

Arizona Child Fatality Review Team

Twenty-Ninth Annual Report

November 15, 2022

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.





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The Arizona Child Fatality Review Program's (CFRP) 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 2021, 863 children died in Arizona, an increase from 838 deaths in 2020. The leading causes of death were prematurity, congenital anomalies, motor vehicle crashes, firearm injuries, and suffocation. Prematurity was the most common cause of death for neonates (infants less than 28 days old) while suffocation was the common cause of death among infants 28 days to less than 1 year of age. Drowning was the most common cause of death in children 1-4 years of age as 68% of the 44 drowning deaths occurred in this age group. The drowning death rate doubled from 2020 to 2021.

Of the 863 deaths, 410 (48%) were determined to be preventable by the local review teams. The three most common causes of preventable death were motor vehicle crashes, firearm injuries, and suffocation. In 43% of the preventable deaths, substance use was a contributing factor, and in 33% of these deaths, poverty was a risk factor.

There were 44 suicide deaths in 2021. In 68% of these deaths, recent warning signs for suicide were the most common risk factor, and 17 suicide deaths were due to firearm injury. In 2021, 56 children died from a firearm injury, and 100% of these deaths were determined to be preventable.

Sudden Unexpected Infant Death (SUID) is the death of a healthy infant who is not initially found to have any underlying medical condition that could have caused their death. Most of the SUIDs are due to suffocation and unsafe sleep environments. There were 65 SUIDs in 2021. An unsafe sleep environment was a factor in 95% of these deaths and bedsharing in 58% of the deaths.

Arizona's abuse/neglect mortality rate increased 36.2% from 5.8 in 2020 to 7.9 in 2021. Of the 128 children who died in 2021 from abuse/neglect, substance use was a contributing factor in 59% of the deaths, and the child's families had prior involvement with a CPS agency in 46% of the deaths.

In 2021, 31 Arizona children died from COVID-19 and 61% of these children were less than 12 years old. There were also 27 deaths where COVID-19 indirectly caused or contributed to the child's death, and 56% of these children were less than 12 years old. The fatality review team recognizes that COVID-19 is indirectly related to other child deaths and may have been a factor in child deaths due to suffocation, poisoning, strangulation, and firearm injuries included in this report.

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I would like to thank all our volunteers for their support of the CFR program and its mission to prevent child deaths in Arizona. Five of us have participated in the CFR program for over 25 years: Susan Newberry, MEd (Maricopa Team), Kathy Bowen, MD and Lori Groenewold (Pima Team), and Patti Perry, MD (Yuma Team). The ongoing support of the Arizona Department of Health Services and the Arizona Chapter of the American Academy of Pediatrics is greatly appreciated.

Sincerely,

A handwritten signature in black ink that reads "Mary Ellen Rimsza M.D." in a cursive script.

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:

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 29 years, the CFRP has overall continued to decrease preventable deaths for our Arizona children.

The CFRP team members who have served for ten or more years with the program. Because of their dedicated time and volunteer commitment to the program, all child deaths in Arizona are reviewed to determine if steps, if any, could have prevented the child's death from occurring. It is because of their expertise and many years of experience with the program that this report is made possible. A star is notated next to their name at the end of this report.

This publication can be made available in alternative formats. Contact the CFRP at (602) 542-1875 (voice) or Individuals with hearing or speech challenges, call 711 for Relay.

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Disclaimers to the Annual 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 Program (CFRP) investigates and reports on the death of all children who die in Arizona regardless of state residency.

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 as the CFRP and DCS/CPS have different definitions of child abuse/neglect. The CFRP works closely with DCS/CPS to further improve our surveillance of child abuse/neglect. A more detailed explanation can be found in the appendix.

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.

Racial Disparities:

Although portions of the report show progress in reducing child deaths in Arizona overall, racial disparities in mortality remain or have increased in recent years. American Indian and Black children are disproportionately affected by mortality at greater levels than White and Hispanic children despite both groups representing small proportions of the total Arizona population. Further investigation of these disparities can lead to evidence-based tailored public health programs and interventions to improve mortality rates for Arizona's American Indian and Black communities.

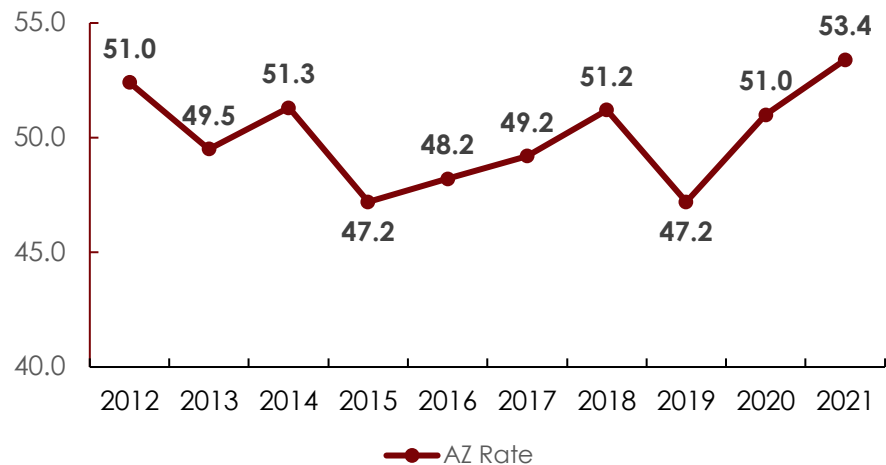
Prevention Recommendations:

The prevention recommendations included in this report are developed by the CFRP State Team and does not necessarily reflect the official views of ADHS or the State of Arizona. The local review team recommendations and a literature review conducted by the CFRP make up the recommendations that are presented to the CFRP State Team for inclusion in this report.

Report Highlights

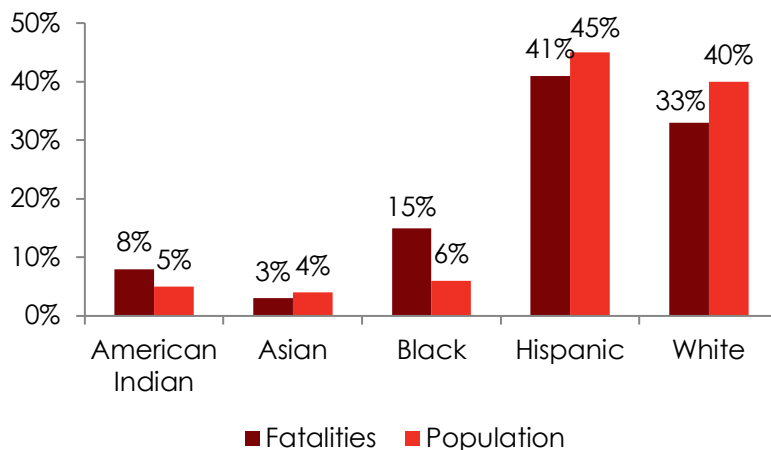
Total Deaths 863
Preventable Deaths 410 (48% of all deaths)
Deaths Under 1 Year 428 (50% of all deaths)
Abuse/Neglect Deaths 128 (15% of all deaths)

Mortality Rate per 100,000 Children, Ages 0-17 Years, Arizona, 2012-2021²⁻¹¹



Natural Causes	Accidents	Homicides	Suicides	Undetermined
59%	28%	5%	5%	3%
511 child deaths	238 child deaths	47 child deaths	44 child deaths	23 child deaths

Percentage of Deaths among Children by Race/Ethnicity, Compared to the Population, Ages 0-17 Years (n=863)²



Top 5 Leading Causes of Death:

1. Prematurity (n=206)
2. Congenital Anomaly (n=108)
3. Motor Vehicle Crash (n=72)
4. Firearm Injury (n=56)
5. Suffocation (n=54)

Substance Use was involved in
1 out of every 5
child fatalities

Boys were victim to
79%
of firearm injury deaths

75% of children who died of abuse/neglect were
less than five years of age

95% of the Sudden Unexpected Infant Deaths (SUIDs) occurred in an
unsafe sleep environment

Introduction

The Arizona Child Fatality Review Program (CFRP) annually provides a comprehensive review of every child less than 18 years of age who died in Arizona, including all deaths due to injuries and medical conditions. While most deaths due to medical conditions are not preventable, deaths due to intentional (suicides, homicides) and unintentional injuries (drowning, suffocation, motor vehicle crashes) are preventable and vary by age. 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 or firearm injury. Analyzing risk factors allows injuries to be anticipated and thus prevented when the appropriate protective measures are in place.

The CFRP 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 CFRP. 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 subcommittees.

This report utilizes descriptive statistics and trend analyses to present summary information about child fatalities as well as the leading causes under each manner of death by factors such as age, sex, 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 review teams based on the information collected and reviewed on each child's death.

According to the National Center for Child Death Review, there are six basic steps to conduct an effective review meeting¹:

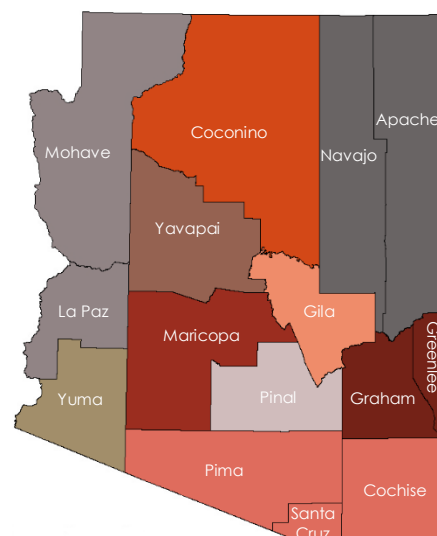
- 1 Share, question, and clarify all case information
- 2 Discuss the investigation
- 3 Discuss the delivery of services
- 4 Identify risk factors
- 5 Recommend systems improvements
- 6 Identify and take action to implement prevention recommendations

Methods

Review Process

Arizona has 10 Local CFR Teams that complete reviews at the community level. Second level reviews of SUID and Abuse/Neglect deaths are done at the state level by subcommittees of the State Team. The review process begins when the death of a child less than 18 years old is identified through a vital records report. The CFR program sends a copy of the death certificate to a 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 team in the community where the death occurred will conduct the review. Information collected during the review is then entered into the National Child Death Review Database. Funding for the NCFRP is provided in large part by the Maternal and Child Health Bureau (Title V Social Security Act), Health Resources Services Administration, US Department of Health and Human Services. The resulting dataset is used to produce the statistics found in this annual report.

Local Review Teams*



*Same color in map = Same review team

Local Team Membership

The CFRP partners with local county health departments, academia, and non-profit organizations to establish review teams. These teams are located throughout the state and membership includes (A.R.S. § 36-3502):

- 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

Report Statistics

The descriptive statistics in this report summarize the information about these child deaths by manner, cause, age, sex, race/ethnicity, and risk factors. 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.

Manner of Death versus Cause of Death

In this report, the manner of death includes natural (e.g., cancer), accident (e.g., unintentional car 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 injury, pneumonia, cancer). Manner of death is not the same as the cause of death, but specifically 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 accidental. If it was intentional, then the manner of death was suicide or homicide. If the injury 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. For example, it may not have been clear that a firearm injury was due to an accident, suicide or homicide; and in these cases, the manner of death was listed as undetermined.

Limitations

It is important to note that the report has certain limitations. While every child's 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.

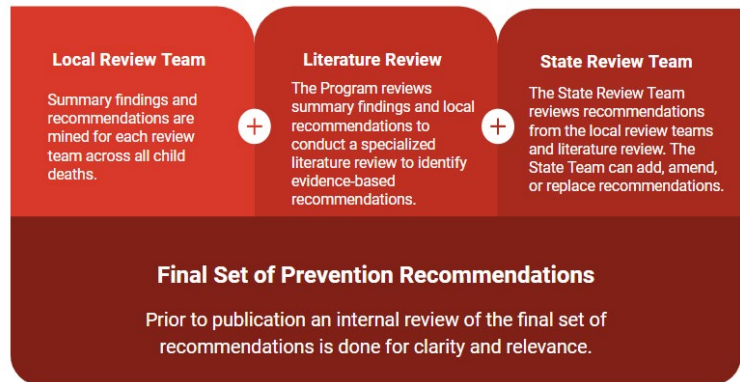
Additionally, data is based upon vital records information and information from local jurisdictions. Arizona has a medical examiner system with each county having its own jurisdiction. Law enforcement also varies around the state. Arizona is home to 22 different American Indian tribes each of whom has 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 to review each case.

Recommendation Highlights

In response to the summary data in the report, the State Child Fatality Review Team makes evidence-based recommendations to prevent child fatalities within the state. Highlighted recommendations are from manners/causes of deaths that report an increase between 2020-2021 including the following:

- The mortality rate of **abuse/neglect** deaths increased drastically. Some prevention recommendations include the expansion of the DCS Workforce Resilience program, increasing home visiting programs throughout the state, and increasing awareness and support for the All Babies Cry program.
- The **drowning** mortality rate increased drastically. Some prevention recommendations include increasing public awareness of the dangers of drowning for children, caregivers never leaving a child unattended near pools or open bodies of water, proper pool enclosures for all pools, and teaching children the ability to swim to reduce child drownings.
- The mortality rate for **firearm injury** increased this year. Some prevention recommendations include removing firearms from households with children, proper storage of all firearms which requires keeping the firearm unloaded and locked in a safe with the ammunition stored separately, and interventions to prevent firearm violence among children in school.
- **Prematurity** was identified as the most common cause of death among neonates. Some prevention recommendations include avoiding using substances such as drugs or alcohol during pregnancy because it increases the risk of preterm birth and other complications, encouraging regular prenatal care, increasing the availability of affordable health insurance and awareness of AHCCCS coverage up to one year postpartum, and increasing availability of home visiting programs.
- **Substance use** related death rate increased this year. Some prevention recommendations for substance use include training for professionals in trauma-informed care to better address adverse childhood experiences (ACEs), improve access to personalized substance use disorder treatment plans especially in rural areas, expand access to services for people experiencing unstable housing and homelessness, and increase the availability of naloxone.
- The mortality rate of **Sudden Unexpected Infant Deaths (SUIDs)** increased as well. Some prevention recommendations include educating parents on safe sleeping environments using real-life testimonials in safe sleep education. Infants should be placed on their backs to sleep for every sleep on a firm, flat, non-inclined sleep surface. Alone, on my Back, in a Crib (ABCs) is the safest sleeping practice for an infant until it is 1 year of age. Infants should always sleep on a separate surface. Increasing home visiting programs for infants following birth for up to one year.

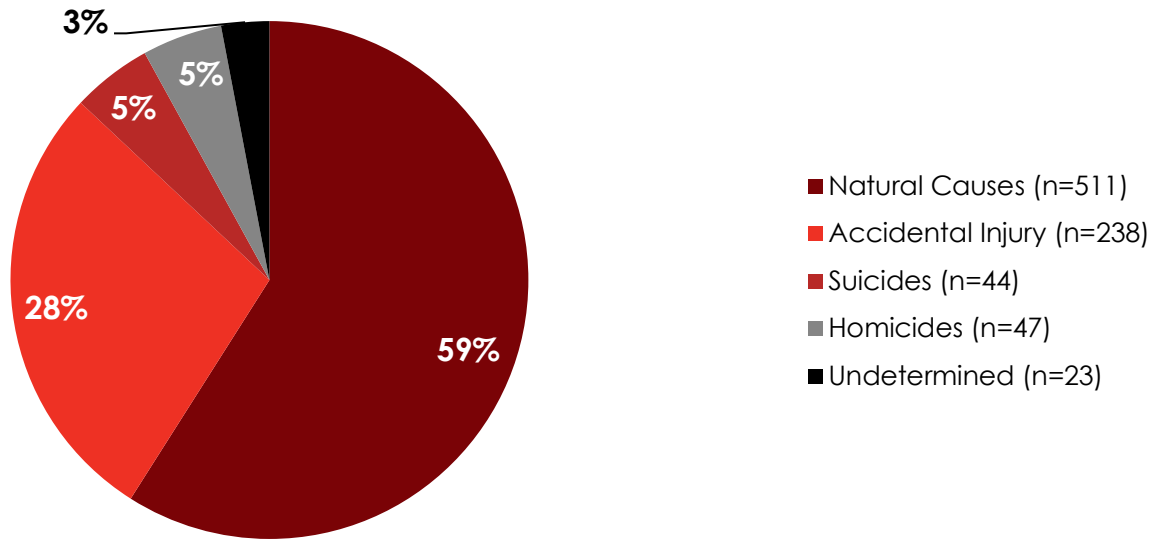
A more detailed list of these prevention recommendations begins on page 89.



Overall Demographics: Child Mortality (0-17 Years)

The majority of child deaths were from natural causes (59%), followed by accidental injury deaths (28%) (Figure 1).

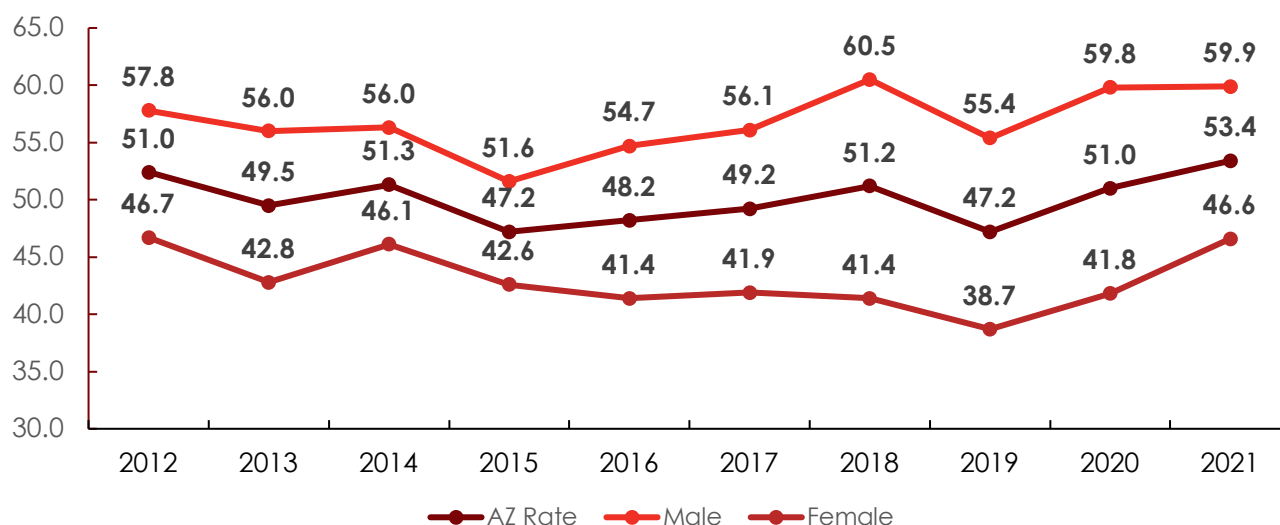
Figure 1. Number and Percentage of Deaths among Children by Manner of Death, Ages 0-17 Years, Arizona, 2021 (n=863)





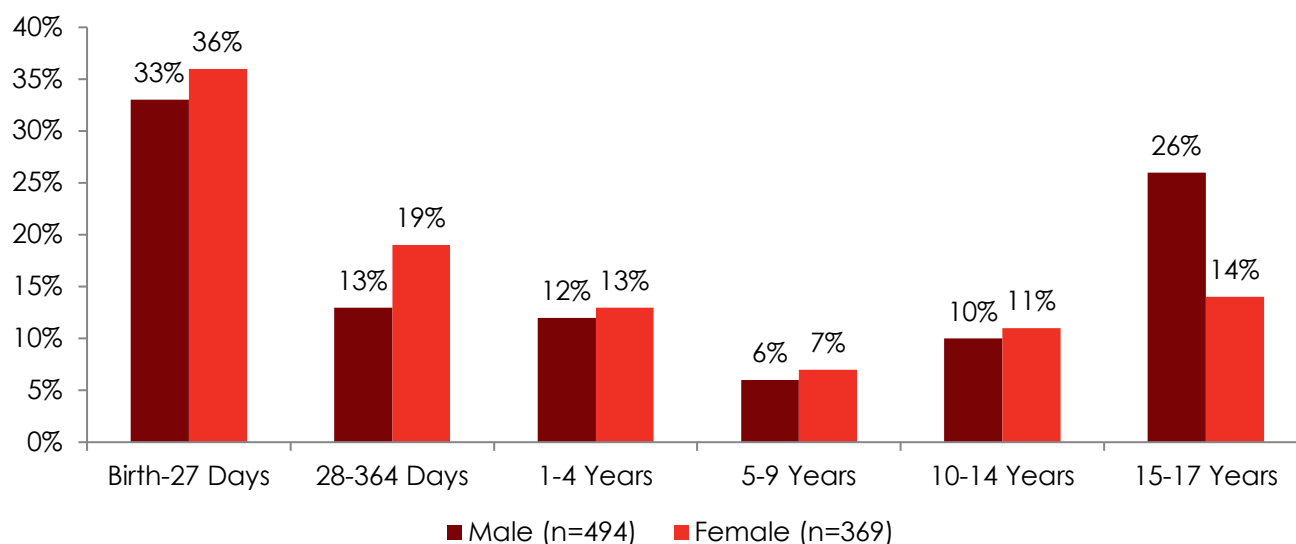
Arizona's child mortality rate has remained relatively stable since 2012. Arizona's child mortality rate increased 4.7% from 51.0 deaths per 100,000 children in 2020 to 53.4 deaths per 100,000 children in 2021. The male child mortality rate is consistently higher than the female child mortality rate (Figure 2).

Figure 2. Mortality Rate per 100,000 Children, Ages 0-17 Years, Arizona, 2012-2021 (n=863)²⁻¹¹



Fifty-seven percent of child deaths were males while 43% were females. The highest percentage of male deaths were among children ages birth-27 days and 15-17 years (36% and 26% respectively). The highest percentage of female deaths were among birth-27 days and 25-364 days (36% and 19% respectively) (Figure 3).

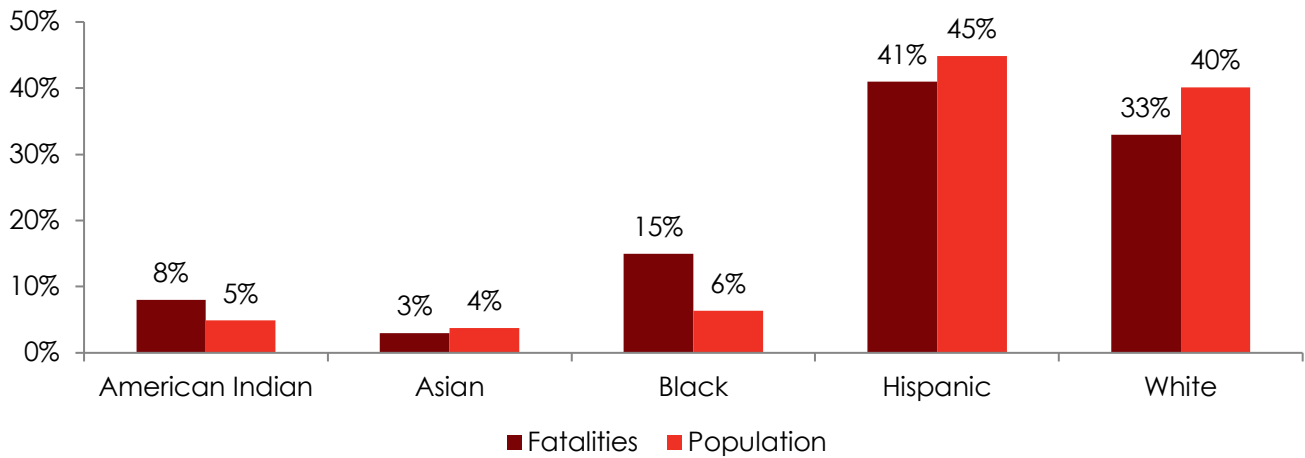
Figure 3. Percentage of Deaths among Children by Age Group and Sex, Ages 0-17 Years, Arizona, 2021 (n=863)





Black and American Indian children made up 15% and 8% of child deaths, respectively, but only make up 6% and 5% of the total child population. The largest percentage of child deaths were among Hispanic (41%) children followed by White (33%) children (Figure 4).

Figure 4. Percentage of Deaths among Children by Race/Ethnicity, Ages 0-17 Years, Compared to Population, Arizona, 2021 (n=863)²





Prematurity was the leading cause of death for infants 0-27 days while suffocation was the leading cause of death among infants 28 days to less than 1 year of age (Table 1). Among children ages 1-4 years, drowning was the leading cause of death. Among children ages 5-9 years and 10-14 years, motor vehicle crash was the leading cause of death. Among children 15-17 years, firearm injury was the leading cause of death.

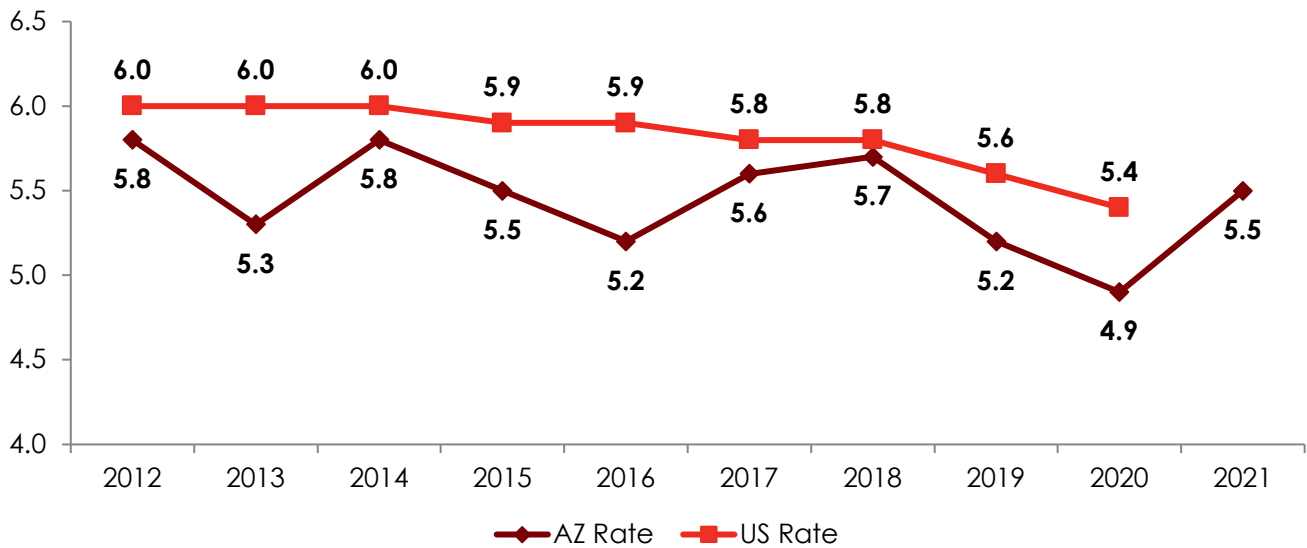
Table 1. Top 5 Leading Causes of Child Death by Age Group, Arizona, 2021

Age Group	Leading Causes of Child Death				
	1	2	3	4	5
0-27 Days (n= 295)	Prematurity (n = 187)	Congenital Anomaly (n = 64)	Other Perinatal Condition (n = 20)	Neurological/ Seizure Disorder (n = 7)	Cardiovascular (n = 6)
28 Days - <1 Year (n= 133)	Suffocation (n = 49)	Prematurity (n = 18)	Congenital Anomaly (n = 17)	Undetermined (n = 11)	Cardiovascular (n = 8)
1-4 Years (n= 107)	Drowning (n = 30)	Congenital Anomaly (n = 14)	Poisoning (n = 9)	Cancer (n = 7)	Neurological/ Seizure disorder (n = 7)
5-9 Years (n= 57)	Motor Vehicle Crash (n = 12)	Congenital Anomaly (n = 6)	Drowning (n = 6)	Cancer (n < 6)	COVID-19 (n < 6)
10-14 Years (n= 91)	Motor Vehicle Crash (n = 17)	Cancer (n = 15)	Strangulation (n =10)	Firearm Injury (n = 8)	Poisoning (n= 6)
15-17 Years (n= 180)	Firearm Injury (n= 42)	Motor Vehicle Crash (n = 34)	Poisoning (n = 32)	Strangulation (n= 11)	Cancer (n =10)
All Deaths (N= 863)	Prematurity (n = 206)	Congenital Anomaly (n = 108)	Motor Vehicle Crash (n = 72)	Firearm Injury (n = 56)	Suffocation (n = 54)

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

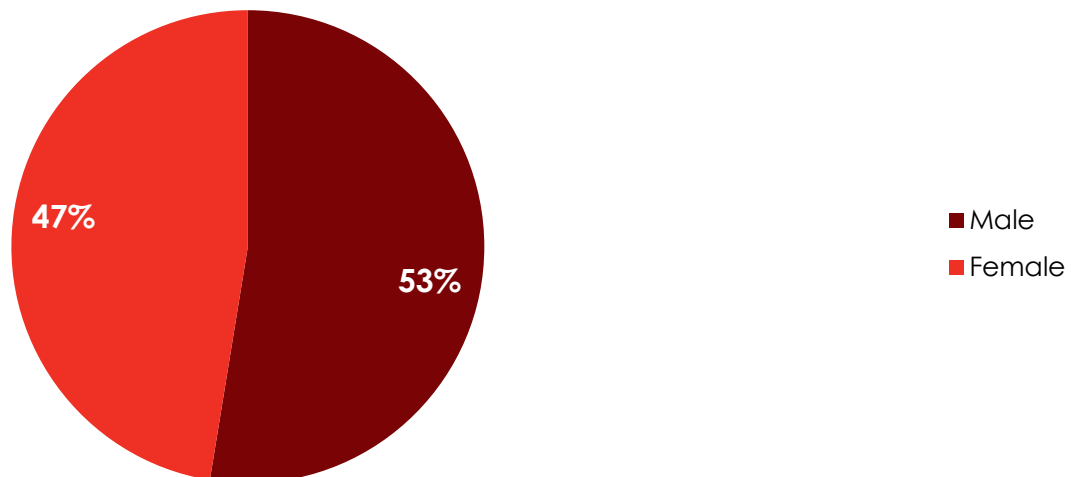
Arizona's infant mortality rate has been fluctuating since 2012. Since 2020, Arizona's infant mortality rate has increased 12.2% from 4.9 deaths per 1,000 live births to 5.5 deaths per 1,000 live births. The Arizona infant mortality rate has consistently been lower than the U.S. rate (Figure 5).

Figure 5. Infant Mortality Rates per 1,000 Live Births, Less than 1 Year of Age, Arizona & U.S., 2012-2021¹²⁻³¹



The majority of infant deaths were male (53%) (Figure 6).

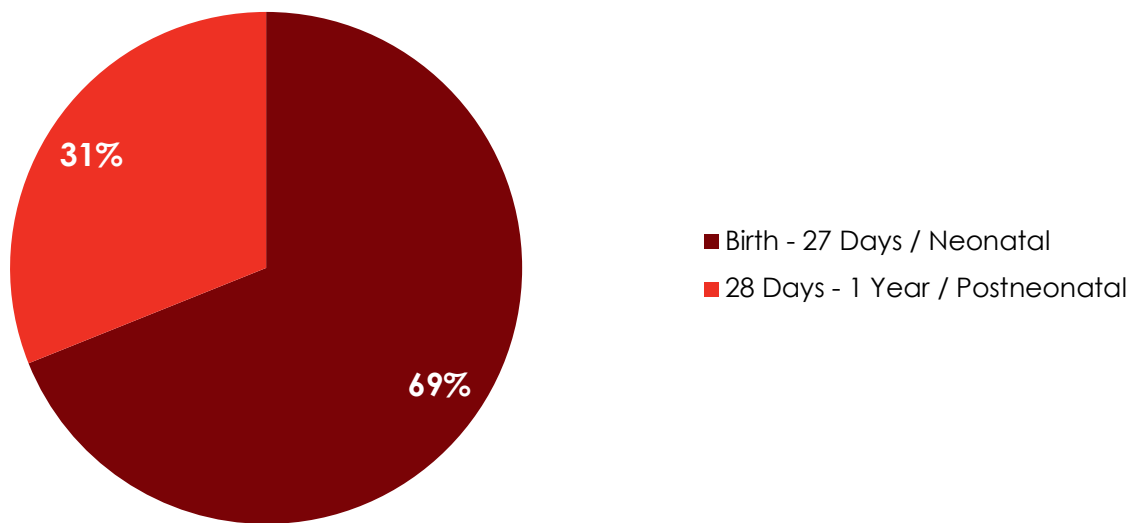
Figure 6. Percentage of Deaths among Infants by Sex, Less than 1 Year of Age, Arizona, 2021 (n=428)





The majority of infant deaths occurred in post-neonatal infants 28 days to one year (69%) (Figure 7).

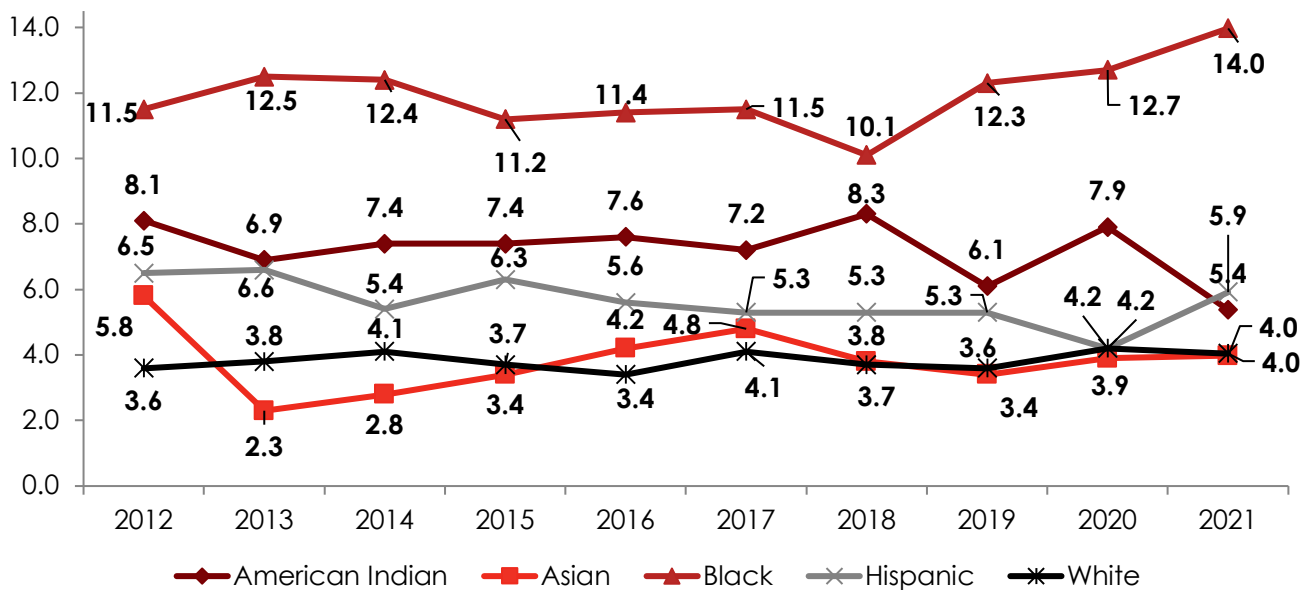
Figure 7. Number and Percentage of Deaths among Infants by Age Group, Less than 1 Year of Age, Arizona, 2021 (n=428)





Black and American Indian infants have consistently higher rates of infant mortality. In 2021, the infant mortality rates for Black and American Indian were 14.0 and 5.4 deaths per 1,000 live births, respectively. In comparison, the infant mortality rates for Hispanic and White infants were 5.9 and 4.0 deaths per 1,000 live births. All infant mortality rates, except for American Indian and White infants increased, with the highest rate increase for Black infants of 10.3% from 2020 to 2021 (Figure 8).

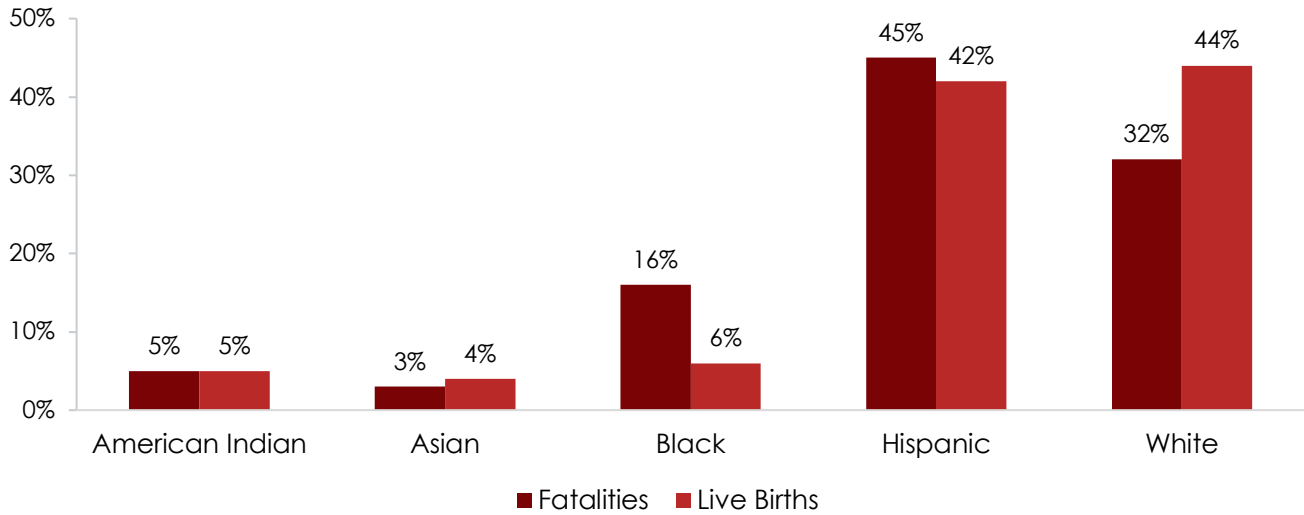
Figure 8. Infant Mortality Rates per 1,000 Live Births by Race/Ethnicity, Less than 1 Year of Age, Arizona, 2012-2021³⁰⁻³¹





Black infants made up 16% of infant deaths but only make up 6% of live births. The majority of infant deaths were among Hispanic (45%) and White (32%) infants (Figure 9).

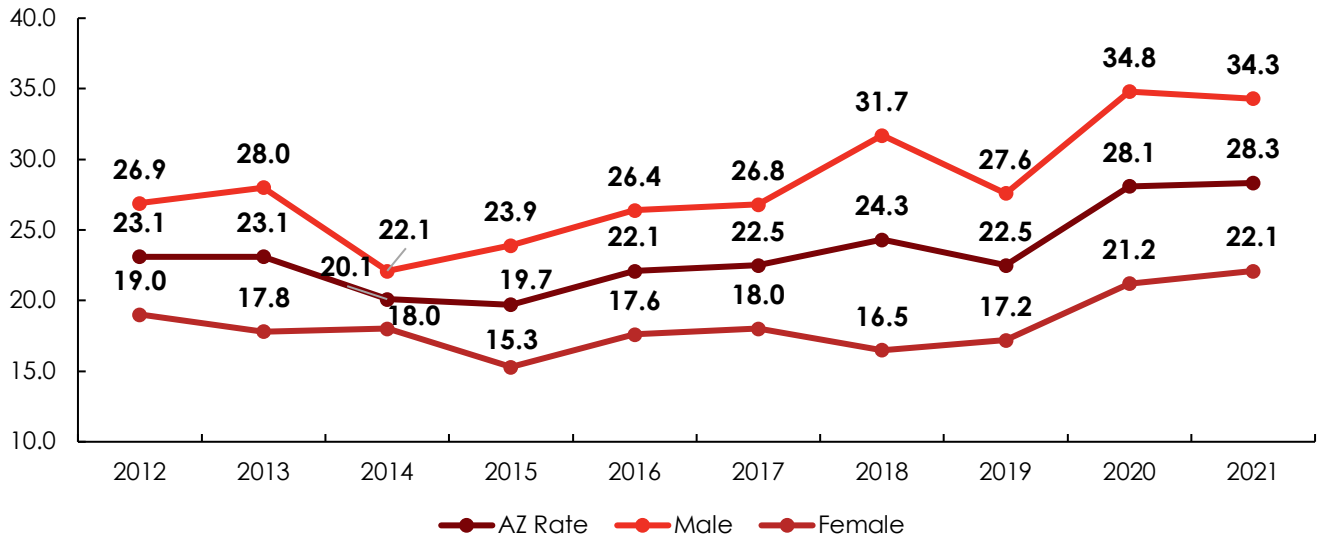
Figure 9. Percentage of Infant Deaths per 1,000 Live Births by Race/Ethnicity, Less than 1 Year of Age, Arizona, 2021 (n=428)³⁰



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

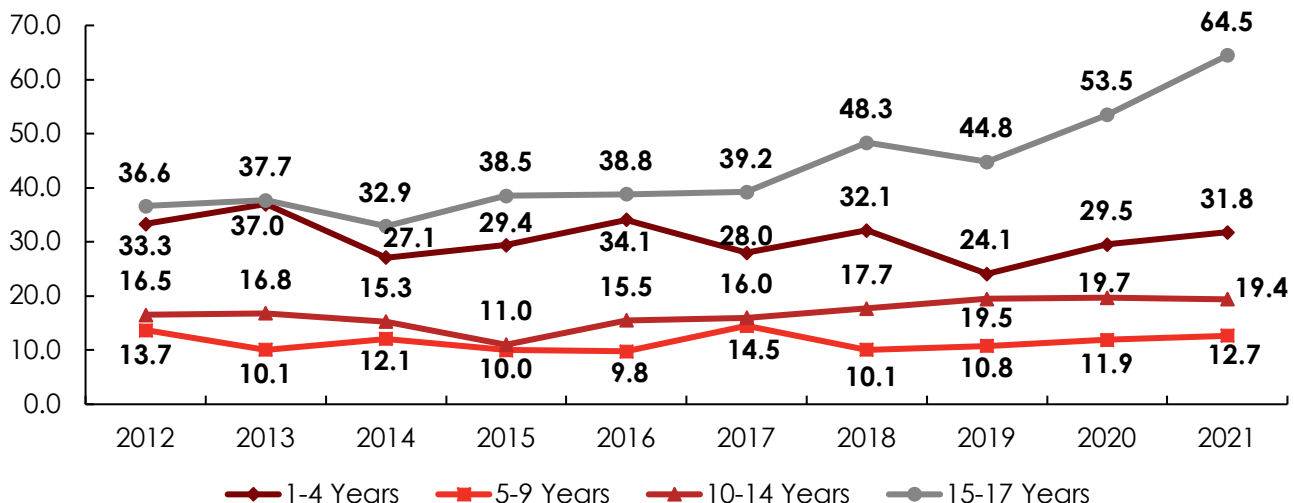
Arizona's child mortality rate remained relatively the same from 28.1 deaths per 100,000 children in 2020 to 28.3 deaths per 100,000 children in 2021. The female child mortality rate has increased since 2018 by 34%. Males have consistently had a higher child mortality rate compared to females (Figure 10).

Figure 10. Mortality Rates per 100,000 Children, Ages 1-17 Years, Arizona, 2012-2021^{3-11,32}



Children ages 10-14 years had a 1.5% decrease in the mortality rate from 2020 to 2021. From 2020-2021, all age groups with the exception of children 10-14 years experienced increases in the mortality rates. Children ages 15-17 experienced the highest increase, 20.6% from 53.5 deaths per 100,000 children in 2020 to 64.5 deaths per 100,000 children in 2021 (Figure 11).

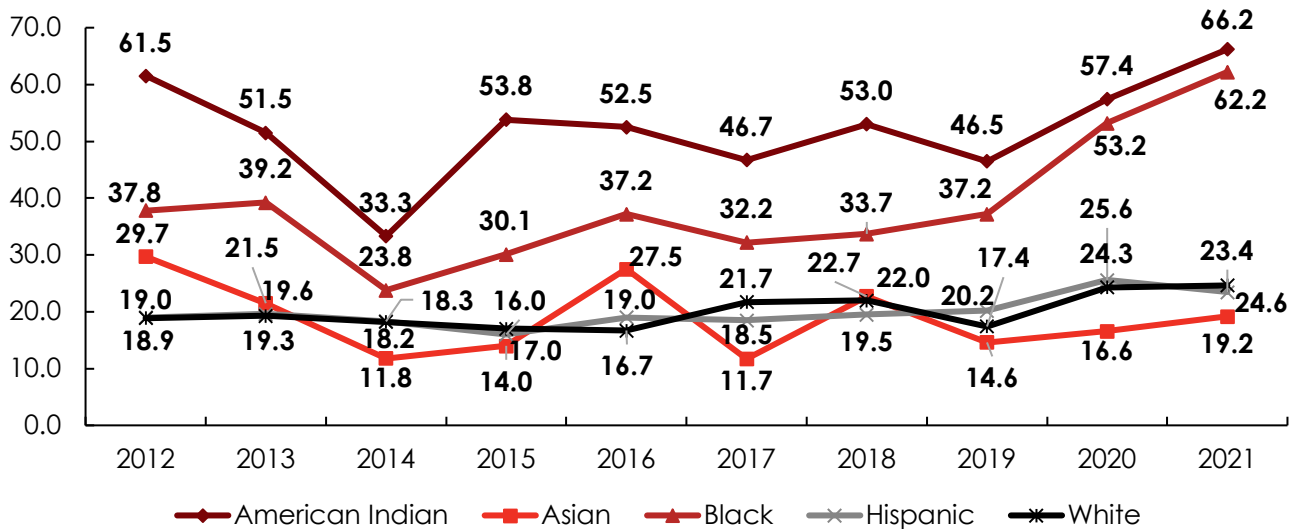
Figure 11. Mortality Rates per 100,000 Children by Age Group, Ages 1-17 Years, Arizona, 2012-2021³²





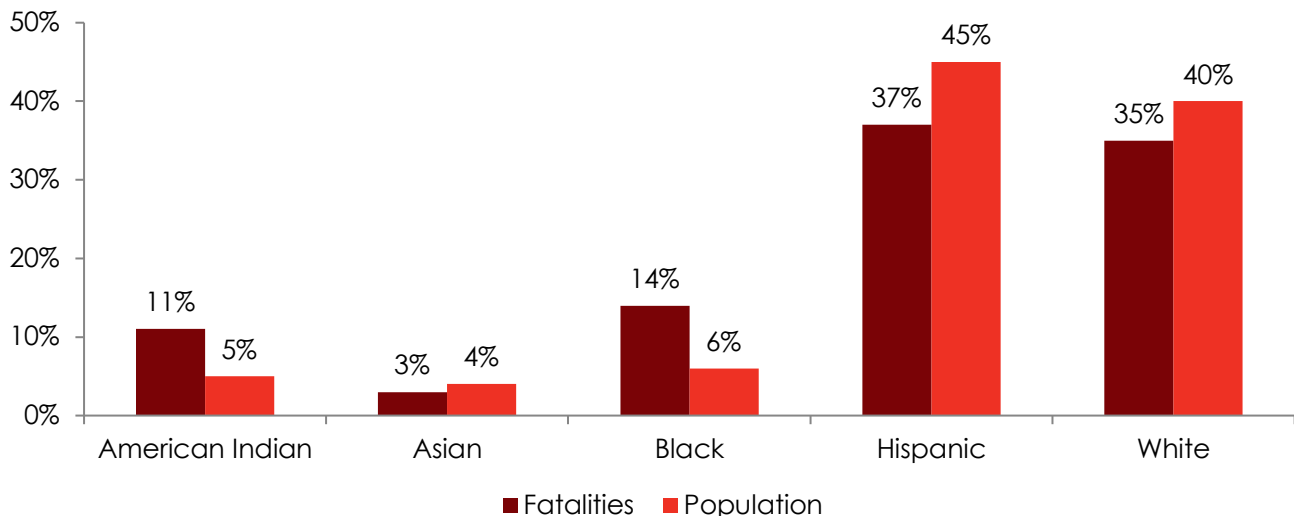
The mortality rate for all racial groups increased from 2020 to 2021 except for Hispanic and White children. American Indian and Black children consistently had higher rates of child mortality from 2012-2021. In 2021, the child mortality rate for American Indian and Black children was 66.2 and 62.2 deaths per 100,000 children and had a 15% and 17% increase, respectively (Figure 12).

Figure 12. Mortality Rates per 100,000 Children by Race/Ethnicity, Ages 1-17 Years, Arizona, 2012-2021³²



Black and American Indian children made up 14% and 11% of child deaths, respectively, but only comprised 6% and 5% of the total child population. The majority of child deaths were among Hispanic (37%) and White (35%) children (Figure 13).

Figure 13. Percentage of Deaths among Children by Race/Ethnicity, Ages 1-17 Years, Compared to Population, Arizona, 2021 (n=435)³²





Preventable Deaths

The main purpose of the CFRP 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 of 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.

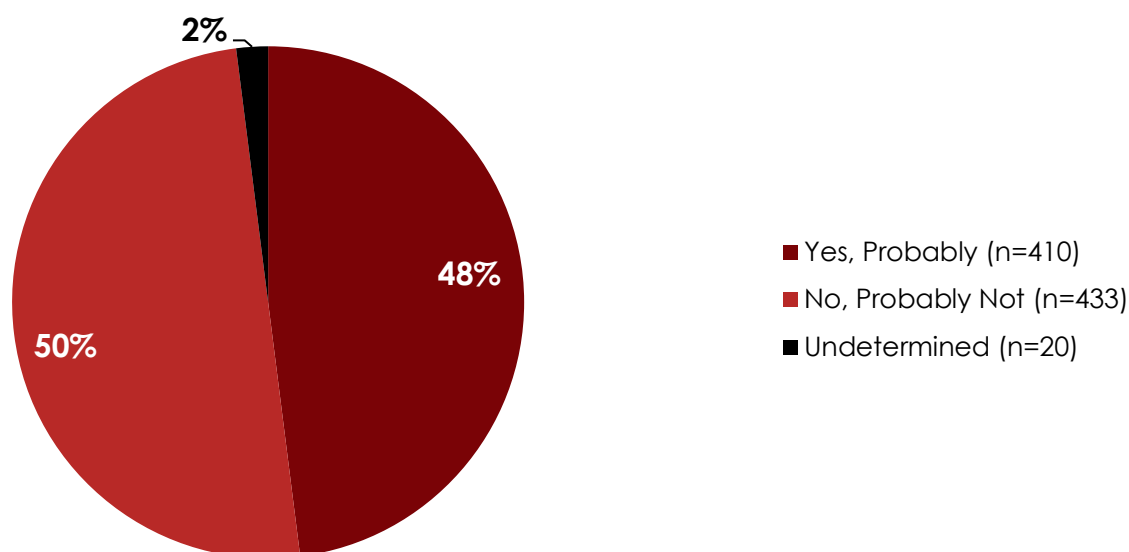
"Yes, probably," means that some circumstance or factor related to the death could probably have been prevented. "No, probably not" indicates that everything reasonable was most likely done to prevent the death, but the child would still have died. A designation of "Team could not determine" means that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

When discussing all deaths, the report is referring to the total 863 child deaths that took place in 2021. When the text refers to preventable deaths these are the fatalities that the review teams deemed to be preventable. Much 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.



In 2021, local review teams determined that 410 child deaths were probably preventable (48%), 433 child deaths were probably not preventable (50%) and could not determine the preventability in 20 (2%) of the deaths (Figure 14).

Figure 14. Number and Percentage of Deaths among Children by Preventability, Ages 0-17 Years, Arizona, 2021 (n=863)



The leading cause of preventable deaths was motor vehicle crash deaths (18%) followed by firearm injury (14%) and suffocation (13%) (Table 2).

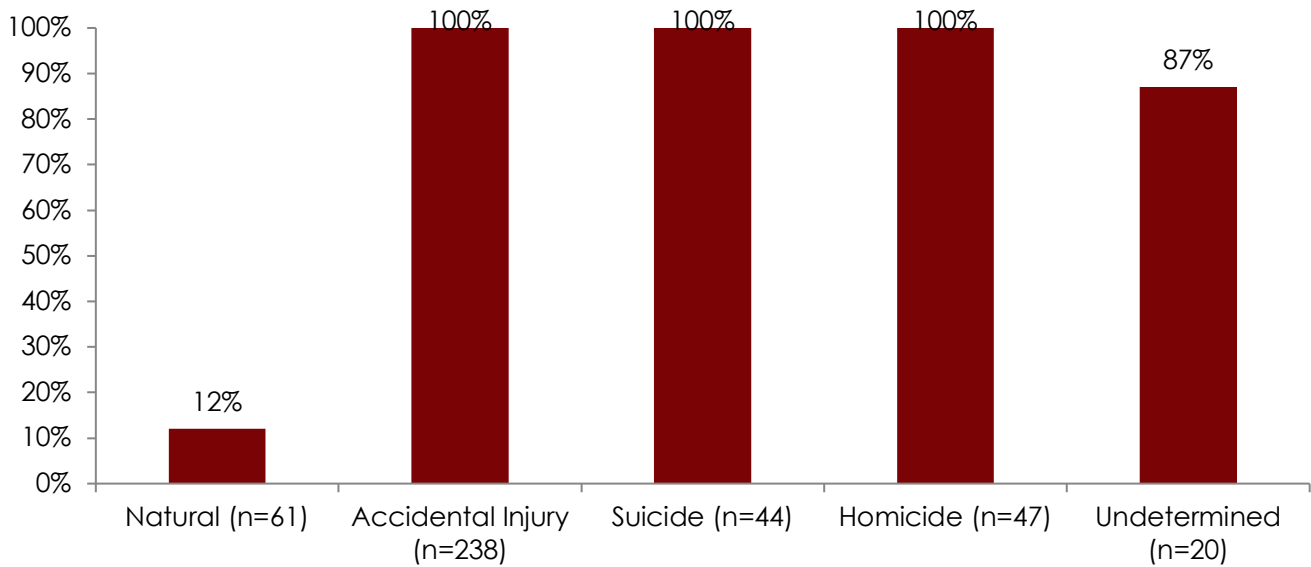
Table 2. Leading Causes of Preventable Deaths among Children, Ages 0-17 Years, Arizona, 2021

Leading Causes of Death	Number	Percent
Motor Vehicle Crash	72	18%
Firearm Injury	56	14%
Suffocation	54	13%
Poisoning	50	12%
Drowning	44	11%
Prematurity	27	7%
Strangulation	23	6%



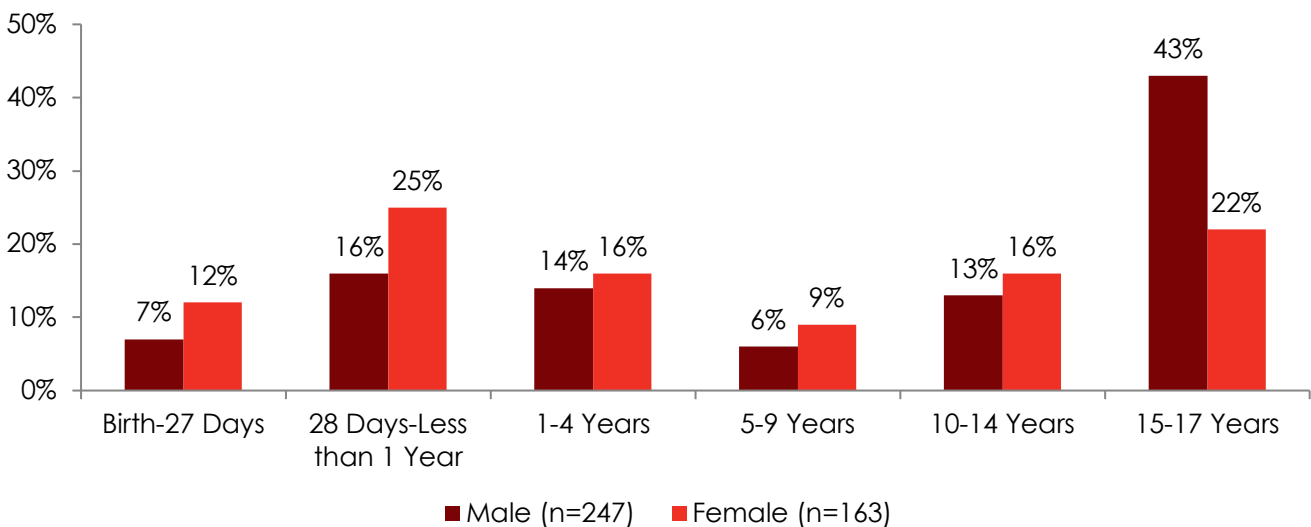
Local review teams determined that 12% of natural deaths (n=61), 100% of accidental injury deaths (n=238), 100% of suicides (n=44), 100% of homicides (n=47), and 87% of undetermined manner of deaths (n=20) were preventable (Figure 15).

Figure 15. Number and Percentage of Preventable Deaths among Children by Manner of Death, Ages 0-17 Years, Arizona, 2021 (n=410)



The majority of preventable deaths occurred in children ages 15-17 years (35%) followed by children ages 28 days- 1 year (20%) (not shown). Male children ages 15-17 years made up a large proportion of male preventable deaths. A majority of female preventable deaths occurred in female children ages 28 days – less than 1 year (Figure 16).

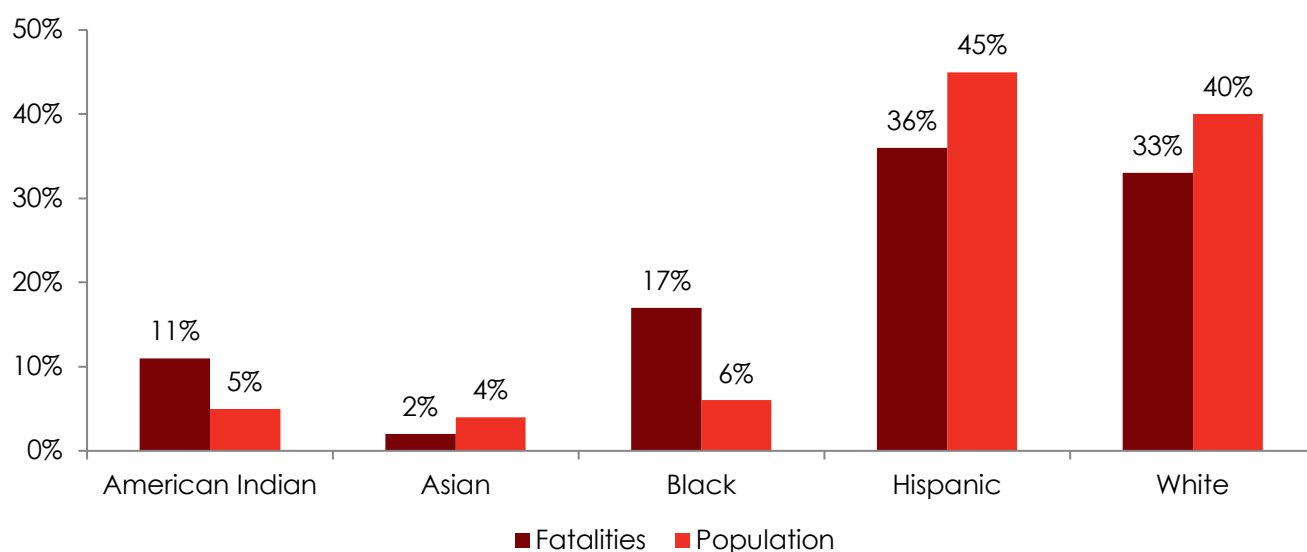
Figure 16. Percentage of Preventable Deaths among Children by Age Group and Sex, Ages 0-17 Years, Arizona, 2021 (n=410)





Black and American Indian children made up 17% and 11% of preventable child deaths, respectively, but only comprised 6% and 5% of the total child population. The majority of child deaths were among Hispanic (36%) and White (33%) children (Figure 17).

Figure 17. Percentage of Preventable Deaths among Children by Race/Ethnicity, Ages 0-17 Years, Compared to the Population, Arizona, 2021 (n=410)²



The most commonly identified factors of preventable deaths were substance use (43%) followed by CPS history with the family (40%) and poverty (33%) (Table 3).

Table 3. Leading Risk Factors of Preventable Deaths among Children, Ages 0-17 Years, Arizona, 2021

Risk Factors*	Number	Percent
Substance Use	176	43%
CPS History with Family	166	40%
Poverty	133	33%
Lack of Supervision	113	28%
Child History of Trauma	84	20%
Child Relationship Issues	79	19%
Access to Firearm	56	14%
*More than one risk factor may have been identified for each death.		



Manner of Death

Accidental Injury Deaths

An injury that occurred when there was no intent to cause harm or death; an unintentional injury. See the glossary for further explanation.



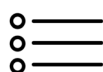
There were 238 accidental injury deaths in 2021, 28% of all child deaths.



There was a 4% increase in the accidental injury death rate from 2020 to 2021.



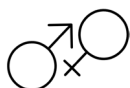
100% of accidental injury deaths were preventable.



#1 cause: Motor Vehicle Crash (n= 70)

#2 cause: Suffocation (n= 54)

#3 cause: Drowning (n= 44)



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



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



Black and American Indian children were disproportionately affected. Black children made up 15% of accidental injury deaths but only make up 6% of the total population. Similarly, American Indian children made up 11% of accidental injury deaths but only make up 5% of the total population.



40% of accidental injury deaths involved substance use.

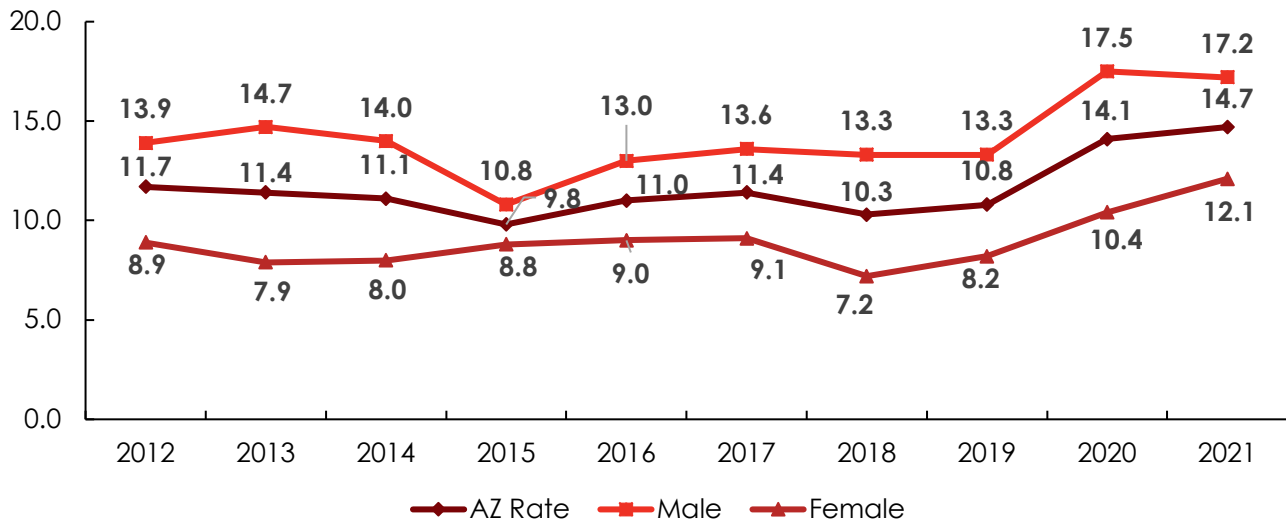


29% of accidental injury deaths involved abuse/neglect (n=69).



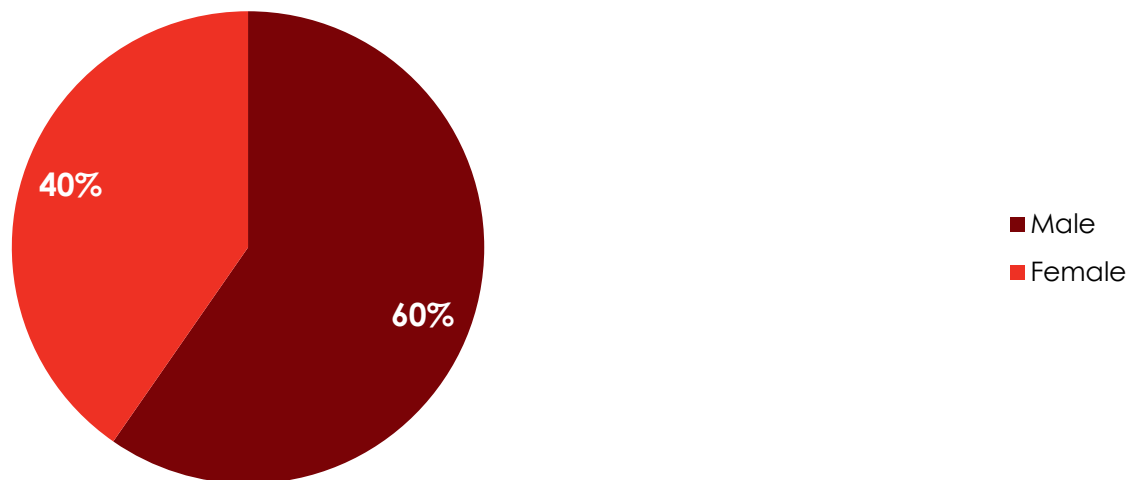
Overall, Arizona's accidental injury mortality rate has increased by 4.3% from 14.1 deaths per 100,000 children in 2020 to 14.7 deaths per 100,000 children in 2021. Males have consistently had a higher accidental injury mortality rate compared to females (Figure 18).

Figure 18. Mortality Rate per 100,000 Children due to Accidental Injury by Sex, Ages 0-17 Years, Arizona, 2012-2021²⁻¹¹



The majority of accidental injury deaths occurred among males (60%) (Figure 19).

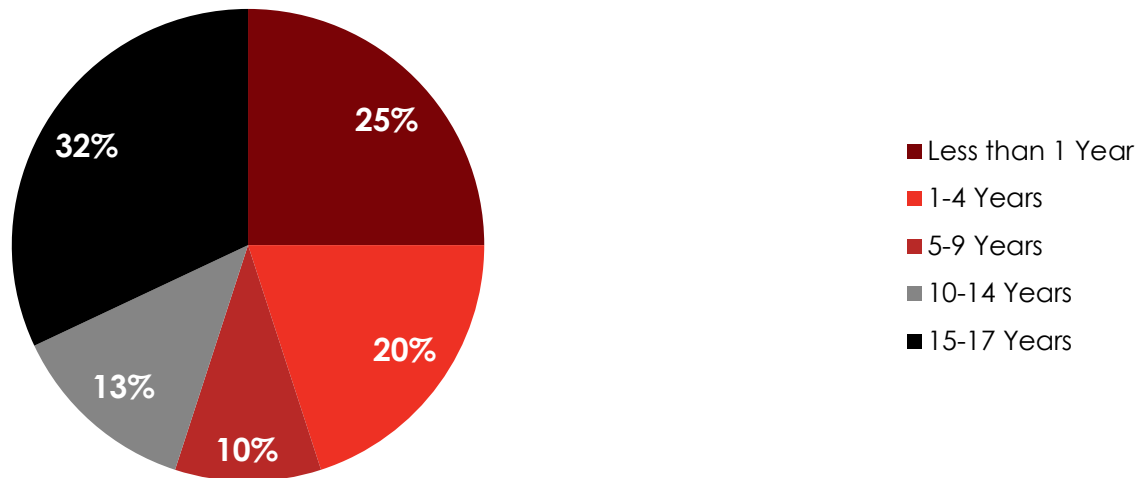
Figure 19. Percentage of Accidental Injury Deaths among Children by Sex, Ages 0-17 Years, Arizona, 2021 (n=238)





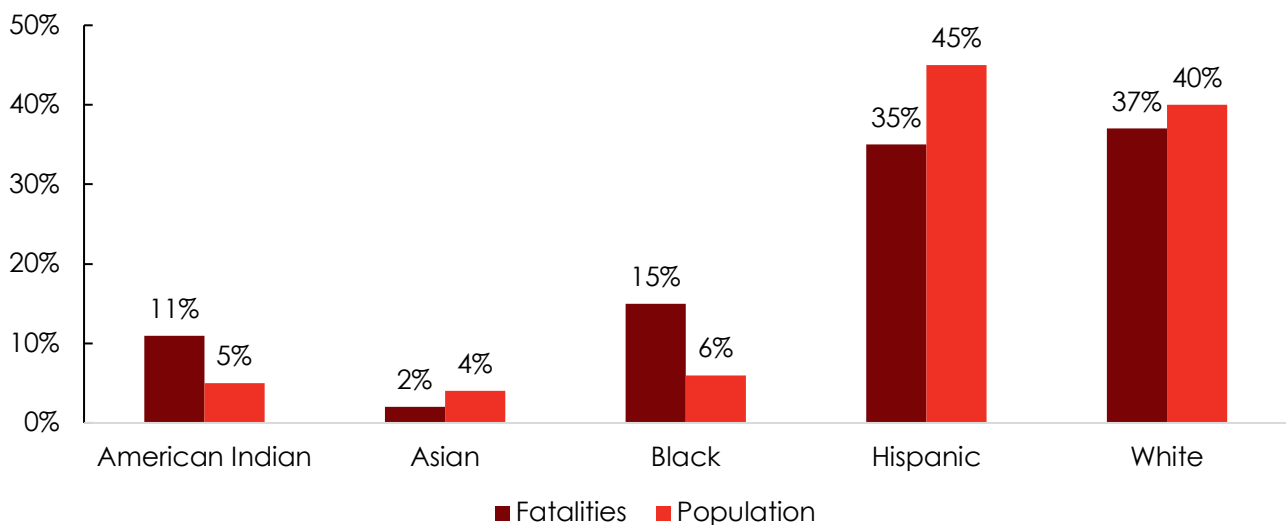
The largest percentage of accidental injury deaths occurred among children ages 15-17 (32%) and children less than 1 year of age (25%) (Figure 20).

Figure 20. Percentage of Accidental Injury Deaths among Children by Age Group, Ages 0-17 Years, Arizona, 2021 (n=238)



Black and American Indian children made up 15% and 11% of accidental injury deaths, respectively, but only comprised 6% and 5% of the total child population. The majority of accidental injury deaths were among White (37%) and Hispanic (35%) children (Figure 21).

Figure 21. Percentage of Accidental Injury Deaths among Children by Race/Ethnicity, Ages 0-17 Years, Compared to Population, Arizona, 2021 (n=238)²





Among accidental injury deaths, motor vehicle crash (29%) was the leading cause of death for children ages 0-17 years (Table 4).

Table 4. Cause of Accidental Injury Deaths among Children, Ages 0-17 Years, Arizona, 2021

Cause of Death	Number	Percent
Motor Vehicle Crash	70	29%
Suffocation	54	23%
Drowning	44	18%
Poisoning	42	18%
Other Injury (i.e. firearm, choking, falls, etc.)	20	8%
Fire, Burn, Electrocution	8	3%

While there are numerous preventable risk factors that contribute to accidental injury deaths, substance use (40%) was the most commonly identified risk factor (Table 5).

Table 5. Leading Risk Factors of Accidental Injury Deaths among Children, Ages 0-17 Years, Arizona, 2021

Risk Factors	Number	Percent
Substance Use	95	40%
CPS History with Family	89	37%
Lack of Supervision	87	37%
Poverty	71	30%
Child History of Trauma	40	17%
Lack of Vehicle Restraint	40	17%
Child Relationship Issues	31	13%
Child's Chronic Disability/Illness	26	11%
*More than one risk factor may have been identified in each death.		

Homicides

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



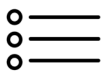
There were 47 homicides in 2021, 5% of all child deaths.



There was a 9% decrease in the homicide death rate from 2020 to 2021.



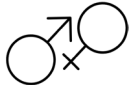
100% of homicides were preventable.



#1 cause: Firearm (n= 34)

#2 cause: Other (Stabbing/Poisoning) (n= 7)

#3 cause: Blunt Force Trauma (n= 6)



Of the homicides, 74% were male and 26% were female.



57% of homicides occurred in children ages 15-17 years.



Black children were disproportionately affected. Black children made up 26% of homicides but only make up 6% of the total population.



64% of homicides involved substance use.

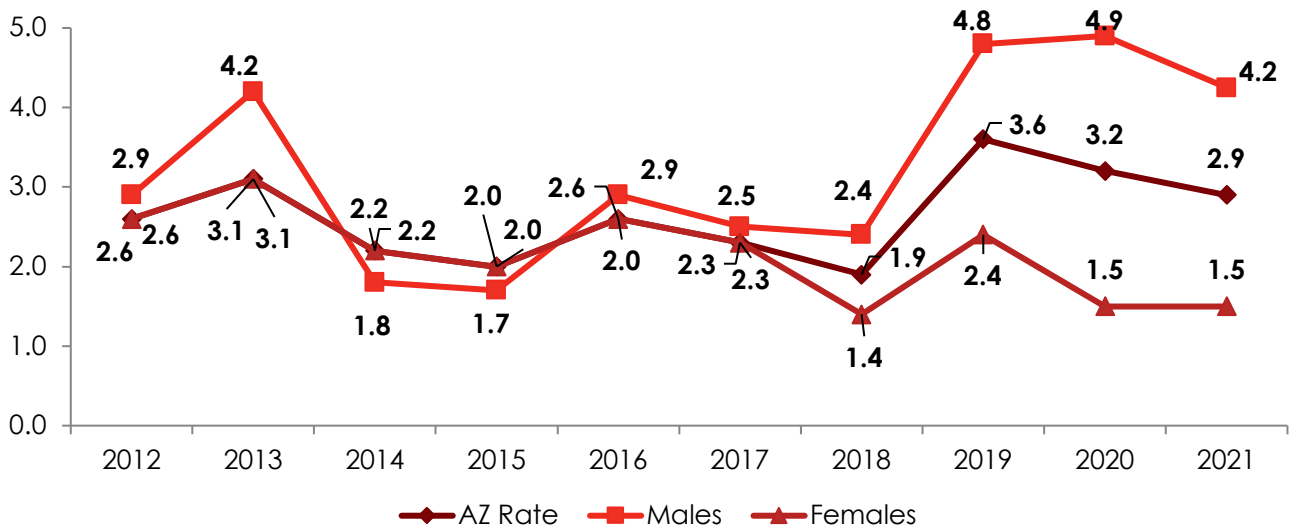


32% of homicides involved abuse/neglect (n=15).



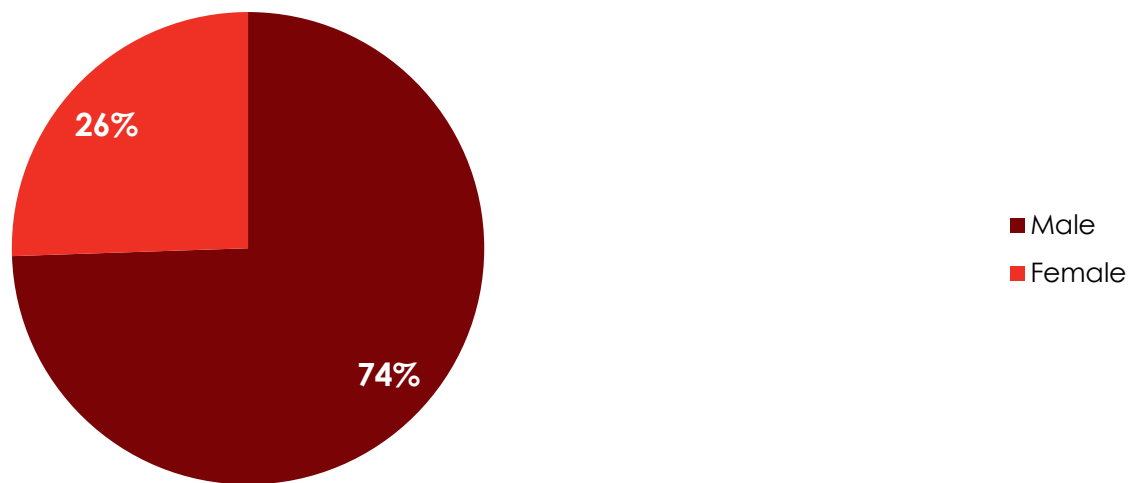
Arizona's child homicide rate decreased by 9.4% from 3.2 deaths per 100,000 children in 2020 to 2.9 per 100,000 children in 2021. Since 2016, males have had a higher homicide rate compared to females (Figure 22).

Figure 22. Mortality Rate per 100,000 Children due to Homicide by Sex, Ages 0-17 Years, Arizona, 2011-2020²⁻¹¹



The majority of homicide deaths occurred among males (74%) (Figure 23).

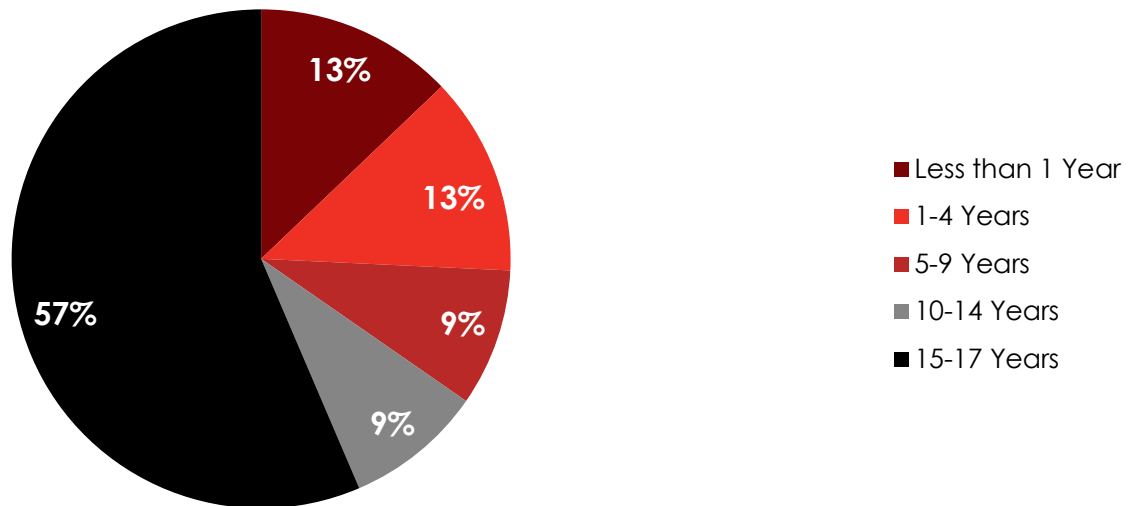
Figure 23. Percentage of Homicide Deaths among Children by Sex, Ages 0-17 Years, Arizona, 2021 (n=47)





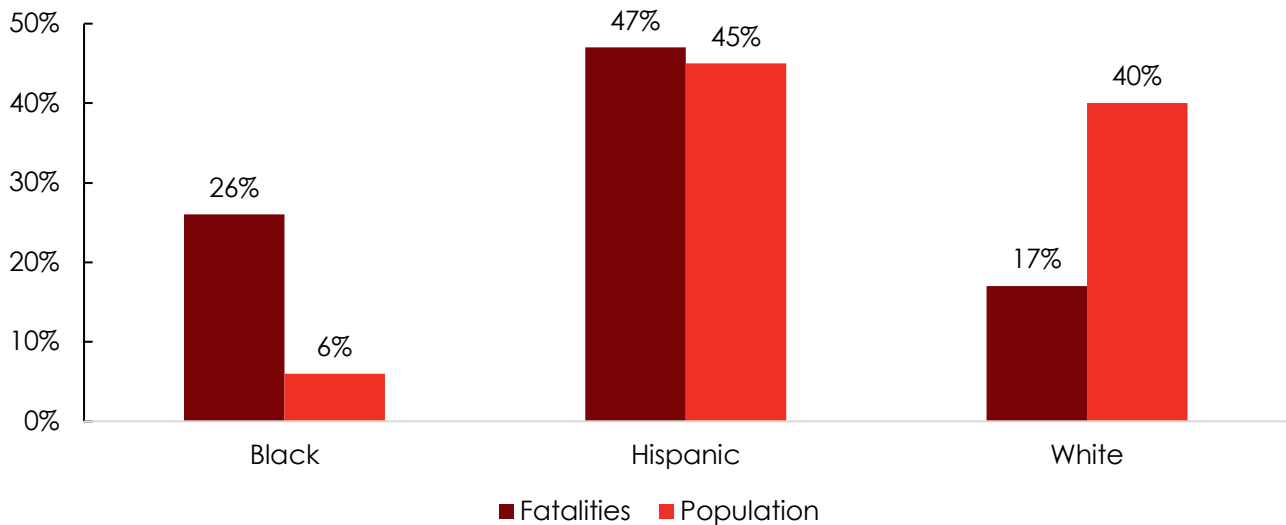
The majority of homicides of children were among children ages 15-17 years (57%), followed by infants less than 1 year (13%) (Figure 24).

Figure 24. Percentage of Homicides among Children by Age Group, Ages 0-17 Years, Arizona, 2021 (n=47)



Black children made up 26% of homicides, but only comprised 6% of the total child population. The majority of homicide child deaths were among Hispanic (47%) and Black (26%) children (Figure 25).

Figure 25. Percentage of Homicides among Children by Race/Ethnicity, Ages 0-17 Years, Compared to Population, Arizona, 2021 (n=47)*2



*Data for American Indian and Asian children suppressed due to counts less than 6.



Among homicides, firearm injury (72%) was the leading cause of death for children ages 0-17 years followed by other injuries (15%) and blunt force trauma (13%) (Table 6).

Table 6. Cause of Homicide Deaths, Ages 0-17 Years, Arizona, 2021 (n=47)

Cause of Death	Number	Percent
Firearm Injury	34	72%
Other Injury (i.e. Poisoning/ Stabbing)	7	15%
Blunt Force Trauma	6	13%

Strangers and acquaintances (26%) were the most commonly identified perpetrator of child homicides (Table 7).

Table 7. Number and Percentage of Homicides among Children by Perpetrator, Ages 0-17 Years, Arizona, 2021 (n=47)

Perpetrator*	Number	Percent
Stranger	12	26%
Acquaintance	12	26%
Other	11	23%
Father	7	15%
Mother	7	15%
*There may be more than one perpetrator in each death.		

While there are numerous preventable risk factors that contribute to homicides, access to a firearm was the most commonly identified risk factor (72%) (Table 8).

Table 8. Leading Risk Factors of Homicides among Children, Ages 0-17 Years, Arizona, 2021

Risk Factors*	Number	Percent
Access to Firearm	34	72%
Criminal Activity	32	68%
Substance Use	30	64%
CPS History with Family	25	53%
Child History of Trauma	20	43%
Child Relationship Issues	17	32%
Poverty	13	28%
Lack of Supervision	11	23%
*More than one risk factor may have been identified in 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. See the glossary for further explanation.



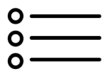
There were 511 natural deaths in 2021, 59% of all child deaths.



There was a 9% increase in the natural death rate from 2020 to 2021.



12% of natural deaths were preventable.



#1 cause: Prematurity (n= 206)
#2 cause: Congenital Anomaly (n= 108)
#3 cause: Cancer (n= 38)



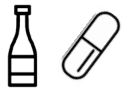
Of the natural deaths, 54% were male and 46% were female.



68% of natural deaths occurred in infants (less than 1 year of age).



Black children were disproportionately affected. Black children made up 14% of natural deaths but only make up 6% of the total population.



6% of natural deaths involved substance use.

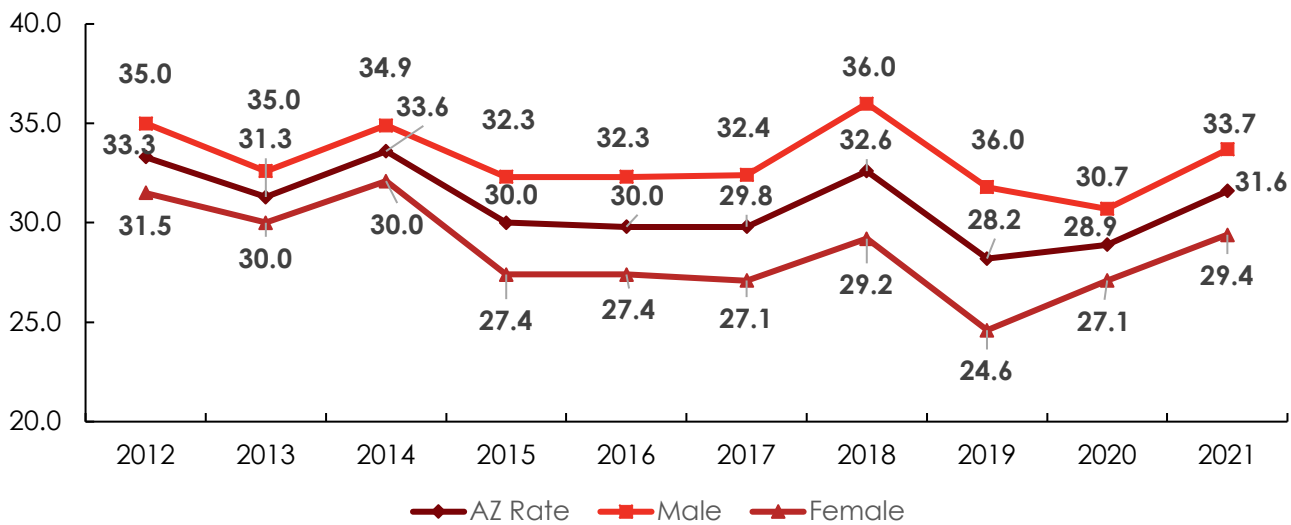


9% of natural deaths involved abuse/neglect (n=45).



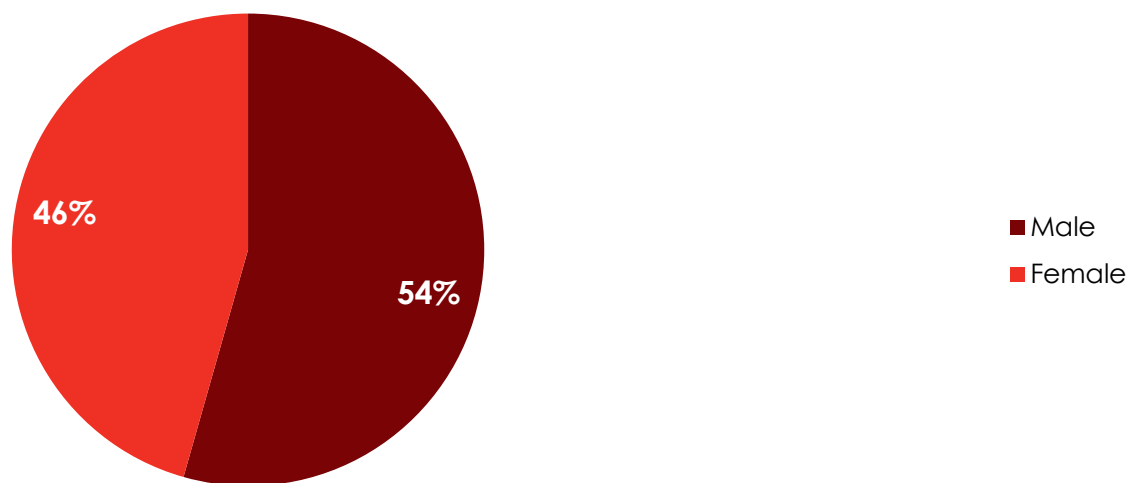
Arizona's natural child mortality rate increased 9.3% from 28.9 deaths per 100,000 children in 2020 to 31.6 deaths per 100,000 children in 2021. Males had consistently a higher natural mortality rate compared to females (Figure 26).

Figure 26. Mortality Rates per 100,000 Children due to Natural Causes by Sex, Ages 0-17 Years, Arizona, 2012-2021²⁻¹¹



The majority of natural deaths occurred among males (54%) (Figure 27).

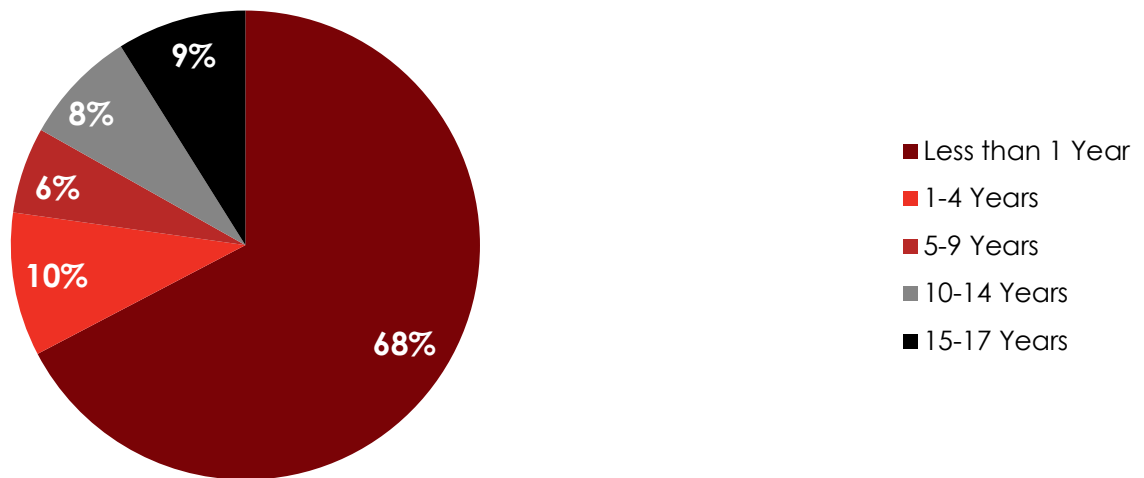
Figure 27. Percentage of Natural Deaths among Children by Sex, Ages 0-17 Years, Arizona, 2021 (n=511)





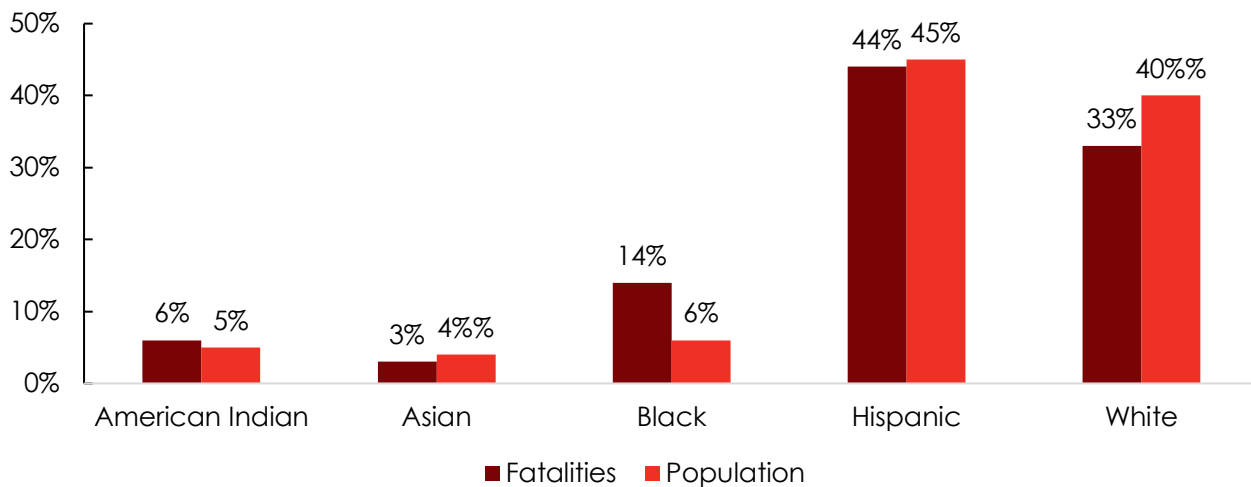
The majority of natural deaths occurred among infants less than 1 year of age (68%) followed by children 1-4 years of age (10%) (Figure 28).

Figure 28. Percentage of Natural Deaths among Children by Age Group, Ages 0-17 Years, Arizona, 2021 (n=511)



Black children made up 14% of natural deaths, but only comprised 6% of the total child population. The majority of natural child deaths were Hispanic (44%) and White (33%) children (Figure 29).

Figure 29. Percentage of Natural Deaths among Children by Race/Ethnicity, Ages 0-17 Years, Compared to Population, Arizona, 2021 (n=511)²





Among natural deaths, prematurity (40%) was the leading cause of death for children ages 0-17 years (Table 9).

Table 9. Cause of Natural Deaths among Children, Ages 0-17 Years, Arizona, 2021

Cause of Death	Number	Percent
Prematurity	206	40%
Congenital Anomaly	108	21%
Cancer	38	7%
Neurological/seizure disorder	33	6%
Cardiovascular	31	6%
Other Medical Condition	27	5%
Perinatal Condition	22	4%
COVID-19	22	4%
Pneumonia	12	2%
Other Infection	12	2%

The most commonly identified risk factor for natural deaths was poverty (46%) (Table 10).

Table 10. Leading Risk Factors of Natural Deaths among Children, Ages 0-17 Years, Arizona, 2021

Risk Factors*	Number	Percent
Poverty	236	46%
Child's Chronic Disability/Illness	190	37%
CPS History with Family	68	13%
Child History of Trauma	31	6%
Substance Use	30	6%
*More than one risk factor may have been identified in each death.		

Suicides

A death that is due to a self-directed intentional behavior where the intent is to die because of that behavior. See the glossary for further explanation.



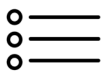
There were 44 suicides in 2021, 5% of all child deaths.



There was a 9% decrease in the suicide death rate from 2020 to 2021.



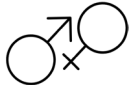
100% of suicides were preventable.



#1 cause: Strangulation (n= 20)

#2 cause: Firearm Injury (n = 17)

#3 cause: Other (Poisoning/ Motor Vehicle Crash/ Falls) (n= 7)



Of the suicides, 64% were male and 36% were female.



66% of suicides occurred in children ages 15-17 years.



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



32% of suicides involved substance use.

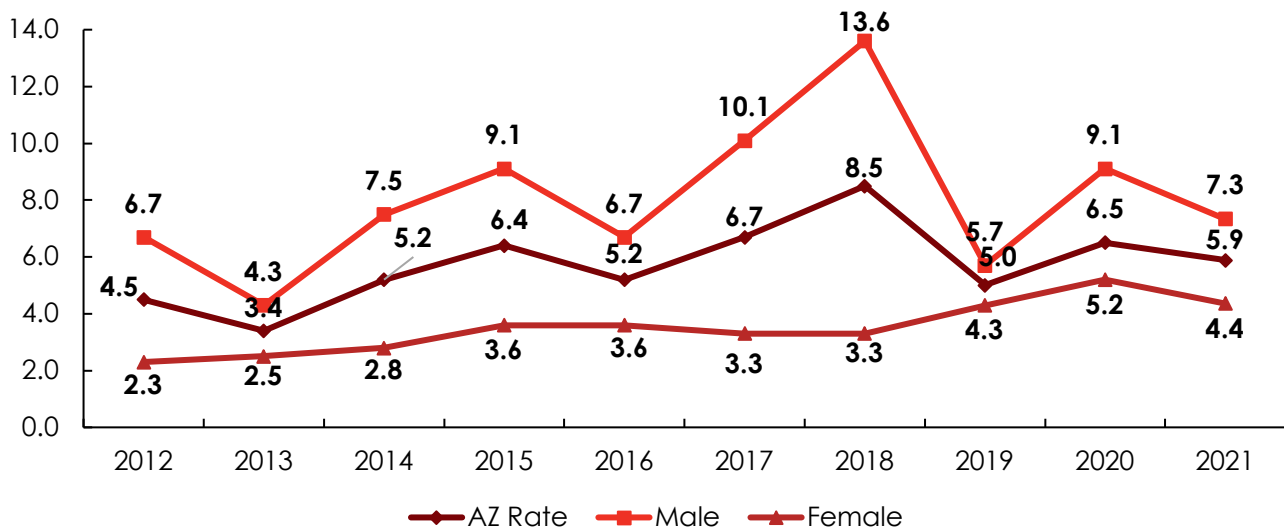


9% of suicides involved abuse/neglect (n=<6).



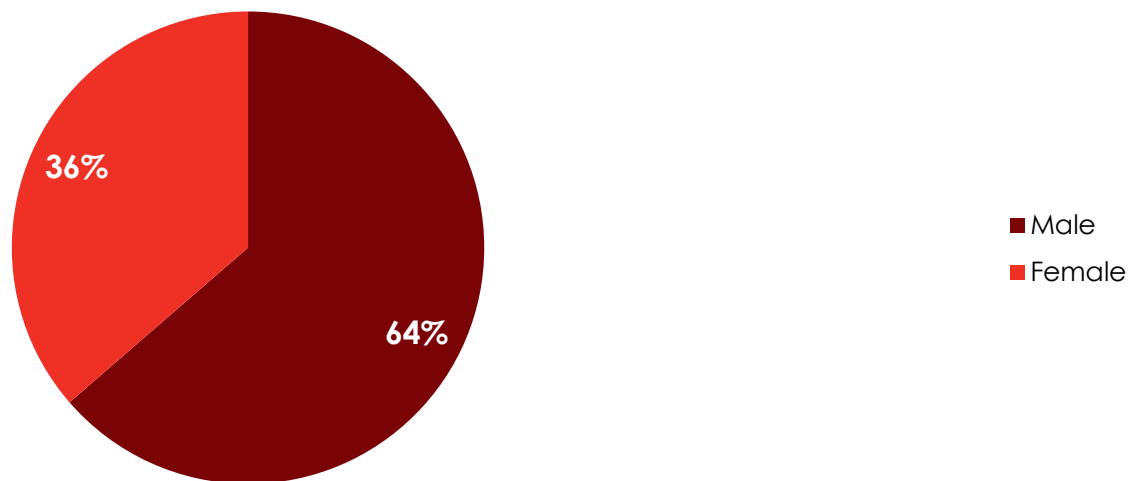
Arizona's child suicide rate decreased 9.2% from 6.5 per 100,000 children in 2020 to 5.9 per 100,000 children in 2021. Males have consistently had a higher suicide rate compared to females. The male suicide rate decreased 19.8% from 9.1 per 100,000 children in 2020 to 7.3 per 100,000 children. In 2021, the female suicide rate decreased 15.4% from 5.2 per 100,000 children in 2020 to 4.4 per 100,000 children in 2021 (Figure 30).

Figure 30. Mortality Rate per 100,000 Children due to Suicide by Sex, Ages 10-17 Years, Arizona, 2012-2021³²⁻³⁴



The majority of suicide deaths occurred among males (64%) (Figure 31).

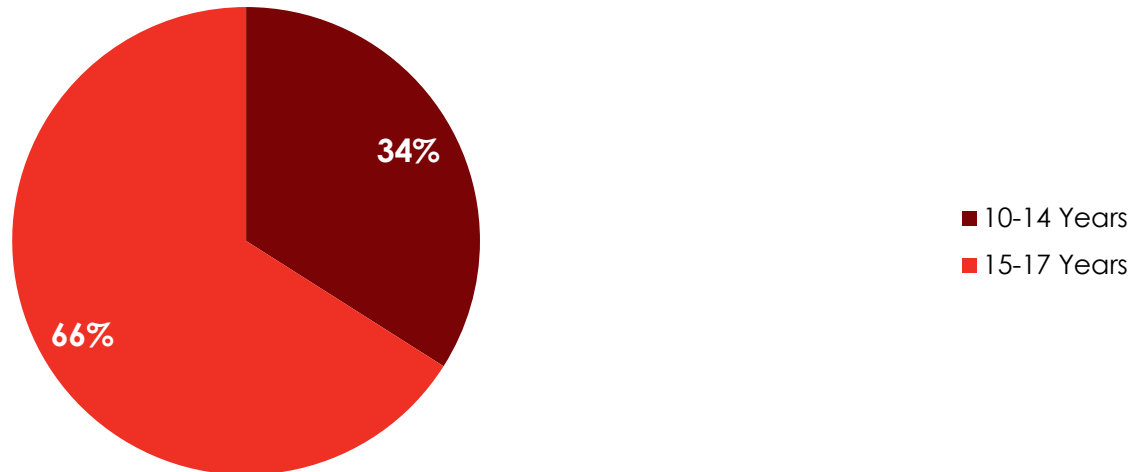
Figure 31. Percentage of Suicide Deaths among Children by Sex, Ages 0-17 Years, Arizona, 2021 (n=44)





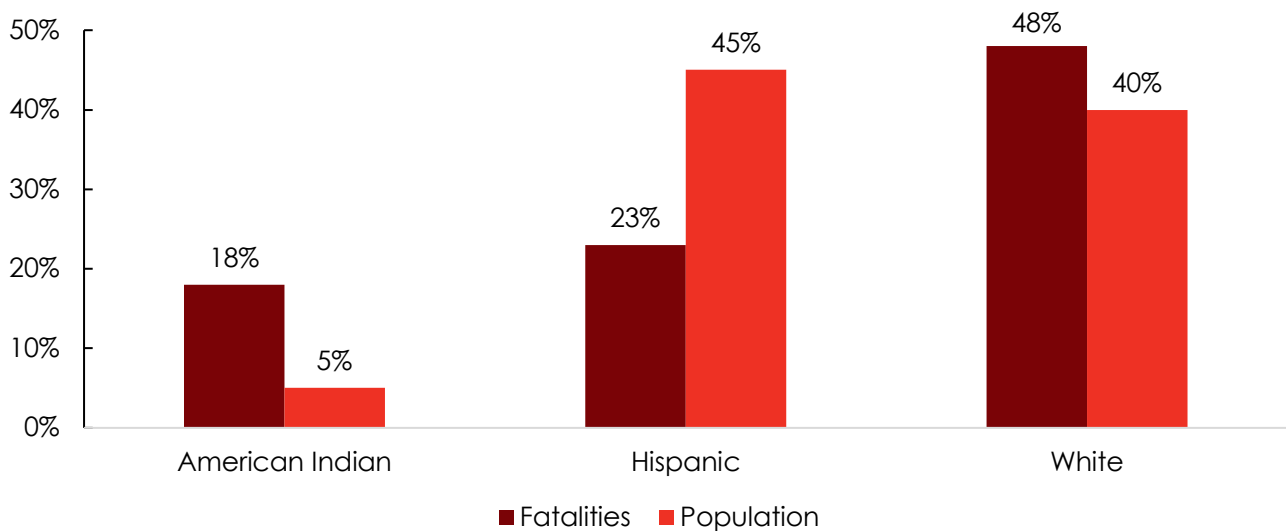
The majority of suicides occurred among children ages 15-17 years (66%) (Figure 32).

Figure 32. Percentage of Suicide Deaths among Children by Age Group, Ages 10-17 Years, Arizona, 2021 (n=44)



American Indian children made up 18% of suicides, but only comprised 5% of the total child population. The majority of suicides were among White (48%) and Hispanic (23%) children (Figure 33).

Figure 33. Percentage of Suicide Deaths among Children by Race/Ethnicity, Ages 10-17 Years, Compared to Population, Arizona, 2021 (n=44)*³²



*Data for Black and Asian children suppressed due to counts less than 6.



Among suicides, strangulation (45%) was the leading cause of death for children ages 10-17 years followed by firearm injury deaths (39%) (Table 11).

Table 11. Cause of Suicide Deaths among Children, Ages 10-17 Years, Arizona, 2021

Cause of Death	Number	Percent
Strangulation	20	45%
Firearm Injury	17	39%
Other Injury (i.e. MVC, falls)	*	*
Poisoning	*	*
*Number/Percentage suppressed due to count less than 6.		

While there are numerous risk factors that can contribute to suicide, the most commonly identified risk factors were recent (within 30 days of the child's death) suicide warnings (68%), child relationship issues (61%), recent (within 30 days of the child's death) crisis (45%) and prior suicide attempt (41%) (Table 12).

Table 12. Leading Risk Factors of Suicide Deaths among Children, Ages 10-17 Years, Arizona, 2021

Risk Factor*	Number	Percent
Recent Suicide Warning	30	68%
Child Relationship Issues	27	61%
Recent Crisis	20	45%
Prior Suicide Attempt	18	41%
CPS History with Family	16	36%
Mental Health Disorder	14	32%
Substance Use	14	32%
Child History of Trauma	11	25%
Death of a Loved One	10	23%
Isolation	7	16%
*More than one risk factor may have been identified in each death.		

Undetermined Deaths

A death that the CFR Team, after review of all available documents is unable to decide whether the manner of death was natural, accident, homicide, or suicide. See the glossary for further explanation.



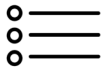
There were 23 deaths with an undetermined manner in 2021, 3% of all child deaths.



There was a 22% decrease in the undetermined death rate from 2020 to 2021.



87% of undetermined deaths were preventable.



#1 cause: Undetermined (n= 20)

#2 cause: Other (Poisoning/ Motor Vehicle Crash/ Firearm Injury) (n=<6)



Of the undetermined deaths, 48% were male and 52% were female.



65% of undetermined deaths occurred in infants (less than one year).



Black children were disproportionately affected. Black made up 26% of undetermined deaths but only make up 6% of the total population.



30% of undetermined deaths involved substance use.

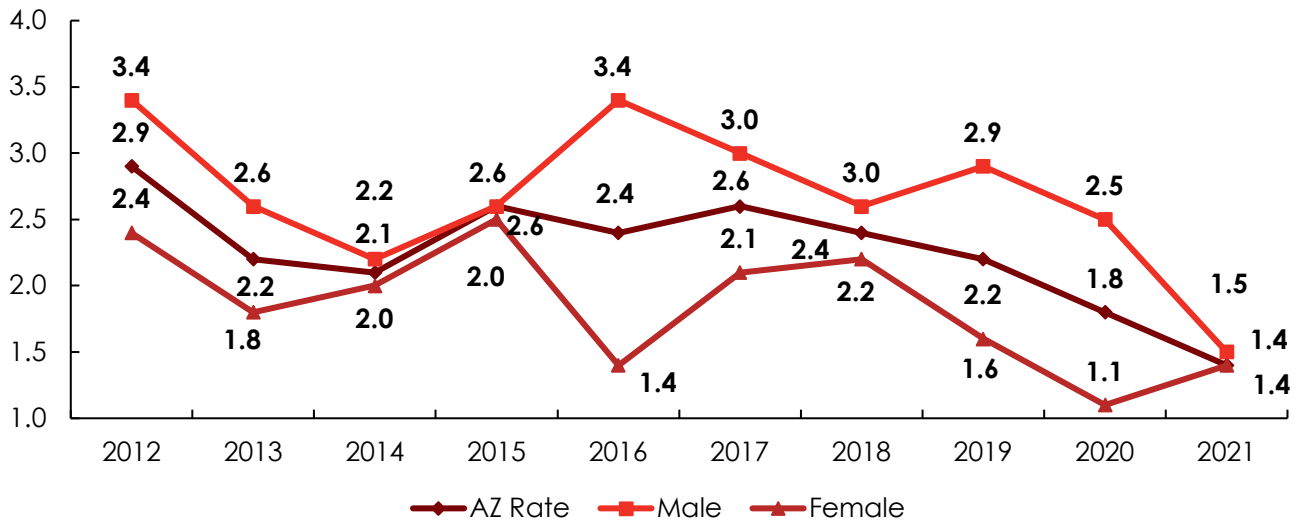


48% of undetermined deaths involved abuse/neglect (n=11).



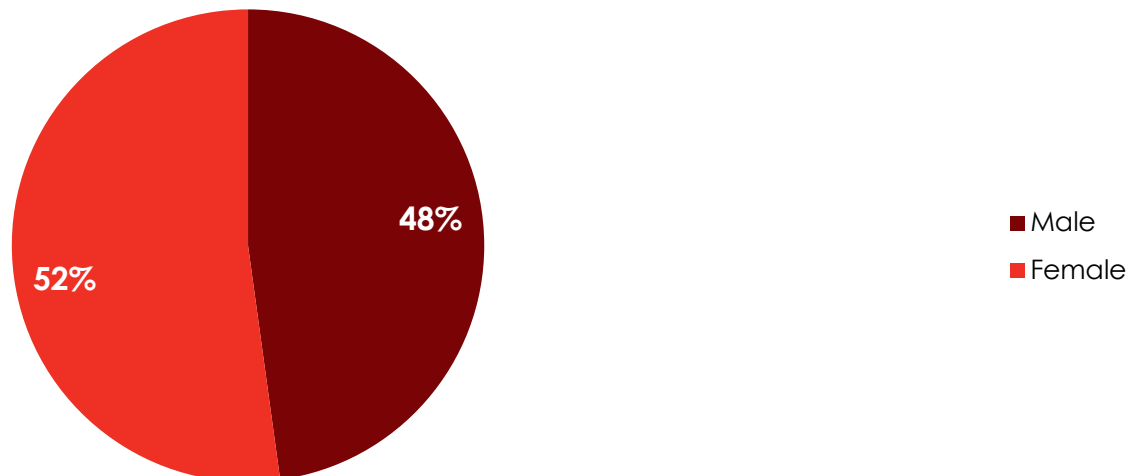
Arizona's undetermined manner of death rate has decreased 22.2% from 1.8 deaths per 100,000 children in 2020 to 1.4 deaths per 100,000 children in 2021 (Figure 34).

Figure 34. Mortality Rate per 100,000 Children due to Undetermined Manner by Sex, Ages 0-17 Years, Arizona, 2012-2021²⁻¹¹



The majority of undetermined deaths occurred among females (52%) (Figure 35).

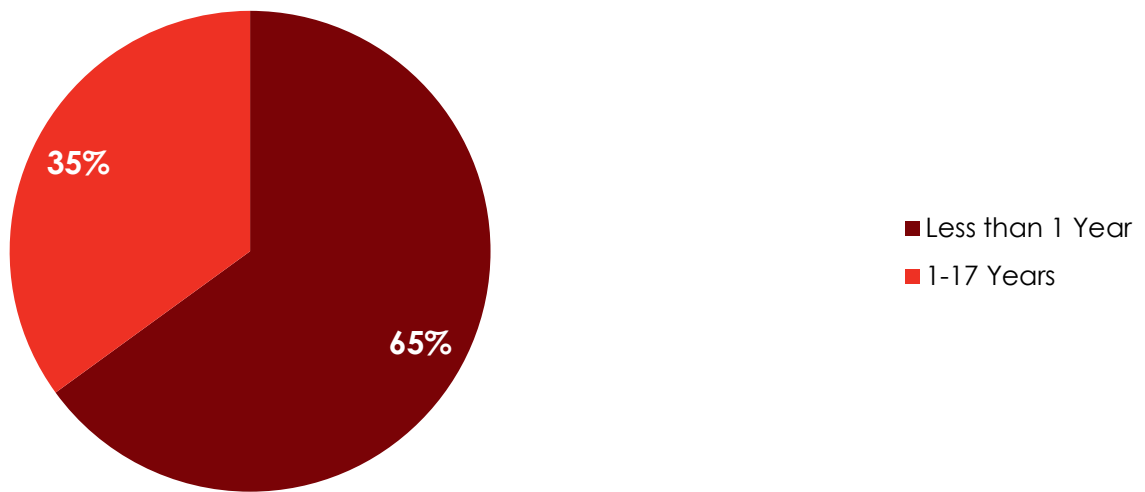
Figure 35. Percentage of Undetermined Deaths among Children by Sex, Ages 0-17 Years, Arizona, 2021 (n=23)





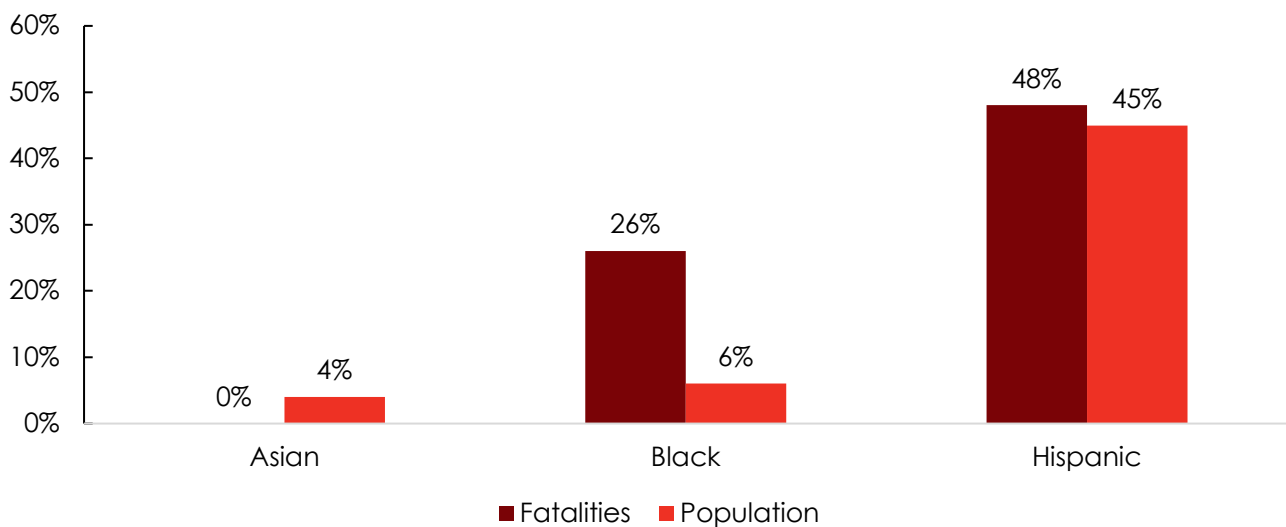
The majority of undetermined deaths occurred among infants less than 1 year of age (65%) (Figure 36).

Figure 36. Percentage of Undetermined Manner Deaths among Children by Age Group, Ages 0-17 Years, 2021 (n= 23)



Black children made up 26% of undetermined deaths but only comprise 6% of the total child population. The majority of child deaths were among Hispanic (48%) and Black (26%) children (Figure 37).

Figure 37. Percentage of Undetermined Manner Deaths among Children by Race/Ethnicity, Ages 0-17 Years, Compared to Population, Arizona, 2021 (n=23)*²



*Data for American Indian and White children suppressed due to counts less than 6. There were no Asian child deaths.



Among undetermined manner deaths, undetermined (87%) was the leading cause of death for children ages 0-17 years (Table 13).

Table 13. Cause of Undetermined Manner Deaths, Ages 0-17 Years, Arizona, 2021 (n=23)

Cause of Death	Number	Percent
Undetermined	20	87%
Other (i.e. Poisoning/ Motor Vehicle Crash/ Firearm Injury)	*	*
* Number/Percentage suppressed due to count less than 6.		

The most commonly identified risk factor for undetermined deaths was poverty (57%) (Table 14).

Table 14. Leading Risk Factors for Deaths with Undetermined Manner among Children, Ages 0-17 Years, Arizona, 2021 (n=23)

Risk Factors*	Number	Percent
Poverty	13	57%
CPS History with Family	12	52%
Unsafe Sleep Environment	9	39%
Substance Use	7	30%
Lack of Supervision	7	30%
*More than one risk factor may have been identified in each death.		



Causes of Death

Abuse/Neglect Deaths

An act of physical abuse or neglect against a child. See the glossary for further explanation.



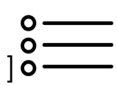
There were 128 abuse/neglect deaths in 2021, 15% of all child deaths.



There was a 36% increase in the abuse/neglect death rate from 2020 to 2021.



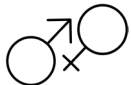
100% of abuse/neglect deaths were preventable.



#1 cause: Suffocation (n= 23)

#2 cause: Motor Vehicle Crash (n= 22)

#3 cause: Prematurity (n= 22)



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



52% of abuse/neglect deaths occurred in infants (less than one year).



Black and American Indian children were disproportionately affected. Black children made up 27% of abuse/neglect deaths but only made up 6% of the total population. Similarly, American Indian children made up 9% of abuse/neglect deaths but only made up 5% of the total population.

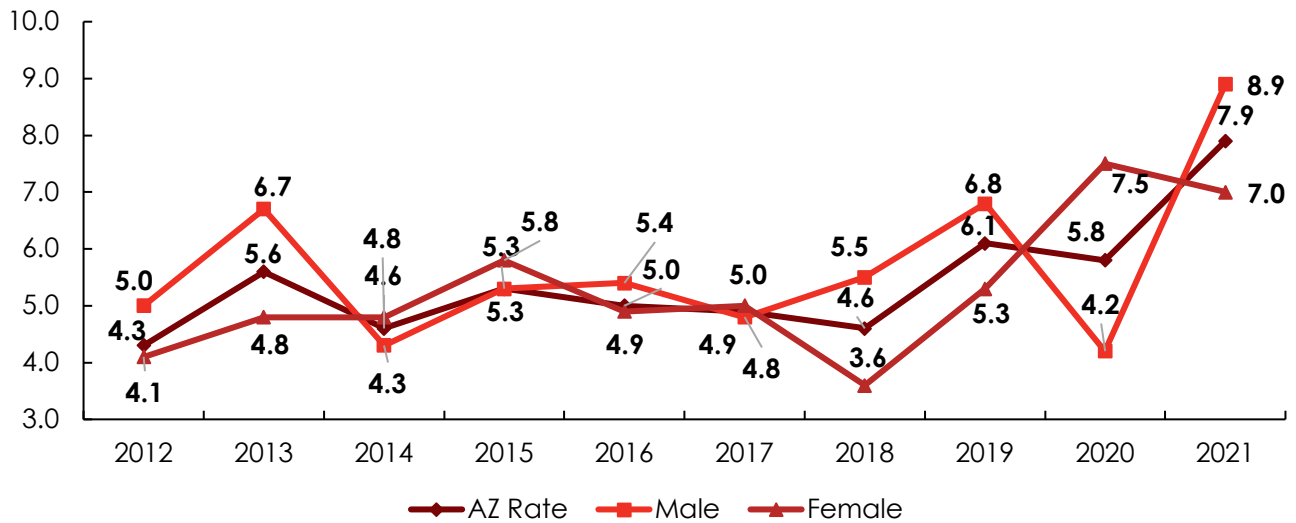


59% of abuse/neglect deaths involved substance use.



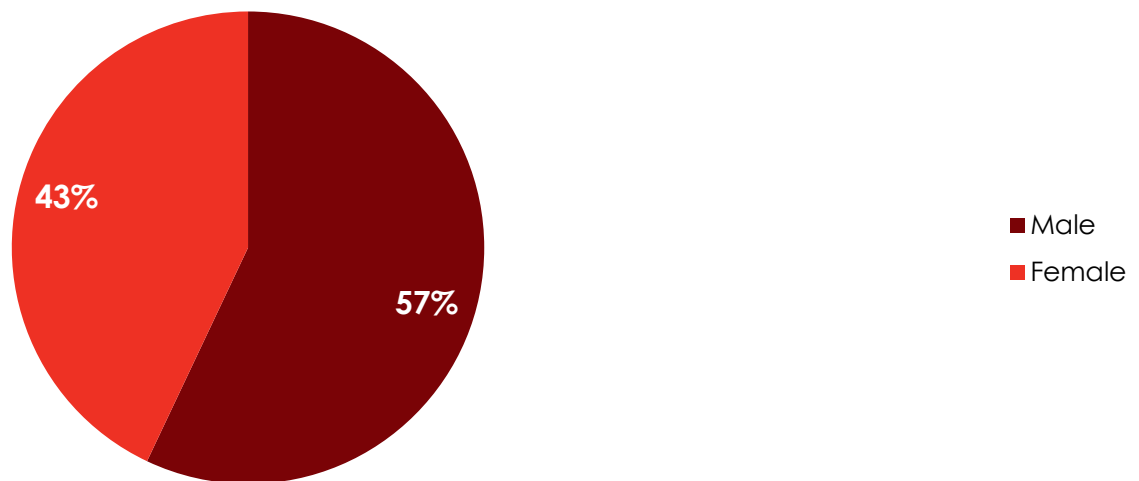
Overall, Arizona's abuse/neglect mortality rate has increased since 2012. Arizona's abuse/neglect mortality rate increased 36.2% from 5.8 deaths per 100,000 children in 2020 to 7.9 deaths per 100,000 children in 2021. Arizona's male abuse/neglect mortality rate has increased 97.8% from 4.2 deaths per 100,000 children in 2020 to 8.9 deaths per 100,000 children in 2021 (Figure 38).

Figure 38. Mortality Rate per 100,000 Children due to Abuse/Neglect by Sex, Ages 0-17 Years, Arizona, 2012-2021²⁻¹¹



The majority of abuse/neglect deaths occurred among males (57%) (Figure 39).

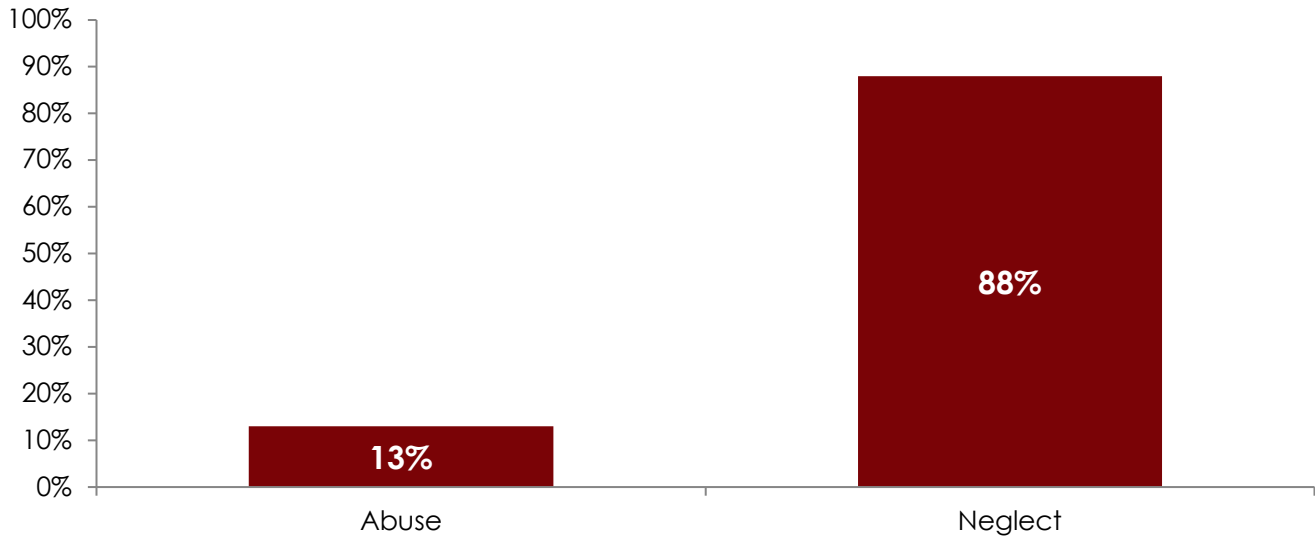
Figure 39. Percentage of Abuse/Neglect Deaths among Children by Sex, Ages 0-17 Years, Arizona, 2021 (n=128)





In 2021, 88% of all abuse/neglect deaths involved neglect and 13% involved abuse. In some deaths, the child was a victim of both abuse and neglect (Figure 40).

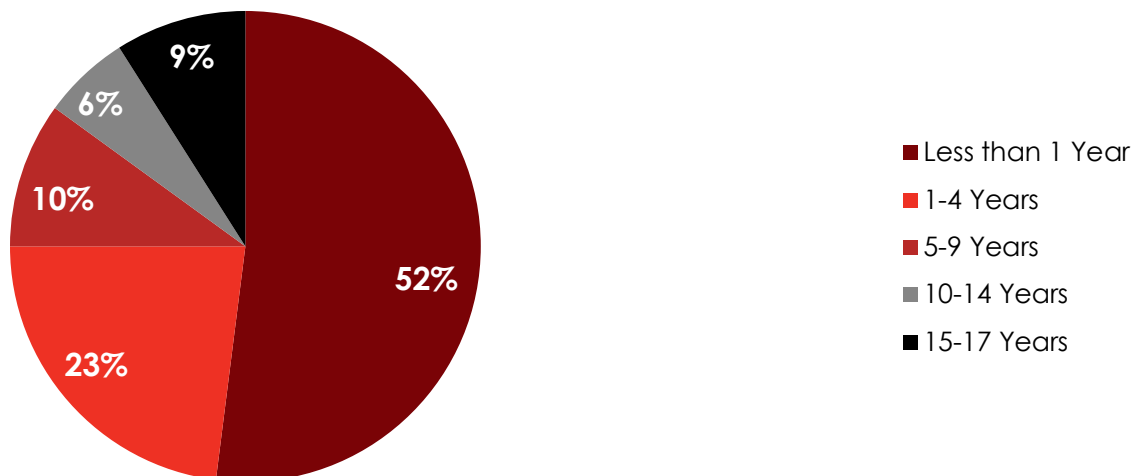
Figure 40. Percentage of Abuse/Neglect Deaths among Children by Abuse and Neglect, Ages 0-17 Years, Arizona, 2021 (n=128)*



*Totals do not equal 100% as abuse and neglect may have both been involved.

The majority of abuse/neglect deaths occurred among infants less than 1 year of age (52%), followed by children ages 1-4 years (23%) (Figure 41).

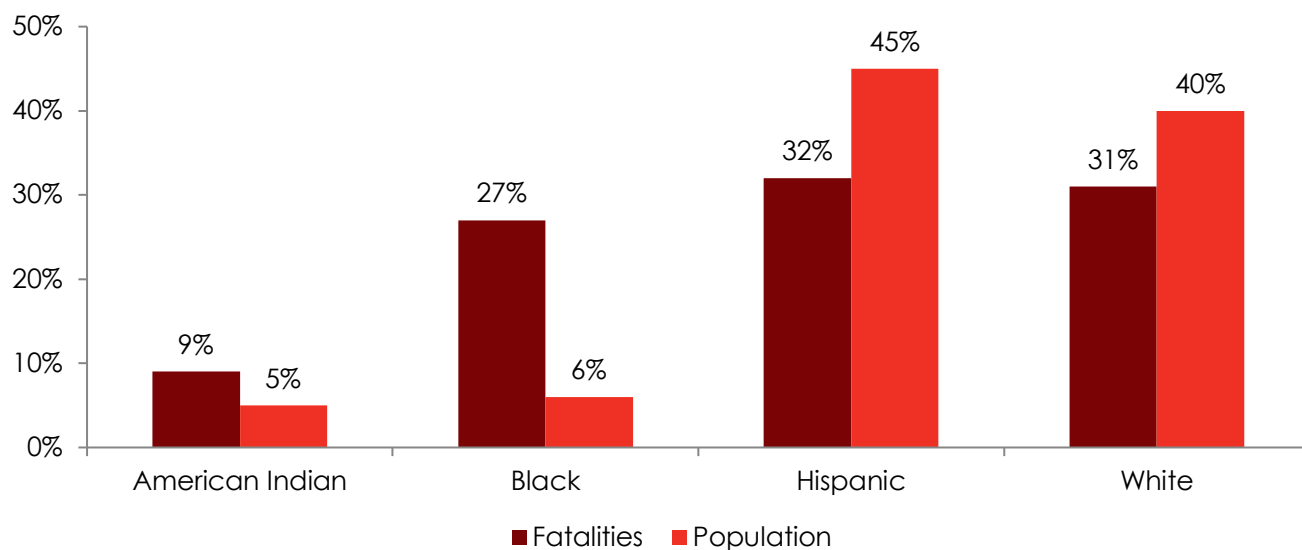
Figure 41. Percentage of Abuse/Neglect Deaths among Children by Age Group, Ages 0-17 Years, Arizona, 2021 (n=128)





Black and American Indian children made up 27% and 9% of abuse/neglect deaths, respectively, but only comprised 6% and 5% of the total child population (Figure 42).

Figure 42. Percentage of Abuse/Neglect Deaths among Children by Race/Ethnicity, Ages 0-17 Years, Compared to the Population, Arizona, 2021 (n=128)*²



*Data for Asian children suppressed due to counts less than 6.

The child's mother was a perpetrator in 75% of abuse/neglect deaths, and the child's father was a perpetrator in 27% of the abuse/neglect deaths among children aged 0-17 years (Table 15).

Table 15. Perpetrators Involved Child Abuse/Neglect Deaths, Ages 0-17 Years, Arizona, 2021

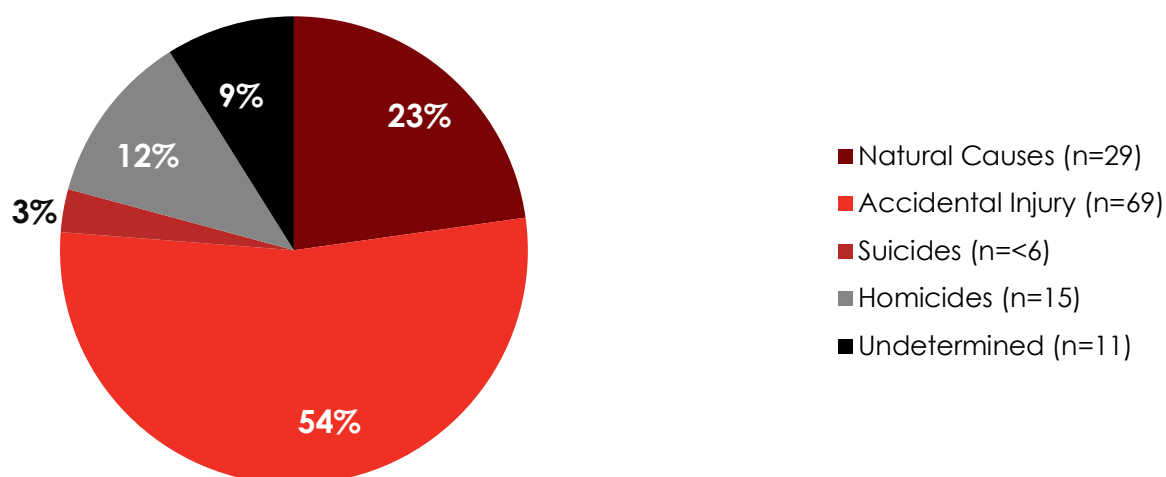
Perpetrator*	Number	Percent
Mother	96	75%
Father	35	27%
Other Relative	8	6%
Step-parent	6	5%
Other	**	**

*There may be more than one perpetrator in each death.
 ** Number/Percentage suppressed due to count less than 6.



The majority of abuse/neglect deaths were due to accidental injuries (54%), followed by natural causes (23%) (Figure 43).

Figure 43. Percentage of Abuse/Neglect Deaths among Children by Manner, Ages 0-17 Years, Arizona, 2021 (n=128)



Among abuse/neglect deaths, suffocation was the leading cause of death for children ages 0-17 years (18%) (Table 16).

Table 16. Cause of Child Abuse/Neglect Deaths, Ages 0-17 Years, Arizona, 2021

Cause of Death	Number	Percent
Suffocation	23	18%
Motor Vehicle Crash	22	17%
Prematurity	22	17%
Poisoning	15	12%
Drowning	12	9%
Firearm Injury	9	7%
Undetermined	8	6%
Other Medical (i.e. perinatal condition, pneumonia, diabetes, etc.)	7	5%
Blunt Force Injury	6	5%
Stabbing/Strangulation	*	*
*Number/ Percentage suppressed due to count less than 6.		



While there are numerous preventable risk factors that contribute to abuse/neglect deaths among children ages 0-17 years, substance use (59%) was the most commonly identified risk factor. Forty-six percent of child abuse/neglect deaths had a prior involvement with Child Protective Service (CPS) agency; a majority of these were unrelated to the decedent child. Ten percent of child/abuse neglect deaths had an open CPS case at the time of death (Table 17).

Table 17. Leading Risk Factors of Child Abuse/Neglect Deaths, Ages 0-17 Years, Arizona, 2021

Risk Factors*	Number	Percent
Substance Use	76	59%
Poverty	69	54%
CPS History with Family	59	46%
Lack of Supervision	38	30%
Child's History of Trauma	29	23%
Parental History of Intimate Partner Violence	25	20%
Housing Insecurity	18	14%
Family Dysfunction/Recent Divorce	13	10%
Open CPS Case at the Time of Death	13	10%
Child's Chronic Disability/Illness	10	8%
Access to Firearm	9	7%
*More than one risk factor may have been identified in each death.		

Of the 59% of abuse/neglect deaths that involved substance use, marijuana was the most identified substance contributing to 31% of child abuse/neglect deaths followed by opiates in 23% of child abuse/neglect deaths (Table 18).

Table 18. Substance Type Identified in Child Abuse/Neglect Deaths, Ages 0-17 Years, Arizona, 2021

Substance Type*	Number	Percent
Marijuana	40	31%
Opiates	29	23%
Alcohol	20	16%
Methamphetamine	19	15%
Other	13	10%
*More than one substance may have contributed to the death.		

COVID-19 Related Deaths (Direct and Indirect)

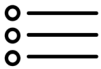
COVID-19 is a disease caused by SARS-CoV-2. The CFRP and the Chair of the State CFR Team additionally reviewed all child deaths to determine COVID-19 relatedness and completed the module in the NFR-CRS. The COVID-19 Related Deaths module includes five questions intended to capture systems changes, interruptions, and barriers that families may have experienced in the 12 months before the child's death. Additional information on the COVID-19 related death module in the reporting system can be found [here](#).



There were 31 direct COVID-19 deaths in 2021, 4% of all child deaths.
There were 27 indirect COVID-19 deaths in 2021, 3% of all child deaths.



35% of direct COVID-19 direct deaths were preventable.
85% of indirect COVID-19 deaths were preventable.



#1 cause*: Suffocation (n= 8)
#2 cause*: Other Injury (n=8)
#3 cause*: Poisoning (n= 6)
*Indirect COVID-19 deaths



61% of direct COVID-19 deaths occurred in children ages 0-11 years.
56% of indirect COVID-19 deaths occurred in children ages 0-11 years.



The majority of direct COVID-19 deaths were among Hispanic (45%) and White (22%) children.



3% of direct COVID-19 deaths involved substance use.
48% of indirect COVID-19 deaths involved substance use.



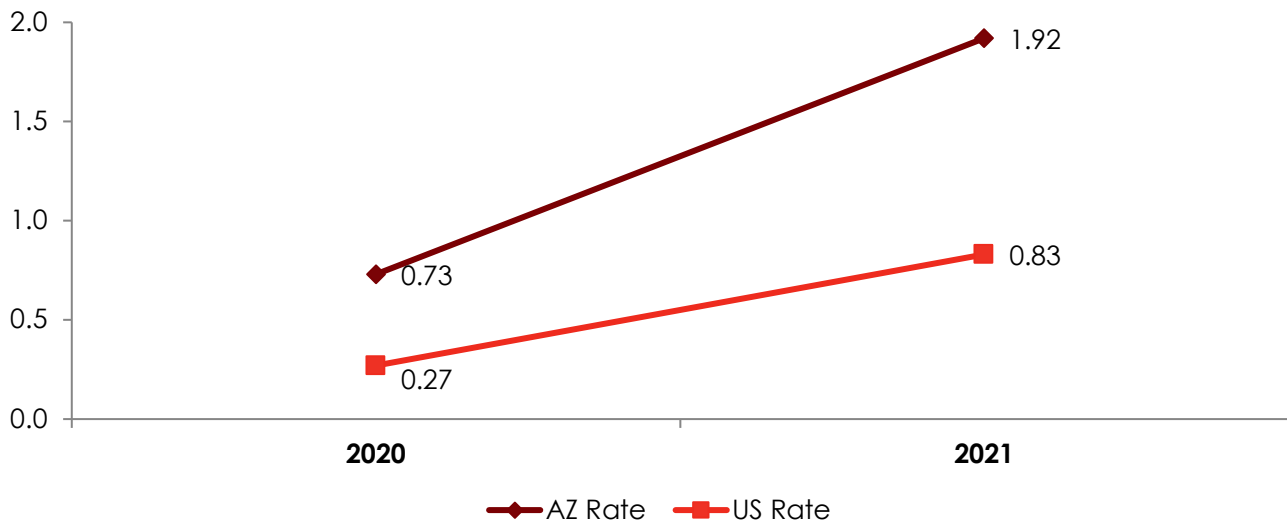
Direct COVID-19 Related Deaths

A direct COVID-19 death is a death where COVID-19 infection was the immediate or underlying cause of death of the child, COVID-19 was diagnosed at autopsy or the child was suspected to have COVID-19, or the birthing parent contracted COVID-19 during pregnancy. See the glossary for further explanation.

The CFRP identified 31 child deaths that were directly related to COVID-19.

The Arizona direct COVID-19 mortality rate was 1.92 deaths per 100,000 children (0-17 years) while the U.S. direct COVID-19 mortality rate was 0.83 deaths per 100,000 children (0-17 years). Arizona's direct COVID-19 mortality rate increased 163% from 0.73 deaths per 100,000 children in 2020 to 1.92 deaths per 100,000 children in 2021 (Figure 44).

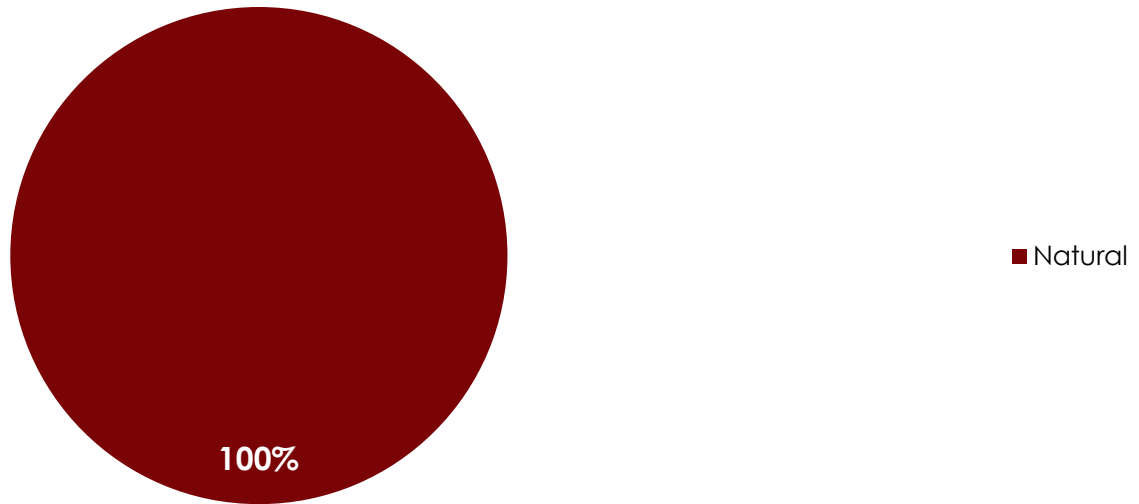
Figure 44. Direct COVID-19 Mortality Rate per 100,000 Children, Arizona Rate compared to the U.S. Rate, Ages 0-17 Years, Arizona, 2020-2021⁴⁵





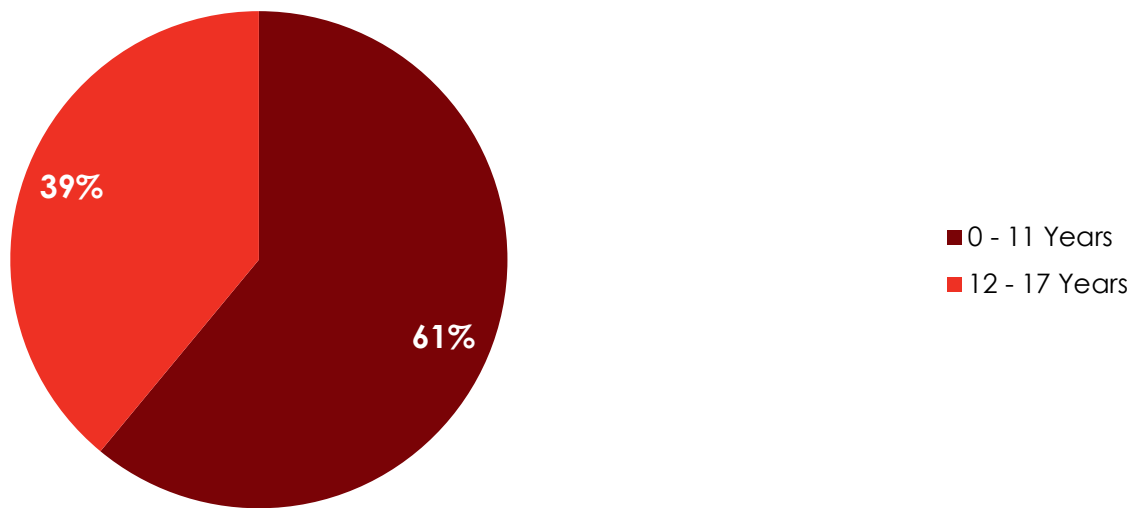
In 2021, there were 31 COVID-19 direct deaths of children. In 100% of the deaths, the manner of death was natural (Figure 45).

Figure 45. Percentage of Direct COVID-19 Deaths among Children by Manner, Ages 0-17 Years, Arizona, 2021 (n=31)



The majority (61%) of direct COVID-19 deaths occurred among children ages birth through 11 years (Figure 46).

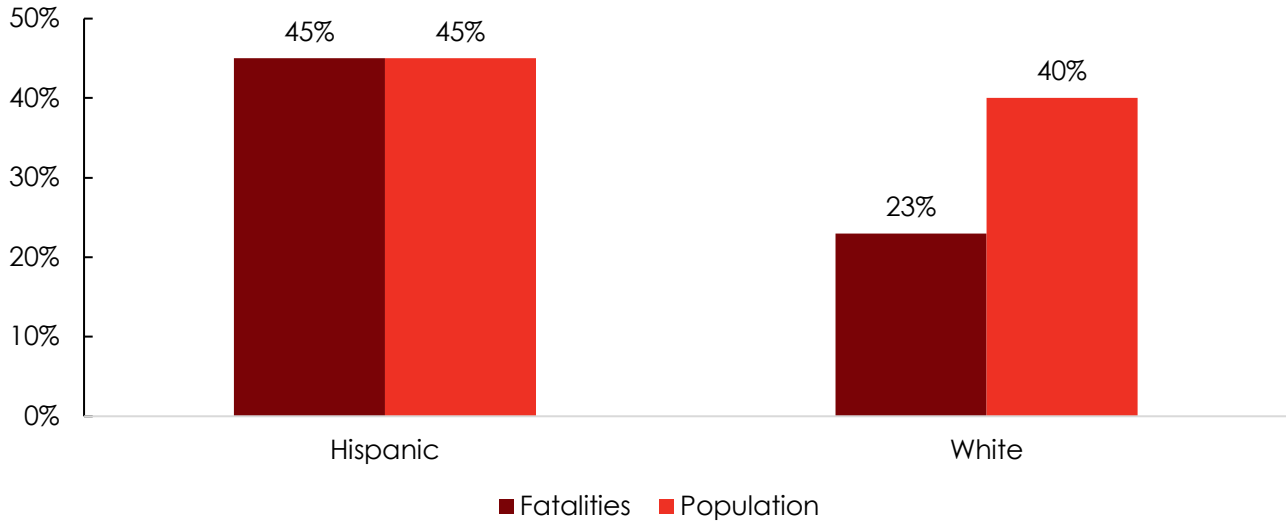
Figure 46. Percentage of Direct COVID-19 Deaths among Children by Age Group, Ages 0-17 Years, Arizona, 2021 (n=31)





The majority of direct COVID-19 deaths were among Hispanic (45%) and White (22%) children (Figure 47).

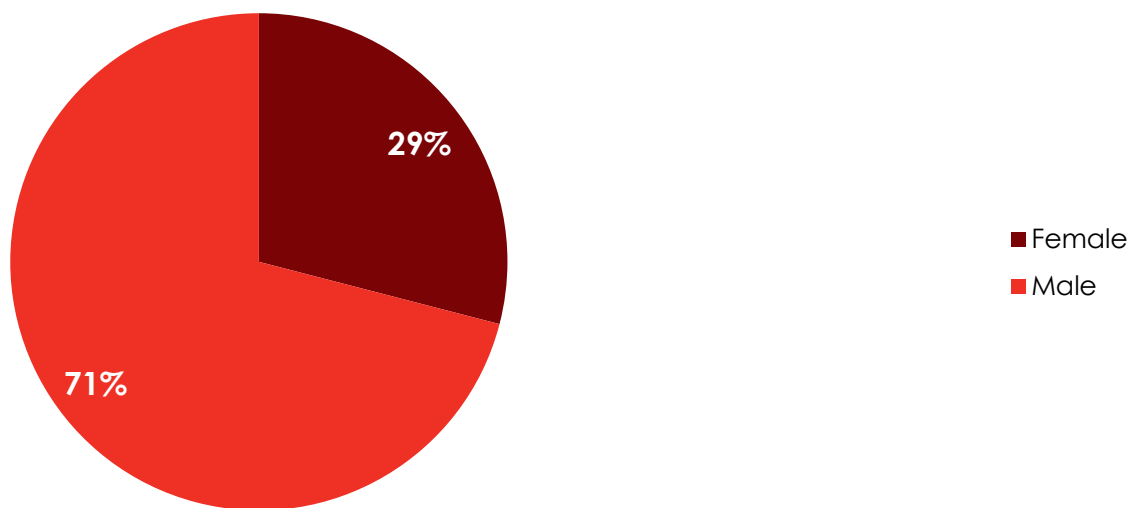
Figure 47. Percentage of Direct COVID-19 Deaths among Children by Race/Ethnicity, Ages 0-17 Years, Compared to Population, Arizona, 2021 (n=31)*²



*Data for American Indian, Asian, and Black children were suppressed due to counts less than 6.

Of the direct COVID-19 deaths, 71% of deaths were among males (Figure 48).

Figure 48. Percentage of Direct COVID-19 Deaths among Children by Sex, Ages 0-17 Years, Arizona, 2021 (n=31)





While there are numerous preventable risk factors that contribute to direct COVID-19 deaths, poverty (61%) was the most commonly identified risk factor. Eleven direct COVID-19 child deaths were associated with multisystem inflammatory syndrome (MIS-C) (Table 19).

Table 19. Leading Risk Factors for Direct COVID-19 Deaths among Children, Ages 0-17 Years, Arizona, 2021

Risk Factor*	Number	Percent
Poverty	19	61%
Known COVID-19 Exposure	16	52%
Chronic Medical Condition	16	52%
Multisystem Inflammatory Syndrome in Children (MIS-C)	11	35%
CPS History with the Family	10	32%
*More than one risk factor may have been identified for each death.		

Indirect COVID-19 Deaths

An indirect COVID-19 death is a death where the child or caregiver experienced changes or disruptions in how they lived, worked, or accessed services due to COVID-19. See the glossary for further explanation.

The CFRP recognizes that COVID-19 likely is indirectly related to other increases in child deaths in particular suicide, suffocation and poisoning deaths included in this report.

The analysis provides insights into the different causes of death where COVID-19 may have indirectly contributed to the child's death, but this has several limitations. These limitations include but are not limited to the availability of limited information to provide context to each child's death, time constraints, and the overall use of subjective analysis to draw a conclusion. Limited data availability based on the information and records used in the reviews likely resulted in an under-reporting of COVID-19 indirectly related deaths.

The CFRP conducted secondary reviews of every child's death in 2021 to determine if COVID-19 may have indirectly contributed to the death of the child. This provided strong evidence suggesting that COVID-19 indirectly contributed to 27 child deaths in 2021.

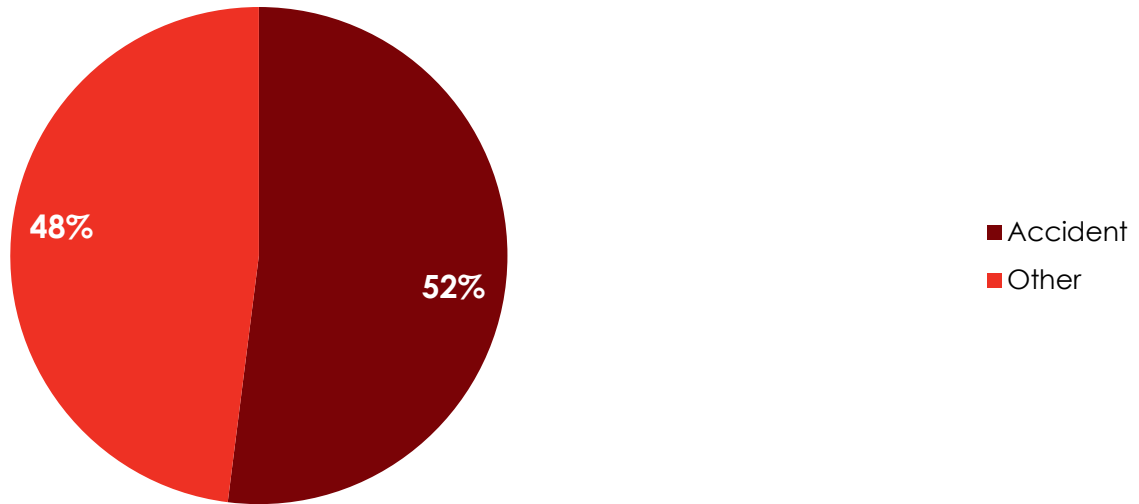
Indirect COVID-19 deaths may include (but are not limited to): looking at deaths that occurred during school closures when the child may not have died if they were physically in school, deaths where COVID-19 impacted availability and fear of seeking medical care, social (isolation, lack of supervision, etc.), emotional (mental health, fear of contracting COVID-19, etc.), or economic changes (finance disruptions, lack of childcare, etc.) induced by COVID-19 which may have impacted the child's or parent's decision-making and overall wellbeing leading to the child's death.

Prevention recommendations for indirect COVID-19 deaths are located in the other specific causes of death. For example, if the child died from a poisoning overdose during a school closure where the child would have been in school during the incident, the prevention recommendation will be found in the substance use section.



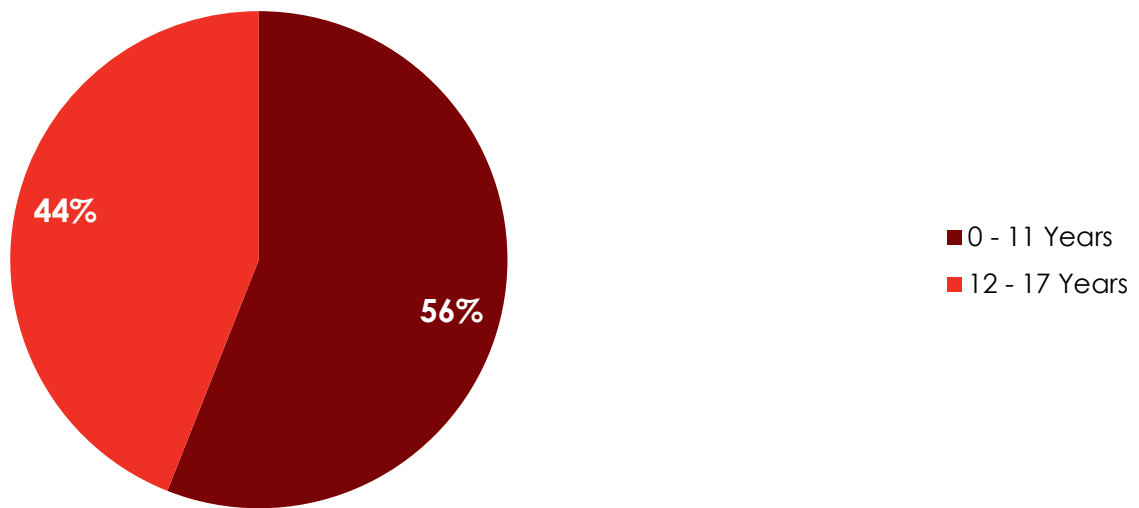
In 52% of indirect COVID-19 deaths, the manner of death was classified as an accident. Other manners of death include homicide, natural, suicide, and undetermined (Figure 49).

Figure 49. Percentage of Indirect COVID-19 Deaths among Children by Manner, Ages 0-17 Years, Arizona, 2021 (n=27)



Of the indirect COVID-19 deaths, 56% of deaths were among children ages birth – 11 years (Figure 50).

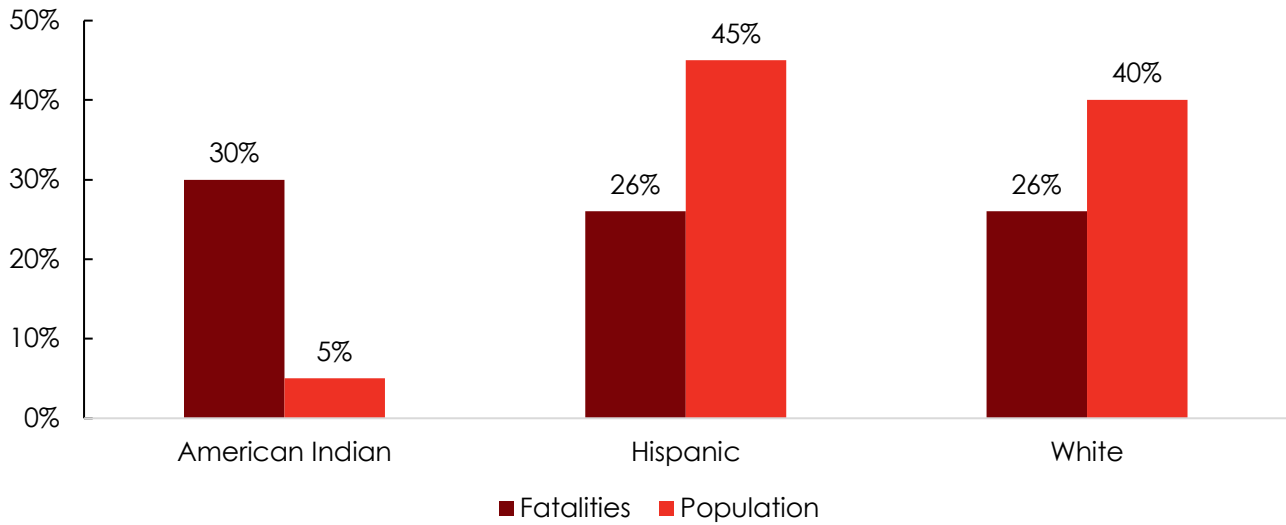
Figure 50. Percentage of Indirect COVID-19 Deaths among Children by Age Group, Ages 0-17 Years, Arizona, 2021 (n=27)





American Indian children made up 30% of indirect COVID-19 deaths but only 5% of the total child population (Figure 51).

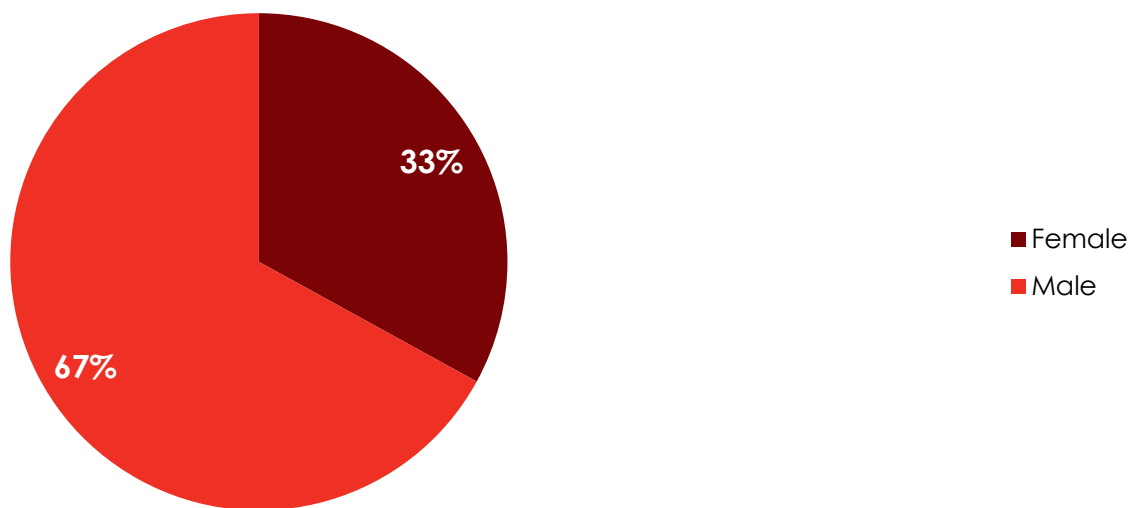
Figure 51. Percentage of Indirect COVID-19 Deaths among Children by Race/Ethnicity, Ages 0-17 Years, Compared to Population, Arizona, 2021 (n=27)*²



*Data for Asian and Black children suppressed due to counts less than 6.

Of the indirect COVID-19 deaths, 67% of deaths were among males (Figure 52).

Figure 52. Percentage of Indirect COVID-19 Deaths among Children by Sex, Ages 0-17 Years, Arizona, 2021 (n=27)





Among indirect COVID-19 deaths, suffocation (30%) and other injury (30%) were the leading cause of death for children 0-17 years (Table 20).

Table 20. Cause of Indirect COVID-19 Deaths among Children, Ages 0-17 Years, Arizona, 2021

Cause of Death	Number	Percent
Suffocation	8	30%
Other Injury (i.e. Firearm, Choking, etc.)	8	30%
Poisoning	6	22%
Other Medical	*	*
Undetermined	*	*

*Number/ Percentage suppressed due to count less than 6.

While there are numerous preventable risk factors that contribute to indirect COVID-19 deaths, poverty (48%) and substance use (48%) were the most commonly identified risk factor (Table 21).

Table 21. Leading Risk Factors for Indirect COVID-19 Deaths among Children, Ages 0-17 Years, Arizona, 2021

Risk Factor*	Number	Percent
Poverty	13	48%
Substance Use	13	48%
Child Relationship Issues	10	37%
Lack of Supervision	9	33%
CPS History with Family	8	30%
School Issues	7	26%

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

Drowning Deaths

Death from an accidental or intentional submersion in a body of water. See the glossary for further explanation.



There were 44 drowning deaths in 2021, 5% of all child deaths.



There was a 108% increase in the drowning death rate from 2020 to 2021.



100% of drowning deaths were preventable.



Of the children who drowned, 57% were male and 43% were female.



68% of drowning deaths occurred in children ages 1-4 years.



Black children were disproportionately affected. Black children made up 23% of drowning deaths but only 6% of the total population.

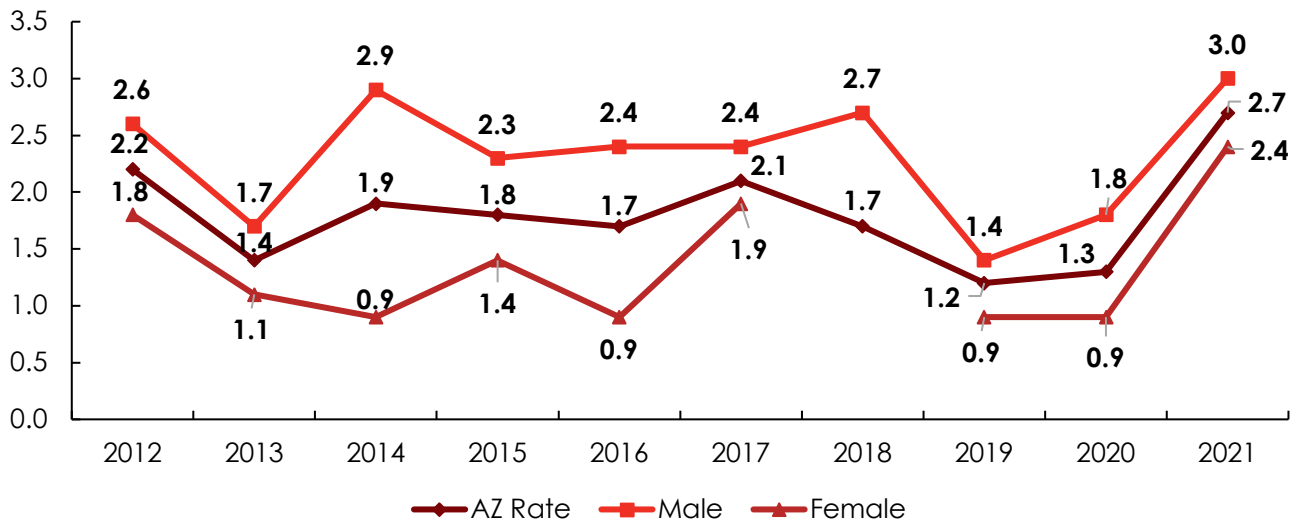


11% of drowning deaths involved substance use.



Overall, Arizona's drowning rate has fluctuated since 2012. Arizona's drowning rate increased by 107.7% from 1.3 deaths per 100,000 children in 2020 to 2.7 deaths per 100,000 children in 2021. Males have consistently had a higher drowning rate compared to females. However, females had a higher increase by 166% from 0.9 deaths per 100,000 children in 2020 to 2.4 deaths per 100,000 children in 2021 (Figure 53).

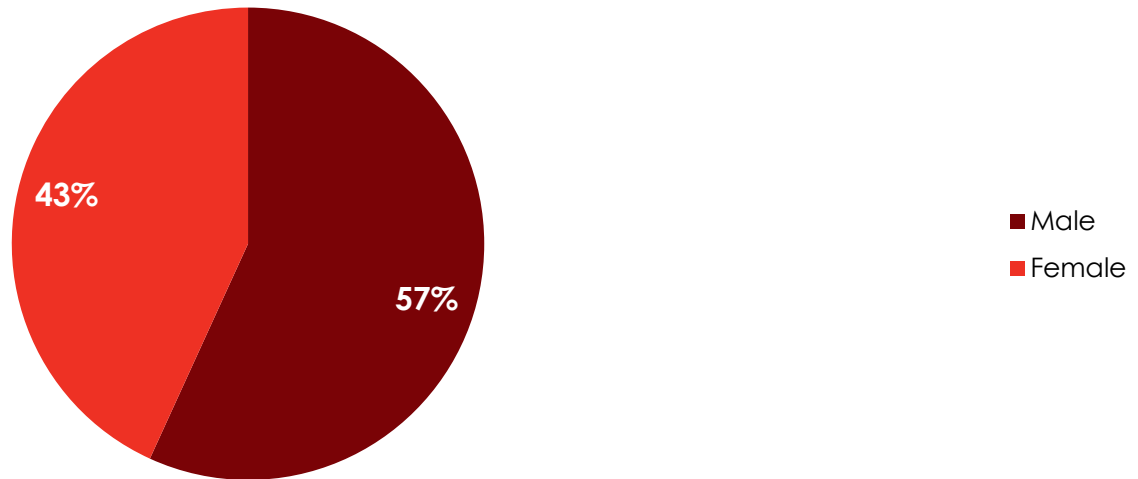
Figure 53. Mortality Rate per 100,000 Children due to Drowning by Sex, Ages 0-17 Years, Arizona, 2012-2021*²⁻¹¹



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

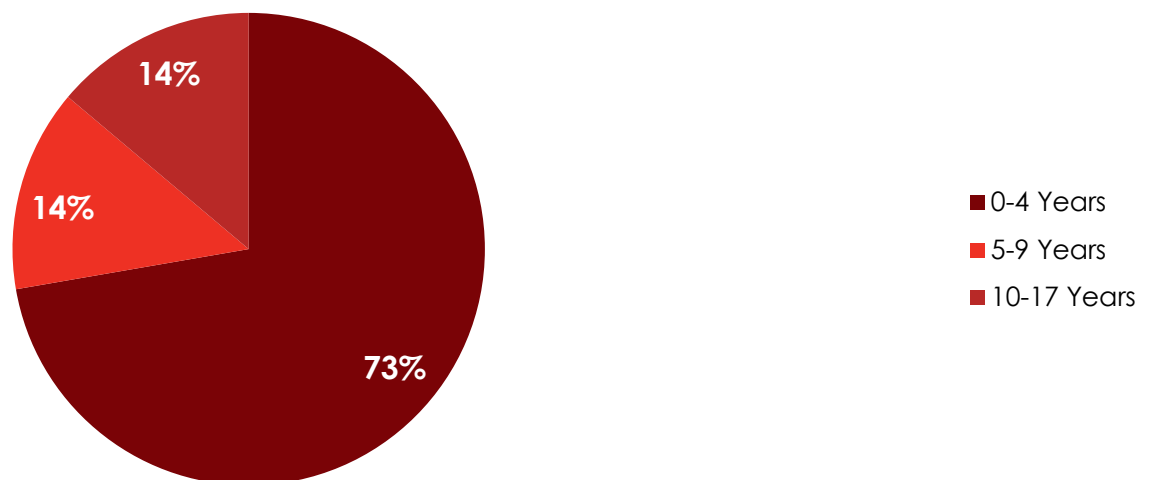
The majority of drowning deaths occurred among males (57%) (Figure 54).

Figure 54. Percentage of Drowning Deaths among Children by Sex, Ages 0-17 Years, Arizona, 2021 (n=44)



The majority of drowning deaths occurred among children birth to 4 years of age (73%) (Figure 55).

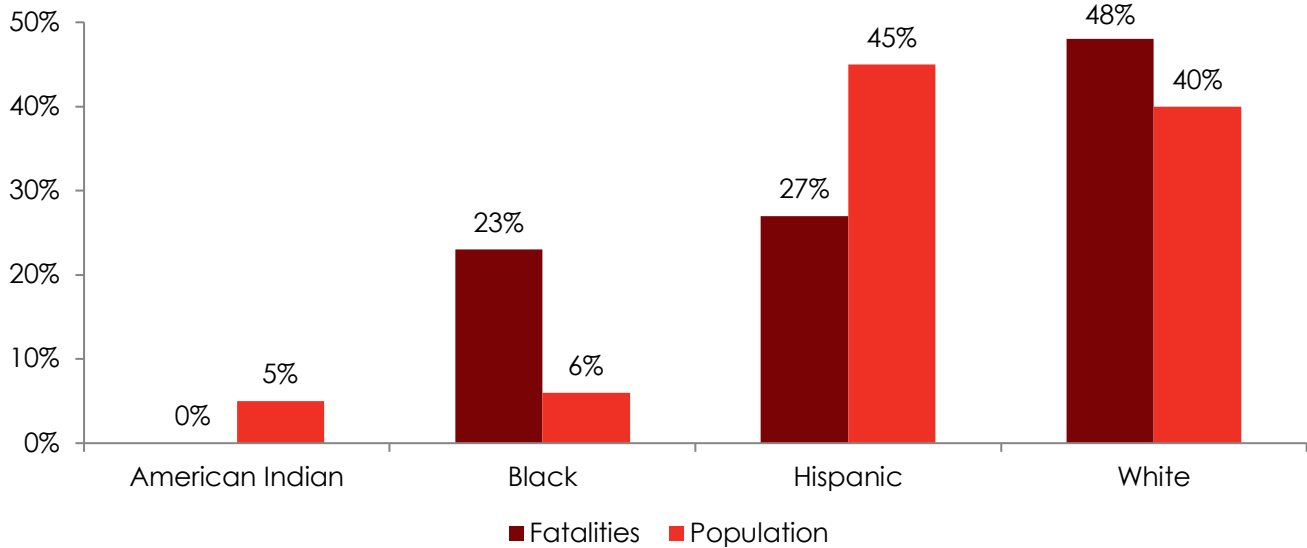
Figure 55. Percentage of Drowning Deaths among Children by Age Group, Ages 0-17 Years, Arizona, 2021 (n=44)





There were no drowning deaths among American Indian children in 2021. Black children accounted for 23% of drowning deaths but only 6% of Arizona's population. White children accounted for the largest incidence of drowning deaths at 48% (Figure 56).

Figure 56. Percentage of Drowning Deaths among Children by Race/Ethnicity, Ages 0-17 Years, Compared to Population, Arizona, 2021 (n=44)*²



*Data for Asian children suppressed due to counts less than 6.

The majority of drowning deaths occurred in pools/hot tubs (75%) (Table 22).

Table 22. Location of Drowning among Children, Ages 0-17 Years, Arizona, 2021 (n=44)

Locations	Number	Percent
Pool/ Hot tub	33	75%
Open Water/ Pond	*	*
Bathtub	*	*
Flash Flood Area	*	*
*Number/Percentage suppressed due to count less than 6.		



While there are numerous preventable risk factors that contribute to drowning, lack of supervision (86%) was the most commonly identified risk factor (Table 23).

Table 23. Leading Risk Factors of Drowning among Children, Ages 0-17 Years, Arizona, 2021 (n=44)

Risk Factors*	Number	Percent
Lack of Supervision	38	86%
Unable to Swim	30	68%
Inadequate or No Pool Barrier	24	55%
CPS History with Family	12	27%
Poverty	7	16%
*More than one risk factor may have been identified in each death.		

In 9% of drowning deaths, teams determined that supervision was not needed due to the circumstances surrounding the death. For the remaining drowning deaths (n=40), the child's parent was the individual who was responsible for supervision (73%). The child was not in sight of the supervisor in 96% of these drownings (Table 24).

Table 24. Responsible Supervisor during Drowning Incidents Requiring Supervision among Children, Ages 0-17 Years, Arizona, 2021 (n=40)

Responsible Supervisor	Number	Percent
Parent	29	73%
Other Relative	9	23%
Other	*	*
*Number/Percentage suppressed due to count less than 6.		

Firearm Injury Deaths

Death caused by an injury resulting from the penetrating force of a bullet or other projectile shot from a powder-charged gun. See the glossary for further explanation.



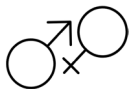
There were 56 firearm injury deaths in 2021, 7% of all child deaths.



There was a 13% increase in the firearm injury death rate from 2020 to 2021.



100% of firearm injury deaths were preventable.



Of the firearm injury deaths, 79% were male and 21% were female.



75% of firearm injury deaths occurred in children ages 15-17 years.



Black children were disproportionately affected. Black children made up 13% of firearm injury deaths but only 6% of the total population.

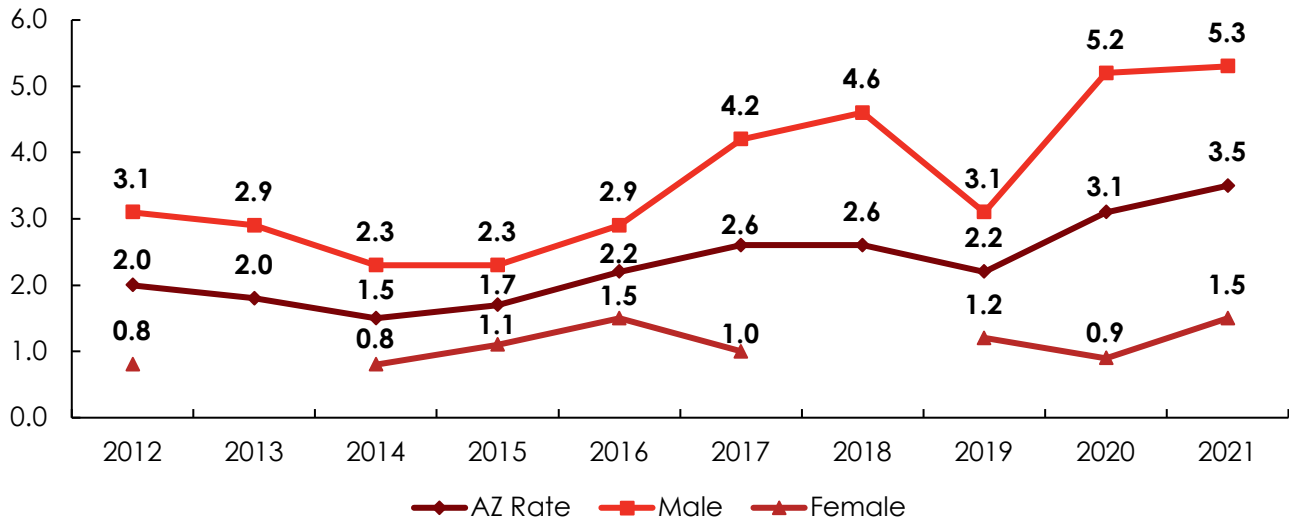


55% of firearm injury deaths involved substance use.



Overall, Arizona's firearm injury mortality rate has increased since 2014. Males have consistently had a higher firearm injury mortality rate compared to females. Arizona's firearm injury mortality rate increased by 12.9% from 3.1 deaths per 100,000 children in 2020 to 3.5 deaths per 100,000 children in 2021 (Figure 57).

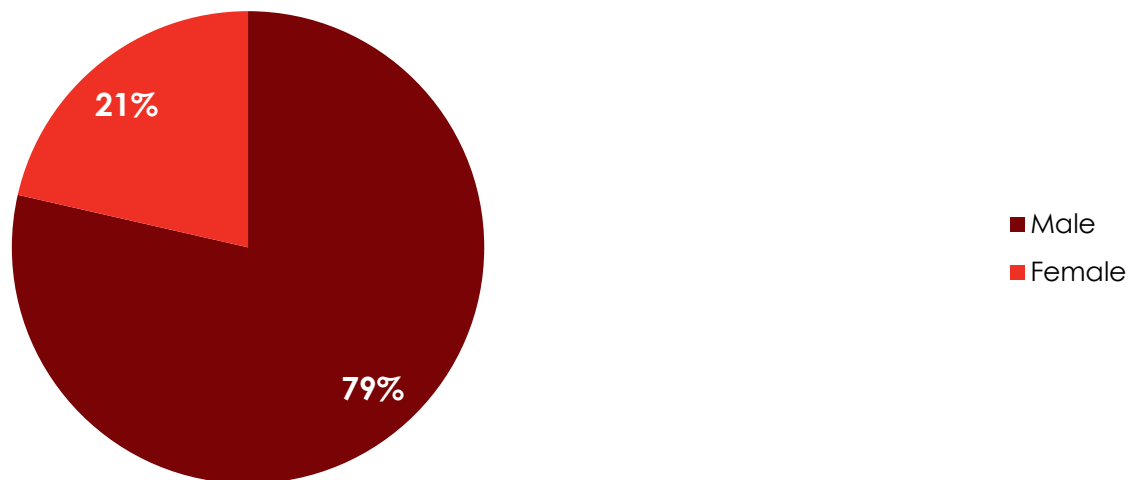
Figure 57. Mortality Rate per 100,000 Children due to Firearms by Sex, Ages 0-17 Years, Arizona, 2012-2021*²⁻¹¹



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

The majority of firearm injury deaths occurred among males (79%) (Figure 58).

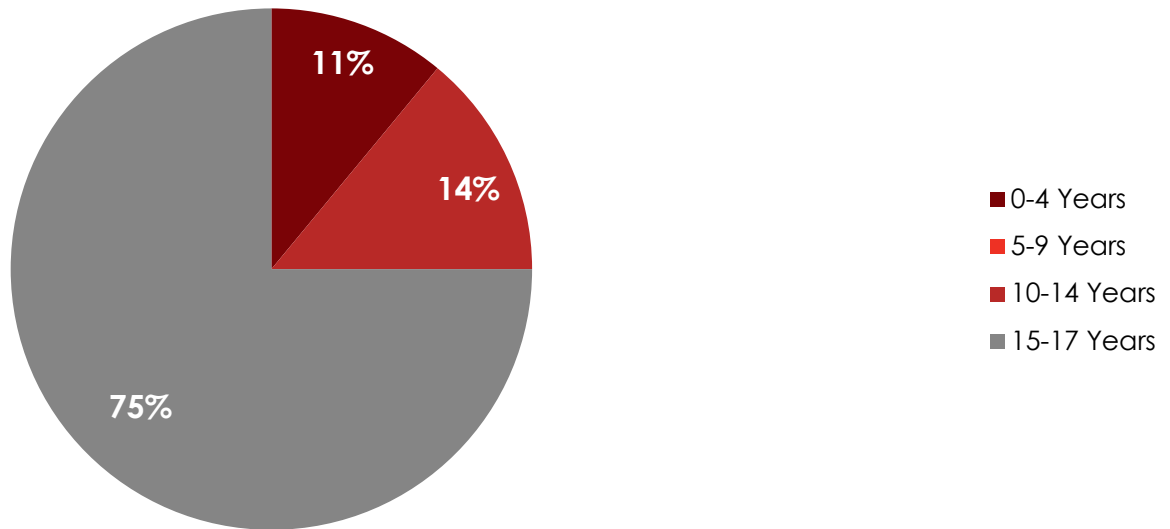
Figure 58. Percentage of Firearm Injury Deaths among Children by Sex, Ages 0-17 Years, Arizona, 2021 (n=56)





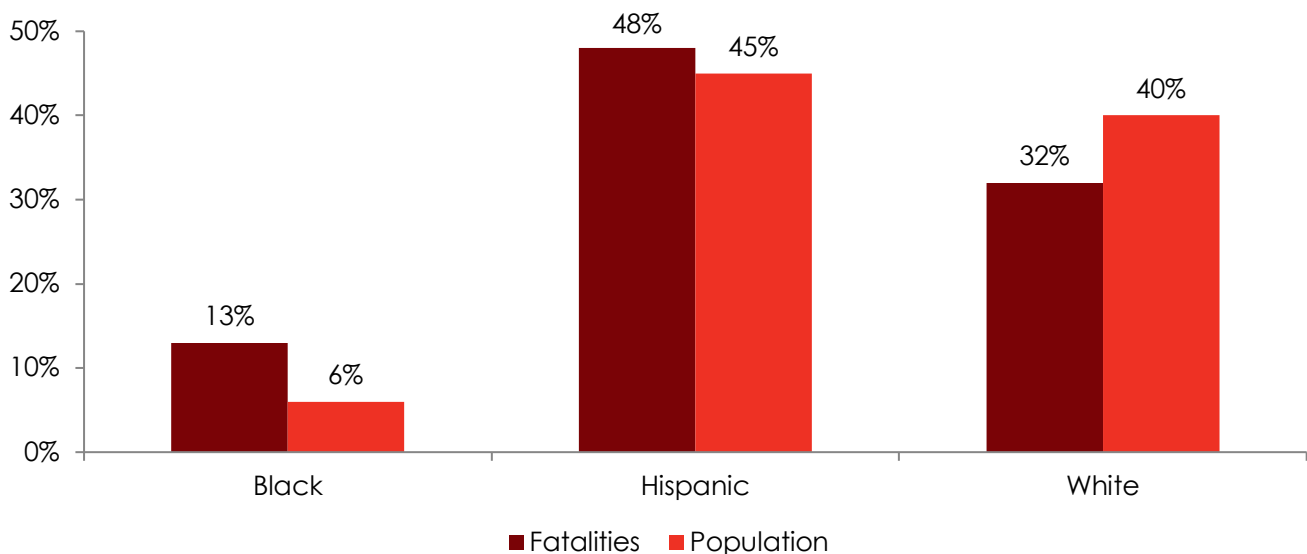
The majority of firearm injury deaths occurred among children ages 15-17 years (75%), followed by children ages 10-14 years (14%) (Figure 59).

Figure 59. Percentage of Firearm Injury Deaths among Children by Age Group, Ages 0-17, Arizona, 2021 (n=56)



Black children made up 13% of firearm injury deaths, but only comprised 6% of the total population. The largest percentage of child deaths were among Hispanic (48%) children (Figure 60).

Figure 60. Number of Firearm Injury Deaths among Children by Race/Ethnicity, Ages 0-17 Years, Compared to Population, Arizona, 2021 (n=56)*²



*Data for American Indian and Asian children suppressed due to counts less than 6.



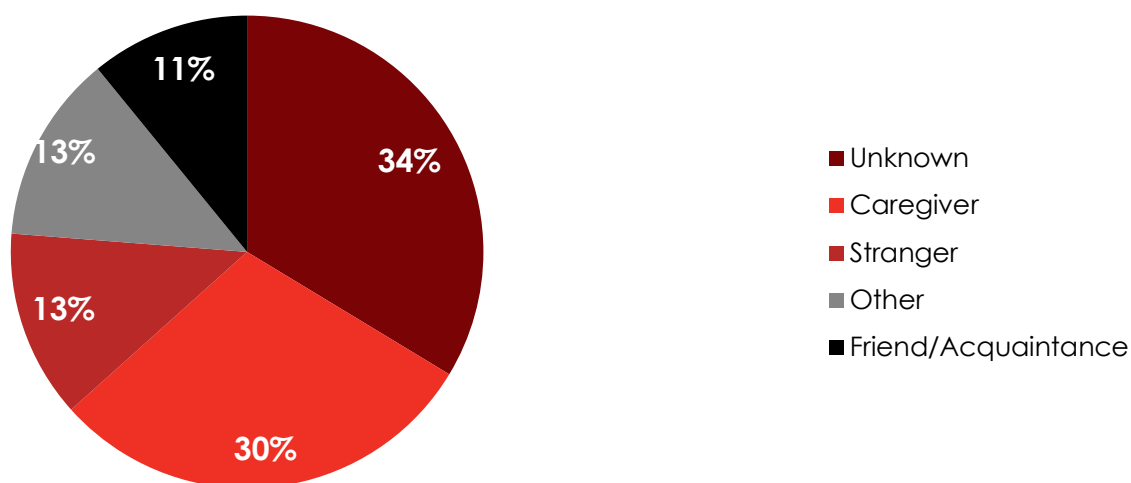
While there are numerous preventable risk factors that contribute to firearm injury deaths, access to firearms (100%) was the most commonly identified risk factor (Table 25).

Table 25. Leading Risk Factors of Firearm Injury Deaths among Children, Ages 0-17 Years, Arizona, 2021

Risk Factors*	Number	Percent
Access to Firearm	56	100%
Firearm not Stored Properly	40	71%
Substance Use	31	55%
CPS History with Family	28	50%
Criminal Activity	26	46%
Child Relationship Issues	24	43%
Child History of Trauma	19	34%
*More than one risk factor may have been identified in each death.		

In 34% of firearm injury deaths, the owner of the firearm could not be identified. The child's caregiver (i.e. parent/stepparent/relative custodian) as the owner accounted for 30% of the firearm injury deaths (Figure 61).

Figure 61. Percentage of Owners Involved in Firearm Injury Deaths among Children by Age Group, Ages 0-17, Arizona, 2021 (n=56)





Of the firearm injury deaths, 89% involved a handgun (Table 26).

Table 26. Types of Firearm Used in Firearm Injury Deaths among Children, Ages 0-17 Years, Arizona, 2021

Types	Number	Percent
Handgun	50	89%
Other (Rifle/ Shotgun/ Unknown)	6	11%

In 30% of the firearm injury deaths, the firearm user was the child themselves (Table 27).

Table 27. Firearm User Involved in Firearm Injury Deaths among Children, Ages 0-17 Years, Arizona, 2021

Firearm User	Number	Percent
Self	17	30%
Friend/ Acquaintance	13	23%
Stranger	11	20%
Relative (Parent/ Grandparent/ Step-Parent/ Siblings)	9	16%
Unknown	*	*
Other	*	*
*Number/Percentage suppressed due to count less than 6.		

In 30% of firearm injury deaths, the firearm was used for self-harm (Table 28).

Table 28. Uses of Firearm Involved in Firearm Injury Deaths among Children, Ages 0-17 Years, Arizona, 2021

Uses	Number	Percent
Self-Harm	17	30%
Argument	12	21%
Child as a Bystander	10	18%
Criminal Activity	7	13%
Drug Deal	7	13%
Playing with Weapon	6	11%
*More than one risk factor may have been identified in each death.		

Motor Vehicle Crash (MVC) Deaths

Death caused by injuries from a motor vehicle incident, including injuries to motor vehicle occupant(s), pedestrian(s), pedal cyclist(s) or another person. See the glossary for further explanation.



There were 72 MVC deaths in 2021, 8% of all child deaths.



There was a 21% decrease in the MVC death rate from 2020 to 2021.



100% of MVC deaths were preventable.



47% of MVC deaths occurred in children ages 15-17 years.



Of the MVC deaths, 58% were male and 42% were female.



American Indian children and Black children were disproportionately affected. American Indian made up 23% of MVC deaths but only 5% of the total population. Black children made up 20% of MVC deaths but only 6% of the total population.

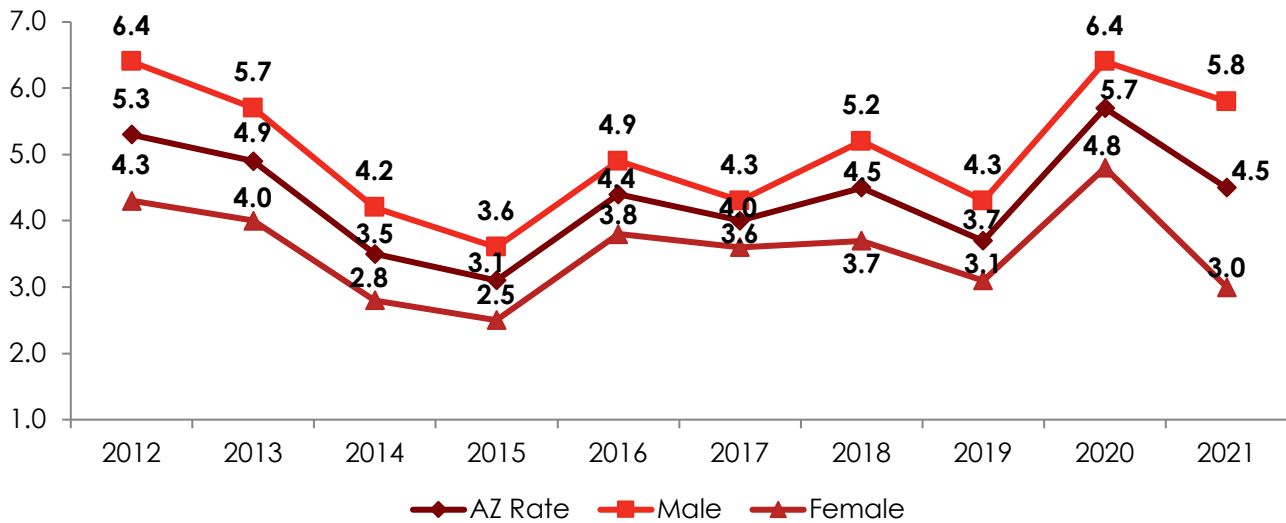


40% of MVC deaths involved substance use.



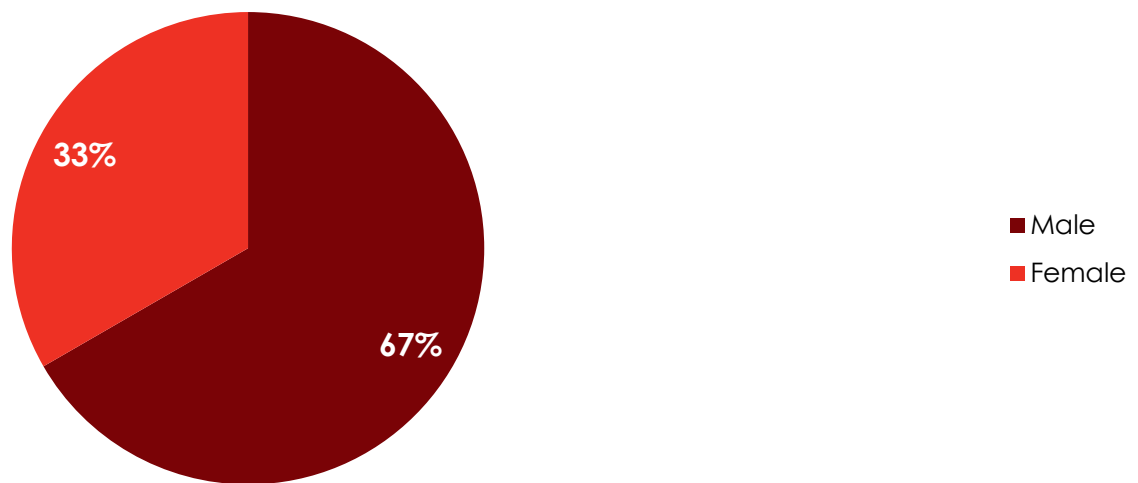
The MVC mortality rate has fluctuated since 2012. Males have consistently had a higher MVC mortality rate compared to females. Arizona's MVC mortality rate decreased by 21.1% from 5.7 per 100,000 children in 2020 to 4.5 per 100,000 children in 2021 (Figure 62).

Figure 62. Mortality Rate per 100,000 Children due to Motor Vehicle Crashes by Sex, Ages 0-17 Years, Arizona, 2012-2021²⁻¹¹



The majority of MVC deaths occurred among males (67%) (Figure 63).

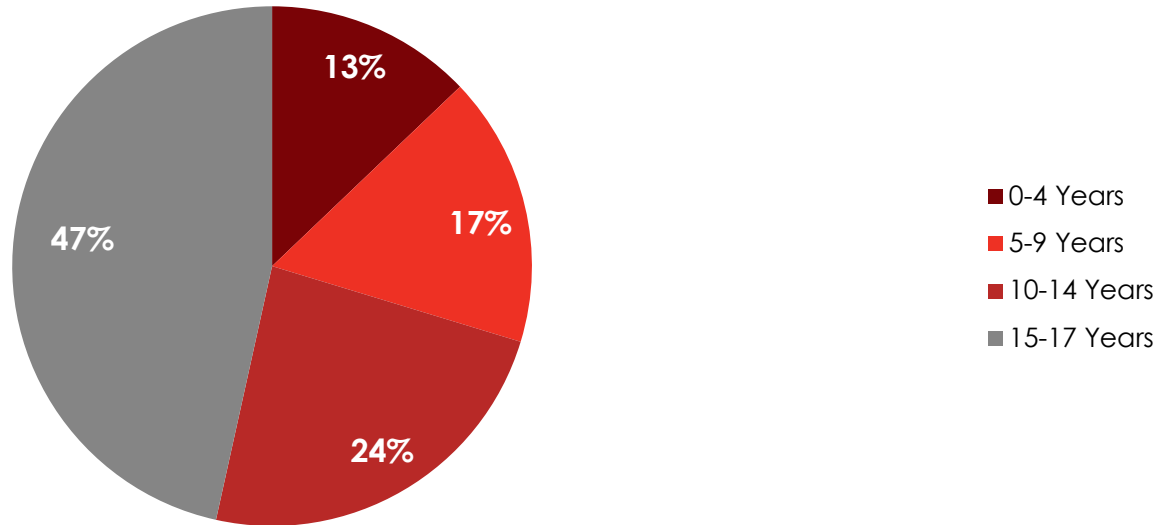
Figure 63. Percentage of Motor Vehicle Crash Deaths among Children by Sex, Ages 0-17 Years, Arizona, 2021 (n=72)





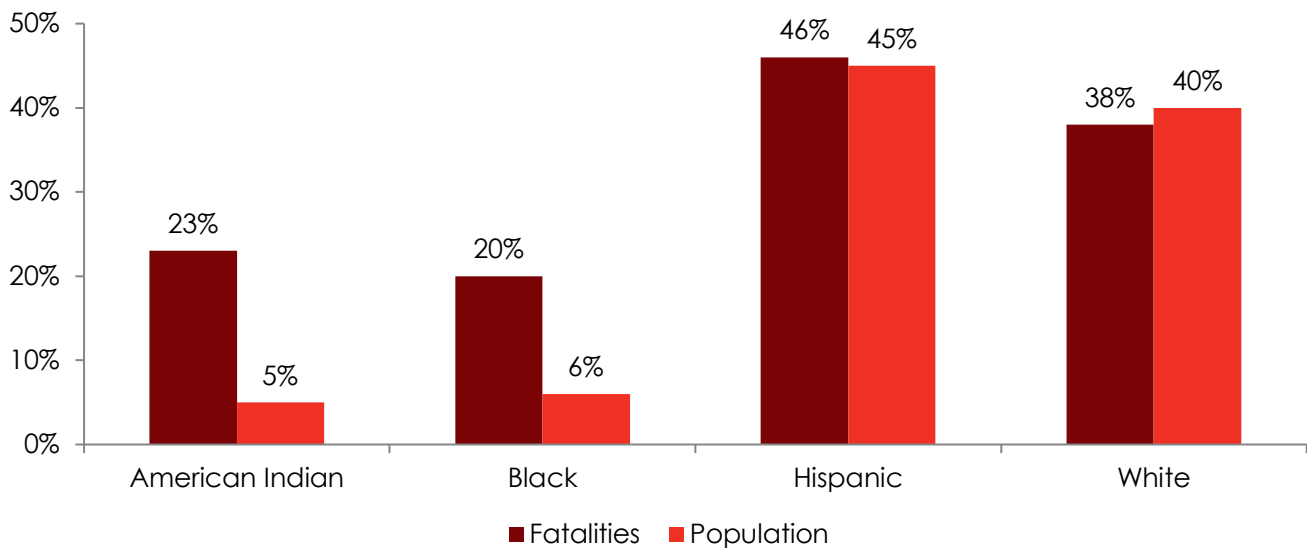
The highest number of MVC deaths occurred among children ages 15-17 years (47%), followed by children ages 10-14 years (24%) (Figure 64).

Figure 64. Percentage of Motor Vehicle Crash Deaths among Children by Age Group, Ages 0-17 Years, Arizona, 2021 (n=72)



American Indian children and Black children made up 23% and 20% of MVC deaths, respectively, but only comprised 5% and 6% of the total population. The majority of MVC deaths were Hispanic (46%) and White (38%) children (Figure 65).

Figure 65. Percentage of Motor Vehicle Crash Deaths among Children by Race/Ethnicity, Ages 0-17 Years, Compared to Population, Arizona, 2021 (n=72)*²

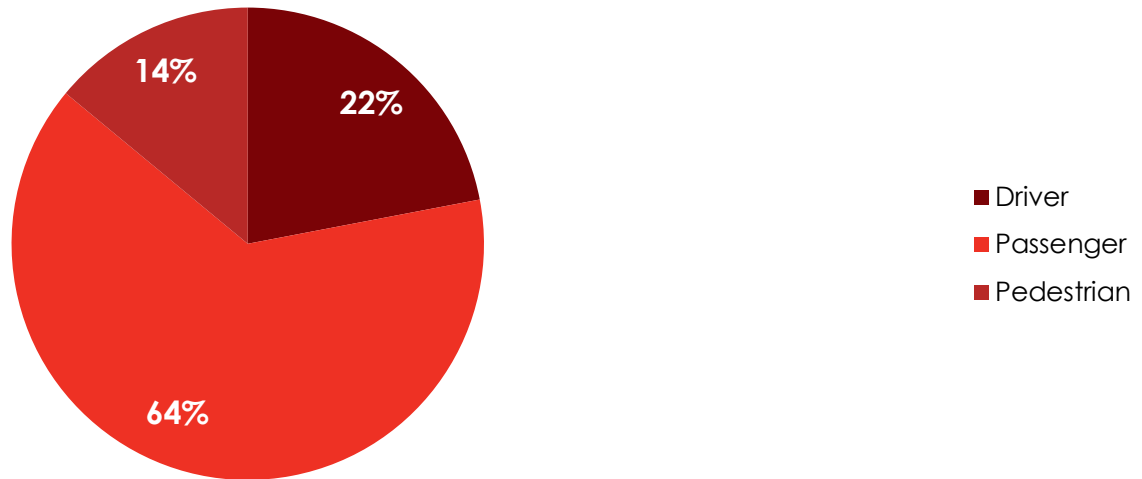


*Data for Asian children suppressed due to counts less than 6.



In the majority of MVC deaths, the child was the passenger (64%) (Figure 66).

Figure 66. Percentage of Motor Vehicle Crash Deaths among Children by Occupant, Ages 0-17 Years, Arizona, 2021 (n=72)



While there are numerous risk factors that can contribute to MVC deaths, the most commonly identified risk factors were lack of seat restraint (56%), reckless driving (43%), and substance use (40%) (Table 29).

Table 29. Leading Risk Factors for Motor Vehicle Crash Deaths among Children, Ages 0-17 Years, Arizona, 2021

Risk Factor*	Number	Percent
Lack of Seat Restraint	40	56%
Reckless Driving	31	43%
Substance Use	29	40%
Excessive Speed	23	32%
Criminal Activity	21	29%
CPS History with Family	18	25%
Inexperienced Driver	10	14%
*More than one factor may have been identified for each death.		

Prematurity Deaths

Death of an infant born before 37 weeks gestation and the cause of death was related to the premature birth. See the glossary for further explanation.



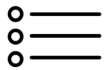
There were 206 prematurity deaths in 2021, 29% of all child deaths.



There was a 5% increase in the prematurity death rate from 2020 to 2021.



13% of prematurity deaths were preventable.



#1 cause: Prematurity (n= 177)

#2 cause: Other Perinatal Condition (n= 29)



Of the prematurity deaths, 57% were male and 43% were female.



Black and Hispanic infants made up 19% and 47% of prematurity deaths, respectively, but only comprised 6% and 40% of premature births.

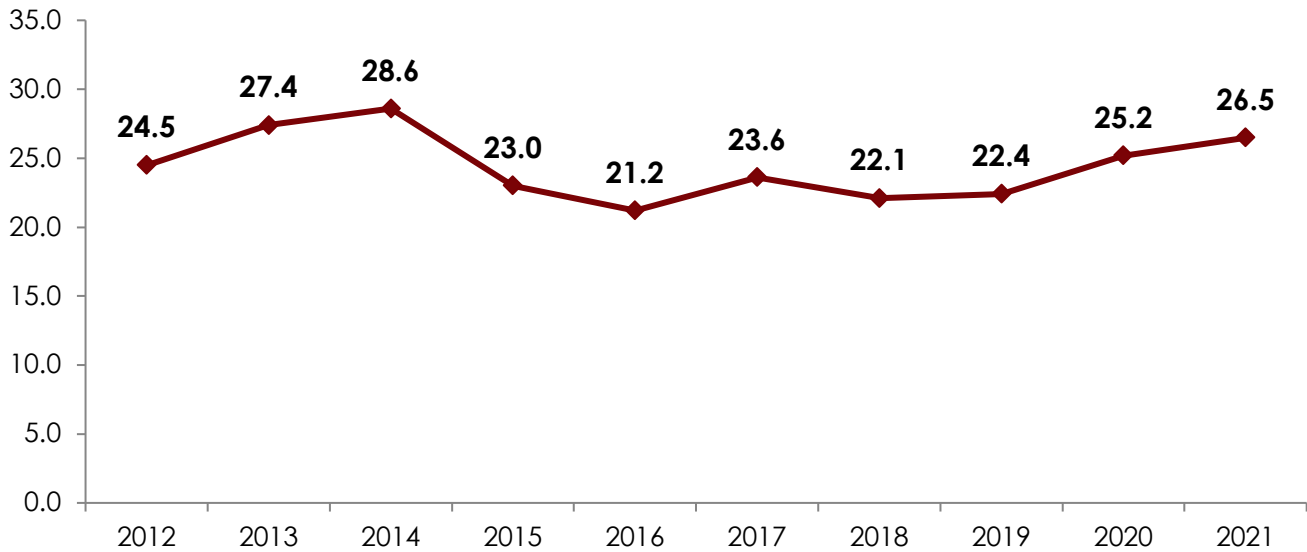


11% of prematurity deaths involved substance use.



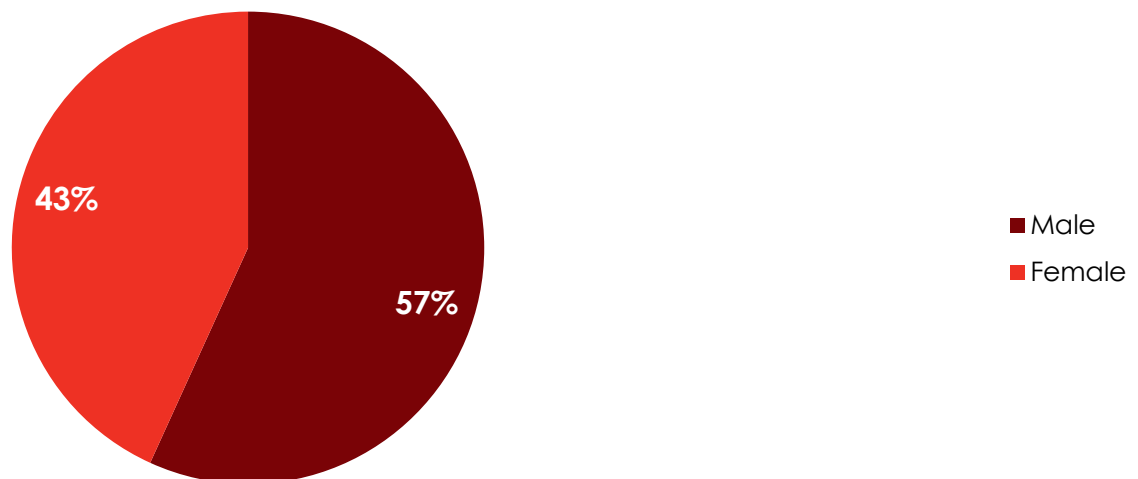
The prematurity mortality rate includes those who were identified as dying of prematurity (<37 weeks gestation) but also includes children who died of other perinatal conditions which lead to premature birth. Arizona's prematurity mortality rate increased by 5.2% from 25.2 per 1,000 live premature births in 2020 to 26.5 per 1,000 live premature births in 2021 (Figure 67).

Figure 67. Mortality Rate per 1,000 Live Births due to Prematurity, Less than 1 Year of Age, Arizona, 2012-2021³⁵⁻⁴⁴



The majority of prematurity deaths occurred among males (57%) (Figure 68).

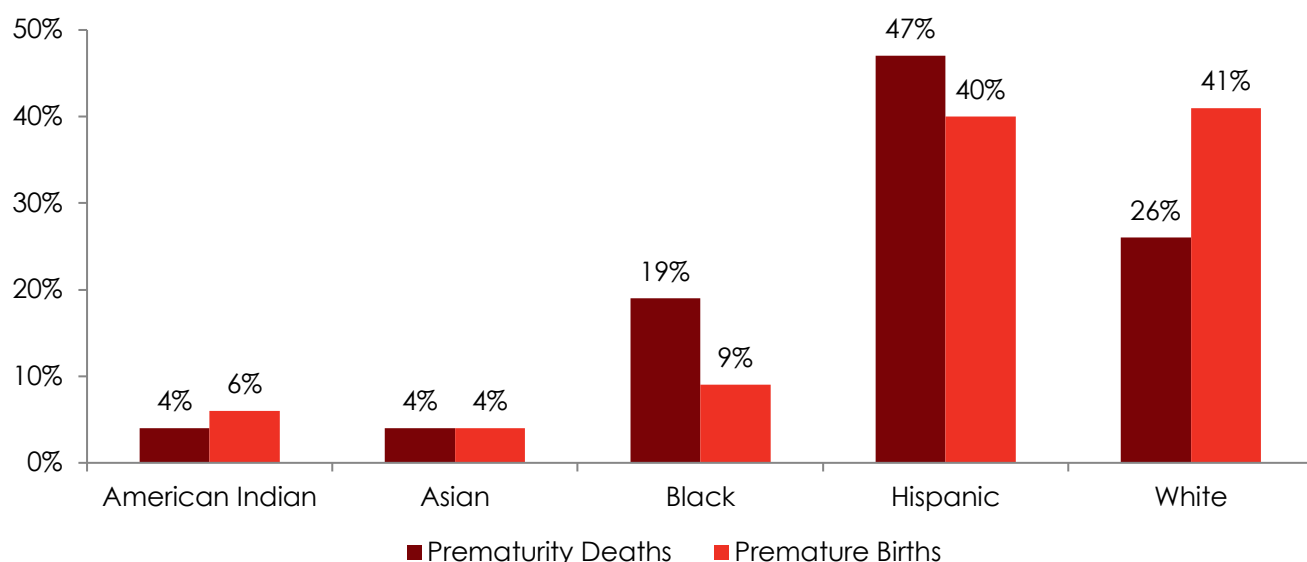
Figure 68. Percentage of Prematurity Deaths among Children by Sex, Less than 1 Year of Age, Arizona, 2021 (n=206)





Black and Hispanic infants made up 19% and 47% of prematurity deaths, respectively, but only comprised 6% and 40% of premature births. The majority of child deaths were among Hispanic (47%) and White (26%) children (Figure 69).

Figure 69. Percentage of Prematurity Deaths among Infants by Race/Ethnicity, Less than 1 Year of Age, Compared to Percentage of Premature Births, Arizona, 2021 (n=206)⁴⁴



While there are numerous risk factors that can contribute to prematurity deaths, the most commonly identified risk factors were poverty (50%) and premature rupture of membranes (PROM) (40%) (Table 30).

Table 30. Leading Risk Factors for Prematurity Deaths among Infants, Less than 1 Year of Age, Arizona, 2021

Risk Factor*	Number	Percent
Poverty	103	50%
Premature Rupture of Membrane (PROM)	83	40%
Had Previous Live Birth(s)	36	17%
No Prenatal Care	34	17%
Preterm Labor	31	15%
Advanced Maternal Age (>34 years)	31	15%
Chorioamnionitis	27	13%
Substance Use	22	11%
Hypertension	20	10%

*There may be more than one factor identified in 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 the glossary for further explanation.



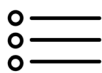
There were 176 substance use related deaths in 2021, 20% of all child deaths.



There was a 12% increase in the substance use related death rate from 2020 to 2021.



100% of substance use related deaths were preventable.



#1 cause: Poisoning (n= 49)
#2 cause: Firearm Injury (n= 31)
#3 cause: Motor Vehicle Crash (n= 29)



Of the substance use related deaths, 64% were male and 36% were female.



48% of substance use related deaths occurred in children ages 15-17 years.



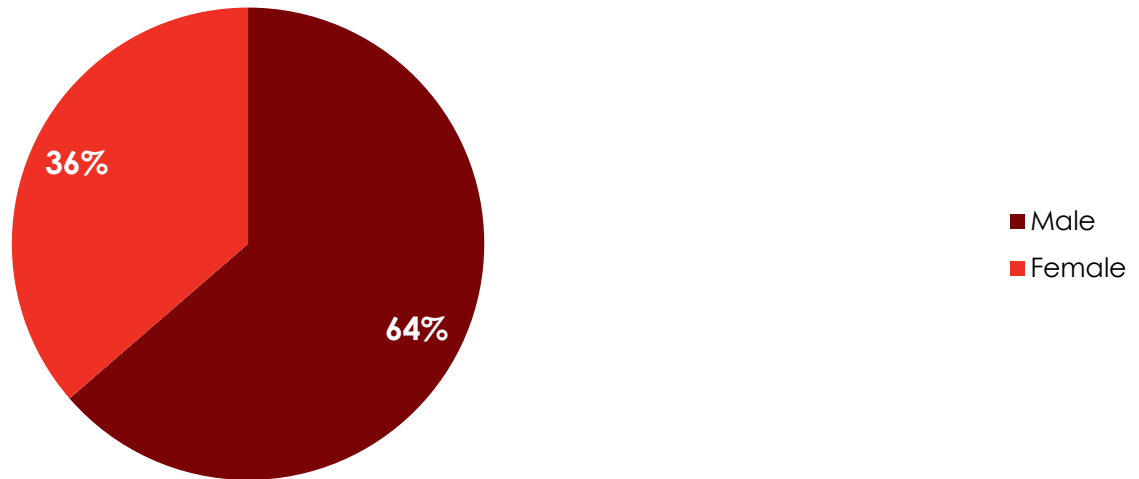
Black and American Indian children were disproportionately affected. Black children made up 18% of substance use related deaths but only 6% of the population. American Indian made up 15% of substance use related deaths but only 5% of the population.



Of the 49 poisoning deaths, 46 were opiate overdoses and fentanyl was responsible for 44 of opiate poisonings.

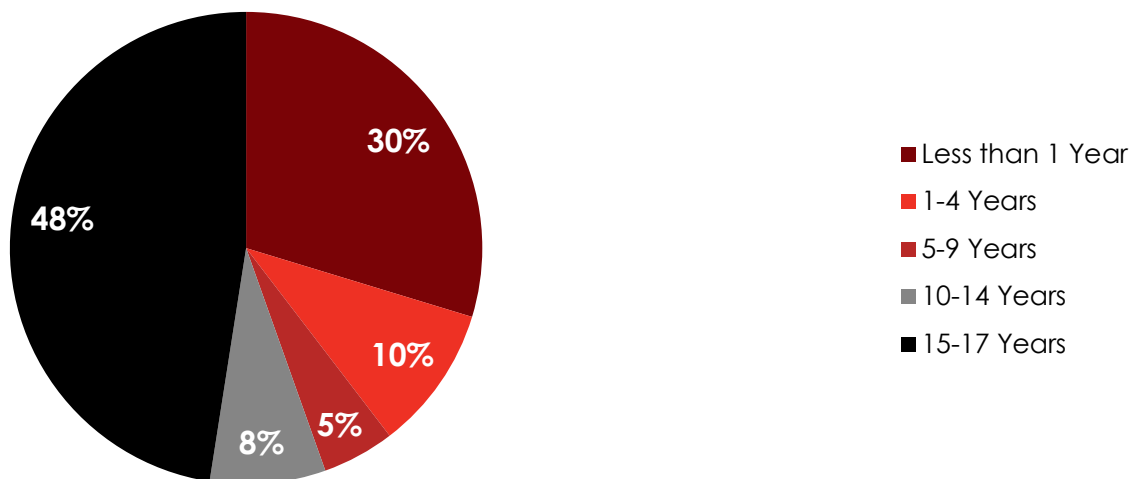
The majority of substance use related deaths occurred among males (64%) (Figure 70).

Figure 70. Percentage of Substance Use Related Deaths among Children by Sex, Ages 0-17 Years, Arizona, 2021 (n=176)



The majority of substance use deaths occurred among children ages 15-17 years (48%), followed by infants less than 1 year or age (30%) (Figure 71).

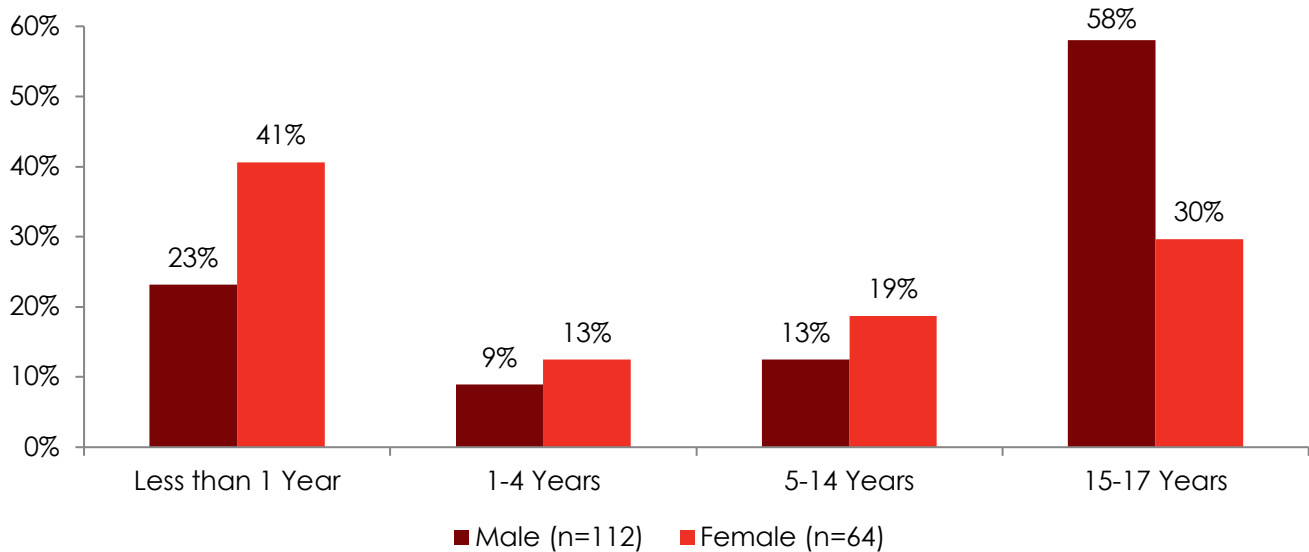
Figure 71. Percentage of Substance Use Related Deaths among Children by Age Group, Ages 0-17 Years, Arizona, 2021 (n=176)





The majority of substance use related deaths occurred in children ages 15-17 years (48%) followed by children ages less than 1 year (30%) (not shown). The majority of substance use deaths occurred among male children ages 15-17 years (58%), followed by infants less than 1 year or age (64%) (Figure 72).

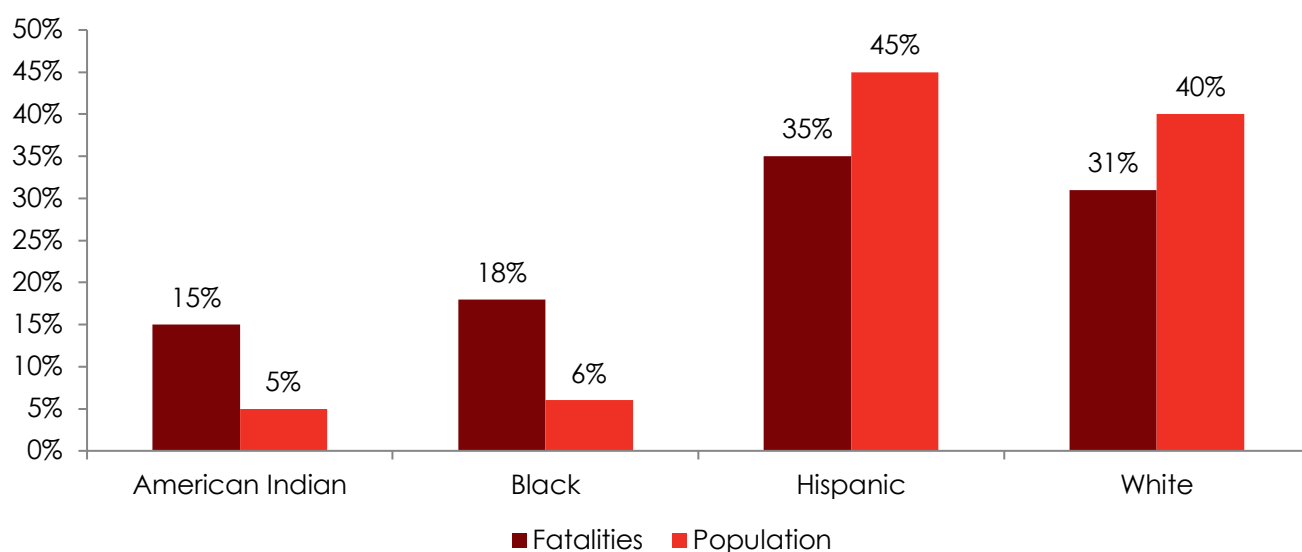
Figure 72. Percentage of Substance Use Related Deaths among Children by Age Group and Sex, Ages 0-17 Years, Arizona, 2021 (n=176)





Black and American Indian children made up 18% and 15% of substance use related deaths, respectively, but only comprised 6% and 5% of the total child population. The majority of substance use related deaths were Hispanic (35%) and White (31%) children (Figure 73).

Figure 73. Percentage of Substance Use Related Deaths among Children by Race/Ethnicity, Ages 0-17 Years, Compared to Population, Arizona, 2021 (n=176)*2



*Data for Asian children suppressed due to counts less than 6.

Among substance use related deaths, poisoning (28%) was the leading factor that caused or contributed to the death for children ages 0-17 years. Of the 49 poisoning deaths, 46 were opiate overdoses and fentanyl was responsible for 44 poisonings. Thirty-six of opioid overdoses were due to intentional use while the remaining 10 were accidental exposures (Table 31).

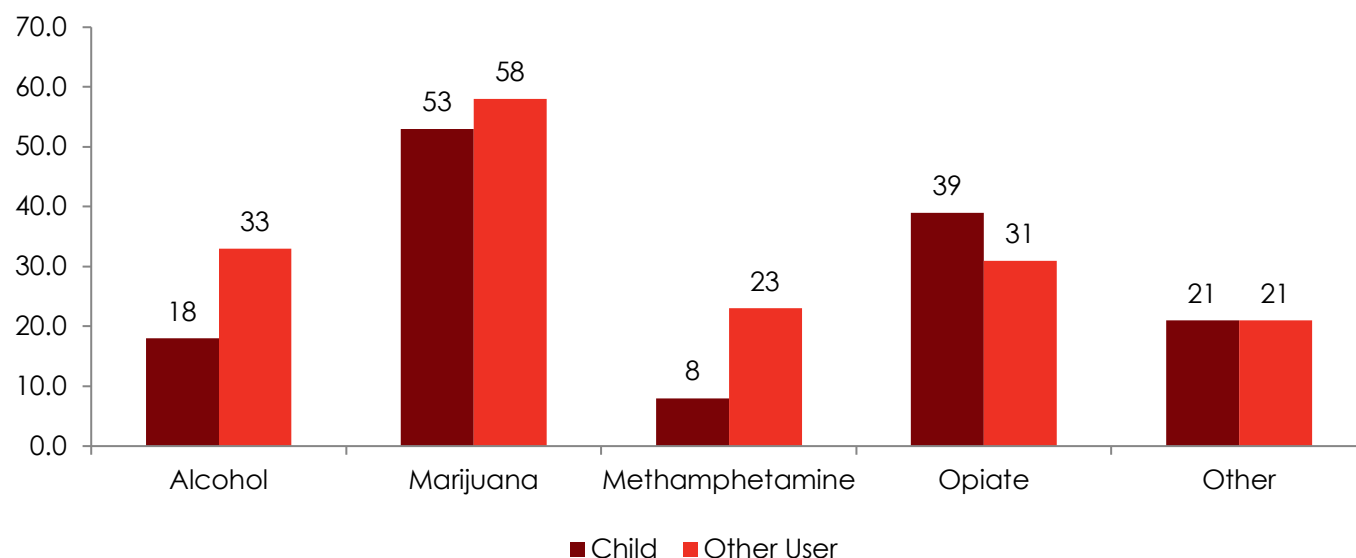
Table 31. Cause of Death where Substance Use was a Direct or Contributing Factor among Children, Ages 0-17 Years, Arizona, 2021

Cause of Death	Number	Percent
Poisoning	49	28%
Firearm Injury	31	18%
Motor Vehicle Crash	29	17%
Prematurity	22	13%
Suffocation	17	10%
Other Injury	10	6%
Other Medical	8	5%
Strangulation	6	3%
Undetermined	*	*
*Number/Percentage suppressed due to count less than 6.		



Local review teams identified the type of substances used by the child and by other individuals, contributing to the death. In 48% of substance use related deaths, the child was using alcohol or drugs. Marijuana was the most common substance used by the child and by other individuals, followed by opiates and alcohol. There may be more than one substance and more than one individual using a substance in a death (Figure 74).

Figure 74. Number of Substances Identified as Causing or Contributing to Child Deaths, by the Child or Other User, Ages 0-17 Years, Arizona, 2021 (n=176)



While there are numerous risk factors that can contribute to substance use related deaths, the most commonly identified risk factors were biological parent substance use history (61%), CPS history with the family (55%), and poverty (34%) (Table 32).

Table 32. Leading Risk Factors for Substance Use Deaths among Children, 0-17 Years, Arizona, 2021

Risk Factor*	Number	Percent
Biological Parent Substance Use History	107	61%
CPS History with the Family	97	55%
Poverty	60	34%
Lack of Supervision	59	34%
Child History of Trauma	53	30%
Child Relationship Issues	50	28%
Criminal Activity	48	27%

*There may be more than one factor identified in each death.

Sudden Unexpected Infant Death (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 glossary for further explanation.



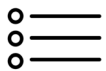
There were 65 SUIDs in 2021, 8% of all child deaths.



There was a 23% increase in the SUID rate from 2020 to 2021.



99% of SUIDs were preventable.



#1 cause: Suffocation (n= 53)

#2 cause: Undetermined (n= 12)



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



11% of SUIDs occurred in neonates (infants less than 28 days).

89% of SUIDs occurred in post-neonates (infants 28 days and older but less than 1 year of age).



Black infants were disproportionately affected. Black infants made up 15% of SUIDs but only make up 6% of the total population.

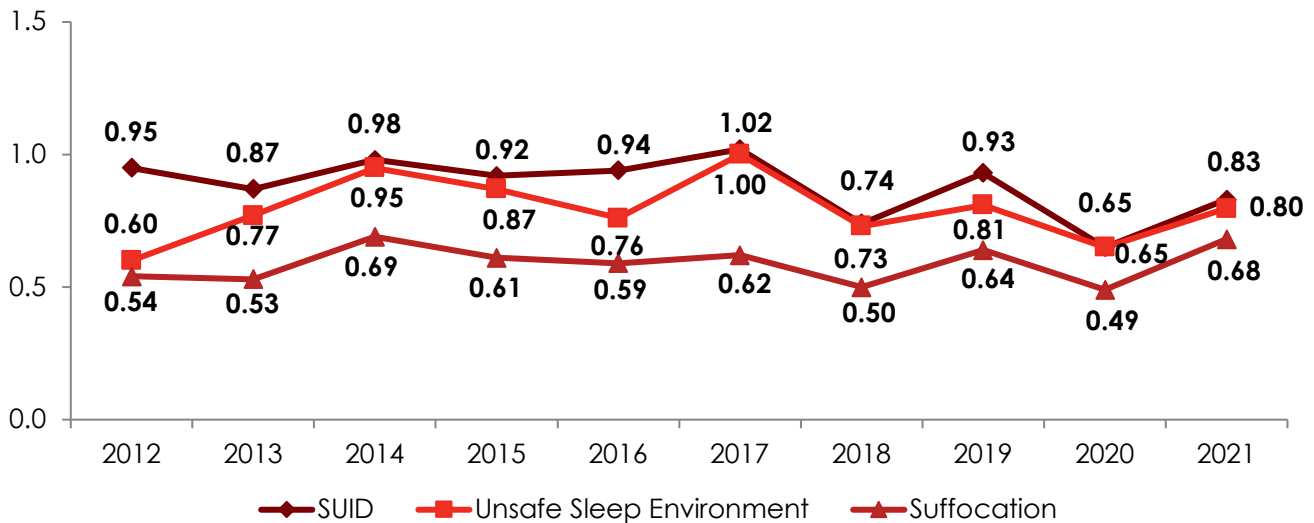


29% of SUIDs involved substance use.



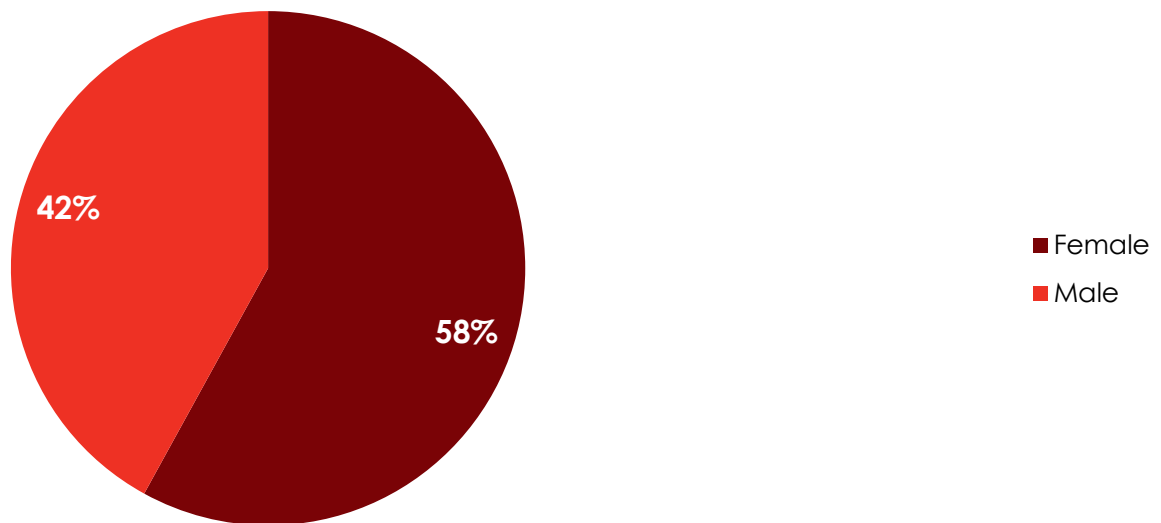
Arizona's SUID rate increased 23.1% from 0.65 deaths per 1,000 live births in 2020 to 0.80 deaths per 1,000 live births in 2021. Additionally, Arizona's unsafe sleep environment mortality rate and suffocation mortality rate have increased since 2012 (Figure 75).

Figure 75. 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, 2012-2021³⁰⁻³¹



The majority of SUIDs were among males (58%) (Figure 76).

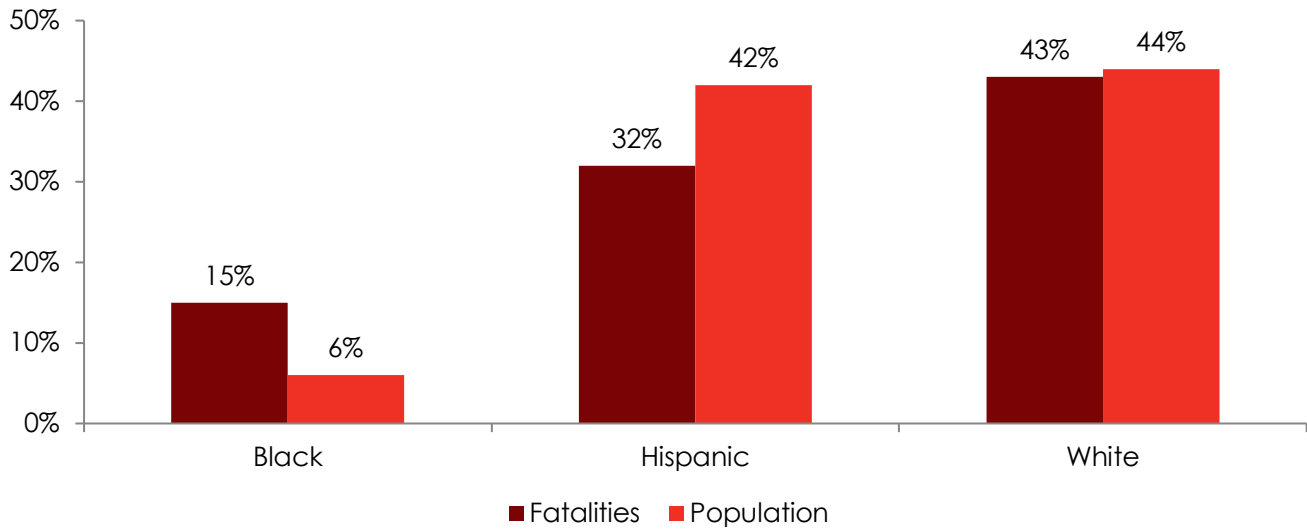
Figure 76. Percentage of Sudden Unexpected Infant Death among Infants by Sex, Less than 1 Year of Age, Arizona, 2021 (n=65)





Black children made up 15% of SUIDs but only comprised 6% of the total live births. The majority of SUIDs were among White (43%) and Hispanic (32%) infants (Figure 77).

Figure 77. Percentage of Sudden Unexpected Infant Death among Infants by Race/Ethnicity, Less than 1 Year of Age, Compared to Population, Arizona, 2021 (n=65)*³⁰



*Data for American Indian and Asian children suppressed due to counts less than 6.

Of the 65 SUIDs in 2021, 82% were due to suffocation (Table 33).

Table 33. Cause of Death for Sudden Unexpected Infant Death among Infants, Less than 1 Year of Age, Arizona, 2021

Cause of Death	Number	Percent
Suffocation	53	82%
Undetermined	12	18%



While there are numerous risk factors that can contribute to SUID, the leading risk factor was an unsafe sleep environment (95%) (Table 34).

Table 34. Leading Risk Factors for Sudden Unexpected Infant Death among Infants, Less than 1 Year of Age, Arizona, 2021

Risk Factor*	Number	Percent
Unsafe Sleep Environment	62	95%
Objects in the Sleep Environment	56	86%
Poverty	53	82%
Unsafe Sleep Location (Not in Crib/Bassinet)	45	69%
Bedsharing	38	58%
CPS History with the Family	31	48%
Unsafe Sleep Position (Not on Back)	24	37%
*More than one factor may have been identified for each death.		



Prevention Recommendations

Prevention Recommendations by Cause and Manner of Death

Abuse/ Neglect

- Arizona should invest in the financial wellbeing of families, including increasing access to concrete supports like food, housing, and childcare, which research shows reduce both poverty-related neglect and the need for foster care.
- Disseminate online factsheets on healthy parenting published by Child Welfare Information Gateway to parents and other caregivers. The website is run by the U.S. Department of Health & Human Services and provides knowledge on healthy parenting.⁴⁶
- Disseminate to community members online factsheets on recognizing the signs of potential child maltreatment.⁴⁶
- Establish Community-Based Child Abuse Prevention (CBCAP) programs. These programs strengthen families while promoting a safe and healthy environment for raising children.⁴⁷
- The Workforce Resilience program at DCS should be expanded to help provide support for employees that may be suffering from secondary trauma or burnout. By supporting employees, DCS can provide a way for them to process trauma and remain effective in reducing child maltreatment.^{48,49}
- Home visiting programs throughout the state should be increased as home visits are associated with a decrease in substantiated reports of child abuse and neglect.⁵⁰
- Increase awareness and support for the All Babies Cry program.⁵¹
- 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 act by calling 911 in an emergency or the Arizona Child Abuse Hotline (1-888-SOS-CHILD).⁵²
- Increase utilization of mental health professionals to respond to emergency calls where mental health issues may be a factor.
- Increase the availability of affordable and accessible substance use treatment healthcare and telehealth care for families and children.
- Engage federal partners to secure funding for the implementation of a national child abuse and neglect database to better track out-of-state DCS involvement with the child and/or family.
- Increase public awareness of the risks associated with substance use, including marijuana, during pregnancy including premature birth, and other complications.
- Increase the ability of family courts to provide resources for counseling/therapy to families going through custody proceedings.

COVID-19

- Follow the current American Academy of Pediatrics and Centers for Disease Control and Preventions COVID-19 guidance.
- Parents should obtain COVID-19 vaccinations for all eligible infants, children, and adolescents. This includes primary series and/or booster doses as recommended by the American Academy of Pediatrics and the CDC.⁵³
- Pediatricians should promote vaccination and vaccine confidence through ongoing, proactive messaging (i.e., reminder recall, vaccine appointment/clinics) and use existing patient visits as an opportunity to promote and provide COVID-19 vaccines.⁵³
- Children and adolescents who have symptoms consistent with COVID-19 should be tested immediately.⁵⁴
- The American Academy of Pediatrics COVID-19 guidance for Safe Schools and Promotion of In-Person Learning should be implemented by all Arizona schools.⁵⁵
- Regardless of vaccination status, community members should isolate from others when they have COVID-19.⁵⁶

Drowning

- Increase public awareness of the dangers of drowning for children.^{57,58}
- Caregivers should never leave children unattended near pools or pool areas. There should be a focused adult supervisor that is responsible for watching children that are in or around open water, pools, and spas. Adult supervision is key in preventing children from drowning. These points should continue to be reiterated and drowning prevention education should be expanded.⁵⁸⁻⁶¹
- Pools need to be enclosed on all four sides by a wall, fence, or barrier to ensure restricted access to young children.⁵⁸⁻⁶¹
- Pool enclosures need to be at least 5 feet tall and 20 inches from the water's edge and have a gate at least 54 inches above the floor that swings away from the pool. The gate should have a self-closing/latching mechanism. These specifications can reduce the chance of children having unsupervised time around water.^{59,60}
- There should be no openings in pool enclosures that are wide enough for a child to get through or under. There should also be no protrusions, like handholds, which can be used to climb the enclosure. This will prevent small children from overcoming the boundary that is in place to protect them.^{59,60}
- Teaching children to swim after the age of 1 is one of the most effective interventions that can reduce child drowning.^{58,60}
- Parents should have their children wear properly fitted coast guard approved life jackets when on a boat, dock, or near bodies of water.⁶⁰

- Inform parents that inflatable swimming aids and personal flotation devices are not a substitute for a life jacket.⁶⁰
- Emphasize the importance of constant supervision for children in baths and how rapidly a drowning can occur.⁶²
- Increase warning resources (e.g., signage) and awareness of the dangers of flash flood areas.
- Provide families with evidence-based drowning prevention education and barrier code information.
- Encourage health care providers to discuss water safety prevention measures with families who present at the hospital with a near-drowning incident.
- Increase awareness and caregiver education about pool safety with a special focus on high-risk groups such as families with young children and children with special needs.
- Increase the availability and accessibility of low-cost swim lessons for children including non-English speaking families.
- Partner with home and pool rental companies (i.e., Airbnb, Vrbo, Swimply) to encourage enhanced safety features for renters with children. This could include information regarding pool fencing, alarms, and other safety features. Increase education and community awareness on water safety ABCs.

Firearm Injury

- Increase public awareness that the most effective way to prevent firearm-related deaths in children and adolescents is to remove firearms from households. ⁶³⁻⁶⁶
- Communities should sponsor firearm safety events in Arizona because of their potential to reach a population with a 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.⁶⁷
- Parents of all adolescents should be counseled to remove or safely lock up all firearms, especially if there is a family history of mental health issues.^{63,65} The presence of firearms in a household increase the risk of suicide among adolescents.⁶⁴
- Pediatricians should provide firearm safety counseling and distribute free firearm cables, if available, at well-child visits to firearm owners. This counseling can increase safe gun storage practices.⁶⁵
- Gun owners should practice safe storage of their firearms which requires keeping the gun unloaded and locked in a safe. Ammunition should be locked up and stored separately from the firearm. This practice significantly reduces the risk of gun injury or death.^{63,64}
- Mental health materials should be present and available in a pediatrician's office. Screening for substance abuse and

mental health concerns should be done during well-child visits.^{63,64}

- Schools should develop interventions to prevent firearm violence among children. They can also connect families to resources like parental training and provide a place for students to participate in conflict resolution curriculum.⁶⁸
- Communities should provide parent education on positive parenting strategies (increased supervision for children in distress, risks of isolation for children in distress, alternatives to restricting technology, how to handle behaviors and discipline).
- Increase community awareness and parent/caregiver education on utilizing the Asking Saves Kids (ASK) initiative to ask questions and discuss firearm possession/storage before allowing children to stay in other homes.
- Increase funding for youth mental health programs and intervention programs.

Motor Vehicle Crash (MVC)

- Educate children, parents, and caregivers on safe pedestrian practices and avoid distracted walking.^{69,70}
- Increase pedestrian safety education and awareness including proper use of crosswalks. Implement systems that encourage crosswalk use (i.e., relocate bus stops closer to crosswalks).⁷⁰
- Parents should follow the American Academy of Pediatrics (AAP) policy statement on 4 evidence-based recommendations for best practices in the choice of a child restraint system to optimize safety in passenger vehicles for children: (1) rear-facing car safety seats as long as possible; (2) forward-facing car safety seats from the time they outgrow rear-facing seats for most children; (3) belt-positioning booster seats from the time they outgrow forward-facing seats; and (4) lap and shoulder seat belts for all who have outgrown booster seats.⁷⁰
- All children younger than 13 years should ride in the rear seats of vehicles.⁷⁰
- Continue promoting the importance of safety seats for children and provide parents with education and information on the locations of certified seat installers. Provide training in how to install car safety seats to parents and caregivers.^{70,72}
- DCS should strengthen relationships with stakeholders to increase utilization of the Child Passenger Restraint Fund to supply families in need with car seats for their children.
- Encourage drivers to be aware of cyclists, especially at night when visibility is impaired. Cyclists should wear high-visibility clothing during the day and reflectors and lights at night. Cyclists should also ride defensively and avoid distractions like music or texting. These precautions help

cyclists stay visible and alert which can help prevent a crash.^{71,73}

- Require training/certification for adolescents operating off-road vehicles.
- Red light cameras are associated with a significant reduction in mortality from motor vehicle crashes among children. An increased number of these cameras may be beneficial.^{72,74}
- Increase the use of protected turn signals in intersections, especially high-traffic intersections, and those with high incidences of failure to yield left-turn accidents.
- Require cities to maintain proper visibility at intersections through monitored landscaping and maintenance.
- Provide parent/caregiver education about proper vehicle restraint use and the risks associated with driving under the influence.
- Increase community awareness and evidence-based education and programming on hot car injury and death risk and prevention tips.

Prematurity

- Pregnant women should avoid smoking, drinking alcohol, and using marijuana and drugs because it increases the risk of preterm birth and other complications.⁷⁵
- Increase awareness for women of reproductive age of the benefits of a pre-pregnancy care visit with a healthcare provider.⁷⁵
- Improve the management of chronic medical conditions before/during pregnancy.
- Encourage home visiting programs to help women take steps toward a healthy pregnancy before they even get pregnant.⁷⁵
- Increase the mother's awareness that shorter interpregnancy intervals, especially <6 months, are associated with an increased risk of late-preterm delivery.⁷⁵
- Encourage regular prenatal care which can help prevent complications and inform women about important steps they can take to protect their infant and ensure a healthy pregnancy, especially for pregnant women who use substances.⁷⁶
- Increase new mothers' awareness of the availability of AHCCCS coverage up to one year postpartum for women.⁷⁷
- Increase the availability of affordable health insurance for women of reproductive age.
- Increase availability and accessibility of affordable quality mental health and substance use treatment services for women who are pregnant or post-partum.



Substance Use

- Health care providers should adapt services to better address adverse childhood experiences (ACEs) and train more professionals in trauma-informed care.⁷⁸⁻⁸¹
- Communities should improve access to personalized substance use disorder treatment plans, especially in rural/remote areas. Form treatment plans based on individuals' strengths because they can keep children engaged in their care and increase the likelihood of successful treatment and better health outcomes.^{78,82}
- Communities should expand access to services for people with unstable housing and those that are experiencing homelessness because they are at higher risk for substance use.^{78,79}
- Communities should increase the availability of naloxone training to reduce substance use-related risks among active users.⁷⁸ Overdose fatalities in large populations can be prevented by expanding access to naloxone. Outreach and education programs can improve access to naloxone, which can reverse potentially lethal opioid overdoses.⁸²
- Improve community awareness of prescription drug misuse.⁷⁸ Community-based organizations, advocacy groups, and neighborhood associations can provide communication and education on health issues associated with substance use.⁸⁰ Forms of communication like blogs, newsletters, and op-ed articles can raise awareness of the dangers of substance use in their community.⁸⁰
- Coordinate statewide opioid prevention activities and increase the number of campaigns and websites that have social connection messages. Social connection messages advocate the importance of interpersonal relationships and the negative health impacts of social isolation.⁸³
- Improve access to medication-assisted treatment of opioid addiction in adolescents.⁸² Pediatric health providers should be encouraged to offer these treatments or referrals for treatment to adolescents with severe opioid use disorders.⁸⁴
- Implement universal screening for substance use and mental health issues during adolescent well visits.^{81,82,85}
- To reduce overdose deaths, clinicians should be encouraged to co-prescribe naloxone to patients that are at risk for opioid overdose, this includes patients that are prescribed benzodiazepines.^{86,87}
- Increase education for parents and adolescents on the risks associated with legal substance use (i.e., marijuana).
- Increase adolescents' awareness of the risks of opioid use, especially fentanyl, and how to respond to and identify signs of an overdose.

	<ul style="list-style-type: none"> • Improve referral services of birthing parents who have been identified as substance users at the time of birth by DCS to the Arizona Family F.I.R.S.T (AFF) program.
Sudden Unexpected Infant Death (SUID)	<ul style="list-style-type: none"> • Educate parents on safe sleeping environments and that infants should be placed on their back to sleep for every sleep on a firm, flat, non-inclined sleep surface. Alone, on my Back, in a Crib (ABCs) is the safest sleeping practice for an infant until it is 1 year of age. The ideal safe sleeping environment for an infant requires a firm sleeping surface with only a fitted sheet and no additional bedding. 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.^{88,89} • Infants should sleep on a separate surface in their parents' room close to the bed for at least the first 6 months. This practice is associated with a significant reduction in the risk of SUID.^{88,89} • Encourage pediatricians and gynecologists to start initial training on safe sleeping practices before a child is born.^{88,89} • Increase the availability of WIC services and home visits because they can help families feel less isolated and teach them safe sleeping practices. ^{88,89} • Develop a mandatory training program and curriculum on safe sleeping practices for providers. It is associated with more parents adhering to the practices when they observe staff perform them. Introduce a statewide hospital policy that requires parents to receive safe sleep information prior to discharge and sign off that they understood the material.^{88,89} • New mothers should be encouraged to breastfeed because any amount of breastfeeding is associated with a reduced risk of SUID.^{88,90} • Communities should establish programs that help low-income families afford a crib which can reduce the frequency of bed-sharing because bed-sharing is associated with a significantly increased risk of SUID.^{88,89} • Increase pregnant women's access to prenatal care early in their pregnancy and their awareness of the importance of prenatal care. Prenatal care is associated with a lower risk of SUID for their children.⁹¹ • Increase home visiting programs for infants following birth for up to one year. • Include "real-life testimonials" in safe sleep education. • Increase the caregiver's awareness of the dangers associated with the use of alternative sleep surfaces. Any alternative sleep surface should adhere to the most current CPSC rule that any infant sleep product must meet existing federal safety standards for cribs, bassinets, play

yards, and bedside sleepers. This includes inclined sleep products, hammocks, baby boxes, in-bed sleepers, baby nests and pods, compact bassinets without a stand or legs, travel bassinets, and baby tents. Products that do not meet the federal safety standard are likely not safe for infant sleep, and their use is not recommended. In addition, parents and providers should check the CPSC website (www.cpsc.gov) to ensure that their crib or other sleep product has not been recalled.

- Increase community awareness that parents should avoid alcohol, marijuana, opioids, and illicit drug use during pregnancy and after birth.

Suicide

- 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.⁹⁵⁻⁹⁷
- Increase community awareness of the 988 hotline which anyone can call or text or chat with online at 988lifeline.org if they are worried about a loved one who may need crisis support.¹⁰³
- Schools should have a suicide management protocol and be aware of resources like the suicide prevention toolkits developed by the Substance Abuse and Mental Health Services Administration and the American Foundation for Suicide Prevention.⁹²⁻⁹⁵
- Schools should provide appropriate mental health services for students at risk for suicide. If the school cannot provide the services, then they should identify mental health providers to whom students can be referred to.^{92,94,95}
- Schools should educate 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.⁹²⁻⁹⁵
- Increase public awareness of risk factors and warning signs for suicide and connect people in crisis to care.^{92,93,97,98}
- Educate parents that the presence of a firearm in the house significantly increases the risk of suicide for adolescents.^{94,99}
- Reduce access to lethal means in the household of adolescents that are at risk of suicide or expressing suicidal thoughts. This includes removing firearms from the house and securing medications.^{94,97,98}
- Parents should be encouraged to meet their children's teachers and school counselors to keep up to date with their kids' lives. This can help prevent bullying and keep parents connected to their children.^{100,101} Kids who are bullied are at a higher risk for suicide.^{92,94,100,101}



- Increase awareness that cyberbullying can have a significant negative impact on mental health like traditional bullying. There is an increase in suicide attempts for both victims and perpetrators of cyberbullying.⁹⁴
- Schools should be aware that the most effective school-based interventions to prevent suicide use simultaneous complementary strategies.^{92,102} Simultaneous interventions involving parents, changing the school environment, and improving students' individual skills have been effective.¹⁰²
- Increase communication between tribal and non-tribal entities/resources to bridge gaps in the availability of mental health services for children.
- Increase access to parent education on the importance of monitoring a child's social media use. Require all social media platforms to have algorithms in place to screen for posts/videos of concern.
- Increase access to medical and mental health care via telemedicine.
- Improve knowledge, reduce stigmatizing attitudes, and increase first aid actions towards people with mental health and substance use challenges.

Glossary

Abuse/Neglect Death – A death in which an act of physical abuse, sexual abuse, emotional abuse or neglect against a child contributed to their death (please see the Glossary and definitions for physical abuse, neglect, and perpetrator).

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

ADES – Arizona Department of Economic Security

ADCS – Arizona Department of Child Safety (formerly child protective services under Arizona Department of Economic Security).

ADHS – Arizona Department of Health Services

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 force impact, burns and drowning.

CFR Data Form – A standardized form, approved by the State CFR Team, required for collecting data on all child fatality reviews.

CFR State Program – Established in the ADHS, provides administrative and clerical support to the State Team; provides training and technical assistance to Local Teams; and develops and maintains the CFR data program.

Choking- The inability to breathe because the trachea (airway) is blocked, constricted or swollen shut.

Confidentiality Statement – A form, which must be signed by all review process participants, includes statute information regarding the confidentiality of data reviewed by local child fatality teams.

COVID- 19 – A disease caused by SARS-CoV-2. A direct COVID-19 death is when COVID-19 was the immediate or underlying cause of death. An indirect COVID-19 is when COVID-19 indirectly contributed to the death but was not the immediate or underlying cause of death.

Drowning death – Death 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.

Fire/flame death – Death caused by injury from severe exposure to flames or heat that leads to tissue damage or from smoke inhalation to the upper airway, lower airway or lungs.

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

IHS – Indian Health Services

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

Intentional injury – An injury that is the result of the intentional use of force or purposeful action against oneself or others. Intentional injuries include interpersonal acts of violence intended to cause harm, criminal negligence, or neglect (e.g., homicide) and self-directed behavior with intent to kill oneself (e.g., suicide).

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 CFR teams by postmortem examination, death scene investigation, police reports, medical records, or other reports. Manner of death categories includes: natural, accident (e.g., unintentional injury), homicide (e.g., intentional injury), suicide (e.g., intentional injury), and undetermined.

Motor vehicle crash death – Death caused by injuries from a motor vehicle incident, including injuries to motor vehicle occupant(s), pedestrian(s), pedal cyclist(s) or another person.

Natural Death – Death classified as natural death due to a medical condition.

Neglect - 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.

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

Physical abuse - This means the infliction of physical harm, whether or not the inflictor planned to carry out the act or inflicted harm. The abuse may have occurred on or around the time of death, but also includes any abuse that occurred previously if that abuse contributed to the child's death. **NOTE: Firearm injury deaths inflicted by a parent, guardian or caregiver are included in this type of abuse and neglect.**

Prematurity death - A death that was due to premature birth (less than 37-week gestation) of an infant that had no underlying medical conditions that would have resulted in the death. Perinatal conditions are included in this category if the birth was premature.

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.



Record Request Forms - A form required to request records for conducting a team review.

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 Glossary).

Substance use – The CFRP defines substance use-related deaths as deaths in which 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, a stranger, or the child and the substance use occurred proximate to the time of the incident leading to the death.

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

State CFR Team - Established by A.R.S. 36-3501 et seq., 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) – Death of a healthy infant who is not initially found to have any underlying medical condition that could have caused their death. It includes the deaths that might have previously been categorized as "crib deaths" if the death occurred during sleep, however not all of these deaths are sleep-related. Most of the SUIDs are due to suffocation and unsafe sleep environments.¹

Suicide – A death that is due to a self-directed intentional behavior where the intent is to die because of that behavior.

Undetermined– A death in which the CFR Team is unable to determine if the manner of death was natural, accident, homicide, or suicide. Death may be listed as undetermined because there is insufficient information available for review.

Additional Abuse/Neglect Data 2018-2021

Disclaimer

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

- Local CFR teams attempt to obtain records from child protective services (CPS) agencies, including the 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 the criteria to be made into a report, and were taken as "information only", are not included in the CFRP annual report.

Additional Abuse/Neglect Data 2018-2021

Child Fatality Review Program

29th Annual Report

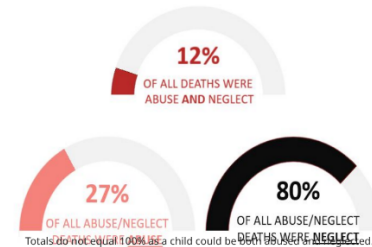


2018-2021 Child Abuse/Neglect Deaths*

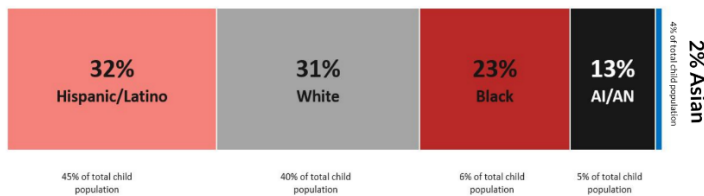
Birth through 17 years of age

398 children died due to abuse and/or neglect

Number of child abuse and neglect deaths by year:



Overall Child Race/Ethnicity: 2020-2021 (n=223)



Overall Child Sex:



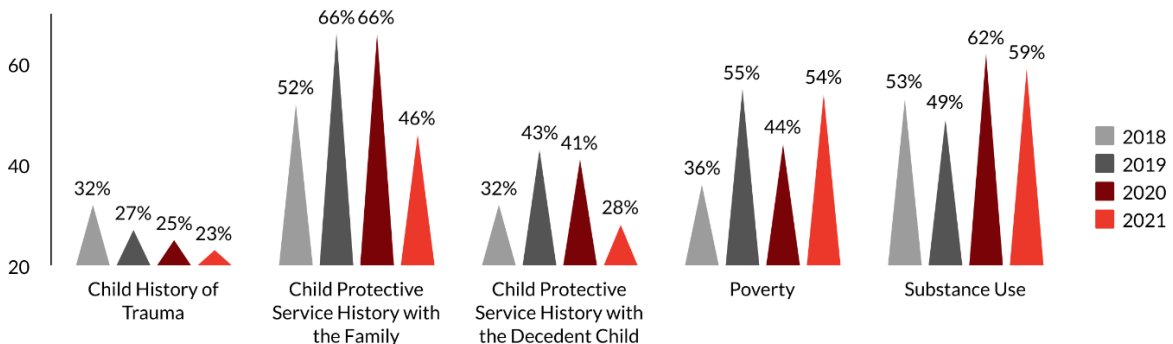
Leading Causes of Death by Year:

Year	#1	#2	#3	#4	#5
2018 (n=75)	Blunt force trauma 14 (19%)	Prematurity 12 (16%)	Motor vehicle crash 12 (16%)	Drowning 7 (9%)	Firearm injury 7 (9%)
2019 (n=100)	Blunt force trauma 30 (30%)	Suffocation 14 (14%)	Undetermined 10 (10%)	Other medical condition 10 (10%)	Firearm injury 9 (9%)
2020 (n=95)	Prematurity 15 (16%)	Poisoning 14 (15%)	Blunt force trauma 11 (12%)	Suffocation 10 (11%)	Motor vehicle crash 9 (9%)
2021 (n=128)	Suffocation 23 (18%)	Prematurity 22 (17%)	Motor vehicle crash 22 (17%)	Poisoning 15 (12%)	Drowning 12 (9%)



Substance Use was Involved in **56%** of Abuse/Neglect Deaths

Leading Risk Factors by Year:



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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 for more information.

COVID-19: The Arizona Department of Health Services (<https://www.azdhs.gov/covid19/index.php> or 1-602-542-1025) provides up-to-date information regarding the COVID-19 Pandemic and offers additional services regarding testing, vaccines, among other community resources.

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. The Arizona Department of Health Services provides Arizona's Opioid Prescribing Guidelines <https://www.azdhs.gov/documents/audiences/clinicians/clinical-guidelines-recommendations/prescribing-guidelines/az-opioid-prescribing-guidelines.pdf>

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).

Appendix: State and Local CFR Teams

Arizona Department of Health Services, State CFR Team

Chairperson:

Mary Ellen Rimsza, MD, FAAP ★
American Academy of Pediatrics

Members:

David K. Byers
Deidre Calcoate (Proxy)
Administrative Office of the Courts

Amber-Rose Begay
Navajo Maternal and Child Health Projects
at Diné College

Laura Luna Bellucci, MBA
Chief, Bureau of Women's and Children's
Health, Arizona Department of Health
Services
Arizona MCH & CSHCN Director

Maria Christina-Fuentes
Gaelyn Davis (Proxy)
Governor's Office of
Children, Youth and Families

Anthony Dekker, DO
Vicki Copeland, MD (Proxy)
Division of Developmental Disabilities,
Arizona Department of
Economic Security

Molly Dunn, JD
Director of Child Welfare & Juvenile Justice
Policy
Children's Action Alliance

Matt Giordano
Law Enforcement Council
AZPOST

Diana Gomez, MPH ★
Ryan Butcher, B.S. (Proxy)
Yuma County Public Health Services District

Dyanne Greer
Maricopa County
Attorney's Office

Leandra Jones
InterTribal Council of Arizona

Amy Lebbon
State CASA Program
Manager

Rachael Salley, MPH
Maternal Child Health EPSDT Manager
AHCCCS Division of
Health Care Management

Susan Newberry, MEd ★
Karen Kline (Proxy) ★
Maricopa County CFR Team

Coleen O'Donnell-Smith
Assistant Attorney
General Office

Susan Robinson, MPH
Dianna Contreras (Proxy)
Arizona Department of
Health Services

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Douglas Sargent
Cody Conklin, MD, FAAP (Proxy)
Aida Music, MD (Proxy)
Arizona Department of
Juvenile Corrections

Christi Shelton ★
Assistant Director, Office of Accountability
Arizona Department of Child Safety
Nicola Winkel, MPA
Arizona Coalition for Military Families

David Winston, MD, PhD ★
Forensic Pathologist
Pima County Forensic
Science Center



Arizona Department of Health Services, State Subcommittee Abuse/Neglect CFR Team

Chairperson:

Mary Ellen Rimsza, MD, FAAP ★

Arizona Chapter of the American Academy of Pediatrics

Members:

Jessica Perfette, MPH
Arizona Department of Health Services

Leah Reach, MSW ★
Arizona Department of Child Safety OLR

Susan Newberry, MEd ★
Arizona Department of Health Services,
CFRP Contractor

Michelle Cervantes
Phoenix Police Homicide Detective

Jeff Johnston, MD
Maricopa County Office of the Medical
Examiner

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Arizona Department of Health Services

Yomaira Castillo, CPSTI
Arizona Department of Health Services

Alex Schutte
Arizona Department of Child Safety

Julia Leight
Arizona Department of Child Safety

Megan Carey
Arizona Department of Child Safety

Katie Goggans, MSW
Arizona Department of Child Safety

Stephanie Zimmerman, MD ★
Attending Physician, Emergency
Department
Phoenix Children's Hospital

Karin Kline, MSW ★
Family Involvement Center

Tiffany Isaacson, BS ★
Senior Injury Prevention Specialist
Phoenix Children's Hospital

Anndrea Kawamura
Protective Services Section
Child & Family Protection Division
Office of the Attorney General

Morgan Anderson, MPH
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Academy of Pediatrics

Arizona Department of Health Services, State Subcommittee SUID CFR Team

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OCWI Chief
Arizona Department of Child Safety

Alex Schutte
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Katie Goggans, MSW
Arizona Department of Child Safety

Julia Leight
Arizona Department of Child Safety

Coconino County, CFR Team

Chairperson:

Heather Williams ★
Injury Prevention & Oral Health Program
Manager
Coconino County Health & Human Services

Co-Chair:

Larry Czarnecki, MD ★
Coconino County
Medical Examiner

Members:

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Pediatrician, Flagstaff
Pediatric Care

Jim Driscoll
Sheriff, Coconino County
Sheriff's Office

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Tuba City Regional
Medical Center Trauma

Shawn Bowker ★
Flagstaff Medical Center

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Public Safety

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County Public Health
Services District

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Tuba City Regional Health
Care Corporation

Casey Rucker
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Department

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Flagstaff Medical Center
NICU

Gila County, CFR Team

Chairperson:

Elena Warner
Director of Operations, Time Out Shelter

Coordinator:

Kathleen Kelly, RN ★

Members:

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In Home Team Lead
Catholic Community Service-
Sierra Vista

Emily Nader
CASA COORDINATOR
Gila County
Globe Office

Sgt. Michael McAnerny
Payson Police Department

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Administration
Executive Assistant CEO
Cobra Valley Regional
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Tonto Apache Police

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Payson School District

Susan Campbell Counselor,
Payson School District

Kristin Crowley
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Sharon Dalby
Child Safety Family Services
Payson

Tanya Dean
Investigator
Child Protective Services

Pattie Dremmler
CASA Coordinators

Donald Engler
Payson Chief of Police

Tom Fife
Battalion Chief
Payson Fire Department

Sherrie Harris
Chief Prosecutor
Von Harris
Child Safety Family Services
Payson

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Banner Payson

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San Carlos Apache
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Payson Banner Medical
Center ER

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Becky Nissila
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Payson Regional Medical
Center

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Sheriff
Tonto Apache Tribe Payson

Shelly Soroka-Spence
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Region Department of Child
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Linda Timmer
Director
Payson Time Out Shelter

Michele Warburton
Director of Special Services
PUSD

Tila Warner
Child Help



Graham County & Greenlee County, CFR Team

Chairperson/Coordinator:

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Graham County Dependency Coordinator
CASA of Graham County

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Chairperson:

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Suicide Prevention Center

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Dignity Health

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Dignity Health

Monte Yazzie
SRPMIC Injury Prevention
Salt River Pima Indian
Community

Carla Allan, PHD
Division Chief, Division of
Psychology
Phoenix Children's Hospital

Mohave County & La Paz County, CFR Team

Chairperson and Coordinator:

Anna Scherzer ★

Mohave County Department of Public Health

Members:

Dawn Abbott ★

Mohave Mental Health
Clinic, Inc.

Natalie Eggers

Mohave County Probation
Department

Leah Nelson

Mohave County Attorney
Office

Denise Burley

Mohave County
Department of Public
Health

Joshua Frisby

Mohave County Probation
Department

Vic Oyas, MD ★

Havasupai Rainbow
Pediatrics

Amanda Claerhout

Mohave County
Attorney's Office

Dennis Gilbert

Kingman Police
Department

Melissa Palmer

Mohave County
Department of Public
Health

Suzanne Clarke

Kingman Aid to Abused
People

Bailey Lee

Mohave County
Department of Public
Health

Susan Plourde

Mohave County Medical
Examiner's Office

David Coffin

Mohave County Sheriff's
Office

Heather Miller

Kingman Regional
Medical Center

Keith Turner

Retired attorney

Sara Colbert

Mohave County Probation
Department

Archaius Mosley, MD ★

Mohave County Medical
Examiner's Office

Debra Walgren, M.Ed, ★
CPM

Arizona Department of
Child Safety



Navajo County & Apache County, CFR Team

Chairperson:

Amy Stradling
Education and Outreach Division Manager
Navajo County Public Health Services

Coordinator:

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Victim Services Manager

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Investigator
Apache County Medical
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Shaelee Virtue
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Pima County, Cochise County, & Santa Cruz County, CFR Team

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