

# 2020 ANNUAL REPORT

## Deaths related to opioids and other drugs

*Allegan, Barry, Berrien, Calhoun, Grand Traverse, Kalamazoo, Leelanau, Mason, Muskegon, Osceola, St. Joseph, and Van Buren County*

*This report is in memory of those who lost their life or a loved one to substance use. These losses must motivate us all to prevent future deaths.*

### **A few notes...**

#### **: Purpose:**

**: This data was collected by the Office of the Medical Examiner in the Department of Pathology at WMed. Unless otherwise noted, data is from 2020 and includes deaths where drugs were the immediate cause of death. This report is meant to provide up to date statistics to those involved in efforts to reduce the number of drug-related deaths.**

**: Sections with the following headings are approximations and frequencies may be higher than what is reported:**

**: Health Factors, Mental Health Factors, Social Factors, Children and Substance Use History.**

#### **: Sources:**

**: All data was extracted from a Medical Examiner database, law enforcement (LE) and EMS reports, death certificates, obituaries, Swift Toxicology of Overdose-Related Mortalities (STORM) results, medical records, toxicology reports, MDHHS Non-Fatal Overdose and 2018 Hepatitis B and C Annual Surveillance Reports, and autopsy reports.**

**Please email Chloe Bielby to set up a time to discuss the report or to receive a county-specific report:  
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# Deaths Related to Opioids and Other Drugs

Allegan, Barry, Berrien, Calhoun, Grand Traverse, Kalamazoo, Leelanau, Mason, Muskegon, Osceola, St. Joseph, and Van Buren County

## All Drug-Related Deaths

### Allegan

Age	Race	Sex	Death Certificate: Substances Contributing to Death	Injury Zip Code
24	W	M	Pt. I: Fentanyl, methamphetamine	49010
28	W	M	Pt. I: Fentanyl	49078
29	W	M	Pt. I: Clonazepam, doxylamine, fentanyl, trazodone	49078
30	W	M	<i>Pt. II: Methamphetamine*</i>	49419
30	W	M	Pt. I: Methamphetamine	49419
31	W	M	Pt. I: Fentanyl, morphine	49080
36	W	M	Pt. I: Methamphetamine, flualprazolam	49323
36	W	F	Pt. I: Fentanyl, xylazine	49323
39	W	M	Pt. I: Methamphetamine	49450
43	W	M	Pt. I: Alprazolam, fentanyl	49408
43	W	M	Pt. I: Fentanyl	49348
45	W	M	Pt. I: Alprazolam, fentanyl, heroin, hydrocodone, gabapentin	49423
48	W	M	Pt. I: Fentanyl, ethanol	49408
49	W	F	Pt. I: Methadone, gabapentin	49423
52	W	M	<i>Pt. I: Acute and chronic alcoholism*</i>	49423
59	W	M	Pt. I: Fentanyl, diazepam, oxycodone, gabapentin	49328

### Barry

Age	Race	Sex	Death Certificate: Substances Contributing to Death	Injury Zip Code
25	W	M	Pt. I: Fentanyl, hydrocodone, alprazolam	49344
27	W	F	Pt. I: Methamphetamine, fentanyl	49058
30	W	M	Pt. I: Heroin, methamphetamine, fentanyl, acetyl-fentanyl	49058
35	W	M	Pt. I: Heroin, fentanyl, mitragynine, ethanol	49017
36	W	F	Pt. I: Fentanyl, flualprazolam, diphenhydramine	49333
40	W	F	Pt. I: Alprazolam, hydrocodone, tramadol, trazodone	49058
41	W	M	Pt. I: Fentanyl	49017
51	W	M	Pt. I: Methamphetamine	Unknown
53	W	M	Pt. I: Methadone	49348
53	W	F	Pt. I: Methamphetamine	49333



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## Berrien

Age	Race	Sex	Death Certificate: Substances Contributing to Death	Injury Zip Code
21	W	M	Pt. I: Methadone	49686
22	B	F	Pt. I: Fentanyl	49022
24	W	M	Pt. I: Fentanyl, methamphetamine	49103
25	W	M	Pt. I: Fentanyl, hydrocodone	49120
26	W	F	Pt. I: Fentanyl	49022
28	B	F	Pt. I: Methamphetamine	60409
29	W	F	Pt. I: Fentanyl, acetyl fentanyl, alprazolam, norbuprenorphine	49120
29	W	M	<i>Pt. I: Acute and chronic ethanol use*</i>	49127
29	W	F	Pt. I: Fentanyl, etizolam, cocaine	49085
30	W	F	Pt. I: Methamphetamine, fentanyl	49022
31	W	M	Pt. I: Fentanyl, promethazine, diphenhydramine	49022
31	W	M	Pt. I: Ethanol, fentanyl	49047
32	W	M	Pt. I: Cocaine, ethanol, cocaethylene, fentanyl, morphine, amphetamine	49022
35	W	F	Pt. I: Fentanyl, ethanol, mitragynine, citalopram/escitalopram, clonazepam	49022
36	B	M	Pt. I: Cocaine, ethanol, and fentanyl	49022
37	W	F	Pt. I: Fentanyl	46241
38	B	M	Pt. I: Cocaine, ethanol, cocaethylene	49022
40	W	M	Pt. I: Cocaine, flualprazolam, isotonitazine	49892
40	W	M	Pt. I: Alprazolam, fentanyl, methamphetamine	49098
42	W	M	Pt. I: Fentanyl	49107
43	W	F	Pt. I: Methamphetamine	49120
45	W	M	<i>Pt. II: Fentanyl, morphine*</i>	49120
47	W	M	<i>Pt. II: Methamphetamine*</i>	49107
47	W	M	Pt. I: Methadone, diphenhydramine	49098
48	W	M	Pt. I: Cocaine, fentanyl, acetyl fentanyl, heroin	49085
49	W	F	Pt. I: Ethanol, alprazolam, zolpidem, gabapentin	49107
50	B	F	Pt. I: Fentanyl	49022
52	B	M	Pt. I: Cocaine, ethanol, cocaethylene, fentanyl	49022
53	B	F	Pt. I: Fentanyl	49022
54	W	F	Pt. I: Methamphetamine, chlordiazepoxide, lorazepam, 7-amino clonazepam, fentanyl, heroin	49120
58	W	M	Pt. I: Fentanyl, methamphetamine, alprazolam	49022
59	W	M	Pt. I: Opiate, amphetamine	49120
60	W	M	Pt. I: Fentanyl, diphenhydramine	49098
61	B	M	Pt. I: Cocaine	49022
63	W	M	Pt. I: Fentanyl, heroin, oxycodone, gabapentin, nordiazepam	49022

# Deaths Related to Opioids and Other Drugs

Allegan, Barry, Berrien, Calhoun, Grand Traverse, Kalamazoo, Leelanau, Mason, Muskegon, Osceola, St. Joseph, and Van Buren County

## Berrien (cont.)

64	W	M	Pt. I: Heroin, methamphetamine, 7-amino clonazepam, fentanyl, gabapentin, zolpidem	49120
64	W	M	<i>Pt. II: Cocaine*</i>	49127
68	W	M	Pt. I: Acetaminophen, lorazepam, hydrocodone	49117

## Calhoun

Age	Race	Sex	Death Certificate: Substances Contributing to Death	Injury Zip Code
18	W	F	Pt. I: Fentanyl, tramadol, cocaine, phentermine	49014
18	W	M	Pt. I: Amphetamine, methamphetamine, fentanyl	49068
26	W	M	Pt. I: Acetyl-fentanyl, amphetamine, fentanyl, xylazine	49015
26	W	F	Pt. I: Fentanyl, mitragynine, gabapentin, alprazolam	48917
28	W	M	Pt. I: Diazepam, alprazolam, olanzapine, quetiapine	49014
29	W	M	Pt. I: Fentanyl	49014
29	W	F	Pt. I: Methamphetamine, fentanyl, acetyl-fentanyl	49015
30	W	F	<i>Pt. II: Morphine, buprenorphine, diphenhydramine, fentanyl*</i>	49015
31	W	M	Pt. I: Fentanyl, heroin, ethanol	49015
32	W	M	Pt. I: Fentanyl, methamphetamine	49014
32	W	M	Pt. I: Fentanyl, methamphetamine, diphenhydramine	49037
33	W	M	Pt. I: Fentanyl	49017
33	B	F	Pt. I: Cocaine, ethanol, cocaethylene, methamphetamine, fentanyl, promethazine	49014
35	W	F	Pt. I: Acetyl-fentanyl, diphenhydramine, fentanyl, methamphetamine, morphine, norbuprenorphine, xylazine	49015
35	W	F	<i>Pt. II: Amphetamine, methamphetamine, fentanyl*</i>	49015
35	W	F	Pt. I: Gabapentin, ketamine	49017
36	W	F	Pt. I: Methamphetamine	49015
37	W	M	Pt. I: Methamphetamine, fentanyl	49014
37	W	M	Pt. I: Fentanyl, heroin, methamphetamine	49015
38	W	F	Pt. I: Cocaine, methadone, tramadol, fentanyl	49014
38	W	M	Pt. I: Fentanyl, diphenhydramine	49015
40	W	M	Pt. I: Fentanyl, acetyl-fentanyl	49014
42	W	M	Pt. I: Fentanyl, clonazepam	49224
43	W	F	Pt. I: Cocaine, fentanyl, bupropion, gabapentin, trazodone	49014
43	W	M	Pt. I: Fentanyl, cocaine	49017
44	W	M	Pt. I: Heroin	49016
45	W	M	Pt. I: Dihydrocodeine, fentanyl, hydrocodone	49017
45	B	M	Pt. I: Fentanyl, heroin	49014



# Deaths Related to Opioids and Other Drugs

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## Calhoun (cont.)

45	W	M	Pt. I: Fentanyl, methamphetamine	49015
47	W	F	Pt. I: Alprazolam, gabapentin, promethazine, tramadol	49017
50	W	M	Pt. I: Ethanol, clonazepam, morphine, fentanyl	49014
52	W	M	Pt. I: Heroin, fentanyl, mitragynine, ethanol	49017
52	B	F	Pt. I: Cocaine	Unknown
52	W	M	Pt. I: Methamphetamine, fentanyl, ethanol	49068
52	W	M	Pt. I: Methamphetamine, fentanyl	49014
54	W	M	Pt. I: Heroin, fentanyl, methamphetamine	49014
54	W	M	Pt. I: Fentanyl, clonazepam	49017
54	W	M	Pt. I: Morphine, amphetamine, fentanyl	Unknown
55	B	F	Pt. I: Cocaine, codeine, fentanyl	49037
56	W	F	Pt. I: Fentanyl, heroin, amitriptyline	49037
56	W	M	Pt. I: Fentanyl, oxycodone, trazodone, promethazine	49068
57	W	M	Pt. I: Sertraline, tramadol, gabapentin, trazodone, diphenhydramine	49015
58	W	M	Pt. I: Fentanyl, acetyl-fentanyl, hydroxyzine, quetiapine, risperidone	49015
59	W	F	Pt. I: Fentanyl, oxycodone	49201
60	W	M	Pt. I: Cocaine, fentanyl, heroin, methamphetamine	49015
60	B	M	Pt. I: Cocaine, ethanol, fentanyl	49017
61	W	M	Pt. I: Fentanyl, mirtazapine	49017
62	W	M	Pt. I: Fentanyl, heroin, ethanol	49017
63	B	M	Pt. I: Cocaine, fentanyl, ethanol	49037
63	B	M	Pt. I: Cocaine	49017
65	B	M	Pt. I: Fentanyl, morphine, hydrocodone	49017
69	W	M	Pt. I: Cocaine	49015
70	W	M	Pt. I: Cocaine	49015
75	B	M	Pt. I: Methamphetamine, ethanol	49017

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Allegan, Barry, Berrien, Calhoun, Grand Traverse, Kalamazoo, Leelanau, Mason, Muskegon, Osceola, St. Joseph, and Van Buren County

## Grand Traverse

Age	Race	Sex	Death Certificate: Substances Contributing to Death	Injury Zip Code
21	W	F	Pt. I: Fentanyl, alprazolam	49685
28	W	F	Pt. I: Dimethylether	49686
28	W	M	Pt. I: Fentanyl, alprazolam, xylazine, gabapentin	49643
28	W	M	Pt. I: Fentanyl, acetyl-fentanyl, methamphetamine	48624
30	W	M	Pt. I: Acetyl fentanyl, fentanyl, methamphetamine, morphine, norfentanyl	48653
31	W	M	Pt. I: Methadone, alprazolam	49646
31	W	M	<i>Pt. I: Acute and chronic alcohol use*</i>	49684
32	W	M	Pt. I: Methamphetamine	49643
33	W	F	Pt. I: Heroin, fentanyl, ethanol	49686
34	W	M	Pt. I: Fentanyl	49684
34	B	M	Pt. I: Ethanol, heroin, methamphetamine, fentanyl	49696
35	W	M	Pt. I: Fentanyl, heroin, mitragynine, ethanol	49684
41	W	F	<i>Pt. I: Ethanol*</i>	49684
47	W	M	Pt. I: Fentanyl, diphenhydramine	49637
47	W	F	<i>Pt. I: Acute and chronic alcohol use*</i>	49519
49	W	M	Pt. I: Methamphetamine, mitragynine	49637
54	W	F	Pt. I: Fentanyl, mitragynine, alprazolam, oxycodone	49686
54	W	M	Pt. I: Opiates	49659
55	W	F	Pt. I: Bupropion, citalopram / escitalopram, ethanol	49649
57	W	M	Pt. I: Hydrocodone, gabapentin	49685
68	W	M	<i>Pt. I: Acute and chronic alcohol use*</i>	49684
76	W	M	Pt. I: Hydromorphone, zolpidem, gabapentin	49686

## Kalamazoo

Age	Race	Sex	Death Certificate: Substances Contributing to Death	Injury Zip Code
26	W	M	Pt. I: Buprenorphine	49007
18	O	M	Pt. I: Fentanyl, tramadol, etizolam	49009
20	W	M	Pt. I: Fentanyl, methamphetamine	49007
20	W	M	Pt. I: Oxycodone, cocaine, flualprazolam, amphetamine, MDMA, norketamine	49001
21	B	M	Pt. I: Hydrocodone, fentanyl, oxycodone	49048
21	W	F	<i>Pt. I: Ethanol*</i>	49008
24	W	M	Pt. I: Fentanyl, hydrocodone, mitragynine, quetiapine, xylazine	49006
24	W	M	<i>Pt. I: Ethanol*</i>	49071



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## Kalamazoo (cont.)

28	W	F	Pt. I: Fentanyl, methamphetamine	49017
28	B	M	Pt. I: Methamphetamine, fentanyl	49008
28	W	M	Pt. I: Fentanyl	49009
28	B	M	Pt. I: Heroin, fentanyl, acetyl-fentanyl, methamphetamine	49007
30	W	M	Pt. I: Fentanyl, methamphetamine, ethanol, alprazolam	49048
31	W	M	Pt. I: Heroin, acetyl-fentanyl, fentanyl, methamphetamine	49009
31	W	M	Pt. I: Fentanyl, methamphetamine, diphenhydramine	49097
32	W	M	Pt. I: Cocaine, methamphetamine, fentanyl	49007
32	W	M	Pt. I: Ethanol, methamphetamine, fentanyl	49007
32	W	F	Pt. I: Methamphetamine	49045
32	W	M	Pt. I: Fentanyl, heroin, methamphetamine	49024
32	W	F	Pt. I: Fentanyl	49007
32	W	M	Pt. I: Methamphetamine, fentanyl	49009
32	W	M	Pt. I: Tramadol	49001
33	W	M	Pt. I: Fentanyl, acetyl-fentanyl, methamphetamine	49009
33	W	M	Pt. I: Fentanyl, methadone, ethanol, alprazolam, lorazepam	49037
33	W	M	Pt. I: Fentanyl, acetyl-fentanyl, methamphetamine	49004
33	W	M	Pt. I: Fentanyl, alprazolam, ethanol	49048
34	W	M	Pt. I: Fentanyl, methamphetamine, methadone	49004
35	W	M	Pt. I: Methamphetamine, fentanyl	49082
36	W	M	Pt. I: Buprenorphine, amphetamine, fentanyl	49001
36	W	M	Pt. I: Fentanyl, acetyl-fentanyl, tramadol, gabapentin	49007
37	W	F	Pt. I: Methamphetamine, fentanyl	49001
37	W	M	Pt. I: Amphetamine, methamphetamine, acetyl-fentanyl, fentanyl	49048
37	W	M	Pt. I: Methamphetamine, heroin, fentanyl	49009
37	W	M	<i>Pt. I: Acute and Chronic Alcohol Use*</i>	49024
38	W	M	Pt. I: Heroin, fentanyl	49009
38	W	M	Pt. I: Fentanyl, methamphetamine, hydrocodone, clonazepam	Unknown
39	W	M	Pt. I: Fentanyl, norfentanyl	49004
39	W	M	Pt. I: Fentanyl, ethanol	49037
40	W	M	Pt. I: Thyroid hormone	Unknown
41	W	M	Pt. I: Methamphetamine	49004
42	W	F	Pt. I: Opiates, methadone, buprenorphine, benzodiazepine, amphetamine	49012
42	B	M	Pt. I: Cocaine, cocaethylene, fentanyl	49048
42	W	M	Pt. I: Methamphetamine	49048

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## Kalamazoo (cont.)

42	W	M	Pt. I: Fentanyl	49087
43	W	M	Pt. I: Fentanyl, methamphetamine	49002
43	W	M	Pt. I: Methamphetamine, fentanyl, heroin	49048
43	W	F	Pt. I: Buprenorphine, fentanyl, acetyl fentanyl	49048
44	W	F	Pt. I: Heroin, xylazine, fentanyl, acetyl-fentanyl	49008
44	W	M	Pt. I: Fentanyl, acetyl-fentanyl, xylazine, methamphetamine	49007
47	W	M	Pt. I: MDMA	49036
48	B	F	Pt. I: Fentanyl	49006
49	W	M	Pt. I: Methamphetamine, methadone	49001
49	B	M	Pt. I: Fentanyl, tramadol	49024
50	B	M	Pt. I: Fentanyl, acetyl-fentanyl, morphine, ethanol	49007
52	W	M	Pt. I: Methamphetamine, fentanyl	49002
53	B	M	Pt. I: Methamphetamine	49001
55	W	M	Pt. I: Methamphetamine, fentanyl	Unknown
55	W	F	Pt. I: Metoprolol	49008
57	W	M	Pt. I: Clozapine, valproic acid, lurasidone, diazepam	49002
58	B	M	Pt. I: Fentanyl	49007
59	W	M	Pt. I: Quetiapine	49008
59	B	F	Pt. I: Ethanol, fentanyl, acetyl fentanyl	49008
61	W	M	Pt. I: Heroin, fentanyl, trazodone, acetyl-fentanyl	49010
61	B	M	Pt. I: Fentanyl, cocaine	49048
61	W	F	Pt. I: Fentanyl	49037
62	B	M	Pt. I: Cocaine	49007
62	W	M	Pt. I: Methamphetamine	49008
62	W	M	Pt. I: Methamphetamine	49004
62	W	M	Pt. I: Fentanyl, acetyl-fentanyl, heroin, methamphetamine	49007
63	W	M	Pt. I: Fentanyl, methamphetamine	49001
64	B	M	Pt. I: Cocaine, ethanol	49037
64	W	M	Pt. I: Acetyl-fentanyl, amphetamine, fentanyl, flualprazolam, heroin	49001
67	W	M	<i>Pt. II: Methamphetamine, ethanol*</i>	49266
76	W	M	<i>Pt. II: Opioid*</i>	49009



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## Leelanau

Age	Race	Sex	Death Certificate: Substances Contributing to Death	Injury Zip Code
49	W	F	Pt. I: Hydromorphone, acetaminophen, tramadol	49664
85	W	F	Pt. I: Morphine	49654

## Mason

Age	Race	Sex	Death Certificate: Substances Contributing to Death	Injury Zip Code
30	W	F	Pt. I: Fentanyl, cocaine, diphenhydramine, hydroxyzine, cyclobenzaprine, diazepam	49660
34	W	M	Pt. I: Fentanyl, para-fluorofentanyl, hydrocodone	49431
42	W	F	Pt. I: Fentanyl, heroin, xylazine, methamphetamine	49431
49	W	M	Pt. I: Methamphetamine, fentanyl, tramadol	49660
56	W	F	Pt. I: Fentanyl, tramadol	49431

## Osceola

Age	Race	Sex	Death Certificate: Substances Contributing to Death	Injury Zip Code
27	W	F	<i>Pt. II: Methamphetamine*</i>	49663
35	W	F	Pt. I: Methamphetamine	Unknown

# Deaths Related to Opioids and Other Drugs

Allegan, Barry, Berrien, Calhoun, Grand Traverse, Kalamazoo, Leelanau, Mason, Muskegon, Osceola, St. Joseph, and Van Buren County

## Muskegon

Age	Race	Sex	Death Certificate: Substances Contributing to Death	Injury Zip Code
21	W	M	Pt. I: Fentanyl	49442
23	W	M	Pt. I: Heroin, temazepam, 7-amino clonazepam, amphetamine	49441
26	B	F	Pt. I: Hydrocodone, fentanyl	49444
27	W	M	Pt. I: Amphetamine, cocaine, fentanyl	49442
27	W	M	Pt. I: Fentanyl, morphine, lorazepam	49451
27	W	F	Pt. I: Methamphetamine, fentanyl, para-fluorofentanyl	49444
28	W	M	Pt. I: Cocaine, fentanyl	49444
28	W	F	Pt. I: Para-flourofentanyl, fentanyl, morphine, gabapentin	49442
29	W	M	Pt. I: Flualprazolam, ethanol, hydrocodone, diphenhydramine, fentanyl	49441
29	B	M	<i>Pt. II: Amphetamine</i>	49457
30	W	M	Pt. I: Cocaine, fentanyl	49441
33	W	M	Pt. I: Amphetamine, methamphetamine, fentanyl, xylazine	49442
33	B	F	Pt. I: Cocaine, fentanyl	Unknown
34	B	M	<i>Pt. I: Acute and chronic ethanol use*</i>	49444
35	B	M	Pt. I: Fentanyl, cocaine, dextromethorphan, diphenhydramine	49444
35	W	F	Pt. I: Diazepam, hydrocodone, oxycodone, gabapentin, fentanyl	49444
35	W	F	Pt. I: Fentanyl, heroin	49441
35	W	F	Pt. I: Fentanyl, methamphetamine	49442
37	W	M	Pt. I: Fentanyl, heroin	49442
37	W	M	Pt. I: Fentanyl	49437
37	W	M	Pt. I: Heroin, fentanyl, ethanol	49444
38	B	M	Pt. I: Fentanyl, morphine, gabapentin, diphenhydramine, flualprazolam	49442
38	W	M	Pt. I: Fentanyl	49444
38	W	F	Pt. I: Cocaine, heroin, methamphetamine, fentanyl, buprenorphine	49442
39	W	F	Pt. I: Amphetamine	49415
39	W	M	Pt. I: Cocaine, fentanyl	49441
40	W	M	Pt. I: Fentanyl, diphenhydramine	49442



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## Muskegon (cont.)

40	W	M	Pt. I: Fentanyl, heroin, methamphetamine	49442
40	B	F	Pt. I: Amitriptyline, nortriptyline, cyclobenzaprine, clonidine	49442
41	B	M	Pt. I: Fentanyl, cocaine, ethanol, cocaethylene, tramadol	49441
41	W	M	Pt. I: Fentanyl, heroin, methamphetamine	49440
43	W	M	Pt. I: Cocaine, tramadol, xylazine, fentanyl, acetyl-fentanyl	49457
44	W	F	Pt. I: Fentanyl, cocaine, gabapentin	49442
44	W	M	Pt. I: Methamphetamine, fentanyl	49444
45	W	M	Pt. I: Diphenhydramine, doxylamine, dextromethorphan, acetaminophen	49415
49	W	M	Pt. I: Methamphetamine	49441
51	B	M	Pt. I: Cocaine	49441
51	W	M	Pt. I: Fentanyl, heroin, methamphetamine	49442
52	W	F	Pt. I: Methadone, duloxetine, gabapentin, hydroxyzine	49441
53	B	M	Pt. I: Fentanyl, heroin, methadone, alprazolam, clonazepam, diphenhydramine	49442
54	W	M	Pt. I: Para-fluorofentanyl, tramadol, fentanyl	Unknown
55	W	F	Pt. I: Heroin, methamphetamine	Unknown
55	W	F	Pt. I: Fentanyl, cocaine, cocaethylene, ethanol	49442
56	W	M	Pt. I: Cocaine, methamphetamine, fentanyl	49461
57	W	M	Pt. I: Fentanyl, cocaine, ethanol, cocaethylene, gabapentin, diphenhydramine	49444
57	W	F	Pt. I: Fentanyl, heroin, cocaine, mitragynine, gabapentin, diphenhydramine, hydroxyzine, orphenadrine, dextromethorphan	49442
58	W	M	Pt. I: Fentanyl, xylazine, tramadol, lorazepam	49442
58	B	M	Pt. I: Cocaine, ethanol, cocaethylene, heroin, gabapentin, fentanyl	49442
59	W	M	Pt. I: Fentanyl	49444
59	W	F	Pt. I: Methamphetamine, cyclobenzaprine, gabapentin, paroxetine, dextro-levomethorphan	49441
59	W	F	Pt. I: Acetaminophen	49417
60	B	F	Pt. I: Alprazolam, methadone, hydrocodone, acetaminophen, xylazine, clonidine, fentanyl	49444
61	W	F	Pt. I: Fentanyl	49441
62	W	F	Pt. I: Fentanyl, heroin, ethanol, gabapentin, cyclobenzaprine, trazodone	49441
65	W	M	Pt. I: Cocaine, morphine, fentanyl	49442
66	W	M	Pt. I: Fentanyl, acetyl-fentanyl, heroin	49441
66	B	M	Pt. I: Morphine, fentanyl	49444
67	W	M	Pt. I: Cocaine	49444
69	W	M	Pt. I: Fentanyl	49442
70	W	M	Pt. I: Argon*	49445

# Deaths Related to Opioids and Other Drugs

Allegan, Barry, Berrien, Calhoun, Grand Traverse, Kalamazoo, Leelanau, Mason, Muskegon, Osceola, St. Joseph, and Van Buren County

## St. Joseph

Age	Race	Sex	Death Certificate: Substances Contributing to Death	Injury Zip Code
22	W	M	Pt. I: Fentanyl	49093
23	W	M	Pt. I: Fentanyl, flubromazolam, etizolam	49042
29	W	M	Pt. I: Fentanyl, acetyl-fentanyl, heroin, methamphetamine	49091
33	W	M	Pt. I: Methamphetamine, fentanyl	49042
34	W	M	Pt. I: Methamphetamine, fentanyl	49093
37	W	F	Pt. I: Tramadol, alprazolam	49091
39	B	M	Pt. I: Methamphetamine, fentanyl	49093
39	W	M	Pt. I: Fentanyl	49030
43	W	M	<i>Pt. II: Amphetamine, methamphetamine*</i>	49042
44	W	F	Pt. I: Fentanyl, acetyl-fentanyl, heroin	49091
53	W	M	Pt. I: Fentanyl, heroin, methamphetamine, diazepam	49091
63	W	M	Pt. I: Fentanyl, heroin, methamphetamine	49091

## Van Buren

Age	Race	Sex	Death Certificate: Substances Contributing to Death	Injury Zip Code
20	W	F	Pt. I: Alprazolam, fentanyl, heroin	49071
25	W	M	<i>Pt. II: Fentanyl, heroin, xylazine, diphenhydramine*</i>	49013
27	W	F	Pt. I: Methamphetamine, fentanyl	49090
30	W	M	Pt. I: Mitragynine	49079
33	W	M	Pt. I: Methadone, alprazolam	49055
34	W	F	Pt. I: Difluoroethane	Unknown
35	B	M	Pt. I: Fentanyl, ethanol, methamphetamine, lorazepam, diphenhydramine	49045
40	W	F	Pt. I: Ethanol, glipizide	49013
40	W	M	Pt. I: Methamphetamine	49506
41	W	M	<i>Pt. II: Gabapentin, alprazolam, dihydrocodeine, hydrocodone, hydromorphone*</i>	49057
42	W	M	Pt. I: Heroin, ethanol	49057
60	W	M	<i>Pt. I: Acute and Chronic Alcohol Use*</i>	49079
60	W	M	Pt. I: Fentanyl, oxycodone	49056
61	W	M	Pt. I: Methamphetamine	49064
61	W	F	Pt. I: Fentanyl, bupropion	49079
62	W	F	Pt. I: Methamphetamine	49071
63	B	M	Pt. I: Methamphetamine	49090
88	W	M	Pt. I: Hydrocodone, zolpidem, carbon monoxide	49056

\* Case is not included in the following report



# Deaths Related to Opioids and Other Drugs

Allegan, Barry, Berrien, Calhoun, Grand Traverse, Kalamazoo, Leelanau, Mason, Muskegon, Osceola, St. Joseph, and Van Buren County

## Total Deaths Due to Drugs: 2018, 2019, 2020

**2018\***

**214 deaths**

opioid only..... **62**  
 non-opioid only..... **43**  
 opioid & non-opioid..... **109**

**2.0**

deaths per 10,000

**2019**

**238 deaths**

opioid only..... **34**  
 non-opioid only..... **64**  
 opioid & non-opioid..... **140**

**2.0**

deaths per 10,000

**2020**

**289 deaths**

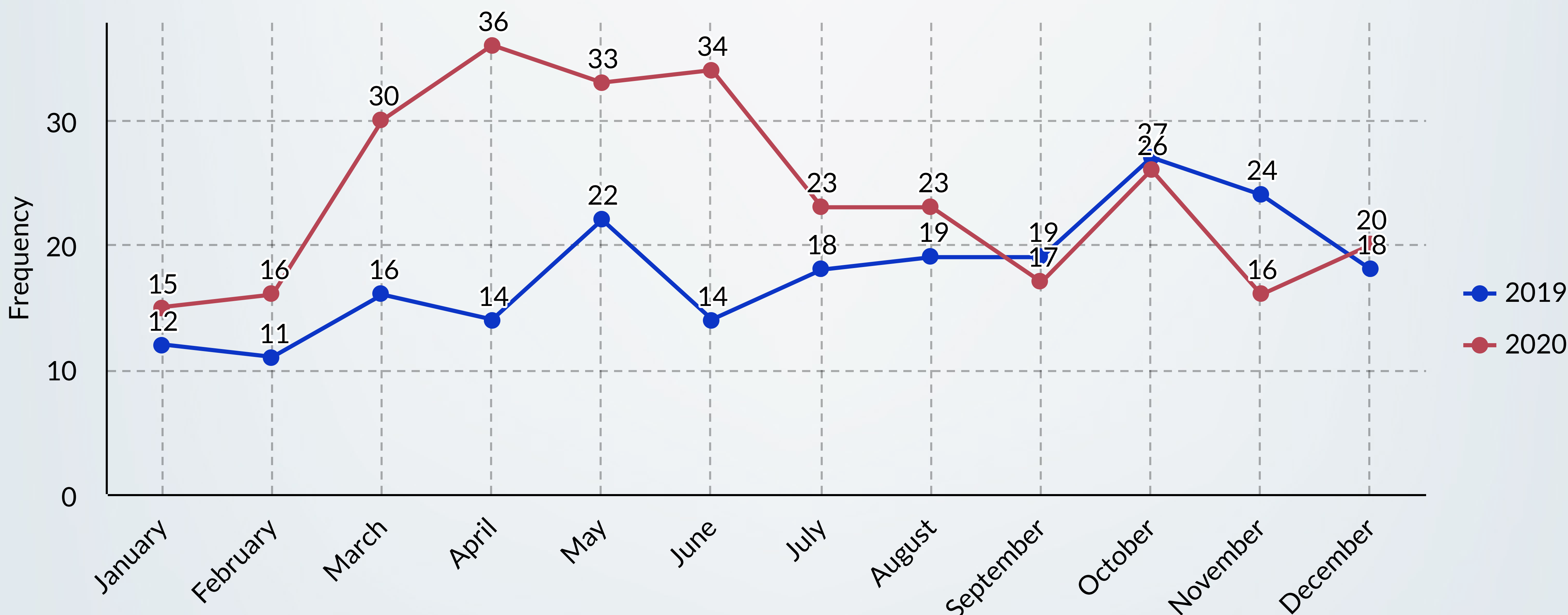
opioid only..... **55**  
 non-opioid only..... **47**  
 opioid & non-opioid..... **187**

**2.4**

deaths per 10,000

\*Berrien county fatal overdose data is not included in 2018

Drug-Related Deaths by Month and Year



Percent increase from 2019 to 2020

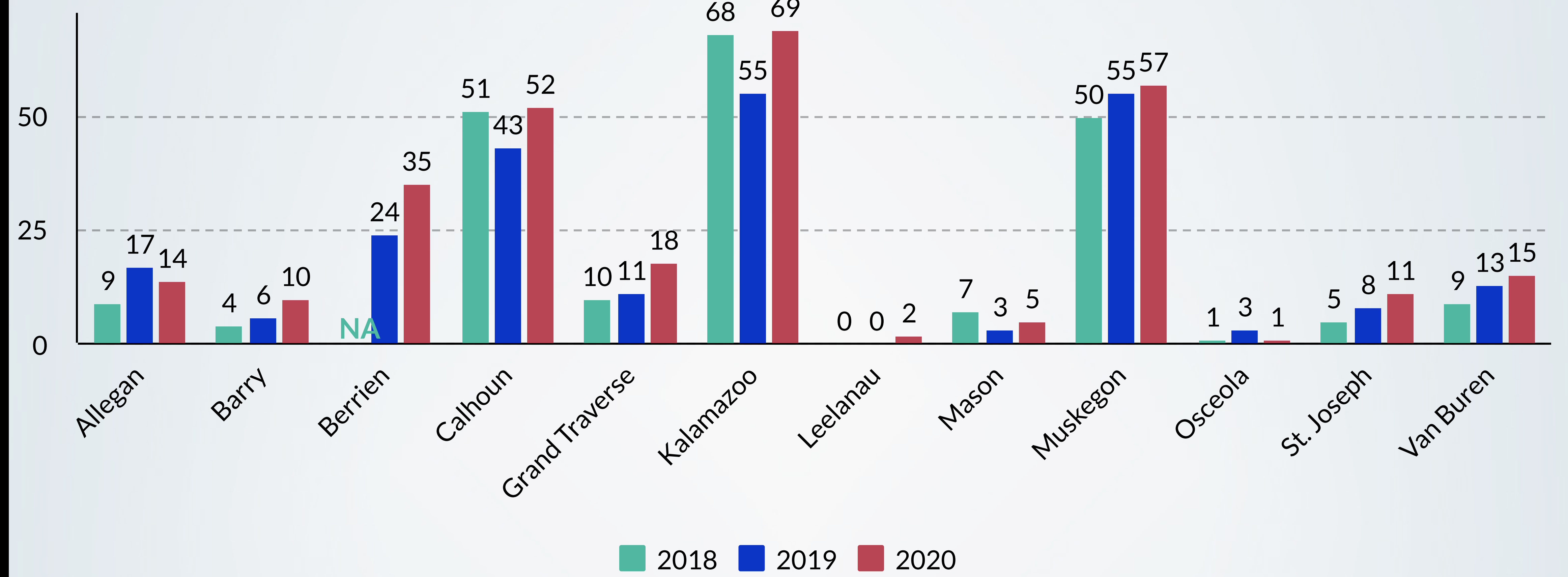
**+21%**

# Deaths Related to Opioids and Other Drugs

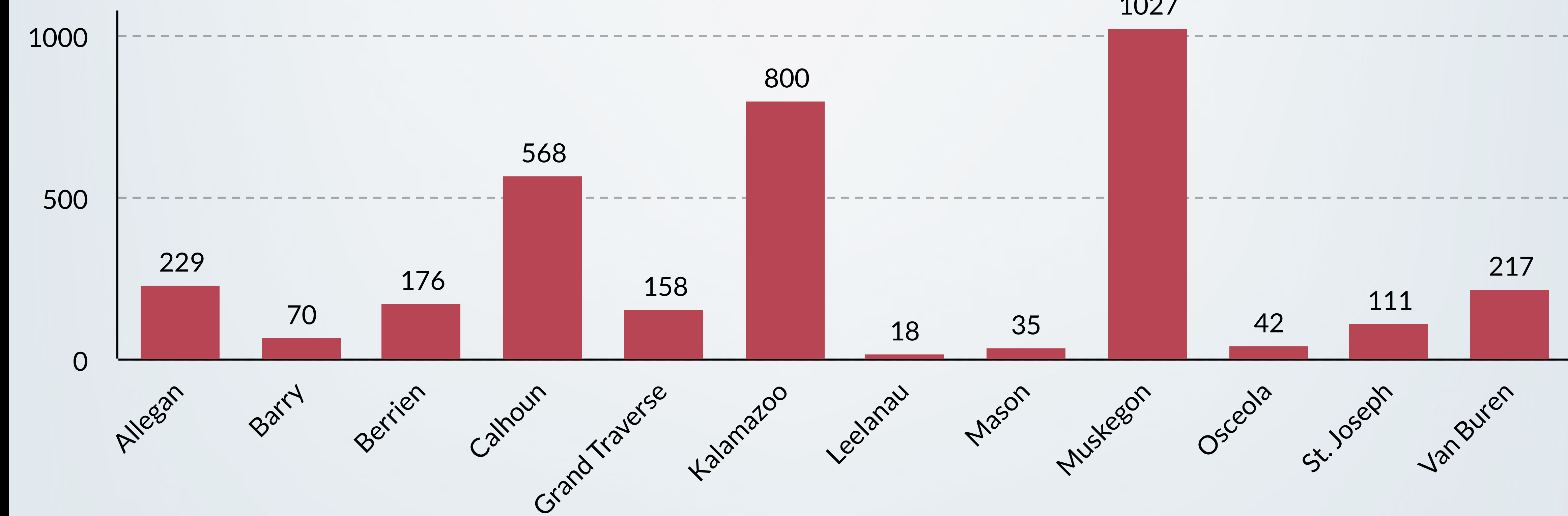
Allegan, Barry, Berrien, Calhoun, Grand Traverse, Kalamazoo, Leelanau, Mason, Muskegon, Osceola, St. Joseph, and Van Buren County

## Overdoses: Fatal and Non-Fatal by County

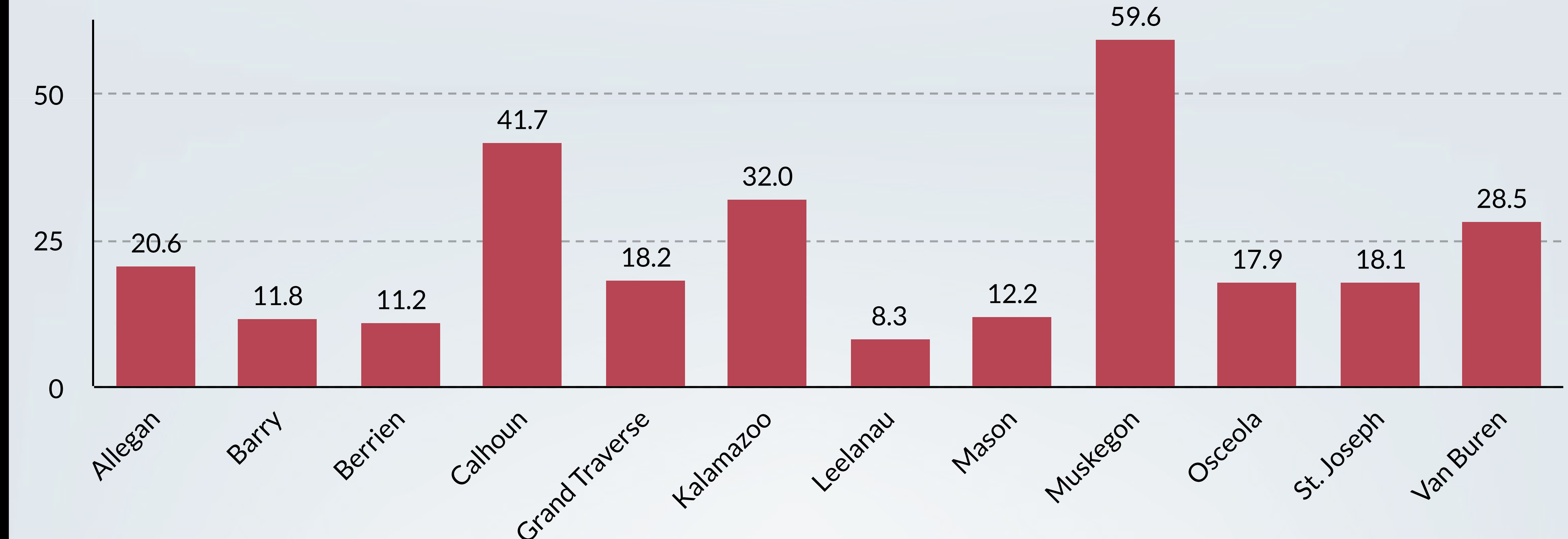
### Drug-Related Deaths by County and Year



### Nonfatal Drug Overdoses Among Emergency Department Discharges by County, 2020



### Nonfatal Drug Overdoses per 10,000\* Among Emergency Department Discharges by County, 2020



\* 2019 population estimates used to determine incidence per 10,000

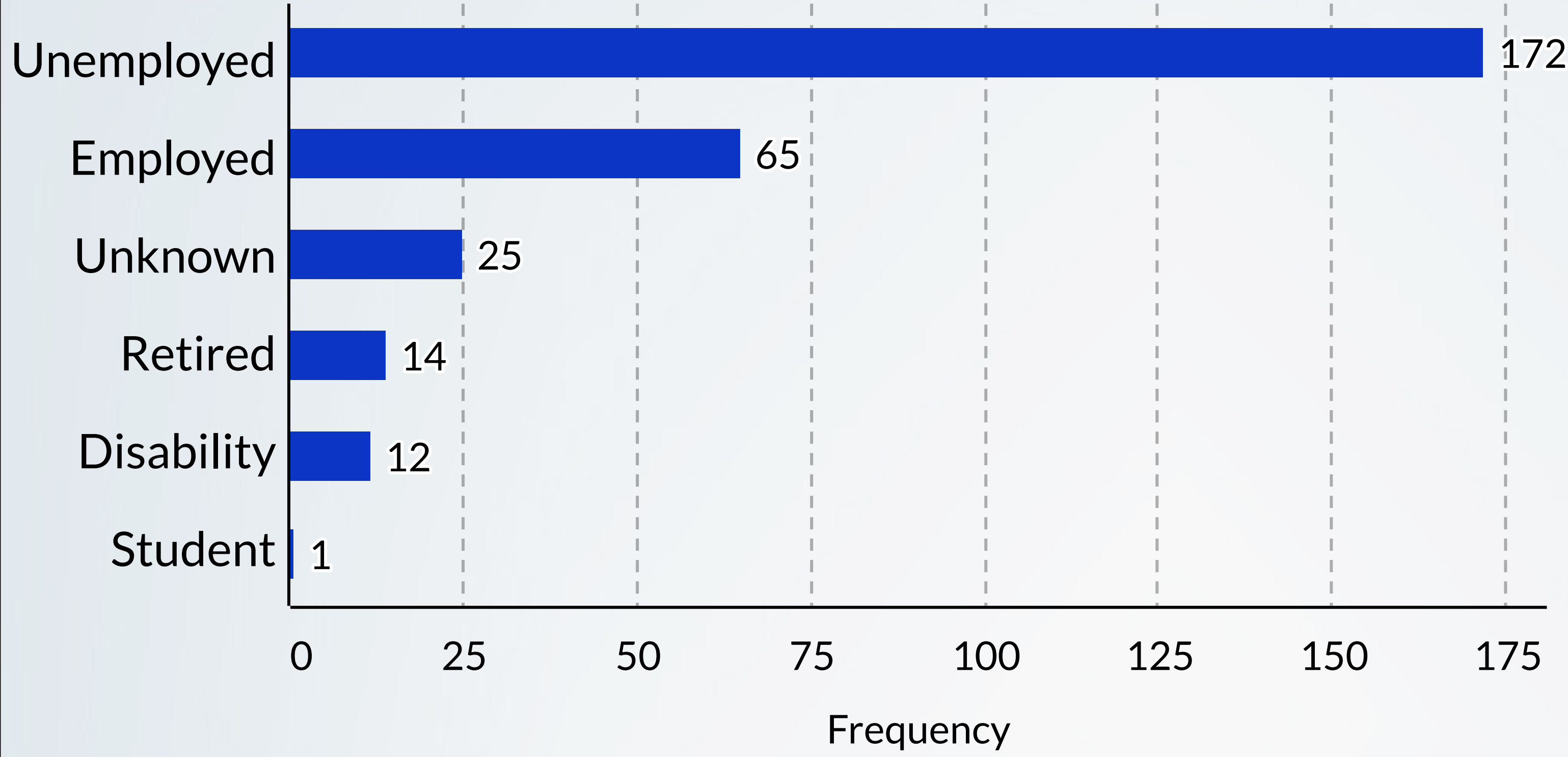


# Deaths Related to Opioids and Other Drugs

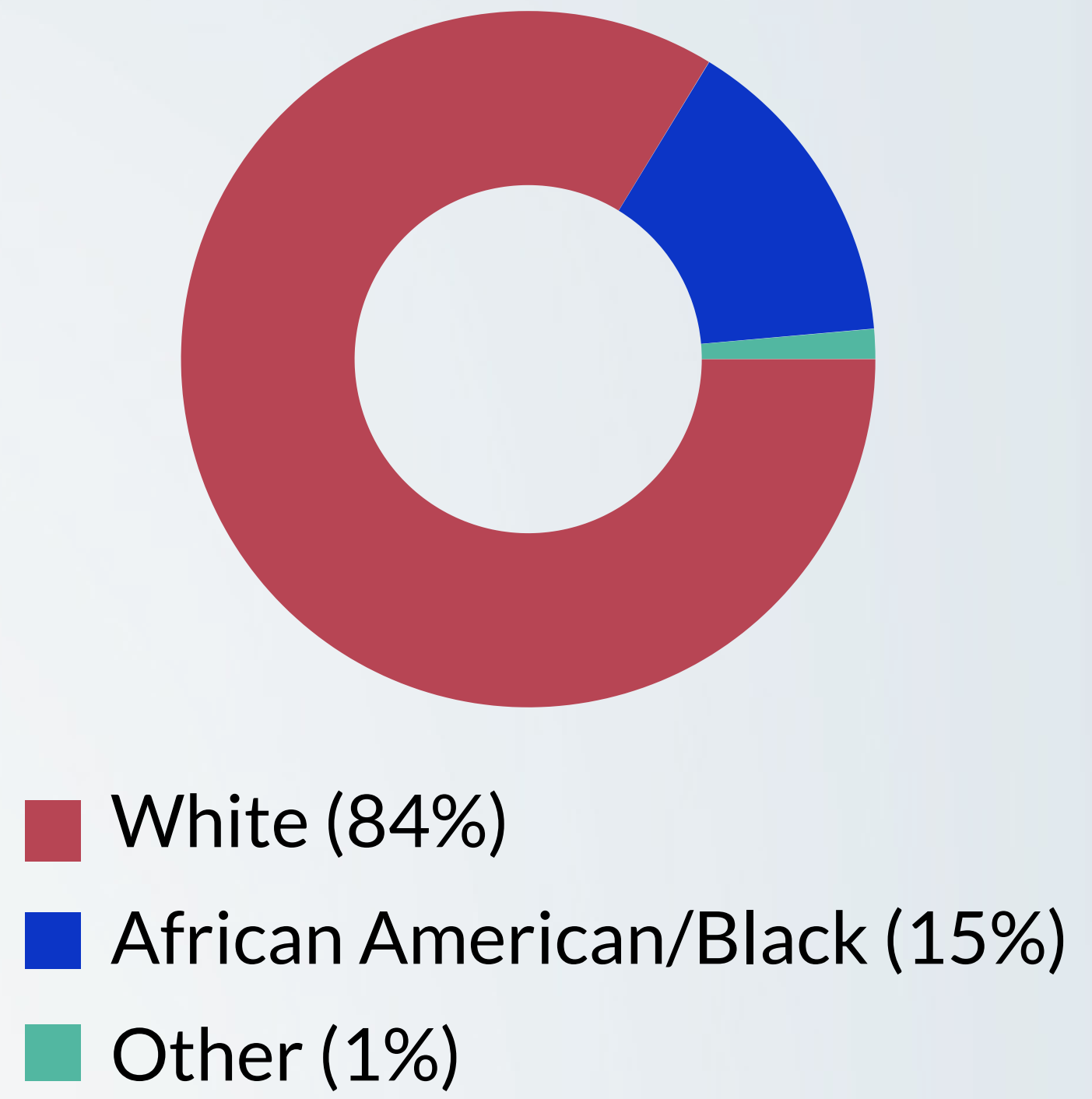
Allegan, Barry, Berrien, Calhoun, Grand Traverse, Kalamazoo, Leelanau, Mason, Muskegon, Osceola, St. Joseph, and Van Buren County

## Demographics

### DECEDENT'S EMPLOYMENT STATUS



### RACE



### SEX

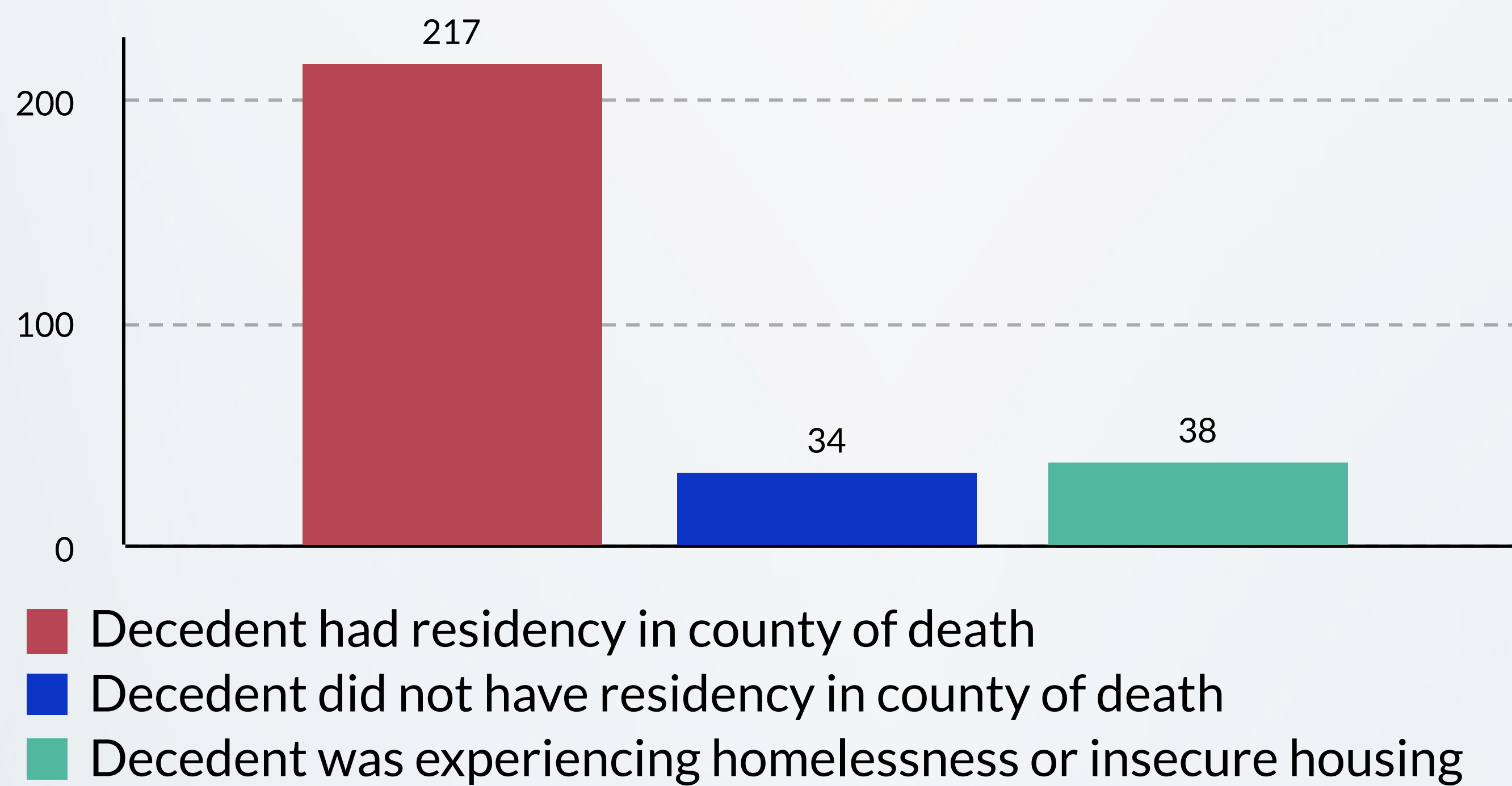


**72%**



**28%**

### COUNTY OF RESIDENCE BY COUNTY OF DEATH



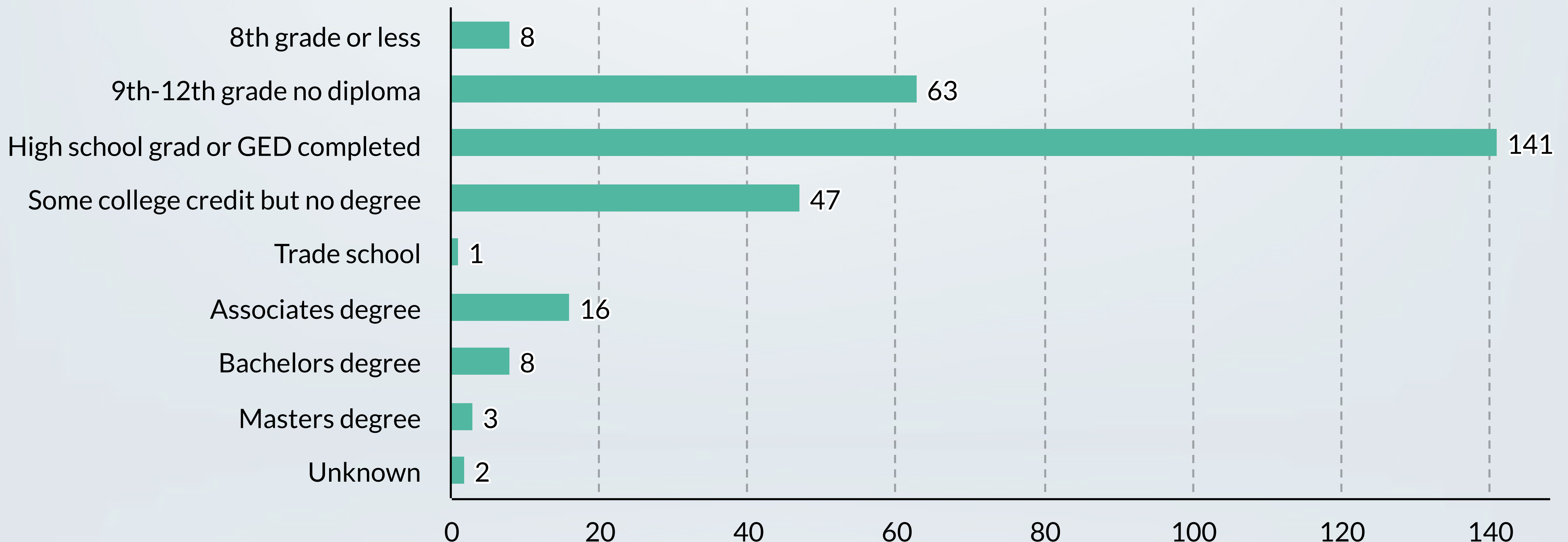
### AGE

**Minimum Age**  
**18 years**

**Maximum Age**  
**88 years**

**Average Age**  
**46 years**

### DECEDENT'S HIGHEST LEVEL OF EDUCATION

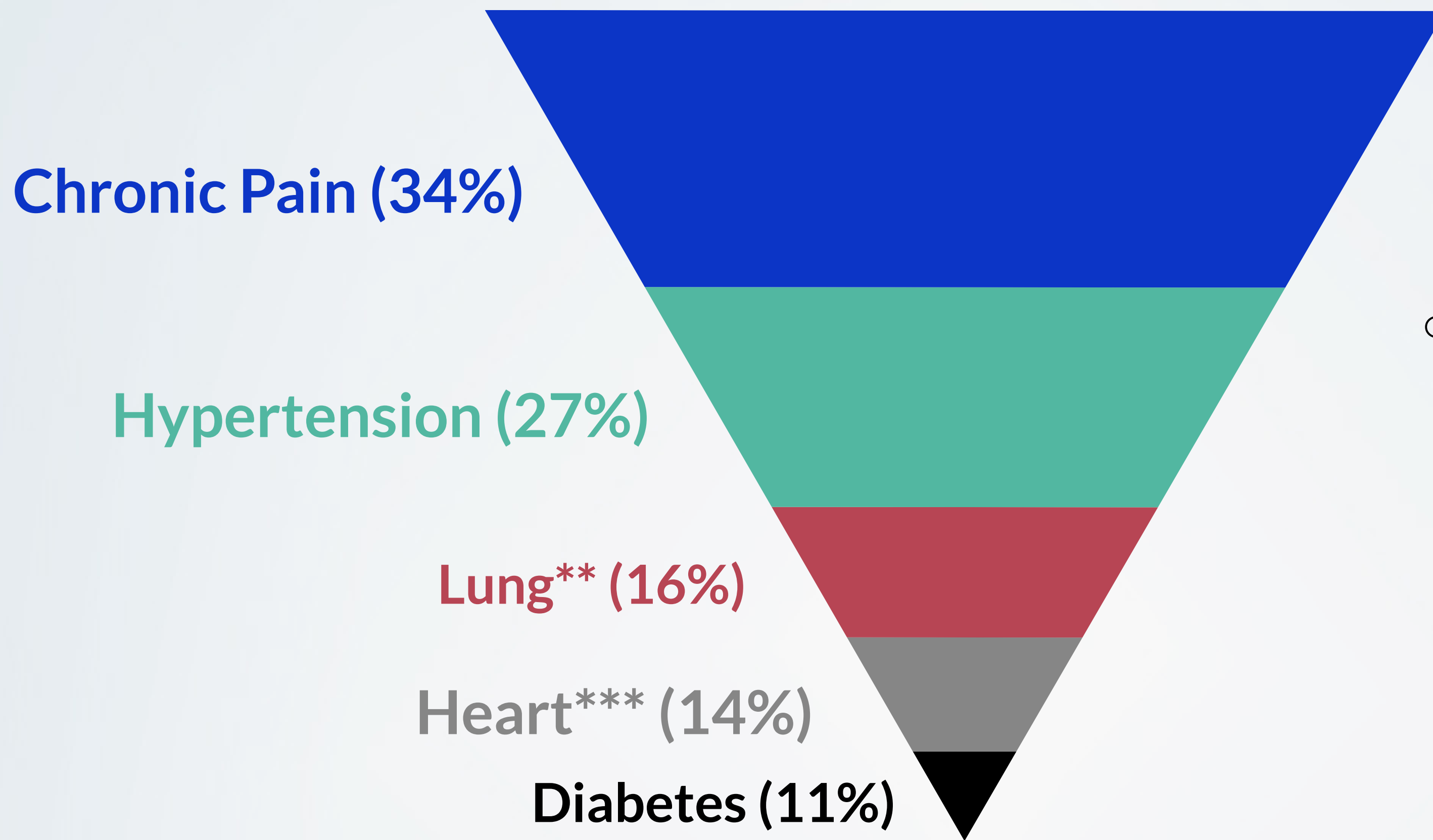


# Deaths Related to Opioids and Other Drugs

Allegan, Barry, Berrien, Calhoun, Grand Traverse, Kalamazoo, Leelanau, Mason, Muskegon, Osceola, St. Joseph, and Van Buren County

## Health Factors

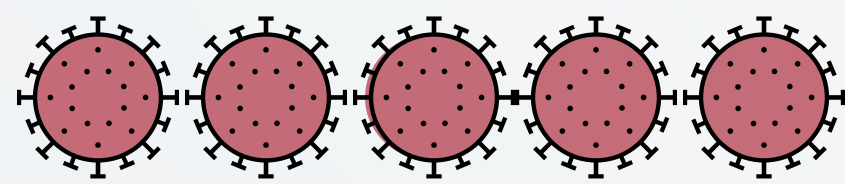
### MOST PREVALENT AILMENTS\*



\*Decedents may be represented in more than one category. Only illnesses with official diagnosis are included.

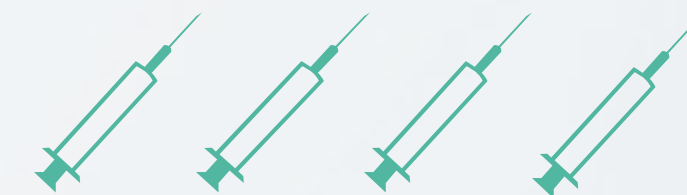
\*\*Lung includes asthma, COPD, and emphysema

\*\*\*Heart includes MI, CABG, CAD, AFib, and heart failure



At least **53** decedents were **Hepatitis C** positive

**38** of these decedents were known to use **drugs intravenously**



Decedent used tobacco

**77%+**



Decedent drank alcohol

**57%+**

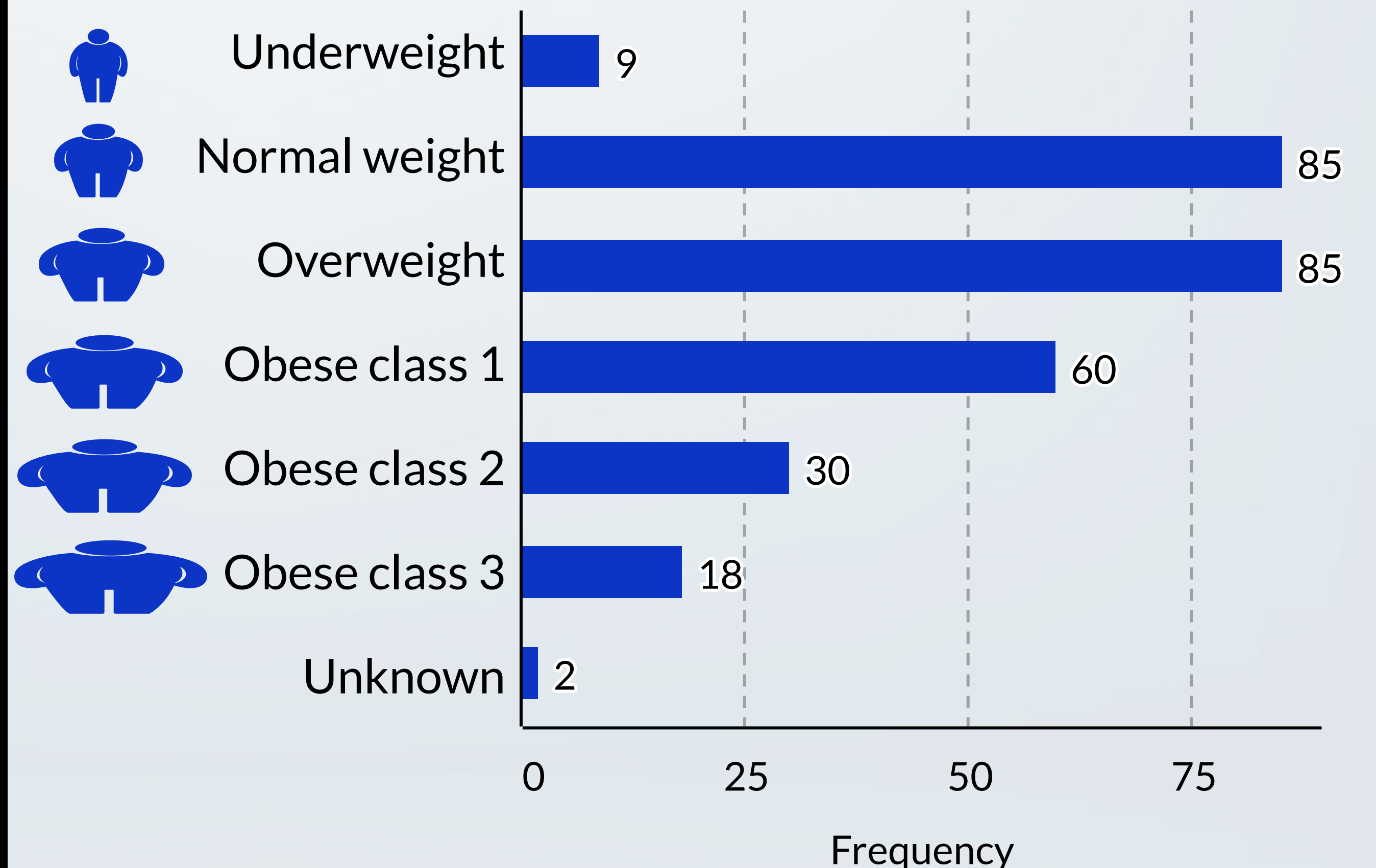


Decedent had a PCP

**49%**



### BODY MASS INDEX (BMI)



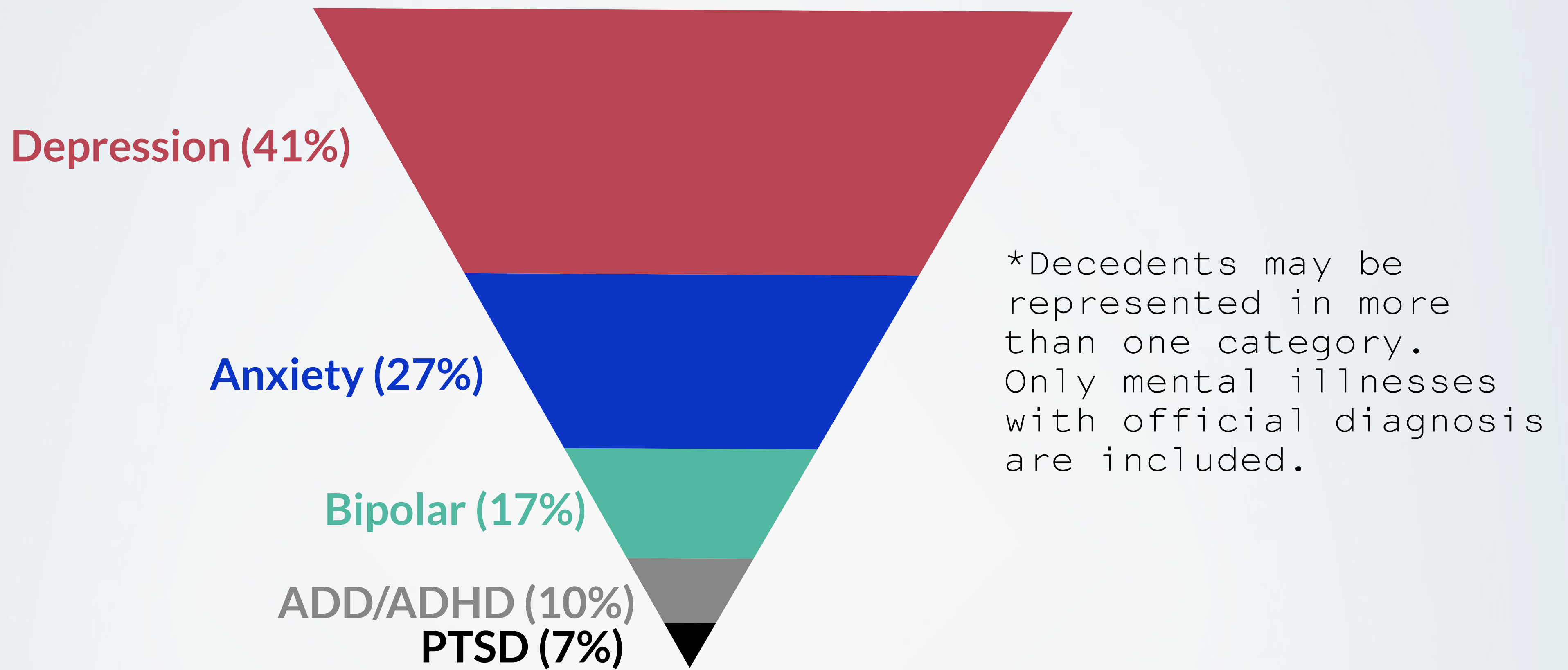


# Deaths Related to Opioids and Other Drugs

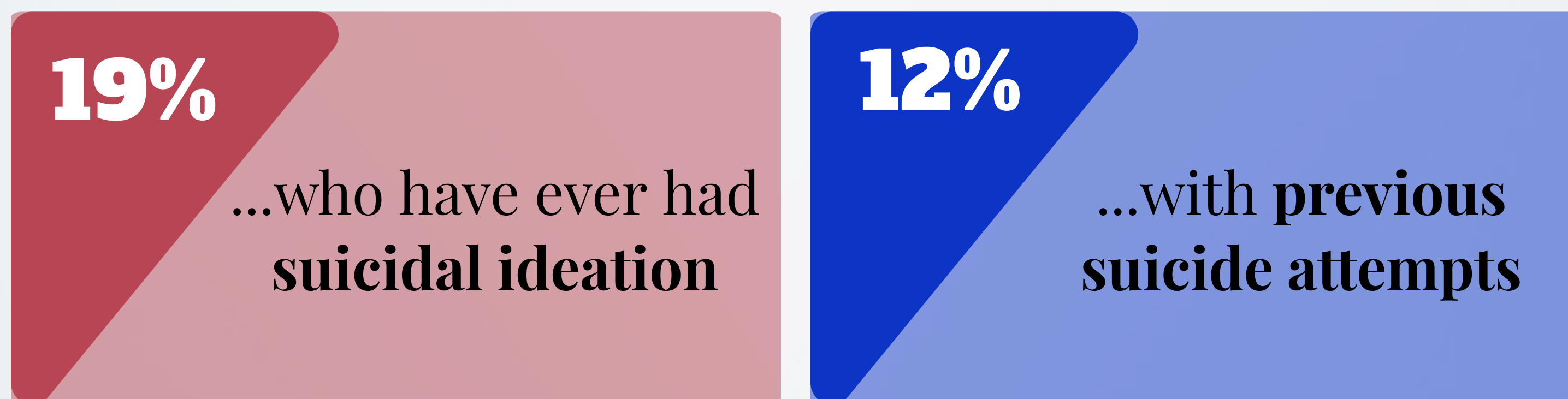
Allegan, Barry, Berrien, Calhoun, Grand Traverse, Kalamazoo, Leelanau, Mason, Muskegon, Osceola, St. Joseph, and Van Buren County

## Mental Health Factors

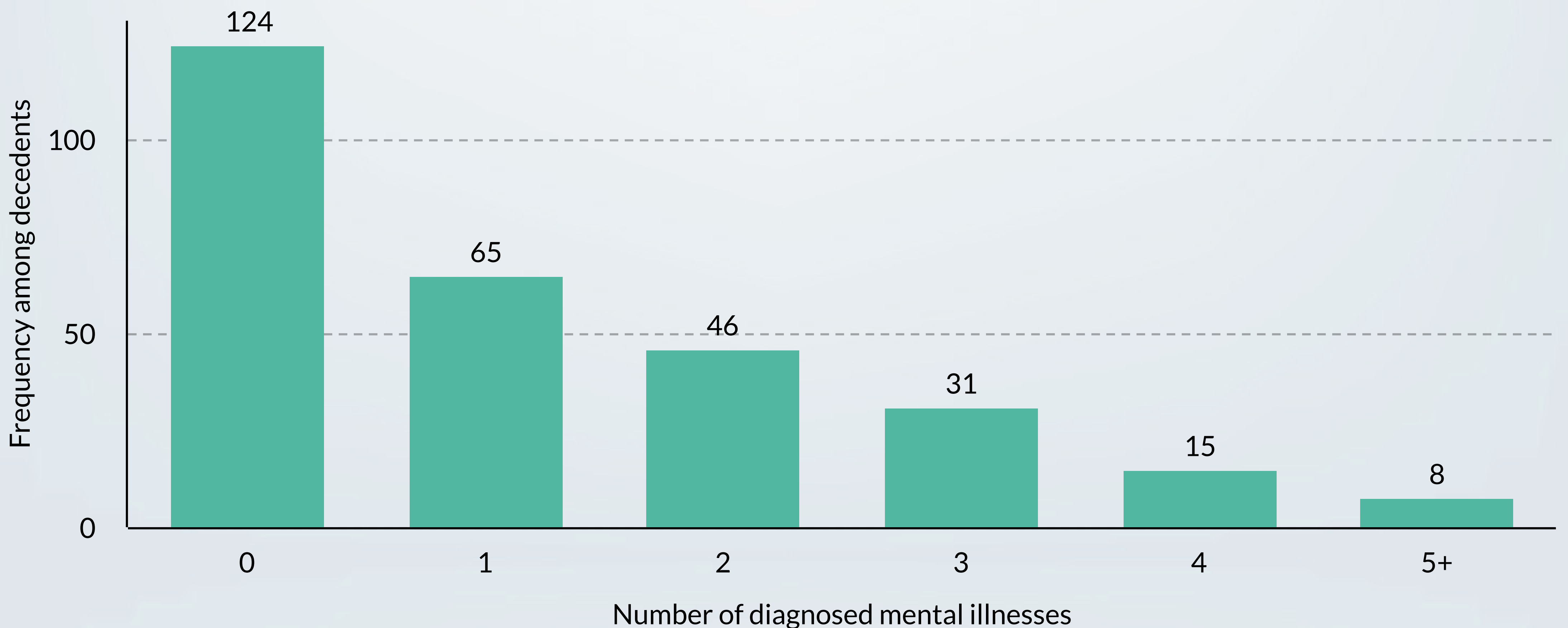
### MOST PREVALENT MENTAL ILLNESSES\*



### PERCENTAGE OF DECEDENTS...



### NUMBER OF DIAGNOSED MENTAL ILLNESSES AMONG DECEDENTS



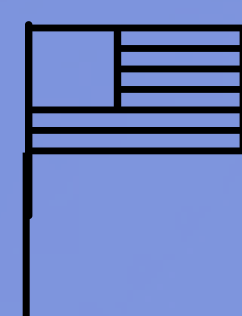
# Deaths Related to Opioids and Other Drugs

Allegan, Barry, Berrien, Calhoun, Grand Traverse, Kalamazoo, Leelanau, Mason, Muskegon, Osceola, St. Joseph, and Van Buren County

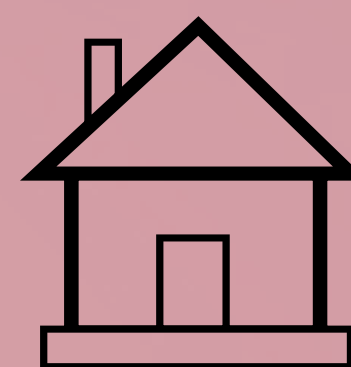
## Social Factors

6%

Decedent was a **veteran**



13%



Decedent was **experiencing homelessness or insecure housing** at time of death

29%

Decedent has ever been **incarcerated**



56%



Decedents **ever incarcerated** were released in past 60 days

## Children

### DECEDENT HAD....

27%

Adult children only

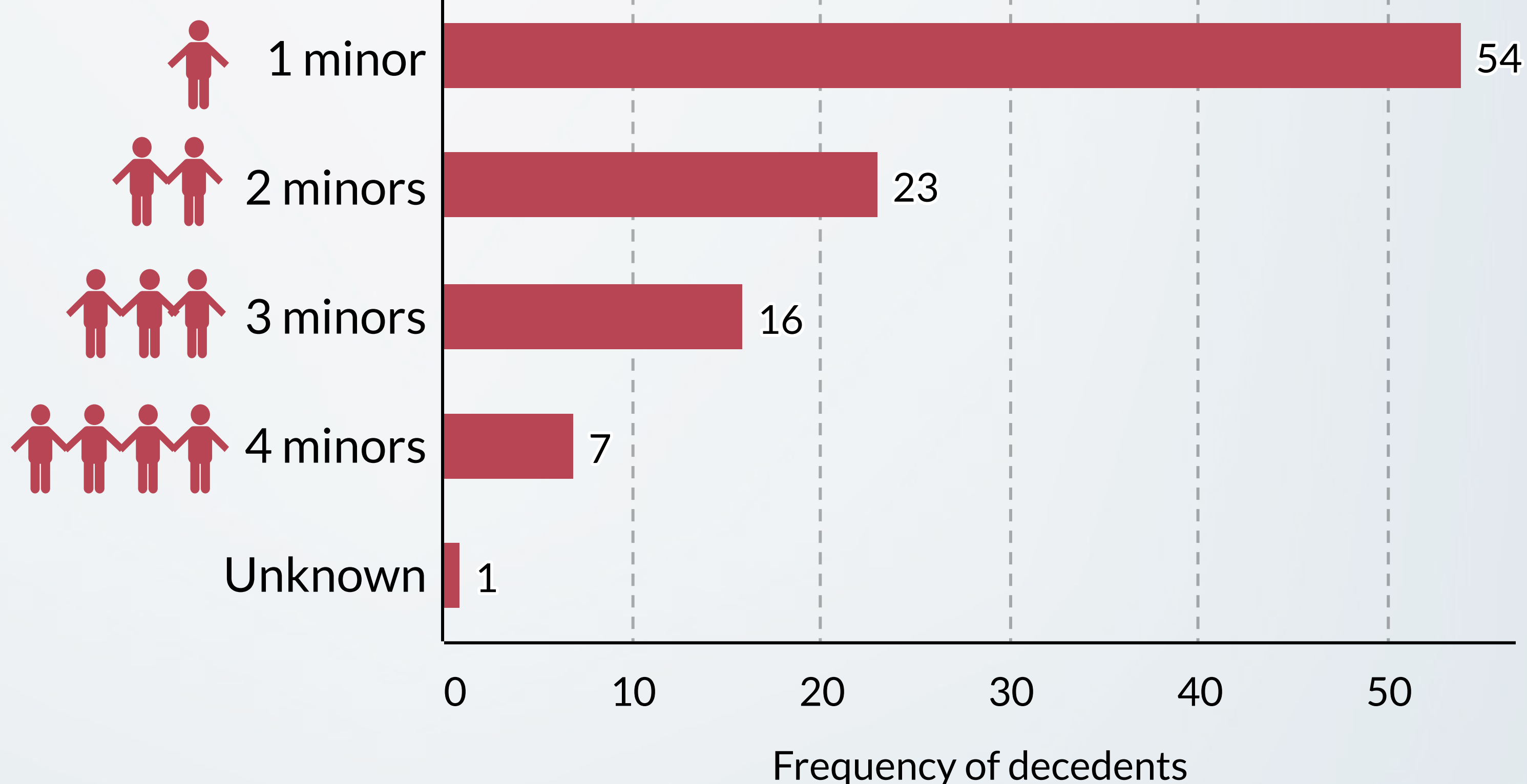
37%

At least one minor child

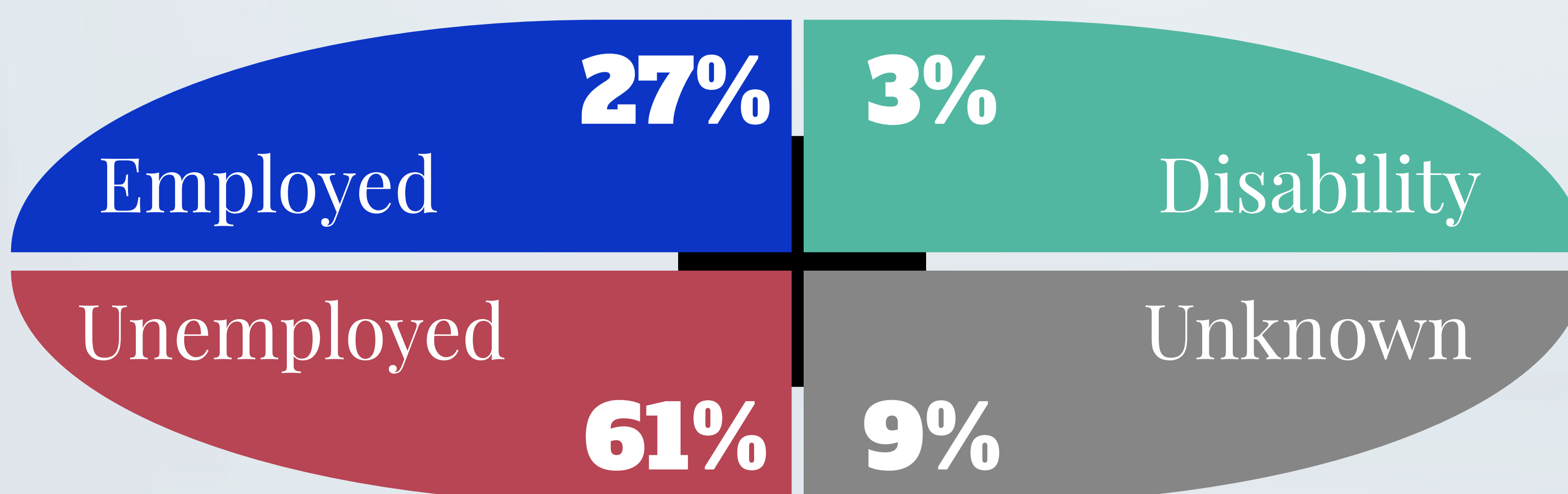
36%

No children

### NUMBER OF MINOR BIOLOGICAL CHILDREN



### EMPLOYMENT STATUS OF THOSE WITH MINOR CHILDREN



30 decedents lived with their minor child(ren) at time of death



# Deaths Related to Opioids and Other Drugs

Allegan, Barry, Berrien, Calhoun, Grand Traverse, Kalamazoo, Leelanau, Mason, Muskegon, Osceola, St. Joseph, and Van Buren County

## Substance Use History

At least **90%** of decedents were known to use or abuse substances

At least **47%** of those decedents used substances intravenously

At least **34%** of decedents have had at least one prior overdose

At least **59%** of those decedents have had two or more prior overdoses

At least **45%** of decedents were prescribed an opioid in the past two years

At least **26%** of decedents substance use started from an opioid prescription

### RECOVERY HISTORY (N=260)\*

**36%** Decedent has been to a **substance rehabilitation clinic** at least one time

**10%** Decedent was currently receiving or has received a form of medication-assisted treatment (MAT) in the past two years

**36%** Decedent was recently **substance free** in the past three weeks

#### SUSPECTED REASONS FOR RELAPSE\*\*

**35%** Left jail/rehab      **28%** Life stress\*\*\*      **37%** Unknown

\*ONLY Decedents known to use substances are included.

\*\*These factors were mentioned by those close to the decedent for why they may have begun to use substances again after being substances free for at least three weeks.

\*\*\*Life stress includes the death of someone close to the decedent; depression; fight with a significant other; job loss; lack of MAT; social circle influences; traumatic physical accident.



# Deaths Related to Opioids and Other Drugs

Allegan, Barry, Berrien, Calhoun, Grand Traverse, Kalamazoo, Leelanau, Mason, Muskegon, Osceola, St. Joseph, and Van Buren County

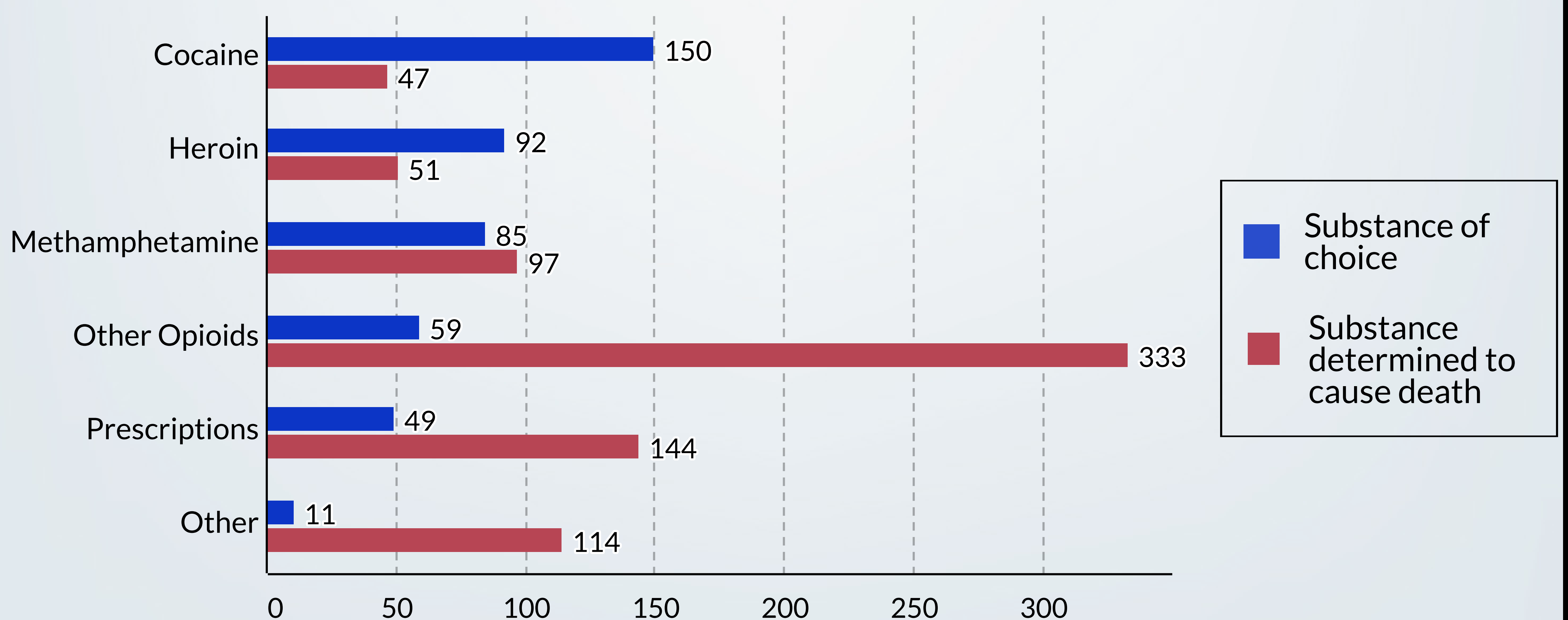
## Substance Use History cont.

### PREFERRED METHOD OF ADMINISTRATION\*

	Male (N=183)	Female (N=77)	White (N=218)	Black (N=39)	Other* (N=3)	Total (N=260)
<b>Intravenous</b>	100/55%	37/48%	127/58%	9/23%	1/33%	137/53%
<b>Snort</b>	50/27%	29/38%	65/30%	14/36%	0/0%	79/30%
<b>Smoke</b>	42/23%	20/26%	49/22%	12/31%	1/33%	62/24%
<b>Transdermal</b>	2/1%	1/1%	2/1%	1/3%	0/0%	3/1%
<b>Huff</b>	1/1%	2/3%	3/1%	0/0%	0/0%	3/1%
<b>Oral</b>	32/17%	22/29%	49/22%	4/10%	1/33%	54/21%
<b>Unknown</b>	21/11%	6/8%	20/9%	6/15%	1/33%	27/10%

\*Decedent may have had more than one preferred method of administration. Only includes decedents with a substance use history.

### DECEDENT'S SUBSTANCE(S) OF CHOICE VS. SUBSTANCE(S) THAT CAUSED DEATH\*



\*Decedent may have had more than one substance of choice and in their toxicology. NOTE: 12 decedents would use any substance available, 29 were not known to use substances, and no information about substance of choice was available for 7 decedents.

Prescriptions does not include opioids. Other includes antihistamines, cocaethylene, novel benzodiazepines ethanol, inhalants, ketamine, mitragynine, over-the-counter (OTC) drugs, psychedelics, and xylazine.

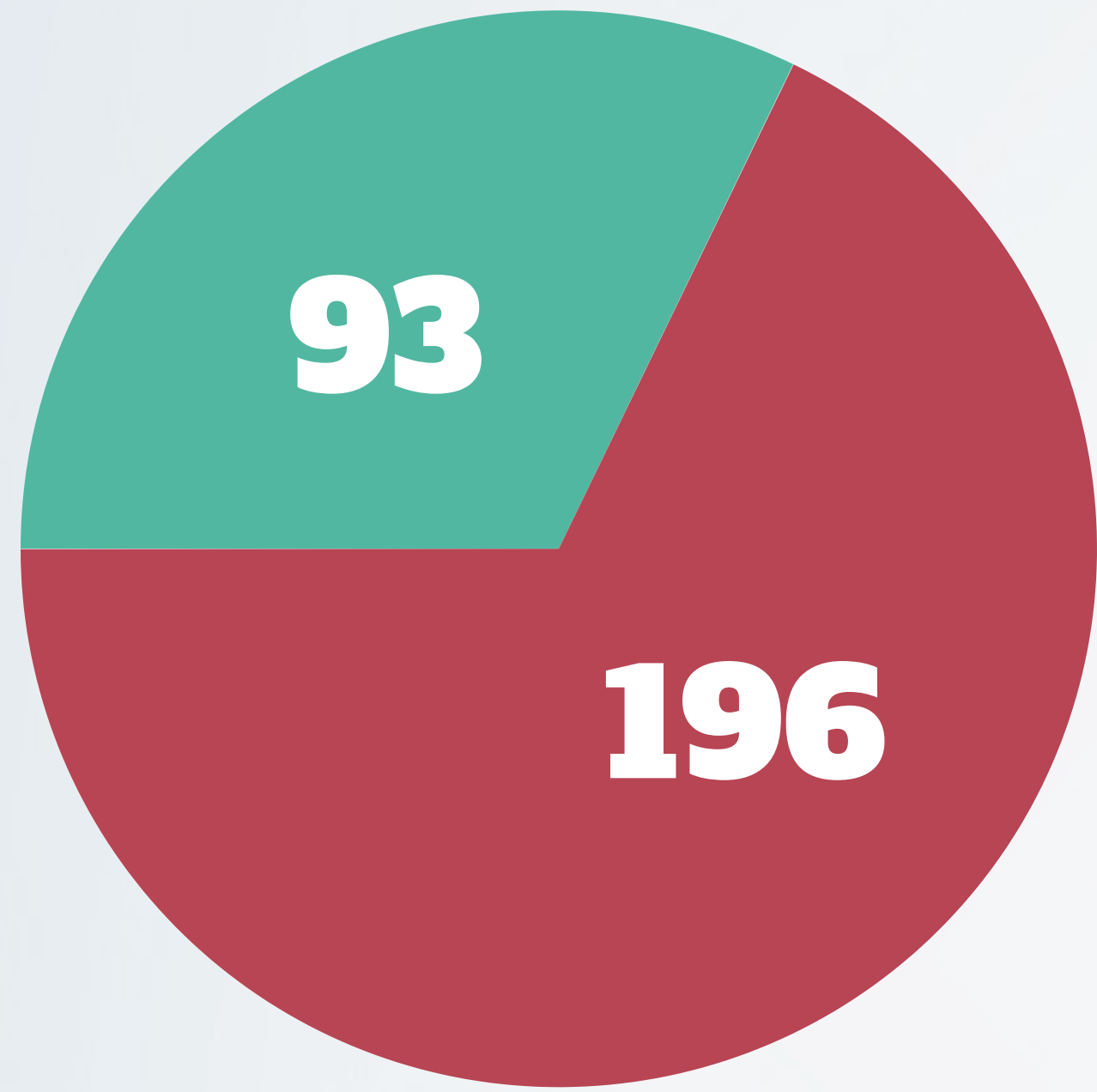


# Deaths Related to Opioids and Other Drugs

Allegan, Barry, Berrien, Calhoun, Grand Traverse, Kalamazoo, Leelanau, Mason, Muskegon, Osceola, St. Joseph, and Van Buren County

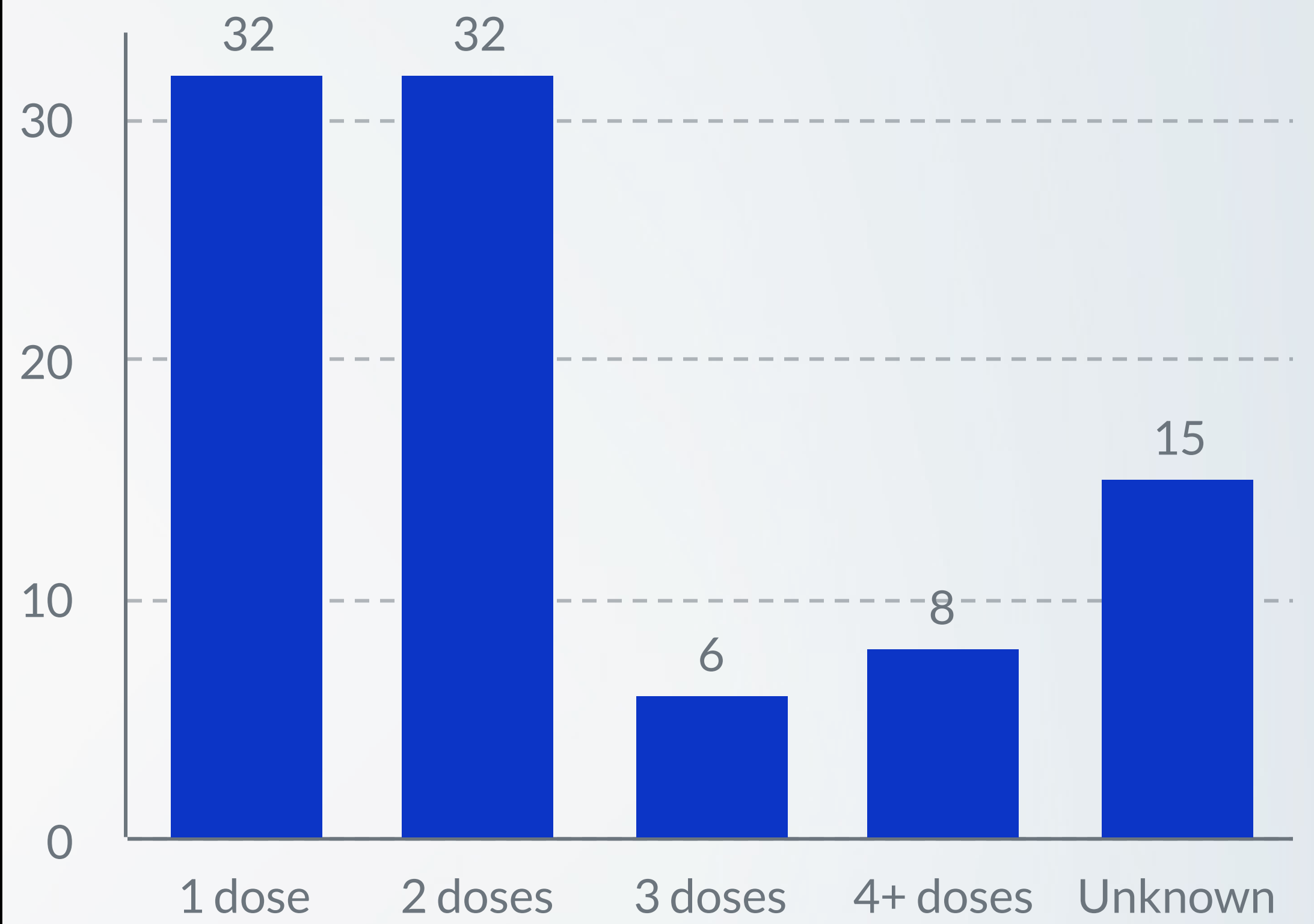
## Naloxone Administration

### NALOXONE ADMINISTRATION STATUS



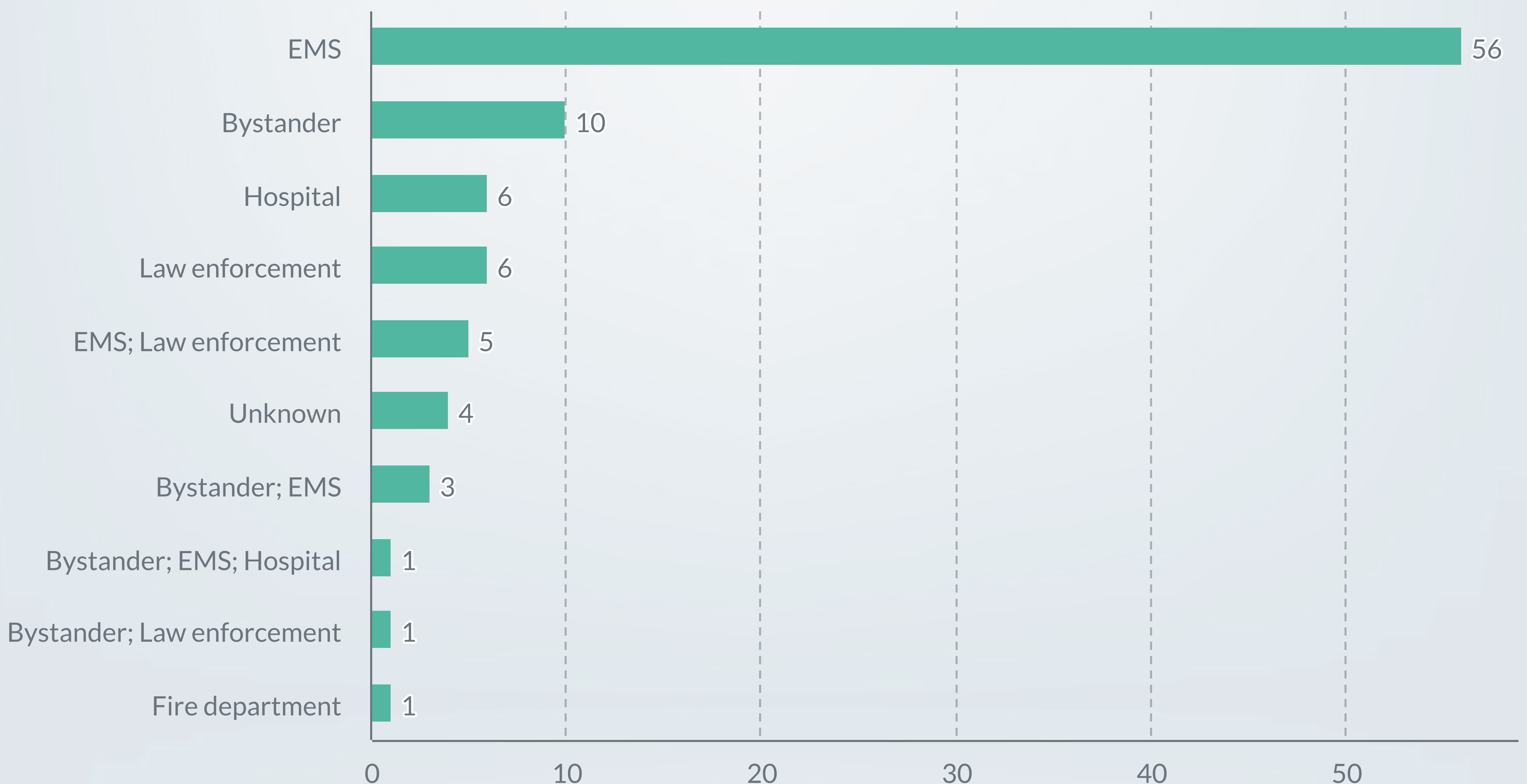
■ Naloxone administered
 ■ No Naloxone administered

### HOW MANY DOSES (2 MG) OF NALOXONE WERE ADMINISTERED



19 decedents were given extensive resuscitative efforts (CPR, epinephrine, AED shock) but were not given Naloxone.

### WHO ADMINISTERED NALOXONE?



# Deaths Related to Opioids and Other Drugs

Allegan, Barry, Berrien, Calhoun, Grand Traverse, Kalamazoo, Leelanau, Mason, Muskegon, Osceola, St. Joseph, and Van Buren County

## Death Scene Findings



**33%**  
Were found  
by **family**



**82%**  
Used the fatal  
substance(s)  
**alone**



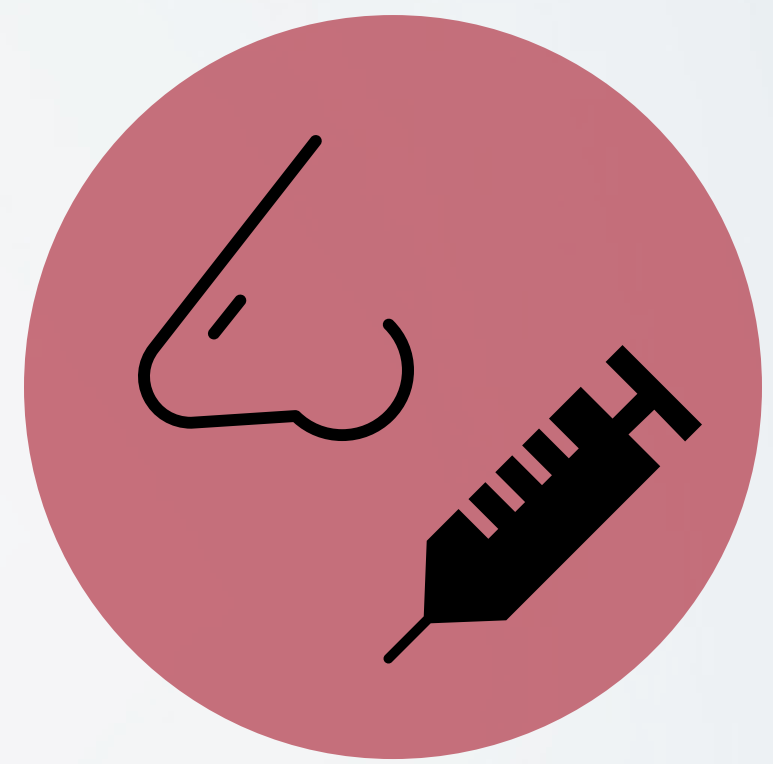
**3%**  
Were found  
by a **minor**



**32%**  
Were given  
**Narcan**



**Syringes and  
suspected illicit  
drugs** were the  
most common  
paraphernalia  
found on scene



**8%**  
Had Narcan on  
scene and/or  
were prescribed  
Narcan



**55%**  
Were dead  
upon **EMS**  
arrival



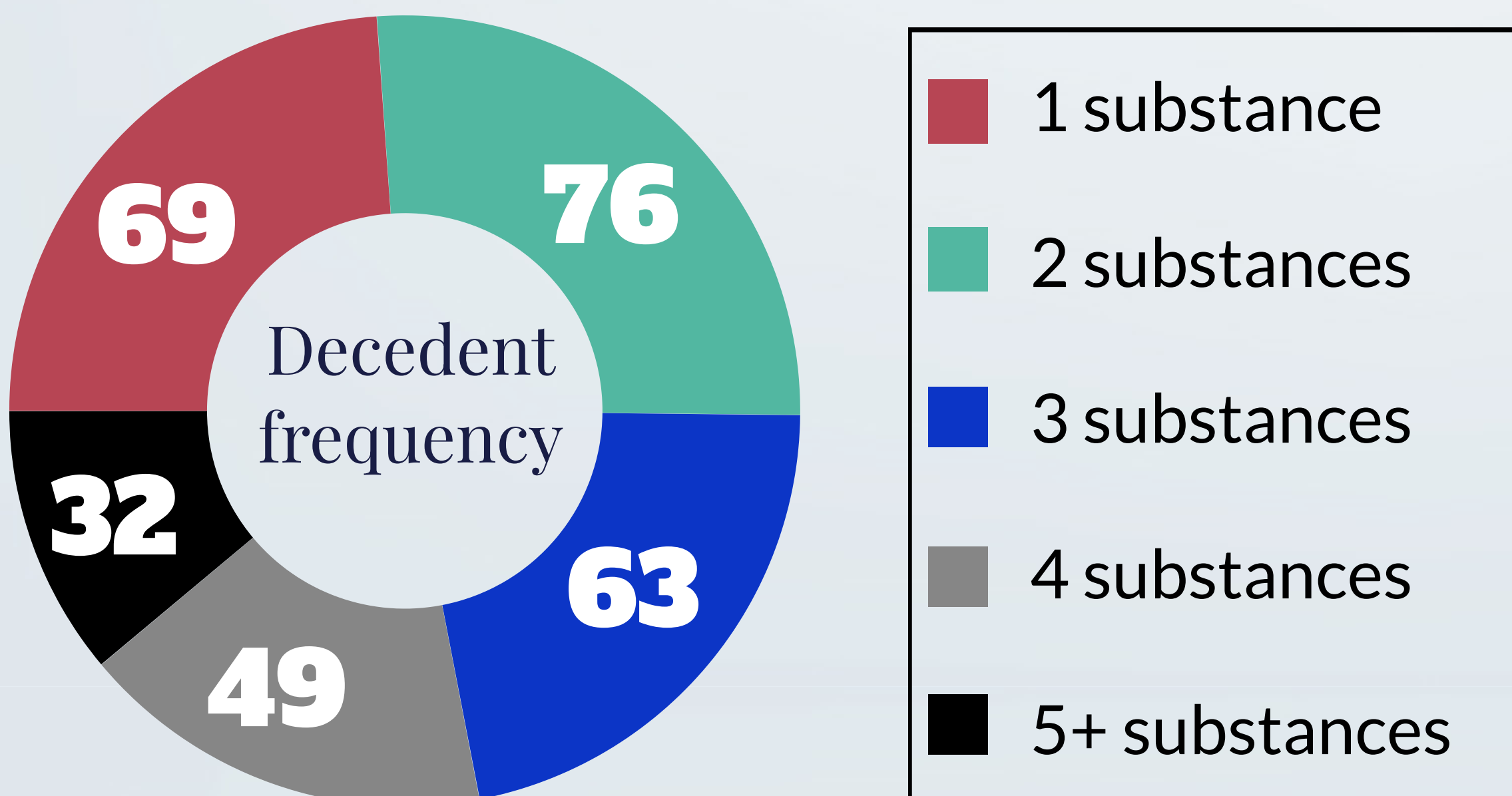
**20%**  
Died at the  
**hospital**



**54%**  
Died at their  
**residence**

## Autopsy and Toxicology Results

**NUMBER OF SUBSTANCES  
CONTRIBUTING TO DEATH**



**MANNER OF DEATH**

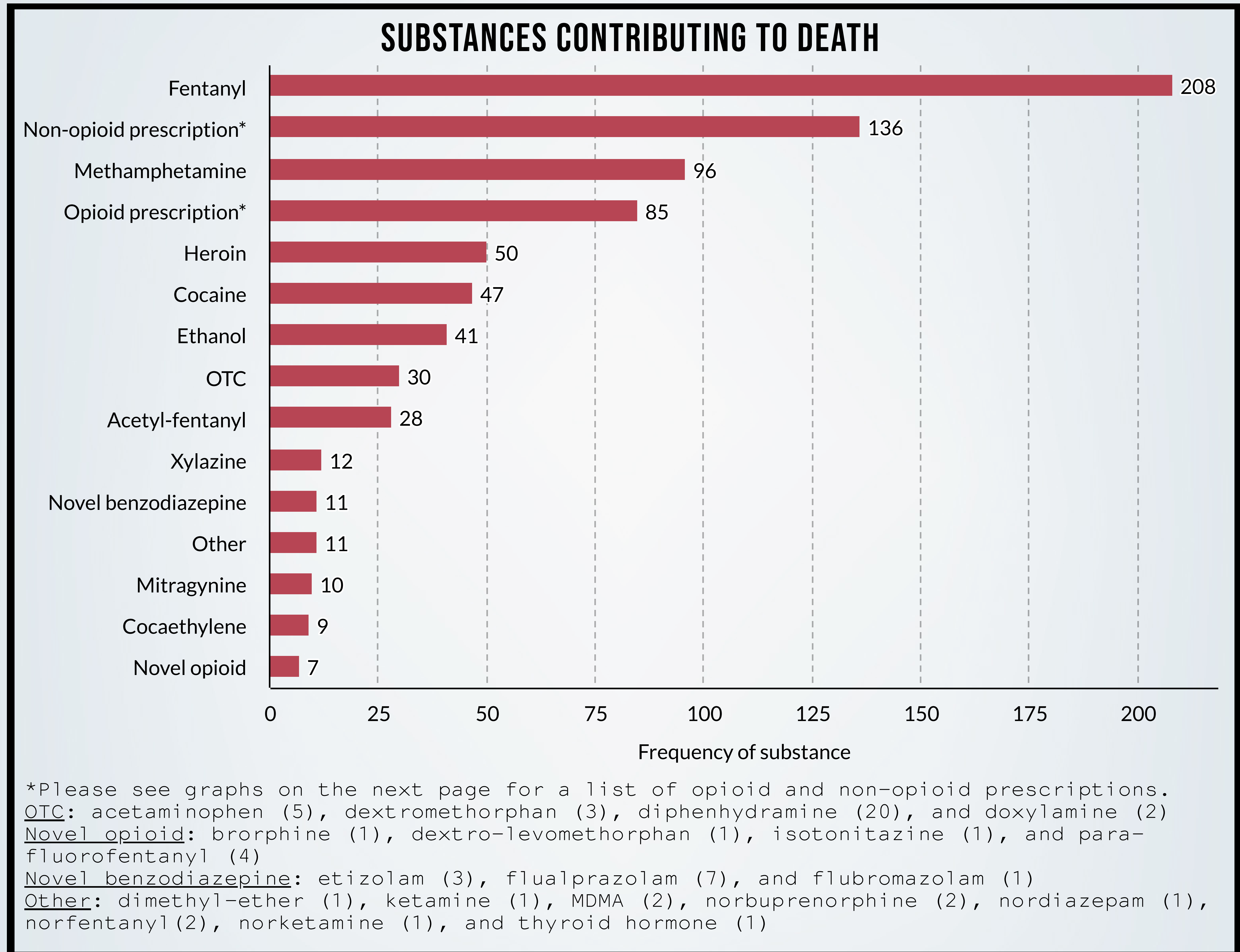




# Deaths Related to Opioids and Other Drugs

Allegan, Barry, Berrien, Calhoun, Grand Traverse, Kalamazoo, Leelanau, Mason, Muskegon, Osceola, St. Joseph, and Van Buren County

## Substance Breakdown



### HEROIN & FENTANYL

50 decedents had heroin in their toxicology

46 of these decedents also had fentanyl in their toxicology

### XYLAZINE & FENTANYL

12 decedents had xylazine in their toxicology

All 12 of these decedents also had fentanyl in their toxicology

### BENZODIAZEPINES & OPIOIDS

35 decedents had a benzodiazepine and an opioid in their toxicology

9 decedents were prescribed the opioid and benzodiazepine

### METHAMPHETAMINE & OPIOIDS

75 decedents had methamphetamine and opioid(s) in their toxicology

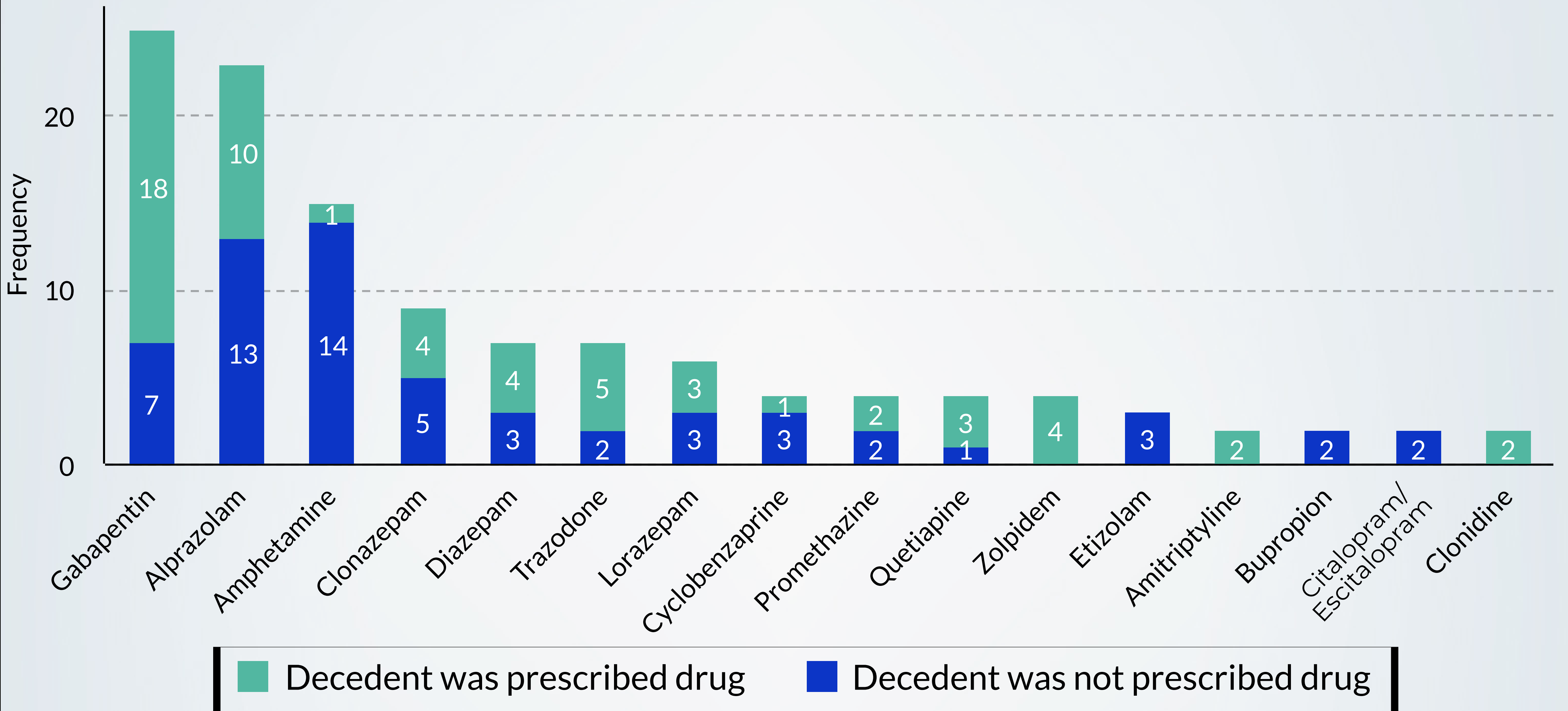
21 decedents had methamphetamine and heroin in their toxicology

# Deaths Related to Opioids and Other Drugs

Allegan, Barry, Berrien, Calhoun, Grand Traverse, Kalamazoo, Leelanau, Mason, Muskegon, Osceola, St. Joseph, and Van Buren County

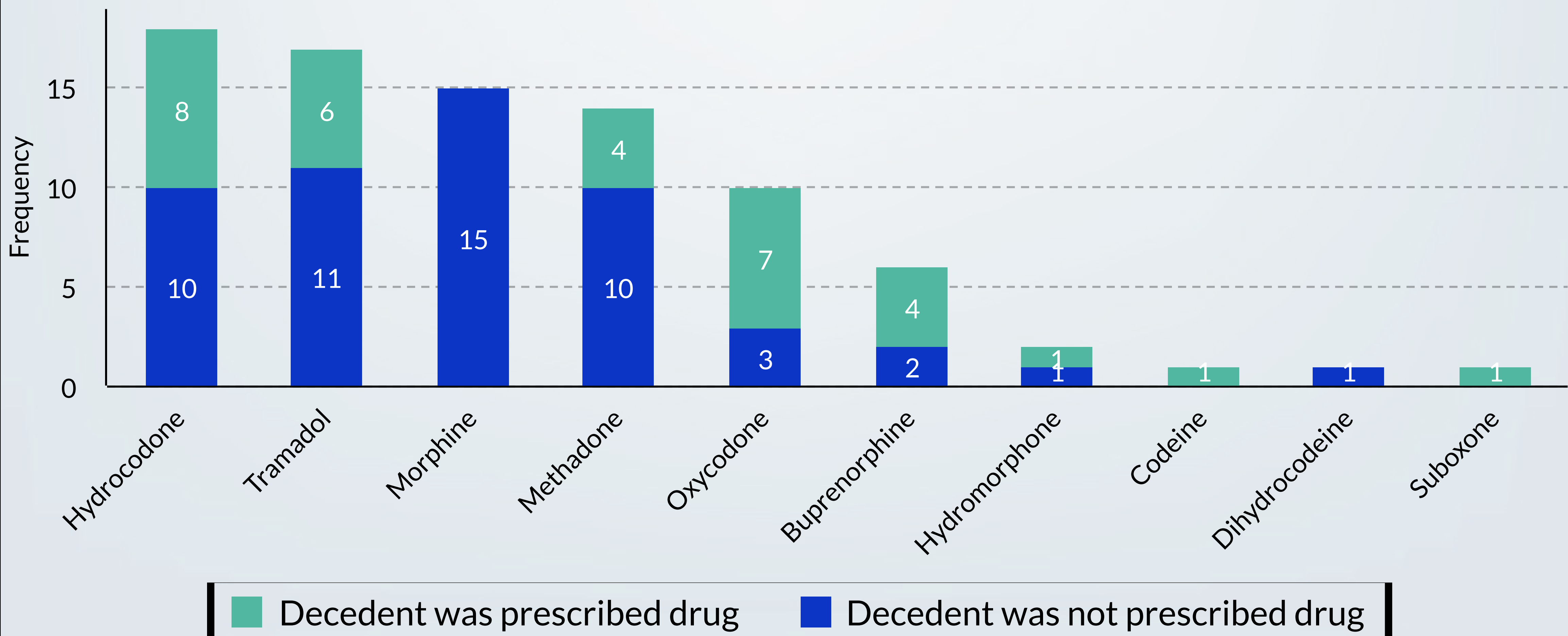
## Autopsy and Toxicology Results, cont.

### NON-OPIOID PRESCRIPTIONS PRESENT IN TOXICOLOGY



The following drugs were found one time in toxicology results:  
Decedent was prescribed: chlordiazepoxide, glipizide, mirtazapine, orphenadrine, paroxetine, phentermine, risperidone, and temazepam  
Decedent was not prescribed: benzodiazepine, clozapine, duloxetine, lurasidone, metoprolol, nortriptyline, olanzapine, sertraline, and valproic acid

### OPIOID PRESCRIPTIONS PRESENT IN TOXICOLOGY



**Note:** Of the 208 decedents with fentanyl present in their toxicology, 4 decedents were prescribed fentanyl



# Deaths Related to Opioids and Other Drugs

Allegan, Barry, Berrien, Calhoun, Grand Traverse, Kalamazoo, Leelanau, Mason, Muskegon, Osceola, St. Joseph, and Van Buren County

## Highlights

### OPIOIDS AND POSITIONAL ASPHYXIA

**24% (58 of 242) of decedents** who died of a combination of opioid and non-opioid substances were originally found in a **potentially airway asphyxiating position**

These positions include decedent drowning or decedent found face down on the floor, their bed, or on another surface

**17% (8 of 47) of decedents** who died of non-opioid substance(s) were originally found in a **potentially airway asphyxiating position**

Opioids depress the respiratory system and when coupled with positional asphyxia, there may be an increase risk of death. This MEO suggests that those who use substances not use alone and to ensure they are not at risk for slumping forward onto their face.

### NOVEL SUBSTANCES

#### Flualprazolam

7 deaths

- Psychoactive substance similar in structure to alprazolam
- Was originally found in counterfeit alprazolam in Oregon
- Generally abused for sedative/hypnotic effects similar to clonazepam and alprazolam

#### Brorphine

1 death

- Opioid similar to fentanyl
- Death occurred in September in Van Buren
- Likely snorted indicated by straws found on scene
- Decedent had no known substance use history

#### Xylazine

12 deaths

- Only approved use is for veterinarian medicine in horses, cattle, etc.
- Used for sedation, anesthesia, muscle relaxation, and analgesia
- Analogue of clonidine (sedative and antihypertensive drug)

#### Para-Fluorofentanyl

4 deaths

- Analogue of fentanyl that causes similar effects to fentanyl
- No approved medical use in the United States
- This substance is beginning to contribute to more deaths in the United States and should be monitored closely in 2021

### IMPACT OF COVID

There was a large increase in overdose deaths in 2020 (21% increase from 2019) but there was a particularly large increase from March-June (101% increase from March-June, 2019).

Current hypotheses:

There was an increase in **fentanyl** causing death: Approximately **50% of deaths in 2018 and 2019** were due to fentanyl and **72% of deaths in 2020** were due to fentanyl.

A large number of people were **released early from jail** from March-June. During these months, there were 133 overdose deaths where **13 decedents fatally overdosed within 3 weeks of being released from jail.**

Compounding effects of the pandemic including **unemployment, stress, and the shift in health care** access likely all contributed.