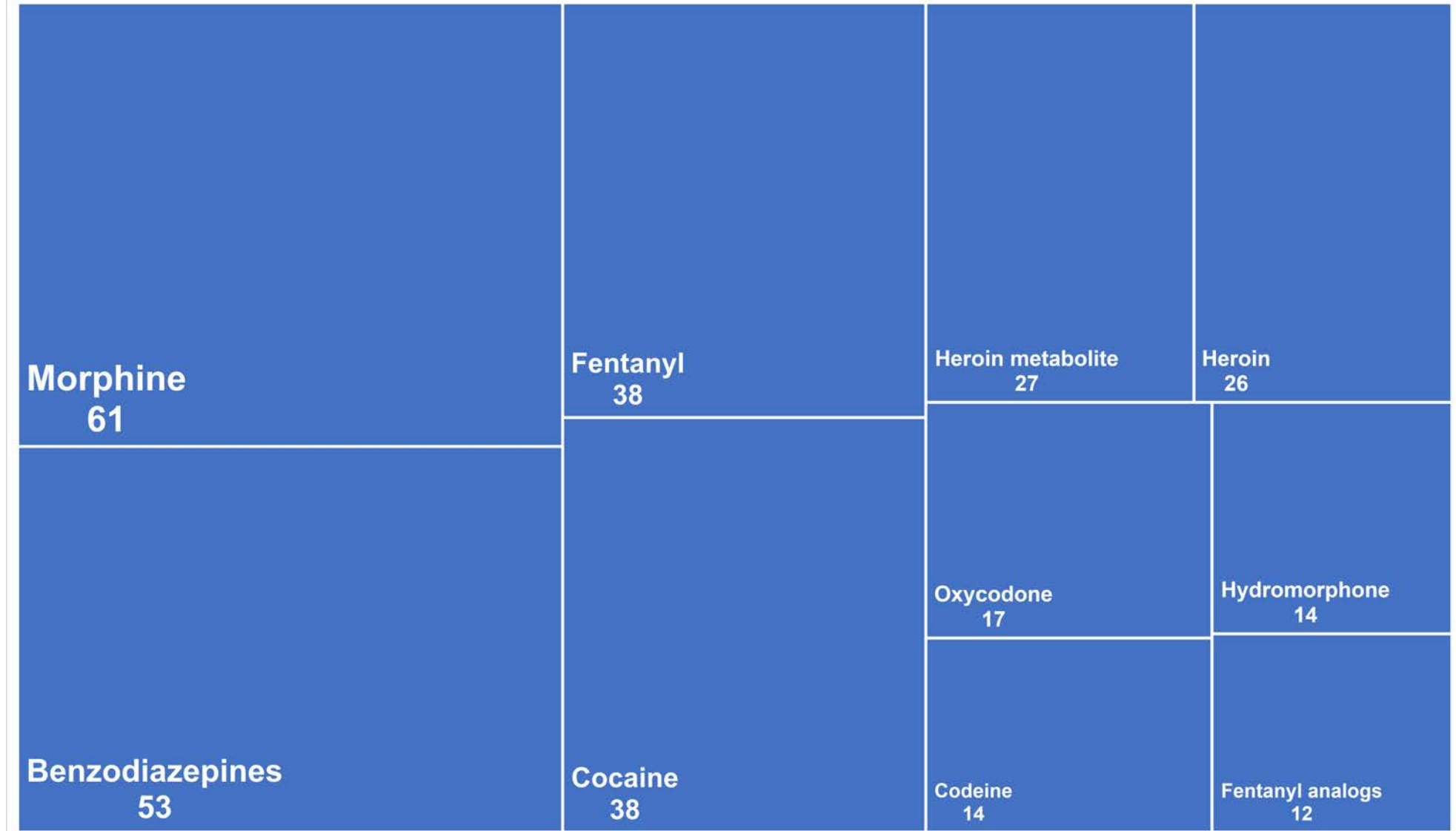
TOXICOLOGY

Heroin Cause of Death Tree Map Top 10 Co-Occurrent Drugs



TOXICOLOGY

Carfentanil Cause of Death Tree Map Top 10 Co-Occurrent Drugs





# TOXICOLOGY

## Top 3 Opioid Cause of Death Among Homeless Decedents and Co-Occurrent Drugs



■ Fentanyl Cause of Death ■ Heroin Cause of Death ■ Fentanyl Analog Cause of Death

## APPENDIX A: DRUG GLOSSARY

Parent Substance	Included Substances
Fentanyl	fentanyl, heroin-fentanyl, duragesic
Fentanyl Metabolite	fentanyl metabolite, norfentanyl
Fentanyl Analogs and Other Synthetic Opioids	Carfentanil, methoxyacetylfentanyl, acetylfentanyl, Furanylfentanyl, U-47700, Acrylfentanyl, butyrylfentanyl, Benzylfentanyl, 4-ANPP, crotonylfentanyl, cyclopropylfentanyl, 4-fluorofentanyl
Heroin	heroin, black tar heroin, china white heroin, diacetylmorphine, heroin-fentanyl, heroin with morphine, monoacetylcodeine, heroin/methapyrilene hcl
Heroin Metabolite	6-monoacetylmorphine, monoacetylmorphine, acetylmorphine
Morphine	morphine, morphine sulfate, free morphine, total morphine, opiates (morphine and metabolites), heroin with morphine, oramorph sr, morphine-naltrexone
Oxycodone	oxycodone, oxycodone and metabolites, oxycodone hydrochloride, free oxycodone, oxycontin, percocet, percodan, acetaminophen-oxycodone, oxycodone cr, oxycodone hci extended release
Methadone	methadone, methadone metabolite, methadone pill, eddp
Hydrocodone	hydrocodone, free hydrocodone, hydrocodone metabolite, hydrocodone bitartrate, vicodin, norco, dihydrocodeine, free dihydrocodeine, hydrocodol, dihydrocodeine/hydrocodol-free, dihydrocodeinone
Hydromorphone	hydromorphone, dilaudid, dihydromorphinone, hydromorphone hydrochloride
Oxymorphone	oxymorphone, oxymorphone metabolites
Tramadol	tramadol, desmethyltramadol, nortramadol, tramadol hydrochloride, tramadol metabolic, o-desmethyltramadol, n-desmethyltramadol
Codeine	codeine, free codeine, norcodeine, t4
Buprenorphine	buprenorphine, norbuprenorphine, suboxone, buprenex
Meperidine	meperidine, normeperidine
Acetylcodeine	acetylcodeine
Carfentanil	carfentanil
Methoxyacetylfentanyl	methoxyacetylfentanyl
Acetylfentanyl	acetylfentanyl
Furanylfentanyl	furanylfentanyl
U-47700	u-47700
Acrylfentanyl	acrylfentanyl
Butyrylfentanyl	butyrylfentanyl
Isobutyrfentanyl	isobutyrfentanyl
Benzylfentanyl	benzylfentanyl
4-ANPP	4-anpp, despropionylfentanyl
Crotonylfentanyl	crotonylfentanyl
Cyclopropylfentanyl	cyclopropylfentanyl
4-Fluorofentanyl	4-fluorofentanyl, 4-fluorobutyrfentanyl, 4-fluoroisobutyrfentanyl

**APPENDIX B: SELECTED COUNTS AND RATES**

## Opioid-Involved Cause of Death, Florida 2017 Q3-Q4

OPIOID-INVOLVED MAY INCLUDE PRESCRIPTION AND ILLICIT OPIOID CAUSE OF DEATH

<b>OPIOID-INVOLVED</b>		
	Count	Rate per 100,000
<b>TOTAL</b>	1,121	5.53
<b>Q3</b>	552	2.73
<b>Q4</b>	569	2.81
<b>AGE</b>		
<b>11-14</b>	1	0.11
<b>15-24</b>	78	3.12
<b>25-34</b>	360	13.20
<b>35-44</b>	283	11.30
<b>45-54</b>	223	7.96
<b>55-64</b>	147	5.31
<b>65-74</b>	26	1.12
<b>75-84</b>	2	0.16
<b>85+</b>	1	0.18
<b>ETHNICITY (RACE)</b>		
<b>UNKNOWN</b>	58	N/A
<b>HISPANIC</b>	146	2.99
<b>NON-HISPANIC</b>	917	5.97
<b>WHITE</b>	835	7.42
<b>BLACK</b>	73	2.33
<b>American Indian and Alaskan Native</b>	2	4.87
<b>ASIAN</b>	4	0.77
<b>MULTIPLE RACES</b>	3	0.85
<b>SEX (AGE)</b>		
<b>MALE</b>	797	8.92
<b>11-14</b>	1	0.21
<b>15-24</b>	55	4.29
<b>25-34</b>	261	18.93
<b>35-44</b>	196	15.80
<b>45-54</b>	167	12.16
<b>55-64</b>	99	7.56
<b>65-74</b>	16	1.49
<b>75-84</b>	2	0.35
<b>85+</b>	0	N/A
<b>FEMALE</b>	324	3.42
<b>11-14</b>	0	N/A
<b>15-24</b>	23	1.88

25-34	99	7.35
35-44	87	6.89
45-54	56	3.93
55-64	48	3.28
65-74	10	0.81
75-84	0	N/A
85+	1	0.29
<b>VETERAN STATUS ≥ 18 YEARS</b>		
CIVILIAN	991	6.17
CIVILIAN VETERANS	68	4.52
UNKNOWN	60	N/A
<b>EDUCATIONAL ATTAINMENT ≥ 25 YEARS</b>		
≤ 8 <sup>TH</sup> GRADE	23	3.08
9 <sup>TH</sup> -12 <sup>TH</sup> GRADE	152	13.96
HIGH SCHOOL OR GED GRADUATE	491	11.76
SOME COLLEGE, NO DEGREE	167	5.67
ASSOCIATE	71	5.18
BACHELOR	58	2.27
GRADUATE OR PROFESSIONAL DEGREE	15	1.04
UNKNOWN	65	N/A
<b>COUNTY OF DEATH</b>		
ALACHUA	N/A	N/A
BAKER	N/A	N/A
BAY	8	4.88
BRADFORD	N/A	N/A
BREVARD	18	3.39
BROWARD	N/A	N/A
CALHOUN	1	7.68
CHARLOTTE	N/A	N/A
CITRUS	N/A	N/A
CLAY	19	10.20
COLLIER	N/A	N/A
COLUMBIA	3	4.85
DE SOTO	0	N/A
DIXIE	N/A	N/A
DUVAL	191	23.37
ESCAMBIA	3	1.06

<b>FLAGLER</b>	N/A	N/A
<b>FRANKLIN</b>	N/A	N/A
<b>GADSDEN</b>	N/A	N/A
<b>GILCHRIST</b>	N/A	N/A
<b>GLADES</b>	0	N/A
<b>GULF</b>	2	13.46
<b>HAMILTON</b>	1	7.66
<b>HARDEE</b>	0	N/A
<b>HENDRY</b>	0	N/A
<b>HERNANDO</b>	N/A	N/A
<b>HIGHLANDS</b>	0	N/A
<b>HILLSBOROUGH</b>	N/A	N/A
<b>HOLMES</b>	1	5.66
<b>INDIAN RIVER</b>	N/A	N/A
<b>JACKSON</b>	1	2.27
<b>JEFFERSON</b>	N/A	N/A
<b>LAFAYETTE</b>	N/A	N/A
<b>LAKE</b>	N/A	N/A
<b>LEE</b>	110	16.62
<b>LEON</b>	N/A	N/A
<b>LEVY</b>	N/A	N/A
<b>LIBERTY</b>	N/A	N/A
<b>MADISON</b>	N/A	N/A
<b>MANATEE</b>	20	5.84
<b>MARION</b>	N/A	N/A
<b>MARTIN</b>	N/A	N/A
<b>MIAMI-DADE</b>	130	5.32
<b>MONROE</b>	N/A	N/A
<b>NASSAU</b>	6	8.1
<b>OKALOOSA</b>	3	1.69
<b>OKEECHOBEE</b>	N/A	N/A
<b>ORANGE</b>	96	8.22
<b>OSCEOLA</b>	23	7.75
<b>PALM BEACH</b>	230	17.51
<b>PASCO</b>	37	7.97
<b>PINELLAS</b>	49	5.52
<b>POLK</b>	6	1.01
<b>PUTNAM</b>	N/A	N/A
<b>ST JOHNS</b>	N/A	N/A
<b>ST LUCIE</b>	N/A	N/A

<b>SANTA ROSA</b>	3	1.96
<b>SARASOTA</b>	8	2.06
<b>SEMINOLE</b>	23	5.58
<b>SUMTER</b>	N/A	N/A
<b>SUWANNEE</b>	N/A	N/A
<b>TAYLOR</b>	N/A	N/A
<b>UNION</b>	N/A	N/A
<b>VOLUSIA</b>	51	10.49
<b>WAKULLA</b>	N/A	N/A
<b>WALTON</b>	0	N/A
<b>WASHINGTON</b>	0	N/A
<b>MISSING</b>	72	N/A

N/A: Rates not calculated or not enough observations available.