

# Arizona Child Fatality Review Team

## Twenty-Seventh Annual Report

November 15, 2020

**Mission: To reduce preventable child fatalities in Arizona through a systematic, multi-disciplinary, multi-agency, and multi-modality review process. Prevention strategies, interdisciplinary training, community-based education, and data-driven recommendations are derived from this report to aid legislation and public policy.**





## Letter from the Chair of the Arizona State CFR Team

The Arizona Child Fatality Review (CFR) Program CFR's goal is to reduce child deaths in Arizona by conducting a comprehensive review of all child deaths to determine what steps could have been taken, if any, to prevent each child's death. In 2019, 777 children died in Arizona, a decrease from the 843 deaths in 2018. The Arizona child mortality rate has steadily decreased from 2010 to 2019. The leading causes of death in 2019 were prematurity, congenital anomalies, motor vehicle crashes, suffocation, and cancer. Substance use was a contributing factor in 119 of the child deaths and in 49% of the deaths due to abuse/neglect.

While our child mortality rate has steadily decreased over the past ten years, the percentage of deaths that were preventable in Arizona has been increasing. The CFR teams determined that 44% (341) of the 2019 deaths could have been prevented. Motor vehicle crashes, suffocation, and firearm injuries were the three most common causes of preventable deaths. The CFR teams determined that 100% of accidental injury deaths were preventable. The three most common risk factors associated with accidental deaths were reckless driving, substance use, and an unsafe sleep environment. There was a 26% increase in the Sudden Unexpected Infant Death (SUID) rate from 2018 to 2019. Most of the SUIDs are due to suffocation and unsafe sleep environments were a factor in 99% of SUID deaths.

The CFR teams also determined that that 100% of suicides and homicides were preventable. There was an 89% increase in the child homicide rate from 2018 to 2019 and 41% of these deaths involved substance use. In 42% of the homicides, the perpetrators were the child's father or mother and the majority of homicides occurred among children less than 1 year of age (31%).

Arizona's abuse/neglect mortality rate has steadily increased from 2010 to 2019 and there was a 33% increase in the abuse/neglect death rate from 2018 to 2019. In 66 of the 100 families there was current or past history of involvement with a CPS agency. In 16 of these 100 deaths the families had an open case at the time of the child's death.

Prevention efforts are more likely to be effective if our recommendations are targeted to the children at greatest risk. For example, while Black/African American children ages 0-17 years comprise only 6% of Arizona children, they comprised 12% of all child deaths and 14% of all infant deaths in Arizona in 2019. Among the preventable deaths, both Black/African American and American Indian children had disproportionately higher mortality rates. The underlying causes of these disparities needs to be addressed to decrease these deaths.

I would like to thank all of our volunteers as well as the Arizona Department of Health Services and the Arizona Chapter of the American Academy of Pediatrics for their support of the CFR program and its mission to prevent child deaths in Arizona.



Mary Ellen Rimsza, MD FAAP  
Chair, Arizona Child Fatality State Team



## Submitted to:

The Honorable Douglas A. Ducey, Governor, State of Arizona  
The Honorable Karen Fann, President, Arizona State Senate  
The Honorable Russell Bowers, Speaker, Arizona State House of Representatives  
This report is provided as required by A.R.S. §36-3501.C.3

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## Acknowledgments:

Susan Newberry, Maricopa County CFR Coordinator, who is responsible for coordinating the reviews of more than 60% of all child deaths occurring annually in Arizona. She tirelessly devotes her time and energy to creating and maintaining effective collaboration, cooperation and communication among team members.

Margaret Strength, Arizona Department of Child Safety, whose tireless commitment, provided an invaluable amount of information to the review teams as well as the program office.

Brendan Kirby, MPH CFR Intern, who conducted extensive literature reviews for the prevention recommendations section.

The 10 Local CFR teams and their coordinators in Arizona, whose persistent efforts, conducted 100% of child fatality reviews to aid in prevention recommendations. Because of their hard work and dedication to the program, over the last 27 years the CFR program has overall continued to decrease preventable deaths for our Arizona children.

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Permission to quote from or reproduce materials from this publication is granted when acknowledgment is made. This publication was supported by a Cooperative Agreement Number: 1 NU38DP000001-02-00 funded by the Centers for Disease Control and Prevention. Its contents are solely the responsibility of the authors and do not necessarily represent official views of the Centers for Disease Control and Prevention or the Department of Health and Human Services.



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## Disclaimers and Changes to the Report

### Disclaimers

#### Public Health and Vital Statistics:

Data in this report may differ from the data published by the [Bureau of Public Health Statistics \(BPHS\)](#). BPHS only reports data on Arizona residents whereas the Child Fatality Review (CFR) Program investigates and reports on the death of all children who die in Arizona regardless of state residency. All numbers less than six are suppressed to maintain confidentiality.

#### Department of Child Safety (DCS)/Child Protective Services (CPS):

Data in this report may differ from the data published by the Department of Child Safety/Child Protective Services and the CFR Program. See Technical Appendix for further explanation.

#### Race/Ethnicity Referencing:

Due to spacing issues, the figures throughout the report will refer to the following race/ethnicity groups: American Indian, Asian, Black, Hispanic, and White. However, please note, American Indian includes Alaska Native, Asian includes Pacific Islander, Black includes African American, and Hispanic includes Latino. All text accompanying the figures will be all-inclusive.

### Changes to the Report

#### Report Structure:

The flow of the report has changed to allow for ease of use. Manner and causes of death are now separated into their own sections. In the manner of death section, each death can only fall into one of the five categories: accident, homicide, natural, suicide, and undetermined. However, in the cause of death section, a death may be represented in multiple sections. For example, a child may have died by a firearm injury which could also be captured in the substance use and abuse/neglect section depending on the circumstances surrounding the death. Prevention recommendations are listed in the end of the report instead of after each manner or cause of death.

#### Statistical Reporting:

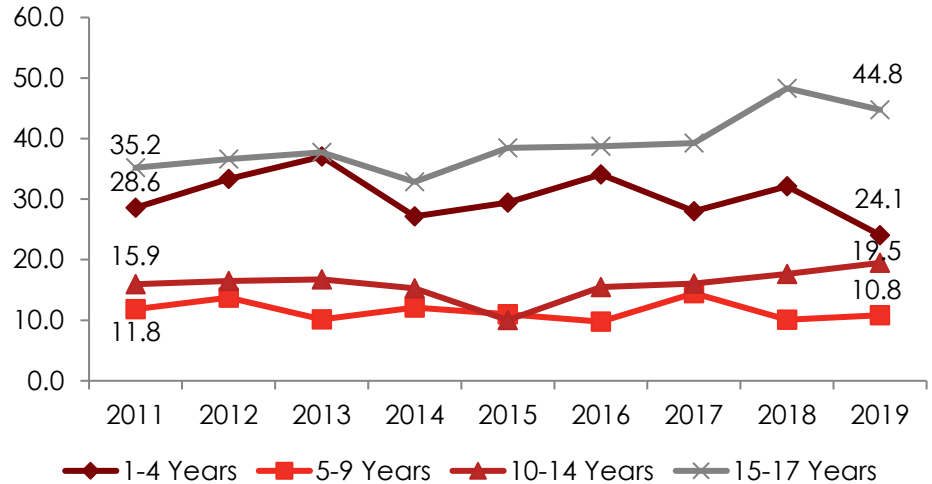
Previous reports indicated percent change based off numbers from year to year. To more accurately represent the shifting of numbers from year to year, yearly changes are reported as a percent change based off rates, not numbers. In previous reports, trend lines were shown over a six-year period. To present a more complete picture, trend lines will now be over a ten-year period, when able, to better assess death trends in Arizona.



## Report Highlights

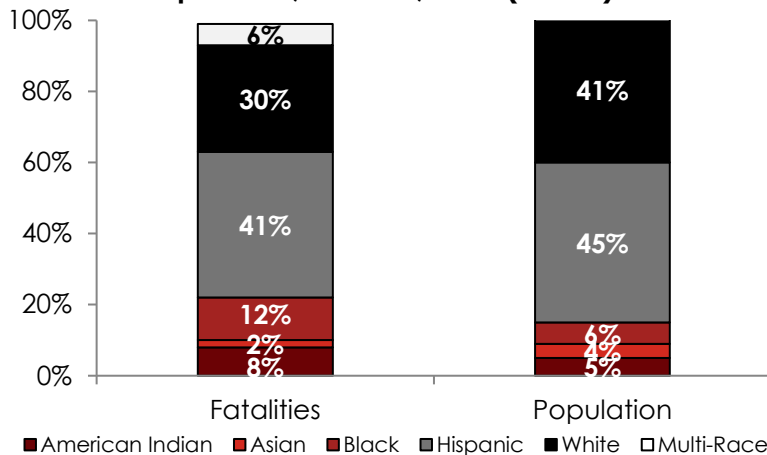
<b>Total Deaths</b> <b>777</b>
<b>Preventable Deaths</b> <b>341</b> (44% of all deaths)
<b>Deaths Under 1 Year</b> <b>425</b> (55% of all deaths)
<b>Mortality Rate</b> <b>22.5 per 100,000</b> (1-17 Years of Age)

**Mortality Rates per 100,000 Children by Age Group, Ages 1-17 Years, Arizona, 2011-2019<sup>1</sup>**



Natural Causes	Accidents	Homicides	Suicides	Undetermined
<b>60%</b>	<b>23%</b>	<b>8%</b>	<b>5%</b>	<b>5%</b>
465 child deaths	178 child deaths	59 child deaths	38 child deaths	37 child deaths

**Percentage of Deaths among Children by Race/Ethnicity, Ages 0-17 Years, Compared to Population, Arizona, 2019 (n=777)\*<sup>2</sup>**



**Top 5 Leading Causes of Death:**

1. Prematurity (n=170)
2. Congenital Anomaly (n=99)
3. Motor Vehicle Crash (n=61)
4. Suffocation (n=54)
5. Cancer (n=54)

Substance Use was involved in **119** child fatalities

Firearms were not stored in **56%** of firearm deaths

**76%** of children who died of abuse/neglect were **less than five years of age**

**99%** of the Sudden Unexpected Infant Deaths (SUID) occurred in an **unsafe sleep environment**

\*There is no population comparison for multi-race. Population total equals 101% due to rounding.



## Introduction

Injuries and medical conditions are among the leading causes of death for Arizona's children. Unlike diseases, most injuries do not occur randomly. A thorough examination of each death reveals factors that are both predictable and preventable. Historical data shows that infants are most often injured by suffocation resulting from an unsafe sleep environment, toddlers are more likely to drown, and older children are more vulnerable to motor vehicle crash or firearm injury. Analyzing risk factors allows injuries to be anticipated and thus prevented when the appropriate protective measures are in place.

The Arizona Child Fatality Review (CFR) Program was established to review all possible factors surrounding a child's death. The intent of the program is to identify ways of reducing preventable fatalities. Legislation was passed in 1993 (A.R.S. § 36-342, 36- 3501) authorizing the creation of the CFR Program. In 1994, the review process and data collection began. Today 10 local teams conduct initial reviews with oversight from the State Team and its two committees.

This report provides a comprehensive review of fatalities occurring in Arizona among children less than 18 years of age. Descriptive statistics and trend analyses are used to present summary information about cases as well as the leading causes under each manner of death by factors such as age, gender, and race/ethnicity. The demographic and prevention information in this report are used to help broadly inform public health initiatives and the community. Recommendations for prevention are decided upon by both State and Local CFR review teams based upon the information collected and reviewed on each child death.

According to the National Center for Fatality Review and Prevention (NCFRP) there are six basic steps to conduct an effective review meeting:

- 1 Share, question, and clarify all case information
- 2 Discuss the investigation
- 3 Discuss the delivery of services
- 4 Identify risk factors
- 5 Recommend systems improvements
- 6 Identify and take action to implement prevention recommendations





## Methods

### Team Meetings

Local CFR team review meetings are closed to the public. All team members must sign a confidentiality statement before participating in the review process. The confidentiality statement specifically defines the conditions of participation and assures that members will not divulge information discussed in team meetings. In addition, identifying information in data and research reports are omitted to maintain confidentiality. Information shared in the meetings is protected under A.R.S. § 36-3502 and shall not be shared with anyone outside the meeting. Every effort is made in this report to keep information private, and is intended to provide child death prevention recommendations, summary statistics, and trends of all child deaths taking place in Arizona.

The State CFR team reviews the data from the Local CFR teams, including the local review team recommendations, to develop recommendations for the annual report.

### Review Process

Arizona has 10 Local CFR teams who complete reviews at the community level. Second level reviews of Sudden Unexpected Infant Deaths (SUID) and Abuse/Neglect Deaths are done by subcommittees of the State CFR Team. The review process begins when the death of a child less than 18 years old is identified through a vital records report. The ADHS CFR Program sends a vital records spreadsheet to the Local CFR team that is based in the community where the deceased child lived. If the child was not a resident of Arizona, the Local CFR team in the community where the death occurred conducts the review. Information collected during the review is then entered into the National Center for Fatality Review and Prevention (NCFRP) database. The resulting dataset is used to produce the statistics found in this annual report. See Technical Appendix for further explanation of the CFR review process.

### Local Team Membership

According to A.R.S. § 36-3502, local teams are located throughout the state and membership includes, but is not limited to:

- County attorney's office
- County health department
- County medical examiner's office
- Department of Child Safety (DCS)
- Domestic violence specialist
- Local law enforcement
- Parent
- Pediatrician or family physician



- Psychiatrist or psychologist

## **Manner of Death versus Cause of Death**

In this report, the manner of death includes natural (e.g., cancer), accident (e.g., accidental motor vehicle crash), homicide (e.g., assault), suicide (e.g., self-inflicted intentional firearm injury), and undetermined. The cause of death refers to the injury or medical condition that resulted in death (e.g., firearm-related injury, pneumonia, cancer). Manner of death is not the same as cause of death, but specifically refers to the intentionality of the cause. For example, if the cause of death was a firearm-related injury, then the manner of death may have been intentional or accidental. If it was intentional, then the manner of death was suicide or homicide. If it was accidental, then the manner of death was an accident. In some cases, there was insufficient information to determine the manner of death, even though the cause was known. It may not have been clear that a firearm death was due to an accident, suicide or homicide; and in these cases, the manner of death was listed as undetermined.

## **Report Statistics**

The descriptive statistics in this report summarize the information about these child deaths by manner, cause, age, gender, and race/ethnicity. Frequencies and cross-tabulation tables are shown throughout the report. The demographic and prevention information represented in this report are primarily used to help broadly inform public health initiatives and the community.

## **Limitations**

It is significant to note that the report has certain limitations. While every child death is important, the small numbers in some areas of preventable deaths reduce the ability to examine some trends in detail. The numbers are used to inform public health efforts in a broader sense, but the sample size reduces the ability to make true statements about statistical significance in any differences or causal relationships. It is also of note that much of the collected data is done through qualitative methods such as the collection of witness reports on child injury deaths. This means that there is always the potential for bias when the information is taken. Other variables that may not be captured on the death certificate or other typical records may include family dynamics, mental health issues, or other hazards.

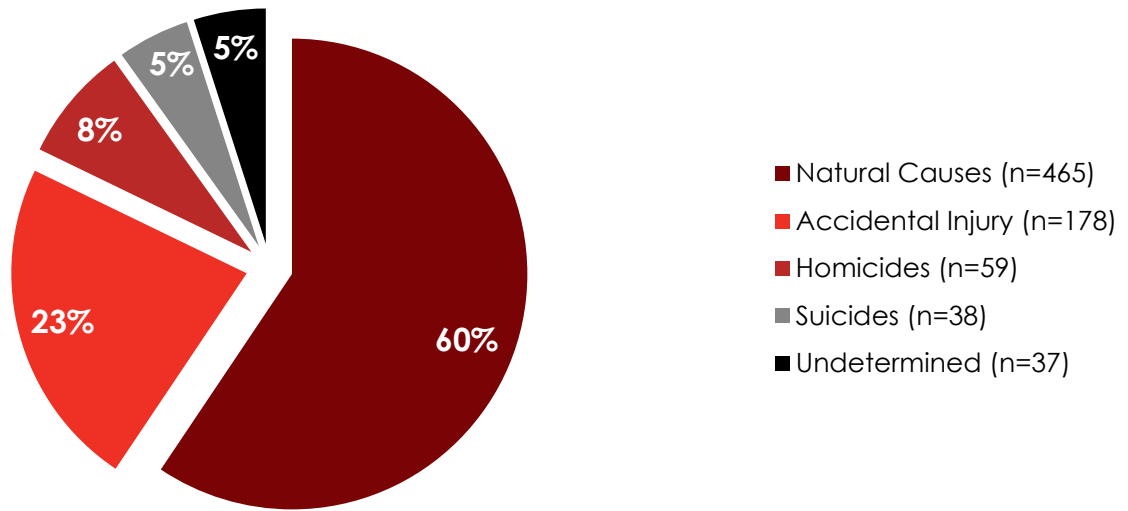
Additionally, data is based upon vital records information and information from local jurisdictions. Arizona has a medical examiner system with each county having its own jurisdiction. Law enforcement also varies around the state. Arizona is home to 22 different American Indian tribes each of whom has their own sovereign laws and protocols. Jurisdiction and records sharing for each tribal government varies. These intricate relationships and individual jurisdictions mean that sources and information may vary.



**Demographics: Child Mortality (0-17 Years)**

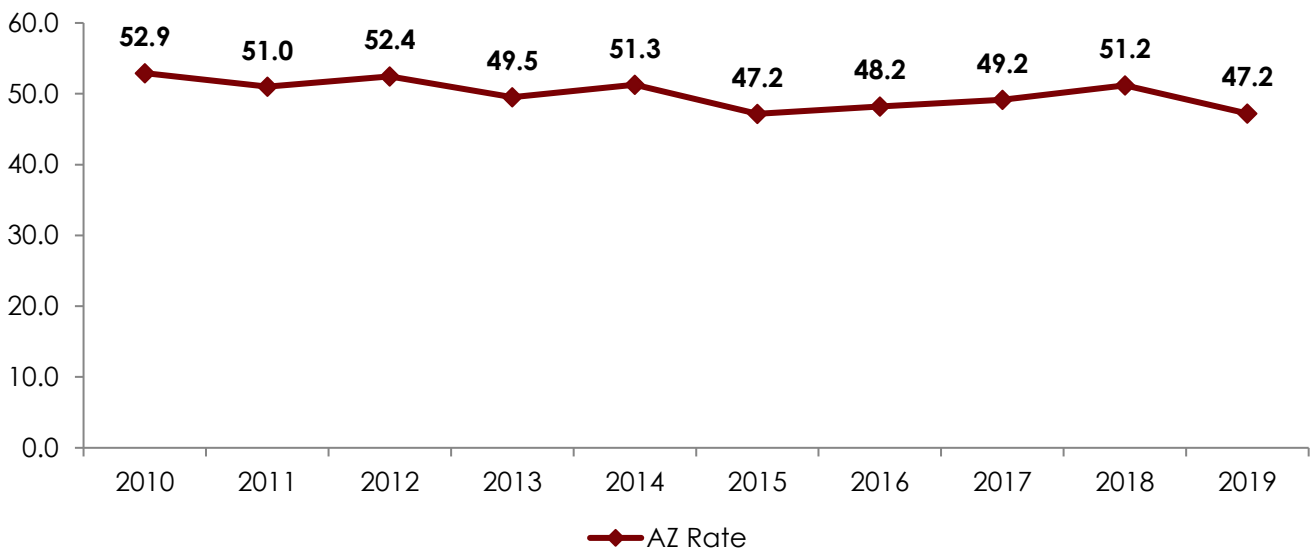
The majority of child deaths were due to natural causes (60%) (Figure 1).

**Figure 1. Number and Percentage of Deaths among Children by Manner of Death, Ages 0-17 Years, Arizona, 2019 (n=777)**



Overall, Arizona’s child mortality rate has steadily decreased from 2010 to 2019 (Figure 2). Arizona’s child mortality rate decreased 7.8% from 51.2 deaths per 100,000 children in 2018 to 47.2 deaths per 100,000 children in 2019.

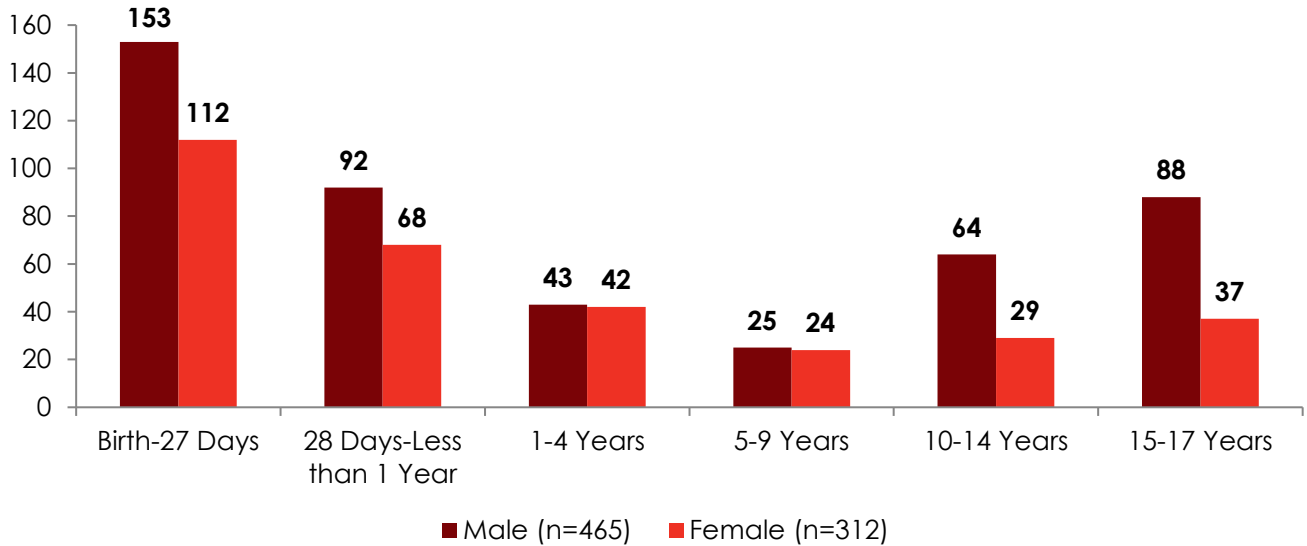
**Figure 2. Mortality Rate per 100,000 Children, Ages 0-17 Years, Arizona, 2010-2019<sup>2-11</sup>**





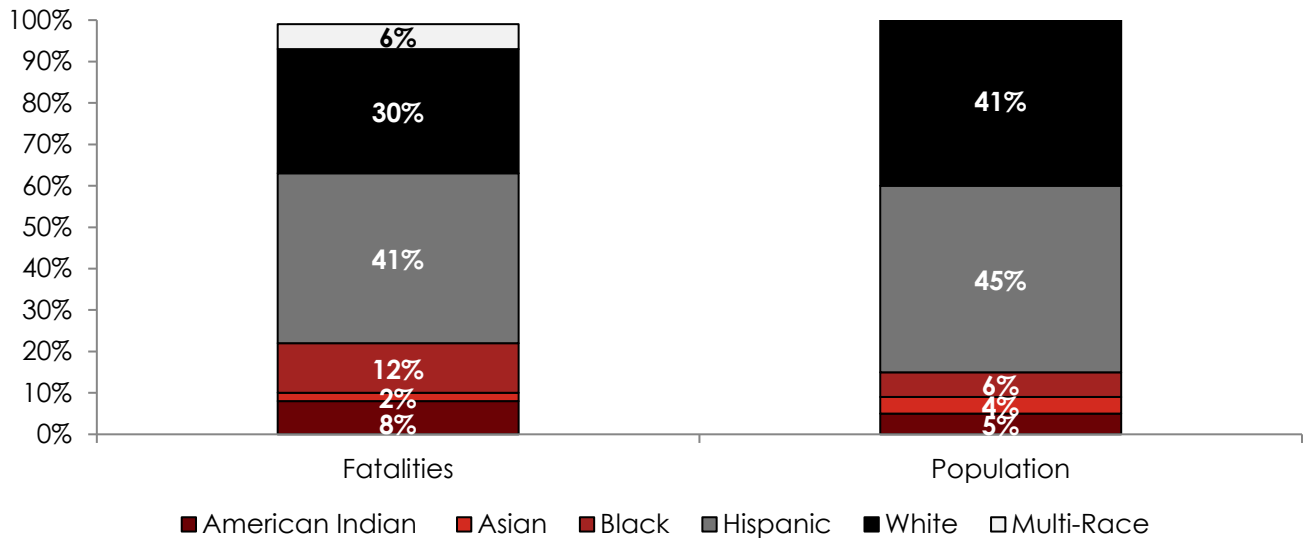
The majority of male and female child deaths occurred amongst those birth-27 days of age (Figure 3).

**Figure 3. Number of Deaths among Children by Age Group and Sex, Ages 0-17 Years, Arizona, 2019 (n=777)**



American Indian/Alaska Native and Black/African American children made up 9% and 12% of child deaths, respectively, but only comprised 5% and 6% of the total population, respectively (Figure 4).

**Figure 4. Percentage of Deaths among Children by Race/Ethnicity, Ages 0-17 Years, Compared to Population, Arizona, 2019 (n=777)\*2**



\*There is no population comparison for multi-race. Fatalities total equals 99% due to rounding. Population total equals 101% due to rounding.



Prematurity was the #1 cause of death for infants Birth-27 days while suffocation was the #1 cause of death among infants 28 days to less than 1 year of age (Table 1). Among children ages 15-17 years, motor vehicle crash was the #1 cause of death.

**Table 1. Top 5 Leading Causes of Child Death by Age Group, Ages 0-17 Years, Arizona, 2019**

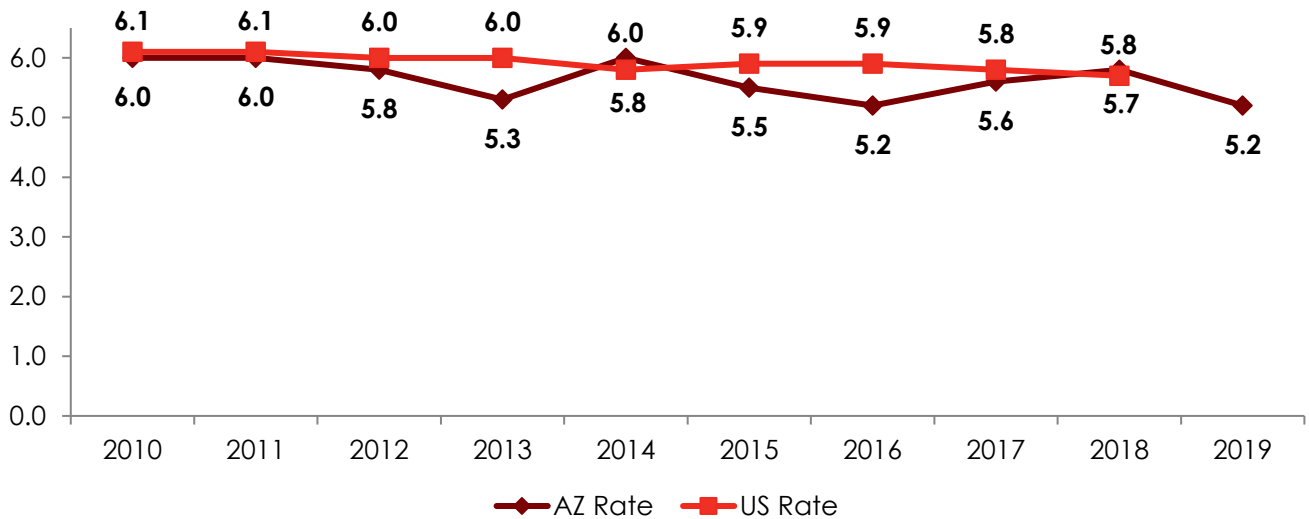
<b>Top Causes</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Birth-27 Days <b>(n=265)</b>	Prematurity (n=153)	Congenital Anomaly (n=47)	Other Perinatal Conditions (n=19)	Cardiovascular (n=14)	Neurological/ Seizure Disorder (n=6)
28 Days - <1 Year <b>(n=160)</b>	Suffocation (n=48)	Congenital Anomaly (n=23)	Undetermined (n=23)	Prematurity (n=16)	Blunt Force Trauma (n=14)
1-4 Years <b>(n=85)</b>	Cancer (n=15)	Congenital Anomaly (n=10)	Drowning (n=9)	Motor Vehicle Crash (n=8)	Blunt Force Trauma (n=7)
5-9 Years <b>(n=49)</b>	Cancer (n=11)	Motor Vehicle Crash (n=8)	Congenital Anomaly (n<6)	Firearm Injury (n<6)	Drowning (n<6)
10-14 Years <b>(n=93)</b>	Motor Vehicle Crash (n=16)	Cancer (n=13)	Strangulation (n=11)	Congenital Anomaly (n=9)	Firearm Injury (n=9)
15-17 Years <b>(n=125)</b>	Motor Vehicle Crash (n=27)	Poisoning (n=26)	Firearm Injury (n=21)	Strangulation (n=13)	Cancer (n=13)
All Deaths <b>(n=777)</b>	Prematurity (n=170)	Congenital Anomaly (n=99)	Motor Vehicle Crash (n=61)	Suffocation (n=54)	Cancer (n=54)



**Demographics: Infant Mortality (Less than 1 Year of Age)**

Overall, Arizona's infant mortality rate has remained relatively stable from 2010-2019 (Figure 5). Arizona's infant mortality rate has consistently been lower than or the same as the U.S. rate.

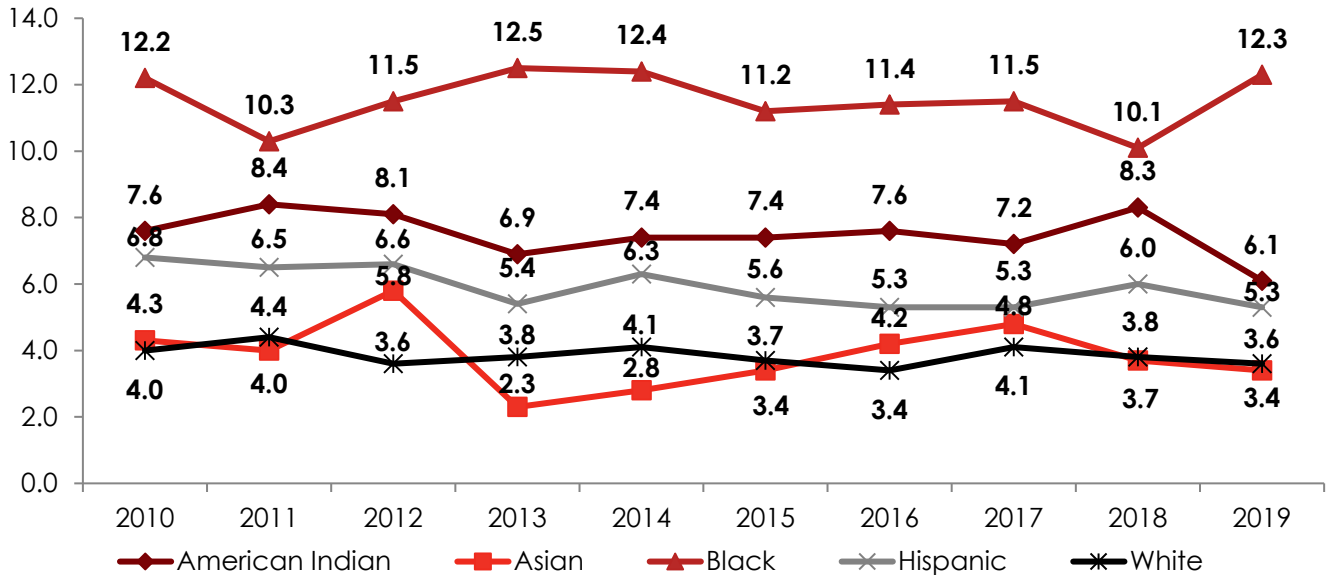
**Figure 5. Infant Mortality Rates per 1,000 Live Births, Less than 1 Year of Age, Arizona & U.S., 2010-2019<sup>12-22</sup>**



Despite methodological changes for categorizing race/ethnicity over the years, Black/African American and American Indian/Alaska Native infants have consistently had the highest rates of infant mortality from 2010-2019 (Figure 6). In 2019, the infant mortality rate for Black/African Americans was 12.3 deaths per 1,000 live births and among American Indian/Alaska Natives was 6.1 deaths per 1,000 live births, whereas, the infant mortality rate among Whites was 3.6 deaths per 1,000 live births.



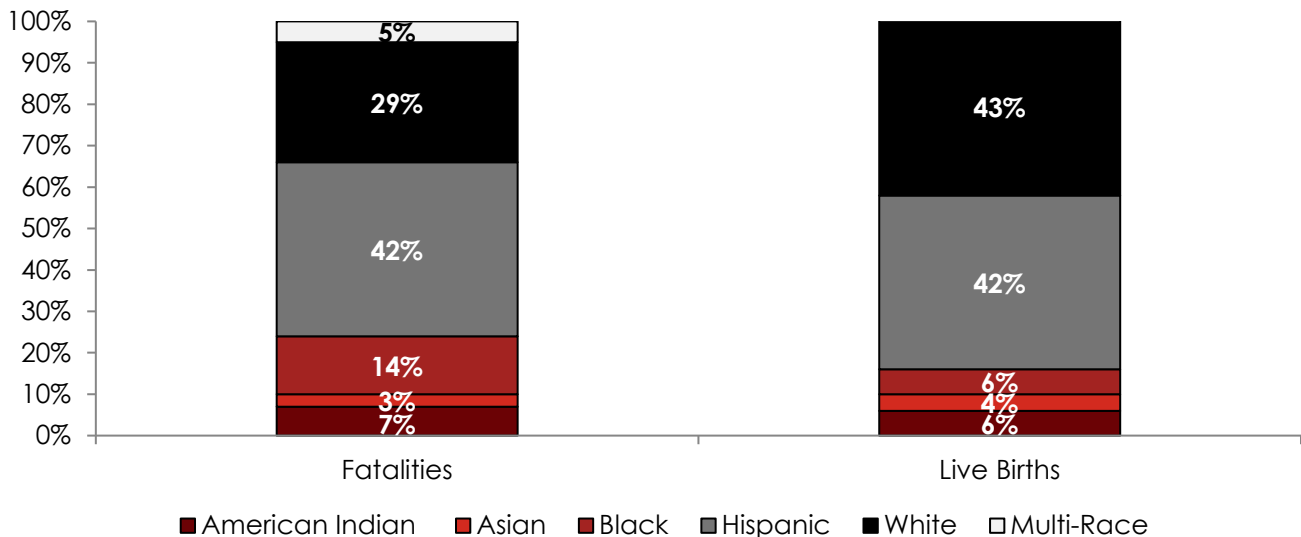
**Figure 6. Infant Mortality Rates per 1,000 Live Births by Race/Ethnicity, Less than 1 Year of Age, Arizona, 2010-2019\***<sup>23-24</sup>



\*Rates do not include multi-race.

Black/African American infants made up 14% of infant deaths, but only comprised 6% of live births (Figure 7).

**Figure 7. Percentage of Deaths among Infants by Race/Ethnicity, Less than 1 Year of Age, Compared to Live Births, Arizona, 2019 (n=425)**<sup>24</sup>



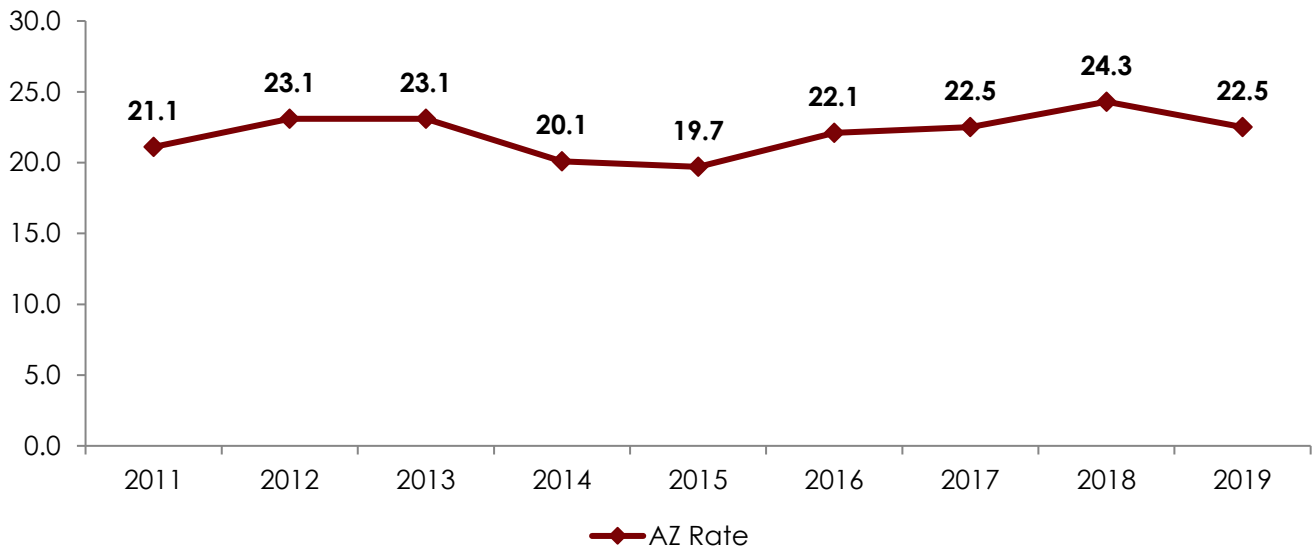
\*There is no population comparison for multi-race. Birth total equals 101% due to rounding.



**Demographics: Child Mortality (1-17 Years of Age)**

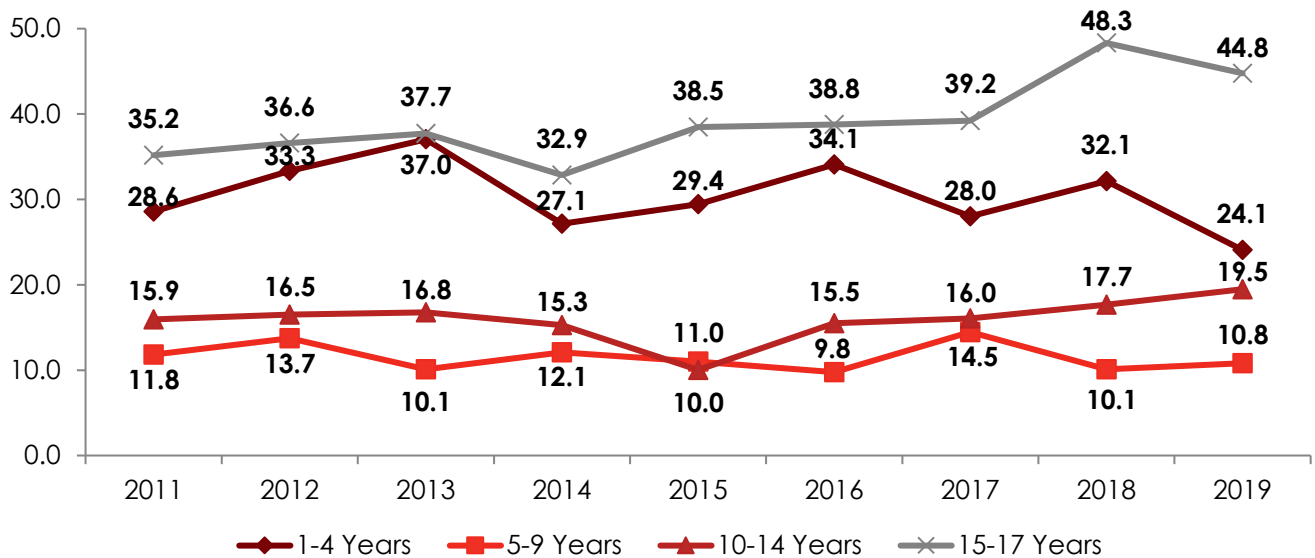
Overall, Arizona's child mortality rate has slightly increased from 2011 to 2019 (Figure 8). Arizona's child mortality rate decreased 7.4% from 24.3 deaths per 100,000 children in 2018 to 22.5 deaths per 100,000 children in 2019.

**Figure 8. Mortality Rate per 100,000 Children, Ages 1-17 Years, Arizona, 2011-2019<sup>1</sup>**



From 2011-2019, Arizona's child mortality rate for children ages 10-14 years has increased and has been increasing each year since 2015 and 2014, respectively (Figure 9).

**Figure 9. Mortality Rates per 100,000 Children by Age Group, Ages 1-17 Years, Arizona, 2011-2019<sup>1</sup>**

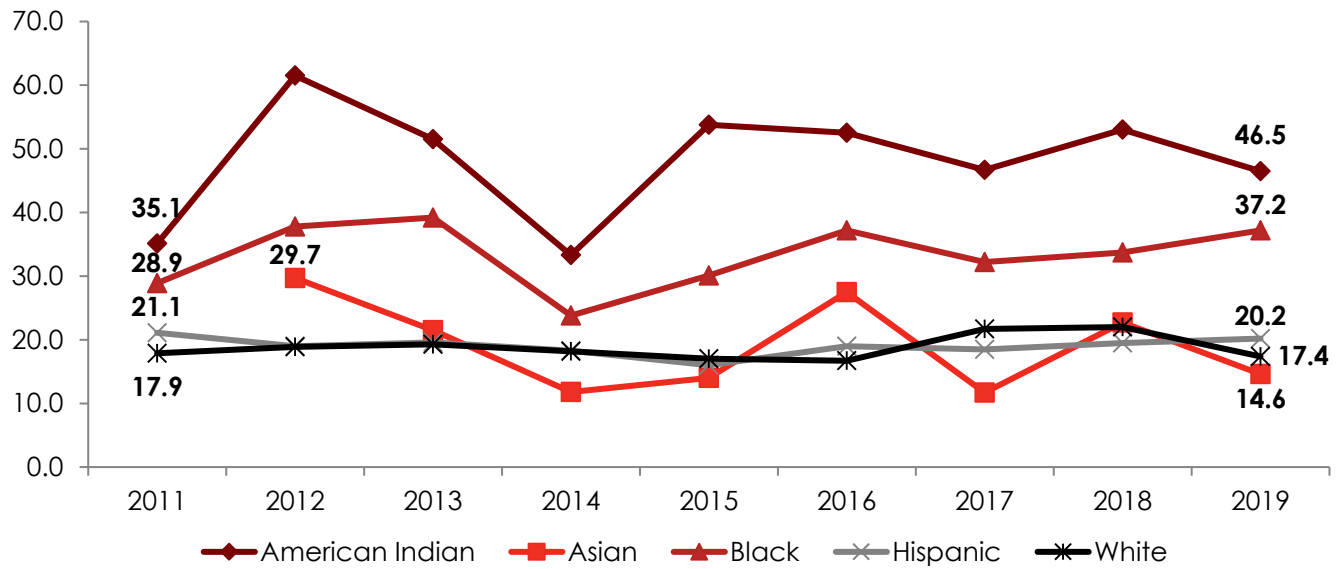






Despite methodological changes for categorizing race/ethnicity over the years, American Indian/Alaska Native and Black/African American children have consistently had the highest rates of child mortality from 2011-2019 (Figure 10). In 2019, the child mortality rate for American Indian/Alaska Natives was 46.5 deaths per 100,000 children and among Black/African Americans was 37.2 deaths per 100,000 children, whereas, the child mortality rate among Whites was 17.4 deaths per 100,000 children.

**Figure 10. Mortality Rates per 100,000 Children by Race/Ethnicity, Ages 1-17 Years, Arizona, 2011-2019\*<sup>1</sup>**

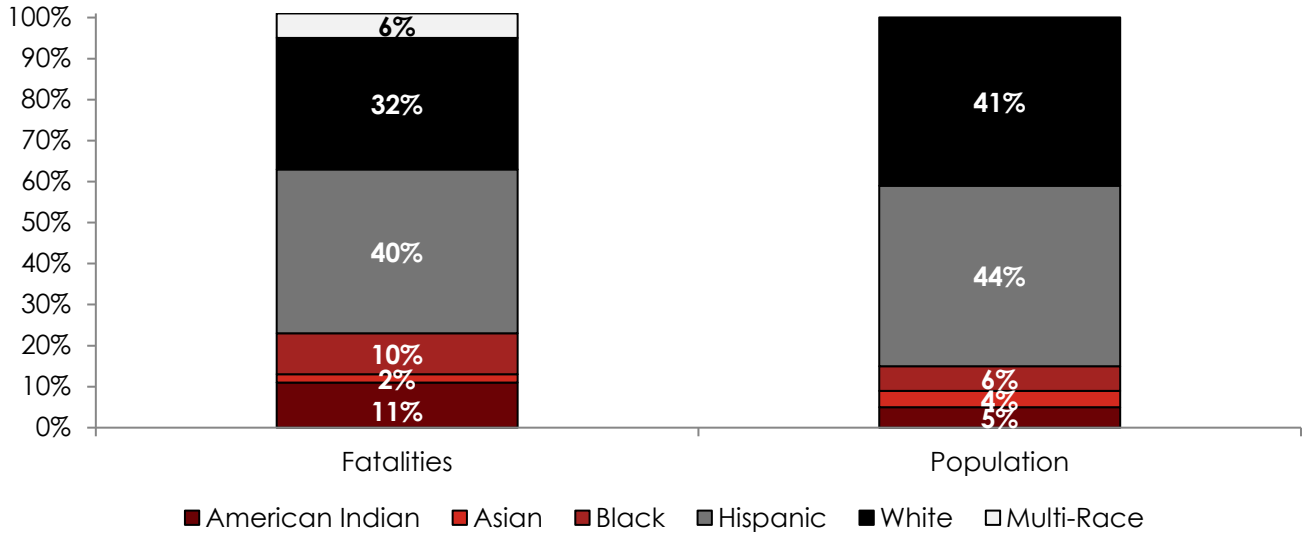


\*2011 data on Asian/Pacific Islander children not included due to a small sample size.



American Indian/Alaska Native and Black/African American children made up 11% and 10% of child deaths, respectively, but only comprised 5% and 6% of the total population, respectively (Figure 11).

**Figure 11. Percentage of Deaths among Children by Race/Ethnicity, Ages 1-17 Years, Compared to Population, Arizona, 2019 (n=352)\*<sup>1</sup>**



\*There is no population comparison for multi-race.



## Preventable Deaths

The main purpose of the CFR program is to identify preventable factors in a child's death. Throughout the report the term "preventable death" is used. Each multi-disciplinary team is composed of professionals who review the circumstances surrounding a child's death by reviewing records ranging from autopsies to law enforcement reports. The team then determines if there were any preventable factors present prior to the death. They used one of the following three labels to determine preventability; 1) Yes, probably 2) No, probably not 3) Team could not determine. A determination is based on the program's operational definition of preventability in a child's death:

**A child's death is considered preventable if the community (education, legislation, etc.) or an individual could reasonably have done something that would have changed the circumstances that led to the child's death.**

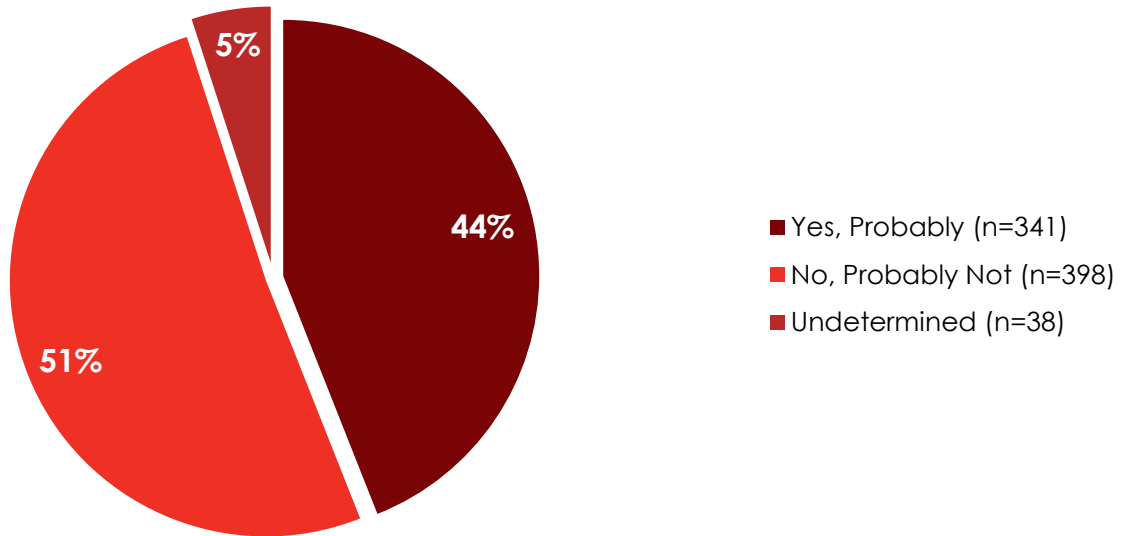
"Yes, probably," means that some circumstance or factor related to the death could probably have been prevented. "No, probably not" indicates that everything reasonable was most likely done to prevent the death, but the child would still have died. A designation of "Team could not determine" means that there was insufficient information for the team to decide upon preventability.

When discussing all deaths, the report is referring to the total 777 child deaths that took place in 2019. When the text refers to preventable deaths these are the fatalities that the review teams deemed to be preventable. The majority of the data discussed in this report are based on those fatalities determined as preventable by the teams. This is important so that efforts are targeted to the areas where prevention initiatives will be most effective.



CFR teams determined 44% of child deaths were probably preventable, 51% of child deaths were probably not preventable, and could not determine the preventability in 5% of deaths (Figure 12).

**Figure 12. Number and Percentage of Deaths among Children by Preventability, Ages 0-17 Years, Arizona, 2019 (n=777)**



Among preventable deaths, motor vehicle crash was the #1 cause of death for children ages 0-17 years (Table 2).

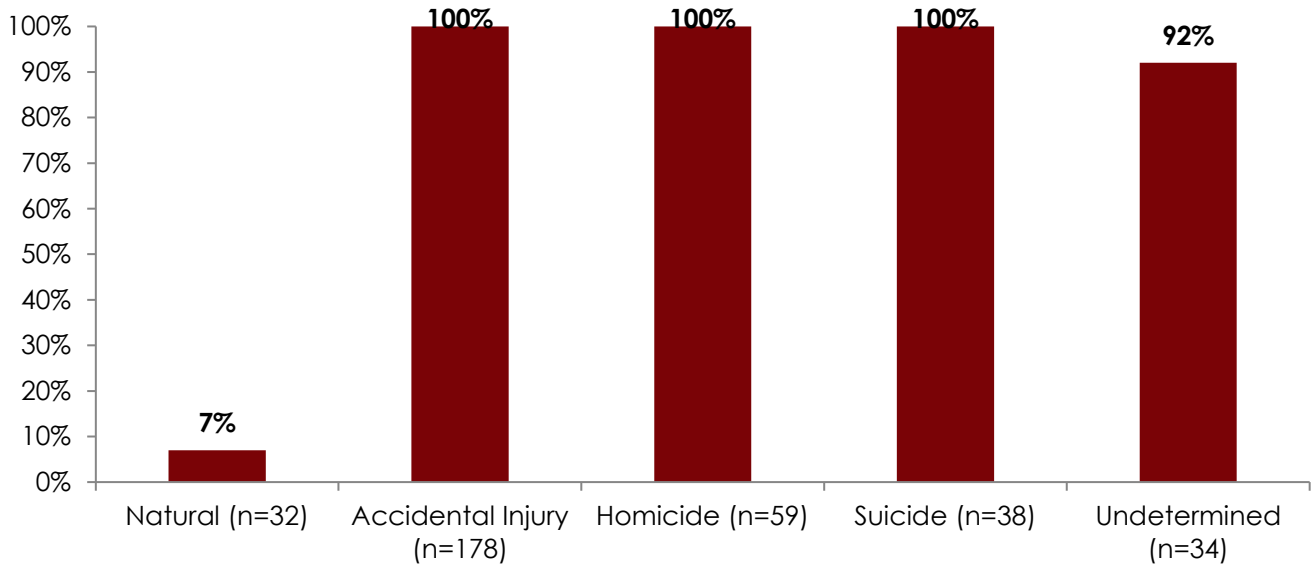
**Table 2. Causes of Preventable Deaths, Ages 0-17 Years, Arizona, 2019 (n=341)\***

Causes of Death	Number	Percent
Motor Vehicle Crash	61	18%
Suffocation	54	16%
Firearm Injury	36	11%
Blunt Force Trauma	30	9%
Poisoning	30	9%
Undetermined	30	9%
Strangulation	26	8%
Other Injury	23	7%
Drowning	19	6%
Other Medical Conditions	18	5%
Prematurity	8	2%
Other Infection	6	2%
*Total exceeds 100% due to rounding.		



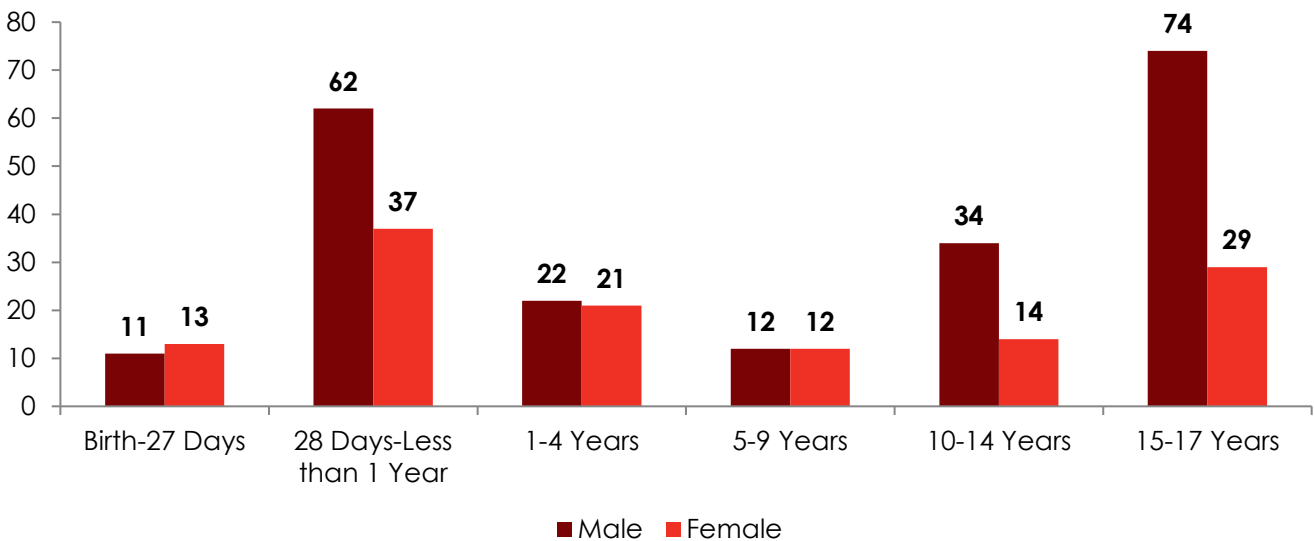
CFR teams determined 7% of natural deaths (n=32), 100% of accidental injury deaths (n=178), 100% of suicides (n=38), 100% of homicides (n=59), and 92% of undetermined deaths (n=34) were preventable (Figure 13).

**Figure 13. Number and Percentage of Preventable Deaths among Children by Manner of Death, Ages 0-17 Years, Arizona, 2019 (n=341)**



Infants between the ages of birth and 27 days (n=24) and children ages 5-9 years (n=24) had the lowest number of preventable deaths while children ages 15-17 years had the highest number of preventable deaths (n=103) (Figure 14).

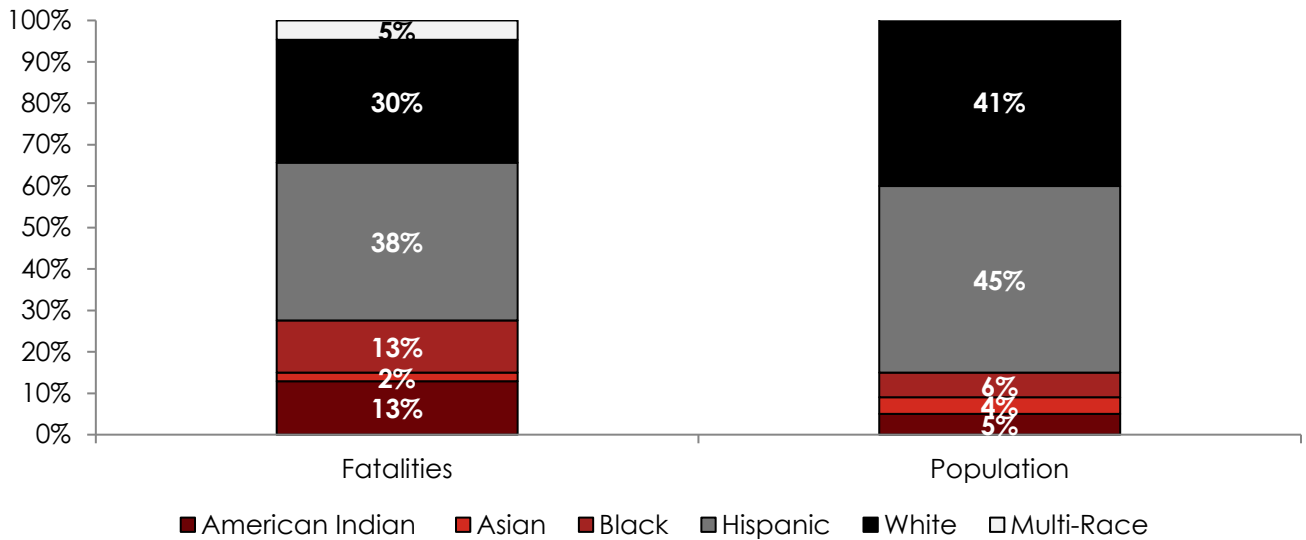
**Figure 14. Number of Preventable Deaths among Children by Age Group and Sex, Ages 0-17 Years, Arizona, 2019 (n=341)**





American Indian/Alaska Native and Black/African American children made up 13% and 13% of preventable child deaths, respectively, but only comprised 5% and 6% of the total population, respectively (Figure 15).

**Figure 15. Percentage of Preventable Deaths among Children by Race/Ethnicity, Ages 0-17 Years, Compared to Population, Arizona, 2019 (n=341)\*2**



\*There is no population comparison for multi-race. Fatalities total equals 101% due to rounding. Population total equals 101% due to rounding.



# Manners of Death



## Accidental Injury Deaths



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There were 178 accidental injury deaths in 2019.

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There was a 5% increase in the accidental injury mortality rate from 2018 to 2019.

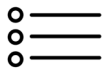
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100% of accidental injury deaths were preventable.

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#1 cause: Motor vehicle crash (n=61)  
#2 cause: Suffocation (n=54)  
#3 cause: Poisoning (n=24)

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Of the accidental injury deaths, 63% were male and 37% were female.

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32% of accidental injury deaths occurred in children ages 15-17 years.

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Black/African American and American Indian/Alaska Native children were disproportionately affected. Black/African American children made up 12% of accidental injury deaths but only made up 6% of the total population. American Indian/Alaska Native children made up 11% of accidental injury deaths but only made up 5% of the total population.

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30% of accidental injury deaths involved substance use.

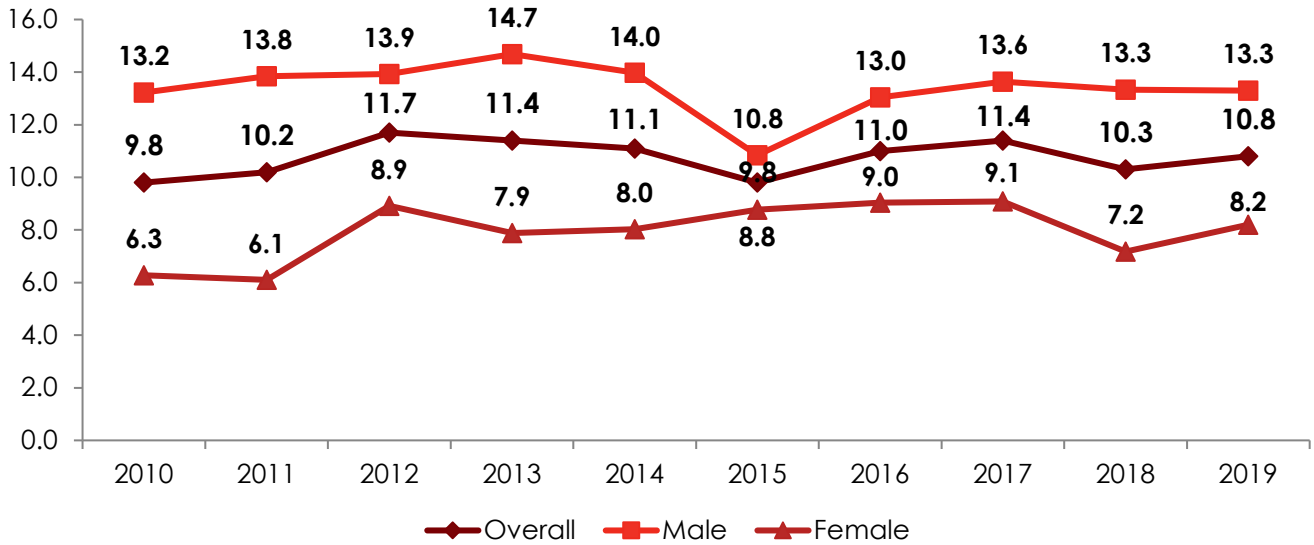
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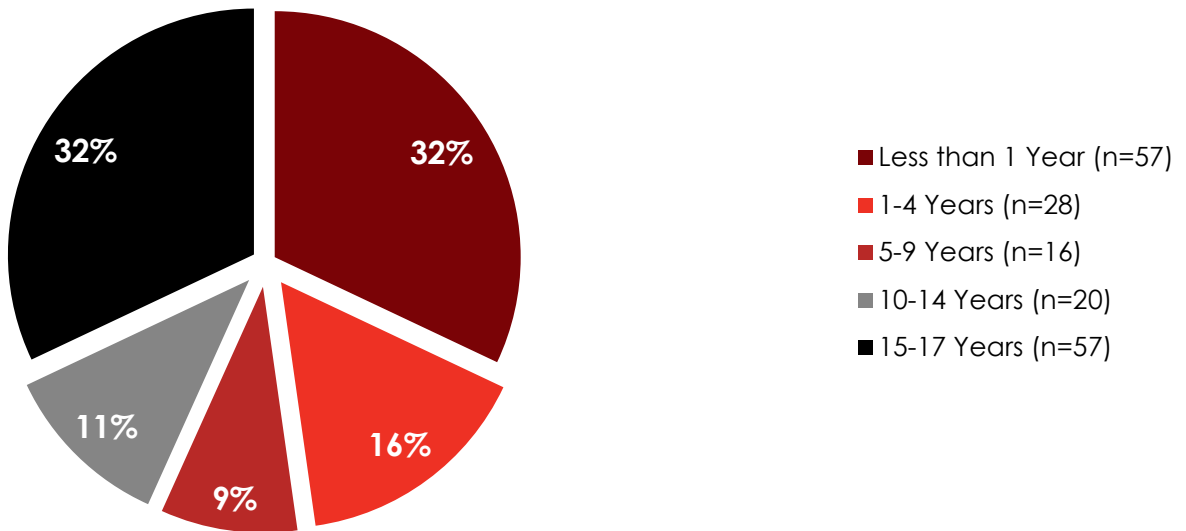
Overall, Arizona's accidental injury mortality rate has slightly increased from 2010 to 2019 (Figure 16). Males have consistently had a higher accidental injury mortality rate compared to females. Arizona's accidental injury mortality rate increased from 10.3 per 100,000 children in 2018 to 10.8 per 100,000 children in 2019.

**Figure 16. Mortality Rate per 100,000 Children due to Accidental Injury by Gender, Ages 0-17 Years, Arizona, 2010-2019<sup>2-11</sup>**



The majority of accidental injury deaths occurred among children less than 1 year of age (32%) and children ages 15-17 years (32%) (Figure 17).

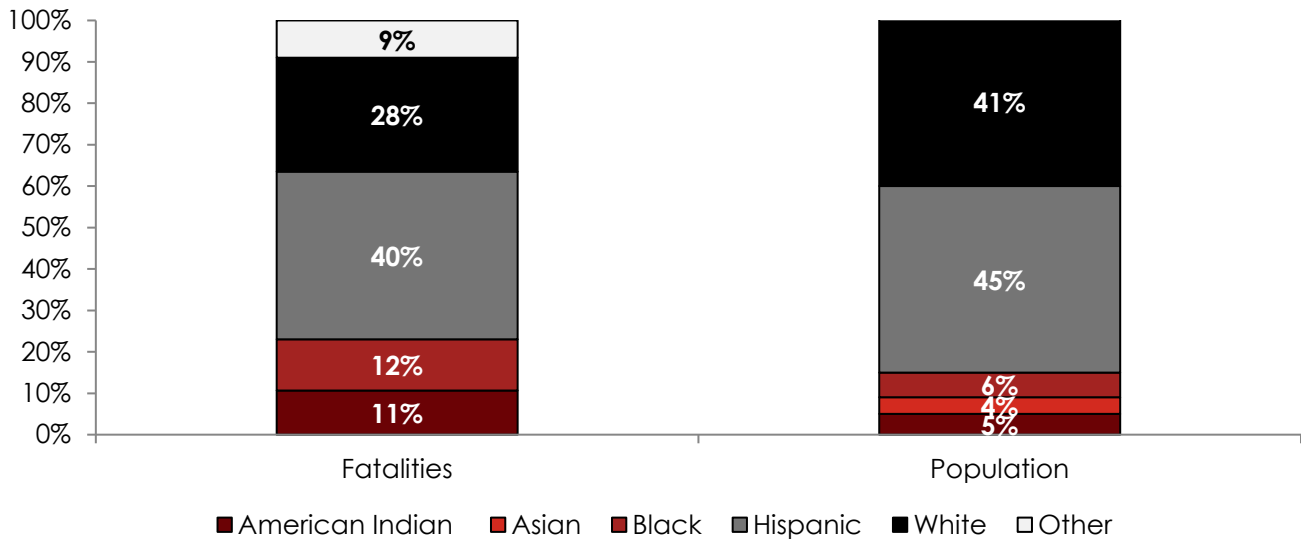
**Figure 17. Percentage of Accidental Injury Deaths among Children by Age Group, Ages 0-17 Years, Arizona, 2019 (n=178)**





Black/African American and American Indian/Alaska Native children made up 12% and 11% of accidental injury deaths, respectively, but only comprised 6% and 5% of the total population, respectively (Figure 18).

**Figure 18. Percentage of Accidental Injury Deaths among Children by Race/Ethnicity, Ages 0-17 Years, Compared to Population, Arizona, 2019 (n=178)\*2**



\*There is no population comparison for other race. For fatalities, other comprises Asian/Pacific Islander and multi-race due to small sample sizes. Population total equals 101% due to rounding.

Among accidental injury deaths, motor vehicle crash was the #1 cause of death for children ages 0-17 years (Table 3).

**Table 3. Causes of Accidental Injury Deaths, Ages 0-17 Years, Arizona, 2019 (n=178)**

Causes of Death	Number	Percent
Motor Vehicle Crash	61	34%
Suffocation	54	31%
Poisoning	24	13%
Drowning	19	11%
Other Injury (e.g., Choking, Fall/Crush, Firearm)	20	11%



While there are numerous preventable risk factors that contribute to accidental injury deaths, reckless driving was the most commonly identified risk factor (Table 4).

**Table 4. Risk Factors for Accidental Injury Deaths, Ages 0-17 Years, Arizona, 2019 (n=220)**

<b>Risk Factors*</b>	<b>Number</b>	<b>Percent</b>
Reckless Driving	61	34%
Substance Use	54	30%
Unsafe Sleep Environment	52	29%
Lack of Supervision	32	18%
Lack of Vehicle Restraint	21	12%

\*Total exceeds 100% as more than one risk factor may have been identified for each death



## Homicides



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There were 59 homicides in 2019.

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There was an 89% increase in the homicide rate from 2018 to 2019.

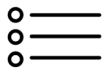
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100% of homicides were preventable.

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#1 cause: Blunt Force Trauma (n=29)  
#2 cause: Firearm Injury (n=24)  
#3 cause: Other (n=6)

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Of the homicides, 68% were male and 32% were female.

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29% of homicides occurred in children ages 15-17 years.

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American Indian/Alaska Native and Black/African American children were disproportionately affected. American Indian/Alaska Native children made up 19% of homicides but only made up 5% of the total population. Black/African American children made up 12% of homicides but only made up 6% of the total population.

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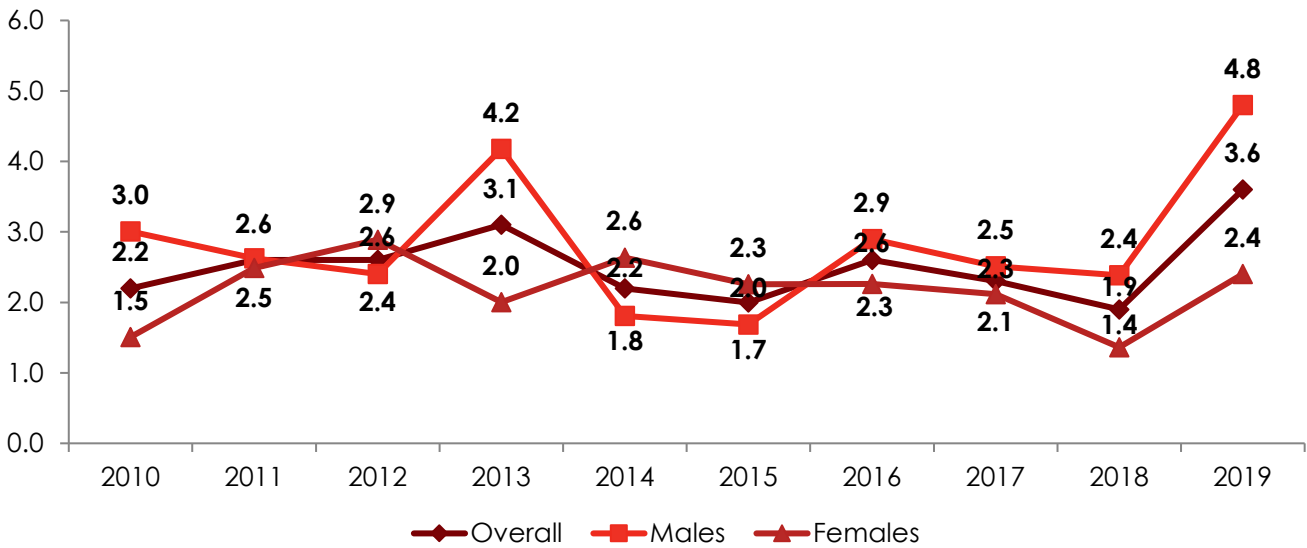
41% of homicides involved substance use.

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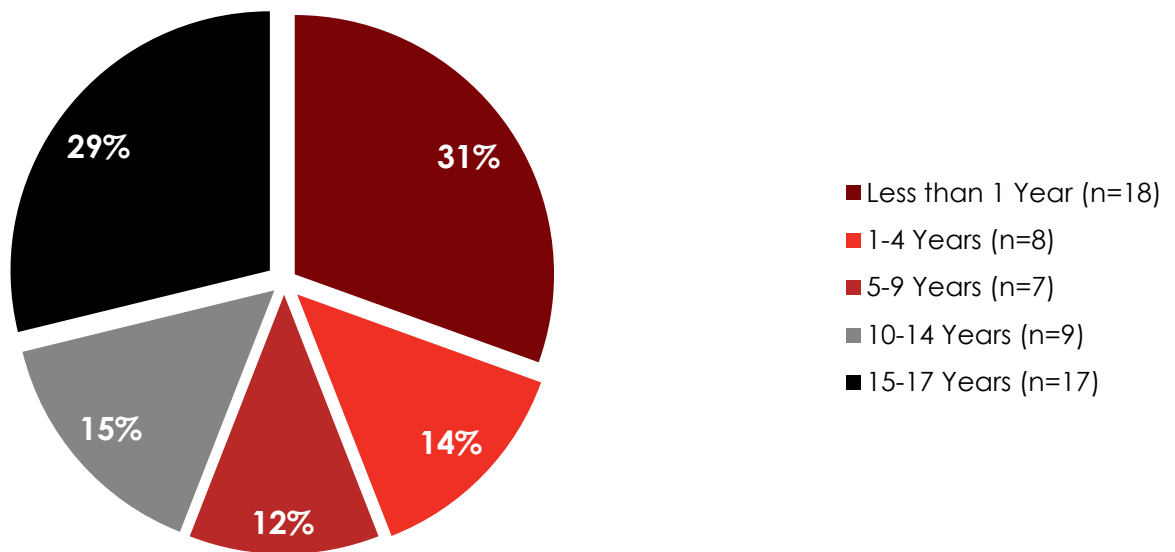
Overall, Arizona’s homicide rate has increased from 2010 to 2019 (Figure 19). Since 2016, males have had a higher homicide rate compared to females. Arizona’s homicide rate increased from 1.9 deaths per 100,000 children in 2018 to 3.6 deaths per 100,000 children in 2019.

**Figure 19. Mortality Rate per 100,000 Children due to Homicide by Gender, Ages 0-17 Years, Arizona, 2010-2019<sup>2-11</sup>**



The majority of homicides occurred among children less than 1 year of age (31%), followed by children ages 15-17 years (29%) (Figure 20).

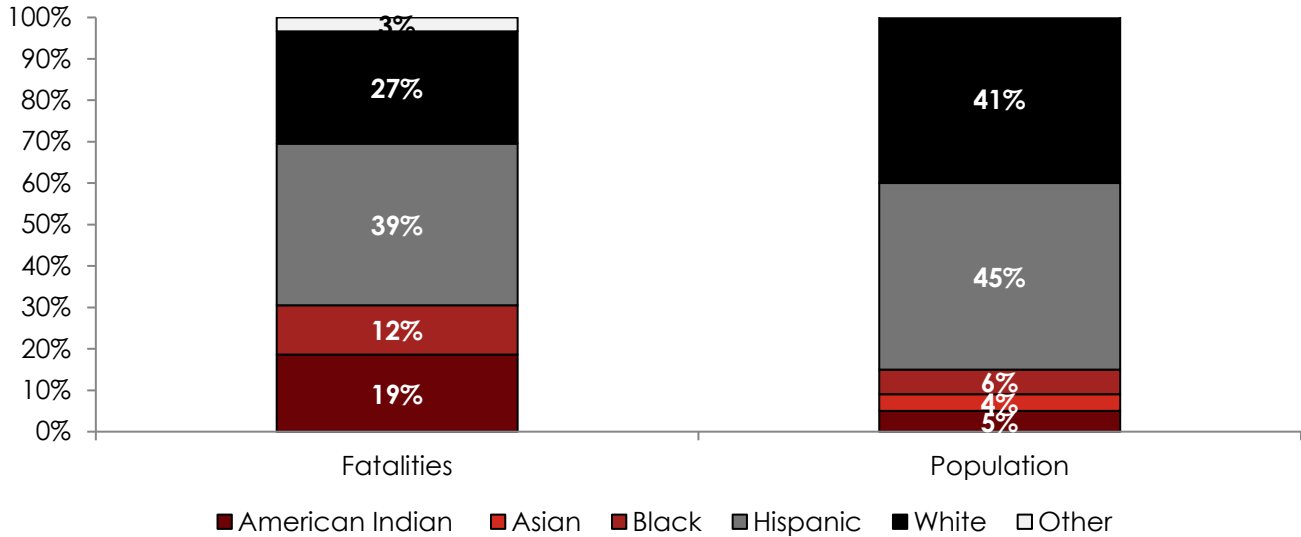
**Figure 20. Percentage of Homicides among Children by Age Group, Ages 0-17 Years, Arizona, 2019 (n=59)**





American Indian/Alaska Native and Black/African American children made up 19% and 12% of homicides, respectively, but only comprised 5% and 6% of the total population, respectively (Figure 21).

**Figure 21. Percentage of Homicides among Children by Race/Ethnicity, Ages 0-17 Years, Compared to Population, Arizona, 2019 (n=59) \*2**



\*There is no population comparison for other race. For fatalities, other comprises Asian/Pacific Islander and multi-race due to small sample sizes. Population total equals 101% due to rounding.

In 44% of the homicides, the perpetrators were the child's father or mother (Table 5).

**Table 5. Perpetrators Involved among Homicides, Ages 0-17 Years, Arizona, 2019**

Perpetrator*	Number	Percent
Father	15	25%
Mother	11	19%
Stranger	9	15%
Mother's Partner	7	12%
Acquaintance/Friend	7	12%
Other (e.g., Grandparent, Sibling, Foster Parent)	10	17%

\*More than one perpetrator may have been identified for each death



Among homicides, blunt force trauma was the #1 cause of death for children ages 0-17 years (Table 6).

**Table 6. Causes of Homicides, Ages 0-17 Years, Arizona, 2019 (n=59)**

Causes of Death	Number	Percent
Blunt Force Trauma	29	49%
Firearm Injury	24	41%
Other (e.g., Stabbing, Poisoning, Fire/Burn, Undetermined)	6	10%

While there are numerous preventable risk factors that contribute to homicides, abuse/neglect was the most commonly identified risk factor (Table 7).

**Table 7. Risk Factors for Homicides, Ages 0-17 Years, Arizona, 2019**

Risk Factors*	Number	Percent
Abuse/Neglect	39	66%
Prior DCS Involvement	25	42%
Access to Firearms	24	41%
Criminal Activity	24	41%
Substance Use	24	41%
Foster Care History of Child	11	19%
Mental Health Disorder of Perpetrator	6	10%

\*Total exceeds 100% as more than one risk factor may have been identified for each death



## Natural Deaths

In Arizona and nationally, deaths classified as natural deaths due to a medical condition account for the largest percentage of child deaths every year.

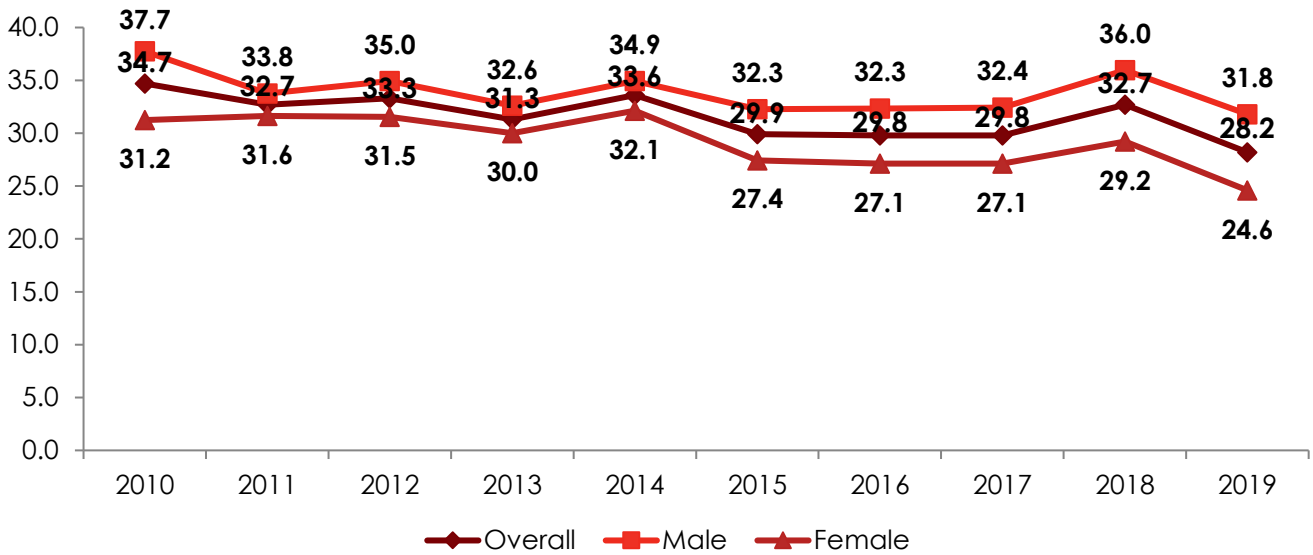
	There were 465 natural deaths in 2019.
	There was a 14% decrease in the natural mortality rate from 2018 to 2019.
	7% of natural deaths were preventable.
	#1 cause: Prematurity (n=145) #2 cause: Congenital Anomaly (n=99) #3 cause: Cancer (n=54)
	Of the natural deaths, 57% were male and 43% were female.
	55% of natural deaths occurred in neonates (infants less than 28 days). 15% of natural deaths occurred in post-neonates (infants 28 days and older but less than 1 year of age).
	Black/African American children were disproportionately affected. Black/African American children made up 12% of natural deaths but only made up 6% of the total population.
	3% of natural deaths involved substance use.





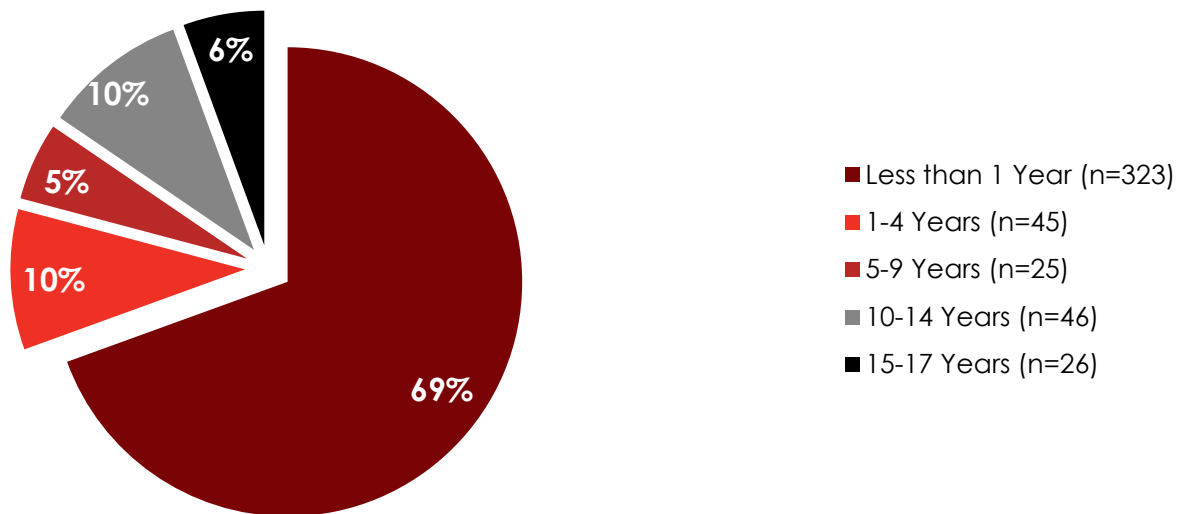
Overall, Arizona’s natural mortality rate has decreased from 2010 to 2019 (Figure 22). Males have consistently had a higher natural mortality rate compared to females. Arizona’s natural mortality rate decreased from 32.7 per 100,000 children in 2018 to 28.2 per 100,000 children in 2019.

**Figure 22. Mortality Rates per 100,000 Children due to Natural Causes by Gender, Ages 0-17 Years, Arizona, 2010-2019<sup>2-11</sup>**



The majority of natural deaths occurred among children less than 1 year of age (69%), followed by children ages 10-14 years (10%) and children ages 1-4 years (10%) (Figure 23).

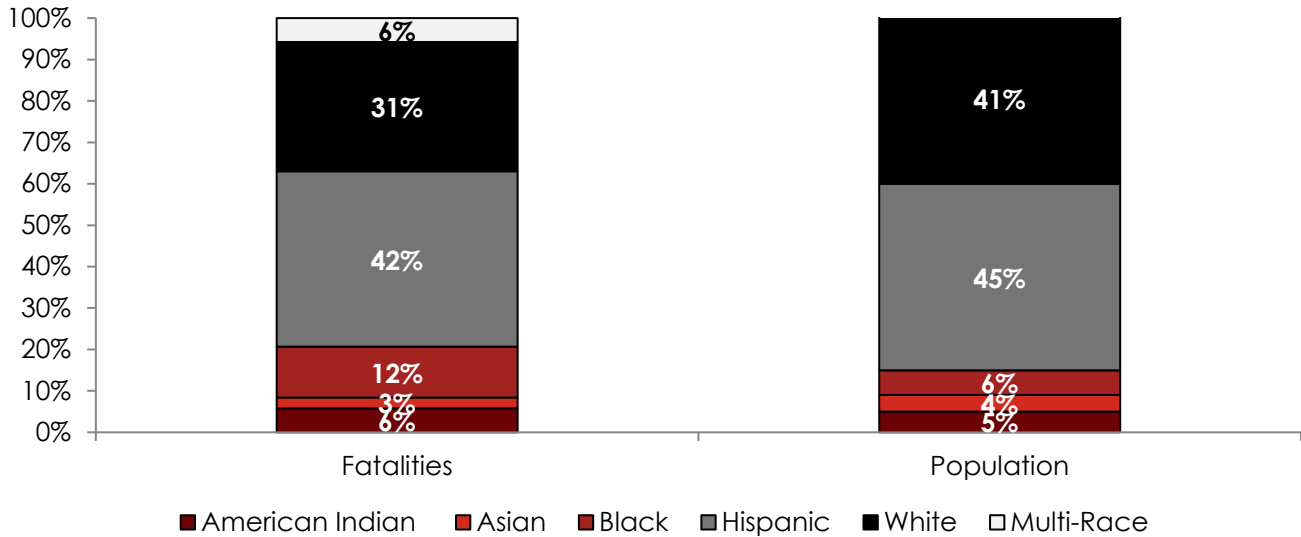
**Figure 23. Percentage of Natural Deaths among Children by Age Group, Ages 0-17 Years, Arizona, 2019 (n=465)**





Black/African American children made up 12% of natural deaths, but only comprised 6% and of the total population (Figure 24).

**Figure 24. Percentage of Natural Deaths among Children by Race/Ethnicity, Ages 0-17 Years, Compared to Population, Arizona, 2019 (n=465)\*<sup>2</sup>**



\*There is no population comparison for multi-race. Population total equals 101% due to rounding.

Among natural deaths, prematurity was the #1 cause of death for children ages 0-17 years (Table 8).

**Table 8. Causes of Natural Deaths, Ages 0-17 Years, Arizona, 2019 (n=465)**

Causes of Death*	Number	Percent
Prematurity	170	37%
Congenital Anomaly	99	21%
Cancer	54	12%
Cardiovascular Disease	31	7%
Other Medical Condition (e.g., Asthma, Malnutrition/Dehydration, Influenza)	26	6%
Neurological/Seizure Disorder	25	5%
Other Infection	24	5%
Other Perinatal Conditions	23	5%
Pneumonia	7	2%
Undetermined	6	1%

\*Total exceeds 100% due to rounding.



The most commonly identified risk factor for natural deaths was preterm labor (Onset of labor before 37 completed weeks gestation) (Table 9).

**Table 9. Risk Factors for Natural Deaths, Ages 0-17 Years, Arizona, 2019**

<b>Risk Factors*</b>	<b>Number</b>	<b>Percent</b>
Preterm Labor	95	20%
No Prenatal Care	27	6%
Substance Use	16	3%
Inadequate Treatment	13	3%
*More than one risk factor may have been identified for each death. Not all risk factors are listed.		



## Suicides



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There were 38 suicides in 2019.

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There was a 41% decrease in the suicide rate from 2018 to 2019.

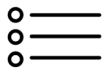
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100% of suicides were preventable.

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#1 cause: Strangulation (n=24)  
#2 cause: Firearm Injury (n=10)  
#3 cause: Poisoning (n=4)

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Of the suicides, 58% were male and 42% were female.

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58% of suicides occurred in children ages 15-17 years.

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American Indian/Alaska Native children were disproportionately affected. American Indian/Alaska Native children made up 18% of suicides but only made up 5% of the total population.

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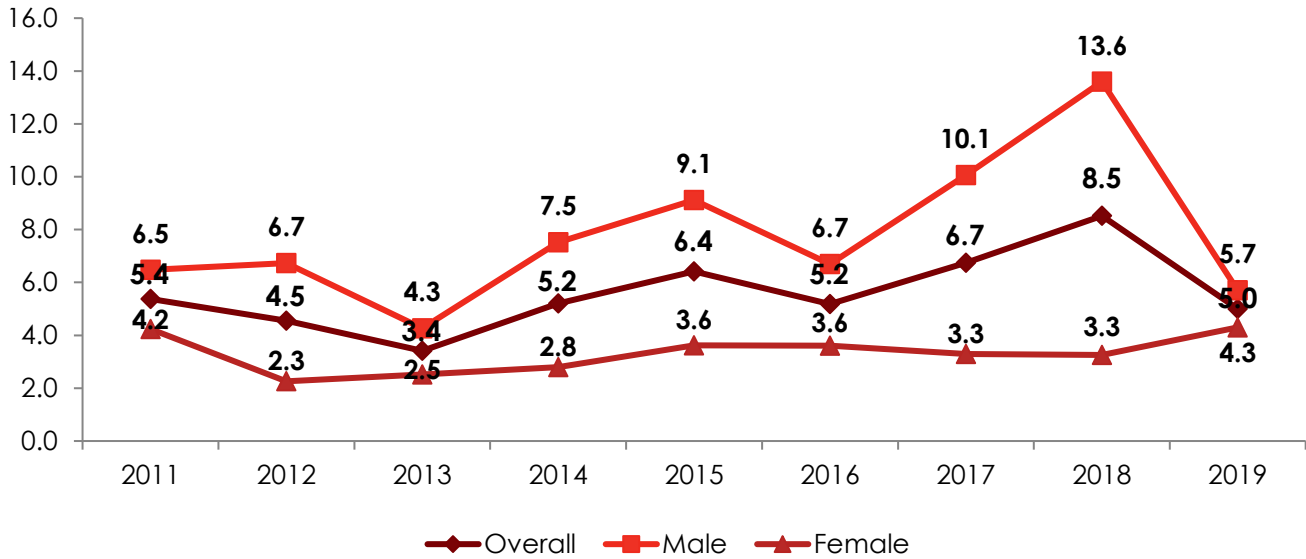
29% of suicides involved substance use.

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Overall, Arizona’s suicide rate has slightly decreased from 2011 to 2019 (Figure 25). Males have consistently had a higher suicide rate compared to females. Arizona’s suicide rate decreased from 8.5 per 100,000 children in 2018 to 5.0 per 100,000 children in 2019.

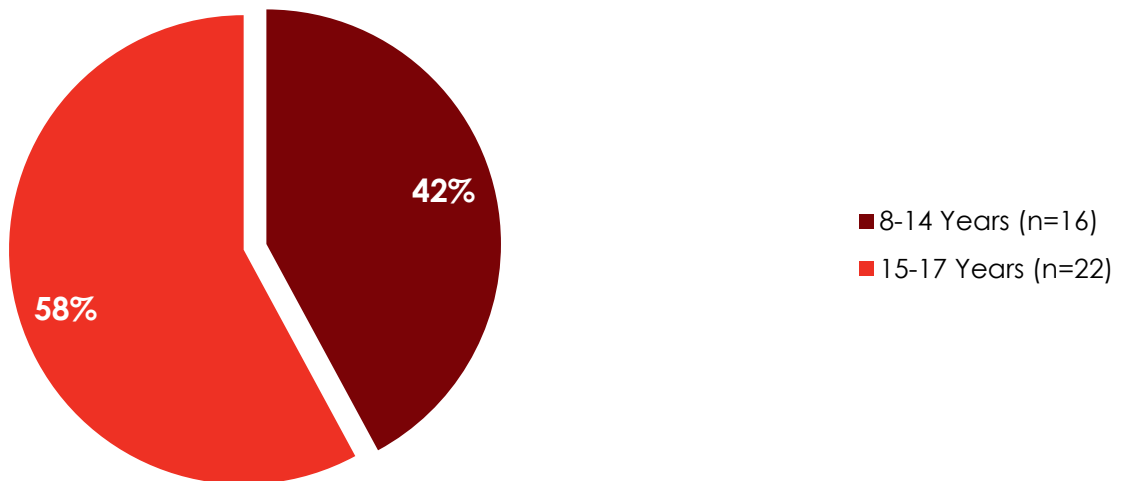
**Figure 25. Mortality Rate per 100,000 Children due to Suicide by Gender, Ages 10-17 Years, Arizona, 2011-2019\*<sup>25</sup>**



\*There are select years where children less than 10 years of age are included in the rate.

The majority of suicides occurred among children ages 15-17 years (58%) (Figure 26).

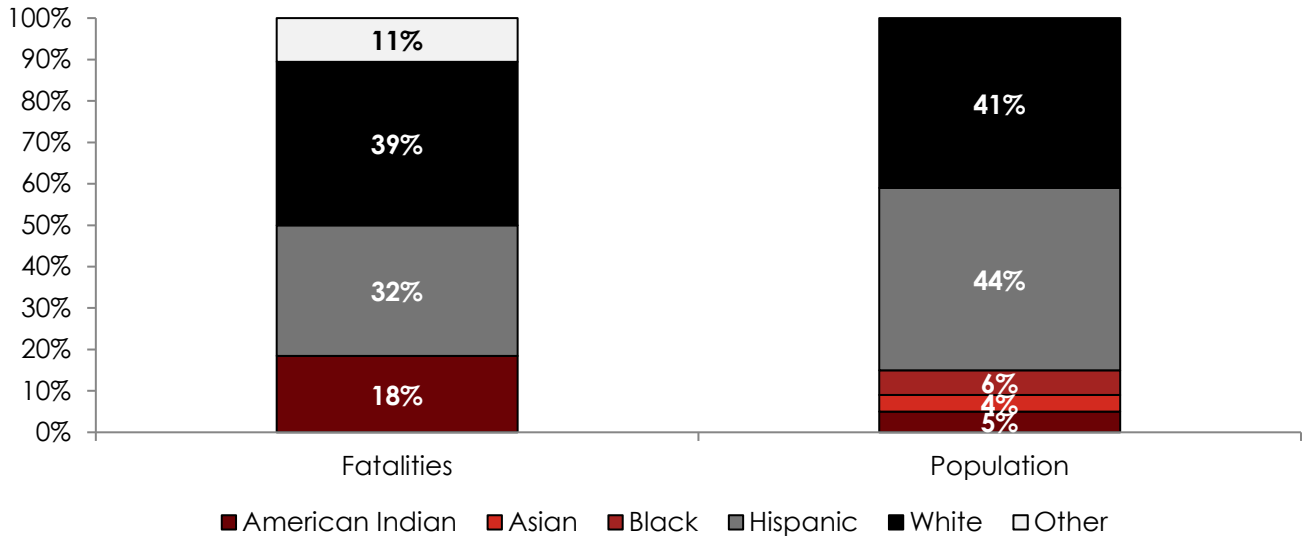
**Figure 26. Percentage of Suicides among Children by Age Group, Ages 8-17 Years, Arizona, 2019 (n=38)**





American Indian/Alaska Native children made up 18% of suicides, but only comprised 5% of the total population (Figure 27).

**Figure 27. Percentage of Suicide among Children by Race/Ethnicity, Ages 10-17 Years, Compared to Population, Arizona, 2019 (n=38)\*<sup>25</sup>**



\*There is no population comparison for other race. For fatalities, other comprises Asian/Pacific Islander, Black/African American, and multi-race due to small sample sizes. For fatalities, there are children less than 10 years of age included (n<6).

Among suicides, strangulation was the #1 cause of death for children ages 8-17 years (Table 10).

**Table 10. Causes of Suicide, Ages 8-17 Years, Arizona, 2019 (n=38)**

Causes of Death	Number	Percent
Strangulation	24	63%
Firearm Injury	10	26%
Poisoning	4	11%



While there are numerous risk factors that can contribute to suicide, the most commonly identified risk factors were family discord (47%), mental health disorder (39%), and previous talk of suicide (34%) (Table 11).

**Table 11. Risk Factors that may have contributed to the Child’s Despondency Prior to Suicide, Ages 8-17, Arizona, 2019**

<b>Risk Factors*</b>	<b>Number</b>	<b>Percent</b>
Family Discord	18	47%
Mental Health Disorder	15	39%
Previous Talk of Suicide	13	34%
Abuse/Neglect History	12	32%
Victim of Bullying	11	29%
Argument with Parent	11	29%
Substance Use	11	29%
Drug or Alcohol History	11	29%
Access to Firearms	10	26%
Parent's Divorce	9	24%
School Failure	9	24%

\*Total exceeds 100% as more than one risk factor may have been identified for each death



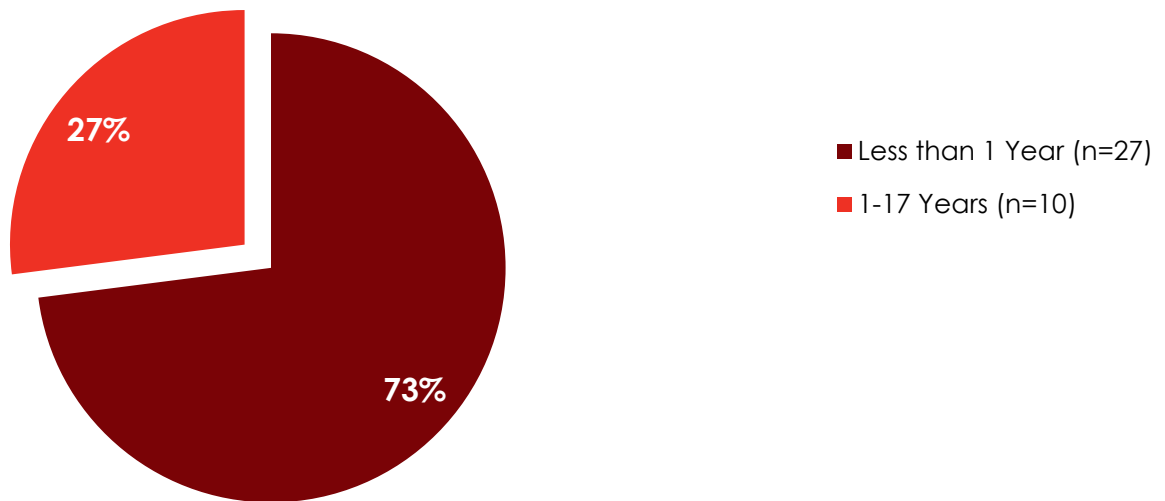
## Undetermined Deaths

#	There were 37 deaths with an undetermined manner in 2019.
👉❤️	92% of undetermined deaths were preventable.
📊	#1 cause: Undetermined (n=32) #2 cause: Other (n=5)
♂️♀️	Of the undetermined deaths, 65% were male and 35% were female.
🔄 Age	73% of undetermined deaths occurred in children less than 1 year of age.
⚖️	Black/African American children were disproportionately affected. Black/African American children made up 19% of undetermined deaths but only made up 6% of the total population.
🍷💊	38% of undetermined deaths involved substance use.

\*A safe sleep environment is placing the baby alone, on their back, in an empty crib for every sleep.

The majority of undetermined deaths occurred among infants less than 1 year of age (73%), (Figure 28).

**Figure 28. Percentage of Undetermined Deaths among Children by Age Group, Ages 0-17 Years, Arizona, 2019 (n=37)**

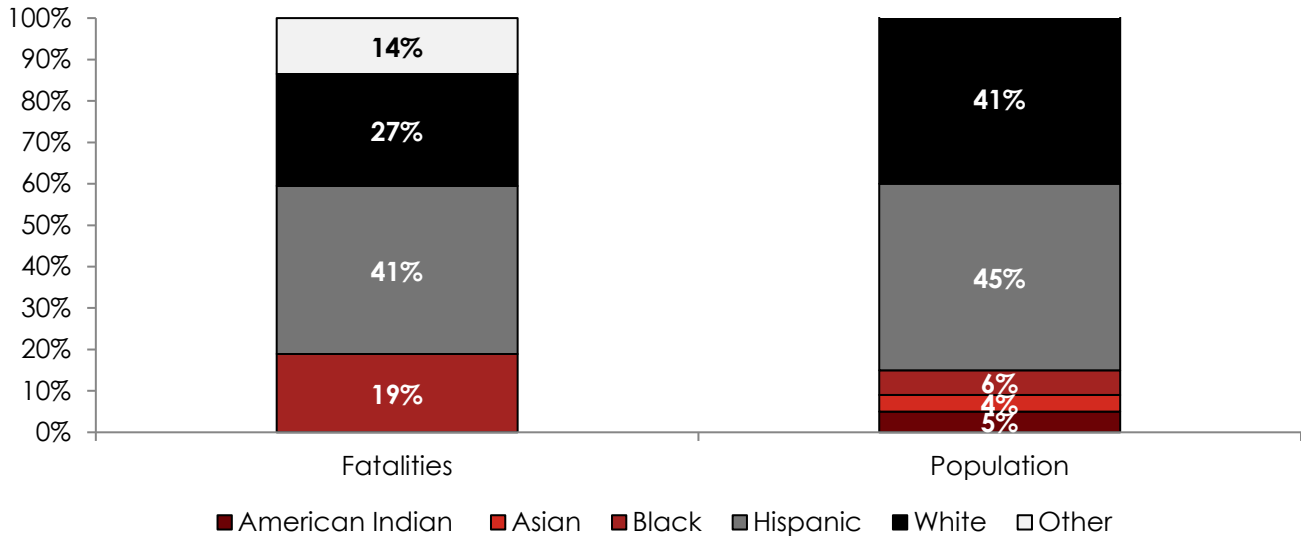






Black/African American children made up 19% of undetermined deaths, but only comprised 6% of the total population (Figure 29).

**Figure 29. Percentage of Undetermined Deaths among Children by Race/Ethnicity, Ages 0-17 Years, Compared to Population, Arizona, 2019 (n=37)\*2**



\*There is no population comparison for other race. For fatalities, other comprises American Indian/Alaska Native and multi-race due to small sample sizes. There were no undetermined deaths for Asian/Pacific Islander. Fatalities total equals 101% due to rounding. Population total equals 101% due to rounding.

Among undetermined deaths, undetermined was the #1 cause of death for children ages 0-17 years (Table 12).

**Table 12. Causes of Undetermined Deaths, Ages 0-17 Years, Arizona, 2019 (n=37)**

Causes of Death	Number	Percent
Undetermined	32	86%
Other (e.g., Strangulation, Poisoning, Fall/Crush)	5	14%

The most commonly identified risk factor for undetermined deaths was an unsafe sleep environment (Table 13).

**Table 13. Risk Factors for Undetermined Deaths, Ages 0-17 Years, Arizona, 2019 (n=32)**

Risk Factors*	Number	Percent
Unsafe Sleep Environment	22	59%
Substance Use	14	38%

\*More than one risk factor may have been identified for each death



# **Main Causes and Contributing Factors of Death**



## Abuse/Neglect Deaths

Abuse/neglect is an act or failure to act on the part of the parent or caregiver of a child resulting in the serious physical or emotional harm of the child. See Technical Appendix for further explanation.



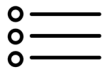
There were 100 abuse/neglect deaths in 2019 (43 abuse, 74 neglect).\*



There was a 33% increase in the abuse/neglect mortality rate from 2018 to 2019.



100% of abuse/neglect deaths were preventable.



#1 cause: Blunt Force Trauma (n=30)  
 #2 cause: Suffocation (n=14)  
 #3 cause: Undetermined (n=10)



Of the abuse/neglect deaths, 57% were male and 43% were female.



58% of abuse/neglect deaths occurred in children less than 1 year of age.



American Indian/Alaska Native and Black/African American children were disproportionately affected. American Indian/Alaska Native children made up 16% of abuse/neglect deaths but only made up 5% of the total population. Black/African American children made up 16% of abuse/neglect deaths but only made up 6% of the total population.



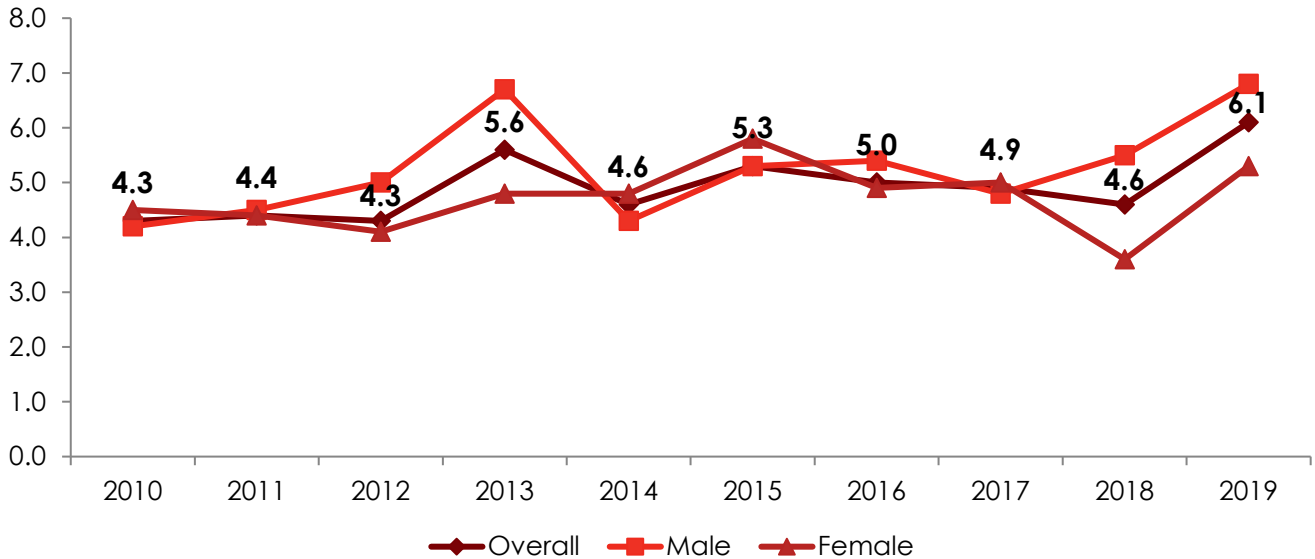
49% of abuse/neglect deaths involved substance use.

\*The number of abuse and neglect deaths will not total 100 because a child could have been a victim to both abuse and neglect.



Overall, Arizona's abuse/neglect mortality rate has increased from 2010 to 2019 (Figure 30). There is no clear trend in differences by gender. Arizona's abuse/neglect mortality rate increased from 4.6 per 100,000 children in 2018 to 6.1 per 100,000 children in 2019.

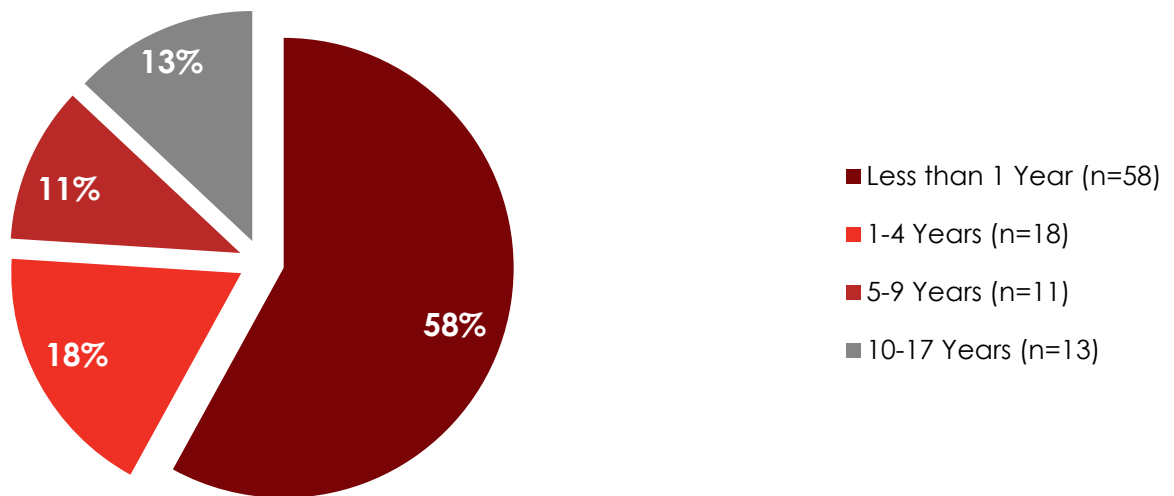
**Figure 30. Mortality Rate per 100,000 Children due to Abuse/Neglect by Gender, Ages 0-17 Years, Arizona, 2010-2019\***<sup>2-11</sup>



\*For ease of readability, data points are only provided for overall rates and not by gender.

The majority of abuse/neglect deaths occurred among children less than 1 year of age (58%), followed by children ages 1-4 years (18%) (Figure 31).

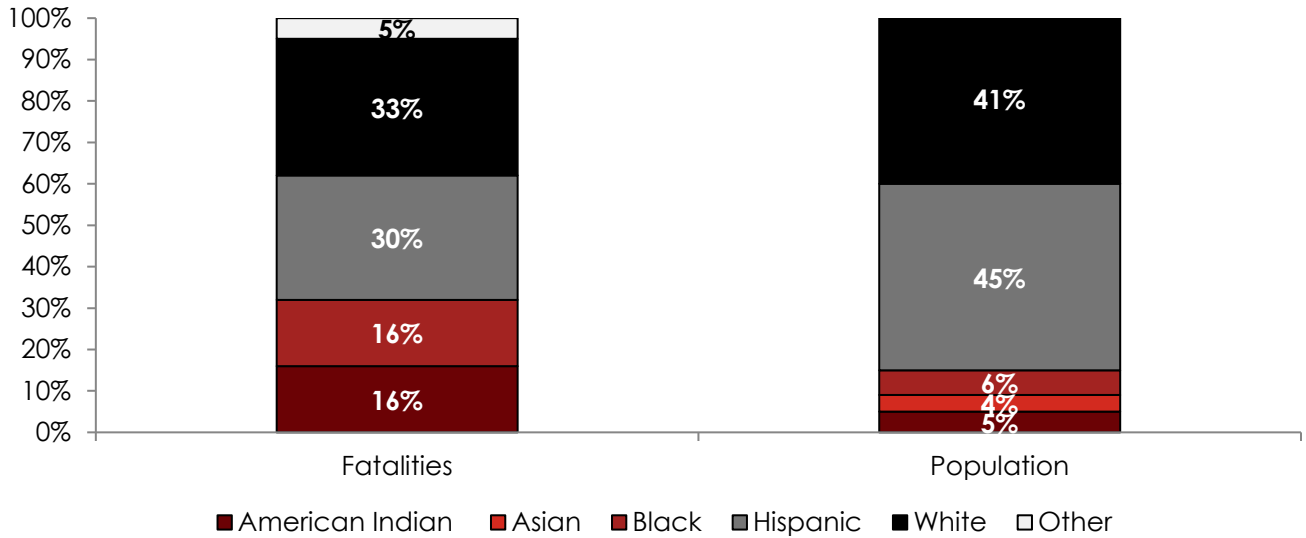
**Figure 31. Percentage of Abuse/Neglect Deaths among Children by Age Group, Ages 0-17 Years, Arizona, 2019 (n=100)**





American Indian/Alaska Native and Black/African American children made up 16% and 16% of abuse/neglect deaths, respectively, but only comprised 5% and 6% of the total population, respectively (Figure 32).

**Figure 32. Percentage of Abuse/Neglect Deaths among Children by Race/Ethnicity, Ages 0-17 Years, Compared to Population, Arizona, 2019 (n=100)\*2**



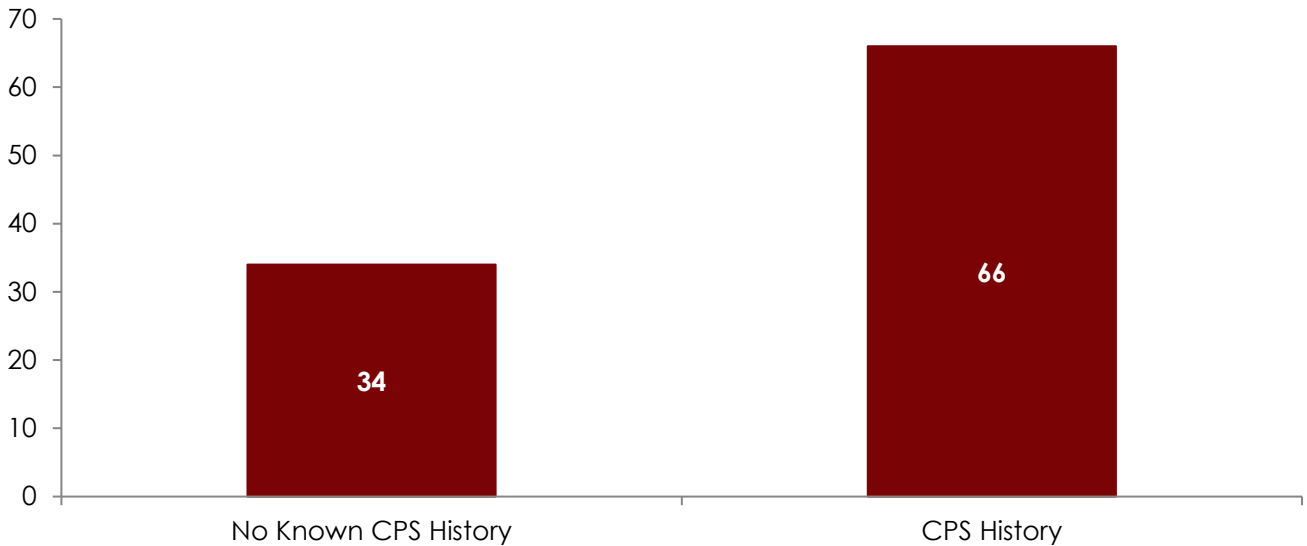
\*There is no population comparison for other race. For fatalities, other comprises Asian/Pacific Islander and multi-race due to small sample sizes. Population total equals 101% due to rounding.



Local CFR teams attempt to obtain records from child protective services (CPS) agencies, including Department of Child Safety (DCS) and CPS agencies in other jurisdictions, such as tribal authorities and agencies in other states. Review teams consider a family as having previous involvement with a CPS agency if the agency investigated a report of abuse/neglect for any child in the family before the incident leading to the child's death. Unsubstantiated reports of abuse/neglect are also included in this definition; however, calls to DCS that did not meet criteria to be made into a report, and were taken as "information only", are not included.

In 2019, 100 deaths were due to child abuse/neglect (Figure 33). In 66 of the 100 deaths, there was current or past history of involvement between the families and a CPS agency. In 16 of these 100 deaths the families had an open case at the time of the child's death.

**Figure 33. Number of Abuse/Neglect Deaths among Children by Family's Involvement with any Child Protective Services Agency, Ages 0-17 Years, Arizona, 2019 (n=100)**





The child's mother was a perpetrator in 66% of abuse/neglect deaths and the child's father was a perpetrator in 35% of the abuse/neglect deaths (Table 14).

**Table 14. Perpetrators Involved among Child Abuse/Neglect Deaths, Ages 0-17 Years, Arizona, 2019**

Perpetrator*	Number	Percent
Mother	66	66%
Father	35	35%
Mother's Partner	9	9%
Other Relative	9	9%
Other Caregiver (e.g., Foster Parent, Step Parent)	8	8%

\*Total exceeds 100% as more than one perpetrator may have been identified for each death

Among abuse/neglect deaths, blunt force trauma was the #1 cause of death for children ages 0-17 years (Table 15).

**Table 15. Causes of Child Abuse/Neglect Deaths, Ages 0-17 Years, Arizona, 2019 (n=100)**

Causes of Death	Number	Percent
Blunt Force Trauma	30	30%
Suffocation	14	14%
Undetermined	10	10%
Other Medical Condition	10	10%
Firearm	9	9%
Prematurity	8	8%
Drowning	7	7%
Poisoning	6	6%
Other Injury	6	6%

While there are numerous preventable risk factors that contribute to abuse/neglect, prior CPS history with the family was the most commonly identified risk factor (Table 16).

**Table 16. Risk Factors for Child Abuse/Neglect Deaths, Ages 0-17 Years, Arizona, 2019**

Risk Factors*	Number	Percent
Current or Prior CPS History with the Family	66	66%
Responsible Person has a Prior History as a Perpetrator	53	53%
Substance Use	49	49%
Responsible Person has Prior History as a Victim	17	17%
Open DCS Case at Time of Death	16	16%
Responsible Person has a Mental Health Disorder	13	13%
Child was Crying	12	12%
Access to Firearms	9	9%
Responsible Person Failed to Provide Treatment	8	8%
Responsible Person has a Prior History in Foster Care	6	6%

\*Total exceeds 100% as more than one risk factor may have been identified for each death



## Drowning Deaths



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There were 19 drowning deaths in 2019.

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There was a 29% decrease in the drowning mortality rate from 2018 to 2019.

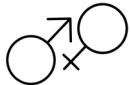
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100% of drowning deaths were preventable.

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Of the drowning deaths, 63% were male and 37% were female.

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47% of drowning deaths occurred in children ages 1-4 years.

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Hispanic/Latino children made up 47% of drowning deaths.

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Substance use was involved in less than 6 cases of drowning.

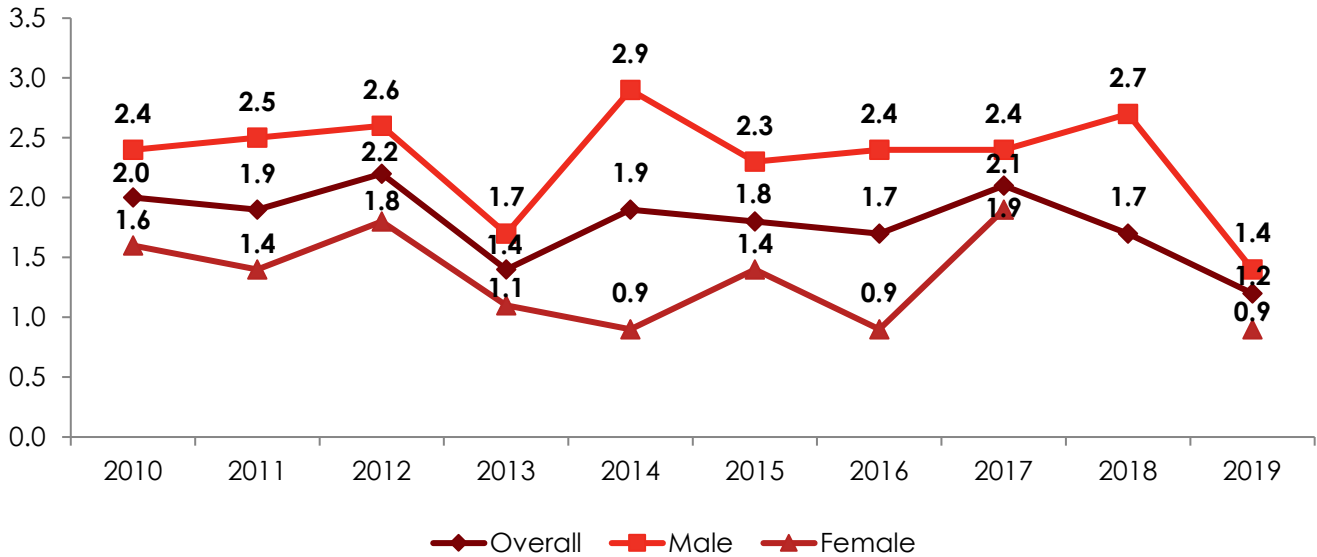
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Overall, Arizona's drowning rate has decreased from 2010 to 2019 (Figure 34). Males have consistently had a higher drowning rate compared to females. Arizona's drowning rate decreased from 1.7 per 100,000 children in 2018 to 1.2 per 100,000 children in 2019.

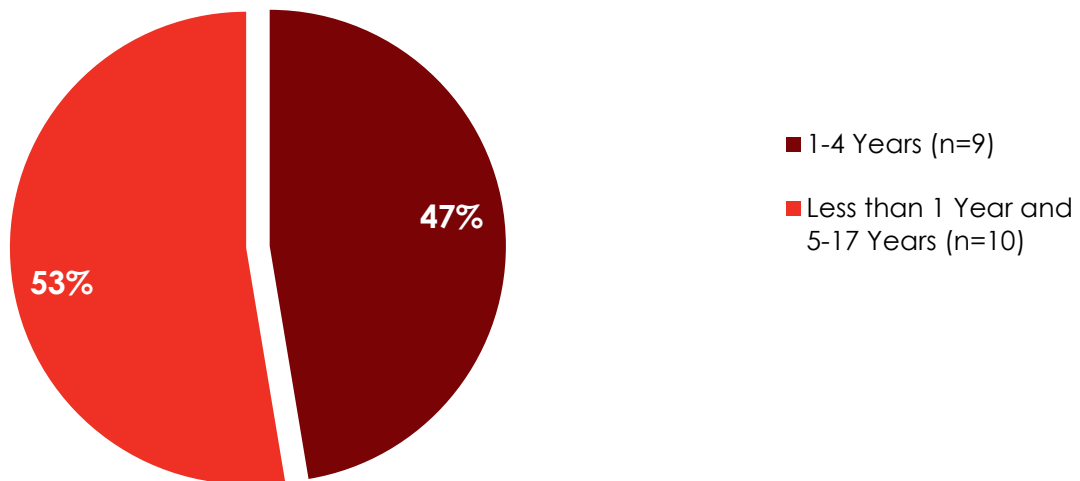
**Figure 34. Mortality Rate per 100,000 Children due to Drowning by Gender, Ages 0-17 Years, Arizona, 2010-2019\***<sup>2-11</sup>



\*2018 data on female children not included due to a small sample size.

The majority of drowning deaths occurred among children ages 1-4 years (47%) (Figure 35).

**Figure 35. Percentage of Drowning Deaths among Children by Age Group, Ages 0-17 Years, Arizona, 2019 (n=19)\***

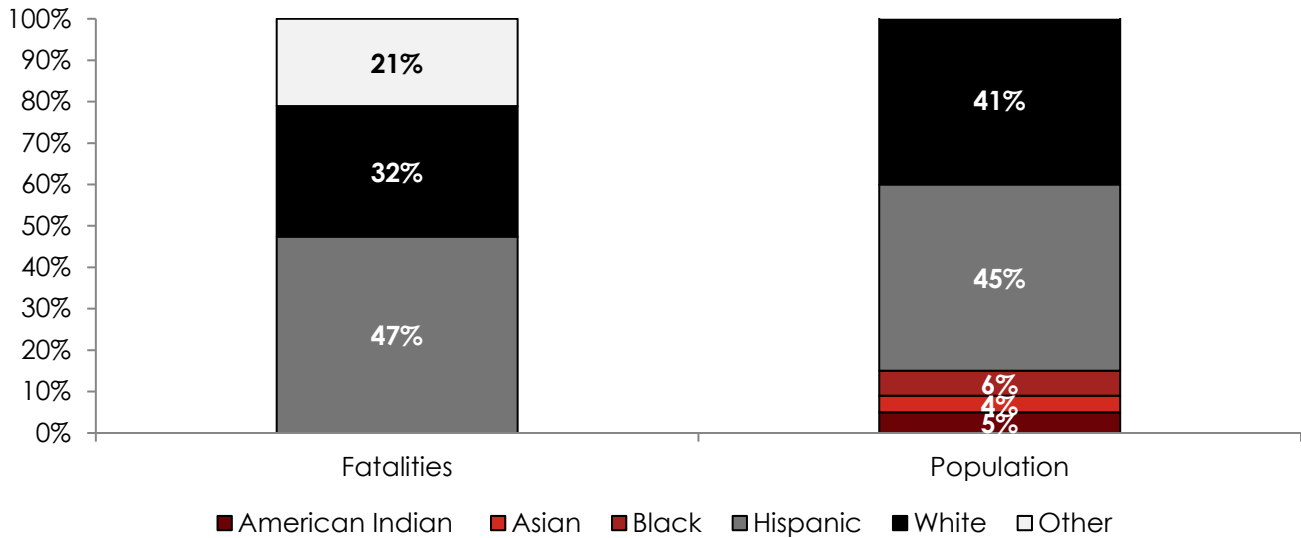


\*All other age groups combined due to small sample sizes.



The number of drowning deaths were too small to determine if health disparities exist. Hispanic/Latino children made up 47% of drowning deaths (Figure 36).

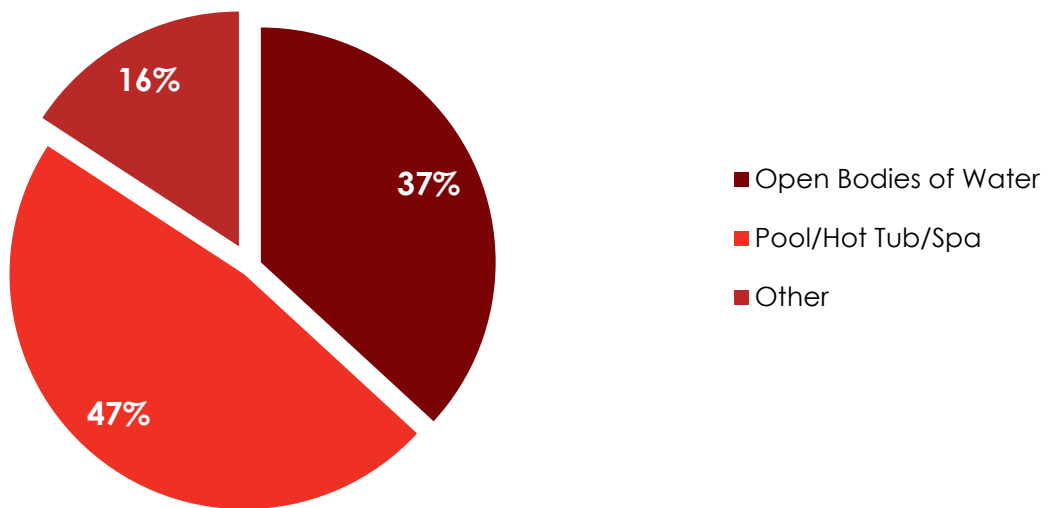
**Figure 36. Percentage of Drowning Deaths among Children by Race/Ethnicity, Ages 0-17 Years, Compared to Population, Arizona, 2019 (n=19)\*2**



\*There is no population comparison for other race. For fatalities, other comprises Black/African American and multi-race due to small sample sizes. There were no drowning deaths for American Indian/Alaska Native or Asian/Pacific Islander. Population total equals 101% due to rounding.

The majority of drowning deaths occurred in pools/hot tubs/spas (47%) (Figure 37). In 47% of drowning deaths (n=9), there was a lack of child supervision.

**Figure 37. Percentage of Drowning Deaths among Children by Location, Ages 0-17 Years, Arizona, 2019 (n=19)**





## Firearm Injury Deaths



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There were 36 firearm injury deaths in 2019.

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There was a 15% decrease in the firearm injury mortality rate from 2018 to 2019.

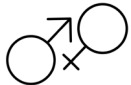
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100% of firearm injury deaths were preventable.

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Of the firearm injury deaths, 72% were male and 28% were female.

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58% of firearm injury deaths occurred in children ages 15-17 years.

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White children made up 39% of firearm injury deaths.

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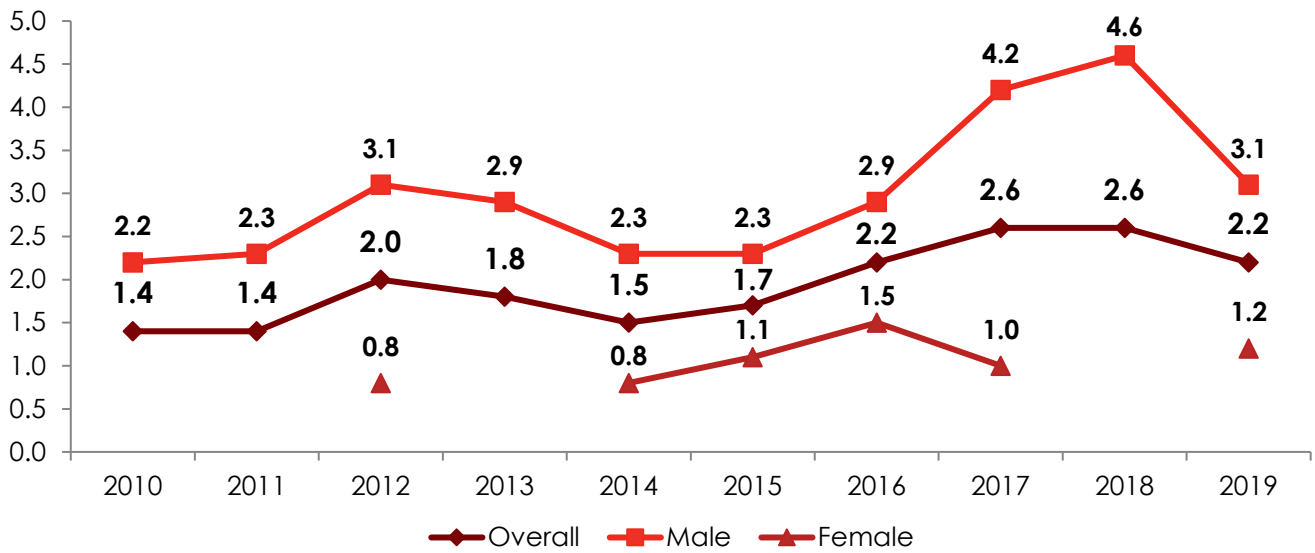
53% of firearm injury deaths involved substance use.

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Overall, Arizona's firearm injury mortality rate has increased from 2010 to 2019 (Figure 38). Males have consistently had a higher firearm injury mortality rate compared to females. Arizona's firearm injury mortality rate decreased from 2.6 per 100,000 children in 2018 to 2.2 per 100,000 children in 2019.

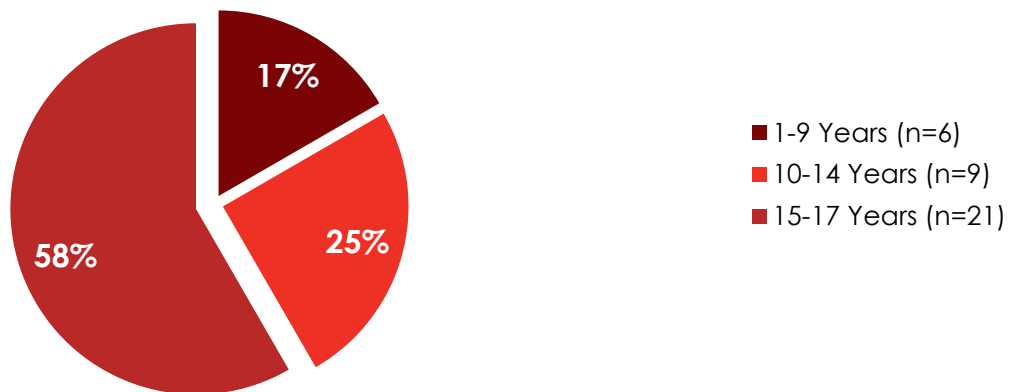
**Figure 38. Mortality Rate per 100,000 Children due to Firearm Injury by Gender, Ages 0-17 Years, Arizona, 2010-2019\***<sup>2-11</sup>



\*2010, 2011, 2013, and 2018 data on female children not included due to small sample sizes.

The majority of firearm injury deaths occurred among children ages 15-17 years (58%), followed by children ages 10-14 years (25%) (Figure 39).

**Figure 39. Percentage of Firearm Injury Deaths among Children by Age Group, Ages 0-17 (n=36)\***

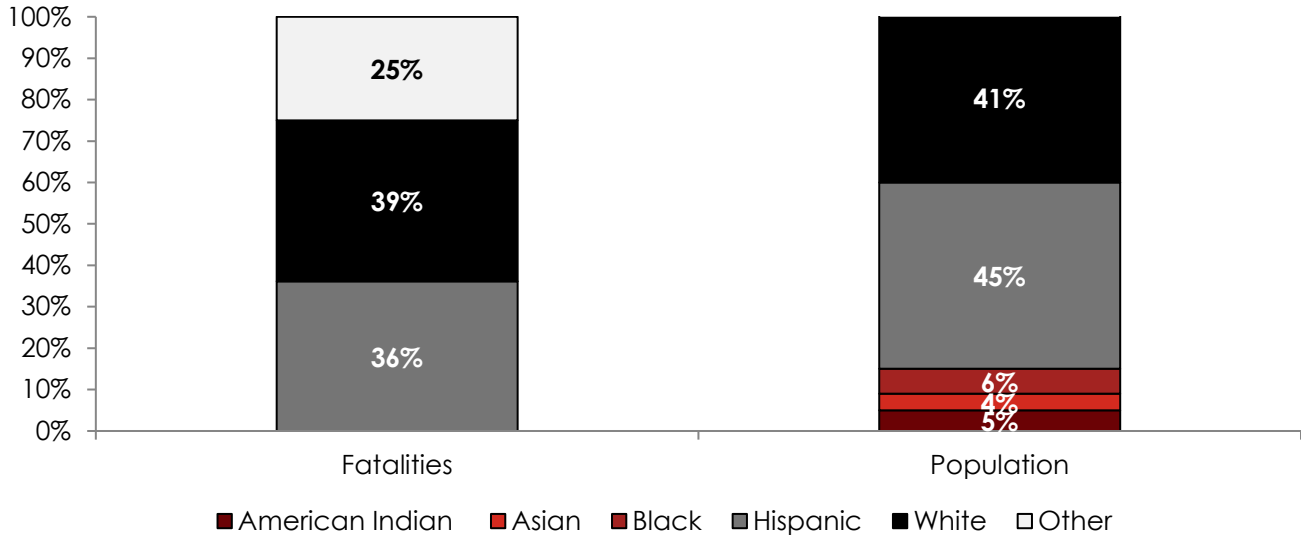


no firearm injury deaths for infants less than 1 year of age. \*There were



The number of firearm deaths were too small to determine if health disparities exist. White children made up 39% of firearm injury deaths (Figure 40).

**Figure 40. Percentage of Firearm Injury Deaths among Children by Race/Ethnicity, Ages 0-17 Years, Compared to Population, Arizona, 2019 (n=36)\*<sup>2</sup>**



\*There is no population comparison for other race. For fatalities, other comprises American Indian/Alaska Native, Asian/Pacific Islander, Black/African American, and multi-race due to small sample sizes. Population total equals 101% due to rounding.

While there are numerous preventable risk factors that contribute to firearm injury deaths, access to firearms was the most commonly identified risk factor (Table 17).

**Table 17. Risk Factors for Firearm Injury Deaths, Ages 0-17 Years, Arizona, 2019**

Risk Factors*	Number	Percent
Access to Firearms	36	100%
Substance Use	19	53%
Criminal Activity	6	17%

\*Total exceeds 100% as more than one risk factor may have been identified for each death

Eighty-three percent of the firearm injury deaths involved a handgun (Table 18).

**Table 18. Types of Firearms Involved in Firearm Injury Deaths, Ages 0-17 Years, Arizona, 2019**

Types of Firearms	Number	Percent
Handgun	30	83%
Other (e.g., Assault Rifle, Shotgun)	6	17%



Twenty-eight percent of the firearm injury deaths involved guns owned by the child's parent (Table 19).

**Table 19. Owners of Firearms Involved in Firearm Injury Deaths, Ages 0-17 Years, Arizona, 2019**

Owners of Firearms	Number	Percent
Parent	10	28%
Stranger	6	17%
Other (e.g., Grandparent, Other Relative, Law Enforcement, Friend, Acquaintance)	12	33%
Unknown	8	22%

In 56% of the firearm injury deaths, the firearm was not stored or was in an unlocked cabinet, followed by 25% of guns stored in another location (Table 20).

**Table 20. Location of Firearms Involved in Firearm Injury Deaths, Ages 0-17 Years, Arizona, 2019**

Location of Firearms	Number	Percent
Not Stored/Unlocked Cabinet	20	56%
Other	9	25%
Unknown	7	19%

In 31% of the firearm injury deaths, the firearm user was the decedent child (Table 21).

**Table 21. Firearm Users Involved in Firearm Injury Deaths, Ages 0-17 Years, Arizona, 2019**

Firearm Users*	Number	Percent
Self	11	31%
Stranger	7	19%
Acquaintance/Friend	7	19%
Relative (e.g., Parent, Grandparent, Sibling)	6	17%
Other (e.g., Law Enforcement, Mother's Partner)	6	17%

\*Number totals 37 as more than one user was involved in 1 death.



## Motor Vehicle Crash (MVC) Deaths



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There were 61 MVC deaths in 2019.

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There was an 18% decrease in the MVC mortality rate from 2018 to 2019.

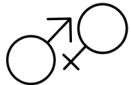
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100% of MVC deaths were preventable.

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Of the MVC deaths, 59% were male and 41% were female.

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44% of MVC deaths occurred in children ages 15-17 years.

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American Indian/Alaska Native children were disproportionately affected. American Indian/Alaska Native children made up 11% of MVC deaths but only made up 5% of the total population.

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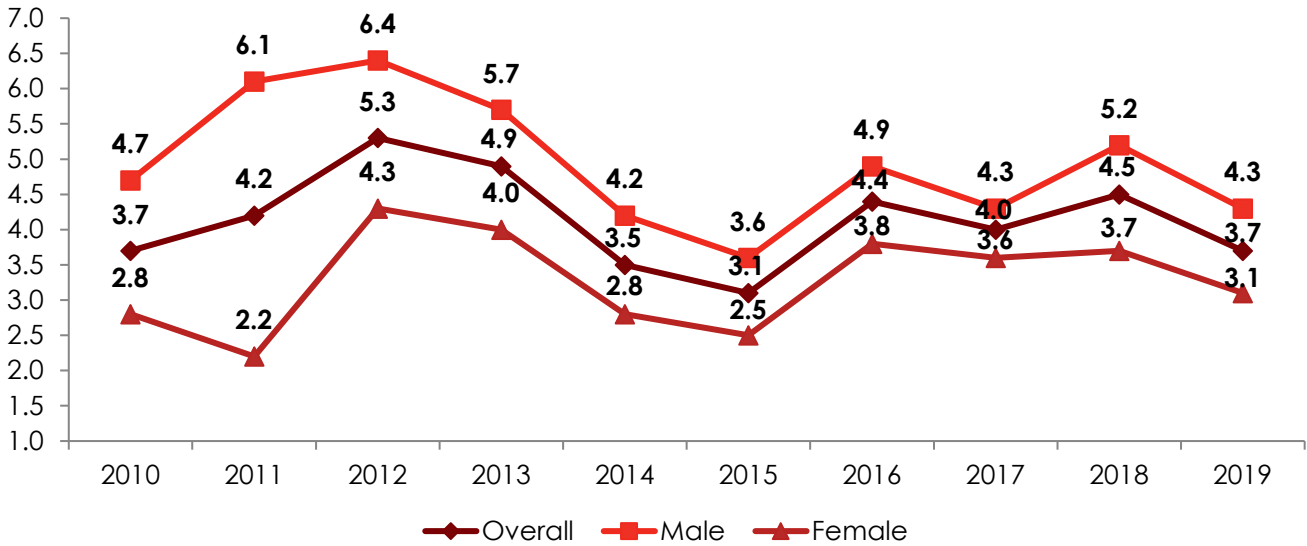
25% of MVC deaths involved substance use.

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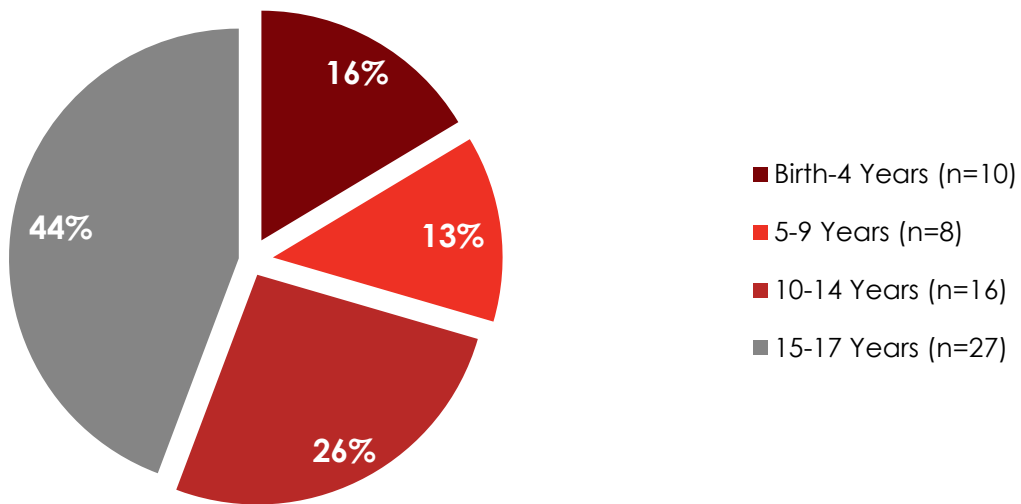
Overall, Arizona’s MVC mortality rate is the same in 2019 as it was in 2010 (Figure 41). However, the rate has fluctuated throughout the 10-year period from a low of 3.1 deaths per 100,000 children in 2015 to a high of 5.3 deaths per 100,000 children in 2012. Males have consistently had a higher MVC mortality rate compared to females. Arizona’s MVC mortality rate decreased from 4.5 per 100,000 children in 2018 to 3.7 per 100,000 children in 2019.

**Figure 41. Mortality Rate per 100,000 Children due to Motor Vehicle Crashes by Gender, Ages 0-17 Years, Arizona, 2010-2019<sup>2-11</sup>**



The majority of MVC deaths occurred among children ages 15-17 years (44%), followed by children ages 10-14 years (26%) (Figure 42).

**Figure 42. Percentage of Motor Vehicle Crash Deaths among Children by Age Group, Ages 0-17 Years, Arizona, 2019 (n=61)**

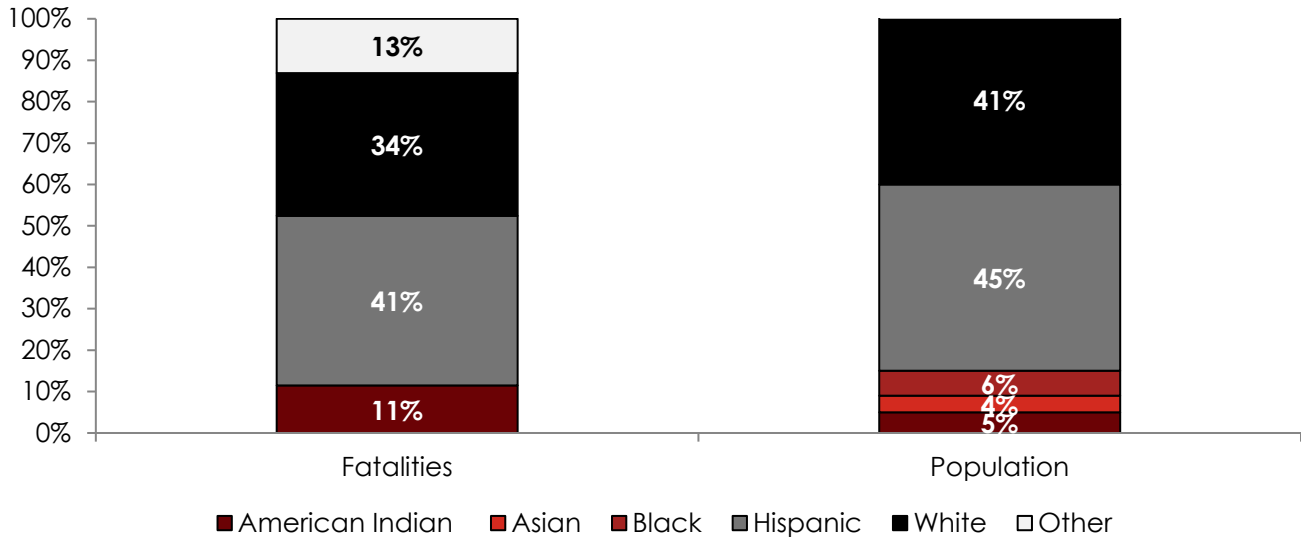






American Indian/Alaska Native children made up 11% of MVC deaths, but only comprised 5% of the total population (Figure 43).

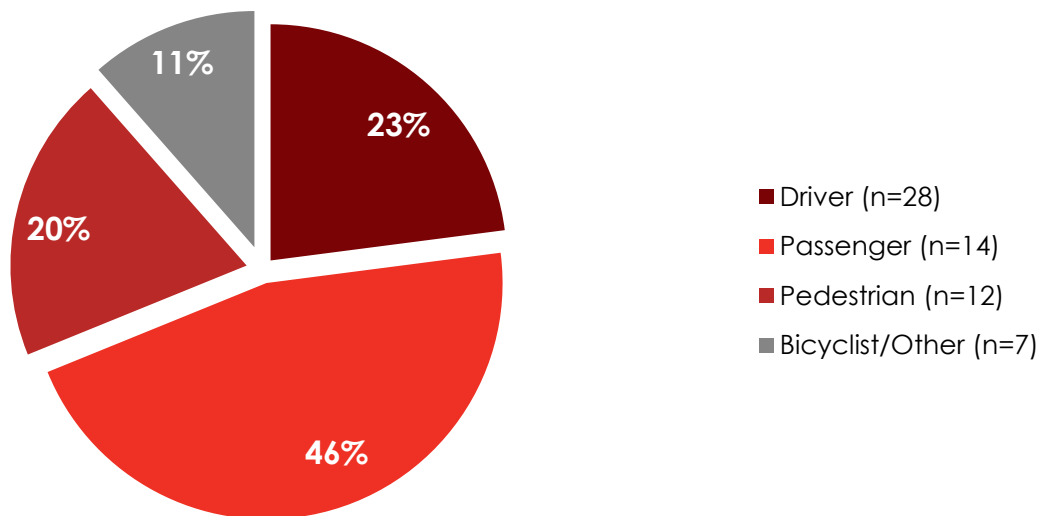
**Figure 43. Percentage of Motor Vehicle Crash Deaths among Children by Race/Ethnicity, Ages 0-17 Years, Compared to Population, Arizona, 2019 (n=61)\*2**



\*There is no population comparison for other race. For fatalities, other comprises Asian/Pacific Islander, Black/African American, and multi-race due to small sample sizes. Fatalities total equals 99% due to rounding. Population total equals 101% due to rounding.

In the majority of MVC deaths, the child was the passenger (46%) (Figure 44).

**Figure 44. Percentage of Motor Vehicle Crash Deaths among Children by Occupant, Ages 0-17 Years, Arizona, 2019 (n=61)**





While there are numerous risk factors that can contribute to MVC deaths, the most commonly identified risk factors were lack of seatbelt restraint (34%), reckless driving (30%), and excessive speed (26%) (Table 22).

**Table 22. Risk Factors for Motor Vehicle Crash Related Deaths among Children, Ages 0-17 Years, Arizona, 2019**

<b>Risk Factors*</b>	<b>Number</b>	<b>Percent</b>
Lack of Seatbelt Restraint	21	34%
Reckless Driving	18	30%
Excessive Speed	16	26%
Substance Use	15	25%
Inexperienced Driver	12	20%
Distracted Driver	12	20%
Unsafe Speed for Driving Conditions	10	16%
No Helmet	9	15%
Lack of Supervision	9	15%
Driver Error	6	10%
*Total exceeds 100% as more than one risk factor may have been identified for each death		



## Prematurity Deaths

A death due to prematurity is when an infant was born before 37 weeks gestation and the cause of death was related to the premature birth.



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There were 170 prematurity deaths in 2019.

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There was a 1% increase in the prematurity mortality rate from 2018 to 2019.

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5% of prematurity deaths were preventable.

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Of the prematurity deaths, 60% were male and 40% were female.

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Black/African American infants were disproportionately affected. Black/African American infants made up 14% of prematurity deaths but only made up 6% of the total births.

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5% of prematurity deaths involved substance use.

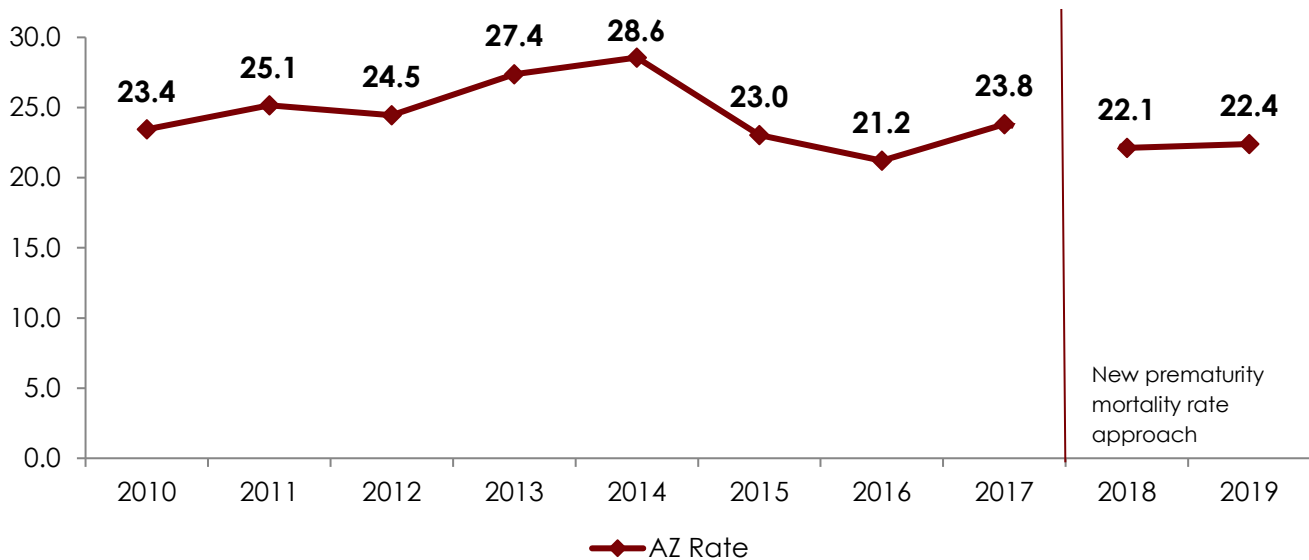
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Prior to 2018, the prematurity mortality rate included children who were identified as dying of prematurity. Starting in 2018, the prematurity mortality rate includes those who were identified as dying of prematurity but also includes children who died of other perinatal conditions which lead to a premature birth. Therefore, data from 2018 and onward cannot be compared to previous years' data. Additionally, as of this year's report, the prematurity mortality rate is calculated based on the number of premature births whereas in previous reports it was calculated based on all live births. Calculating the rate based on premature births instead of all live births gives a more accurate representation of the prematurity mortality rate as only infants who are born premature can die of prematurity.

Arizona's prematurity mortality rate slightly increased from 22.1 per 1,000 live births in 2018 to 22.4 per 1,000 live births in 2019 (Figure 45).

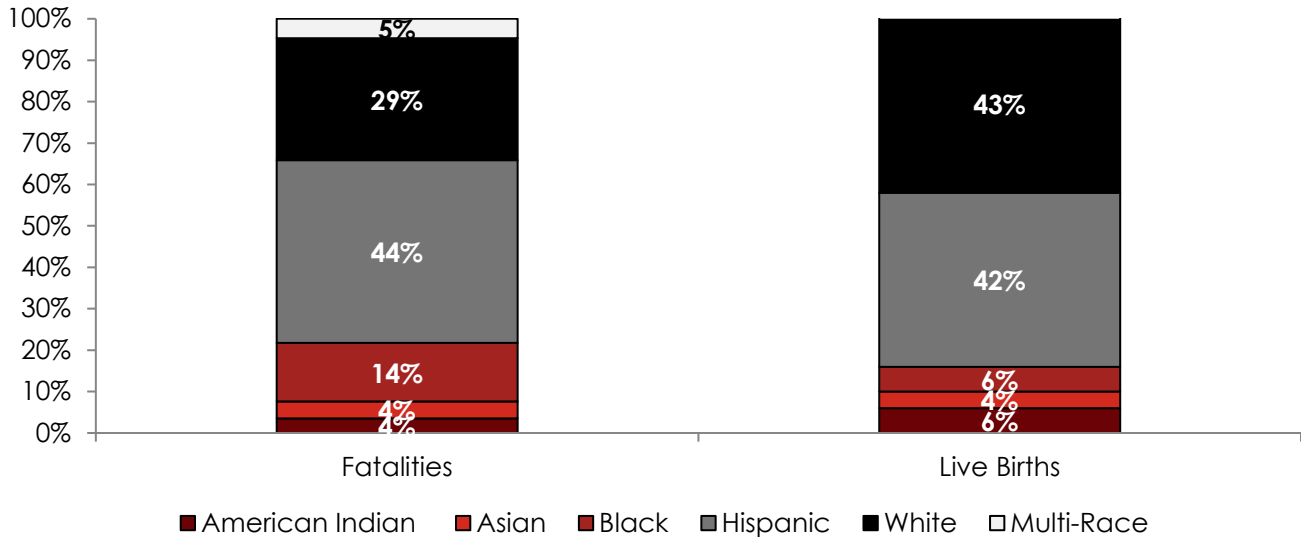
**Figure 45. Mortality Rate per 1,000 Live Births due to Prematurity, 1 Year of Age and Under, Arizona, 2010-2019<sup>26-35</sup>**





Black/African American infants made up 14% of prematurity deaths, but only comprised 6% of the total births (Figure 46).

**Figure 46. Percentage of Prematurity Deaths among Infants by Race/Ethnicity, 1 Year of Age and Under, Compared to Percentage of Live Births, Arizona, 2019 (n=170)<sup>35</sup>**



\*There is no population comparison for multi-race. Birth total equals 101% due to rounding.

While there are numerous risk factors that can contribute to prematurity deaths, the most commonly identified risk factors were preterm labor (56%) and premature rupture of membranes (PROM) (45%) (Table 23).

**Table 23. Risk Factors for Prematurity Deaths, 1 Year of Age and Under, Arizona, 2019**

Risk Factors*	Number	Percent
Preterm Labor	95	56%
Premature Rupture of Membranes (PROM)	76	45%
Other Medical Conditions	57	34%
No Prenatal Care	27	16%
Chorioamnionitis (Bacterial Infection)	20	12%
Hypertension	15	9%
Sexually Transmitted Disease (STD)	14	8%
Diabetes	9	5%
Substance Use	8	5%
Cervical Insufficiency	6	4%
All risk factors include prematurity <37 weeks gestational age due to perinatal conditions		
*Total exceeds 100% as more than one risk factor may have been identified for each death		



## Substance Use Related Deaths

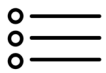
Substance use related deaths are where the child or any individual involved in the death of the child used or abused substances, such as alcohol, illegal drugs, and/or prescription drugs and this substance use was a direct or contributing factor in the child's death. See Technical Appendix for further explanation.



There were 119 substance use related deaths in 2019.



100% of substance use related deaths were preventable.



#1 cause: Poisoning (n=30)  
 #2 cause: Firearm Injury (n=19)  
 #3 cause: Motor Vehicle Crash (n=15)



Of the substance use related deaths, 71% were male and 29% were female.



50% of substance use related deaths occurred in children ages 15-17 years.

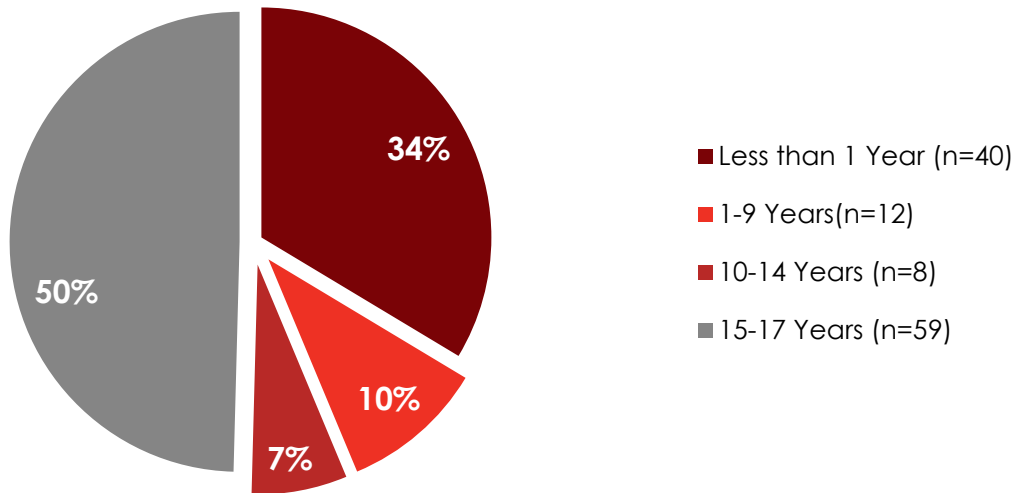


American Indian/Alaska Native and Black/African American children were disproportionately affected. American Indian/Alaska Native children made up 13% of substance use related deaths but only made up 5% of the total population. Black/African American children made up 11% of substance use related deaths but only made up 6% of the total population.



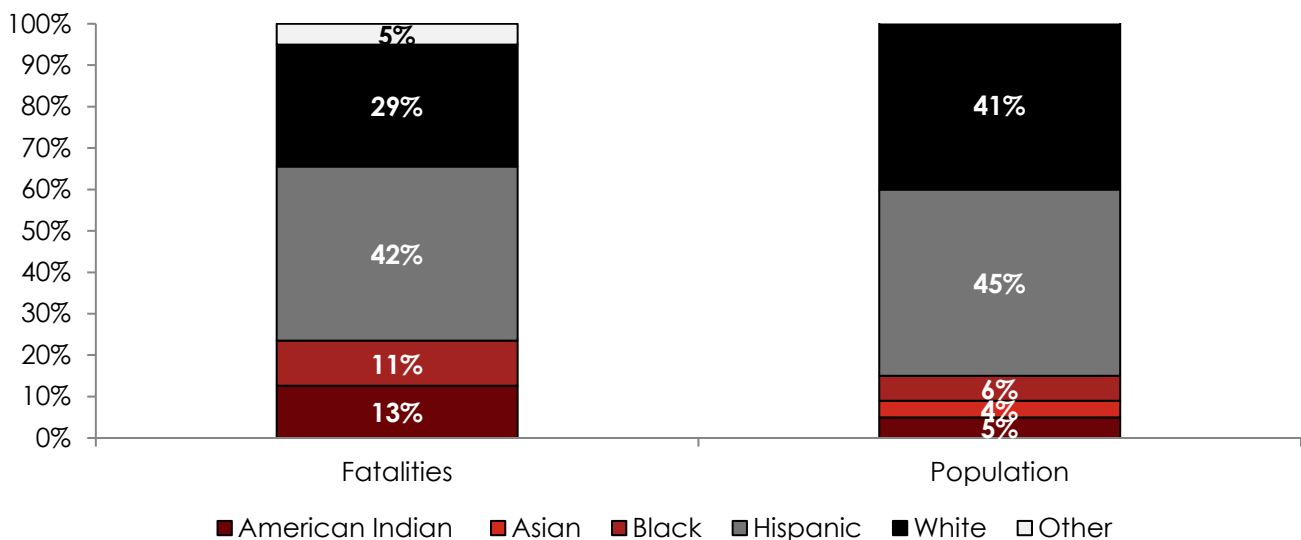
The majority of substance use deaths occurred among children ages 15-17 years (50%), followed by children less than 1 year or age (34%) (Figure 47).

**Figure 47. Percentage of Substance Use Deaths among Children by Age Group, Ages 0-17 Years, Arizona, 2019 (n=119)**



American Indian/Alaska Native and Black/African American children made up 13% and 11% of substance use related deaths, respectively, but only comprised 5% and 6% of the total population, respectively (Figure 48).

**Figure 48. Percentage of Substance Use Deaths among Children by Race/Ethnicity, Ages 0-17 Years, Compared to Population, Arizona, 2019 (n=119)<sup>2</sup>**

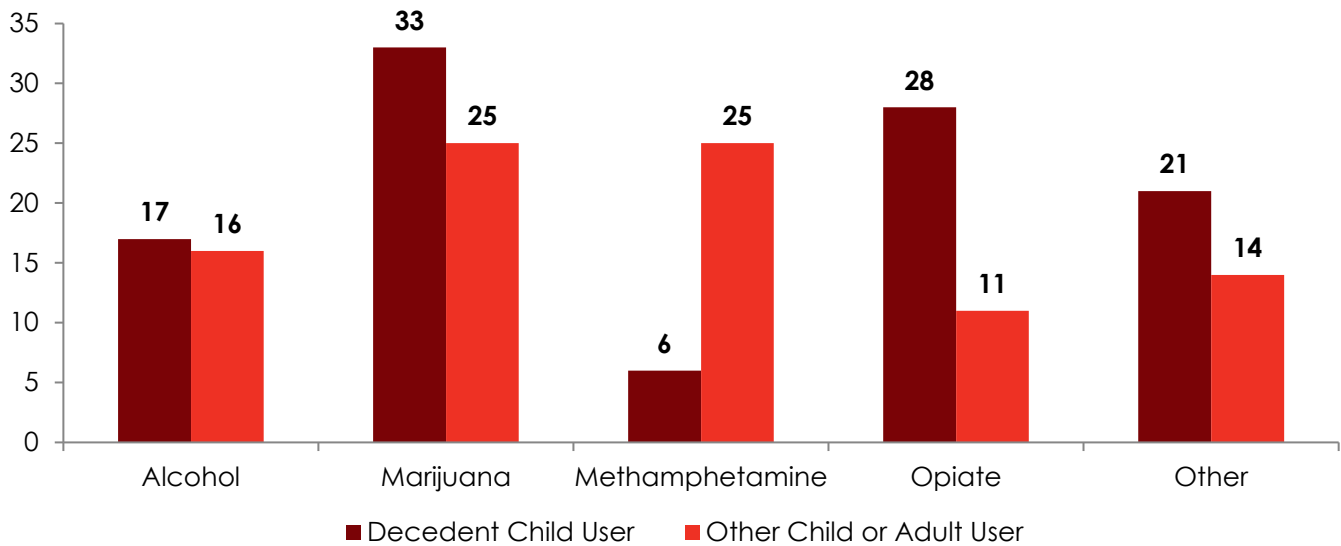


\*There is no population comparison for other race. For fatalities, other comprises Asian/Pacific Islander and multi-race due to small sample sizes. Population total equals 101% due to rounding.



In 88% of the 119 substance use related deaths (n=105), the decedent child was using or abusing alcohol or drugs which caused or contributed to their death (Figure 49). Marijuana and opiates were the most common substances which caused or contributed to the death of the child where the child was the user. In 76% of the 119 substance use related deaths (n=91), another individual (child or adult) was using or abusing alcohol or drugs which caused or contributed to the death of the child.

**Figure 49. Number of Substances Found as a Contributing Factor to the Death of a Child by Deceased Child User or Other Child or Adult User, Ages 0-17 Years, Arizona, 2019\***



\*More than one substance may have been identified for each death.

Among substance use related deaths, poisoning was the #1 cause of death for children ages 0-17 years (Table 24). Of the 30 poisoning deaths, 28 deaths involved opioids and 27 of opioid deaths involved fentanyl.

**Table 24. Causes of Deaths where Substance Use was a Direct or Contributing Factor to the Death of the Child, Ages 0-17 Years, Arizona, 2019 (n=119)**

Causes of Death	Number	Percent
Poisoning	30	25%
Firearm Injury	19	16%
Motor Vehicle Crash	15	13%
Strangulation/Blunt Force Trauma/Stabbing	12	10%
Undetermined	11	9%
Suffocation	10	8%
Prematurity	8	7%
Other (e.g., Drowning, Other Injury, Other Medical Condition)	14	12%





## Sudden Unexpected Infant Deaths (SUID)

A sudden unexpected death of an infant (less than 1 year of age) is where the cause of death was not apparent prior to a death investigation. Most of the SUIDs are due to suffocation and unsafe sleep environments, but not all SUIDs are unsafe sleep related. See Technical Appendix for further explanation.



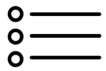
There were 75 SUIDs in 2019.



There was a 26% increase in the SUID rate from 2018 to 2019.



99% of SUIDs were preventable.



#1 cause: Suffocation (n=52)  
#2 cause: Undetermined (n=23)



Of the SUIDs, 63% were male and 37% were female.



8% of SUIDs occurred in neonates (infants less than 28 days).  
92% of SUIDs occurred in post-neonates (infants 28 days and older but less than 1 year of age).



Black/African American and American Indian/Alaska Native infants were disproportionately affected. Black/African American children made up 21% of SUIDs but only made up 6% of the total births. American Indian/Alaska Native infants made up 11% of SUIDs but only made up 6% of the total births.



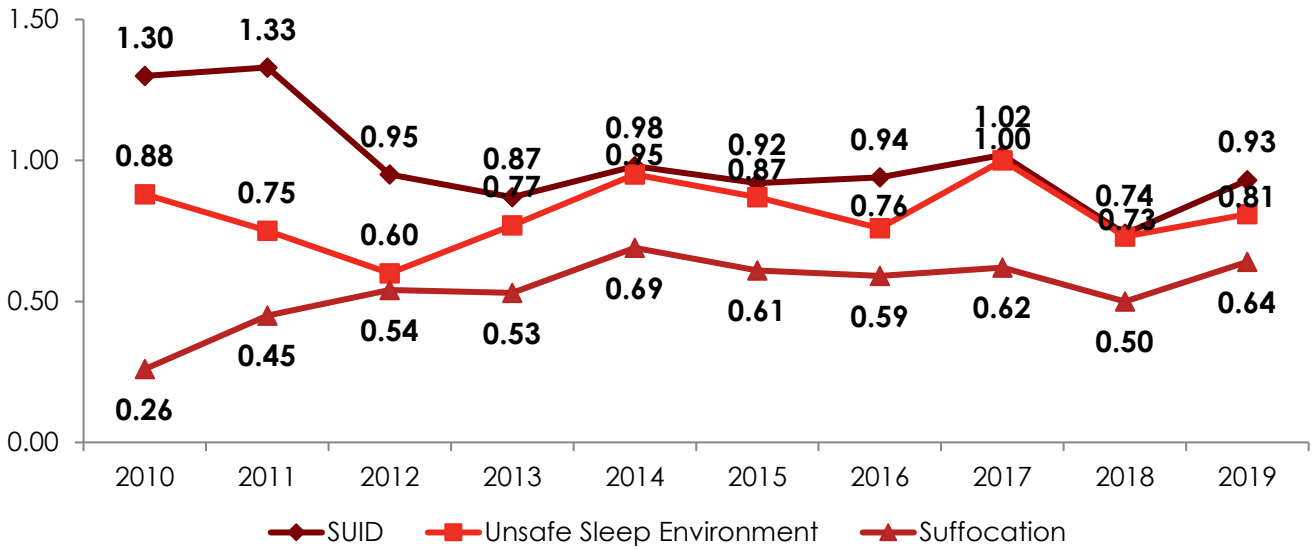
25% of SUID related deaths involved substance use.

\*A safe sleep environment is placing the baby alone, on their back, in an empty crib for every sleep.



Overall, Arizona’s SUID rate has decreased from 2010 to 2019 (Figure 50). Additionally, Arizona’s unsafe sleep environment rate has decreased from 2010 to 2019. However, Arizona’s suffocation rate has increased from 2010 to 2019. Arizona’s SUID rate increased from 0.74 per 1,000 live births in 2018 to 0.93 per 1,000 live births in 2019.

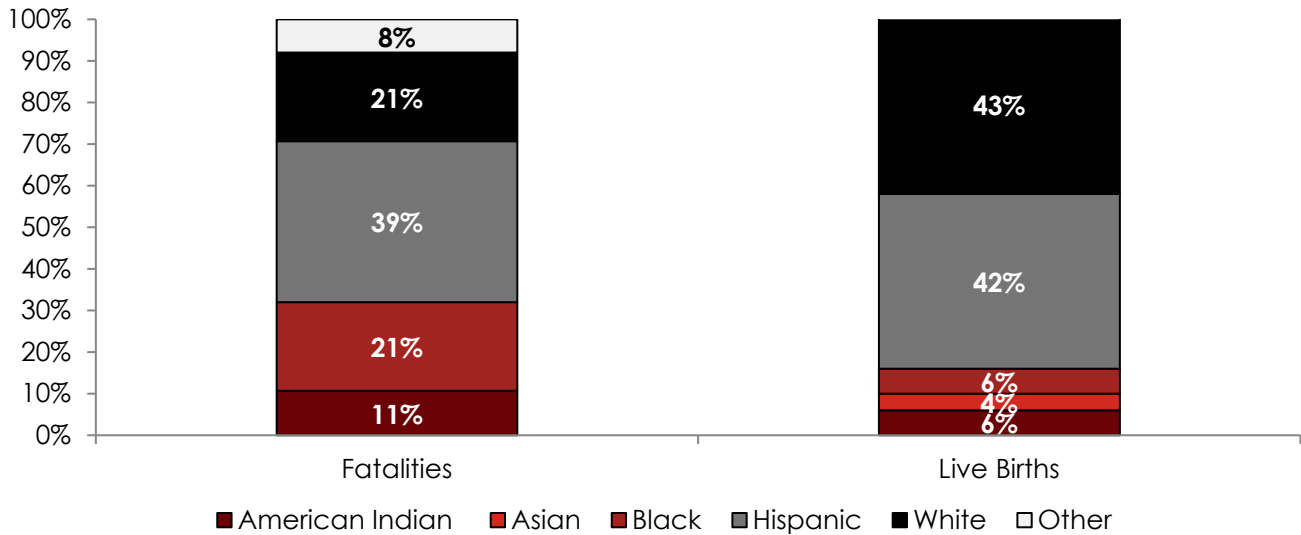
**Figure 50. Mortality Rate per 1,000 Live Births due to Sudden Unexpected Infant Death, Unsafe Sleep Environments, and Suffocation, Less than 1 Year of Age, Arizona, 2010-2019<sup>21-22</sup>**





Black/African American and American Indian/Alaska Native infants made up 21% and 11% of SUIDs, respectively, but only comprised 6% and 6% of the total births, respectively (Figure 51).

**Figure 51. Percentage of Sudden Unexpected Infant Deaths among Infants by Race/Ethnicity, Less than 1 Year of Age, Compared to Live Births, Arizona, 2019 (n=75)<sup>24</sup>**



\*There is no population comparison for other race. For fatalities, other comprises Asian/Pacific Islander and multi-race due to small sample sizes. Birth total equals 101% due to rounding.

While there are numerous risk factors that can contribute to SUIDs, the most commonly identified risk factors were unsafe sleep environment (99%), unsafe sleep location (88%), objects in the sleep environment (85%), and bed sharing (63%) (Table 25).

**Table 25. Risk Factors for Sudden Unexpected Infant Deaths among Infants, Less than 1 Year of Age, Arizona, 2019**

Risk Factors*	Number	Percent
Unsafe Sleep Environment	74	99%
Unsafe Sleep Location	66	88%
Objects in Sleep Environment	64	85%
Bed Sharing	47	63%
With Adult**	43	91%
With Child**	20	43%
Unsafe Sleep Position (Stomach or Side)	40	53%
Placed***	16	40%
Found***	39	98%
Substance Use	19	25%

\*Total exceeds 100% as more than one risk factor may have been identified for each death  
 \*\*Percentage based off 47 deaths where bed sharing was a factor  
 \*\*\*Percentage based off 40 deaths where an unsafe sleep position was a factor



# **Prevention Recommendations**



## Prevention Recommendations

<b>Undetermined</b>	<ul style="list-style-type: none"> <li>• Investigate disparities in racial groups with higher undetermined deaths.</li> </ul>
<b>Abuse/ Neglect</b>	<ul style="list-style-type: none"> <li>• Increase the availability of affordable, high quality childcare to low income families by further reducing DES wait times through increased funding and providing more information on the availability of childcare support for low income families.</li> <li>• Increase public education on how and when to report suspected child abuse and neglect so that any Individual who knows about a child who is being abused or neglected can take action by calling 911 in an emergency or the Arizona Child Abuse hotline (1-888-SOS-CHILD).</li> <li>• Expand parenting education programs for all ages and developmental stages of childhood, to increase understanding of realistic expectations for their children based upon pediatrician recommended developmental timelines. Enhance coping skills of parents and their knowledge of parenting resources during stressful periods. These programs should made available to all parents, including incarcerated parents and those suffering from substance use disorders.<sup>36</sup></li> <li>• Support sufficient funding and access to high quality and timely behavioral health treatment and substance use services for pregnant women and new mothers and expand access in rural communities.</li> <li>• Develop and expand programs that can prevent abuse and neglect such as home visiting. Home visits are associated with a decrease in substantiated reports of child maltreatment and participation in home visit programs should be increased.<sup>37</sup></li> <li>• Encourage the Arizona Congressional Delegation to support the development of a national child abuse registry that can provide critical information on past episodes of abuse and neglect that occurred in tribal entities and outside of Arizona.</li> <li>• Increase public awareness on domestic violence and resources for victims.</li> <li>• Expand outreach to pregnant women about Safe Havens and their locations.</li> <li>• Encourage all health care providers to integrate postpartum depression screening into their practice.</li> </ul>
<b>Drowning</b>	<ul style="list-style-type: none"> <li>• Parents and or other caregivers should learn CPR and never (even for a moment) leave children alone or in the care of another child while in or near bodies of water, bathtubs, or swimming pools.</li> <li>• Expand Arizona’s pool codes to require all homes, including vacation rentals to have a 4-sided isolation fence with a minimum height of 4 feet that separates the pool from the home and the rest of the yard with a self-closing, self-latching gate.</li> <li>• Pools need to be enclosed on all four sides by a wall, fence, or barrier to insure restricted access to young children.<sup>38, 39, 40, 41</sup></li> <li>• The enclosure needs to be at least 5 feet tall and have a gate that swings away from the pool. The gate should have a self-closing/latching mechanism.<sup>39, 40</sup></li> <li>• The enclosure must be at least 20 inches from the water’s edge and the self-latching device on the gate should be at least 54 inches above the floor.<sup>39</sup></li> <li>• There should be no openings in the enclosure that are wide enough for a child to get through or under. There should also be no protrusions, like handholds, that can be used to climb the enclosure. This will prevent small children overcoming the boundary that is in place to protect them.<sup>39, 40</sup></li> <li>• Educate the public on drowning hazards of doggie doors which provide infants and young children with access to a backyard pool.</li> </ul>



- Require above-ground pools to meet the same pool codes as inground pools.
- Expand drowning prevention programs including learn to swim programs for parents as well as children and increase access to quality swim lessons because in addition to close continuous supervision around bodies of water, teaching children the ability to swim after the age of 1 is one of the most effective interventions that can reduce child drowning.<sup>38,41</sup>
- Increase public awareness of the drowning risk in any open body of water including bathtubs, buckets, and pools for all children and especially those who have special needs.
- Educate parents and caregivers of the importance of constant supervision of young children and infants by an adult when bathing.<sup>42</sup>
- Develop CPR instructions through 911 in multiple languages.

**Firearm Injury**

- Gun owners should practice safe storage of their firearms which requires keeping the gun unloaded and locked in a safe.<sup>43, 44, 45</sup> Ammunition should be locked up and stored separately from the firearm.<sup>43, 44, 45</sup> This practice significantly reduces the risk of gun injury or death.<sup>44, 45</sup>
- All families who own firearms should participate in firearm safety training, including specific training on safe firearm storage. Community-based firearm safety events should be considered in Arizona because of their potential to reach a population with high prevalence of firearm ownership. These types of events could increase the number of firearm owners that are receiving safe storage practice training and education.<sup>46</sup>
- Increase funding and access to juvenile delinquency prevention programs including community activity centers, programs for youths, and substance abuse treatment programs
- Increase public awareness on domestic violence and resources available for victims
- Remove all firearms from homes if there is a family member at risk for self-harm or violence, including those with mental health or substance abuse disorders. The most effective way to prevent firearm-related deaths in children and adolescents is removing firearms from households.<sup>43, 44, 45</sup>

**Motor Vehicle Crash (MVC)**

- Parents should ensure that their teen drivers follow Arizona’s Graduated Driver’s License law and establish a written teenager-parent contract that places expectations on the teen driver such as wearing a seat belt, obeying curfew, never driving while impaired by alcohol or other drugs.
- Strengthen the graduated driver licensing law in Arizona to build driving skills and experience among new drivers including increasing the hours required prior to obtaining a license and restrictions on night driving.
- Increase public education on pedestrian safety education including using crosswalks, wearing reflective gear light colors, and limiting distractions such as use of cellphones/music while running or walking in busy areas. Educate children, parents, and caregivers on safe pedestrian practices and the importance of avoiding distracted walking.<sup>47, 48, 49</sup>
- Properly secure children in the appropriate child safety restraints per height and weight when operating a motor vehicle. The American Academy of Pediatrics recommends that infants and toddlers be in a properly secured rear-facing safety seat until they reach the maximum height or weight listed by the manufacturer. When a child exceeds and height or weight listed, they should be secured in a front-facing



safety seat until they reach the maximum height or weight according to the manufacturer. When a child exceeds the height and weight of the front facing seat, the AAP recommends that a belt-positioning booster seat be used until the vehicle's seat belt fits properly. Children should always wear both the lap and shoulder seat belts. For optimal safety, the AAP recommends that children under the age of 13 years old be restrained in the backseat.<sup>48, 49</sup>

- All parents should model good behavior for their children by always wearing a seatbelt, never texting while driving or drive while fatigued or under the influence of alcohol or other drugs that impair driving.
- Strengthen law enforcement's capability to stop and cite vehicles with occupants that are not wearing seat belts by enacting a primary seat belt law in Arizona which allow law enforcement officers to cite a driver and occupants for not wearing a seat belt in the absence of other traffic violations. Primary laws result in higher seat belt usage than secondary laws.<sup>49, 50, 51</sup>

**Prematurity**

- To have a healthy baby, women should take care of their health before and during pregnancy by maintaining a healthy weight, adopting proper nutrition, and avoiding smoking (tobacco and vaping), alcohol, marijuana, and other drugs.
- Woman should seek prenatal care as soon as they become pregnant and avoid exposure to cigarette smoke because to decrease the risk of preterm birth and other complications.<sup>52</sup>
- Ensure quality, affordable and accessible prenatal care for all women, especially marginalized populations and those who feel distrustful of the healthcare system.
- Expand access to substance abuse treatment programs during pregnancy.

**Substance Use**

- Increase funding to support statewide opioid prevention activities including campaigns and websites that have social connection messages and community-based prevention programs.<sup>53</sup>
- Educate families and caregivers about the signs and symptoms of substance use disorder, how to identify an overdose, and how to respond to an overdose emergency. Improved community awareness of prescription drug misuse.<sup>54</sup> Community-based organizations, advocacy groups, and neighborhood associations can provide communication and education on health issues associated with substance use.<sup>55</sup> Forms of communication like blogs, newsletters, and op-ed articles can raise awareness of the dangers of substance use in their community.<sup>55</sup>
- To prevent opioid deaths, advise families to keep naloxone readily available if a family member is using opioids. Increase the availability of community naloxone training to reduce the substance use-related risk among active users.<sup>54</sup> Overdose fatalities in large populations can be prevented by expanding access to naloxone and outreach programs that increase access to naloxone, which can reverse potentially lethal opioid overdoses.<sup>56, 57</sup>
- Store all medications in a locked cabinet and discard unused medications safely and properly when they are no longer being taken.
- Encourage health care providers to screen all children and adults for alcohol misuse and substance use and implement universal screening for substance use and mental health issues for adolescents during health care visits.<sup>56, 58, 59</sup>
- Adapt services to better address adverse childhood experiences (ACEs) and train more professionals in trauma-informed care. Social transitions like parental divorce, attending a new school, or graduation are influential risk factors for substance use that



can be influenced by programs and policies. Children that suffer from physical and sexual abuse are at especially high risk for developing substance used disorders.<sup>54, 55, 58, 60</sup>

- Increase the availability of recreational activities for children and adolescents after school hours to reduce the risk of substance use.

**Sudden Unexpected Infant Death (SUID)**

- Continue to advance public awareness campaigns that promote safe sleep practices including the dangers of suffocation with bed sharing with adults or other children, and the need to place babies to sleep Alone, on their Backs and in a Crib (ABC).
- Educate parents on safe sleeping environments and that Alone, On my Back, in a Crib (ABCs) is the safest sleeping practice for an infant until it is 1 year of age.<sup>61</sup> The ideal safe sleeping environment for an infant requires a firm sleeping surface with only a fitted sheet and no additional bedding.<sup>61, 62</sup> The area should also be void of any toys, cushions, hanging cords, or any other items that pose a potential risk of suffocation or strangulation.<sup>61, 62</sup>
- Provide education to parents/caregivers at every home visit or medical appointment during the first year of life on safe sleep environments and sleep position. Including:
  - Asking about the infant’s sleep environment during medical appointments and looking at sleep environment during home visits.
  - Discussing alternative sleep environments when crib is not available.
  - Counseling on the dangers of co-sleeping.
  - Providing advice on safe swaddling of infants to include ages/developmental milestones
  - Discussing safe tummy-time. Include tummy time is during direct supervision of infant.
  - Advising on the dangers of using boppy pillows, car seats, swings for sleep.
- Increase the availability of WIC services and home visits because they can help families feel less isolated and teach them safe sleeping practices. Social determinants of health can make ideal safe sleeping environments unavailable to some families.<sup>61</sup>
- Increase training for law enforcement on the use of the Centers for Disease Control’s Sudden Unexpected Infant Death Investigation Reporting Form and encourage doll scene re-enactment and scene photos.
- Encourage all health care providers and staff in newborn nurseries and Neonatal Intensive Care Unit’s to model the ABC’s of Safe Sleep recommendations from birth because parents are more likely to adhere to these recommendations when they observe staff perform them.<sup>61, 62</sup>
- Introduce a statewide hospital policy that requires parents to receive safe sleep information prior to discharge and sign off that they understood the material.<sup>61</sup>
- Expand safe sleep education to all providers of services to parents of infants and expectant mothers at every visit because this education improves adherence to safe sleep practices.
- Continue to support safe sleep education for out of home providers such as daycare centers and foster parents.

**Suicide**

- Support funding and access for quality behavioral health and substance use assessment and treatment services to address health-care parity and lack of providers of mental health treatment.
- Increase access to effective mental health care for Arizonans by adopting the Zero Suicide model statewide. Implement communication strategies using traditional and





new media for school personnel that promotes suicide prevention, emotional well-being, and mental health.<sup>63, 64, 65</sup>

- Promote efforts to educate communities on:
  - Identifying signs and risks for suicide, who to contact with concerns that someone is contemplating suicide; how to discuss suicide with teens
  - Importance of removing firearms from homes with teens who have mental health challenges, prior suicidal ideation or attempts.
  - Information on suicide prevention hotlines, teen support hotlines should be distributed at schools and physicians' offices.
  - The importance of parents knowing and monitoring the social media their teenagers are using.
- Support funding and training to schools on the prevention of suicide including support for the development of a suicide prevention protocol utilizing the suicide prevention toolkits developed by the Substance Abuse and Mental Health Services Administration and the American Foundation for Suicide Prevention.<sup>66, 67</sup>
- Support funding for school and community based mental health services for students at risk for suicide.<sup>66</sup>
- Support funding and training of school staff members on the effects that suicide contagion can have in a student population. Adolescents are vulnerable to suicide contagion and it is important for schools to not glamorize, simplify, or romanticize the death of a student.<sup>66, 67, 68</sup>
- Continue to expand and enforce school-based interventions to prevent suicide using simultaneous complementary strategies.<sup>66, 69</sup> Simultaneous interventions involving parents, changing the school environment, and improving students' individual skills have been effective.<sup>69</sup>
- Expand resources for teens that are likely to be mourning the suicide death of a friend or family member.
- Strengthen services available to children and adolescents that address adverse childhood experiences and practice trauma informed care.
- Reduce access to lethal means in the household of adolescents by completely removing firearms and secure medications from homes where individuals are experiencing behavioral health challenge such as, depression, substance use, or suicidal ideation.<sup>65, 68, 70</sup> The presence of a firearm in the house significantly increases the risk of suicide for adolescents.<sup>68, 71</sup>
- Urge parents to monitor their child's social media for cyberbullying and any talk about suicide. Cyberbullying can have a significant negative impact on mental health like traditional bullying.<sup>68, 72</sup> There is an increase in suicide attempts for both victims and perpetrators of cyberbullying.<sup>68</sup>
- Encourage social media organizations to develop opportunities to flag information that might indicate suicidal thinking and respond with crisis information resources.
- Increase public awareness of risk factors and warning signs for suicide and connect people in crisis to care.<sup>65, 66, 67, 70</sup>
- Promote and expand universal screening for suicide risk by all health care providers at each visit.



## Glossary

**Abuse** – The infliction of physical, emotional, or sexual harm whether or not the inflictor planned to carry out the act or inflicted harm in the heat of the moment. The abuse may have occurred on or around the time of death, but also will include any abuse that occurred previously if that abuse contributed to the child's death.

**Accidental Injury** – An injury that occurred when there was no intent to cause harm or death; an unintentional injury.

**Cause of Death** – The illness, disease or injury responsible for the death. Examples of natural causes include heart defects, asthma and cancer. Examples of injury-related causes include blunt impact, burns and drowning.

**Confidentiality Statement** – A form, which must be signed by all review process participants, that includes statute information regarding confidentiality of data reviewed by Local and State CFR teams.

**Drowning** – Child dies from an accidental or intentional submersion in a body of water.

**Firearm Injury Death** – Death caused by an injury resulting from the penetrating force of a bullet or other projectile shot from a powder-charged gun.

**Homicide** – Death resulting from injuries inflicted by another person with the intent to cause fear, harm or death.

**Infant** – A child who is less than one year of age.

**Local CFR Team** – A multi-disciplinary team authorized by the State CFR Team to conduct reviews of child deaths within a specific area, (i.e. county, reservation or other geographic area.)

**Manner of Death** – The circumstances of the death as determined by postmortem examination, death scene investigation, police reports, medical records, or other reports. Manner of death categories include: natural, accident (e.g., unintentional injury), homicide (e.g., intentional injury), suicide (e.g., intentional injury), and undetermined. In this report, manner is used interchangeably with "intent" or "type."

**Motor Vehicle Crash (MVC) Death** – Death caused by injuries from a motor-vehicle incident, including injuries to motor vehicle occupant(s), pedestrian(s), pedal cyclist(s) or other person.

**Natural Death** – A death where a medical condition lead to the death or began the process that resulted in the death.

**Neglect** – This is defined as the failure to provide appropriate and safe supervision, food, clothing, shelter, and/or medical care when this causes or contributes to the death of the child. See Technical Appendix for further explanation.



**Perpetrator** - Individual identified as possible perpetrator of physical, sexual or emotional abuse, or neglect. Caregiver may include individual providing supervision of child including parent's boyfriend/girlfriend, friend, neighbor, childcare provider, or other household member.

**Prematurity Death** - A death due to a premature birth (less than 37-weeks gestation) of an infant that had no underlying medical conditions that would have resulted in the death. Extreme prematurity is a death less than 28 weeks gestation.

**Preventable Death** - A child's death is considered preventable if the community or an individual could have done something that would have changed the circumstances leading to the child's death. A death is preventable if reasonable medical, educational, social, legal or psychological intervention could have prevented the death from occurring. The community, family and individual's actions (or inactions) are considered when making this determination.

**Sleep Related Death** – A unique grouping of infant injury deaths inclusive of select injury causes (accidental suffocation in bed, unspecified threat to breathing, and undetermined causes) in which the infant was last known to be asleep when last seen alive (see Technical Appendix).

**Substance Use** – The CFR program defines substance use related deaths as deaths where substance use was found as a direct or contributing factor leading to child deaths. The substances used could include illegal drugs, prescription drugs, and/or alcohol. To identify substance use as a factor, each case was reviewed to determine if **any** individual involved in the death of a child used substances such as illegal drugs, prescription drugs, and/or alcohol. The individual could have been the child's parent or caretaker, an acquaintance, stranger, or the child and the substance use occurred proximate to the time of the incident leading to the death.

**Suicide** – Death caused by the intent to voluntarily end one's own life.

**Suffocation** – Oxygen deprivation by mechanical obstruction to the passage of air into the lungs, usually at the level of the nose, mouth.

**State CFR Team** – Established by A.R.S. § 36-3501, the State CFR Team provides oversight to Local CFR teams, they prepare an annual report of review findings, and develop recommendations to reduce preventable child deaths.

**Strangulation** – Mechanical constriction of neck structures.

**Sudden Unexpected Infant Death (SUID)** – Sudden unexpected death of an infant (less than 1 year of age) where the cause of death was not apparent prior to a death investigation. Most of the SUIDs are due to suffocation and unsafe sleep environments.

**Undetermined** – A death that the Local and State CFR teams are unable to decide whether the manner of death was natural, accident, homicide, or suicide. A death may be listed as undetermined because there is insufficient information available to the medical examiner to determine if the manner of death was due to accident, homicide, suicide or medical condition.



## References

1. Arizona Department of Health Services. Arizona Health Status and Vital Statistics, 2011-2019. Population Aged 1-17 Years by Race/Ethnicity and Gender, Arizona, 2011-2019. Internal Analysis - Unpublished Report.
2. Arizona Department of Health Services. Arizona Health Status and Vital Statistics, 2019. Population Aged 0-17 Years by Race/Ethnicity, Gender, and County of Residence, Arizona, 2019 (Table 10D-4). Phoenix, Arizona. 2020. <https://pub.azdhs.gov/health-stats/menu/info/pop/index.php>
3. Arizona Department of Health Services. Arizona Health Status and Vital Statistics, 2010. Population Aged 0-17 Years by Race/Ethnicity, Gender, and County of Residence, Arizona, 2010 (Table 10D-4). Phoenix, Arizona. 2011. <https://pub.azdhs.gov/health-stats/menu/info/pop/index.php?pg=2010>
4. Arizona Department of Health Services. Arizona Health Status and Vital Statistics, 2011. Population Aged 0-17 Years by Race/Ethnicity, Gender, and County of Residence, Arizona, 2011 (Table 10D-4). Phoenix, Arizona. 2012. <https://pub.azdhs.gov/health-stats/menu/info/pop/index.php?pg=2011>
5. Arizona Department of Health Services. Arizona Health Status and Vital Statistics, 2012. Population Aged 0-17 Years by Race/Ethnicity, Gender, and County of Residence, Arizona, 2012 (Table 10D-4). Phoenix, Arizona. 2013. <https://pub.azdhs.gov/health-stats/menu/info/pop/index.php?pg=2012>
6. Arizona Department of Health Services. Arizona Health Status and Vital Statistics, 2013. Population Aged 0-17 Years by Race/Ethnicity, Gender, and County of Residence, Arizona, 2013 (Table 10D-4). Phoenix, Arizona. 2014. <https://pub.azdhs.gov/health-stats/menu/info/pop/index.php?pg=2013>
7. Arizona Department of Health Services. Arizona Health Status and Vital Statistics, 2014. Population Aged 0-17 Years by Race/Ethnicity, Gender, and County of Residence, Arizona, 2014 (Table 10D-4). Phoenix, Arizona. 2015. <https://pub.azdhs.gov/health-stats/menu/info/pop/index.php?pg=2014>.
8. Arizona Department of Health Services. Arizona Health Status and Vital Statistics, 2015. Population Aged 0-17 Years by Race/Ethnicity, Gender, and County of Residence, Arizona, 2015 (Table 10D-4). Phoenix, Arizona. 2016. <https://pub.azdhs.gov/health-stats/menu/info/pop/index.php?pg=2015>
9. Arizona Department of Health Services. Arizona Health Status and Vital Statistics, 2016. Population Aged 0-17 Years by Race/Ethnicity, Gender, and County of Residence, Arizona,



2016 (Table 10D-4). Phoenix, Arizona. 2017. <https://pub.azdhs.gov/health-stats/menu/info/pop/index.php?pg=2016>

10. Arizona Department of Health Services. Arizona Health Status and Vital Statistics, 2017. Population Aged 0-17 Years by Race/Ethnicity, Gender, and County of Residence, Arizona, 2017 (Table 10D-4). Phoenix, Arizona. 2018. <https://pub.azdhs.gov/health-stats/menu/info/pop/index.php?pg=2017>

11. Arizona Department of Health Services. Arizona Health Status and Vital Statistics, 2018. Population Aged 0-17 Years by Race/Ethnicity, Gender, and County of Residence, Arizona, 2018 (Table 10D-4). Phoenix, Arizona. 2019. <https://pub.azdhs.gov/health-stats/menu/info/pop/index.php?pg=2018>

12. Miniño AM, Murphy SL. Death in the United States, 2010. NCHS data brief, no 99. Hyattsville, MD: National Center for Health Statistics. 2012. <https://www.cdc.gov/nchs/products/databriefs/db99.htm>

13. Kochanek KD, Murphy SL, Xu JQ. Deaths: Final data for 2011. National vital statistics reports; vol 63 no 3. Hyattsville, MD: National Center for Health Statistics. 2015. [https://www.cdc.gov/nchs/data/nvsr/nvsr63/nvsr63\\_03.pdf](https://www.cdc.gov/nchs/data/nvsr/nvsr63/nvsr63_03.pdf)

14. Xu JQ, Kochanek KD, Murphy SL, Arias E. Mortality in the United States, 2012. NCHS data brief, no 168. Hyattsville, MD: National Center for Health Statistics. 2014. <https://www.cdc.gov/nchs/products/databriefs/db168.htm>

15. Kochanek KD, Murphy SL, Xu JQ, Arias E. Mortality in the United States, 2013. NCHS data brief, no 178. Hyattsville, MD: National Center for Health Statistics. 2014. <https://www.cdc.gov/nchs/data/databriefs/db178.pdf>

16. Murphy SL, Kochanek KD, Xu JQ, Arias E. Mortality in the United States, 2014. NCHS data brief, no 229. Hyattsville, MD: National Center for Health Statistics. 2015. <https://www.cdc.gov/nchs/products/databriefs/db229.htm>

17. Xu JQ, Murphy SL, Kochanek KD, Arias E. Mortality in the United States, 2015. NCHS data brief, no 267. Hyattsville, MD: National Center for Health Statistics. 2016. <https://www.cdc.gov/nchs/products/databriefs/db267.htm>

18. Kochanek KD, Murphy SL, Xu JQ, Arias E. Mortality in the United States, 2016. NCHS Data Brief, no 293. Hyattsville, MD: National Center for Health Statistics. 2017. <https://www.cdc.gov/nchs/products/databriefs/db293.htm>

19. Murphy SL, Xu JQ, Kochanek KD, Arias E. Mortality in the United States, 2017. NCHS Data Brief, no 328. Hyattsville, MD: National Center for Health Statistics. 2018. <https://www.cdc.gov/nchs/products/databriefs/db328.htm>



20. Xu JQ, Murphy SL, Kochanek KD, Arias E. Mortality in the United States, 2018. NCHS Data Brief, no 355. Hyattsville, MD: National Center for Health Statistics. 2020. <https://www.cdc.gov/nchs/products/databriefs/db355.htm>
21. Arizona Department of Health Services. Arizona Health Status and Vital Statistics, 2008-2018. Births by County of Residence, Arizona, 2008-2018 (Table 5B-3). Phoenix, Arizona. 2019. <https://pub.azdhs.gov/health-stats/menu/info/trend/index.php?pg=births>
22. Arizona Department of Health Services. Arizona Health Status and Vital Statistics, 2019. Births by County of Residence, Arizona, 2019. Internal Analysis - Unpublished Report.
23. Arizona Department of Health Services. Arizona Health Status and Vital Statistics, 2008-2018. Resident Births by Mother's Age Group, Race/Ethnicity, County of Residence, and Year. Phoenix, Arizona. 2019. <https://pub.azdhs.gov/health-stats/menu/info/trend/index.php?pg=births>
24. Arizona Department of Health Services. Arizona Health Status and Vital Statistics, 2019. Resident Births by Mother's Age Group, Race/Ethnicity, County of Residence, and Year, Arizona, 2019. Internal Analysis - Unpublished Report.
25. Arizona Department of Health Services. Arizona Health Status and Vital Statistics, 2011-2019. Population Aged 10-17 Years by Race/Ethnicity and Gender, Arizona, 2010-2019. Internal Analysis - Unpublished Report.
26. Arizona Department of Health Services. Arizona Health Status and Vital Statistics, 2010. Selected Characteristics of Births by Birthweight and Gestational Age, Arizona, 2010 (Table 1B-33). Phoenix, Arizona. 2011. <https://pub.azdhs.gov/health-stats/report/ahs/ahs2010/index.htm>
27. Arizona Department of Health Services. Arizona Health Status and Vital Statistics, 2011. Selected Characteristics of Births by Birthweight and Gestational Age, Arizona, 2011 (Table 1B-33). Phoenix, Arizona. 2012. <https://pub.azdhs.gov/health-stats/report/ahs/ahs2011/index.htm>
28. Arizona Department of Health Services. Arizona Health Status and Vital Statistics, 2012. Selected Characteristics of Births by Birthweight and Gestational Age, Arizona, 2012 (Table 1B-33). Phoenix, Arizona. 2013. <https://pub.azdhs.gov/health-stats/report/ahs/ahs2012/index.php?pg=state>
29. Arizona Department of Health Services. Arizona Health Status and Vital Statistics, 2013. Selected Characteristics of Births by Birthweight and Gestational Age, Arizona, 2013 (Table 1B-33). Phoenix, Arizona. 2014. <https://pub.azdhs.gov/health-stats/report/ahs/ahs2013/index.php?pg=state>
30. Arizona Department of Health Services. Arizona Health Status and Vital Statistics, 2014. Selected Characteristics of Births by Birthweight and Gestational Age, Arizona, 2014 (Table 1B-



- 32). Phoenix, Arizona. 2015. <https://pub.azdhs.gov/health-stats/report/ahs/2014/index.php?pg=state>
31. Arizona Department of Health Services. Arizona Health Status and Vital Statistics, 2015. Selected Characteristics of Births by Birthweight and Gestational Age, Arizona, 2015 (Table 1B-32). Phoenix, Arizona. 2016. <https://pub.azdhs.gov/health-stats/report/ahs/ahs2015/index.php?pg=state>
32. Arizona Department of Health Services. Arizona Health Status and Vital Statistics, 2016. Selected Characteristics of Births by Birthweight and Gestational Age, Arizona, 2016 (Table 1B-32). Phoenix, Arizona. 2017. <https://pub.azdhs.gov/health-stats/report/ahs/ahs2016/index.php?pg=state>
33. Arizona Department of Health Services. Arizona Health Status and Vital Statistics, 2017. Selected Characteristics of Births by Birthweight and Gestational Age, Arizona, 2017 (Table 1B-32). Phoenix, Arizona. 2018. <https://pub.azdhs.gov/health-stats/report/ahs/ahs2017/index.php?pg=state>
34. Arizona Department of Health Services. Arizona Health Status and Vital Statistics, 2018. Selected Characteristics of Births by Birthweight and Gestational Age, Arizona, 2018 (Table 1B-32). Phoenix, Arizona. 2019. <https://pub.azdhs.gov/health-stats/report/ahs/ahs2018/index.php?pg=state>
35. Arizona Department of Health Services. Arizona Health Status and Vital Statistics, 2019. Selected Characteristics of Births by Birthweight and Gestational Age, Arizona, 2019. Internal Analysis - Unpublished Report.
36. Azar ST, Miller EA, Stevenson MT, Johnson DR. Social Cognition, Child Neglect, and Child Injury Risk: The Contribution of Maternal Social Information Processing to Maladaptive Injury Prevention Beliefs Within a High-Risk Sample. *Journal of Pediatric Psychology*. 2016;42(7):759-767. doi:10.1093/jpepsy/jsw067
37. Chaiyachati BH, Gaither JR, Hughes M, Foley-Schain K, Leventhal JM. Preventing child maltreatment: Examination of an established statewide home-visiting program. *Child Abuse & Neglect*. 2018;79:476-484. doi:<https://doi.org/10.1016/j.chiabu.2018.02.019>
38. Drowning Prevention. Always watch kids around water. Arizona Department of Health Services. <https://www.azdhs.gov/prevention/womens-childrens-health/injury-prevention/drowning-prevention/index.php>. Accessed May 18, 2020.
39. Residential Pool Safety Notice. Arizona Department of Health Services. <https://www.azdhs.gov/preparedness/epidemiology-disease-control/environmental-health/index.php#residential-pool-safety>. Accessed May 18, 2020.



40. Swim Safety Tips from the American Academy of Pediatrics. American Academy of Pediatrics. <https://www.aap.org/en-us/about-the-aap/aap-press-room/news-features-and-safety-tips/Pages/Swim-Safety-Tips.aspx>. Published 2018. Accessed May 19, 2020.
41. Peden AE, Franklin RC, Pearn JH. The prevention of child drowning: the causal factors and social determinants impacting fatalities in portable pools. *Health Promotion Journal of Australia*. 2020;31(2):184-191. doi:10.1002/hpja.282
42. Peden AE, Franklin RC, Pearn JH. Unintentional fatal child drowning in the bath: A 12-year Australian review (2002–2014). *Journal of Paediatrics and Child Health*. 2018;54(2):153-159. doi:10.1111/jpc.13688
43. Policy Statement: Firearm-Related Injuries Affecting the Pediatric Population. Pediatrics. 2012;130(5):e1416-e1423. <http://pediatrics.aappublications.org/content/130/5/e1416.full>. Reaffirmed December 2016
44. How Pediatricians Can Advocate for Children's Safety in Their Communities. American Academy of Pediatrics. <https://www.aap.org/en-us/advocacy-and-policy/Pages/How-Pediatricians-Can-Advocate-for-Childrens-Safety-in-Their-Communities.aspx>. Accessed May 20, 2020.
45. Bulger EM, Kuhls DA, Campbell BT, et al. Proceedings from the Medical Summit on Firearm Injury Prevention: A Public Health Approach to Reduce Death and Disability in the US. *J Am Coll Surg*. 2019;229(4):415-430.e12. doi:10.1016/j.jamcollsurg.2019.05.018
46. King A, Simonetti J, Bennett E, et al. Firearm storage practices in households with children: A survey of community-based firearm safety event participants. *Prev Med (Baltim)*. 2020;131:105952. doi:<https://doi.org/10.1016/j.ypmed.2019.105952>
47. Arizona Motor Vehicle Crash Facts 2018. Arizona Department of Transportation. <https://azdot.gov/sites/default/files/news/2018-Crash-Facts.pdf>. Published June 18, 2019. Accessed May 27, 2020.
48. AAP Updates Care Safety Seat Recommendations for Children. American Academy of Family Physicians. <https://www.aafp.org/news/health-of-the-public/20180921kidscarsafety.html>. Published September 21, 2018. Accessed May 27, 2020.
49. Durbin DR, Hoffman BD. Child Passenger Safety. Pediatrics. 2018;142(5):e20182461. doi:10.1542/peds.2018-2461
50. Arizona Motor Vehicle Crash Facts 2018 Highlights. Arizona Department of Transportation. <https://azdot.gov/sites/default/files/2019/07/2018-arizona-motor-vehicle-crash-facts-highlights.pdf>. Accessed May 27, 2020.





51. Buckle Up: Restraint Use in Arizona. Centers for Disease Control and Prevention. <https://www.cdc.gov/motorvehiclesafety/seatbelts/states.html>. Published December 2014. Accessed May 29, 2020.
52. Stewart DL, Barfield WD. Updates on an At-Risk Population: Late-Preterm and Early-Term Infants. *Pediatrics*. 2019;144(5):e20192760. doi:10.1542/peds.2019-2760
53. ARIZONA OPIOID ACTION PLAN VERSION 2 . ARIZONA DEPARTMENT OF HEALTH SERVICES EXECUTIVE SUMMARY. <https://www.azdhs.gov/documents/prevention/health-systems-development/epidemic/opioid-action-plan-2019-2021.pdf>. Accessed June 1, 2020.
54. Arizona Overdose Fatality Review Team: Inaugural Report. Arizona Department of Health Services. <https://www.azdhs.gov/documents/prevention/womens-childrens-health/injury-prevention/ofr-team/overdose-fatality-review-annual-report-2019.pdf>. Published September 30, 2019. Accessed May 29, 2020.
55. Substance Abuse and Mental Health Services Administration (US); Office of the Surgeon General (US). Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs, and Health [Internet]. Washington (DC): US Department of Health and Human Services; 2016 Nov. CHAPTER 7, VISION FOR THE FUTURE: A PUBLIC HEALTH APPROACH. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK424861/>
56. Substance Abuse and Mental Health Services Administration (US); Office of the Surgeon General (US). Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs, and Health [Internet]. Washington (DC): US Department of Health and Human Services; 2016 Nov. CHAPTER 4, EARLY INTERVENTION, TREATMENT, AND MANAGEMENT OF SUBSTANCE USE DISORDERS. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK424859/>. Accessed May 29, 2020.
57. Substance Abuse and Mental Health Services Administration (US); Office of the Surgeon General (US). Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs, and Health [Internet]. Washington (DC): US Department of Health and Human Services; 2016 Nov. CHAPTER 6, HEALTH CARE SYSTEMS AND SUBSTANCE USE DISORDERS. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK424848/>
58. Trauma-Informed Care in Behavioral Health Services. Substance Abuse and Mental Health Services Administration (US); Department of Health and Human Services. <https://store.samhsa.gov/product/TIP-57-Trauma-Informed-Care-in-Behavioral-Health-Services/SMA14-4816>. Published March 2014. Accessed June 8, 2020.
59. AAP COMMITTEE ON SUBSTANCE USE AND PREVENTION. Substance Use Screening, Brief Intervention, and Referral to Treatment. *Pediatrics*. 2016;138(1):e20161210
60. Substance Abuse and Mental Health Services Administration (US); Office of the Surgeon General (US). Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs,



and Health [Internet]. Washington (DC): US Department of Health and Human Services; 2016 Nov. CHAPTER 3, PREVENTION PROGRAMS AND POLICIES. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK424850/>. Accessed May 29, 2020.

61. Evidence-Based and Evidence-Informed Safe Sleep Practices: A literature review to inform the Missouri Safe Sleep Strategic Plan. National Institute for Children's Health Quality. [https://www.nichq.org/resource/safe-sleep-promising-practices-and-literature-review?utm\\_source=hs\\_email&utm\\_medium=email&utm\\_content=80563286&\\_hsenc=p2ANqtz--5yh4VotvJk9n0gQViG5lyYIRsrKLM27c4bHhkgxExqCqGwQoHMx8ntj42odixEVShSWRP0d-FMIE3LwcmpN\\_0WEEnZRm1WVgTSUJdnBoGajHA5yw&\\_hsmi=80563286](https://www.nichq.org/resource/safe-sleep-promising-practices-and-literature-review?utm_source=hs_email&utm_medium=email&utm_content=80563286&_hsenc=p2ANqtz--5yh4VotvJk9n0gQViG5lyYIRsrKLM27c4bHhkgxExqCqGwQoHMx8ntj42odixEVShSWRP0d-FMIE3LwcmpN_0WEEnZRm1WVgTSUJdnBoGajHA5yw&_hsmi=80563286). Published July 3, 2019. Accessed June 4, 2020.

62. Moon RY. SIDS and Other Sleep-Related Infant Deaths: Evidence Base for 2016 Updated Recommendations for a Safe Infant Sleeping Environment. *Pediatrics*. 2016;138(5):e20162940. doi:10.1542/peds.2016-2940

63. Suicide Prevention Action Plan. Arizona Department of Health Services; Arizona Health Care Cost Containment System. <https://www.azahcccs.gov/suicideprevention/>. Published January 2020. Accessed June 10, 2020.

64. Zero Suicide in Health and Behavioral Health Care. Education Development Center. [https://www.azahcccs.gov/AHCCCS/Downloads/SuicidePrevention/Zero\\_Suicide\\_One\\_Pager.pdf](https://www.azahcccs.gov/AHCCCS/Downloads/SuicidePrevention/Zero_Suicide_One_Pager.pdf). Published 2018. Accessed June 10, 2020.

65. An End to Suicide in Arizona 2018 State Plan. Arizona Health Care Cost Containment System. <https://www.azahcccs.gov/AHCCCS/Downloads/Plans/2018AZSuicidePreventionPlan.pdf>. Published 2018. Accessed June 10, 2020.

66. Preventing Suicide: A Toolkit for High Schools. Substance Abuse and Mental Health Services Administration. <https://store.samhsa.gov/product/Preventing-Suicide-A-Toolkit-for-High-Schools/SMA12-4669>. Published June 2012. Accessed June 9, 2020.

67. After a Suicide: A Toolkit for Schools. American Foundation for Suicide Prevention. <https://afsp.org/after-a-suicide-a-toolkit-for-schools>. Published 2018. Accessed June 10, 2020.

68. Shain B. Suicide and Suicide Attempts in Adolescents. *Pediatrics*. 2016;138(1):e20161420. doi:10.1542/peds.2016-1420

69. Surgenor PWG, Paul Q, Catherine H. Ten Recommendations for Effective School-Based , Adolescent , Suicide Prevention Programs. *School Ment Health*. 2016;8(4):413-424. doi:10.1007/s12310-016-9189-9

70. We Can All Prevent Suicide. National Suicide Prevention Lifeline. <https://suicidepreventionlifeline.org/how-we-can-all-prevent-suicide/>. Accessed June 10, 2020.



71. Swanson SA, Eyllon M, Sheu Y-H, Miller M. Firearm access and adolescent suicide risk: toward a clearer understanding of effect size. *Inj Prev*. Published online May 14, 2020:injuryprev-2019-043605. doi:10.1136/injuryprev-2019-043605

72. Mateu A, Sánchez AP-, Martínez- M, Hickey N, Nicholls D, Kramer T. Cyberbullying and post-traumatic stress symptoms in UK adolescents. Published online 2020:1-6. doi:10.1136/archdischild-2019-318716



## Resources

**Abuse/Neglect:** Report suspected abuse or neglect by parents or caregivers to the Department of Child Safety at 1-888-SOS-CHILD (1-888-767-2445) and to law enforcement agencies.

**Child Care:** If in need of safe child care, parents and caregivers can contact these agencies: Arizona Childcare Resource & Referral (1-800-308-9000) or the Association for Supportive Child Care (1-800-535-4599) for assistance. These agencies will match parents seeking childcare with appropriate community resources.

**Child Care:** Child Care Resource and Referral (CCR&R) meets a need that no one else does - providing the bridge between parents, providers, community leaders, and policymakers about anything related to child care in Arizona. Funding provided by the Arizona Department of Economic Security's Child Care Administration through federal Child Care Development Block Grant funds. Visit [arizonachildcare.org](http://arizonachildcare.org) for more information.

**Drowning:** To prevent drowning, parents and other caregivers should designate at least one responsible adult to monitor the pool area when children are present. They should also not rely solely on flotation devices to protect the child from drowning. Continue to use "touch supervision," where the adult can always reach out and touch the child. Have children wear life jackets in and around natural bodies of water, such as lakes or the ocean, even if they know how to swim. Life jackets can be used in and around pools for young swimmers too.

**Parent Helpline:** If feeling stressed or overwhelmed, parents and caregivers can seek assistance through the National Parent Helpline at 1-855-427-2736, the Birth to Five Helpline at 1-877-705-KIDS (Available Monday-Friday 8:00 am to 8:00 pm), the Fussy Baby Helpline at 1-877-705-KIDS ext. 5437 (Available Monday-Friday 8:00 am to 8:00 pm or Childhelp National Child Abuse Hotline at 1-800-4-A-CHILD (24 hours, 7 days per week). These resources offer crisis intervention, information, literature, and referrals to thousands of emergency, social service and support resources. All calls are confidential.

**Poisoning:** Save the Poison Help line in your phone: 1-800-222-1222. Put the toll-free number for the Poison Control Center into your home and cell phones.

**Teen Counseling Hotline:** Teen Lifeline provides a Peer Counseling Hotline for teens in crisis: 602-248-8336 (TEEN) for Maricopa county or statewide 800-248-8336 (TEEN).



## Technical Appendix

### Review Process

Local CFR teams conduct case reviews throughout the year. Once the Local CFR team coordinator or chairperson is notified of the death through the vital records spreadsheet sent by the ADHS CFR Program, they send out requests for relevant documents, which may include the child's autopsy report, hospital records, DCS records, law enforcement reports, and any other information that may provide insight into the circumstances surrounding the child's death. Additionally, birth certificate information is reviewed if the child was younger than 1 year of age at the time of their death. Legislation requires that hospitals and state agencies release this information to the Arizona CFR Program's local teams. **Note: Statute requires team members to maintain confidentiality and they are prohibited from contacting the child's family for any reason.**

During the review, team members from representing agencies provide information on each case as applicable. If an agency representative is unable to attend, the pertinent information is collected by the local team coordinator and presented at the review meeting.

Information collected during the review is then entered into the National Center for Fatality Review and Prevention (NCFRP) database. This database is a comprehensive tool that provides the ability to enter the many variables resulting from each case review. Some of the detailed case information captured includes the demographics of the child, caregiver information, information concerning the supervisor of the child when the fatality occurred, incident information, investigation of the incident, cause and manner of the death, and any other circumstances surrounding the fatality.

The NCFRP database is regularly reviewed and updated by the National Center and the ADHS CFR Program to ensure it is as effective as possible in capturing the most relevant information for preventing future fatalities. This data is put through a system of quality assurance checks by the State CFR Program Office and the resulting dataset is used to produce the statistics found in this report.

The State Team meets annually to review the analysis of these findings. State Team membership by statute A.R.S. § 36-3501 requires representatives from a variety of community and governmental agencies including:

1. Attorney general
2. Office of women's and children's health in the department of health services
3. Office of planning and health status monitoring in the department of health services
4. Arizona health care cost containment system
5. Division of developmental disabilities in the department of economic security



6. Department of child safety
7. Governor's office for children
8. Administrative office of the courts
9. Parent assistance office of the supreme court
10. Department of juvenile corrections
11. Arizona chapter of a national pediatric society
12. A medical examiner who is a forensic pathologist
13. A maternal and child health specialist involved with the treatment of Native Americans
14. A representative of a private nonprofit organization of tribal governments in this state
15. A representative of the Navajo tribe
16. A representative of the United States military family advocacy program
17. A representative of a statewide prosecuting attorneys advisory council
18. A representative of a statewide law enforcement officers advisory council who is experienced in child homicide investigations
19. A representative of an association of county health officers
20. A child advocate who is not employed by or an officer of this state or a political subdivision of this state
21. A public member. If local teams are formed pursuant to this article, the director of the department of health services shall select this member from one of those local teams.

The statute authorizes the State Team to study the adequacy of existing statutes, ordinances, rules, training, and services to determine the need for changes. The statute also charges the State Team to educate the public regarding the incidence and causes of child fatalities as well as the public's role in preventing these deaths. Adoption of the recommendations has often occurred because of the experience and expertise of the team. Reviewing 100 percent of the deaths allows for multi-year outcome comparisons and trend identification.

In Arizona, the cause of death refers to the injury or medical condition that resulted in death (e.g. firearm-related injury refers to the intentionality of the cause). For example, if the cause of death was a firearm injury, then the manner of death may have been intentional or unintentional. If it was intentional, then the manner of death was suicide or homicide. If it was unintentional, then the manner of death was an accident. In some cases, there was insufficient information to determine the manner of death, even though the cause was known. It may not have been clear that a firearm death was due to an accident, suicide, or homicide, and in these cases, the manner of death was listed as undetermined.

After a child dies, the county medical examiner or other appointed medical authority will determine both a cause and manner of death and write it on the deceased's death certificate. However, it is important to note that CFR teams review all records related to a fatality, and because of this comprehensive, multidisciplinary approach, the teams' determinations of cause and manner of death may differ from those recorded on the death certificate. Their determination of cause and manner are what is used in this report.



In the report, deaths are counted once in each applicable section based upon team consensus of the cause and manner of death. For example, a homicide involving a firearm injury perpetrated by an intoxicated caregiver would be counted in the sections addressing firearm injuries, homicides, substance use, and abuse/neglect fatalities. Frequencies and cross-tabulations are used, but due to the small sample size, tests for statistical significance are not done.

All cases reviewed by the Child Fatality Review Team are kept completely confidential. Information shared in the meetings is protected under A.R.S. § 36-3502 and cannot be shared with anyone outside the meeting. Every effort is made in this report to keep information private, and is intended to provide child death prevention recommendations, summary statistics, and trends of all child deaths taking place in Arizona.



## Abuse/Neglect Deaths

Abuse/neglect is an act or failure to act on the part of the parent or caregiver of a child resulting in the serious physical or emotional harm of the child. Some of the most common injuries CFR teams encounter while reviewing abuse/neglect cases involve physical abuse that includes internal abdominal and blunt force head injuries leading to a fatality. When reviewing neglect cases, CFR teams determine if the parents or caregivers failed to provide the child's daily necessities including clothing, food, safe shelter, medical care, and appropriate supervision. Deaths attributed to neglect are typically failure to thrive, accidents resulting from unsafe environments, and prenatal substance exposure. The circumstances surrounding abuse/neglect deaths can vary greatly. Some abuse/neglect deaths are the result of long-term abuse/neglect both unintentional and intentional; however some cases result from a single incident.

To gain greater understanding of the contribution of abuse/neglect to child mortality, the Arizona CFR teams answer several questions regarding abuse and neglect during a review.

**Classification of a death due to abuse/neglect must meet the following four conditions:**

1. Was there "An act or failure to act by a parent, caregiver, or other person as defined under State law which results in physical abuse, neglect, medical neglect, sexual abuse, emotional abuse, or an act or failure to act which presents an imminent risk of serious harm to a child" as it applied to the circumstances surrounding the death? (From the U.S. Department of Health and Human Services definition of abuse/neglect).
2. The relationship of the individual accused of committing the abuse/neglect to the child must be the child's parent, guardian, or caretaker.
3. A team member, who is a mandated reporter, would be obligated to report a similar incident to the appropriate child protective services agency.
4. Was there an act or failure to act during critical moments that caused or contributed to the child's death?

The program also reports deaths classified as abuse/neglect in other categories by manner and cause of death. For example, one classifies a death from abusive head trauma caused by the use of a blunt force object as a homicide and as abuse/neglect death. Teams may also classify an accidental injury or natural death as an abuse/neglect death if the team concludes a caretaker's negligence or actions contributed to or caused the fatality. For example, the death of a child in a motor vehicle crash due to the actions of a parent who drove while intoxicated would be considered an abuse/neglect death.





**Examples of neglect contributing to a child’s death include, but are not limited to the following:**

- Any death in which intoxication by drugs (prescription, over-the-counter, legal or illegal) or alcohol of the parent, guardian, or caregiver contributed to the death.
- Drowning:
  - Parent/caregiver/supervisor leaves a child near or in a body of water such as a pool, lake, or river without sober and adequate adult supervision. This is if the child's age, mental capacity, or physical capacity puts the child at risk of drowning (e.g. child is under the age of five years, and/or is unable to swim).
  - Parent/caregiver/supervisor leaves infant or toddler in a tub, unsupervised.
- Exposure when a parent/caregiver/supervisor leaves young a child/infant alone in a car or outdoors.
- Gunshot wound when a parent/caregiver/supervisor leaves a loaded weapon unsecured where a child would have access to the weapon.
- Motor vehicle crash:
  - Parent/caregiver/supervisor drives under the influence of alcohol or drugs (prescription, over-the-counter, legal, or illegal) with child passenger or knowingly allows child to be a passenger with driver under the influence.
  - If a child under the age of six years was a passenger and was not properly restrained (situations where a child was placed in the right type of restraint but the seat may not have been properly installed are not included as abuse/neglect).
  - Parent/caregiver/supervisor drives recklessly with child passenger and it was related to the child's death.
- Natural deaths when medical neglect contributed to the death including failure to comply with a prescribed treatment plan, failure to obtain treatment, and/or failure to provide necessary medications (e.g. an asthma related death where a caregiver did not provide the child with an inhaler).
- Poisoning when a parent/caregiver/supervisor allows medication or dangerous household products to be accessible to a child or teen with known behavioral health issues (e.g. if there is a teen in the household with history of substance use or suicidal ideation and prescription medication, such as opiates, are not in a secured location).
- Prenatal exposure to illicit drug use or alcohol that causes or contributes to the death of the child (e.g. a child born prematurely due to prenatal drug exposure to methamphetamines).
- Sleep related deaths when a parent/guardian/caregiver bed-sharing with or places an infant into an unsafe sleep environment while under the influence of drugs (prescription, over-the-counter, legal, or illegal) or alcohol, or knowingly allows a child to be placed into an unsafe sleep environment under the care of someone



under the influence of drugs (prescription, over-the-counter, legal, or illegal) or alcohol.

- Suicide when a parent/caregiver/supervisor failed to secure hazards (e.g. unsecured weapon, prescription drugs, or did not seek care for the child when aware of any suicidal ideation).

**Abuse/neglect reporting differences:**

The number of child abuse/neglect deaths presented in this report is not comparable to child abuse/neglect deaths reported by the Arizona Department of Child Safety (DCS) (Formerly Arizona Department of Economic Security Child Protective Services) for the National Child Abuse and Neglect Data System (NCANDS). NCANDS includes abuse/neglect deaths identified through child protective services investigations, and because some abuse/neglect deaths identified by Local CFR teams may not have been reported to child protective services agencies or were within the jurisdiction of Tribal Nations or other states, these deaths would not be included in the DCS annual report to NCANDS. However, when a Local CFR team identifies a death due to abuse/neglect not previously reported to a child protective services agency, the Local CFR Program notifies child protective services of the team's assessment so they can initiate an investigation.

Per A.R.S. § 8-807, DCS is required to post information on child fatalities due to abuse or neglect by the child's parent, custodian, or caregiver. This information is posted after a final determination of the fatality due to abuse or neglect has been made by DCS. The determination is made by either a substantiated finding or specific criminal charges filed against a parent, guardian, or caregiver for causing the fatality or near fatality.



## Sudden Expected Infant Deaths (SUID)

In Arizona, all sudden unexpected infant deaths (SUID) are determined using a protocol based on the CDC's SUID guidelines. Based upon these guidelines, review teams will follow the protocol to determine if unsafe factors were in place at the time of the child's death.

**If any such factors are identified, then the death will be classified as one of the following:**

1. With sufficient evidence that supports the infant's airway was obstructed, it will be deemed as asphyxia or suffocation with an accidental manner.
2. If there is not enough evidence to determine intent, but the cause of death of suffocation is clear then it will be labeled with an undetermined manner of death.
3. If all evidence is reviewed and cause of death is suspected, but there is not enough information to fully determine the cause or manner then the death will be labeled as undetermined for both cause and manner.

Sleep related injury deaths in this report are identified by reviewing all potential cases of children less than 1 year of age. A death is considered sleep related if the child was found in a sleep environment or if the last time they were seen alive was while they were asleep. In addition, it could be a natural cause of death if the death was sudden and unexpected and the infant was in a sleep environment.

### Limitations:

Factors influencing protocols to certify SUID and sleep related deaths include death scene investigation by trained investigators and law enforcement, completion of the death scene investigation form, and the final determination of death by a certified forensic pathologist. The Arizona CFR program works to mitigate these limitations by providing statewide training to law enforcement on the statutorily required Arizona Infant Death Checklist and completing both local and state level reviews of all identified SUID cases. In 2019, of the 70 deaths where a death scene investigation was completed, authorities were known to have filled out an infant death checklist in 52 of the cases. The cases in this report use the final cause and manner of death that are determined by the state SUID Review Team. This expert panel reviews all available information to determine the classification. However, the use of this methodology accounts for the differences between the numbers in the report and the numbers reported by vital records and medical examiners.



## State and Local CFR Teams Appendix

### Arizona Department of Health Services, State CFR Team

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American Academy of Pediatrics

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Coconino County Public Health Services

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Janelle Westfall, LPC, LBA,  
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Devereux Advanced  
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Stephanie Zimmerman, MD  
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## Mohave County & La Paz County, CFR Team

### Chairperson:

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### Coordinator:

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Mohave County Department of Public Health

### Members:

Dawn Abbott  
Mohave Mental Health  
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Sergeant Mike Thompson  
Parker Police Department

Denise Burley  
Mohave County Department  
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Tim King  
Northern AZ Consolidated  
Fire District

Keith Turner  
Retired Attorney

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Arizona DPS

Mike Cardinal  
Bullhead City PD

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Kingman Regional Medical  
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Mohave County Probation  
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Mohave County Medical  
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Steven Draper  
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Colorado River Funeral  
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Sergeant Mike Godfrey  
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Sergeant Michael Senio  
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Charles Solano  
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## Navajo County & Apache County, CFR Team

### Chairperson:

Janelle Linn, RN  
Navajo County Public Health Services

### Coordinator:

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Navajo County Public Health Services

### Members:

Tom Barela, MD  
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Jerry Sowers, DO  
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Doctor

Norma Bowman  
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Amy Stradling  
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Orlando Bowman  
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Project Coordinator

Kenneth Brown  
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Andrea Tsatoke, MPH  
Indian Health Services District  
Injury Prevention Coordinator

Scott Chasan  
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Kateri Piecuch  
Arizona Department of  
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Navajo County Medical  
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Gregory Sehongva  
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## Pima County, Cochise County, & Santa Cruz County, CFR Team

### Chairperson:

Dale Woolridge, MD  
Department of Emergency Medicine  
University of Arizona

### Coordinator:

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University of Arizona

### Members:

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Kat Dunne  
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Adrienne Hollen  
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Stacey Christian  
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Lucinda Giblin  
Banner Health

Sergeant Jill Isley  
Pima County Sheriff's  
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Amy Gomez  
Victim Services Liaison  
Emerge

Lynn Kallis  
Pilot Parents

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Heather McAlees  
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## Pinal County, CFR Team

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Banner Health Hospital

### Coordinator:

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### Assistant Coordinator:

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Sarah Neal  
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## Yavapai County, CFR Team

### Chairperson:

Kathy McLaughlin  
Citizen Advocate

### Coordinator:

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Yavapai County Community Services

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Health Services

Sue Carlson, LPC

Dennis McGrane  
Yavapai County Attorney

Officer Amy Chamberlain  
Chino Valley Police  
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Joan Drydyk

Patricia Robison  
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Health Services

Mark Garcia  
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Cindy Garman  
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Missy Sikora  
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Arielle Gunderson  
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Chris Hout  
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Henry Kaldenbaugh, MD  
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## Yuma County, CFR Team

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Patti Perry, MD  
Yuma Regional Medical Center

**Co-Chair/Coordinator:**

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Yuma County Health District

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Yuma Regional Medical  
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Lieutenant Jay Carlson Yuma  
County Sheriff's Office

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Public City of Yuma Fire  
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Medical Examiner  
Investigator/Deputy, Yuma  
County Sheriff's Office

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Program Manager

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Edsel Sandoval  
Intern for Dr. Perry

Maria Vasquez  
Family Child Advocate  
Amberly's Place

Sergeant Nathan Williams  
Police Officer Yuma Police  
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