

Deaths related to opioids and other drugs

Annual Report 2021

Calhoun 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.**

Purpose: This data was collected by the Office of the Medical Examiner (MEO) in the Department of Pathology at Western Michigan University Homer Stryker M.D. School of Medicine (WMed). Unless otherwise noted, data is from 2021 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) reports, EMS runsheets, death certificates, obituaries, medical records, toxicology reports, and autopsy reports.

Note: B=Black/African American; B/H=Black/African American/Hispanic; H=Hispanic; W=White; F=Female; M=Male

Please email questions to pathology@med.wmich.edu

Office of the Medical Examiner
Department of Pathology
Homer Stryker M.D. School of Medicine

Deaths Related to Opioids and Other Drugs

Calhoun County

All drug-related deaths

Age	Race	Sex	Death certificate: Substances contributing to death	Injury Zip code
23	B	F	fentanyl, para-fluorofentanyl, xylazine	49015
23	W	M	fentanyl, methamphetamine, para-fluorofentanyl	unknown
27	W	M	fentanyl, methamphetamine, para-fluorofentanyl	49037
29	W	M	fentanyl, methamphetamine, para-fluorofentanyl, tramadol, xylazine	49068
31	W	M	fentanyl, gabapentin	49033
31	W	F	fentanyl, para-fluorofentanyl	49011
32	W	M	ethanol, fentanyl	49037
32	W	F	methamphetamine	unknown
32	B	M	methamphetamine	49017
33	W	M	fentanyl, para-fluorofentanyl	unknown
34	W	M	etizolam, fentanyl, morphine, para-fluorofentanyl, xylazine	49037
34	W	M	acetyl-fentanyl, fentanyl	49037
35	W	F	fentanyl, para-fluorofentanyl	49017
36	H	M	alprazolam, fentanyl, methamphetamine	49037
36	W	F	fentanyl	49037
37	W	M	fentanyl, heroin, methamphetamine, para-fluorofentanyl	49014
37	H	F	fentanyl, methamphetamine	49017
37	W	F	ethanol, fentanyl, gabapentin, hydrocodone, tramadol	49037
37	B	M	Pt. I: Brainstem intraparenchymal hemorrhage; Pt. II: MDMA*	49017
38	W	F	fentanyl, heroin, methadone, para-fluorofentanyl	49017

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Age	Race	Sex	Death certificate: Substances contributing to death	Injury Zip code
39	W	F	methamphetamine	49017
39	W	M	fentanyl, methamphetamine, para-fluorofentanyl, tramadol, xylazine,	49015
39	W	M	alprazolam, fentanyl	49015
39	W	F	fentanyl, para-fluorofentanyl	49014
39	W	M	methamphetamine	unknown
40	W	M	fentanyl, xylazine	49037
40	W	M	fentanyl, morphine	49037
40	W	M	ethanol, cocaethylene, fentanyl, hydrocodone, para-fluorofentanyl	49037
41	B	F	fentanyl, heroin, methamphetamine, para-fluorofentanyl	49015
41	W	M	fentanyl, methamphetamine, para-fluorofentanyl	49017
41	H	M	fentanyl	49015
41	W	M	cocaine	49017
42	W	M	methamphetamine	49037
42	W	F	ethanol, fentanyl, methamphetamine	49037
45	W	M	fentanyl, methamphetamine	49037
48	B/H	M	fentanyl	49017
48	W	M	ethanol, fentanyl, para-fluorofentanyl	unknown
49	W	F	ethanol, hydroxyzine, mitragynine	49017
50	B	M	ethanol, fentanyl	49037
51	W	F	cocaine	49015

Deaths Related to Opioids and Other Drugs

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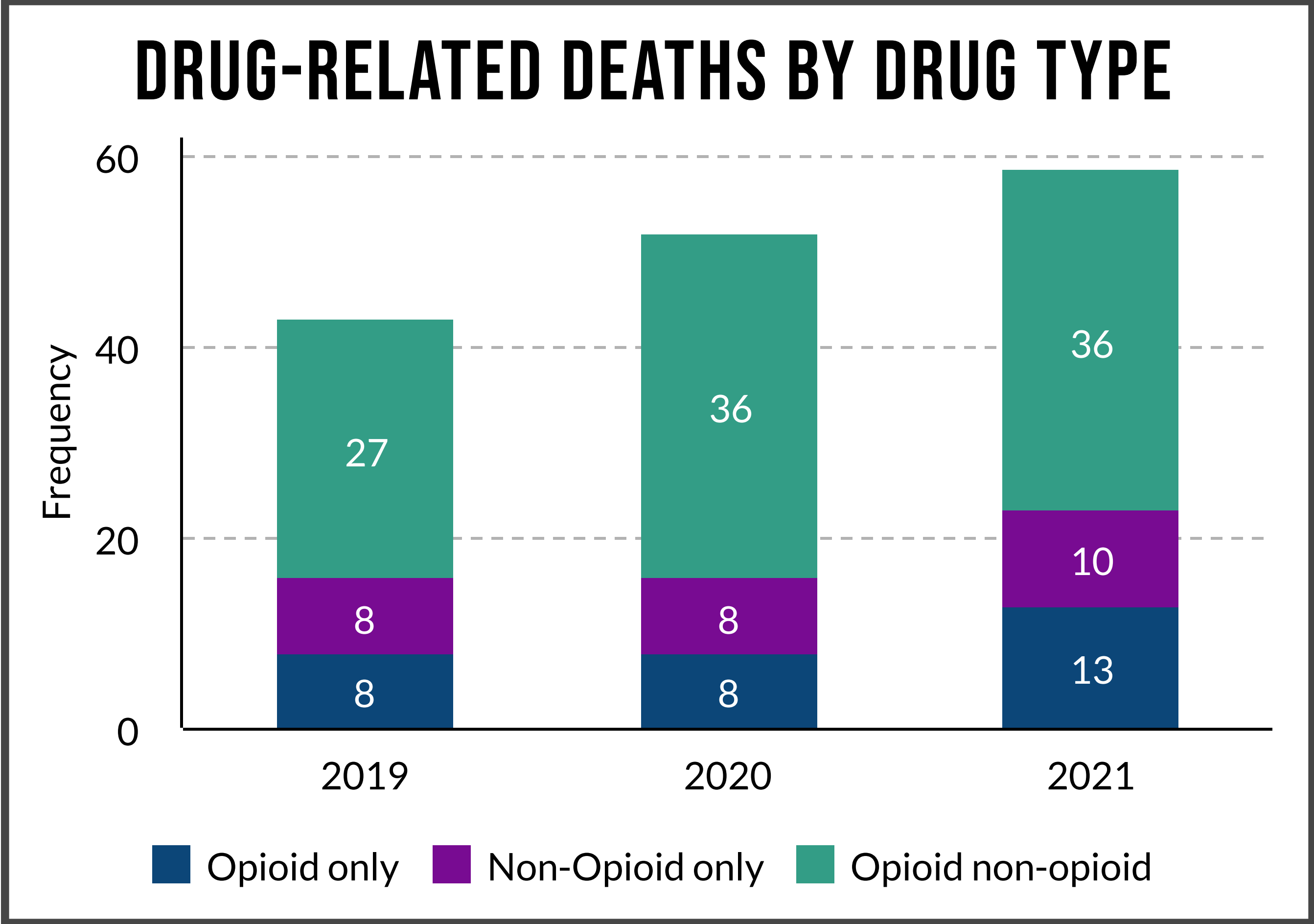
Age	Race	Sex	Death certificate: Substances contributing to death	Injury Zip code
52	W	F	tramadol	49015
53	W	M	methamphetamine	49068
53	W	M	clonazepam, clozapine	49014
54	W	F	fentanyl, hydroxyzine, methamphetamine, morphine, trazodone	49014
54	W	M	cocaethylene, cocaine, ethanol, fentanyl	49015
54	W	M	alprazolam, cyclobenzaprine, fentanyl, heroin, tramadol	49017
56	W	M	ethanol	49017
56	W	M	cocaine, fentanyl	49015
57	W	M	fentanyl, methamphetamine	49029
58	W	M	cyclobenzaprine, fentanyl, gabapentin, tramadol	49068
58	W	F	alprazolam, methadone	49037
59	W	F	duloxetine, gabapentin, hydrocodone, methadone	49014
59	B	M	ethanol, fentanyl, methamphetamine	49037
60	W	F	fentanyl, methadone	49015
60	B	M	cocaine, fentanyl	49014
62	W	M	fentanyl, methamphetamine	49015
66	B	M	fentanyl	49015
68	W	M	alprazolam, diazepam, fentanyl, heroin,	49015
72	B	M	cocaine, fentanyl, morphine, para-fluorofentanyl, xylazine	49037
81	B	M	fentanyl, tramadol, xyalzine	49037

*Not included in report (n=2)

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Calhoun County

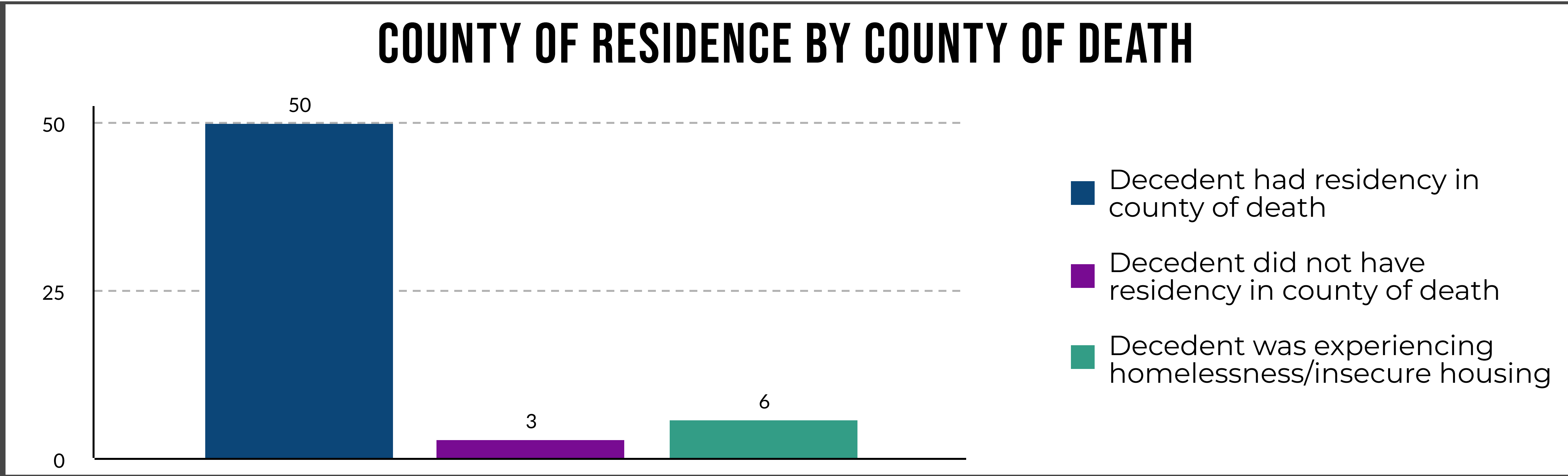
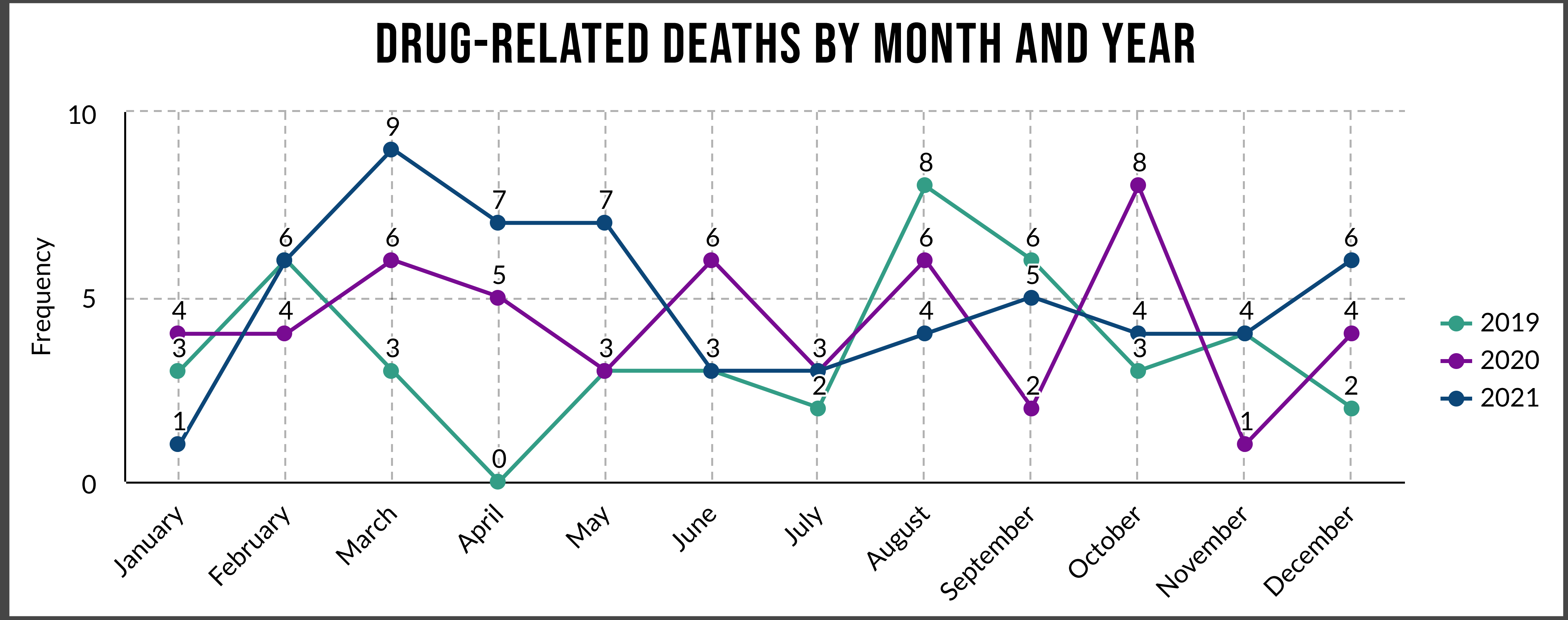
Total Drug-Related Deaths



Year	Total deaths	Deaths per 10,000
2019	43	3.2
2020	52	3.9
2021	59	4.4

Percent change

 13% from 2020 to 2021

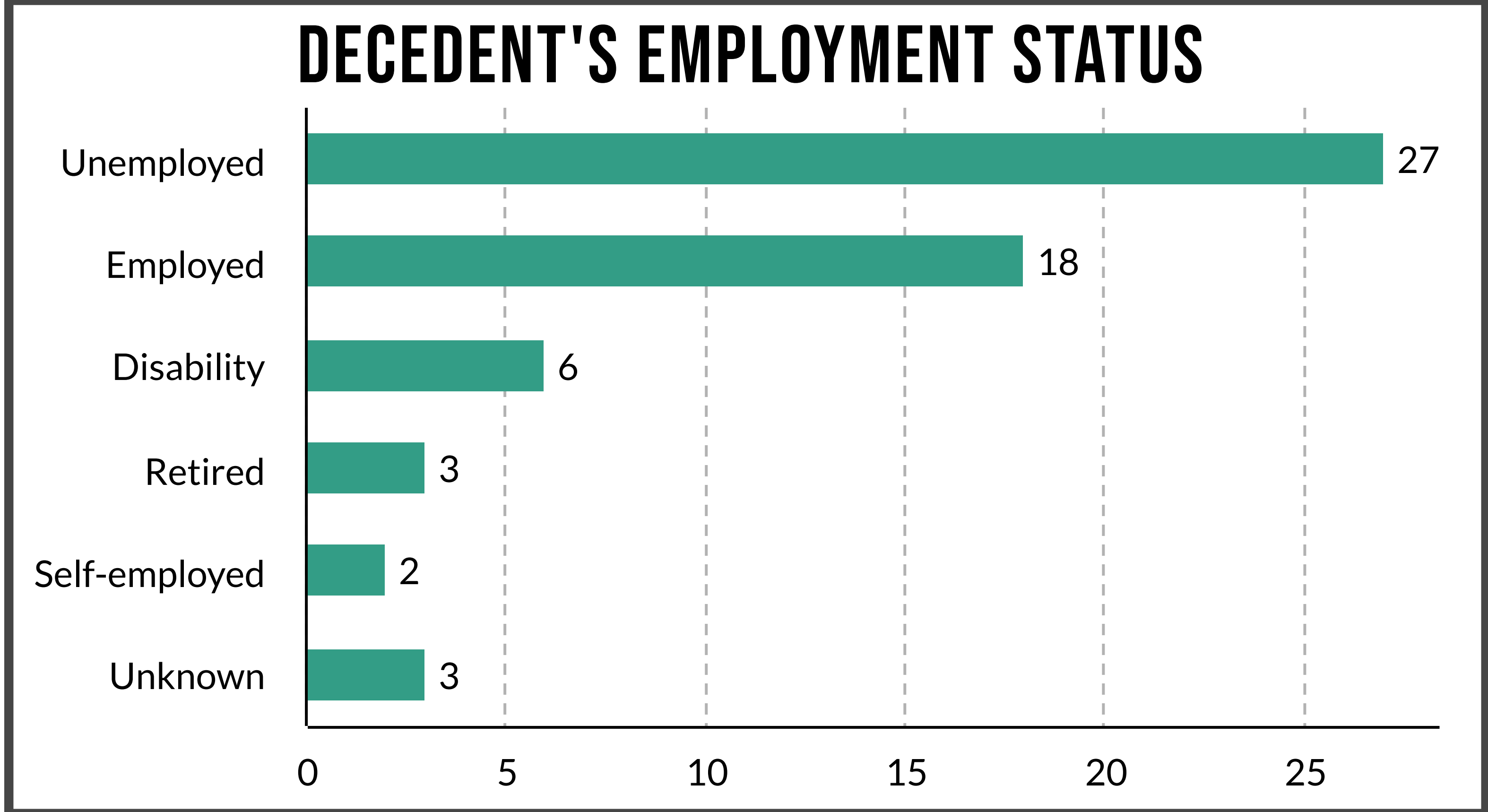


Deaths Related to Opioids and Other Drugs

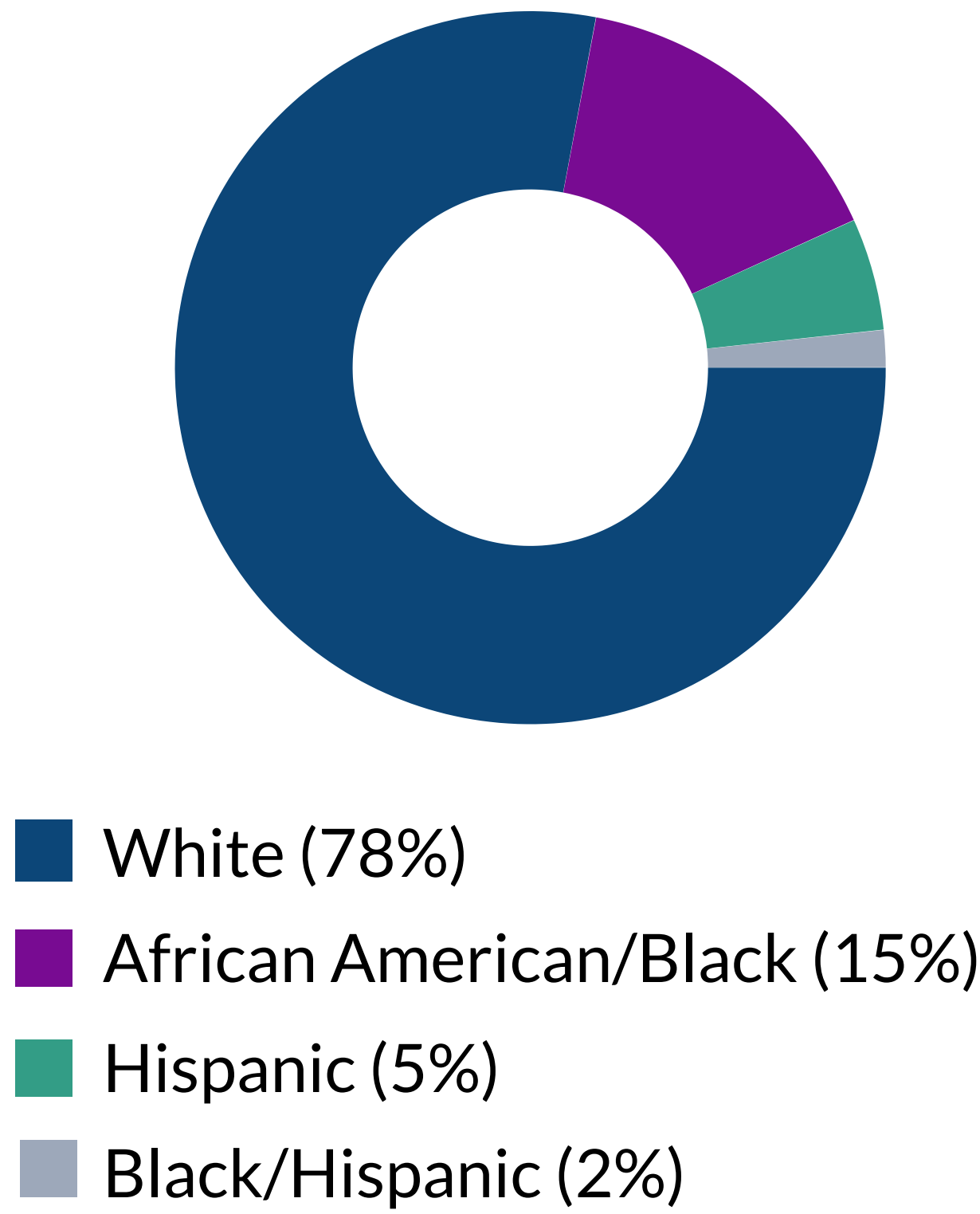
Calhoun County

Demographics

DECEDENT'S EMPLOYMENT STATUS



RACE



SEX

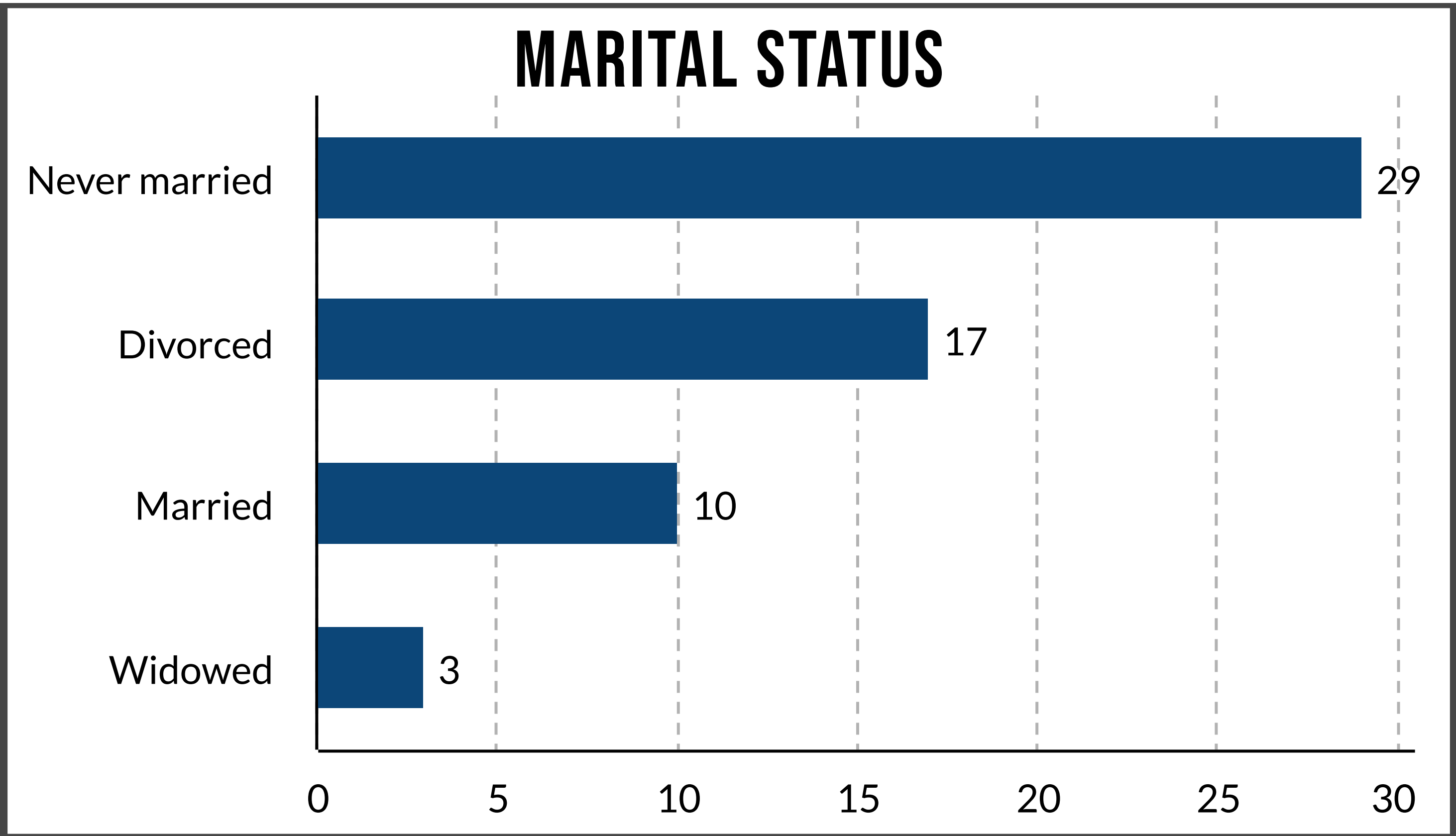


32%



68%

MARITAL STATUS



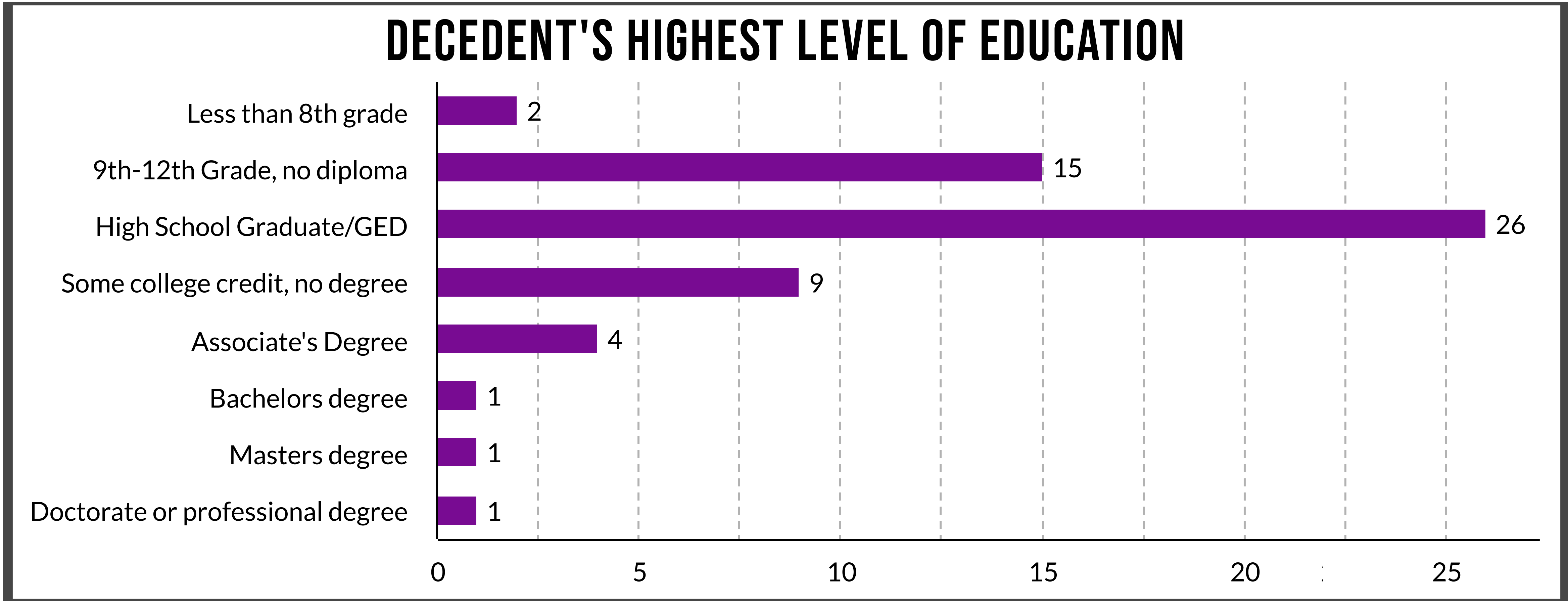
AGE

Minimum Age
23 years

Maximum Age
81 years

Average Age
45 years

DECEDENT'S HIGHEST LEVEL OF EDUCATION

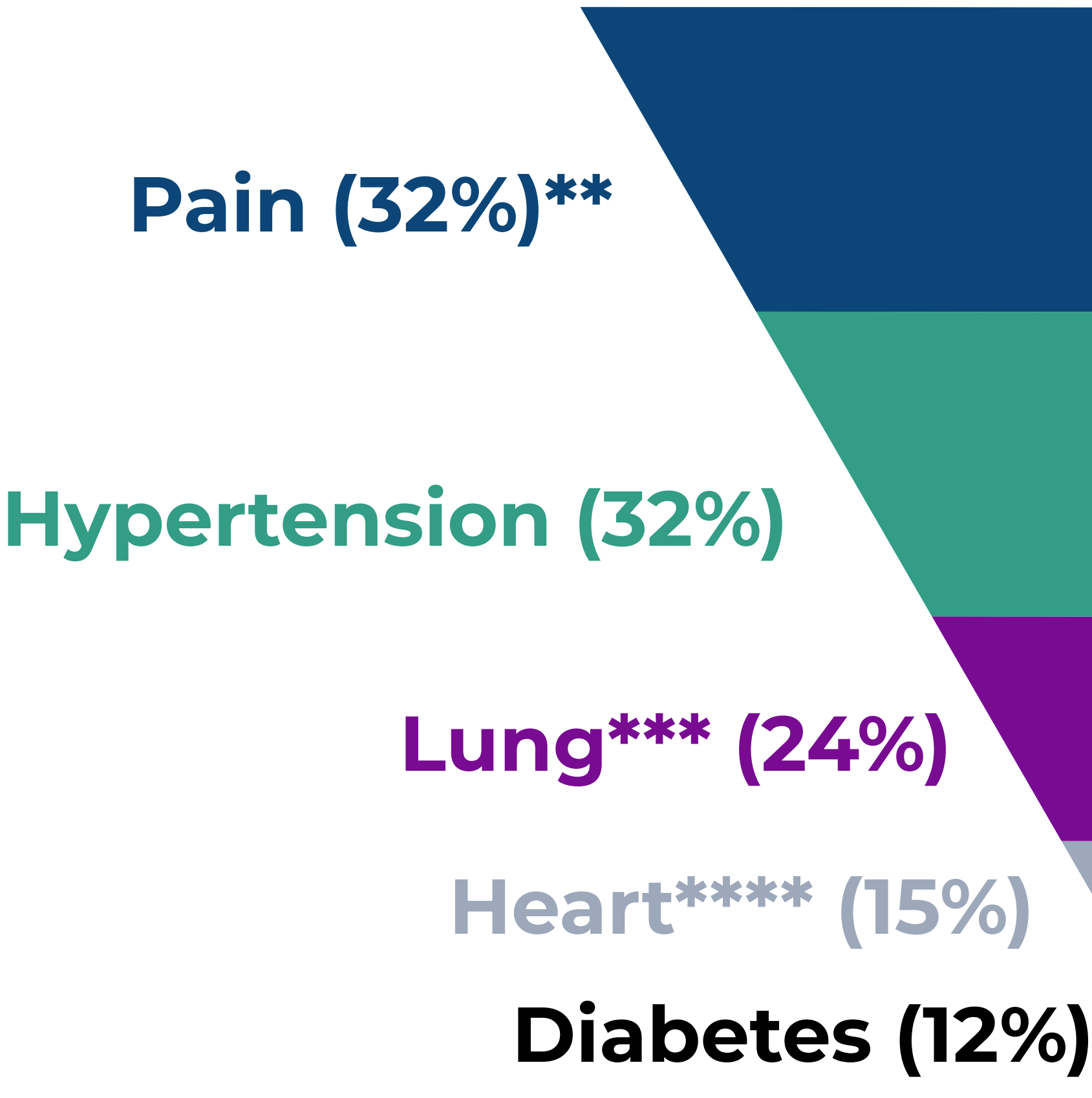


Deaths Related to Opioids and Other Drugs

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Health Factors

MOST COMMON AILMENTS*

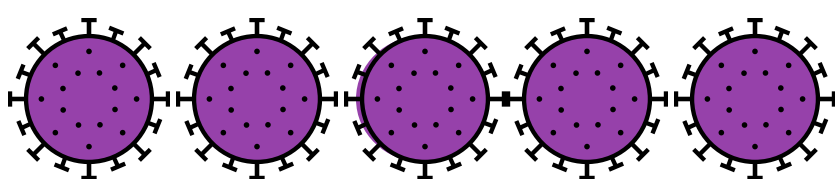


*Decedents may be represented in more than one category. Only illnesses with diagnosis by a medical professional are included.

**Pain includes migraine, DDD, arthritis, chronic knee and back pain, and neuropathy.

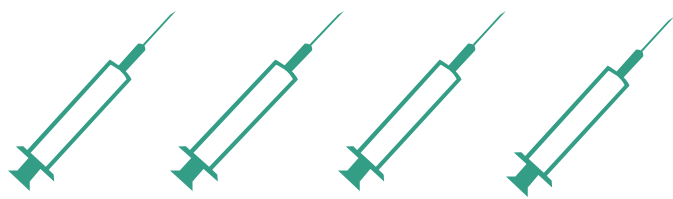
***Lung includes asthma and COPD.

****Heart includes CHF, CAD, endocarditis, atherosclerosis, heart murmur, and MI. (see end of page)



At least **8** decedents were **Hepatitis C** positive

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



Decedent used tobacco

78%



Decedent drank alcohol

41%



*Moderate to heavy use

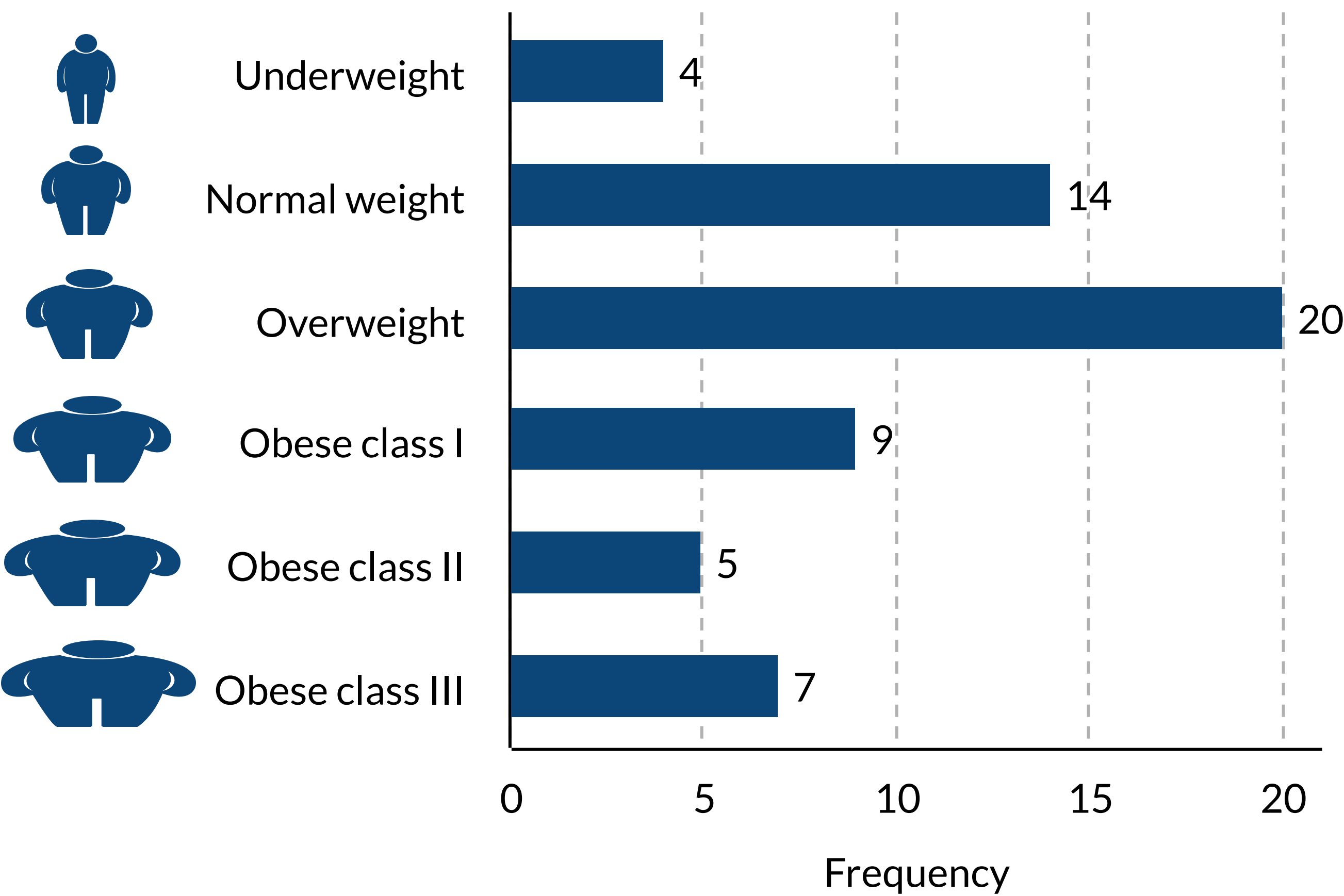
Decedent had a PCP*

41%



*Primary care physician

BODY MASS INDEX (BMI)



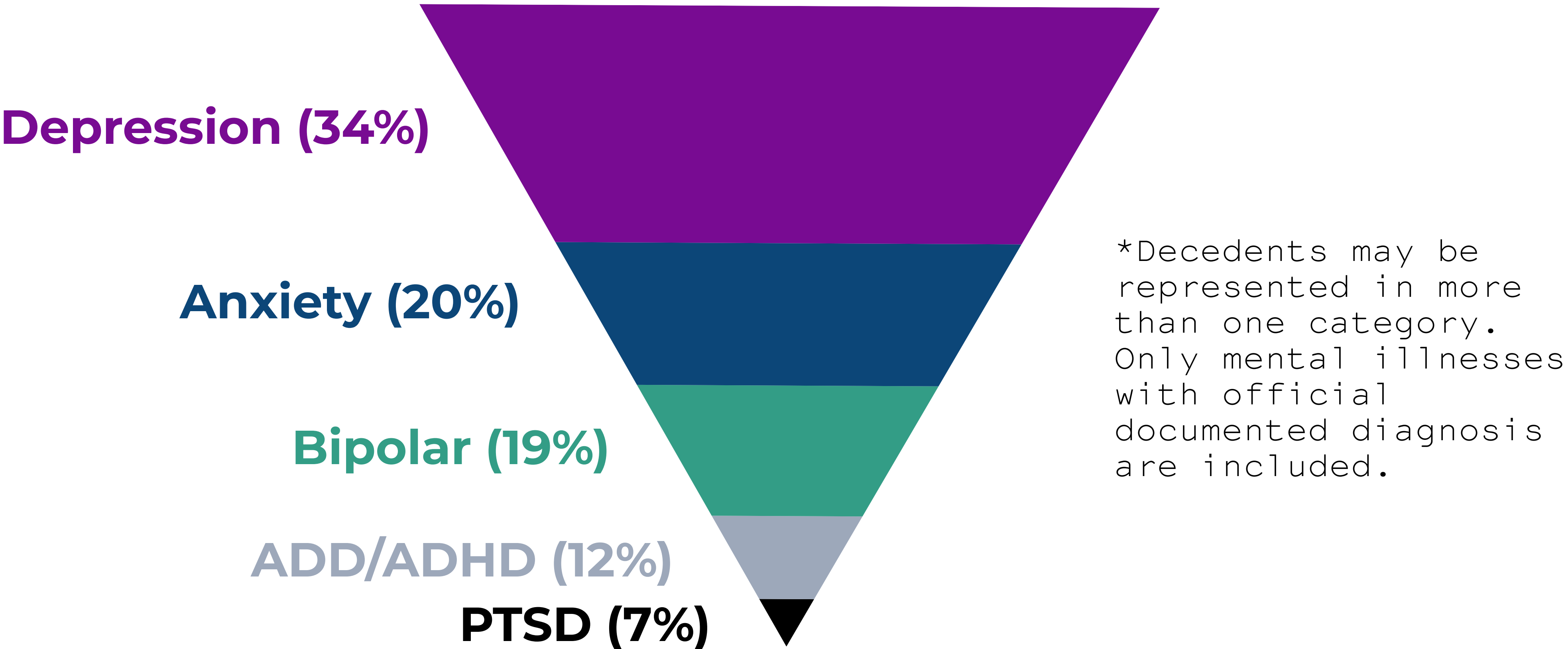
DDD=Degenerative disc disease; COPD=Chronic obstructive pulmonary disease; CHF=Congestive heart failure; MI=Myocardial infarction; CAD=Coronary artery disease; AFib=Atrial fibrillation

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Mental Health Factors

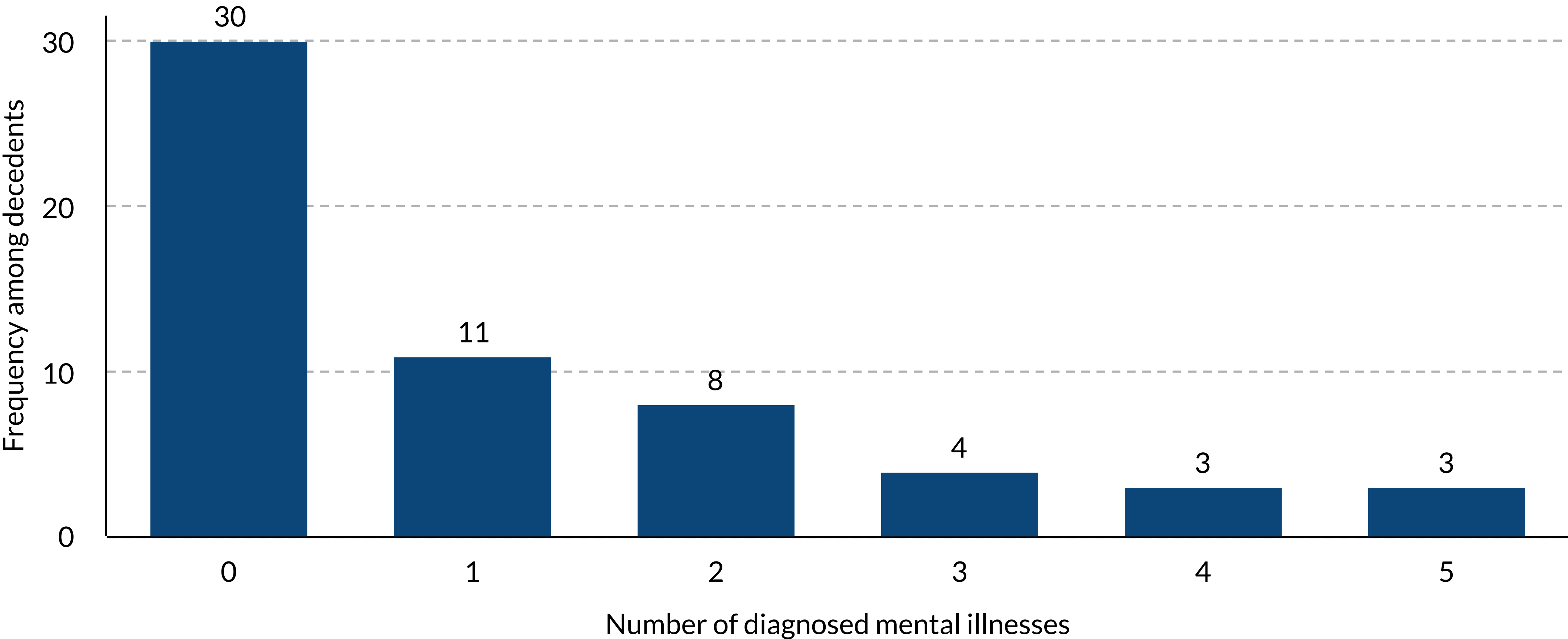
MOST COMMON MENTAL ILLNESSES



PERCENTAGE OF DECEDENTS



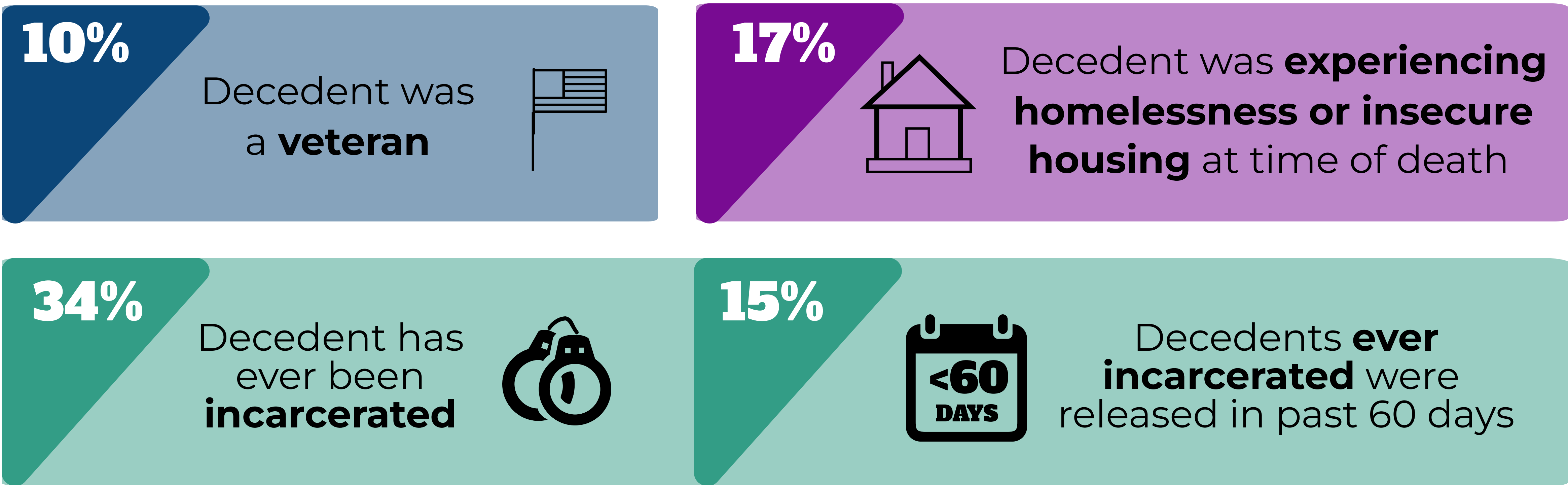
NUMBER OF DIAGNOSED MENTAL ILLNESSES AMONG DECEDENTS



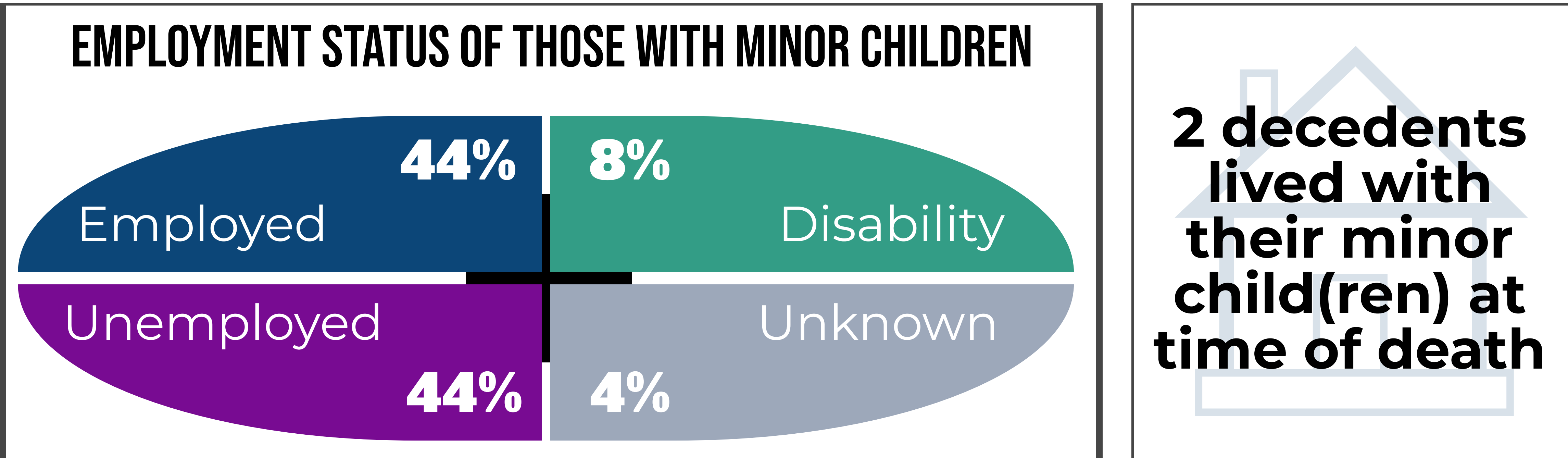
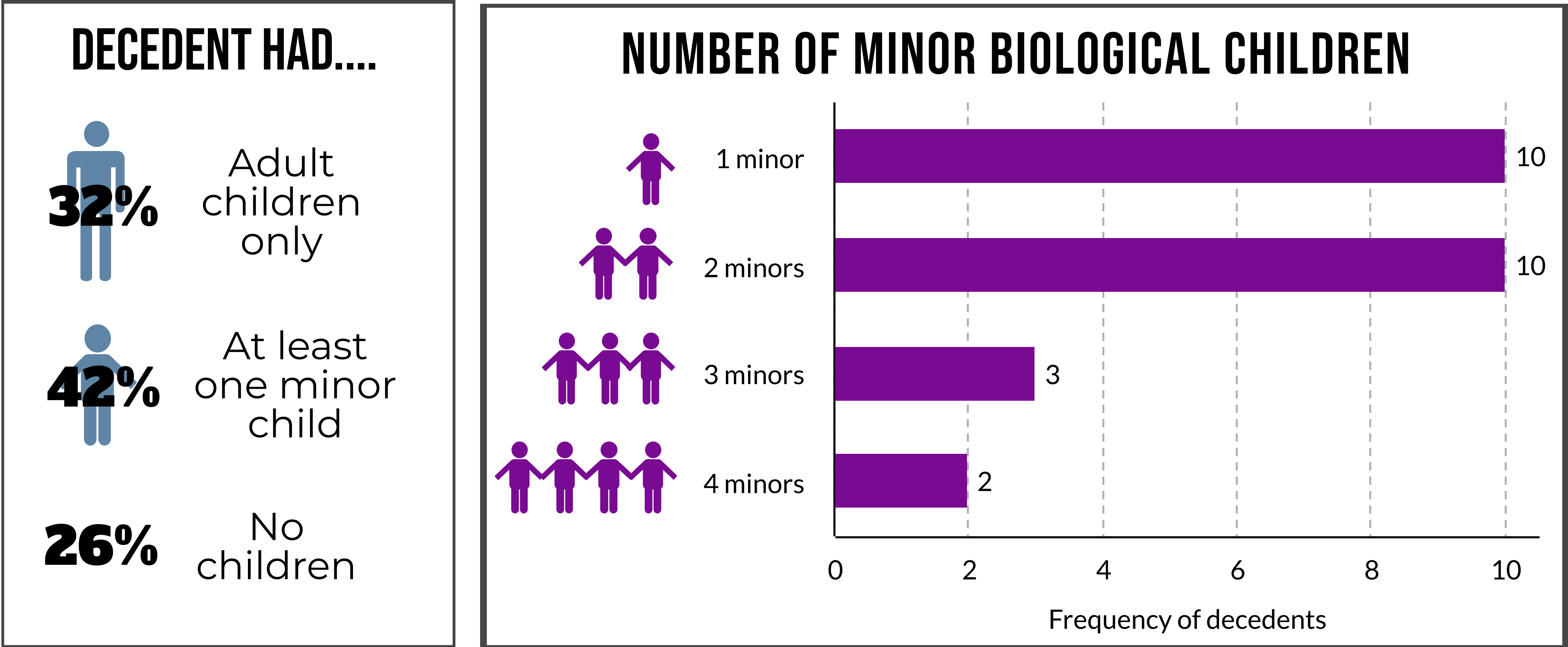
Deaths Related to Opioids and Other Drugs

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Social Factors



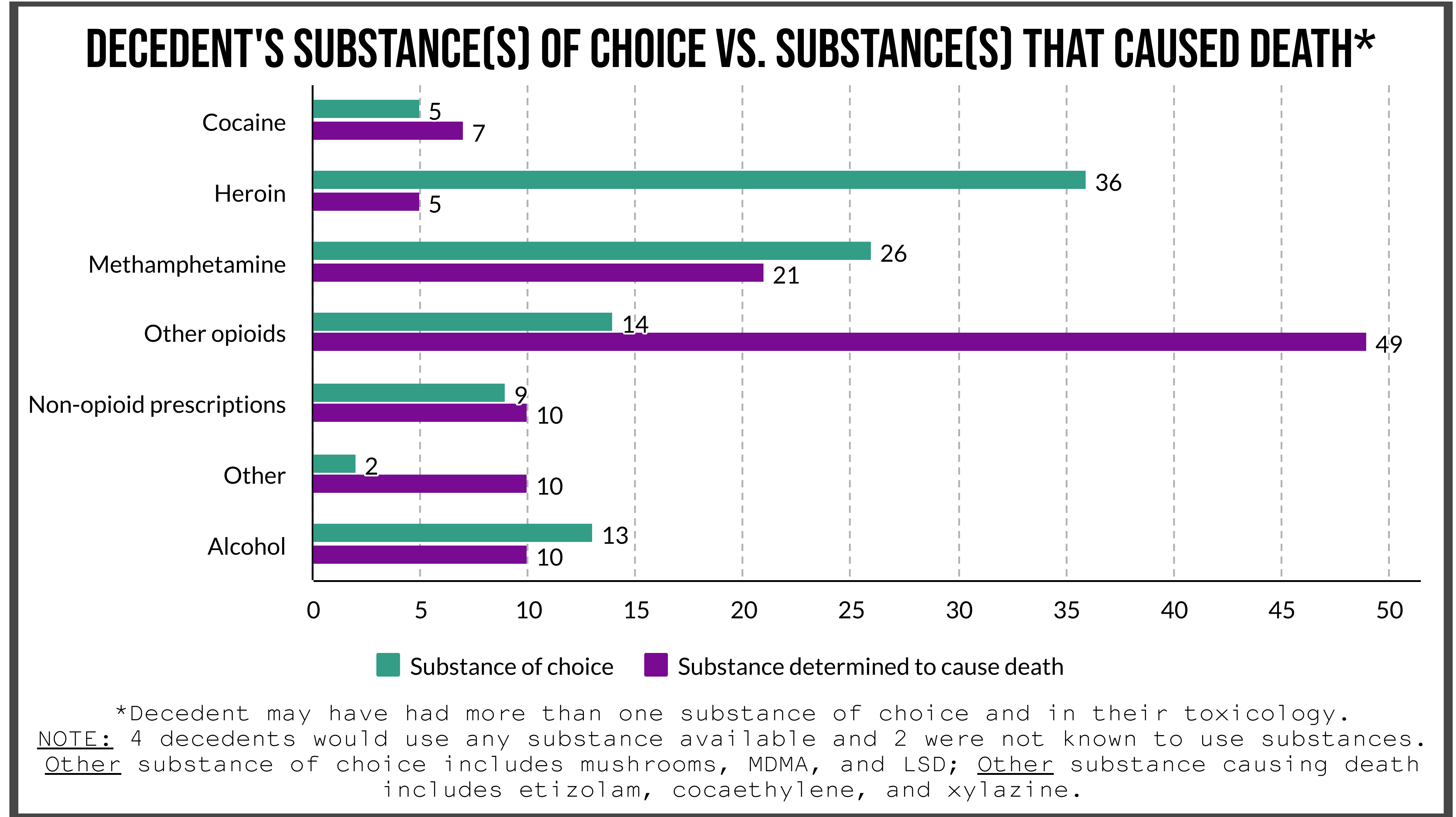
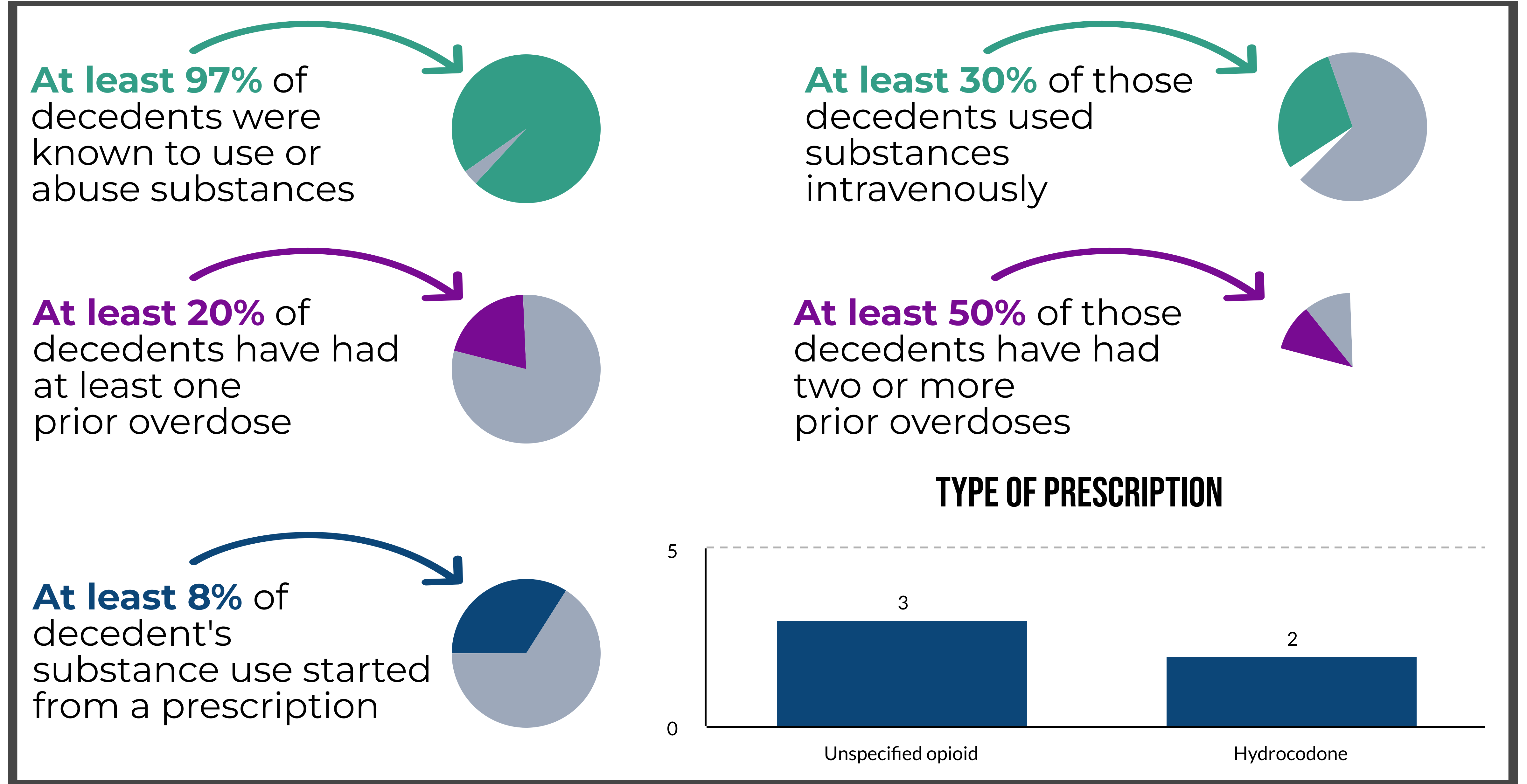
Children



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Substance Use History



Deaths Related to Opioids and Other Drugs

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Substance Use History, cont.

PREFERRED METHOD OF ADMINISTRATION*

Method	Male (n=38)	Female (n=18)	White (n=44)	Black (n=9)	Hispanic (n=3)	Total (n=56)**
Intravenous	10	7	14	2	1	17
Snort	5	1	5	1	0	6
Smoke	11	4	12	2	1	15
Transdermal	0	0	0	0	0	0
Huff	0	0	0	0	0	0
Oral	6	3	8	1	0	9
Unknown	6	2	7	0	1	8

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

**Decedent of African American/Hispanic descent is excluded (n=1).

RECOVERY HISTORY (N=57)*

Decedent was recently
reportedly **substance
free** in the past
three weeks

23%

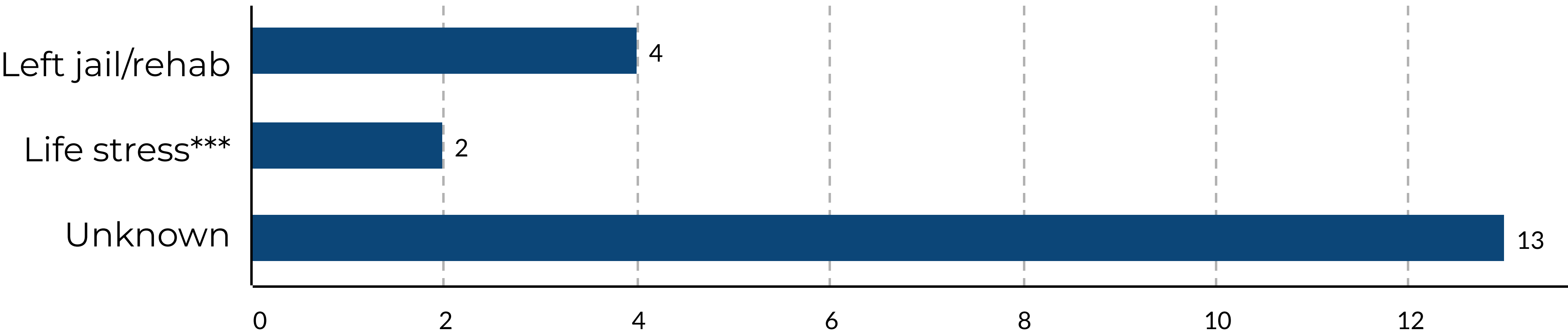
Decedent has been to
a **treatment clinic or
detox center** at least
one time

11%

Decedent was currently
receiving or has received
**medication for opioid use
disorder** in the past two years

33%

SUSPECTED REASON FOR RELAPSE**



*ONLY Decedents known to use substances are included.

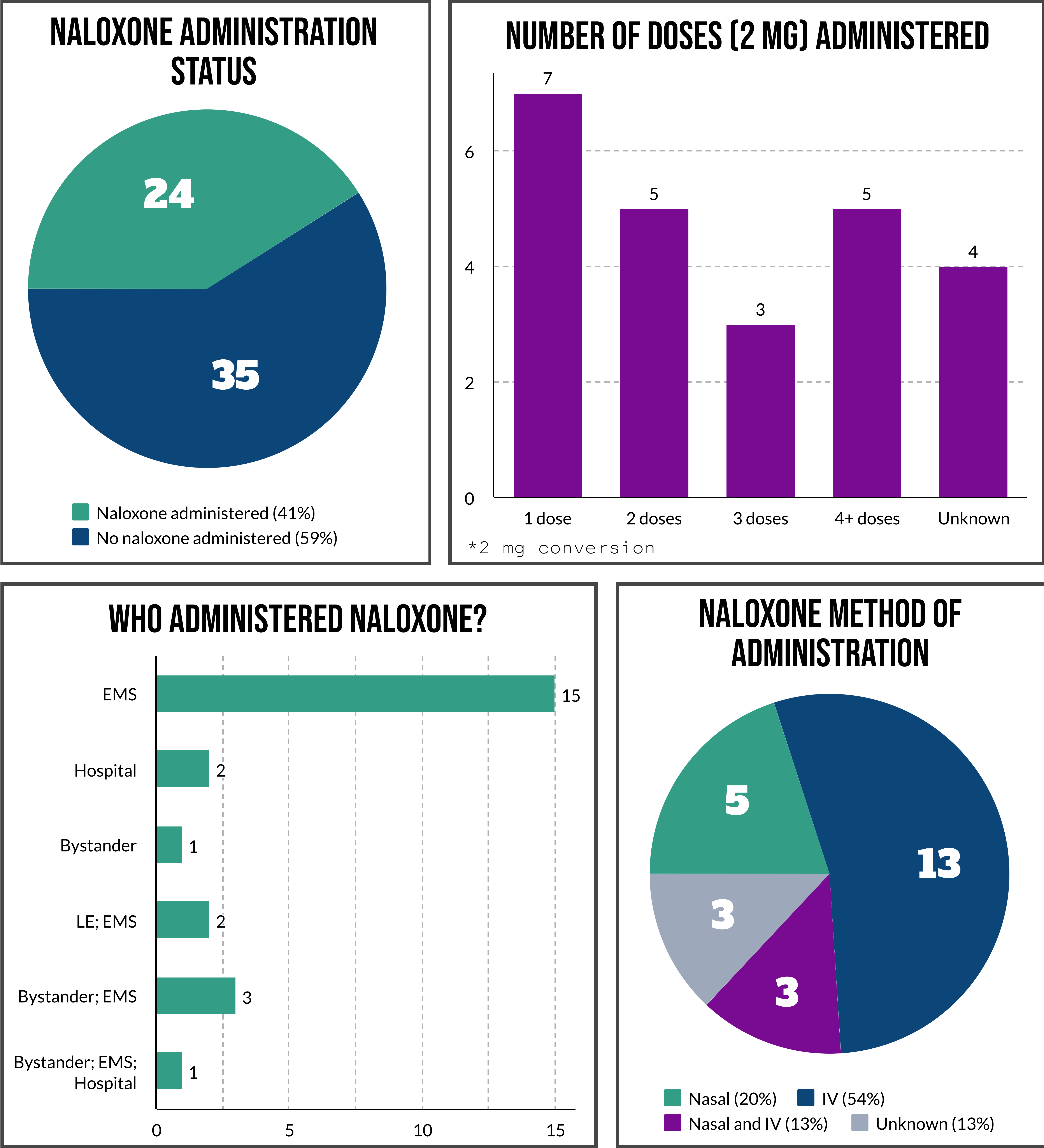
**These factors were mentioned by those close to the decedent for why they may have begun to use substances again after being substances free for at least three weeks.

***Life stress includes family stressors

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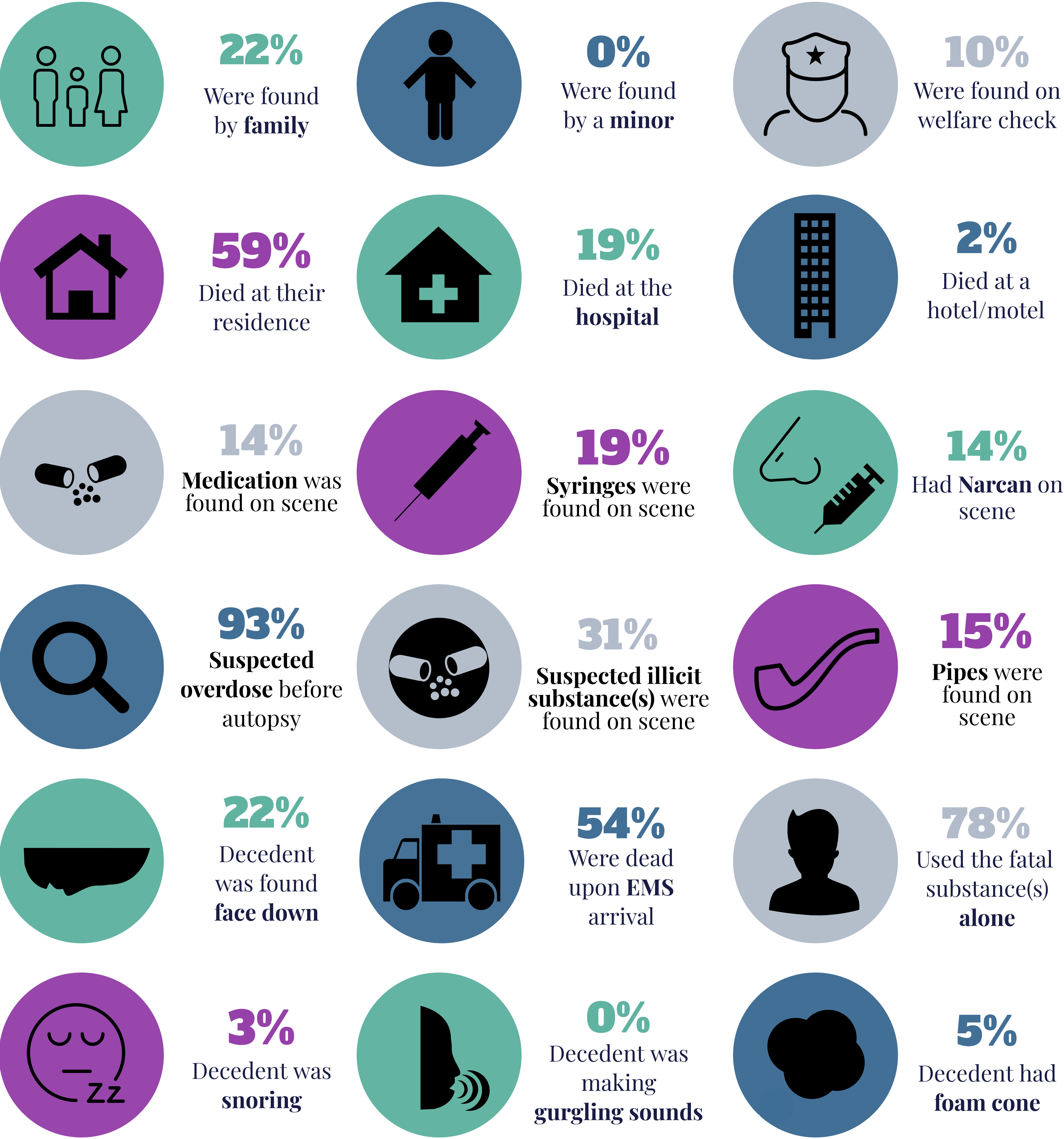
Naloxone Administration



Deaths Related to Opioids and Other Drugs

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Death Scene Findings

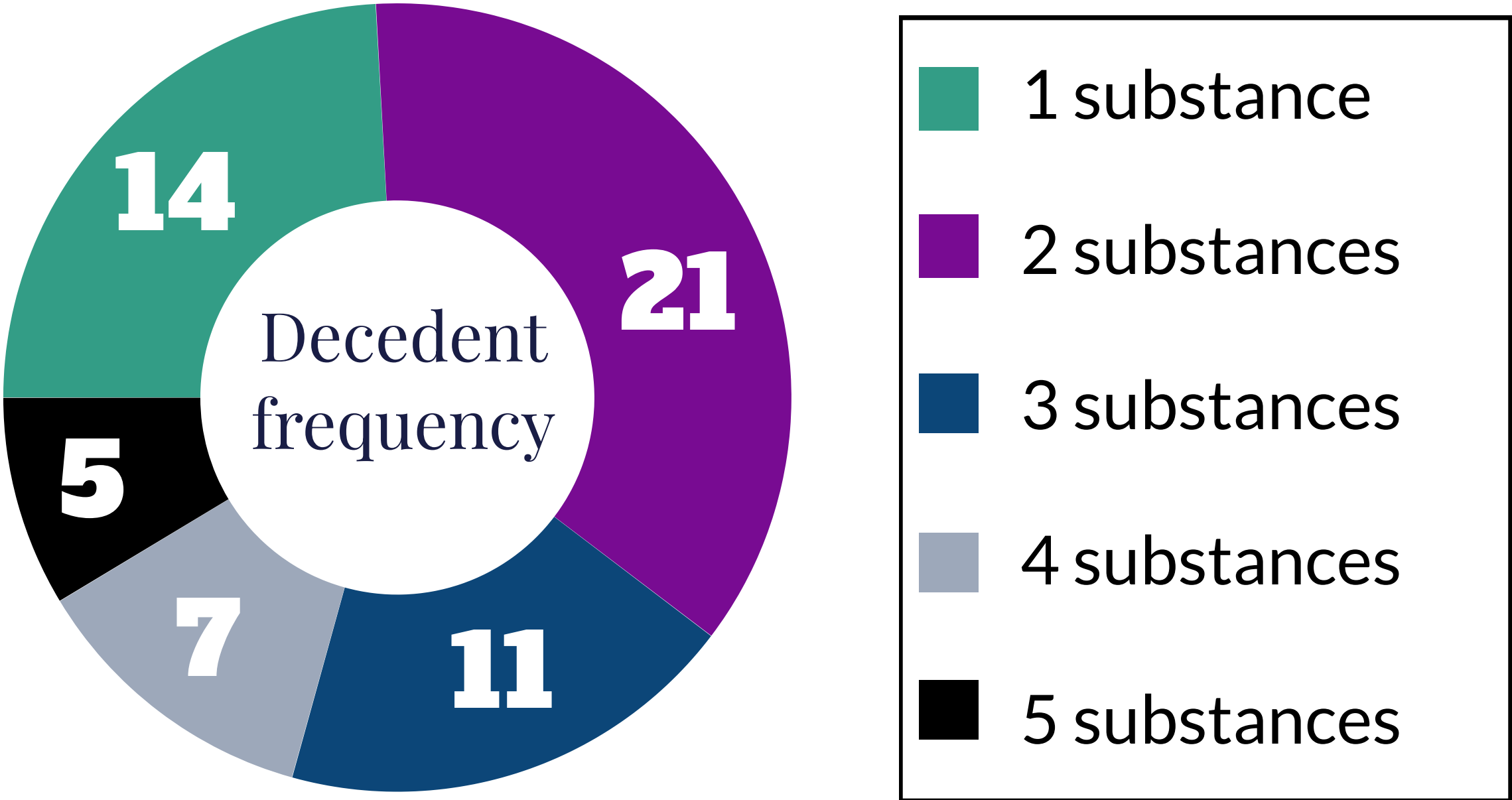


Deaths Related to Opioids and Other Drugs

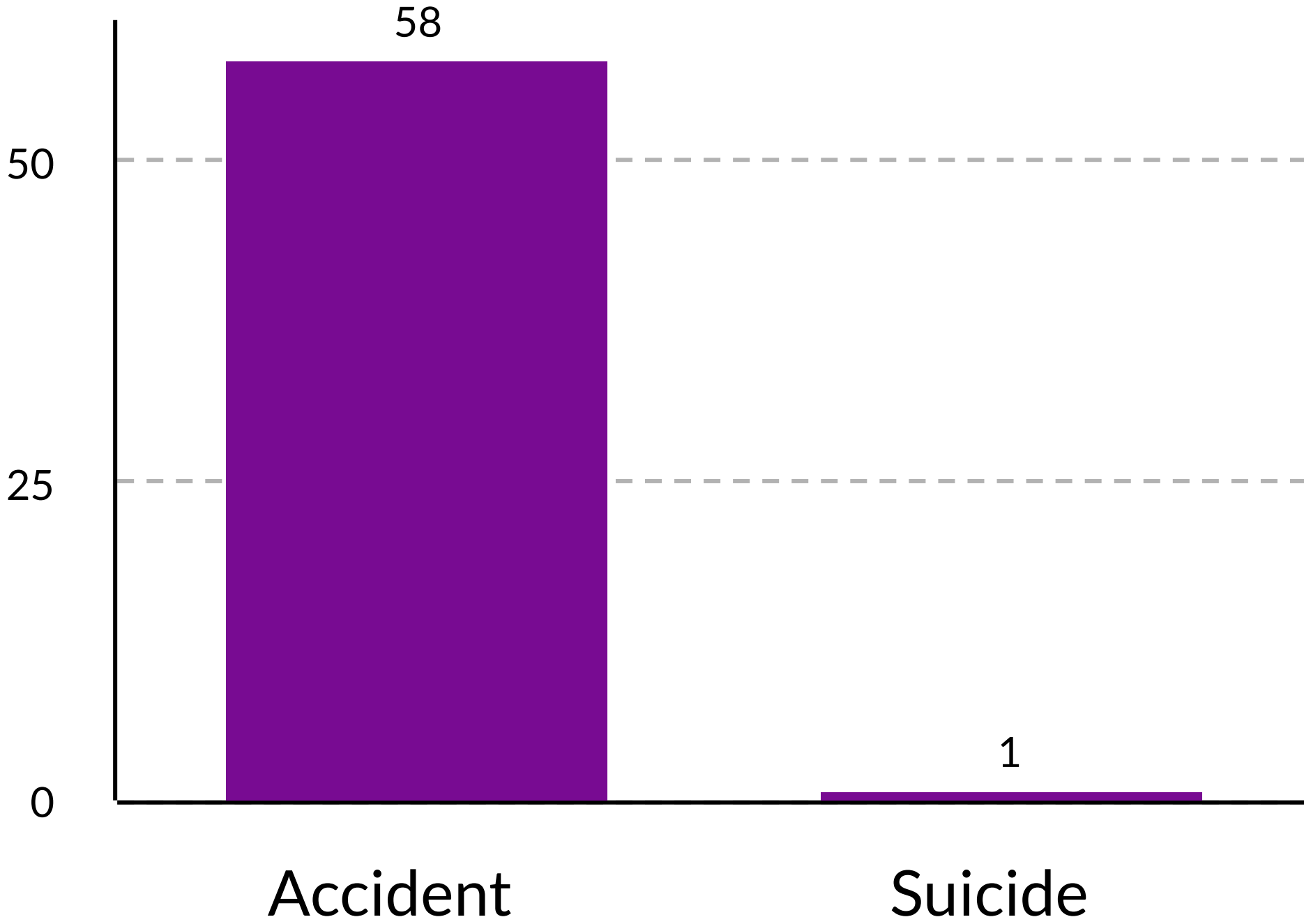
Calhoun County

Autopsy and Toxicology Results

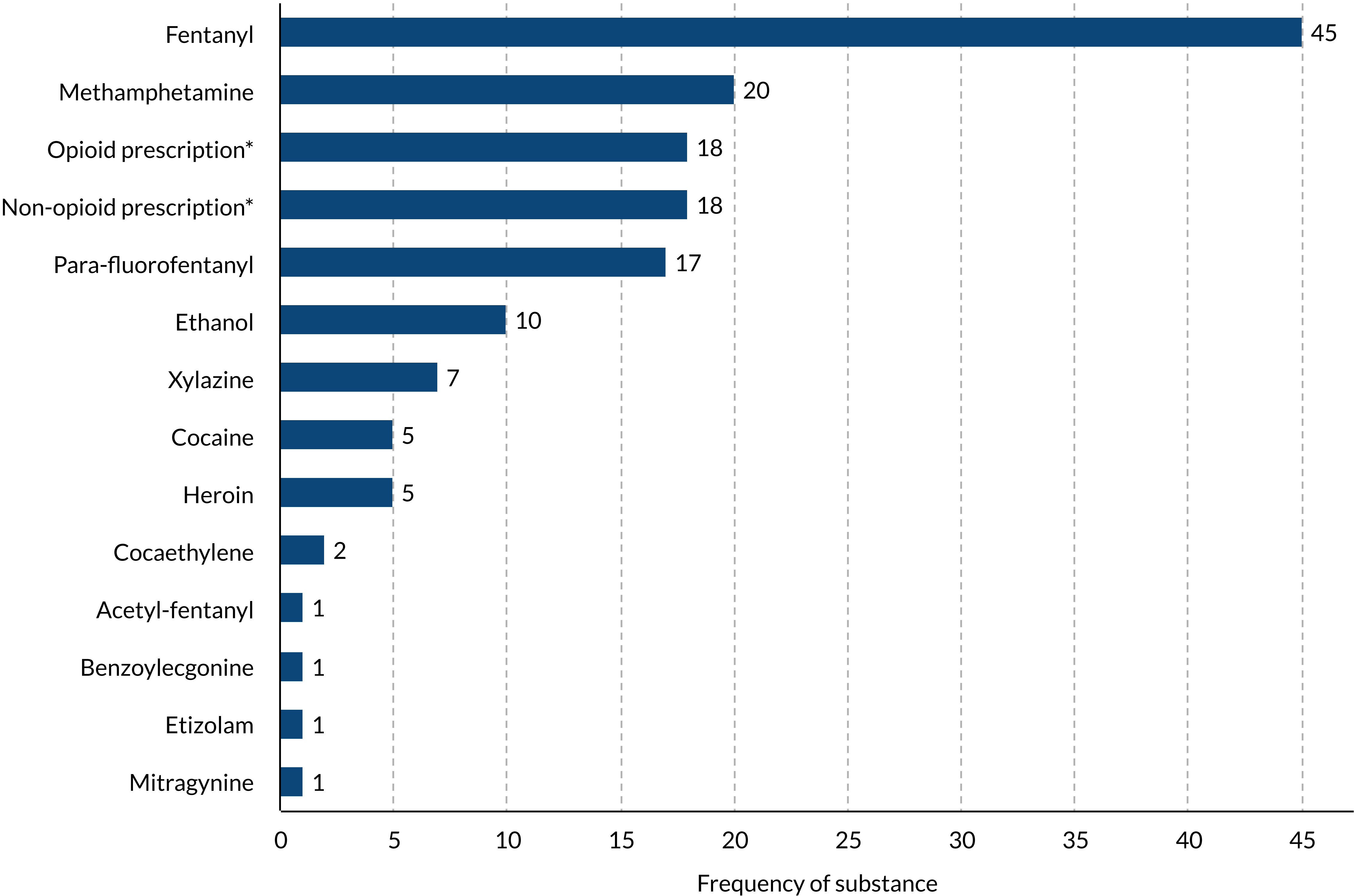
NUMBER OF SUBSTANCES
CONTRIBUTING TO DEATH



MANNER OF DEATH



SUBSTANCES CONTRIBUTING TO DEATH

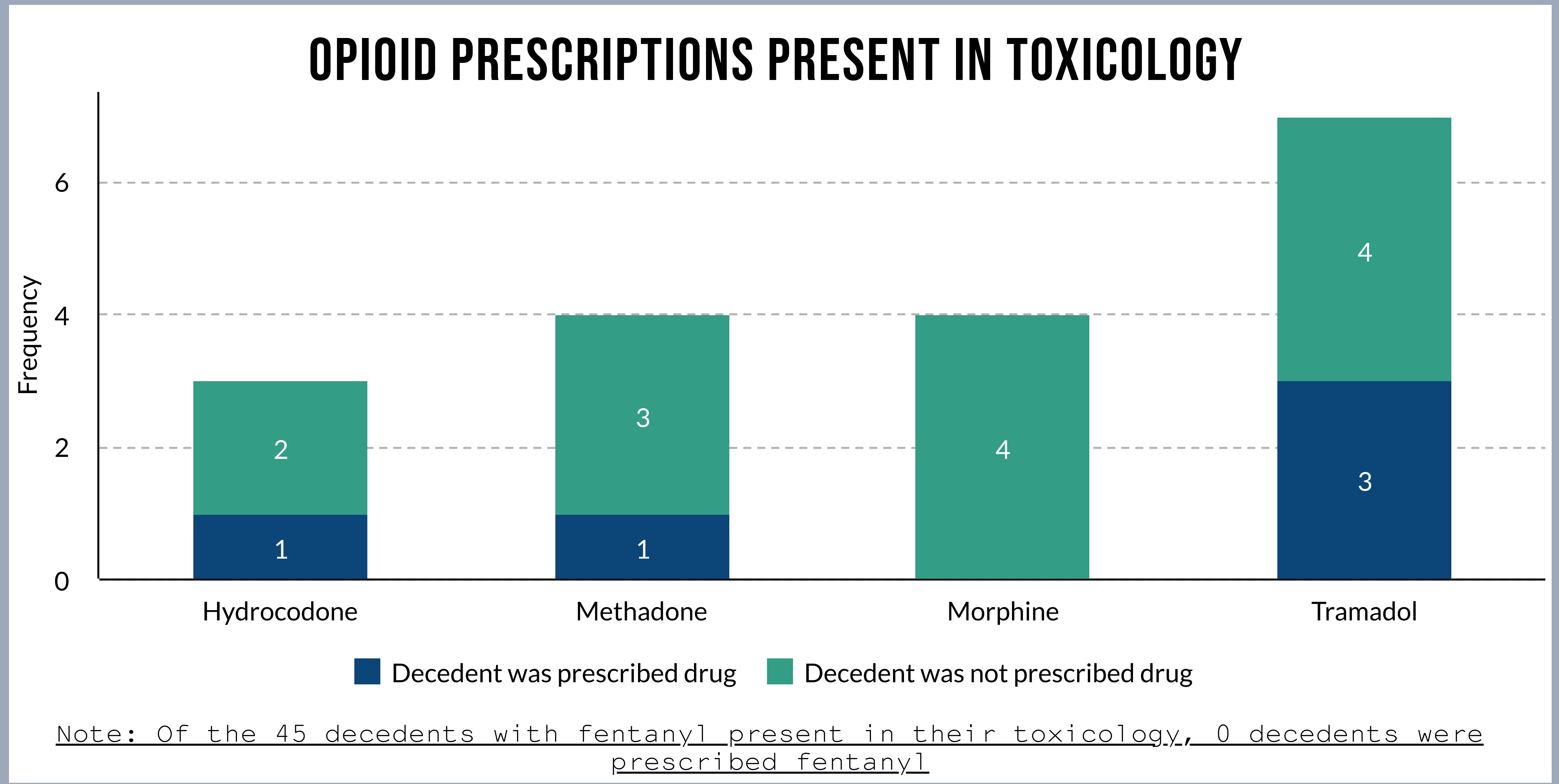
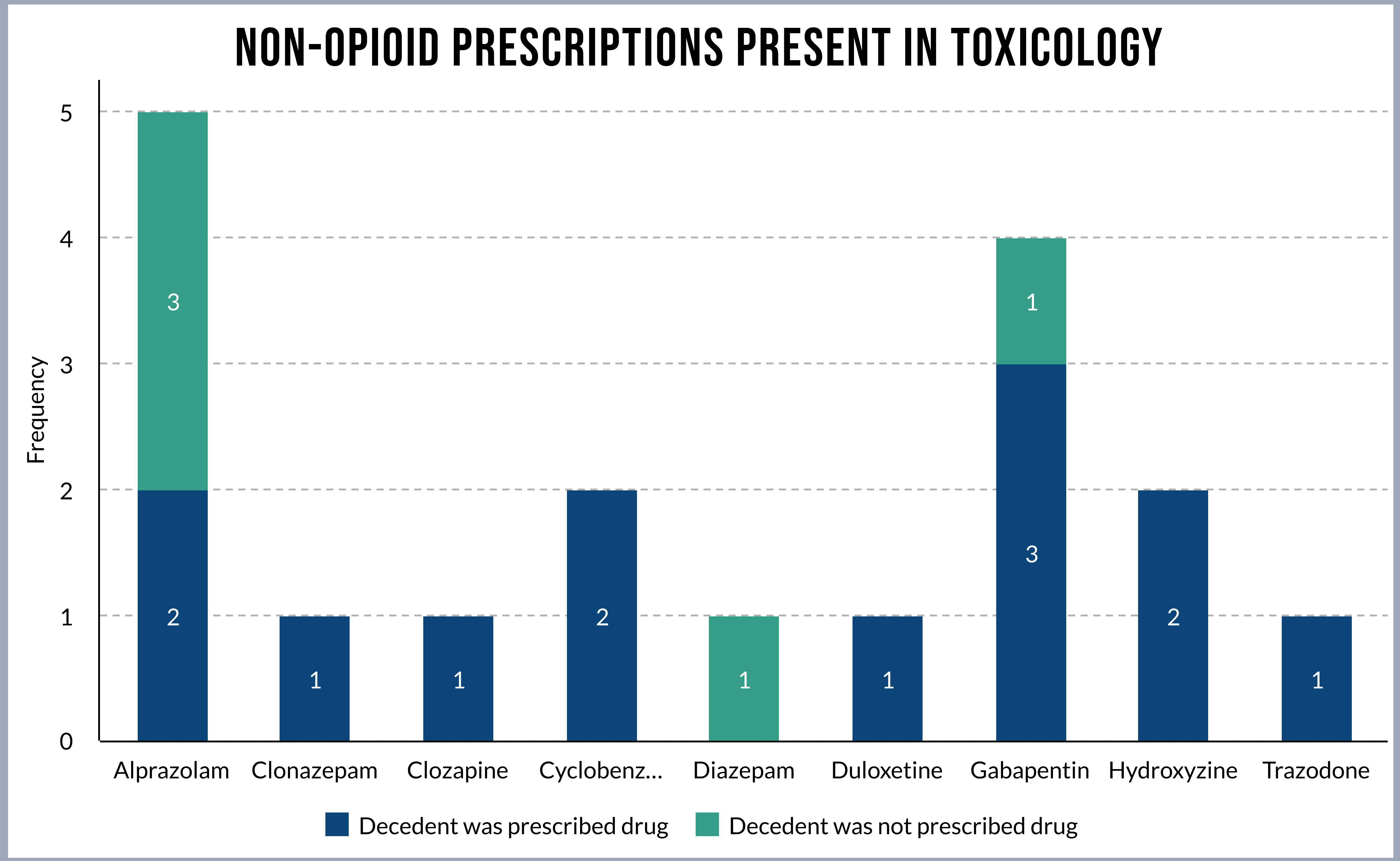


*Please see graphs on the next page for a list of opioid and non-opioid prescriptions.

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Autopsy and Toxicology Results, cont.



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Highlights

OPIOIDS AND POSITIONAL ASPHYXIA

20% (10 of 49) of decedents who died due to an opioid were originally found in a **potentially airway compromising position**

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

0% (0 of 10) of decedents who died due to only non-opioid substance(s) were originally found in a **potentially airway compromising 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

Xylazine
7 deaths

- Only approved use is for veterinarian medicine in horses, cattle, etc.
- Used for sedation, anesthesia, muscle relaxation, and analgesia

Para-Fluorofentanyl
17 deaths

- Analogue of fentanyl that causes similar effects to fentanyl
- Reportedly more toxic than fentanyl but provides lower levels of pain mitigation
- No approved medical use in the United States

Etizolam
1 death

- Benzodiazepine
- Legal in Japan, Italy, and India
- Used for short term treatment of OCD, anxiety, and insomnia

SUBSTANCE COMBINATIONS

HEROIN & FENTANYL

5 decedents had heroin in their toxicology
All 5 of these decedents also had fentanyl in their toxicology

XYLAZINE & FENTANYL

7 decedents had xylazine in their toxicology
All 7 of these decedents also had fentanyl in their toxicology

BENZODIAZEPINES & OPIOIDS

6 decedents had a benzodiazepine and an opioid in their toxicology
0 decedents were prescribed the opioid and benzodiazepine

METHAMPHETAMINE & OPIOIDS

15 decedents had methamphetamine and opioid(s) in their toxicology
All 15 decedents had methamphetamine and fentanyl in their toxicology