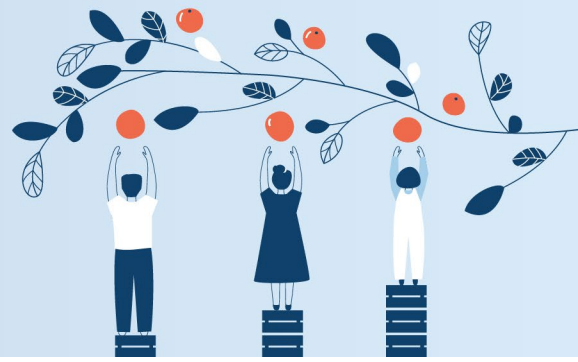


# Parents who Died Due to Drug Poisoning

Michigan  
2000-2022



## Key Findings

- **More than 10,000** drug poisoning deaths occurred between 2000-2022 among parents to at least one minor child in Michigan.
- At the time of a drug poisoning death between 2000-2022, parents, on average, had **one to two minor children** in Michigan.
- **Iosco, Genesee and St. Clair** counties had the **highest rates of parents** who died due to drug poisoning between 2018-2022 and had at least one minor child in Michigan.

## Background

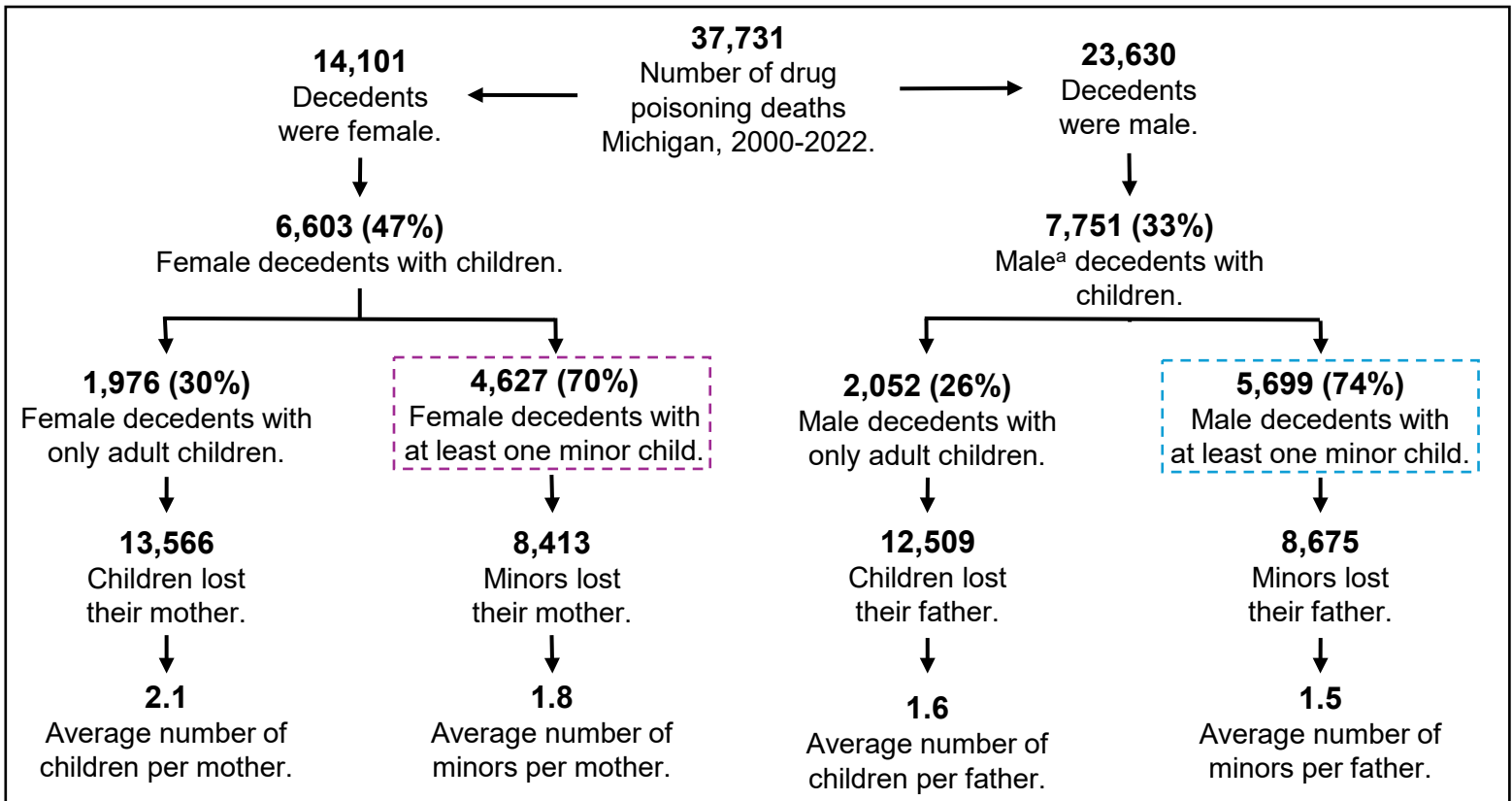
The loss of a parent presents challenges to their children and remaining caregivers. A meta-analysis and research using Adverse Childhood Experiences (ACEs) data found that the children of parents who use substances are more likely to be avoidant in social situations, have emotional and behavioral issues and perform poorly in school.<sup>1,2,3</sup> Support for parents seeking substance use disorder (SUD) treatment presents challenges as well. The National Survey on Drug Use and Health (NSDUH) found SUD treatment access is financially more burdensome for parents than non-parents.<sup>4</sup> Additionally, 35% of SUD treatment facilities offer specifically tailored programming for pregnant or postpartum people, less than 5% of SUD treatment facilities offer child care for the clients' children and less than 3% have residential beds for clients' children in the United States in 2023.<sup>4</sup>

The Michigan Department of Health and Human Services (MDHHS) conducted a linkage of birth and death certificates to identify decedents that were parents and died by drug poisoning to assess the need of support to SUD treatment-seeking parents with minor children.

## Methods

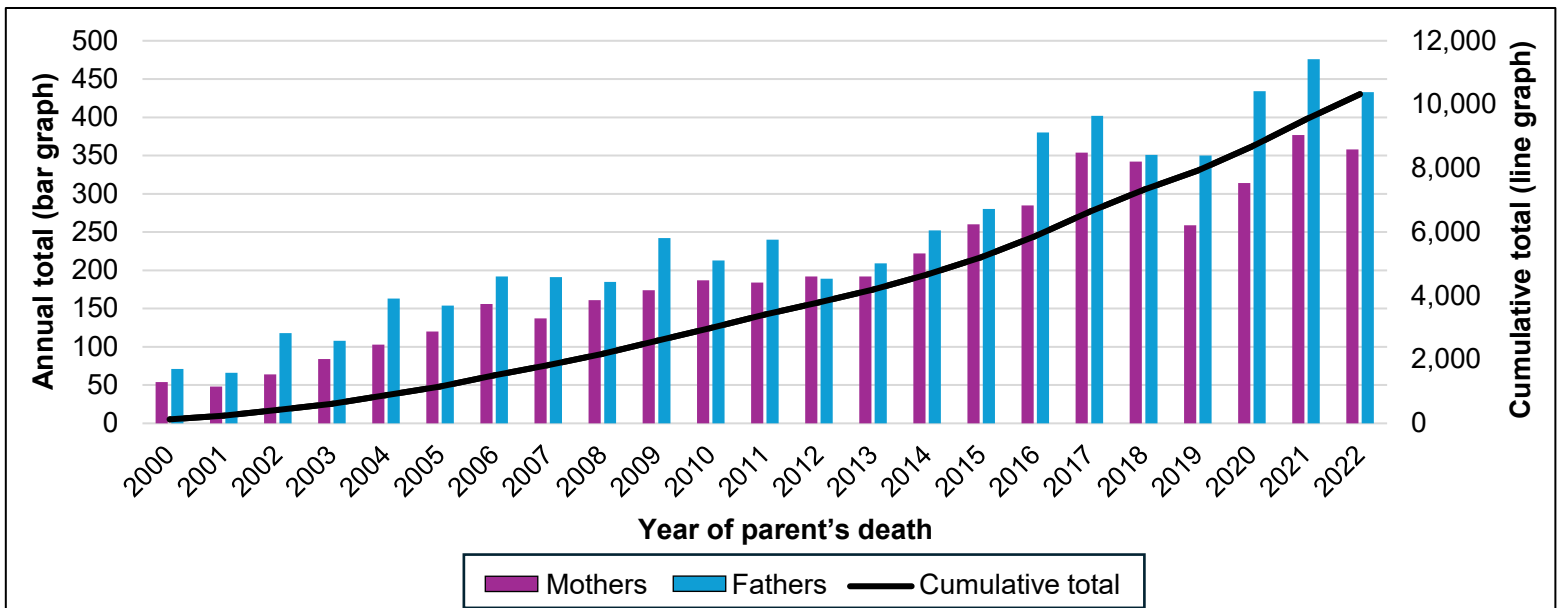
Death certificates of Michigan residents who died due to any cause between 2000-2022 were linked to birth certificates between 1989-2022 by matching the biological parent's first name, last name and date of birth. These linked records were then restricted to parental deaths due to drug poisoning (ICD-10 codes X40-X49, X60-X694, X85-X90 and Y10-Y19) and those instances in which the decedent had at least one minor child (less than 18 years old) at time of death. Statistics and trends pertaining to parents who died due to drug poisoning with at least one minor child were derived from variables on both the birth and death certificate and are reported here. Rates were calculated using population data from the Census Bureau.<sup>5</sup>

**Figure 1.** Inclusion and exclusion criteria.



This brief will explore the **10,326 parents** who died due to drug poisoning between 2000 and 2022 and had at least one minor child born between 1989 and 2022.

**Figure 2.** Annual and cumulative drug poisoning deaths between 2000-2022 by year among parents with at least one minor child born between 1989-2022, Michigan.

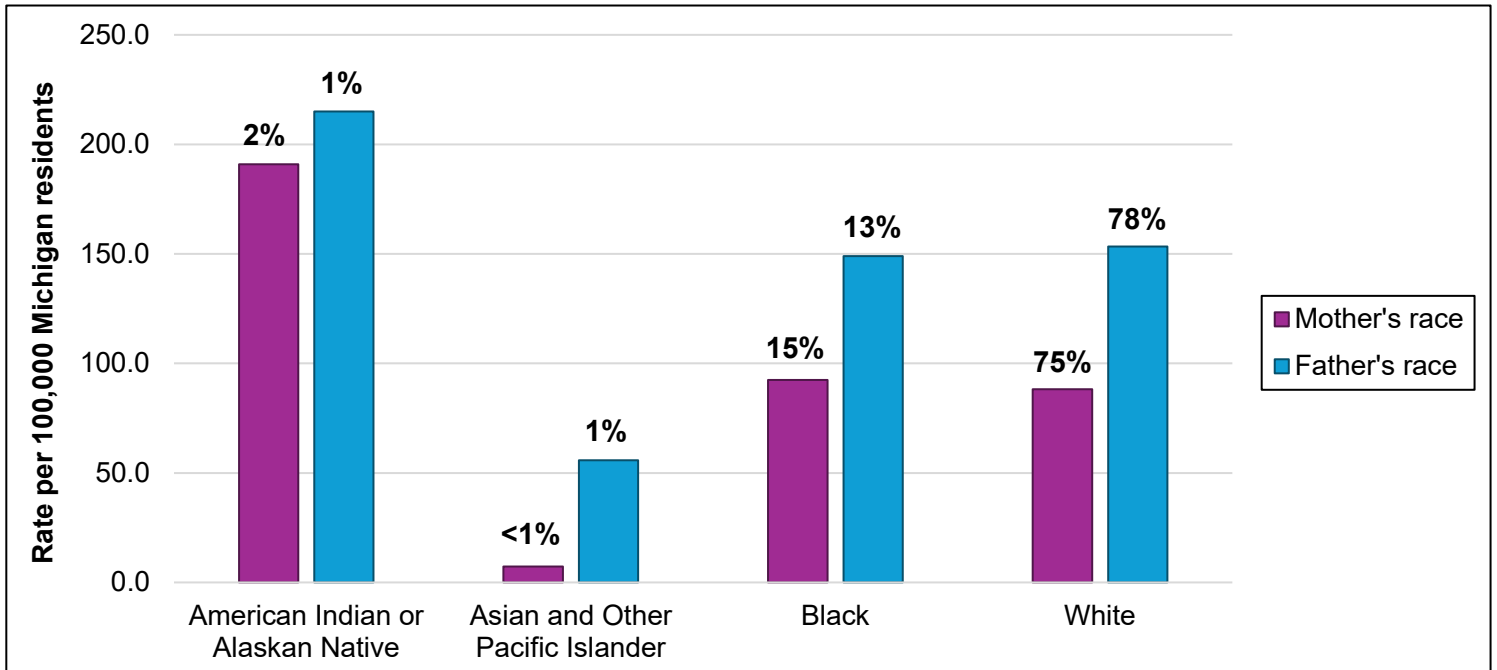


From 2000 to 2022, a total of 10,326 parents died due to drug poisoning. During this time, there was a **563% increase** in drug poisoning deaths for **mothers** (54 to 358 annual deaths) and a **510% increase** in drug poisoning deaths for **fathers<sup>a</sup>** (71 to 433 annual deaths) with at least one minor child. See Figures A1 and A2 for data on parental deaths with children of any age.

<sup>a</sup>The number of fathers who died due to drug poisoning may be undercounted due to lack of a father named on a birth certificate.

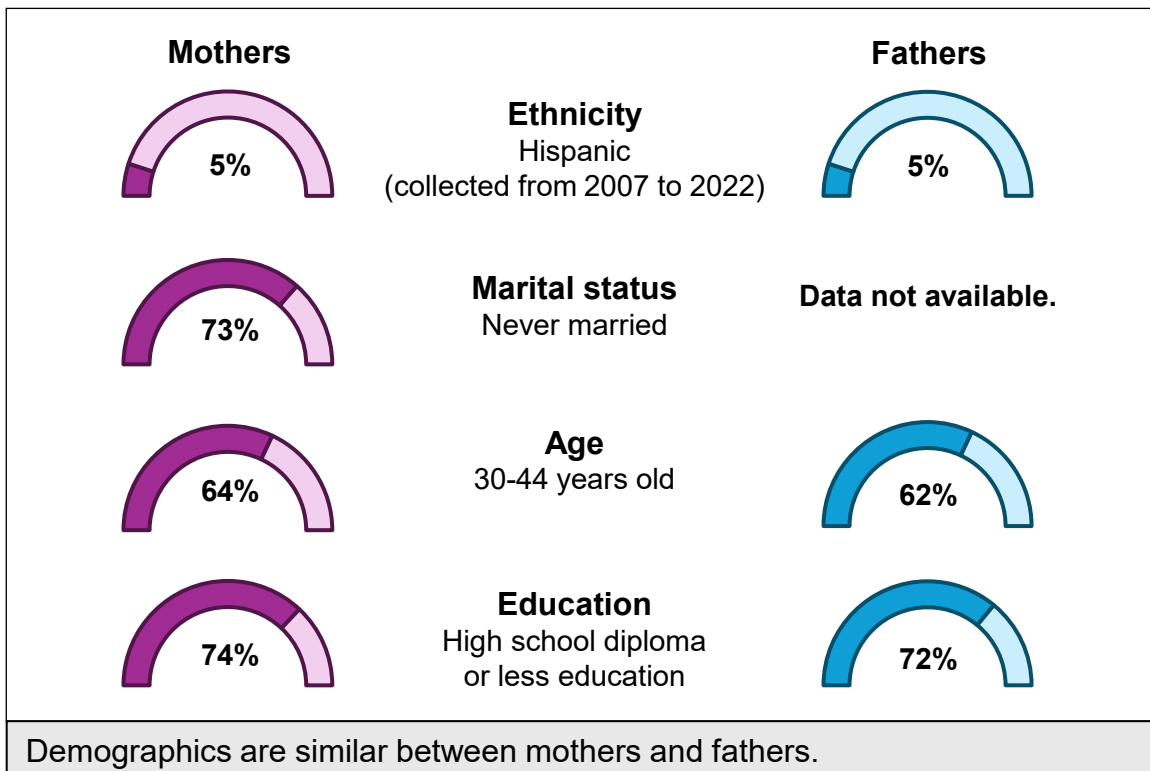
## Demographics of parents

**Figure 3.** Rates and proportions of mothers and fathers who died from drug poisoning in 2022 with at least one minor child born between 1989-2022, by race, Michigan.



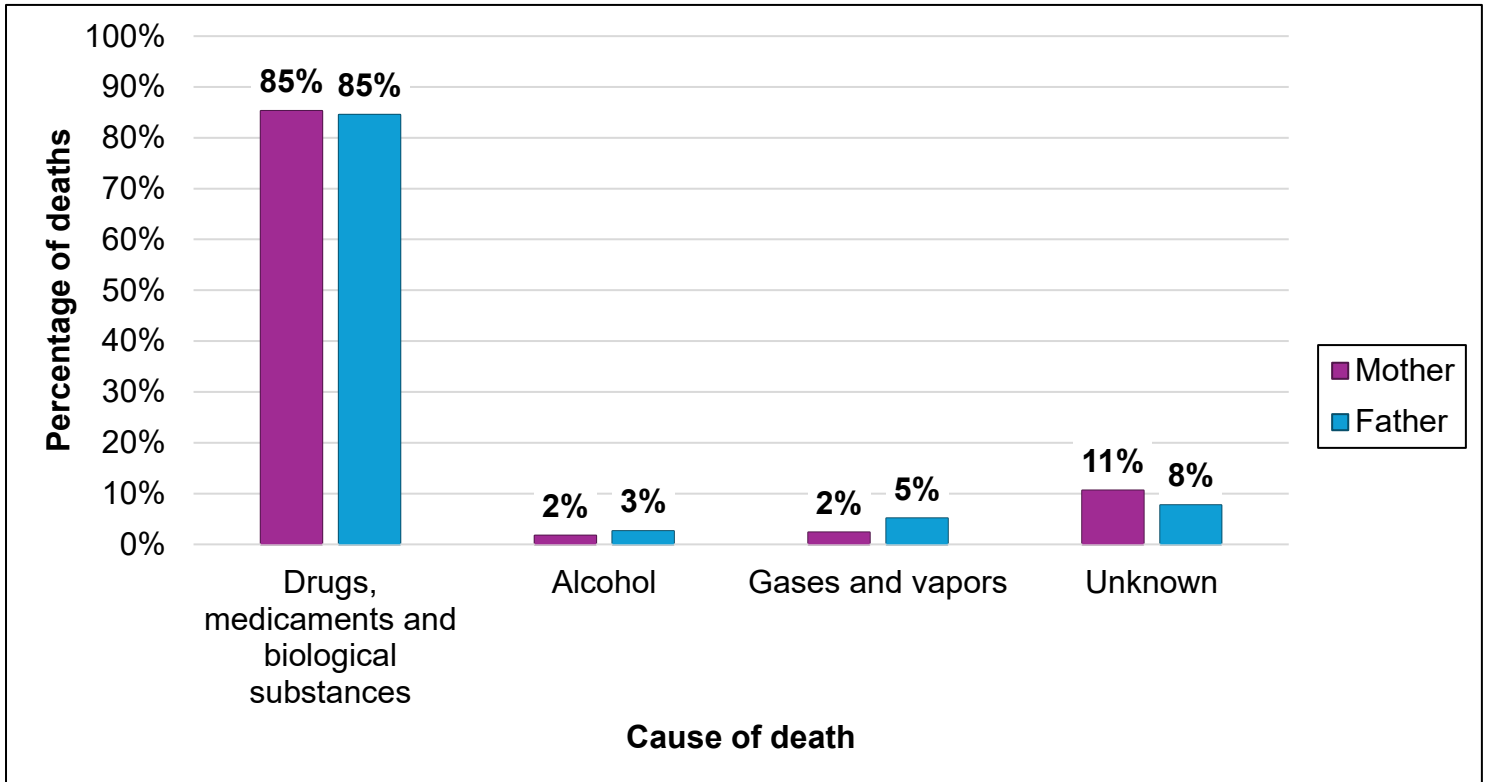
American Indian and Alaskan Native decedents have the highest rates of drug poisoning deaths though they make up a small proportion of total deaths. Drug poisoning death rates for Black parents are equal to white parents but white parents make up a larger proportion of deaths. Race was unknown for approximately 8% of mothers and 7% of fathers.

**Figure 4.** Demographics of parents that died from drug poisoning between 2000-2022 with at least one minor child born between 1989-2022, Michigan.



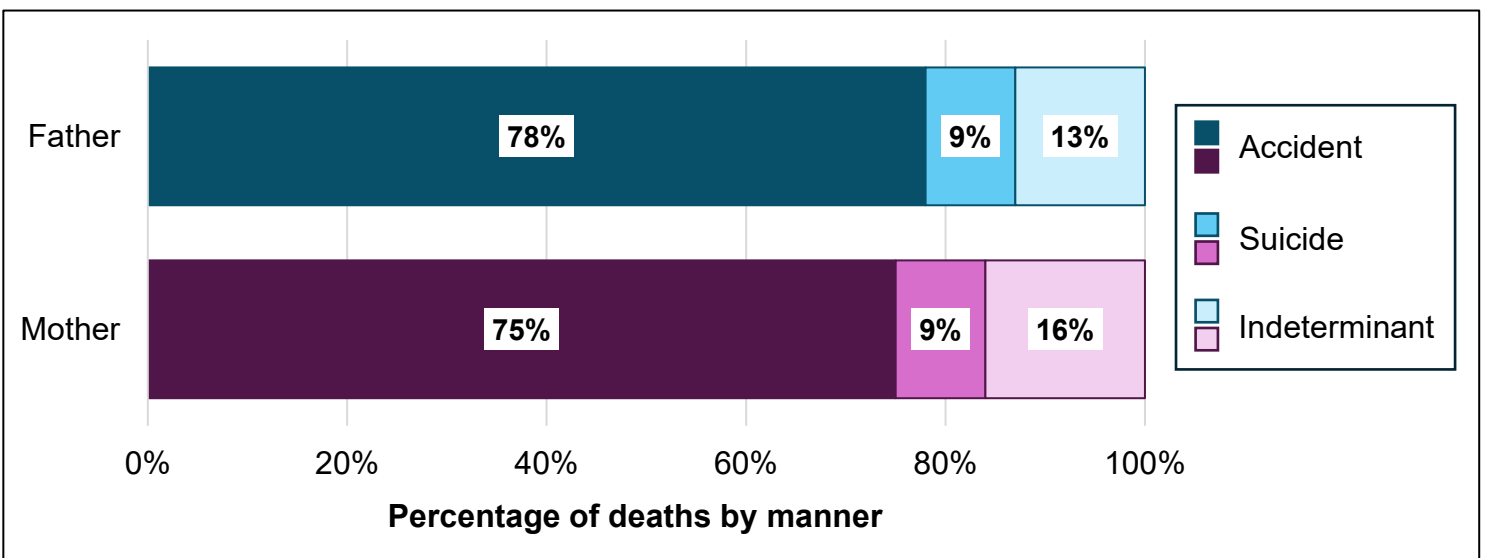
## Circumstances of death for parents

**Figure 5.** Cause of death of parents that died from drug poisoning between 2000-2022 with at least one minor child born between 1989-2022, Michigan.



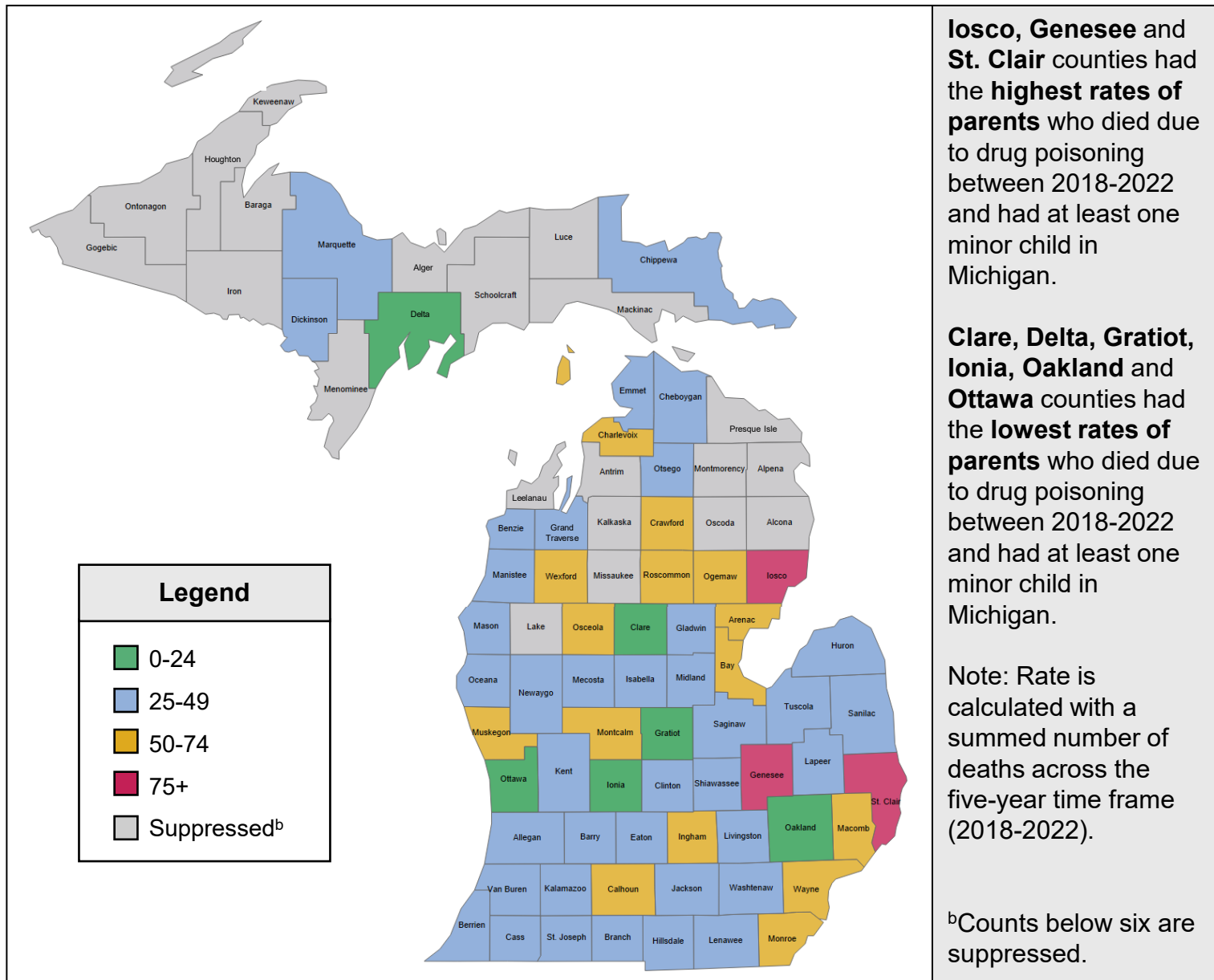
The majority of deaths were due to drugs, medicaments and biological substances. Refer to Table A1 in the Appendix for ICD-10 codes frequencies.

**Figure 6.** Manner of death of parents that died from drug poisoning between 2000-2022 with at least one minor child born between 1989-2022, Michigan.



Manner of death was similar between mothers and fathers. Deaths ruled homicides made up less than 1% of deaths for both fathers and mothers.

**Figure 7.** Rate of parent(s) who died due to drug poisoning between 2018-2022 with at least one minor child born between 1989-2022 per 100,000 residents, Michigan.



## Discussion & public health implications

The majority of parents died due to accidental causes from drugs, medicaments and biological substances. The death of a parent has significant implications on a child's health status and well-being throughout their life, particularly if this death occurs while the child is a minor.<sup>6</sup> Research about ACEs shows that children of parents who use substances are more likely to be unemployed, have legal issues and use substances later in life.<sup>1,2,3</sup> The stark increase in drug poisonings resulting in death among the parents of minor children (563% increase for mothers and 510% increase for fathers from 2000-2022) should lead to SUD treatment policy changes to provide support to families. As of 2023 in Michigan, 35% of SUD treatment programs offer specifically tailored programs for pregnant and postpartum people, less than 6% offer child care services and less than 3% offer residential beds for the children.<sup>4</sup> Opioid settlement funds could provide opportunities to support parents in SUD treatment by subsidizing treatment and by providing child care and child residential beds.

A report on the parents who died due to drug poisoning is available [here](#).

## Data notes

### Data source

Michigan Department of Health and Human Services Division of Vital Records; Birth and Death Certificates.

Data on population comes from the 2020-2021 Census Bureau.<sup>5</sup>

### References

1. Felitti VJ, Anda RF, Nordenberg D, et al. Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults: the Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine*. 2019;56(6):774-786. doi:<https://doi.org/10.1016/j.amepre.2019.04.001>
2. Biederman J, Faraone SV, Monuteaux MC, Feighner JA. Patterns of Alcohol and Drug Use in Adolescents Can Be Predicted by Parental Substance Use Disorders. *PEDIATRICS*. 2000;106(4):792-797. doi:<https://doi.org/10.1542/peds.106.4.792>
3. Feder, K. A., Mojtabai, R., Musci, R. J., & Letourneau, E. J. US Adults with Opioid Use Disorder Living with Children: Treatment Use and Barriers to Care. *Journal of Substance Abuse Treatment*. 2018;93:31-37.
4. National Substance Use and Mental Health Services Survey (N-SUMHSS) State Profiles 2023 National and State Highlights. <https://www.samhsa.gov/data/sites/default/files/reports/rpt53014/2023-nsumhss-state-profiles.pdf>
5. Bureau UC. County Population Totals: 2020-2021. Census.gov. Published 2022. <https://www.census.gov/data/tables/time-series/demo/popest/2020s-counties-total.html>

### Limitations

1. The number of fathers who died due to drug poisoning may be undercounted due to lack of a named father on a birth certificate. Approximately 36% of children whose mother died due to drug poisoning did not have a father listed on the birth certificate.
2. Births before 1989 are not included in dataset and therefore the number of children may be an undercount. Parent names and addresses were not recorded in the statistical files prior to 1989.

**MDHHS Non-Discrimination Policy:** The Michigan Department of Health and Human Services (MDHHS) does not discriminate against any individual or group on the basis of race, national origin, color, sex, disability, religion, age, height, weight, familial status, partisan considerations, or genetic information. Sex-based discrimination includes, but is not limited to, discrimination based on sexual orientation, gender identity, gender expression, sex characteristics, and pregnancy.

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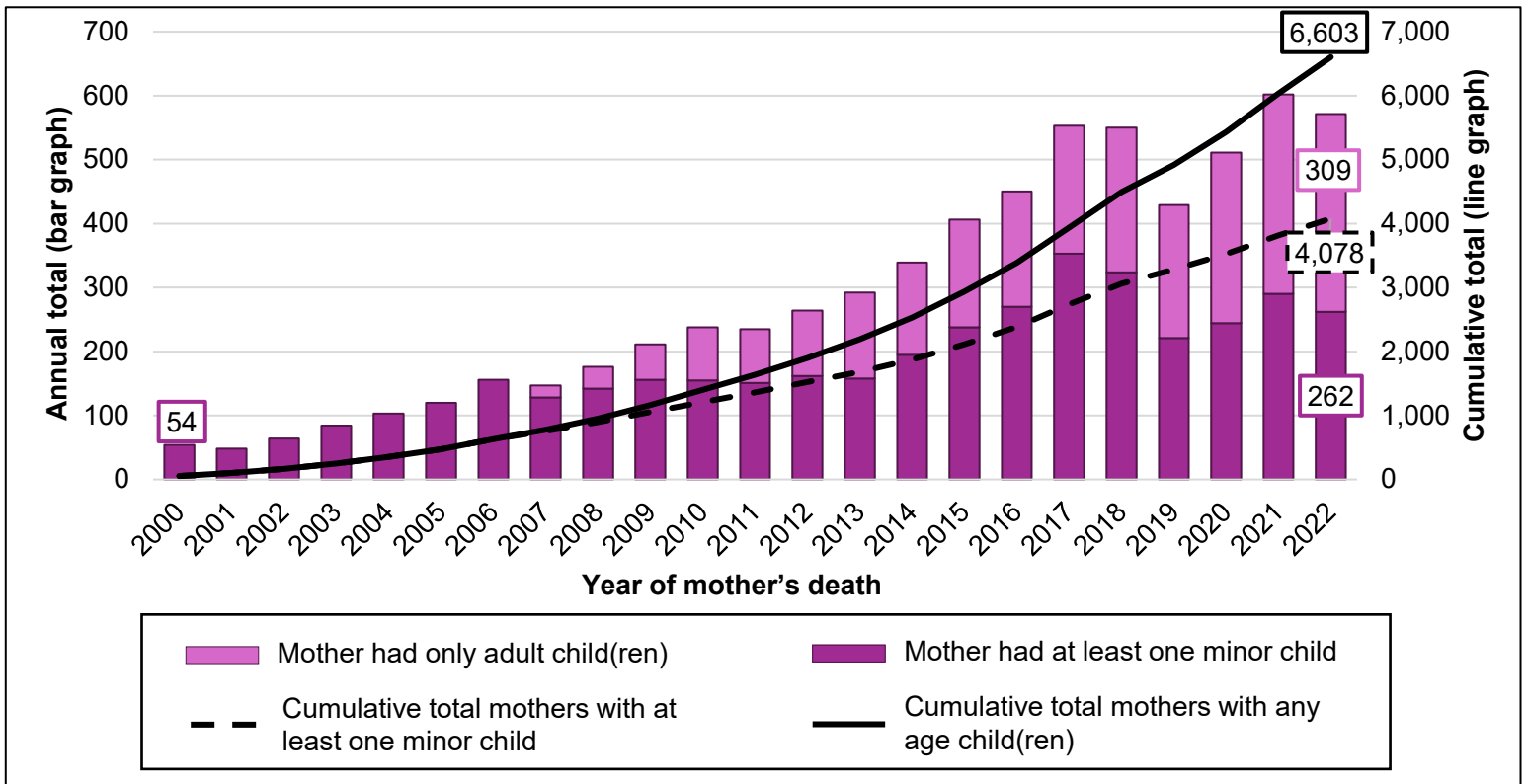
#### MORE DATA AVAILABLE:

For more data and information on substance use disorder and overdose, go to [Michigan.gov/OpioidsData](https://Michigan.gov/OpioidsData)

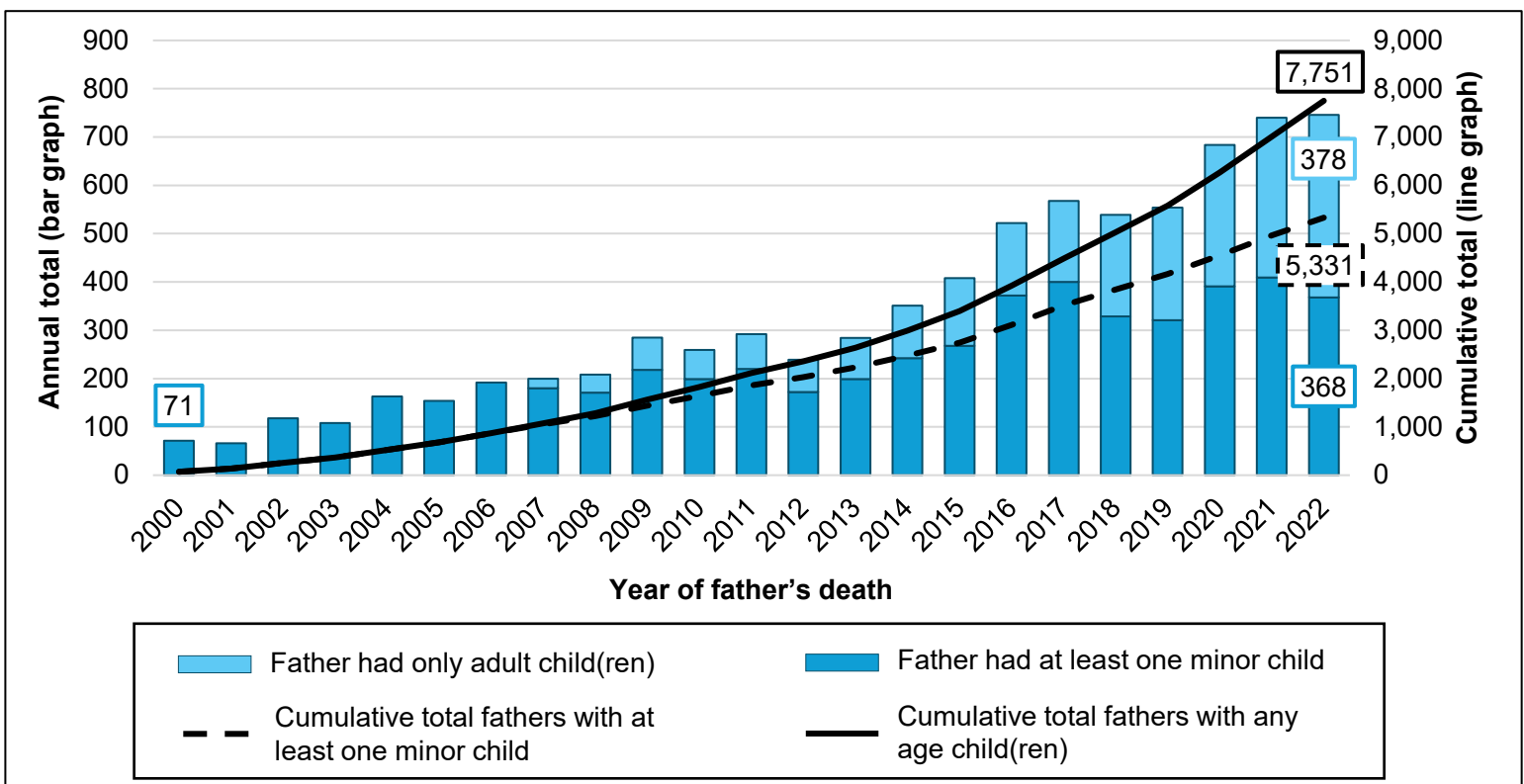


# Appendix

**Figure A1.** Number of mothers who died due to drug poisoning by year of death, 2000-2022, Michigan.



**Figure A2.** Number of fathers who died due to drug poisoning by year of death, 2000-2022, Michigan.



# Appendix

**Table A1.** Number of mothers and fathers who died due to drug poisoning between 2000-2022 with at least one minor child born between 1989-2022 by ICD-10 codes, Michigan.

ICD-10	ICD-10 code description	Mother	Father
X40	Accidental poisoning by and exposure to nonopioid analgesics, antipyretics and antirheumatics	20	<6
X41	Accidental poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified	126	132
X42	Accidental poisoning by and exposure to narcotics and psychodysleptics [hallucinogens], not elsewhere classified	1,736	2,568
X43	Accidental poisoning by and exposure to other drugs acting on the autonomic nervous system	<6	0
X44	Accidental poisoning by and exposure to other and unspecified drugs, medicaments and biological substances	1,472	1,535
X45	Accidental poisoning by and exposure to alcohol	71	139
X46	Accidental poisoning by and exposure to organic solvents and halogenated hydrocarbons and their vapours	0	<6
X47	Accidental poisoning by and exposure to carbon monoxide and other gases and vapours	43	72
X49	Accidental poisoning by and exposure to other and unspecified chemicals and noxious substances	6	7
X60	Intentional self-poisoning by and exposure to nonopioid analgesics, antipyretics and antirheumatics	17	12
X61	Intentional self-poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified	68	58
X62	Intentional self-poisoning by and exposure to narcotics and psychodysleptics [hallucinogens], not elsewhere classified	31	46
X63	Intentional self-poisoning by and exposure to other drugs acting on the autonomic nervous system	<6	<6
X64	Intentional self-poisoning by and exposure to other and unspecified drugs, medicaments and biological substances	240	201
X65	Intentional self-poisoning by and exposure to alcohol	<6	7
X66	Intentional self-poisoning by and exposure to organic solvents and halogenated hydrocarbons and their vapours	34	7
X67	Intentional self-poisoning by and exposure to carbon monoxide and other gases and vapours	34	192
X68	Intentional self-poisoning by and exposure to pesticides	<6	<6
X69	Intentional self-poisoning by and exposure to other and unspecified chemicals and noxious substances	<6	<6
X85	Assault by drugs, medicaments and biological substances	<6	<6
X88	Assault by gases and vapours	<6	<6
Y10	Poisoning by and exposure to nonopioid analgesics, antipyretics and antirheumatics, undetermined intent	17	<6
Y11	Poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified, undetermined intent	35	24
Y12	Poisoning by and exposure to narcotics and psychodysleptics [hallucinogens], not elsewhere classified, undetermined intent	180	233
Y14	Poisoning by and exposure to other and unspecified drugs, medicaments and biological substances, undetermined intent	492	440
Y15	Poisoning by and exposure to alcohol, undetermined intent	6	<6
Y16	Poisoning by and exposure to organic solvents and halogenated hydrocarbons and their vapours, undetermined intent	<6	<6
Y17	Poisoning by and exposure to carbon monoxide and other gases and vapours, undetermined intent	13	7
Y19	Poisoning by and exposure to other and unspecified chemicals and noxious substances, undetermined intent	<6	<6