

Deaths related to opioids and other drugs

Annual Report 2021

Cass and St. Joseph 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: Cass and St. Joseph counties are combined to protect decedents' identities due to low count numbers ($n < 10$). Counties were combined based on geographic proximity. Cass county started working with this MEO in 2021 and will be excluded from data indicated by an asterisk on page 3.

B=Black/African-American; 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

Cass and St. Joseph County

All drug-related deaths: Cass

Age	Race	Sex	Death certificate: Substances contributing to death	Injury Zip code
25	W	M	fentanyl, heroin, methamphetamine	49112
28	W	M	fentanyl, heroin	49120
29	W	M	fentanyl, heroin, para-fluorofentanyl, xylazine	49047
36	W	F	fentanyl, mitragynine	49047
41	W	M	diphenhydramine, fentanyl, heroin, methamphetamine	49120
42	W	F	amlodipine, citalopram/escitalopram	49031
44	W	F	fentanyl, para-fluorofentanyl	49047
53	W	M	fentanyl, methamphetamine	49061
60	W	F	fentanyl, gabapentin, methamphetamine	49120

Deaths Related to Opioids and Other Drugs

Cass and St. Joseph County

All drug-related deaths: St. Joseph

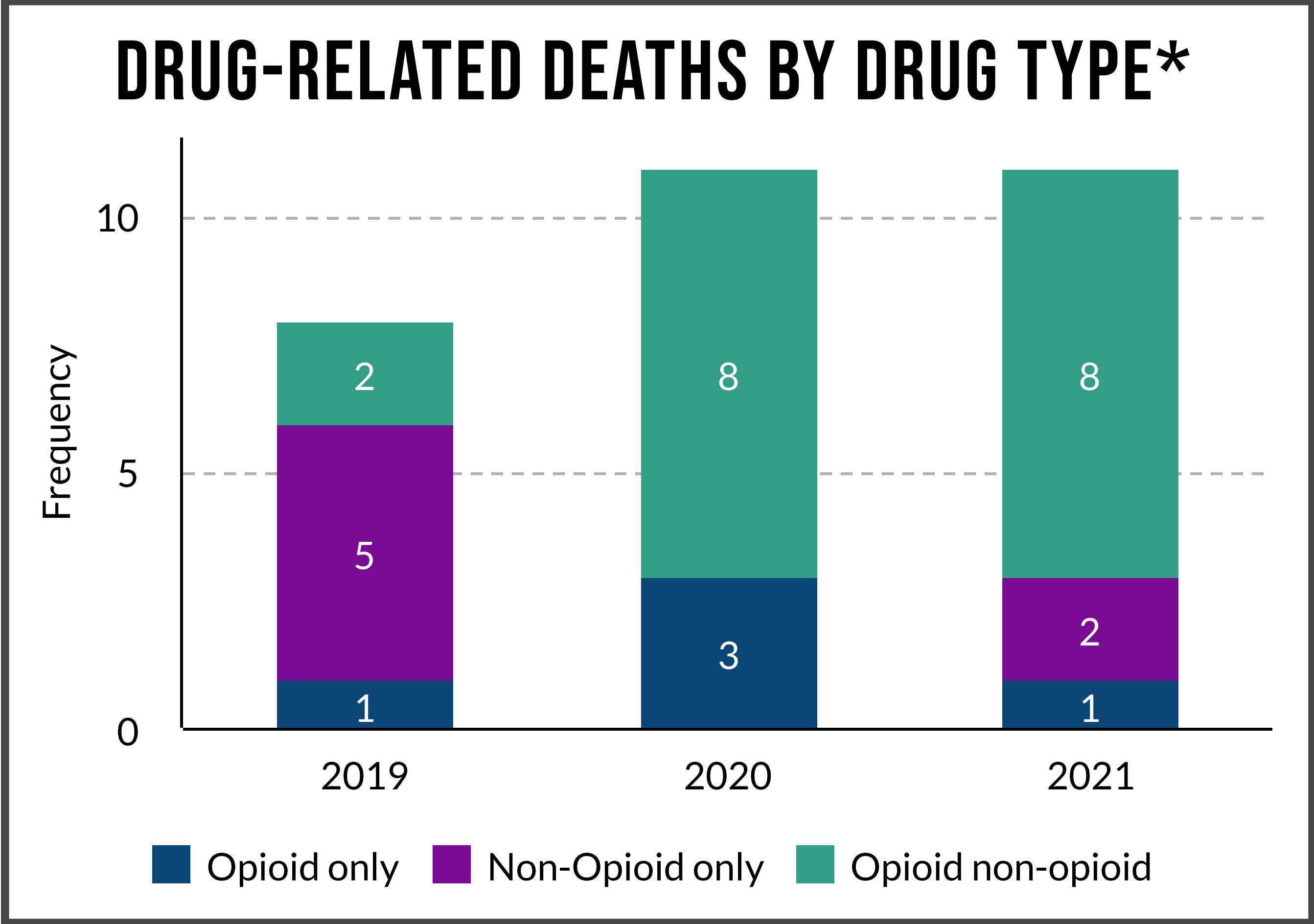
Age	Race	Sex	Death certificate: Substances contributing to death	Injury Zip code
30	B	F	alprazolam, fentanyl, hydrocodone	49093
31	W	F	ethylene glycol	49040
32	B	M	alprazolam, amphetamine, cocaine, fentanyl, methamphetamine	49093
37	W	F	fentanyl, methamphetamine	Unknown
38	W	M	7-amino clonazapam, cyclobenzaprine, fentanyl, hydrocodone	49093
41	W	M	Pt. I: Staphylococcus aureus sepsis, source uncertain; Pt. II: methamphetamine*	Unknown
49	W	F	alprazolam, cyclobenzaprine, methamphetamine	Unknown
59	W	F	Pt. I: Colonic perforation; Pt. II: methamphetamine, morphine, oxycodone, alprazolam, and gabapentin*	49072
60	B	M	cocaine, fentanyl	49093
61	W	M	fentanyl, methamphetamine, morphine, oxycodone	49093

*Not included in report (n=2)

Deaths Related to Opioids and Other Drugs

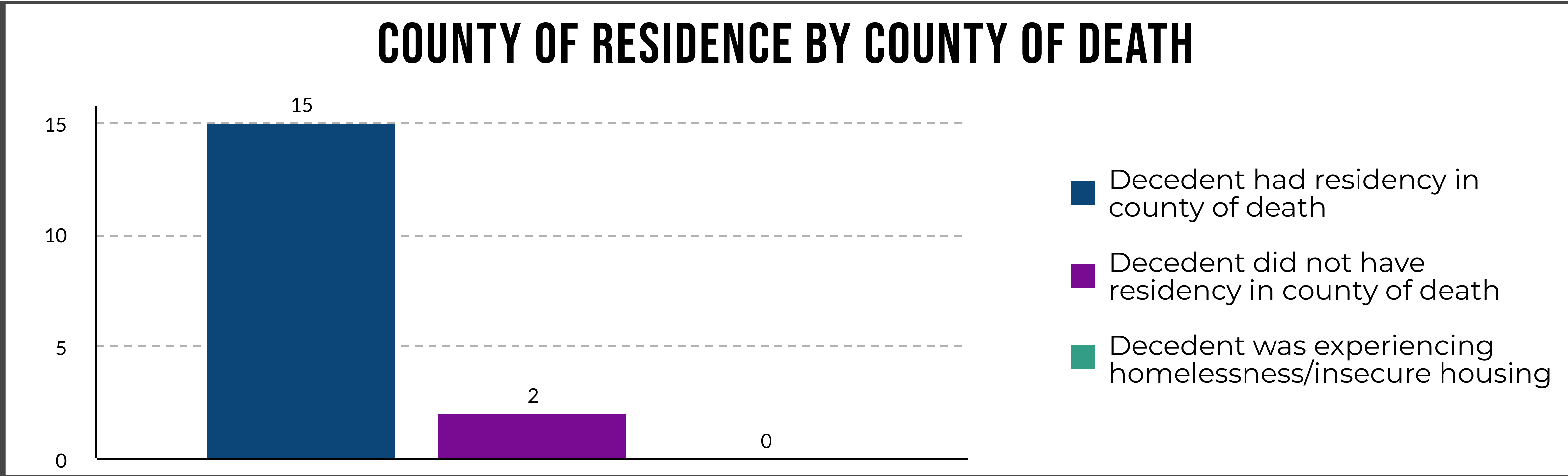
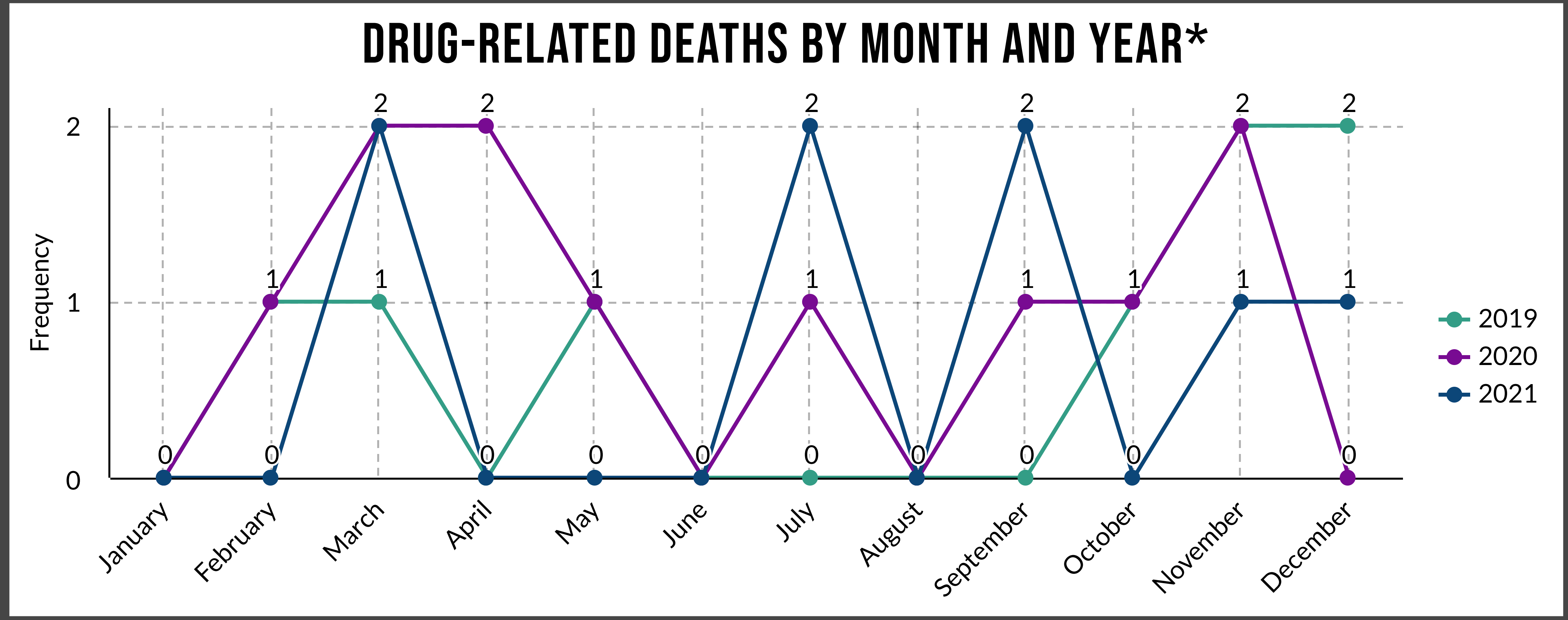
Cass and St. Joseph County

Total Drug-Related Deaths



Year	Total deaths	Deaths per 10,000
2019*	8	1.3
2020*	11	1.8
2021*	8	1.3

*St. Joseph county only

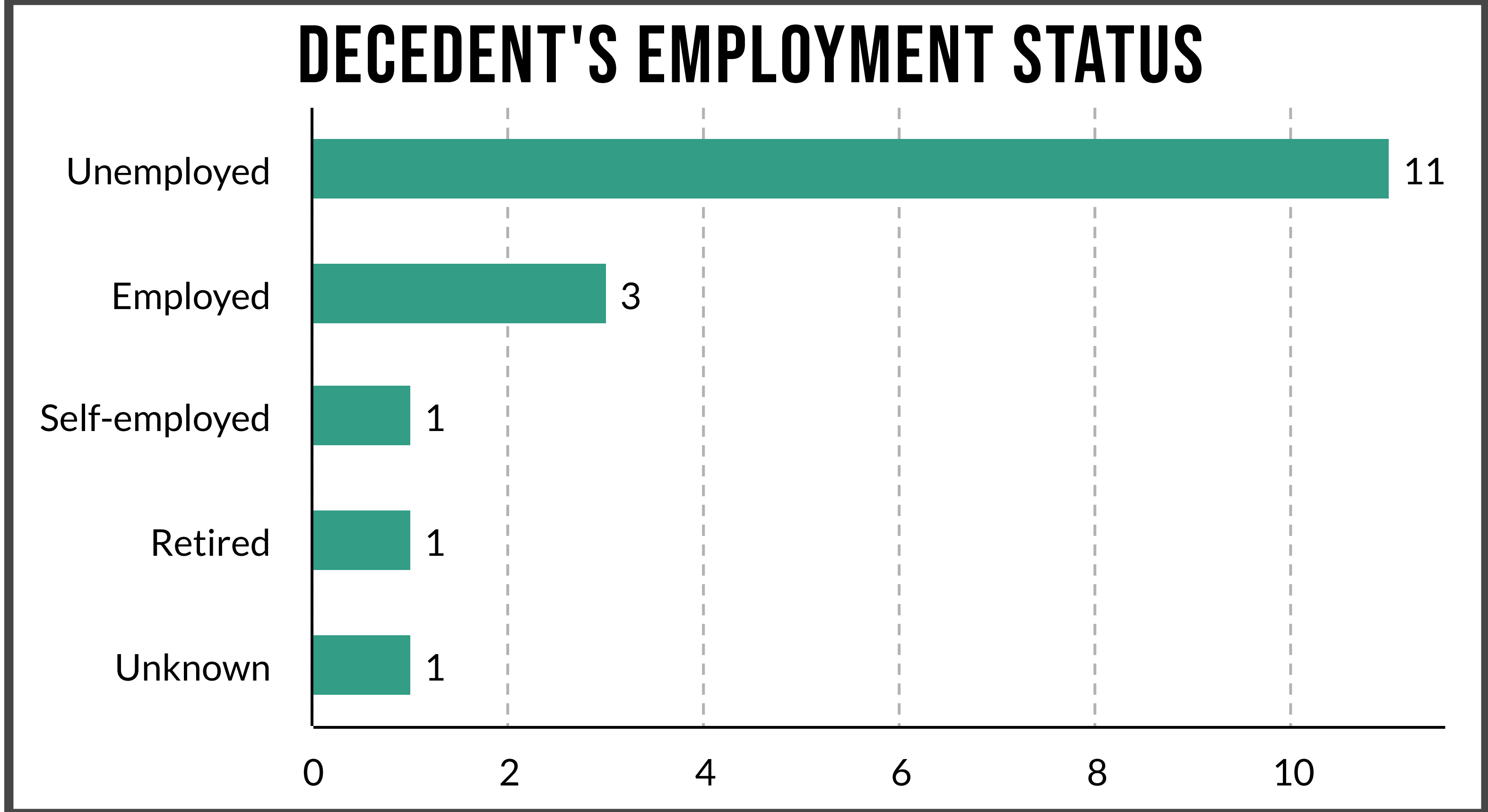


Deaths Related to Opioids and Other Drugs

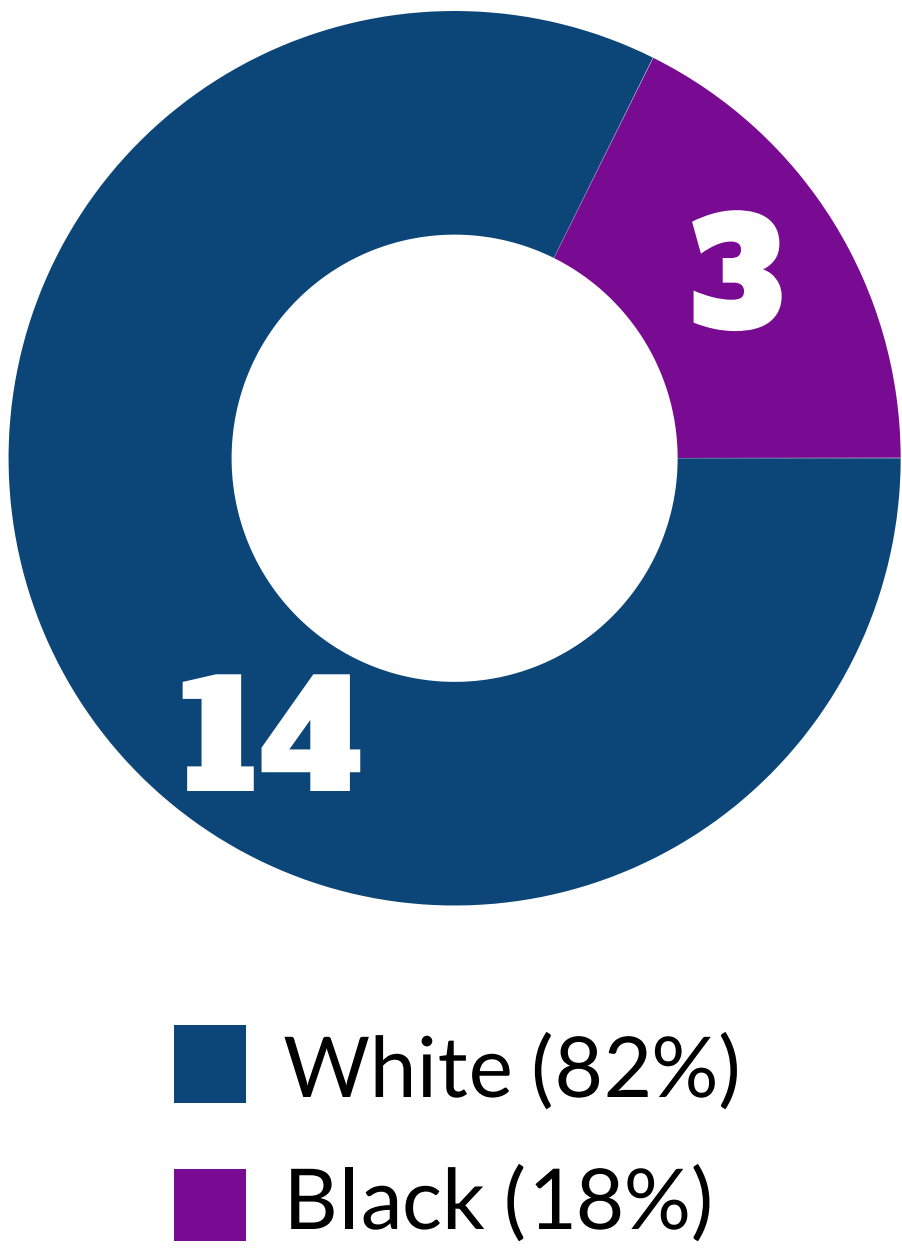
Cass and St. Joseph County

Demographics

DECEDENT'S EMPLOYMENT STATUS



RACE



SEX

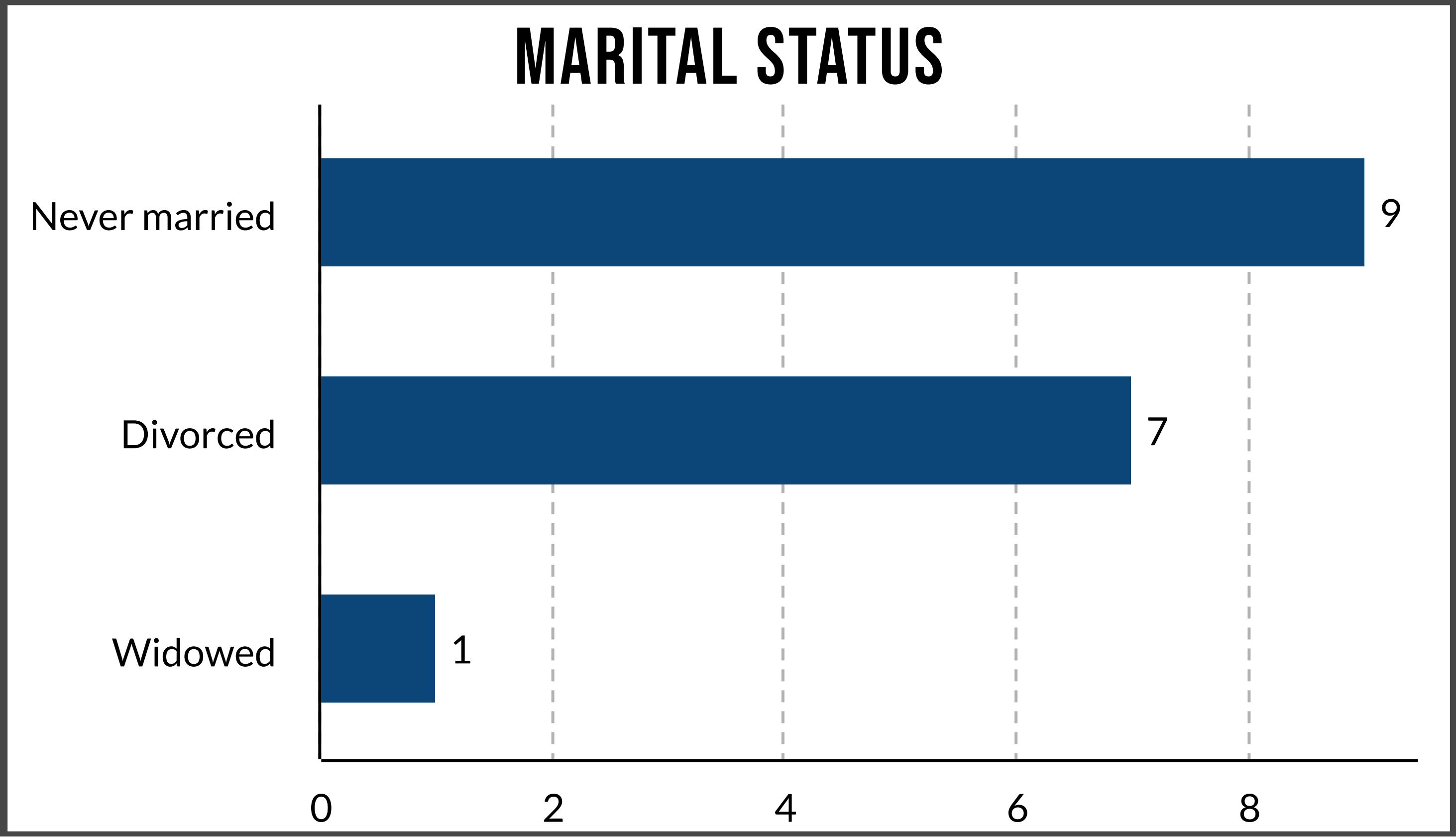


47%



53%

MARITAL STATUS



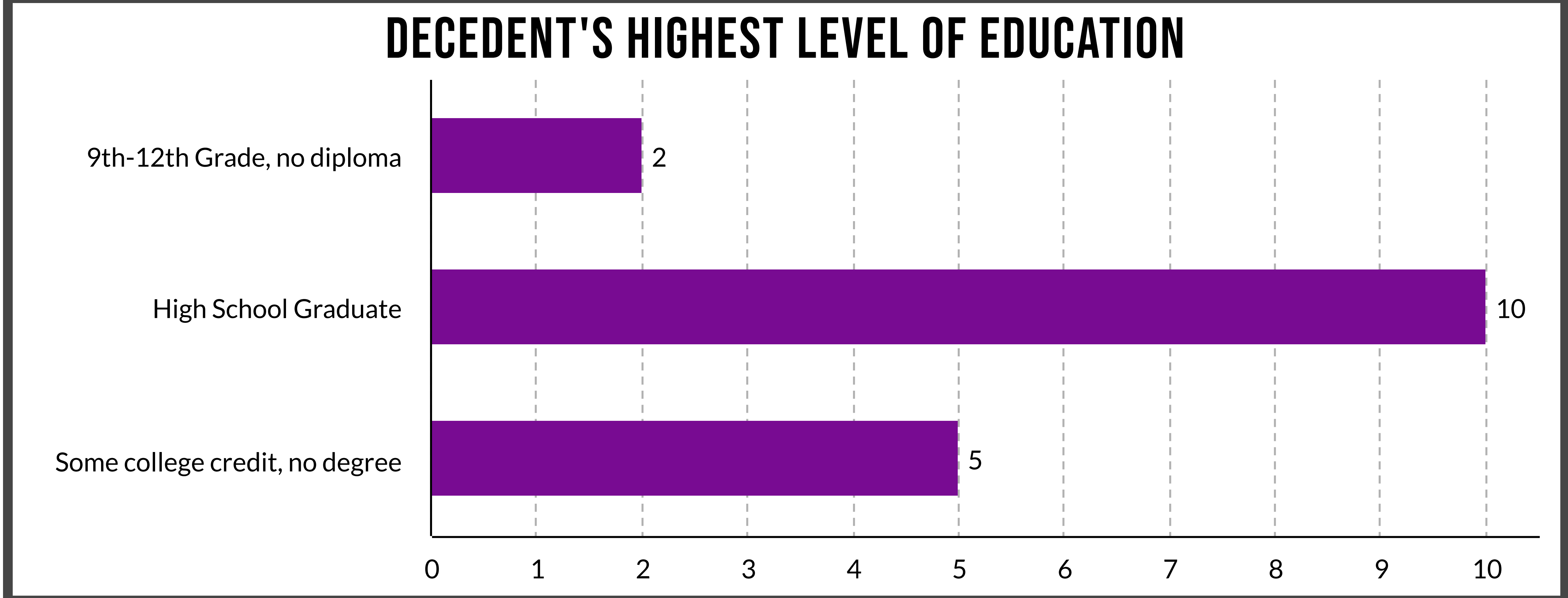
AGE

Minimum Age
25 years

Maximum Age
61 years

Average Age
42 years

DECEDENT'S HIGHEST LEVEL OF EDUCATION

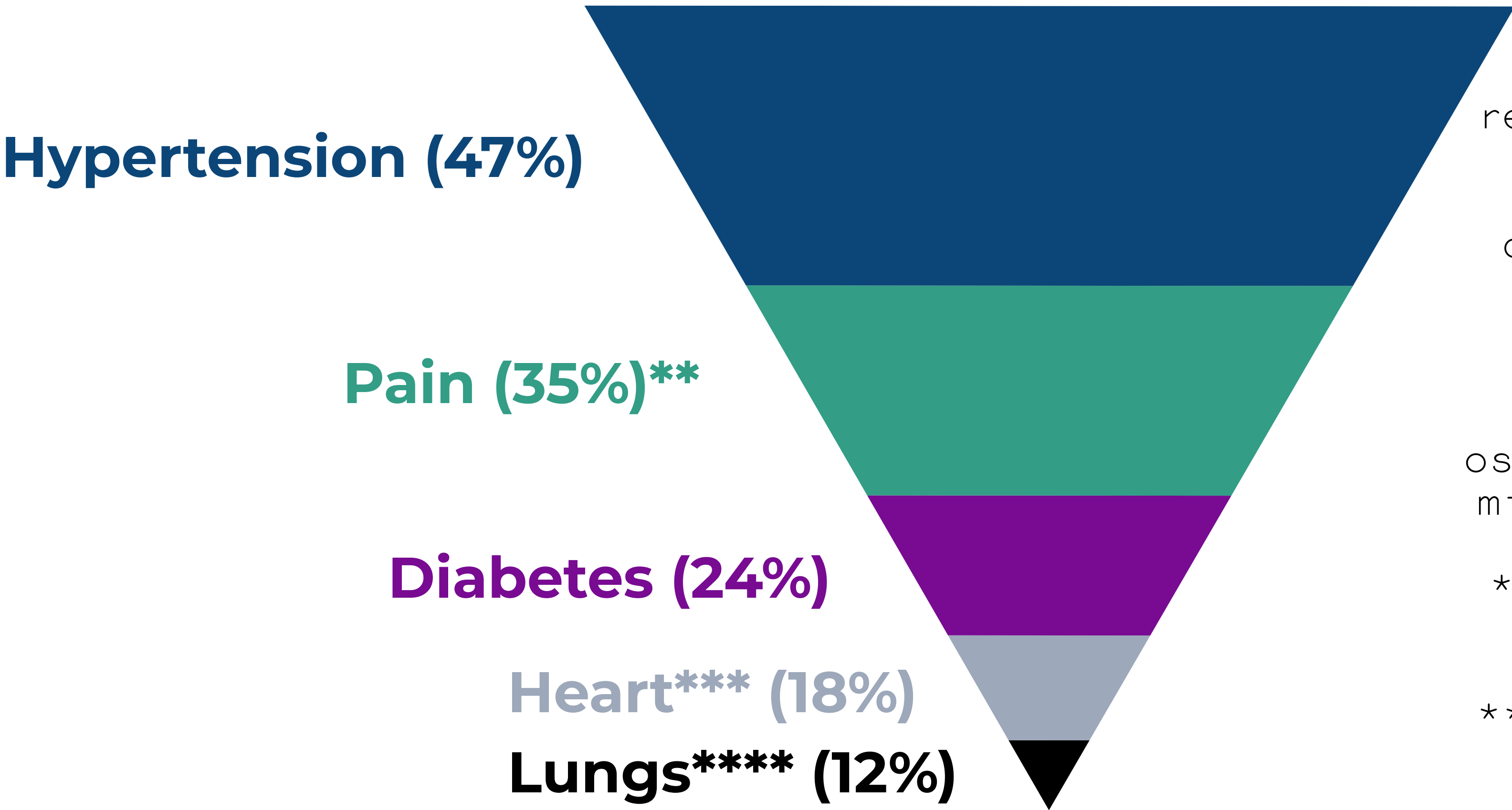


Deaths Related to Opioids and Other Drugs

Cass and St. Joseph County

Health Factors

MOST COMMON AILMENTS*

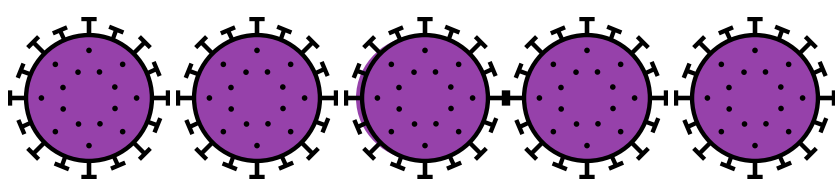


*Decedents may be represented in more than one category.
Only illnesses with diagnosis by a medical professional are included.

**Pain includes osteoarthritis, rib pain, migraines, and back pain

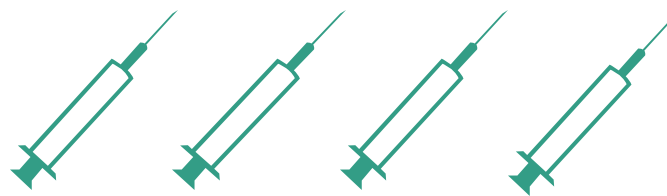
***Heart includes heart murmur and CAD

****Lung includes asthma and COPD
(see end of page)



At least **1** decedent were **Hepatitis C** positive

This decedent was known to use **substances intravenously**



Decedent used tobacco

65%



Decedent drank alcohol

35%



*Moderate to heavy use

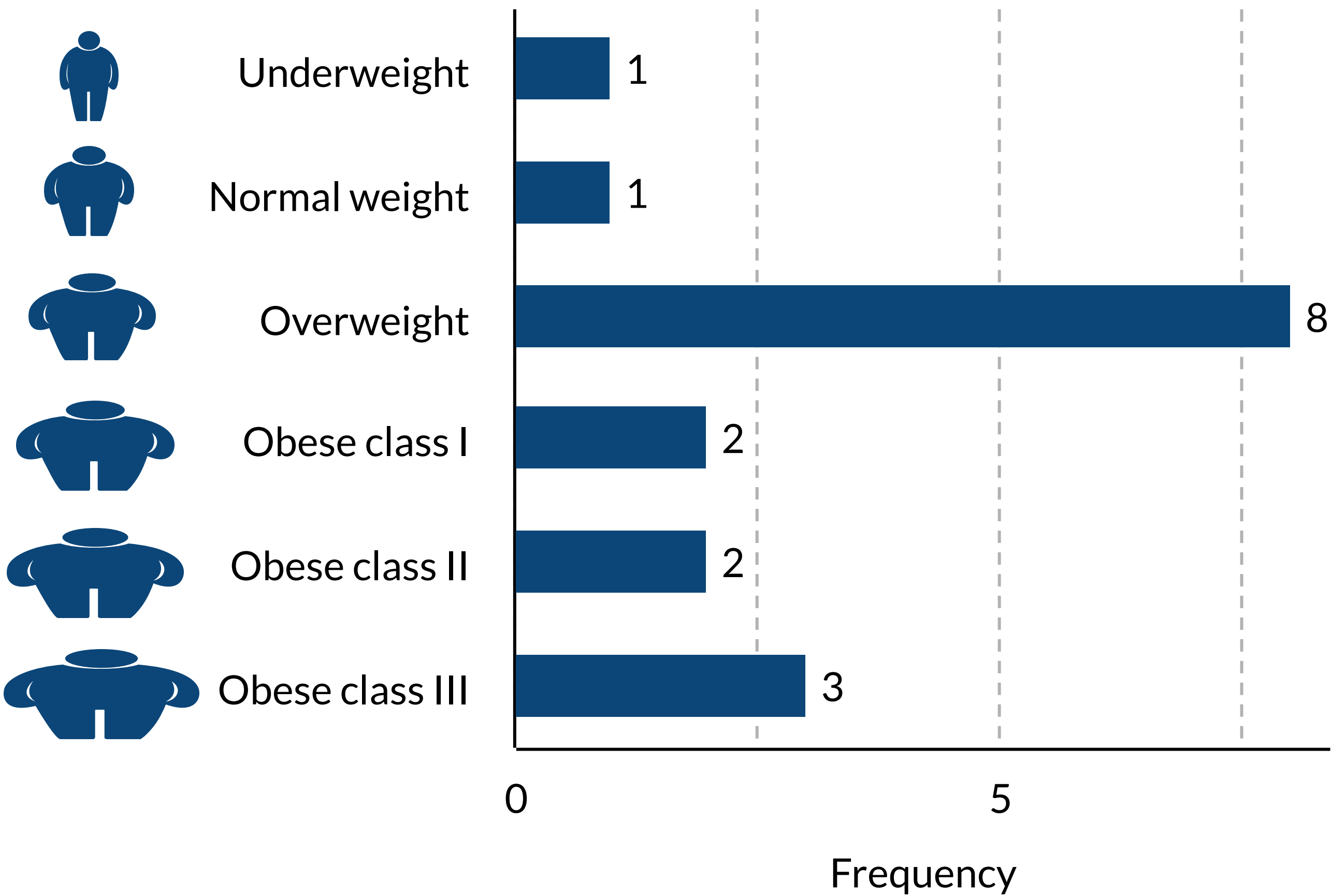
Decedent had a PCP*

59%



*Primary care physician

BODY MASS INDEX (BMI)



COPD=Chronic obstructive pulmonary disease; CAD=Coronary artery disease

Deaths Related to Opioids and Other Drugs

Cass and St. Joseph County

Mental Health Factors

MOST COMMON MENTAL ILLNESSES

Depression (29%)

Anxiety (24%)

Bipolar (6%)
ADHD/ADD (6%)

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

PERCENTAGE OF DECEDENTS

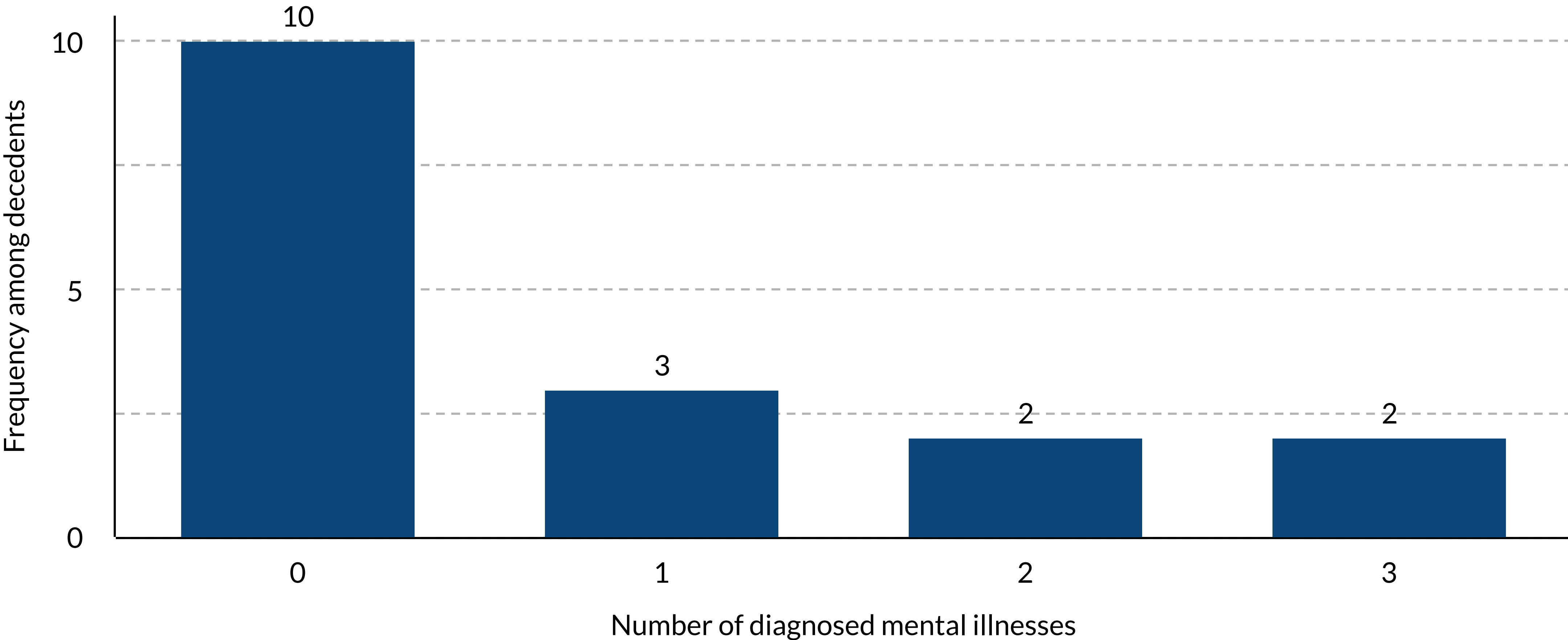
24%

...who have ever had **suicidal ideation**

12%

...with **previous suicide attempts**

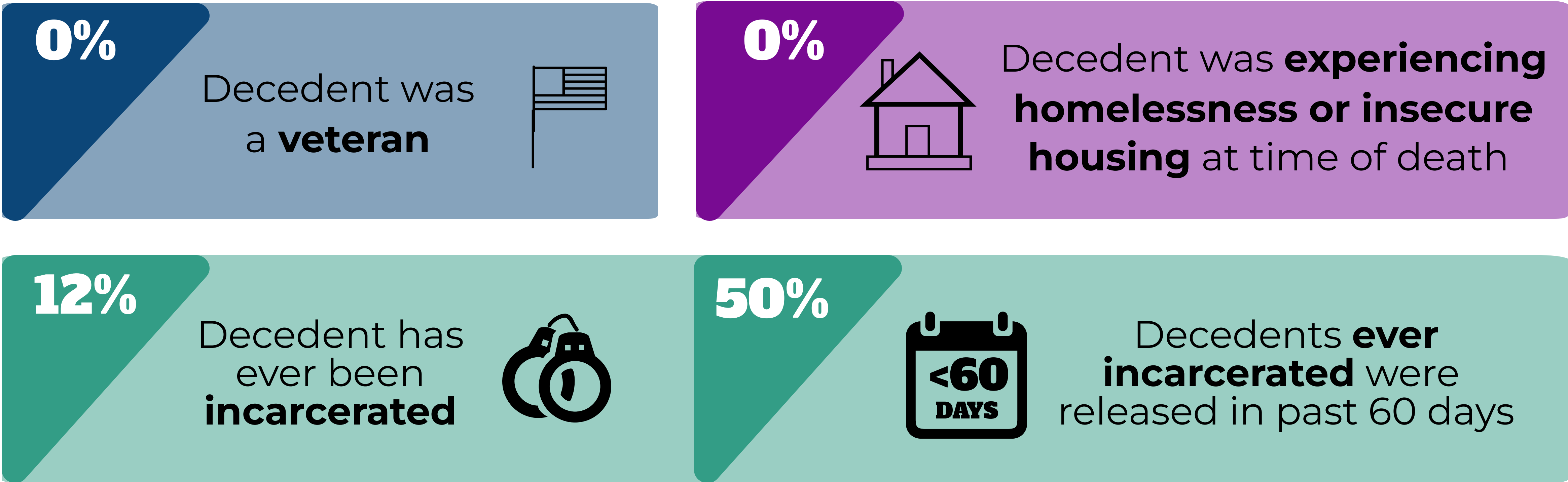
NUMBER OF DIAGNOSED MENTAL ILLNESSES AMONG DECEDENTS



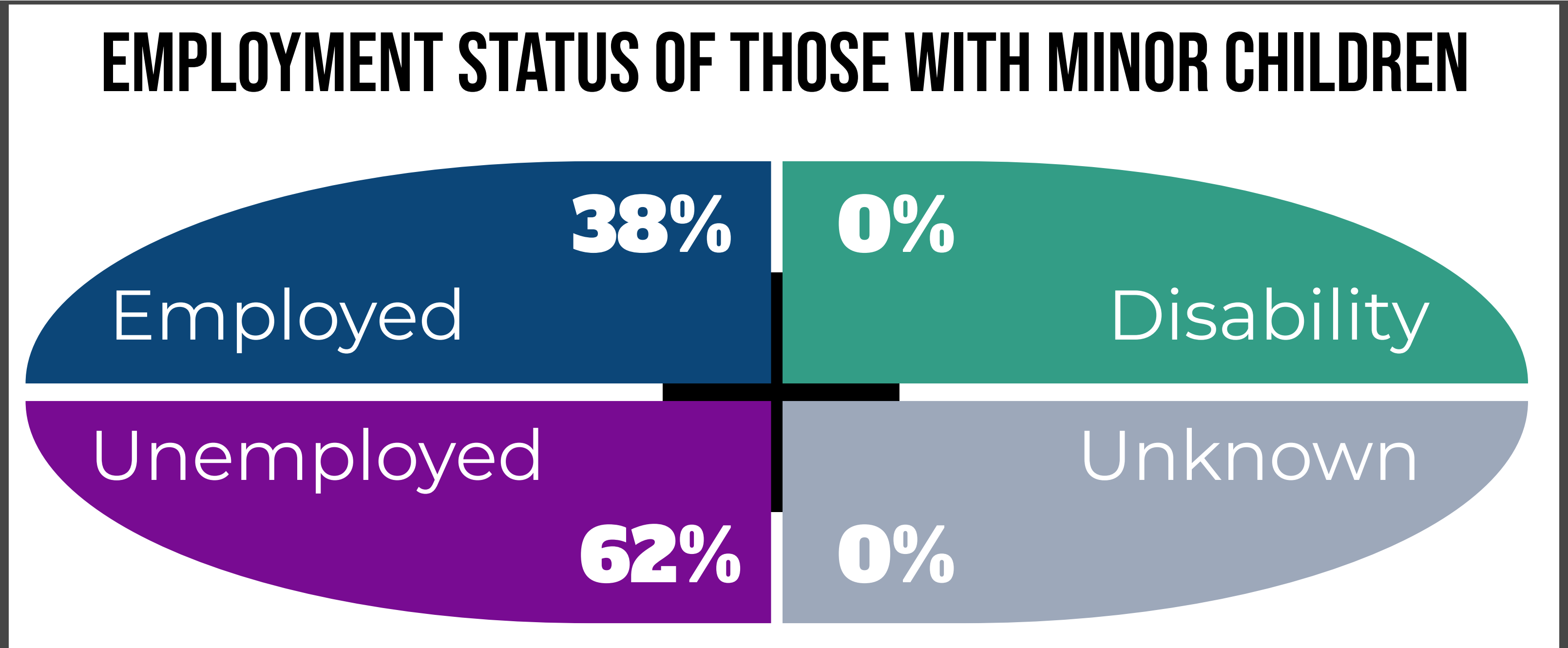
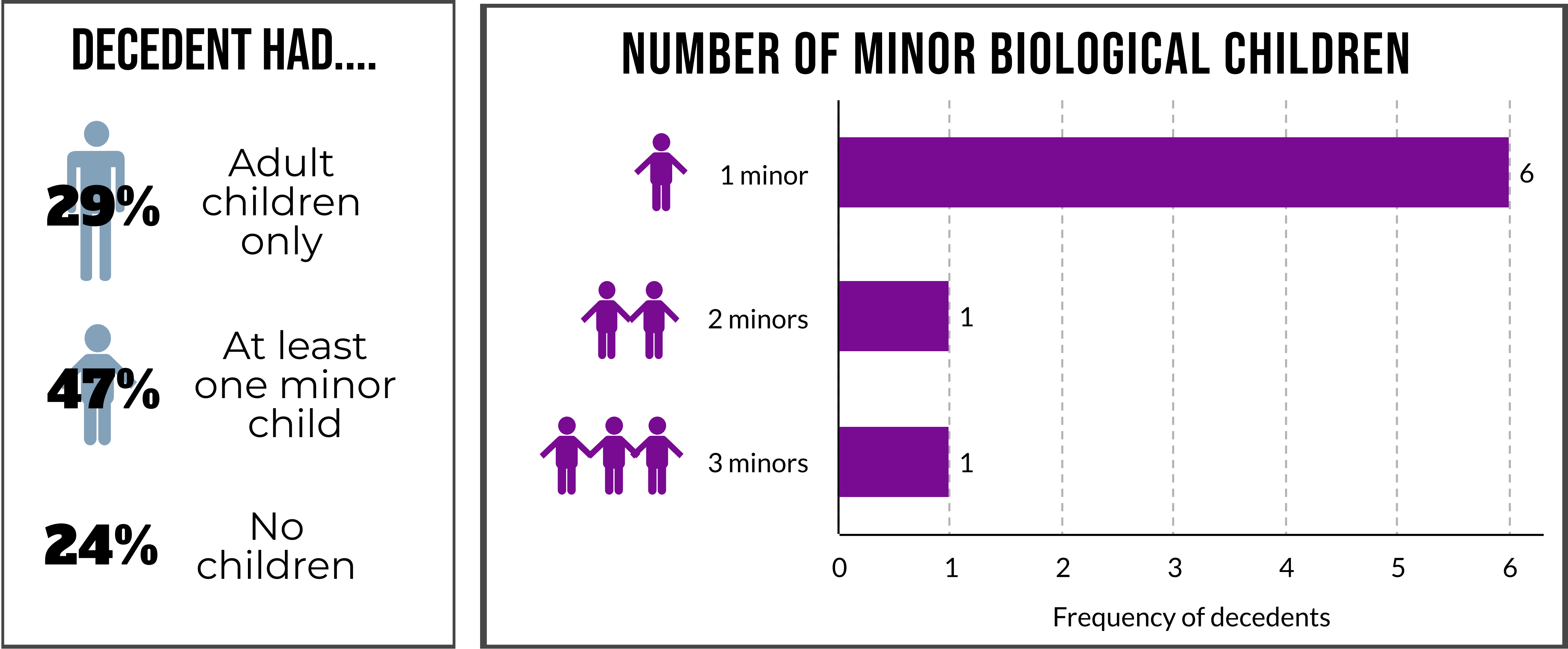
Deaths Related to Opioids and Other Drugs

Cass and St. Joseph County


Social Factors



Children



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

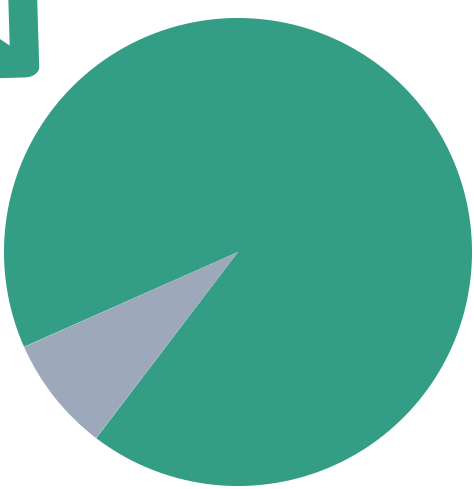


Deaths Related to Opioids and Other Drugs

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Substance Use History

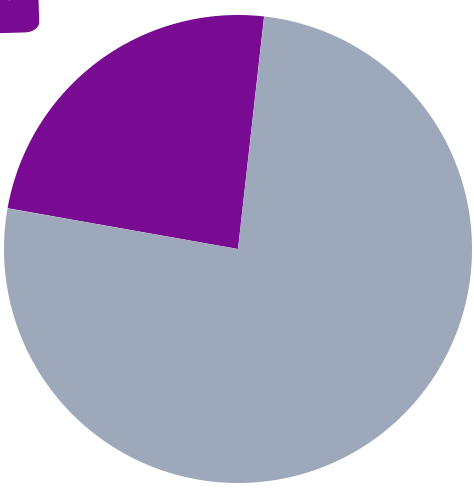
At least 88% of decedents were known to use or abuse substances



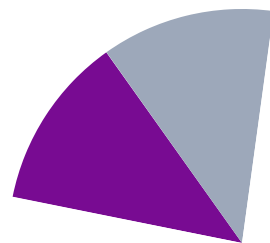
At least 20% of those decedents used substances intravenously



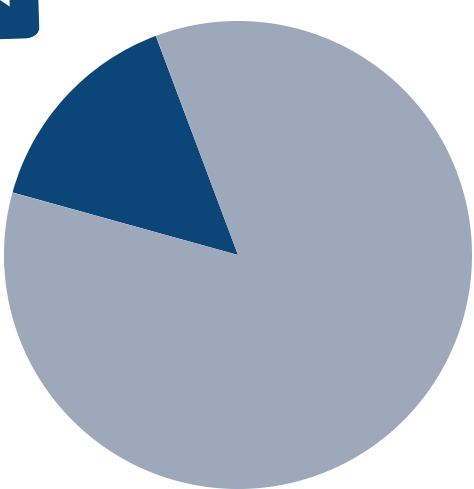
At least 24% of decedents have had at least one prior overdose



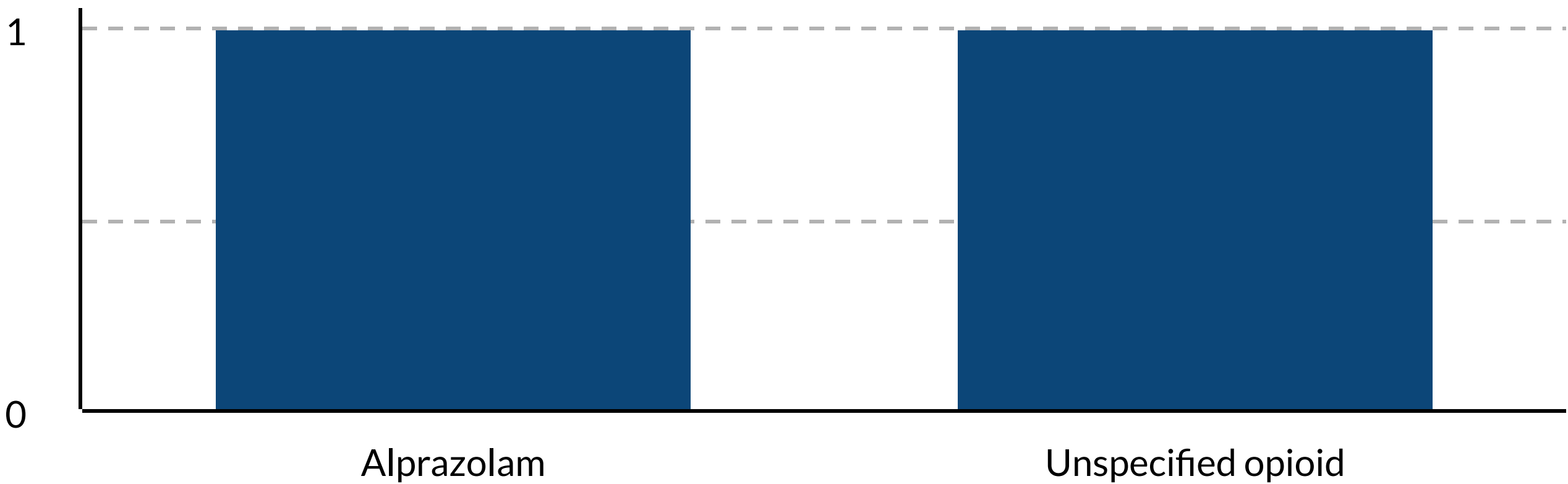
50% of those decedents have had two or more prior overdoses



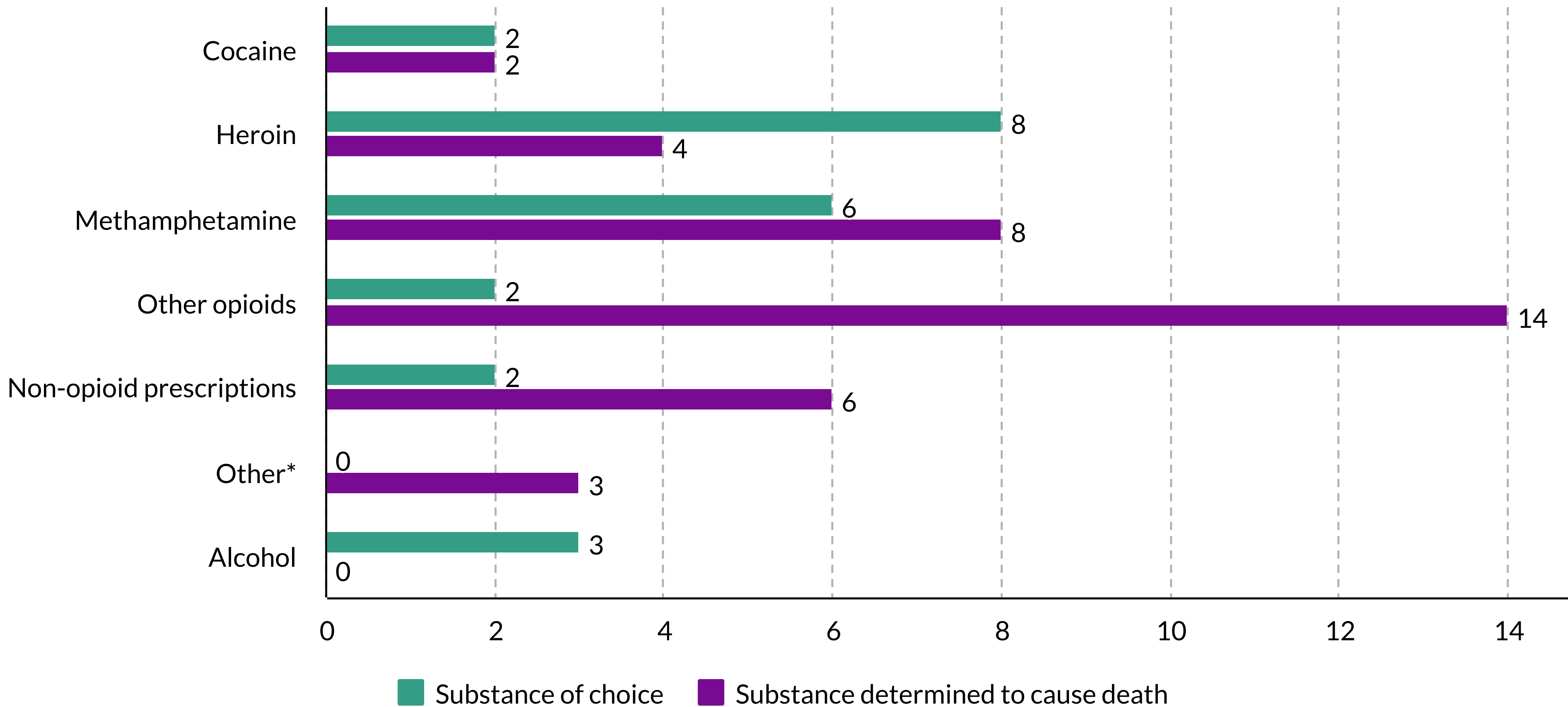
At least 12% of decedent's substance use started from a prescription



TYPE OF PRESCRIPTION



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: Data for two decedent's substance use history is unknown.
Other substance causing death includes ethylene glycol, diphenhydramine, and xylazine.

Deaths Related to Opioids and Other Drugs

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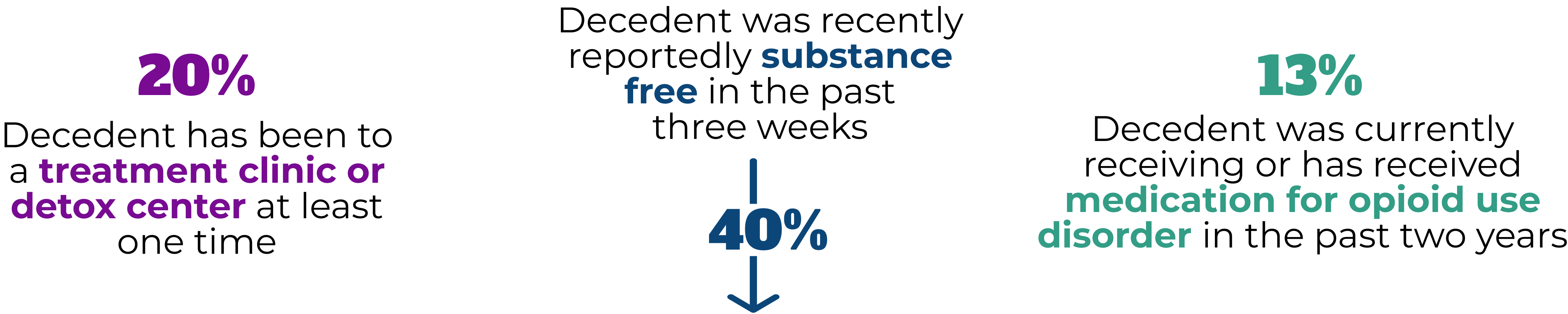
Substance Use History, cont.

PREFERRED METHOD OF ADMINISTRATION*

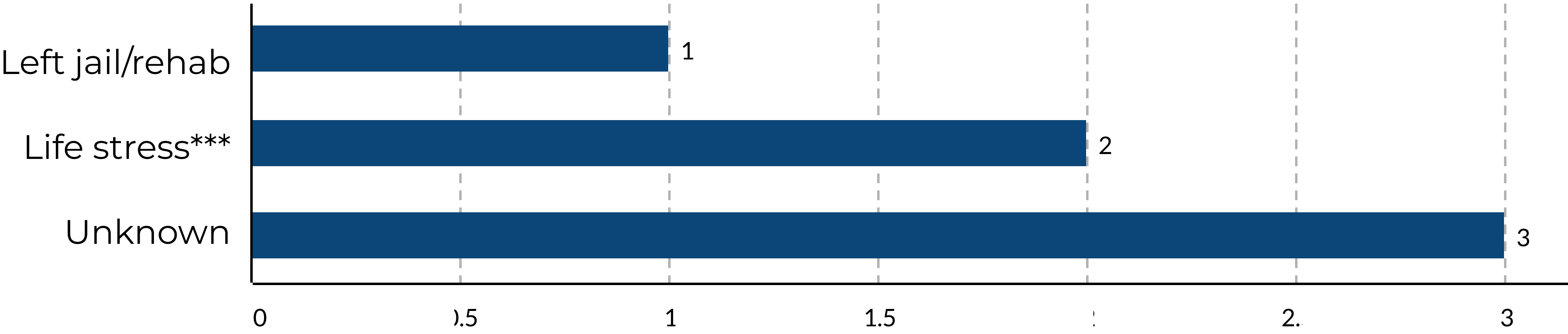
Method	Male (n=8)	Female (n=7)	White (n=13)	Black (n=2)	Total (n=15)
Intravenous	3	0	3	0	3
Snort	4	1	4	1	5
Smoke	4	0	3	1	4
Transdermal	0	1	1	0	1
Huff	0	0	0	0	0
Oral	2	4	5	1	6
Unknown	1	2	3	0	3

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

RECOVERY HISTORY (N=15)*



SUSPECTED REASON FOR RELAPSE**

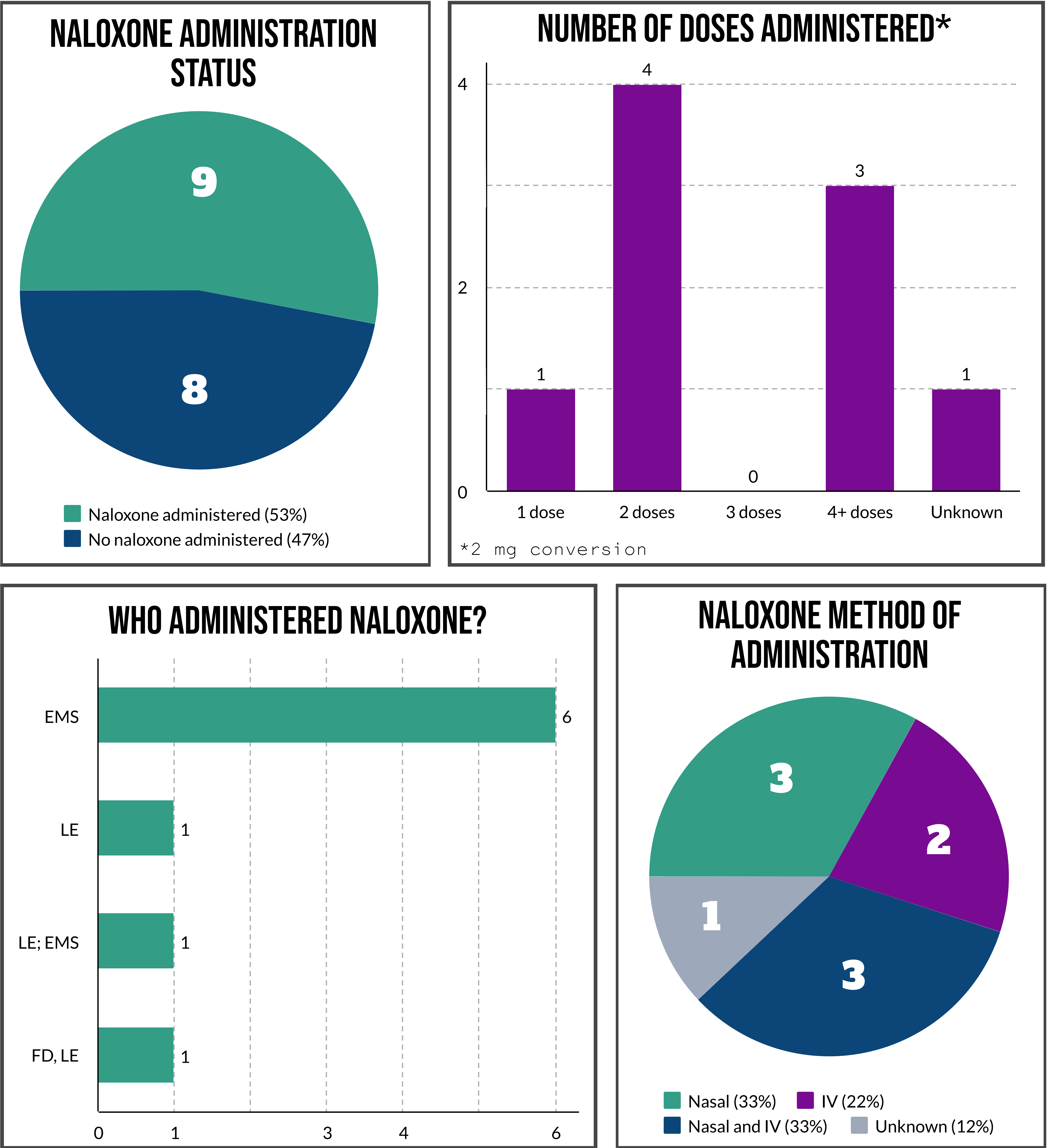


*ONLY Decedents known to use substances are included.
**These factors were mentioned by those close to the decedent for why they may have begun to use substances again after being substances free for at least three weeks.
***Life stress includes significant pain and death of family member.

Deaths Related to Opioids and Other Drugs

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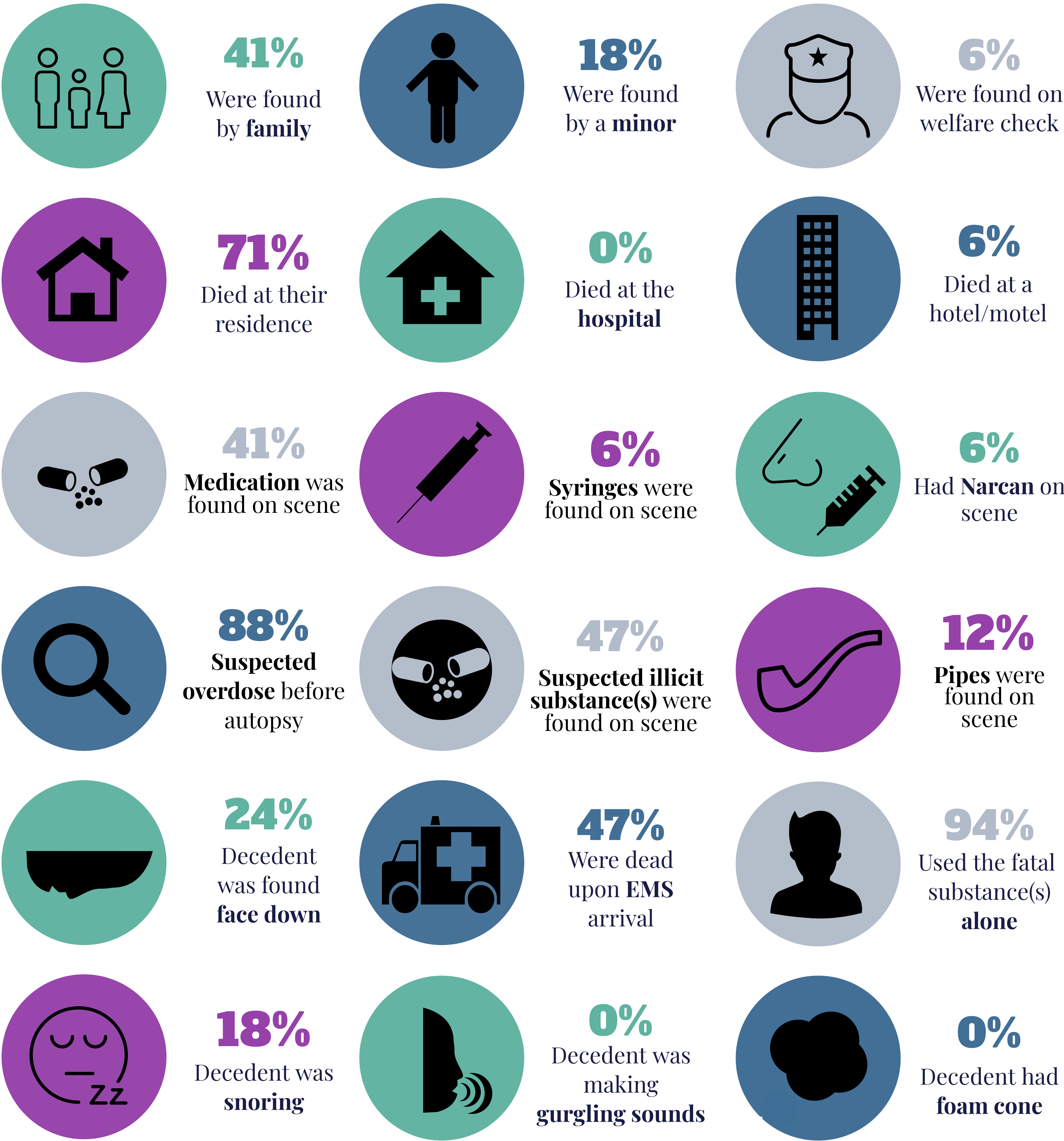
Naloxone Administration



Deaths Related to Opioids and Other Drugs

Cass and St. Joseph County

Death Scene Findings

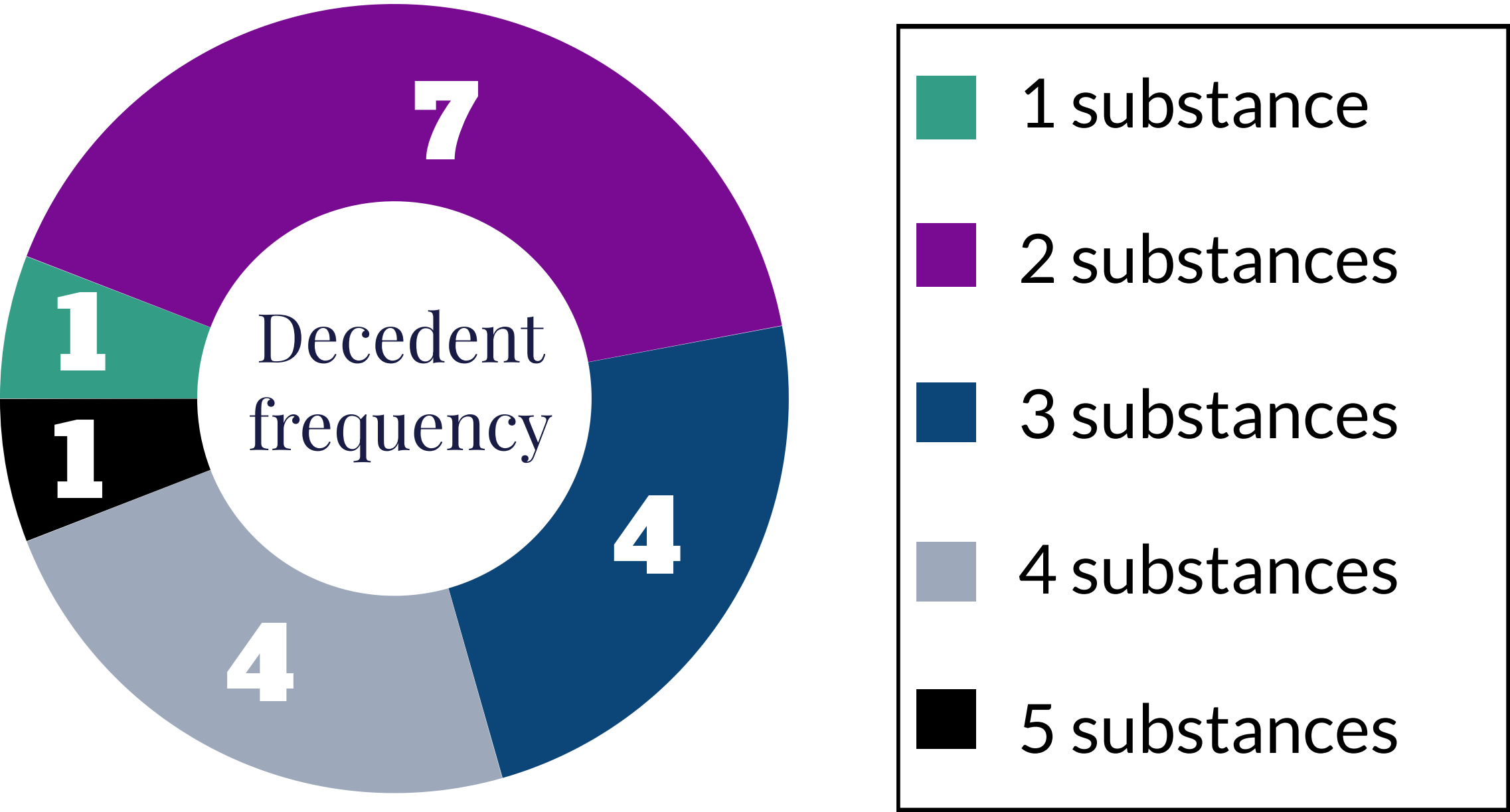


Deaths Related to Opioids and Other Drugs

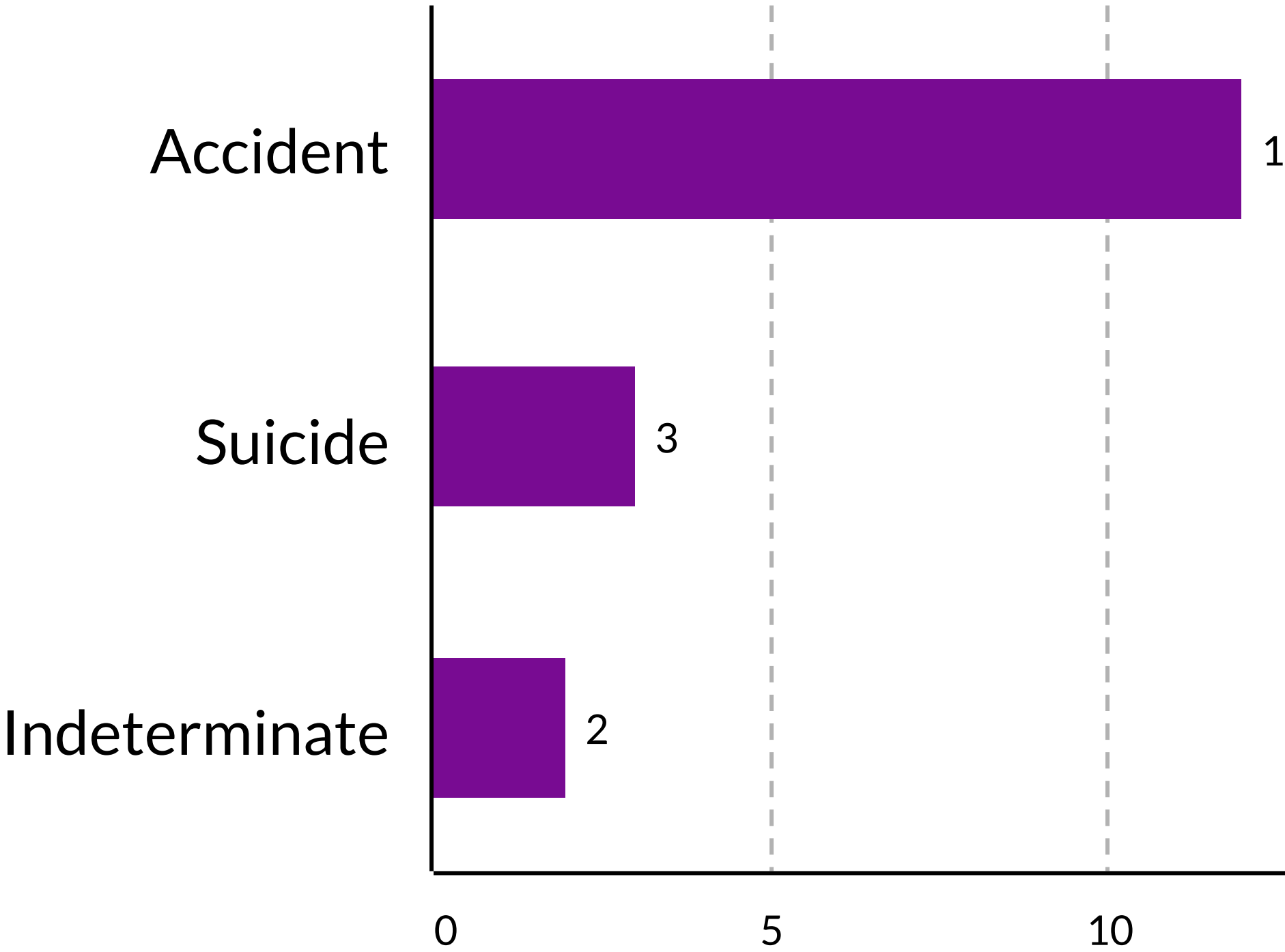
Cass and St. Joseph County

Autopsy and Toxicology Results

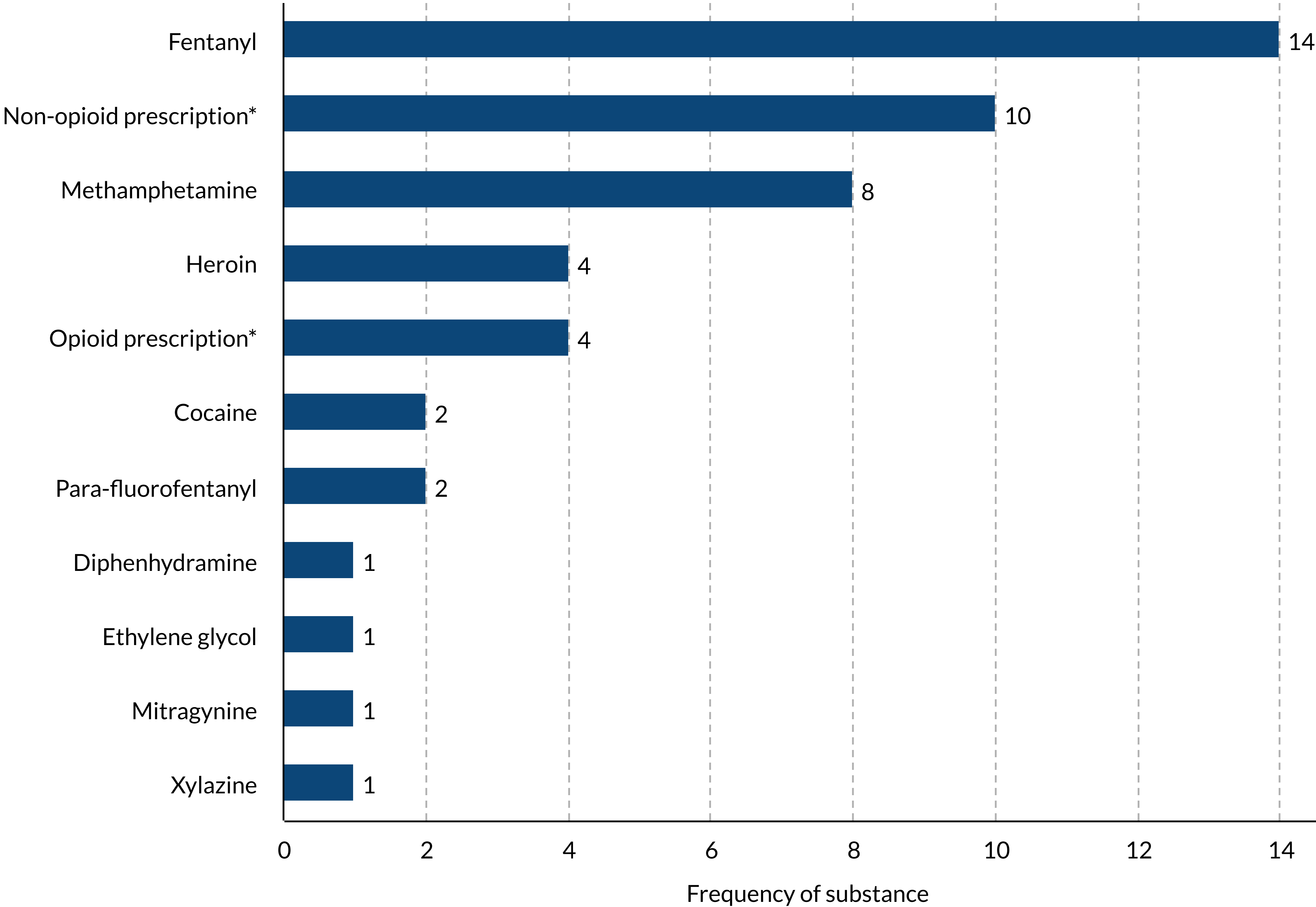
NUMBER OF SUBSTANCES
CONTRIBUTING TO DEATH



MANNER OF DEATH



SUBSTANCES CONTRIBUTING TO DEATH

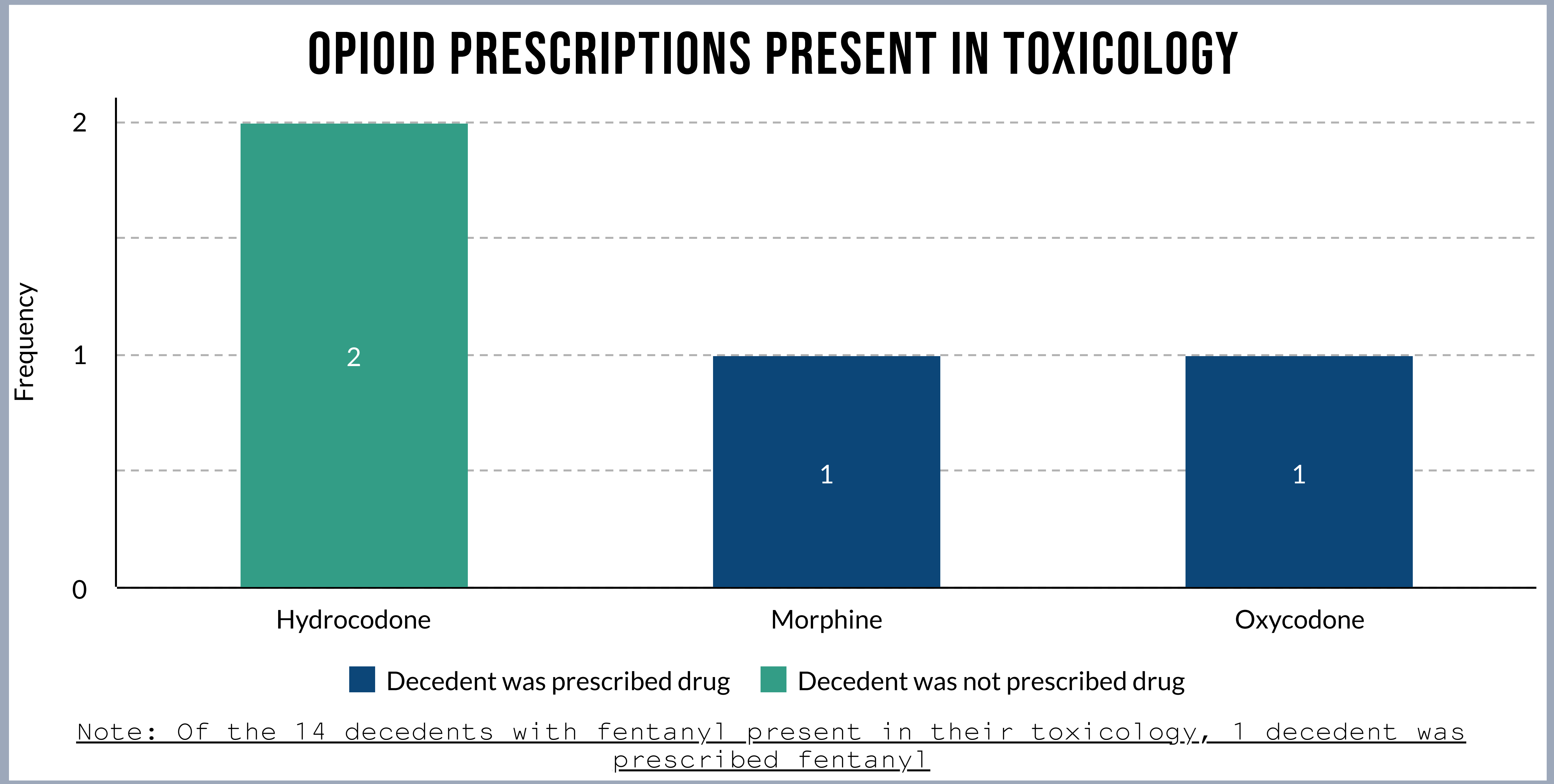
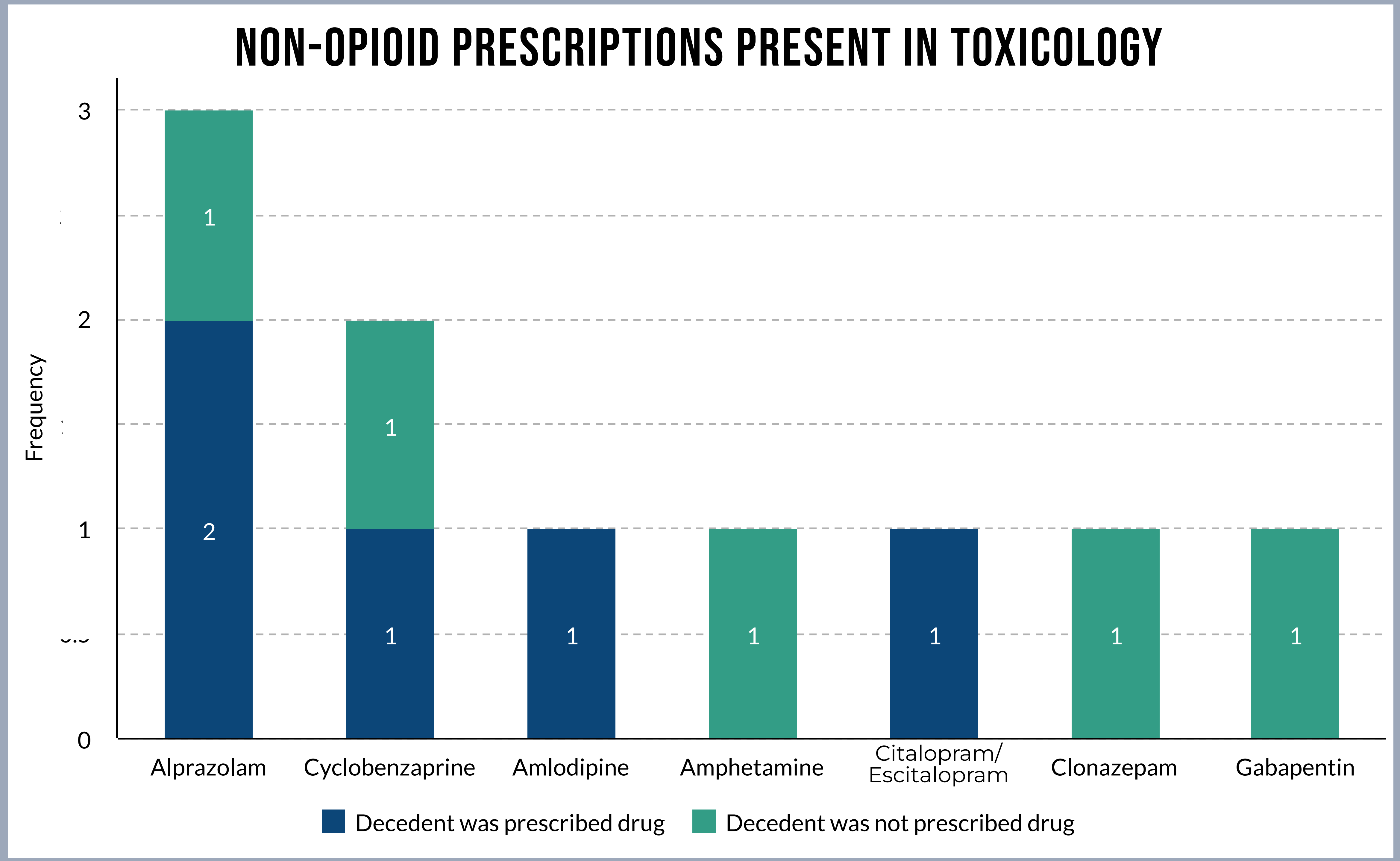


*Please see graphs on the next page for a list of opioid and non-opioid prescriptions.

Deaths Related to Opioids and Other Drugs

Cass and St. Joseph County

Autopsy and Toxicology Results, cont.



Deaths Related to Opioids and Other Drugs

Cass and St. Joseph County

Highlights

OPIOIDS AND POSITIONAL ASPHYXIA

25% (3 of 12) of decedents who died due an opioid were originally found in a **potentially airway compromising position**

These positions include decedent found face down on the floor or their bed

0% (0 of 1) 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

1 death

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

Para-Fluorofentanyl

2 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 of these decedents also had fentanyl in their toxicology

XYLAZINE & FENTANYL

1 decedent had xylazine in their toxicology

This decedent also had fentanyl in their toxicology

BENZODIAZEPINES & OPIOIDS

2 decedents had a benzodiazepine and an opioid in their toxicology

Neither decedent was prescribed the opioid and benzodiazepine

METHAMPHETAMINE & OPIOIDS

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

All of these decedents had methamphetamine and fentanyl in their toxicology