Arizona Child Fatality Review Program

Twenty-Sixth Annual Report

November 15, 2019

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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Last year, 843 children died in Arizona and the Arizona Child Fatality Review (CFR) Program determined that 39% (327 of these deaths) were potentially preventable. Injuries and medical conditions are among the leading causes of death for Arizona's children. Substance Use was a direct or contributing factor in 105 deaths. Sixteen of these deaths were opiate overdose deaths. The Arizona childhood mortality rate increased 4.1% in 2018. There was a 28% increase in suicide deaths, a 13% increase in motor vehicle crash (MVC) deaths, and a 10% increase in deaths from medical conditions. The five leading causes of all deaths were prematurity, congenital anomalies, motor vehicle crashes, firearm injury, and cancer.

Preventability

In 2018, **843** children under the age of 18 years died in Arizona. Arizona Child Fatality Review Teams reviewed 100% of these deaths and determined 39% could have been prevented (**n=327**).

Teams determined that 100% of the following deaths were preventable:

- ✓ Homicides
- ✓ Abuse/Neglect
- ✓ Suicides
- ✓ Accidental deaths

The main purpose of the CFR program is to identify preventable factors in a child's death and make recommendations based on these findings. All deaths due to abuse/neglect, motor vehicle crashes, drowning, firearms and suicide were potentially preventable. For example, the most common preventable factor in MVC deaths was failure to use appropriate vehicle restraints. Substance use was a preventable risk factor for many of the accidental injury deaths. Ninety-five percent of the sudden unexpected infant deaths (SUID) were preventable and the most common cause of these deaths was sleep suffocation. Because 98% percent of these deaths occurred in an unsafe sleep environment, we recommend that infants always sleep Alone, on their Back and in a Crib to prevent these suffocation tragedies.

In 2018, 224 infants died due to prematurity. Determining the exact cause of premature birth can be difficult but one important preventable risk factor for premature birth is lack of prenatal care. The number of mothers who gave birth prematurely and had not received any prenatal care increased 83% from 2017 to 2018. Therefore, the CFR recommends that pregnant women seek prenatal care as soon as they become pregnant and that Arizona ensure that all pregnant women have access to affordable prenatal care.

The number of suicide deaths in 2018 is the highest ever reported by our teams. Because 38% of these deaths were carried out by firearms, the CFR program again recommends that families completely remove firearms from their home if their child or any other family member is experiencing mental health problems such as depression, substance use, or suicidal ideation. Other steps that our communities can take to decrease childhood suicide are outlined in this report.

This is the CFR program's 26th report. I would like to thank all of our volunteers as well as the Arizona Department of Health Services and the Arizona Chapter of the American Academy of Pediatrics for their support of the CFR program and its mission to prevent child deaths in Arizona.

Mary Ellen Rimsza, MD

Chair, Arizona Child Fatality Review State Team, Maricopa County Local 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

We would like to kindly acknowledge the following individuals, organizations, and agencies for their tireless efforts to help reduce child deaths and make Arizona communities safer for all Arizona residents and visitors.

- Susan Newberry, Maricopa County CFR Coordinator, who is responsible for coordinating the reviews of more than 60% of all child deaths occurring annually in Arizona. Susan has spent more than 40 years as a dedicated champion for children. She tirelessly devotes her time and energy to creating and maintaining effective collaboration, cooperation and communication among team members.

- Margaret Strength, Arizona Department of Child Safety, whose tireless commitment, provided an invaluable amount of information to the review teams as well as the program office. She bridged the gap for obtaining records timely for all the local coordinators around the state which is a testament to her care of all Arizona's children.

- 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 26 years the CFR program has overall continued to decrease preventable deaths for our Arizona children. Thank you for your continued support and commitment.

- All agencies (e.g. hospitals, physicians, medical examiner's, child protective service agencies, fire department and law enforcement) that promptly provided the CFR program with the records needed for teams to conduct effective reviews. Informed child fatality reviews are only possible when the teams have accurate and detailed information to review.

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Executive Summary

The Arizona Child Fatality Review (CFR) program began collecting data and conducting reviews of child fatalities in 1994. This statutorily driven program begins the review process at the local level where teams of multi-disciplinary professionals volunteer their time to meet and discuss child death cases. Review teams analyze the manner and cause of each death to identify key preventability factors. The State Team meets annually to review the results of the Local Team's findings, make recommendations to prevent child deaths based upon those findings, and approve an annual report. The Department of Health Services provides assistance to both the State and Local Teams, manages the CFR database, and provides administrative support to the program through community partnerships.

During 2018, there were 843 fatalities among children younger than 18 years of age in Arizona, an increase from the 806 deaths in 2017. CFR teams determined 327 of these child deaths (39%) were preventable. This conclusion is drawn from in depth reviews conducted by local CFR teams that extensively reviewed records regarding each child's death.

By identifying preventable child deaths, the CFR program serves as a resource to help communities reduce the risk factors that are associated with child deaths, promote the protective steps that may prevent a death and improve outcomes for Arizona's children. Each child's death is a tragedy not only for their family, but for society as a whole. Everyone regardless of age, race, or position can help prevent a child death. While much work has been done to prevent child deaths over the past twenty-six years, more work is needed.

Many people might not consider themselves prevention agents, but everyone has the ability to contribute through the various programs available in our society. Some examples of these programs include law enforcement officers who serve as car seat safety technicians, social workers who provide valuable insight into the signs and symptoms of abuse or neglect, and a parent who takes the time to speak with their child about their daily stresses. Through the combined contributions of individuals, we collaboratively provide a positive impact on society as a whole.

This annual report provides recommendations which help to prevent further child deaths. The State CFR Team recommendations are supported by the findings from the review of the data. Found in the body of the report are recommendations for individuals, communities, first responders, elected officials and the public.

Report Highlights

Natural Deaths

- Natural deaths increased 10% from 2017 (n= 489) to 2018 (n=538), and accounted for 64% of all child deaths in Arizona.
- Five percent (n=28) of the natural deaths were determined by the team to be preventable.
- Prematurity was the leading cause of natural deaths and accounted for 42% (n=224) of all natural deaths.
- Congenital anomalies, infections, cancer, neurological disorders and cardiovascular diseases were the other leading causes of natural death.
- Seventy-two percent (n=389) of the natural deaths occurred in children who were less than 1 year of age.
- Hispanic and African American deaths were disproportionately higher than the percentages of the population they comprise.

Prematurity

- Deaths due to prematurity increased 24% from 2017 (n=180) to 2018 (n=224).
- Seven percent (n=15) of prematurity deaths were determined to be preventable.
- Seventy-one percent (n=158) of the deaths due to prematurity were associated with medical complications during pregnancy such as placental abruption, pre-eclampsia and diabetes.
- Eighty-five percent (n=190) of infants who died due to prematurity were born before the 28th week of pregnancy (classified as Extreme Prematurity).
- Twenty percent (n=44) of pregnant mothers had no prenatal care in 2018, and 83% increase from 24 mothers who had no prenatal care in 2017.

Accidental Injury Deaths

- Accidental injury deaths decreased 9% from 2017 (n=187) to 2018 (n=170) and comprised 20% of all child deaths.
- All accidental injury deaths were determined by the team to be preventable.
- The leading cause of accidental injury deaths was motor vehicle crashes (n=72) which accounted for 42% of accidental deaths.
- Twenty-four percent (n=41) of accidental injury deaths occurred among children less than 1 year

of age.

- Boys accounted for sixty-six percent (n=112) of all accidental injury deaths.

Sudden Unexpected Infant Deaths (SUID) and Sleep Related Suffocation Deaths

- Sudden Unexpected Infant Deaths (SUID) decreased 29% from 2017 (n=84) to 2018 (n=60) and accounted for 7% of all child deaths in Arizona.
- Ninety-five percent (n=57) of SUID were preventable.
- The number of unsafe sleep environment deaths decreased 34% from 2017 (n= 83) to 2018 (n=59).
- In fifty-three percent (n=32) of SUID, infants were bed sharing with adults and/or other children when they died.
- Sixty-three percent (n=38) of SUID were determined to be due to suffocation. In thirty-seven percent (n=22) of SUID the cause could not be determined although likely due to suffocation.
- African American and American Indian infant deaths were disproportionately higher than the population they comprise.

Abuse/Neglect Deaths

- Child fatalities due to abuse/neglect decreased 5% from 2017 (n=79) to 2018 (n=75) and accounted for 9% of all child deaths in Arizona.
- All abuse/neglect deaths were determined by the team to be preventable.
- Blunt force trauma deaths accounted for nineteen percent (n=14) of abuse/neglect deaths.
- Seventy-five percent (n=56) of children who died due to abuse/neglect were less than 5 years old.
- In seventy-seven percent of these deaths, neglect either caused or contributed to the child's death (n=58).
- In ninety-one percent (n=68) of these deaths, the perpetrator was the child's mother and/or father.
- Substance use was a factor in fifty-three percent (n=40) of abuse/neglect deaths.
- African American and American Indian deaths were disproportionately higher than the population they comprise.

Motor Vehicle Crash (MVC) Deaths

- Motor vehicle crash (MVC) deaths increased 13% from 2017 (n= 65) to 2018 (n= 74) and accounted for 9% of all child deaths in 2018.
- All MVC deaths were determined by the team to be preventable.
- Forty-six percent of motor vehicle crash deaths (n=34) occurred among children 15 through 17 years of age.
- The number of MVC deaths doubled from 2017 (n=9) to 2018 (n=18) among children less than 5 years of age.
- The number of motor vehicle deaths decreased 38% from 2017 (n=16) to 2018 (n=10) among children 5 through 9 years of age.
- Males accounted for 59% (n=44) of all motor vehicle crash deaths.
- Fifty-nine percent (n=44) of the children who died were passengers in a motor vehicle and twenty-seven percent (n=20) were pedestrians.
- American Indian and African American deaths were disproportionately higher than the percent of population they comprise.

Suicides

- Child suicides increased 28% from 2017 (n=50) to 2018 (n=64) and accounted for 8% percent of all child deaths.
- All of the suicide deaths were determined by the team to be preventable.
- Eighty-one percent of the child who died were boys (n=52) and nineteen percent were girls (n=12).
- Seventy percent (n=45) of suicide deaths occurred in children 15 through 17 years of age.
- American Indian deaths were disproportionately higher than the percent of population they comprise.

Homicides

- Homicides decreased 18% from 2017 (n=38) to 2018 (n=31) and accounted for 4% of all child deaths.
- All of the homicide deaths were determined by the team to be preventable.
- Sixty-five percent (n=20) of the homicide deaths were due to child abuse/neglect.
- Blunt force trauma (n=12) and firearm injury (n=13) were the most common methods used to

carry out homicides.

- Fifty-five percent of homicide deaths (n=17) occurred among children less than 5 years of age.
- Parents were the perpetrator in forty-eight percent (n=15) of the homicide deaths.
- African American and Hispanic deaths were disproportionately higher than the percent of population they comprise.

Drowning Deaths

- Drowning deaths decreased 20% from 2017 (n=35) to 2018 (n=28) and accounted for 3% of all child deaths.
- All of the drownings deaths were determined by the team to be preventable.
- Seventy-one percent (n=20) of drowning deaths occurred in children 1 through 4 years of age.
- Seventy-nine percent (n=22) of the deaths occurred in a pool or hot tub.
- Lack of supervision was a factor in 89% (n=25) of drowning deaths.

Firearm Deaths

- The number of firearm deaths was unchanged from 2017 (n=43) to 2018 (n=43) and accounted for 5% of all child deaths.
- All of the firearms deaths were determined by the team to be preventable.
- Suicides (n=24) and homicides (n=13) accounted for 86% of firearm deaths.
- Substance use was identified as a preventable factor in 40% (n=17) of firearm deaths.
- Seventy-two percent (n=31) of firearm deaths occurred in children 15 through 17 years of age.
- Fifty-three percent (n=23) of firearm deaths occurred in the child's home.

Substance Use Related Deaths

- Substance use was a factor in 12% of all child deaths (n=105).
- Sixty-five percent (n=68) of substance use related deaths were male.
- In forty-two percent of these deaths (n=44), the parent was the substance user.
- In forty-six percent of these deaths (n=48), the substance user was the child who died.
- Adolescents 15 through 17 years of age had the highest risk of experiencing a substance use related death (46%, n=48).

Disparities

- Substance use deaths continued to be disproportionately higher among some race/ethnicities in Arizona during 2018 and varied by cause and/or manner of death.
- Hispanic children were disproportionately more likely to die from natural causes.
- African American children were disproportionately more likely to die from natural causes, SUID and abuse/neglect related deaths.
- American Indian children were disproportionately more likely to die from suicide and abuse/neglect related deaths.

Future Actions for Prevention

The following are a summary of the overarching prevention recommendations found in the report:

- Promote public awareness of healthy behaviors prior to and during pregnancy, including smoking cessation, good nutrition and seeking prenatal care.
- Support sufficient funding for behavioral health services and substance use treatment programs for children, youth, and their families.
- Promote safe sleep education on the dangers of bed sharing and the "ABCs of Safe Sleep". The ABCs recommend babies should sleep Alone, on their Back and in a Crib to prevent sleep suffocation.
- Support and implement suicide prevention strategies including community awareness programs and increased access to mental health services.
- Promote community and family awareness about accident prevention strategies including age-appropriate supervision of infants and children; decreasing children's access to guns; use of child infant restraints and seat belts; and barriers to young children's access to pools.
- Educate communities, persons at risk for opioid-related overdose and their friends, family members on the availability and use of naloxone. Resources include:
    - ADHS Opioid Program: https://www.azhealth.gov/opioid
    - AHCCCS Opioid Use Disorder and Treatment Program: https://www.azahcccs.gov/Members/BehavioralHealthServices/OpioidUseDisorderAndTreatment/Overdose_Prevention.html
    - Sonoran Prevention Works: https://spwaz.org
- Support adequate resources for persons at risk for opioid-related overdose deaths.

Glossry

Accident – This is when an injury 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 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 breath because the trachea (airway) is blocked, constricted or swollen shut.

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

Drowning death - Child dies from an accidental or intentional submersion in a body of water.

Firearm 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 1 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.

Maltreatment – An act of physical abuse or neglect against a child (please see the Technical Appendix and definitions for physical abuse, neglect, and perpetrator).

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

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

Neglect - This is defined as the failure to provide appropriate and safe supervision, food, clothing, shelter, and/or medical care when this causes or contributes to the death of the child.

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

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 will include any abuse that occurred previously if that abuse contributed to the child's death.
NOTE: Firearm 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 a premature birth (less than 37-week gestation) of an infant that had no underlying medical conditions that would have resulted in the death.

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 Technical Appendix).

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

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

Strangulation- Mechanical constriction of neck structures

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.

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

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]

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

[1] See the Technical Appendix for further explanation of SUIDs and its subcategories.

Introduction

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

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

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

Conducting a Case Review

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

1) Share, question, and clarify all case information.
2) Discuss the investigation.
3) Discuss the delivery of services (to family, friends, schoolmates, community).
4) Identify risk factors (preventable factors or contributing factors).
5) Recommend systems improvements (based on any identified gaps in policy or procedure).
6) Identify and take action to implement prevention recommendations.

Methods

Arizona has 10 Local CFR Teams who 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. These teams are located throughout the state and membership includes local representatives from the Arizona Department of Child Safety (DCS), the county medical examiner's office, the county health department, local law enforcement, and the County Attorney's Office. Membership also includes a pediatrician or family physician, a psychiatrist or psychologist, a domestic violence specialist, and a parent.[2] Information collected during the review is then entered into the National Child Death Review Database. The resulting dataset is used to produce the statistics found in this annual report.

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

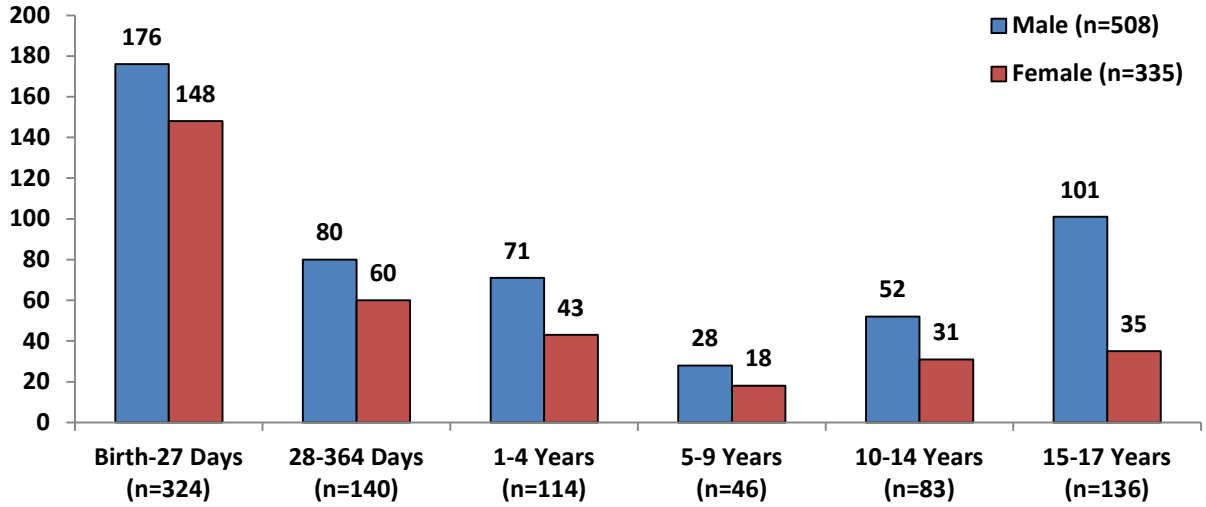
In this report, the cause of death refers to the injury or medical condition that resulted in death (e.g. firearm-related injury, pneumonia, cancer). Manner of death includes natural (e.g., cancer), accident (e.g., accidental car crash), homicide (e.g., assault), suicide (e.g., self-inflicted intentional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

[2] For a full list of participants see the Appendix of State and Local CFR Teams.

Demographics

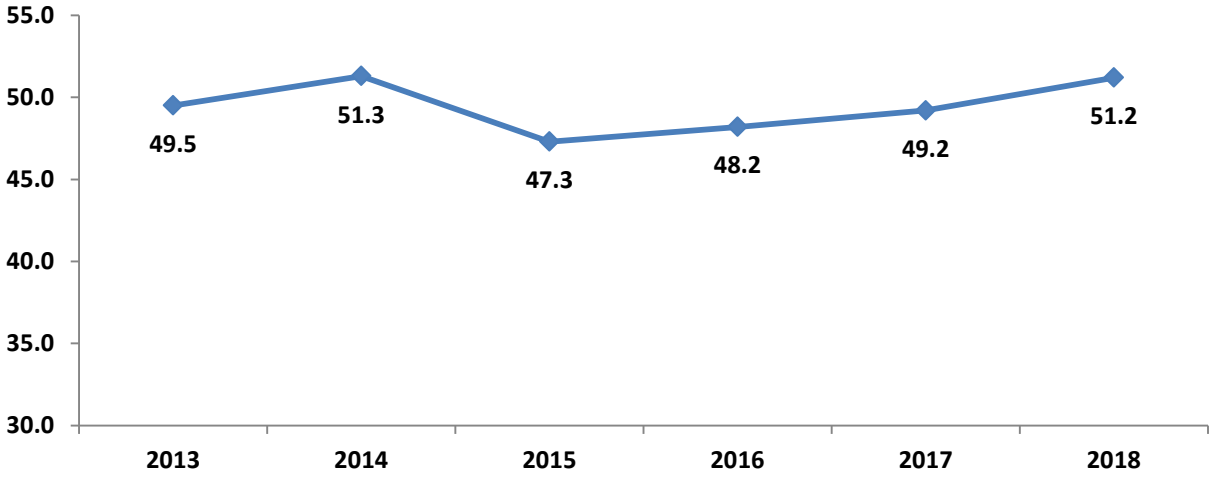
During 2018, there were 843 fatalities among children less than 18 years of age in Arizona, an increase from the 806 deaths in 2017. Males accounted for 60% of deaths (n=508) and females comprised the remaining 40% (n=335) (Figure 1).

Figure 1. Number of Deaths of Children by Age Group and Sex, Ages 0-17 Years, Arizona, 2018 (n=843)



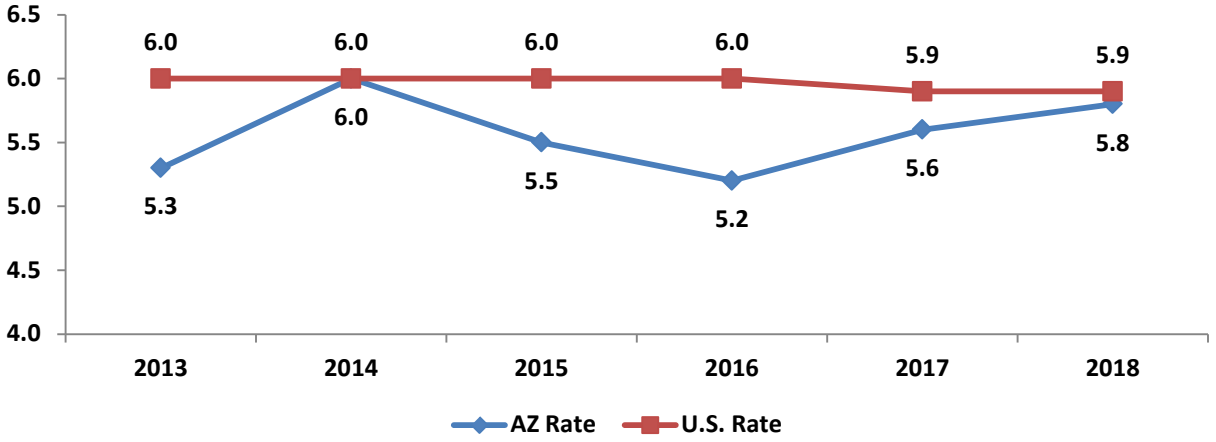
The Arizona child mortality rate increased 4.1% from 2017 (49.2 deaths per 100,000 children) to 2018 (51.2 deaths per 100,000 children) (Figure 2).

Figure 2. Mortality Rates per 100,000 Children, Arizona, 2013-2018



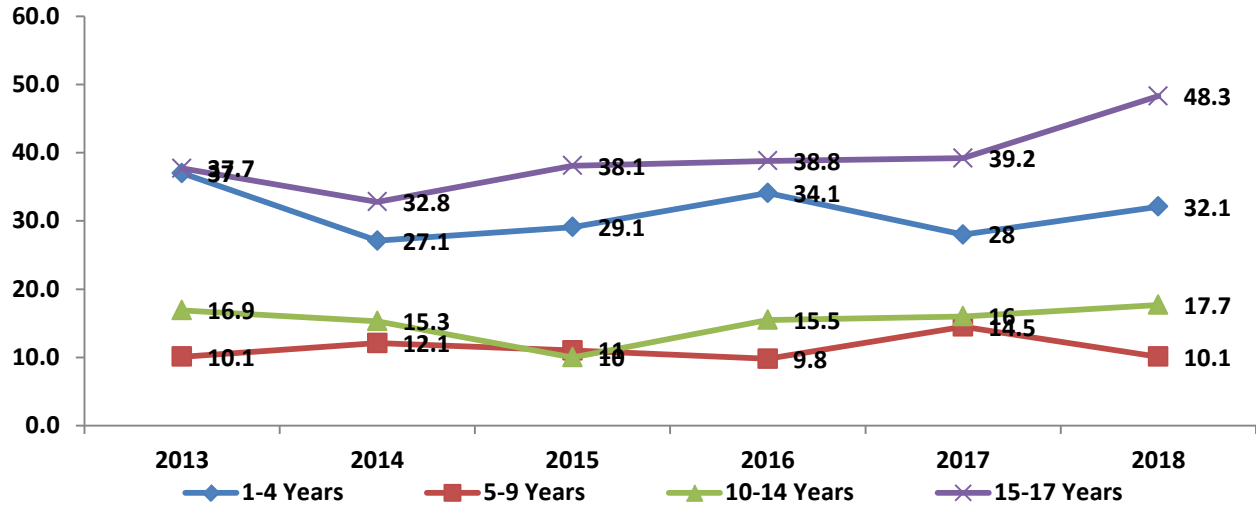
The infant mortality rate increased from 5.6 deaths per 1,000 live births in 2017 to 5.8 deaths per 1,000 live births 2018. Figure 3 illustrates Arizona's infant mortality rate compared to the U.S. mortality rate from 2013-2018 (Figure 3).

Figure 3. Infant Mortality Rates per 1,000 Live Births, Less than 1 Year of Age, Arizona & U.S., 2013-2018[3]



In 2018, the mortality rates for children 1 through 4 years of age, 10 through 14 years of age, and 15 through 17 years of age increased while the mortality rate for children aged 5 through 9 years decreased (Figure 4).

Figure 4. Mortality Rates per 100,000 Children, Ages 1-17 Years, by Age Group, Arizona, 2013-2018



[3] Infant Mortality contains all babies less than 1 year of age.

Figure 5 shows the child mortality rates for the last six years by race/ethnicity. While there is some yearly fluctuation of the rates within each of the five categories, the graph illustrates that African American and American Indian children consistently maintain higher rates of death compared to other races/ethnicities. It should be noted that the decrease of 2013 to 2014 mortality rates for African American and American Indian children and the increase in White and Hispanic is due to population methodology changes that occurred in 2014 (see table 68 in the appendix for population denominators by race/ethnicity).

Figure 5. Mortality Rates by Race/Ethnicity, per 100,000 Children, Ages 0-17 Years, Arizona, 2013-2018[4]

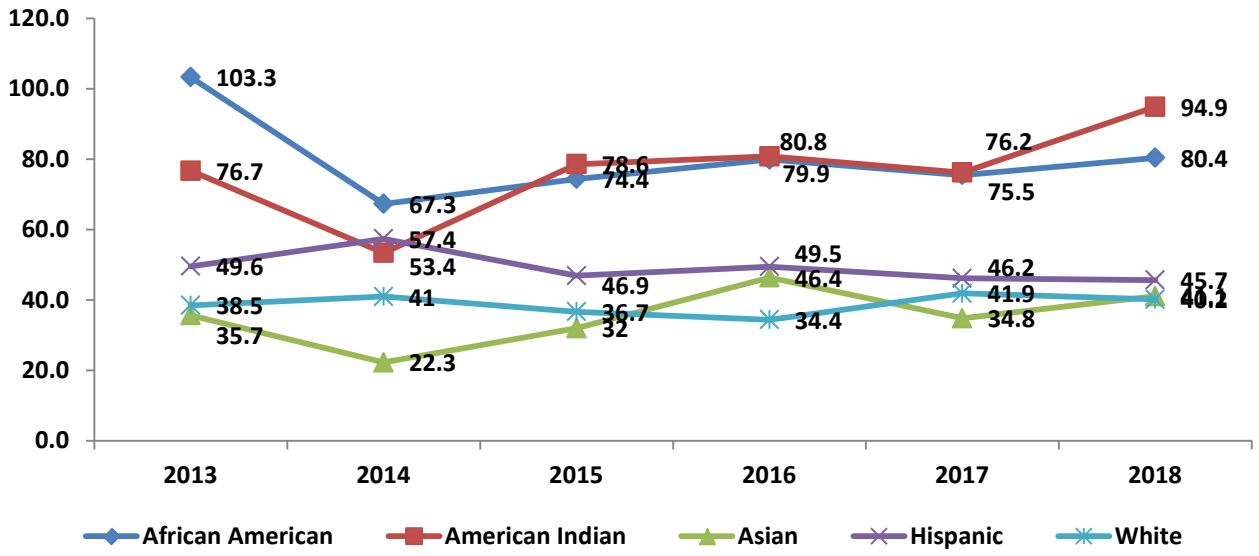
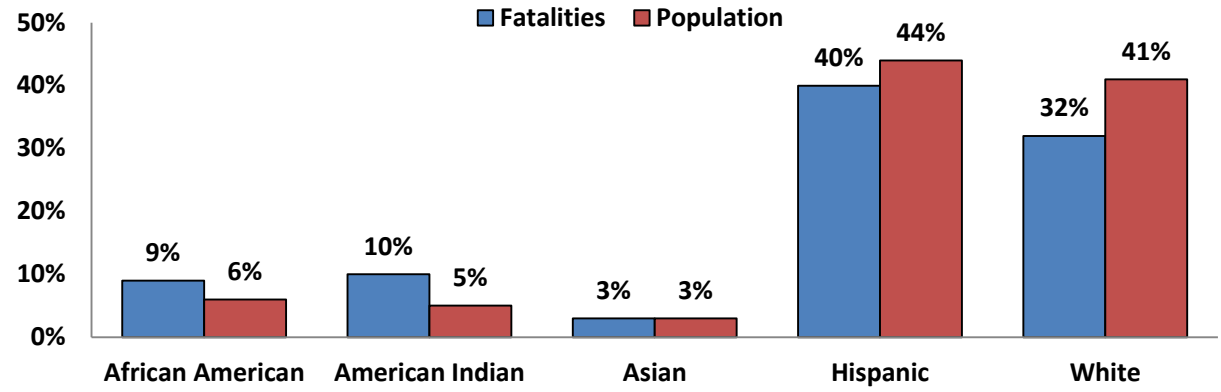


Figure 6 shows the percentage of death by race/ethnicity compared to the population. African American children comprised 6% of the Arizona child population in 2018 but made up 9% of all child fatalities. American Indian children comprised 10% of all children fatalities in 2018, but only made up 5% of the total child population.

Though White children made up a significantly lower percentage of deaths than the percentage of the population they represent, they were overrepresented compared to other race/ethnicities in some categories. Each section heading includes disparities information by race/ethnicity and gender.

[4]Does not include the 53 fatalities that are multiracial.

Figure 6. Percentage of Deaths among Children by Race/Ethnicity Compared to Population, Arizona, 2018 (n=790) [5]



Preventable Deaths

The main purpose of the CFR program is to identify preventable factors in a child's death. Throughout the report the term "preventable death" is used. Each multi-disciplinary team is composed of professionals who review the circumstances 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.

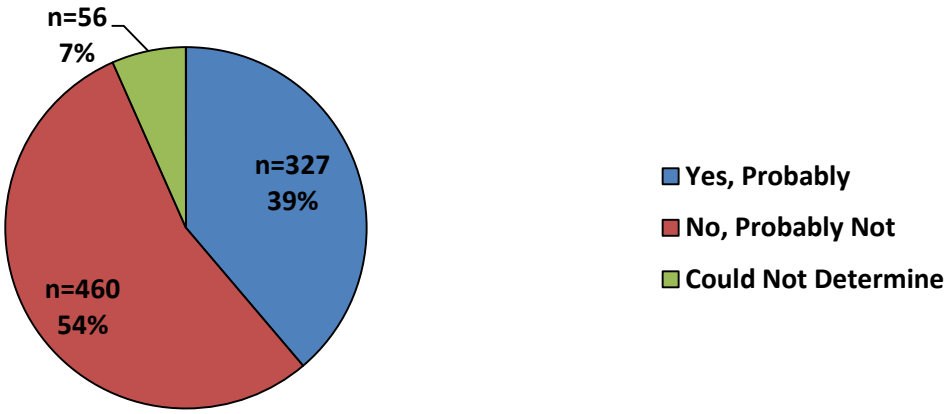
"Yes, probably," means that some circumstance or factor related to the death could probably have been prevented. "No, probably not" indicates that everything reasonable was most likely done to prevent the death, but the child would still have died. A designation of "Team could not determine" means that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

[5] Does not include the 53 fatalities that are multiracial.

When discussing all deaths, the report is referring to the total 843 child deaths that took place in 2018. When the text refers to preventable deaths these are the fatalities that the review teams deemed to be preventable. The majority of the data discussed in this report are based on those fatalities determined as preventable by the teams. This is important so that efforts are targeted to the areas where prevention initiatives will be most effective.

In 2018, CFR teams determined 327 child deaths were probably preventable (39%), 460 child deaths were probably not preventable (54%) and could not determine the preventability in 56 deaths (7%) (Figure 7).

Figure 7. Number and Percentage of Deaths among Children, Ages 0-17 Years, by Preventability, Arizona, 2018 (n=843)



CFR teams determined 99% of the accidental injury deaths were preventable (n=169), 100% of homicides were preventable (n=31), and 100% of suicides were preventable (n=64). Only 5% of natural deaths were determined to have been preventable (n=28) (Figure 8).

Figure 8. Number and Percentage of Preventable Deaths for Children, Ages 0-17 Years , by Manner, Arizona, 2018 (n=327)

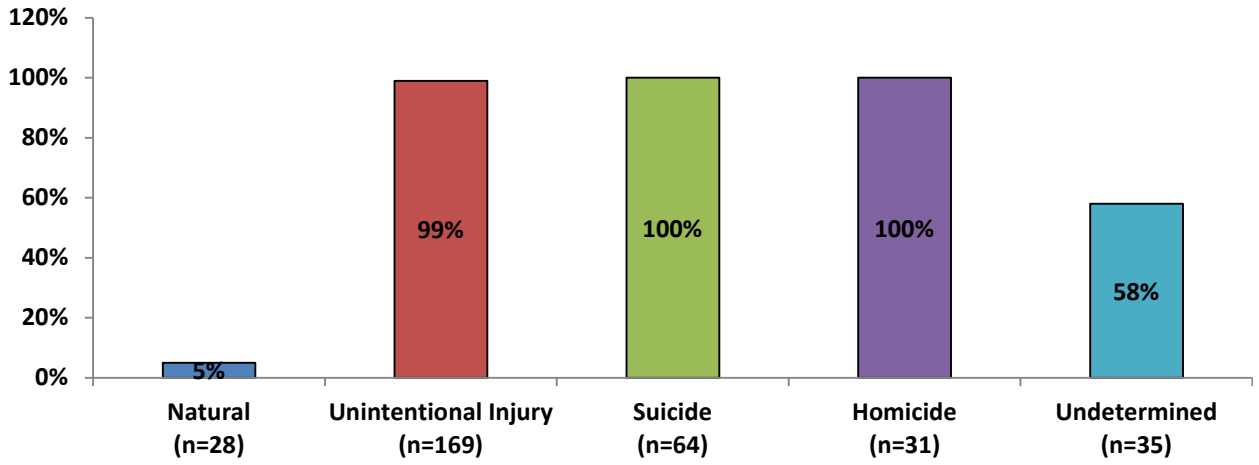


Figure 9 shows the percentage of preventable deaths by age group. Infants between the ages of birth through 27 days old had the lowest percentage of preventable deaths (7%, n=22). The highest percentage of preventable deaths was among youth between the ages of 15 to 17 years of age (82%, n=111).

Figure 9. Percentage of Preventable Deaths for Children, Ages 0-17 Years, by Age Group, Arizona, 2018 (n=327)

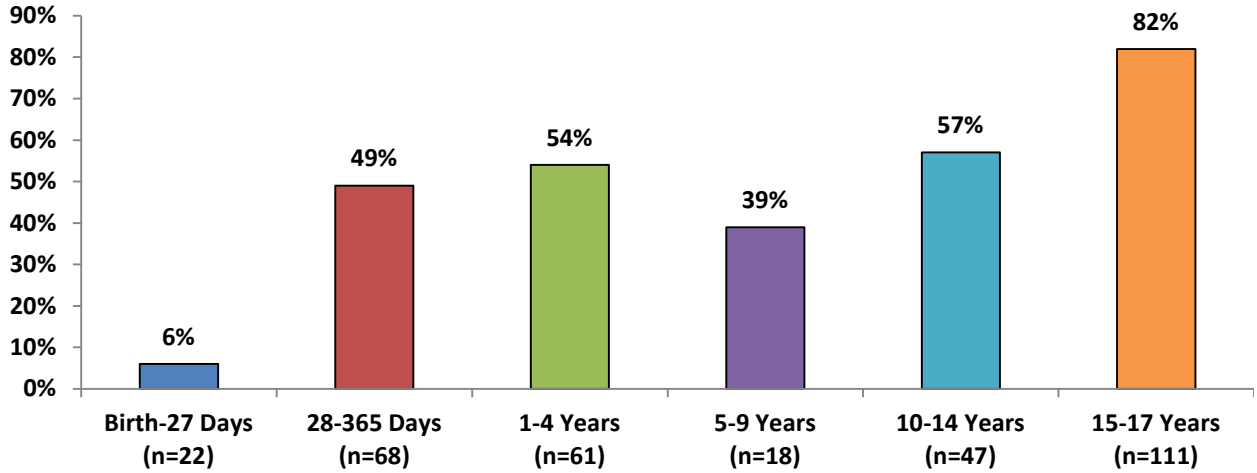


Table 1 shows the leading five causes of death by age group in 2018. Overall, the five leading causes of all deaths were prematurity, congenital anomalies, motor vehicle crashes, firearm injury, and cancer. However, the leading cause of death varies by age group. For example, the most common cause of death for an infant (28-364 days) was suffocation whereas the most common cause of death for an adolescent 15 through17 years of age was a motor vehicle crash.

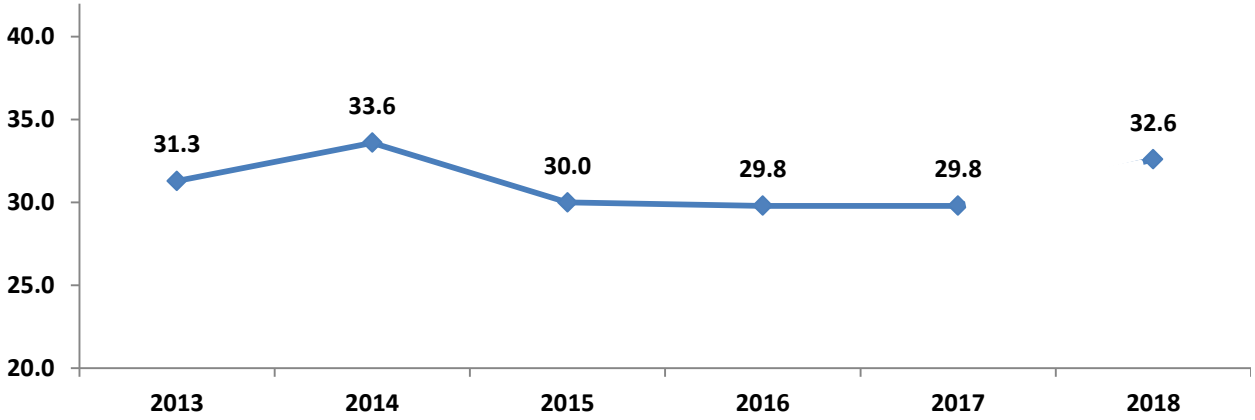
Table 1. Top 5 Leading Causes of Child Death by Age Group, Arizona, 2018

Top Causes	0-27 Days n=306	28-364 Days n=116	1-4 Years n=114	5-9 Years n=46	10-14 Years n=83	15-17 Years n=136	All Deaths n=843
1	Prematurity n= 201	Suffocation n= 38	Drowning n= 22	Cancer n= 10	Cancer n= 13	Motor Vehicle Crash n= 33	Prematurity n= 224
2	Congenital Anomaly n= 74	Undetermined n= 23	Motor Vehicle Crash n= 12	Motor Vehicle Crash n= 10	Hanging n= 13	Firearm Injury n= 31	Congenital Anomaly n= 116
3	Other Perinatal Condition n= 13	Congenital Anomaly n= 23	Blunt Force Trauma n= 11	Drowning n= <6	Motor Vehicle Crash n= 12	Poisoning n= 19	Motor Vehicle Crash n= 71
4	Cardio-vascular n= 12	Prematurity n= 19	Cancer n= 10	Neurological n= <6	Firearm Injury n= 11	Hanging n= 18	Firearm Injury n= 43
5	Neurological n= 6	Cardiovascular n= 13	Infection n= 8	Pneumonia n= <6	Infection n= <6	Neuro-logical n= 7	Cancer n= 41

Natural Deaths

In Arizona, as well as nationally, deaths classified as natural deaths due to a medical condition account for the largest percentage of child deaths every year. Natural deaths increased 10% from 2017 (n=489) to 2018 (n=538). Sixty percent of the natural deaths (n = 319) occurred in neonates (infants less than 28 days old). Hispanic children accounted for 45% (n=244) of natural deaths and white children made up 30% (n=163) of natural deaths. Prematurity (n=224), congenital anomalies (n=116) and cancer (n=41) were the leading causes of natural death.

Figure 10. Mortality Rates Due to Natural Causes per 100,000 Children, Ages 0-17 Years, Arizona, 2013-2018

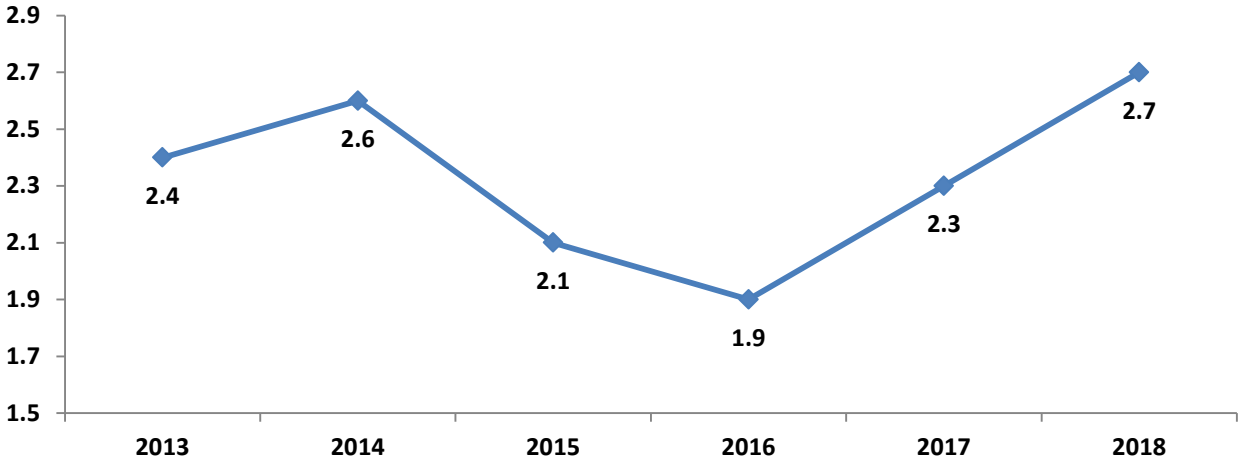


Prematurity

For the purposes of this report, a death due to prematurity is when the infant was born before 37 weeks gestation and the infant did not have a lethal congenital malformation or other perinatal condition that was the primary cause of death. In 2018, twenty-nine percent (n=224) of all Arizona child deaths were due to prematurity.

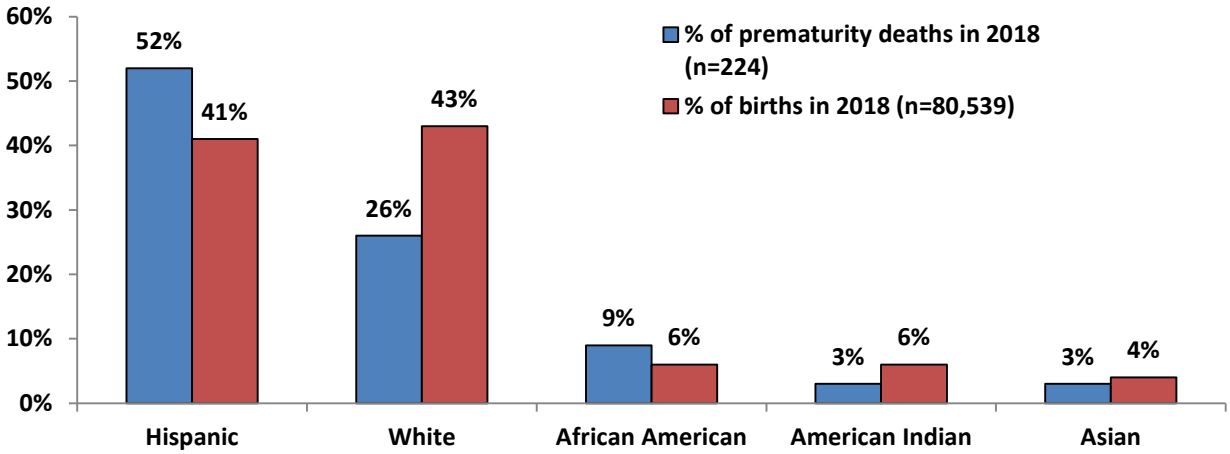
The prematurity mortality rate has remained relatively stable the last six years, but has slightly increased since 2017. It should be noted that in 2018, the mortality rate now includes deaths of premature infants that were previously identified as deaths due to perinatal conditions thus a trend comparison is not recommended.

Figure 11. Prematurity Mortality Rate per 1,000 Live Births, Less than 1 Year of Age, Arizona, 2013-2018



In 2018, the largest population of infants born in Arizona comprised of 43% White infants and 41% Hispanic infants. Disparities in percentage of deaths compared to birth population were noted among African American and Hispanic infants (Figure 12).

Figure 12. Percentage of Child Deaths, Less than 1 Year of Age, due to Prematurity by Race/Ethnicity, Arizona 2018 (n=224)



Prevention

Determining the exact cause of premature birth can be difficult. This report identifies the preventable risk factors that are known to be associated with premature births for each of the infant cases reviewed. The steady increase in the prematurity rate supports continued surveillance into the variety of risk and protective factors associated with prematurity. Some of the most common risk factors are medical complications, late prenatal care or the absence of prenatal care, the overall health of the mother, socioeconomic status, gestational age, substance use or abuse by the mother or her partner, mother's age, and domestic violence in the home.

In 2018, the most common risk factors for prematurity deaths included preterm labor (58%, n= 128) and no prenatal care (20%, n=44). The viability or survival rate of premature infants also depends on the gestational age at birth. When infants are less than 28 weeks of gestation at birth they are classified as extreme prematurity and are at higher risk for death. Extreme prematurity accounted for 85% of prematurity deaths (n=188) (Table 2).

Lack of prenatal care is a serious risk factor for premature birth. In twenty percent (n=44) of the prematurity deaths in 2018 the mother reported that she did not receive any prenatal care. This is an 83% increase from 2017 when 17% (n= 24) of the mothers reported receiving no prenatal care.

Table 2. Risk Factors for Prematurity Deaths, Less than 1 Year of Age, Arizona, 2018

Factor*	Number	Percent
Extreme Prematurity (born < 28 weeks of pregnancy)	188	85%
Preterm Labor	128	58%
Premature Rupture of Membranes (PROM)	95	20%
No Prenatal Care	44	20%
Hypertension	22	10%
Chorioamnionitis (bacterial infection)	18	8%
Substance Use	14	6%

*More than one factor may have been identified for each death
**All risk factors include prematurity <37 weeks gestational age due to perinatal condition

One of the difficulties in adequately managing and preventing a premature birth is that the etiology often is multifactorial, leaving no single intervention strategy as best effective. However, studies have shown that the post-neonatal period mortality rate is high for children in the U.S., and babies born to lower income mothers are at highest risk of death.[6] There are several protective factors that can help prevent prematurity including good preconception health, early access to prenatal care, and community awareness about good health practices. Strengthening these can help reduce incidence and target prevention efforts to improve birth outcomes for groups at higher risk.[7] Some common maternal health conditions that may lead to pre-term birth include obesity, high blood pressure, and diabetes.[8]

Prematurity Prevention Recommendations

- To have a healthy baby, women should take care of their health before and during pregnancy by maintaining a healthy weight, adopting proper nutrition, and avoiding smoking (tobacco and vaping), alcohol, marijuana, and other drugs.
- Woman should seek prenatal care as soon as they become pregnant to decrease the risk of prematurity and other complications.
- Ensure quality, affordable and accessible prenatal care for all women, especially marginalized populations and those who feel distrustful of the healthcare system.
- Pregnant woman who are considering a home birth should be medically informed about the risks of a home birth for the mother and her newborn and the recommended criteria for home births.

6 http://economics.mit.edu/files/9922

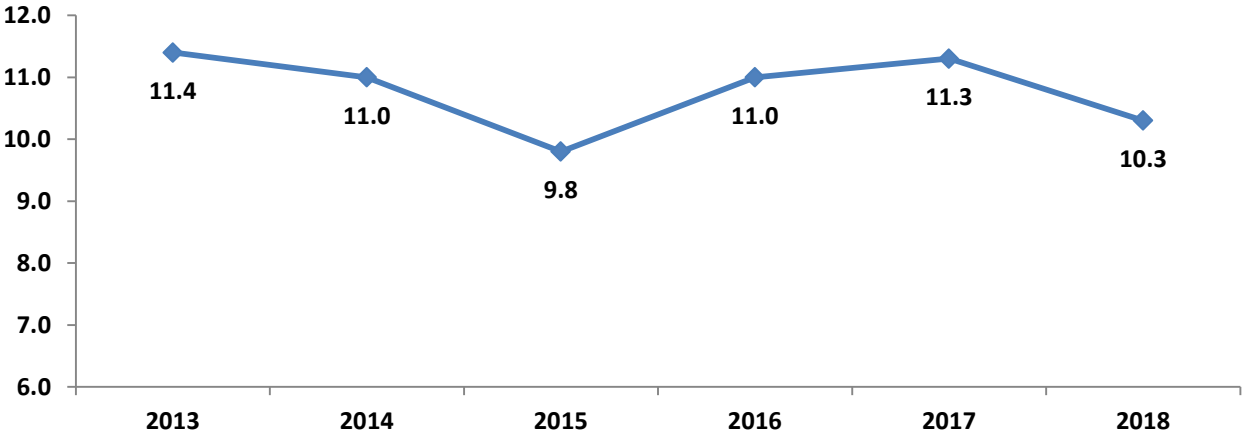
7 http://www.amchp.org/Transformation-Station/Documents/AMCHP%20Preconception%20Issue%20Brief.pdf

8 https://www.cdc.gov/reproductivehealth/maternalinfanthealth/pregcomplications.htm

Accidental Injury

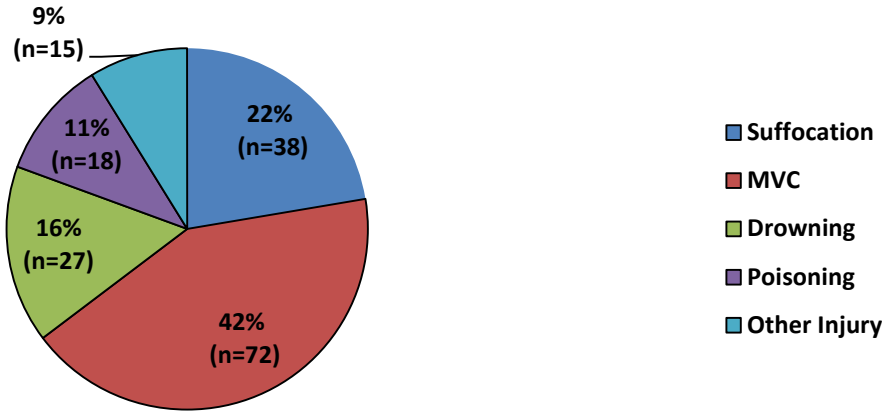
The mortality rate for accidental injury deaths decreased 9% from 2017 (n=186) to 2018 (n=170) (Figure 13). Over the last six years, the accidental mortality rate varied from 9.8 to 11.4 deaths per 100,000 children. Twenty-four percent of accidental injury deaths occurred in children less than 1 year of age (n=41).

Figure 13. Accidental Injury Mortality Rates per 100,000 Children, Ages 0-17 Years, Arizona, 2013-2018



In 2018, motor vehicle crashes (MVC) and suffocation were the leading causes of accidental injury deaths and accounted for 64% of these deaths. Other leading causes of accidental injury deaths included suffocation, drowning and poisoning (Figure 14).

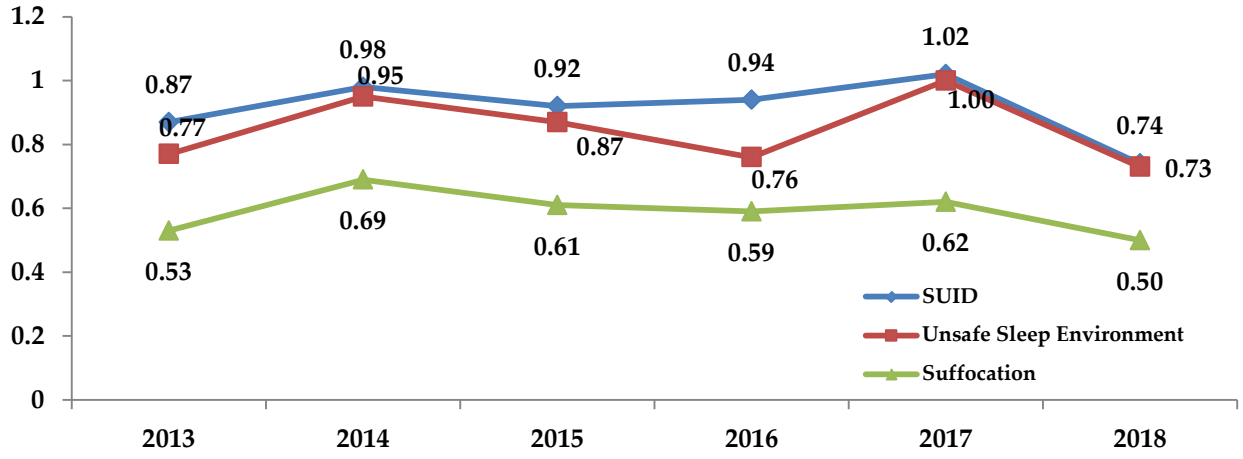
Figure 14. Leading Causes of Accidental Injury Deaths for Children, Arizona, 2018 (n=170)



Sudden Unexpected Infant Death (SUID) and Sleep Related Suffocation Deaths

SUID is defined as the death of a healthy infant who is not initially found to have any underlying medical condition that could have caused their death. It includes deaths that might have previously been categorized as "crib deaths" if the death occurred during sleep. Many SUID cases are due to suffocation and unsafe sleep environments, but not all SUID cases are unsafe sleep related. The number of SUID cases decreased 29% from 2017 (n=84) to 2018 (n=60). Over the last six years, the SUID mortality rates varied between 0.74 to 1.02 deaths per 1,000 live births. The mortality rates for unsafe sleep environment and suffocation have also both increased and varied 0.73 to 1.0 deaths per 1,000 live births and 0.50 to 0.69 deaths per live births, respectively.

Figure 15. Mortality Rates due to Sudden Unexpected Infant Death (SUID), Unsafe Sleep Environments, and Suffocation per 1,000 Live Births, Less than 1 Year of Age Arizona, 2013-2018



In 2018, males accounted for 53% of SUID (n=32). White children accounted for 32% of SUID (n=13), Hispanic children accounted for 27% of SUID (n=16), African American children accounted for 22% of SUID (n=13), American Indian children accounted for (n=8) 13% of SUID, Asian children accounted for (n=<6) 5% of SUID, and multiracial children accounted for 1% of SUID (n=<6).

Prevention

Local CFR teams determined 95% (n=57) of the SUID deaths were preventable. The most commonly identified cause of SUID was sleep suffocation (63%, n=38). In 37% (n=22) of the SUIDs, the cause could not be determined. Although these deaths were most likely suffocation, teams would identify the cause of death as "undetermined" if there was insufficient information available to conclusively identify the cause of death as suffocation (Table 3). The major risk factors for SUIDs are bed-sharing with an adult or other child, placing an infant to sleep on his/her stomach or side, and placing an infant to sleep on an unsafe sleeping surface (e.g. adult mattress, couch or chair) or with soft objects, pillows, or loose coverings in the child's sleep environment.

Table 3. Number and Percentage of Sudden Unexpected Infant Deaths, Less than 1 Year of Age, Arizona, 2018 (n=60)

Cause	Number	Percent
Suffocation	38	63%
Undetermined	22	36%

Regarding preventable factors for SUID deaths, 98% occurred in an unsafe sleep environment, (n=59). Unsafe sleep environments include bed-sharing with adults (47%, n=28) or other children (18%, n=11) or both. Other unsafe sleep environments are identified by the CFR teams included sleeping with unsafe bedding or toys (83%). Sleep position was also a preventable factor for SUID that was associated with 37% of the deaths. Substance use was a factor in seven of the deaths. The local teams determined that 95% of SUID deaths (n=57) were preventable. Table 4 lists the frequency of SUID deaths across the above mentioned preventable risk factors.

Table 4. Preventable Factors for Sudden Unexpected Infant Deaths, Less than 1 Year of Age, Arizona, 2018

Preventable Factor*	Number	Percent
Unsafe sleep environment	59	98%
Bed-sharing	32	53%
-With adult	28	47%
-With child	11	18%
Sleep Position	22	37%
-On stomach	8	13%
-On side	14	23%
Substance use	7	12%
*More than one factor may have been identified for each death		

These deaths could have been prevented by using safe sleep practices. Safe sleep practices include placing infants to sleep on their back instead of on their side or stomach, inside a crib, always using a firm sleep surface, and keeping soft objects as well as loose bedding out of the crib. In 2016 the American Academy of Pediatrics expanded their recommendations for a safe sleep environment. This included a shift from focusing only on SUID to focusing on a safe sleep environment that can reduce the risk of all sleep related infant deaths, including SUID. The recommendations include supine positioning, use of a firm sleep surface, breastfeeding, room-sharing without bed-sharing, routine immunizations, consideration of using a pacifier, and avoidance of soft bedding.[9]

Preventing Sleep related Suffocation Death

- Continue to advance public awareness campaigns that promote safe sleep practices including the dangers of suffocation with bed sharing with adults or other children, and the need to place babies to sleep Alone, on their Backs and in a Crib (ABC).
- Continue to educate parents, childcare providers and all caregivers to keep soft objects, such as crib bumpers, pillows, and loose bedding out of the baby's crib.
- Health care providers, staff in newborn nurseries and Neonatal Intensive Care Unit's should establish policies that endorse and model the ABC's of Safe Sleep recommendations from birth.
- Expand the use of the Centers for Disease Control's Sudden Unexpected Infant Death Investigation Reporting Form by law enforcement, first responders, and medical investigators through regular training.
- Expand safe sleep education to all providers of services to parents of infants and expectant mothers at every visit.
- Continue to support safe sleep education for out of home providers such as daycare centers and foster parents.
- Continue to support funding for access to high quality and affordable childcare, including care that is provided outside of standard business hours and on weekends.

[9] http://pediatrics.aappublications.org/content/early/2016/10/20/peds.2016-2938

Abuse/Neglect Deaths

In 2018, 9% (n=75) of child fatalities were due to abuse/neglect compared to the (n=79) in 2017. A child's deaths may be contributed to physical abuse, neglect, or both. In 2018, physical abuse such as blunt force trauma or use of firearm weapon caused 32% of abuse/neglect deaths (n=24) among children. Child neglect caused or contributed to 77% of the abuse/neglect deaths (n=58).

Abuse/neglect deaths are more pervasive in males accounting for 61% (n=46) of deaths while females represented 39% (n=29) of the deaths. Thirty-three percent (n=25) of children who died due to abuse/neglect were Hispanic; 27% (n=20) were White; 16% (n=12) were African American; 16% (n=12) were American Indian; and 7% (n=<6) were among children who are multiracial. Seventy-five percent of the children who died from abuse/neglect were less than five years old (n=56).

Figure 16. Mortality Rates due to Abuse/Neglect per 100,000 Children, Ages 0-17 Years, Arizona, 2013-2018

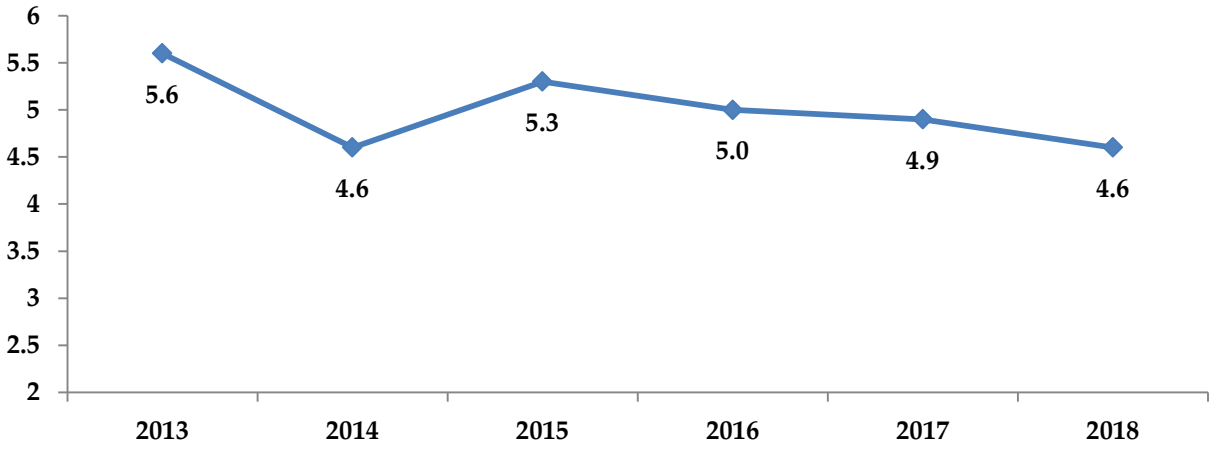
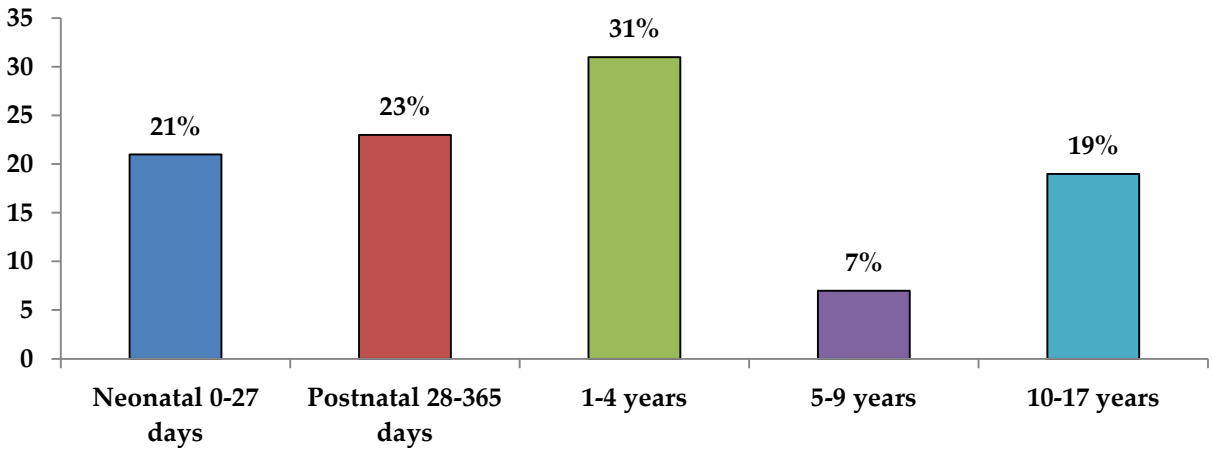
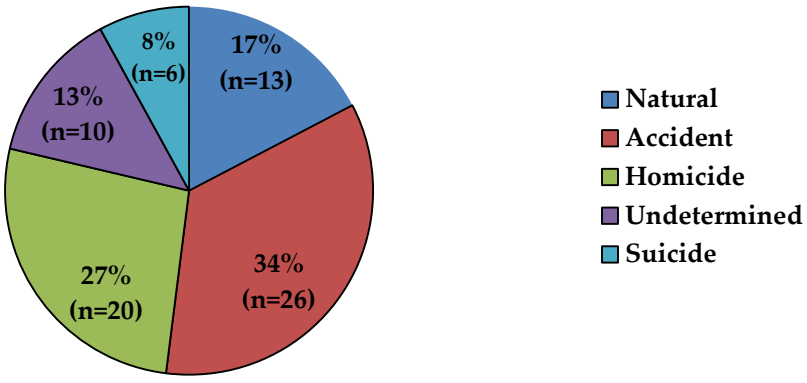


Figure 17. Percentage of Abuse/Neglect Deaths, Ages 0-17 Years, by Age Group, Arizona, 2018 (n=75)



In 2018, the leading manner of death for abuse/neglect deaths in Arizona was accidental injuries. Accidents resulted in thirty-five percent (n=26) of abuse/neglect deaths. Homicides comprised twenty-seven percent (n=20) of the abuse/neglect deaths. Seventeen percent (n=13) of abuse/neglect deaths were due to a natural manner (Figure 18). Examples of abuse/neglect deaths due to a natural manner of death include prenatal substance use resulting in premature birth or a caregiver's failure to obtain medical care.

Figure 18. Number and Percentage of Abuse/Neglect Deaths for Children, Ages 0-17 Years, by Manner, Arizona, 2018 (n=75)



Blunt force trauma, drowning, firearm injury, and suffocation were the leading causes of abuse/neglect deaths among children in Arizona (Table 5).

Table 5. Abuse/Neglect Deaths Among Children by Top Causes of Death, Ages 0-17 Years, Arizona, 2018 (n=75)		
Cause of Death	Number	Percent
Blunt Force Trauma	14	19%
Prematurity	12	16%
MVC	12	16%
Drowning	7	9%
Firearm	7	9%
*Does not include MVC, undetermined, poisoning, or other perinatal conditions		

Of the 75 abuse/neglect deaths, 79% of deaths (n=59) involved only one perpetrator, and 21% of deaths (n=16) involved two perpetrators. The child's mother was a perpetrator in 72% (n=54) of abuse/neglect deaths, and the child's father was a perpetrator in 29% of deaths (n=22) (Table 6). It is possible that more than one perpetrator was involved in a child's death.

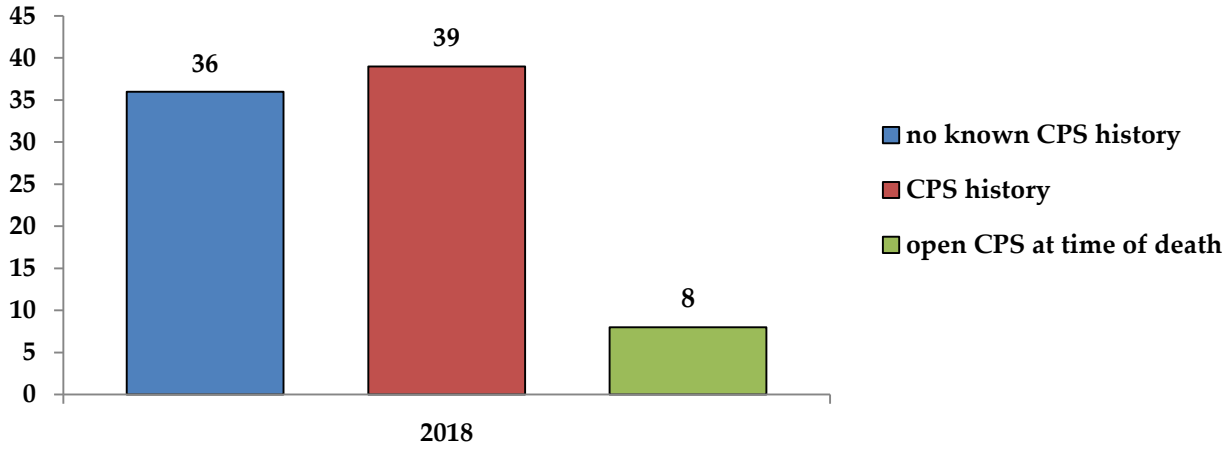
Table 6. Number and Percentage of Perpetrators Involved in Abuse/Neglect Deaths, by Perpetrator, Arizona, 2018 (n=75)		
Perpetrator*	Number	Percent
Mother	54	72%
Father	22	29%
Other Caregiver (e.g. Babysitter, Childcare Worker)	7	9%
Parents Partner/ Stepparent	<6	5%
*There may be more than one perpetrator for each death		

Child Protective Services Involvement with Families of Children Who Died Due to Abuse/Neglect

Local CFR teams attempt to obtain records from child protective services (CPS) agencies, including Arizona Department of Child Safety (ADCS) 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 prior to the incident leading to the child's death. Unsubstantiated reports of abuse/neglect are also included in this definition; however calls to ADCS that did not meet criteria to be made into a report, and were taken as "information only", are not included.

In 2018, fifty-two percent (n=39) of the 75 children who died from abuse/neglect were from families with a prior involvement with a CPS agency. Among the families who had prior involvement with CPS, 11% (n=8) of families had an open case at the time of the child's death, and 48% (n=36) of families had no history of CPS involvement (Figure 19). The number of children from families with prior CPS involvement decreased from 44 in 2017 to 38 in 2018. The number of families with an open CPS case at the time of the child's death also decreased 53% from 2017 (n=15) to 2018 (n=8).

Figure 19. Number of abuse/Neglect deaths of Children, Ages 0-17 Years, by involvement with any child protective services agency, Arizona, 2018



Prevention

Child abuse and neglect is any act or series of acts of commission or omission by a parent or other caregiver (e.g., clergy, coach, and teacher) that results in harm, potential for harm, or threat of harm to a child. Several modifiable risk factors that exist when a child is at risk for abuse/neglect. These factors, usually in combination, may involve the parent or caregiver, the family, the child or the environment.[11]

- *Parent or caregiver factors*: personality characteristics and psychological well-being, having a history of abuse/neglect as a victim and/or perpetrator, history or patterns of substance use/abuse, incorrect attitudes and/or knowledge about caring for a child (e.g. adequate nutrition, safe sleep practices and age).
- *Family factors*: marital discord, domestic violence, single parenthood, unemployment, financial problems and stress
- *Child factors*: child's age and level of development, disabilities, and problem behavior

[11] https://www.childwelfare.gov/pubpdfs/2011guide.pdf

- *Environmental factors*: poverty and unemployment, social isolation and lack of social support and community violence

All of the child abuse/neglect deaths were determined to have been preventable (n=75). The CFR teams identified preventable factors in each of these deaths. The most common preventable factor was substance use which was associated with 53% (n=40) of the deaths. Failure to place an infant or young child in an appropriate vehicle restraint was a factor in 12% (n=9) of abuse/neglect deaths, and failure to provide necessities (food, shelter, etc.) was a factor in 11% (n=8) of the deaths (Table 7). More than one factor may have been identified for each death. Failure to provide necessities that may have caused or contributed to the child's death is defined as the failure to provide appropriate and safe supervision, food, clothing, shelter, and/or medical care.

Table 7. Preventable Factors for Abuse/Neglect Deaths Among Children, Ages 0-17 Years , Arizona, 2018

Factor*	Number	Percent
Substance use	40	53%
Failure to provide medical treatment	13	17%
Lack of proper motor vehicle restraint	9	12%
Failure to provide necessities	8	11%
Unsafe sleep environment	8	11%
Access to firearms	7	9%
*More than one factor may have been identified for each death		

When a child is at risk for abuse and neglect there are a number of protective factors that can be strengthened to reduce the risk. These include mentally healthy caregivers, a healthy relationship with a parent or caregiver, parental resilience and strong social connections.

Child Abuse/Neglect Prevention Recommendations

- Support sufficient funding and access to high quality and timely behavioral health treatment and substance use services for parents and their children, and especially expand access in rural communities.
- Ensure there is sufficient funding for the Arizona Department of Child Safety, Juvenile Court System, Attorney General's Office, and community-based services to effectively prevent child abuse and neglect.
- Continue and expand prevention programs such as Arizona Health Start and home visiting.
- Any individual who knows about a child who is being abused or neglected should take action by calling 911 in an emergency or the Arizona Child Abuse hotline (1-888-SOS-CHILD).

- To reduce child deaths, Arizona's implementation of the federal Family First Prevention Services Act programming should support quality programs that can help children at risk of entering foster care stay safely with their family with appropriate services, interventions and oversight.
- Encourage the Arizona Congressional Delegation to support the development of a national child abuse registry that can provide critical information on past episodes of abuse and neglect that occurred in tribal entities and outside of Arizona.
- Encourage all health care providers to integrate postpartum depression screening into their practice.

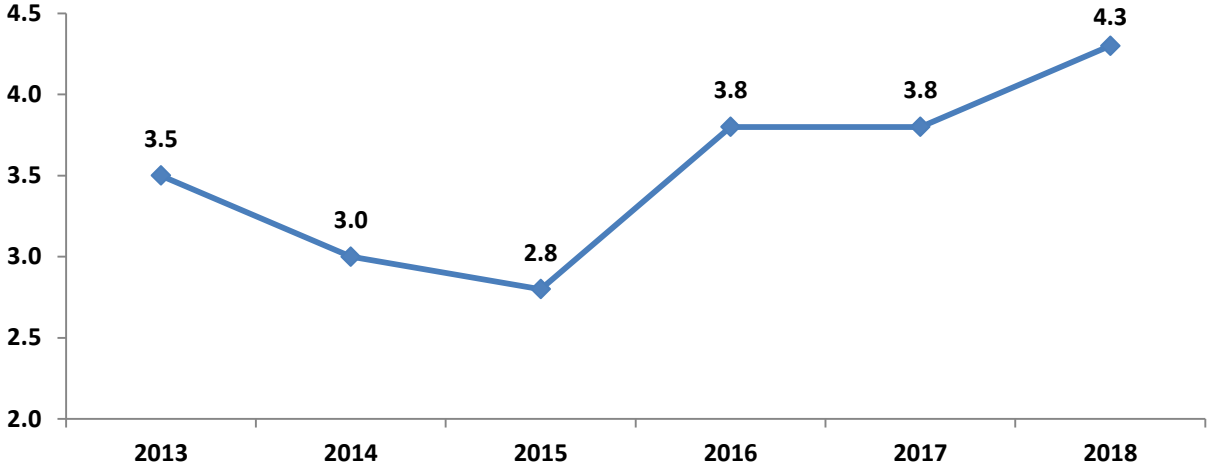
Motor Vehicle Crash Deaths

Motor vehicle crash deaths increased 13% from 2017 (n=65) to 2018 (n=74) and accounted for 9% of all child deaths in Arizona. From 2013-2015, the motor vehicle crash mortality rate decreased, however it has been steadily increasing since 2015 from 2.8 per 100,000 children to 4.3 per 100,000 in 2018 (Figure 20).

Several risk factors are associated with these deaths.

- Improperly or unrestrained children, are at increased risk of severe injury or death in the event of a motor vehicle crash
- Cyclists, motorcyclists or motorcycle passengers not wearing helmets are at greater risk of severe head injury or death
- Substance use/abuse by both children and adults
- Poor supervision
- Driver inexperience
- Excessive speed, red-light running, distracted driving, and reckless driving

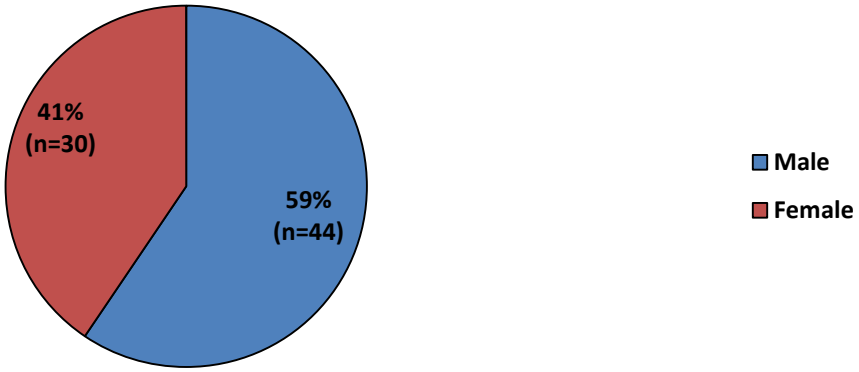
Figure 20. Mortality Rate Due to Motor Vehicle Crashes (MVC) per 100,000 Children, Ages 0-17 Years, Arizona, 2013-2018



Prevention

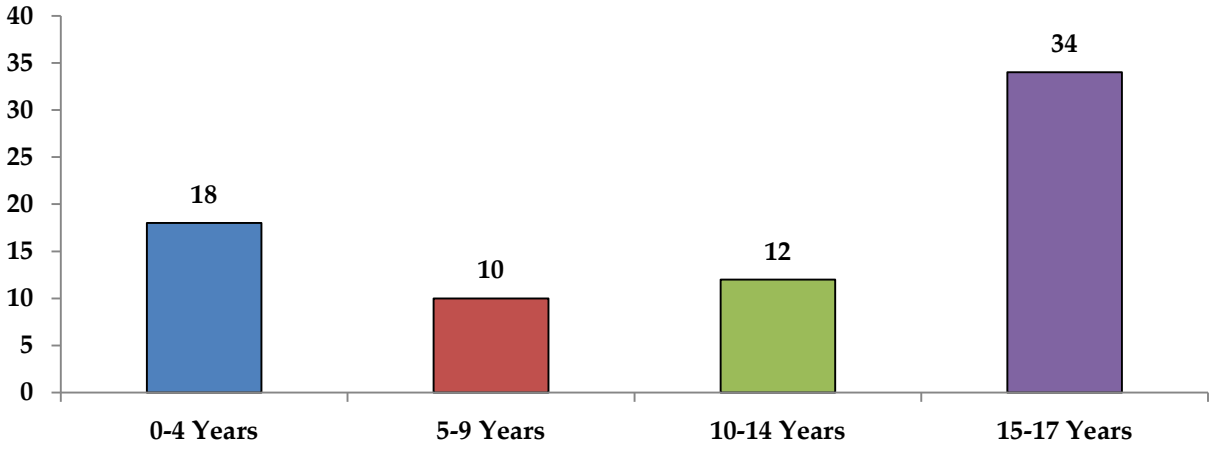
In 2018, local CFR teams determined that all of the motor vehicle crash fatalities were preventable (n=74) and accounted for 23% of all preventable deaths. Among these fatalities, certain groups still carry a larger part of the mortality burden and may benefit from targeted prevention initiatives. For example, 18% of the children who died in an MVC were American Indian (n=13) which represent 5% of the population. Additionally, boys were more likely than girls to die in an MVC since 59% (n=42) of MVC fatalities were males (Figure 21).

Figure 21. Number and Percentage of Motor Vehicle Deaths by Gender, Arizona, 2018 (n=74)



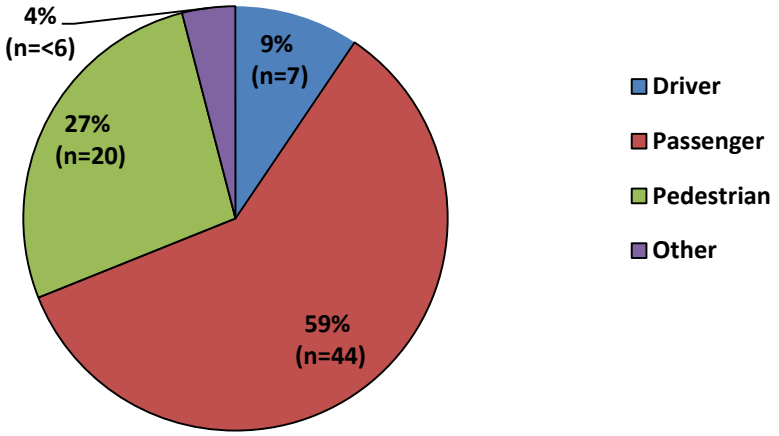
Forty-six percent of the children who died in a MVC were teenagers 15 through 17 years of age (n=33) and twenty-four percent (n=18) were less than 5 years of age (Figure 22).

Figure 22. Number of Motor Vehicle Deaths by Age Group, Ages 0-17 Years, Arizona, 2018 (n=74)



Thirty-five percent of the children who died in an MVC were White (n=25), 34% were Hispanic (n=24). 18% were American Indian (n=13), and 9% were African American (n=7). Fifty-nine percent of the children who died were motor vehicle passengers, 9% were drivers of a motor vehicle and 27% were pedestrians (Figure 23). Seventeen of the passenger fatalities and ten of the pedestrian fatalities were children 15 to 17 years old. All seven driver fatalities were children 15 to 17 years old. Forty-two (59%) of the MVC deaths occurred in urban/suburban areas and 29 (41%) of the MVC deaths occurred in rural/frontier areas.

Figure 23. Number and Percentage of Motor Vehicle Crash Deaths of Children, Ages 0-17 Years, by Occupant, Arizona, 2018 (n=74)



The most common preventable factor in MVC deaths was failure to use appropriate vehicle restraints. Substance use contributed to 31% (n=22) of MVC deaths. Alcohol was associated with 20% (n=15) of MVC deaths. Additional preventable risk factors associated with MVC deaths in Arizona include speeding, reckless driving, driver inexperience, driver distraction, and substance use (Table 8).

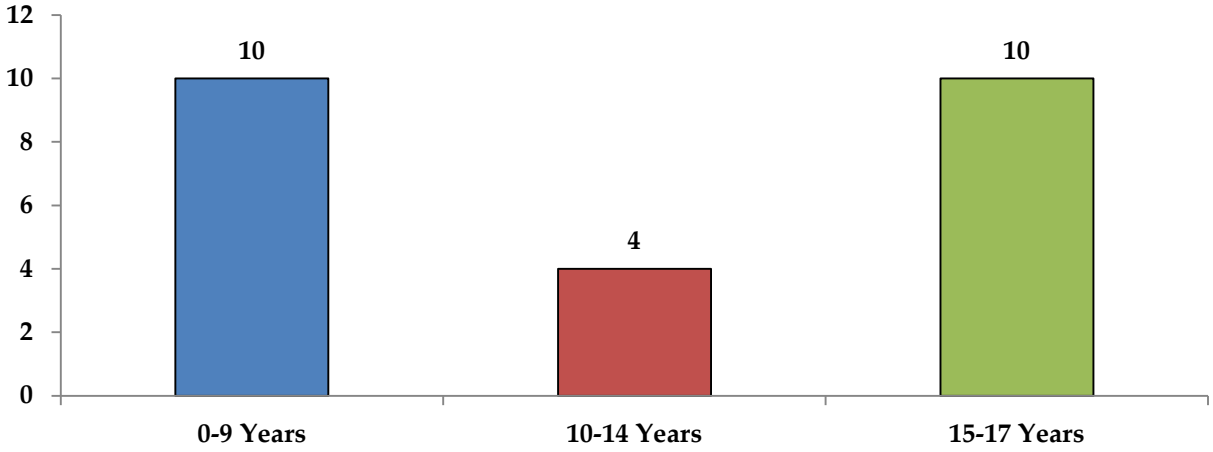
Table 8. Preventable Factors for Transportation Related Deaths Among Children, Ages 0-17 Years, Arizona, 2018

Factor*	Number	Percent
Lack of vehicle restraint	24	32%
Substance use	22	30%
Excessive speed	18	24%
Lack of supervision	15	20%
Reckless driving	14	19%
Driver distraction/ Driver fatigue	9	12%
*More than one factor may have been identified for each death		

Local CFR teams determined all of the motor vehicle crash deaths were preventable. Protective factors to these MVC deaths include using proper child restraints every time a vehicle is in operation, not driving while impaired, and following passenger safety guidelines as well as established motor vehicle laws. The continuation of targeted education and awareness efforts to the most at risk populations is essential.

Thirty-four percent (n=24) of MVC deaths were known to have been improperly restrained or unrestrained in vehicles (Figure 24). This indicates that while child safety restraint laws have reduced the number of motor vehicle crash fatalities, further prevention efforts are still needed to require older children to buckle up.

Figure 24. Number of MVC Deaths of Children, Ages 0-17 Years, with Improper or Unknown Restraint Use by Age Group, Arizona, 2018 (n=24)



Motor Vehicle Crash Prevention Recommendations

- Properly secure children in the appropriate child safety restraints per height and weight when operating a motor vehicle. The American Academy of Pediatrics recommends children remain in a rear-facing car seat until they reach the highest weight or height allowed by their seat.
- All parents should model good behavior for their children by always wearing a seatbelt, never texting while driving or drive while fatigued or under the influence of alcohol or other drugs that impair driving.
- Parents should establish a written teenager-parent contract that places expectations on the teen driver such as wearing a seat belt, obeying curfew, never driving while impaired by alcohol or other drugs.
- Enact a primary seat belt law in Arizona in order to allow law enforcement officers to cite a driver and occupants for not wearing a seat belt in the absence of other traffic violations.

- Strengthen the graduated driver licensing system to build driving skills and experience among new drivers.
- Continue to support law enforcement officers on educating the community regarding the consequences of driving under the influence and continuing rigorous DUI enforcement.
- Promote awareness about child passenger and motorized vehicle safety and encourage participation in events such as car-seat checkups and safety workshops.
- Educate parents, caregivers, and children about pedestrian safety including the importance of using cross walks.
- Educate parents on the dangers of allowing children to ride in the bed of pickup trucks or in towed and moving trailers.

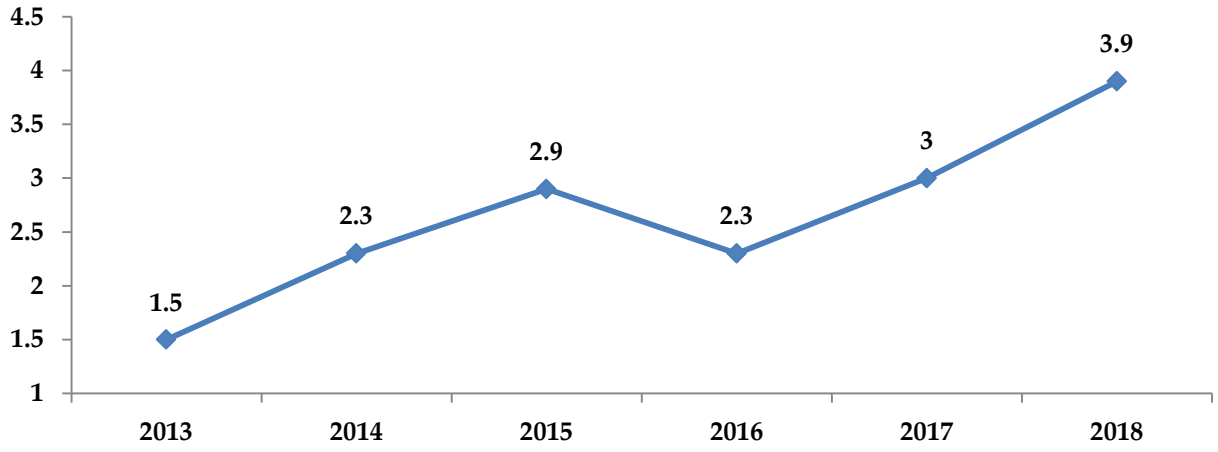
Suicides

Suicides increased 28% from 2017 (n=50) to 2018 (n=64) and accounted for 8% of all child deaths. Over the last six years, the mortality rate has increased from 1.5 to 3.9 deaths per 100,000 children.

There are number of identifiable risk factors associated with suicide deaths.

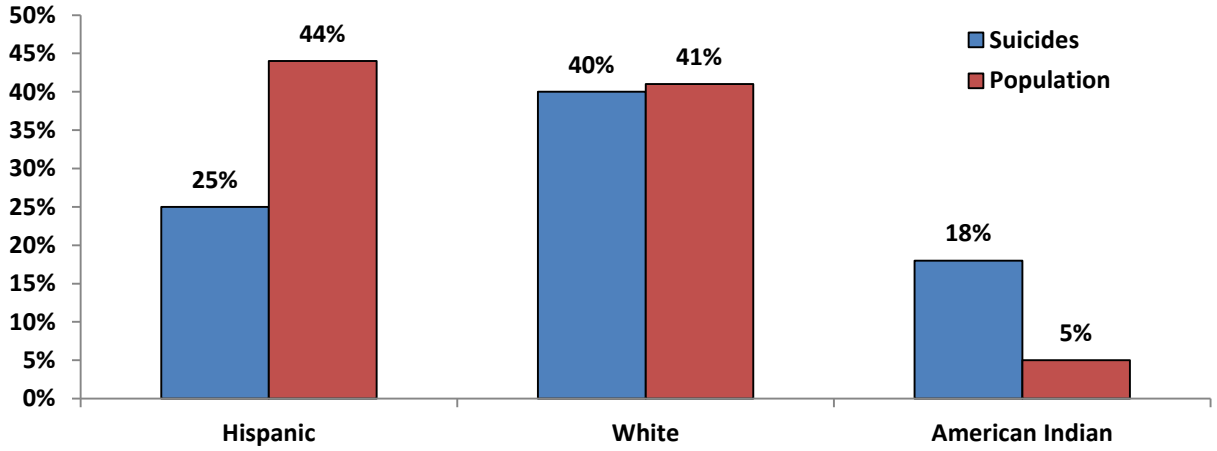
- Behavioral health issues and disorders, particularly mood disorders, depressant and anxiety disorders
- Substance use and abuse
- Impulsive and/or aggressive tendencies
- History of trauma or abuse
- Major physical illnesses
- Family history of suicide and previous suicide attempts
- Easy access to lethal means
- Lack of social support and a sense of isolation
- Stigma associated with asking for help
- Lack of access to health care, especially mental health and substance abuse treatment

Figure 25. Mortality Rates due to Suicide per 100,000 Children, Ages 0-17 Years, Arizona, 2013-2018



A majority of suicide deaths occurred in males, where they comprised 81% of the suicide deaths (n=52) compared to 19% of suicide deaths (n=12) among females. White children made up 40% of the suicide deaths (n=26) and Hispanic children accounted for 25% of suicide deaths (n=15) (Figure 26). America Indian children were overrepresented compared to their population and accounted for approximately 18% of the suicide deaths (n=13).

Figure26. Percentage of Suicide Deaths among Children, Ages 0-17 Years, by Race/Ethnicity, Compared to Populations, Arizona, 2018 (n=64)



Youth ages 15 through 17 years remained at highest risk for suicide death accounting for 70% of suicides deaths (n=45), while children 10 through 14 years of age made up 30% of suicide deaths (n=19).

Forty-eight percent of suicide deaths were carried out by strangulation (n=31) and firearm injuries made up another thirty-eight percent of deaths (n=24). Poisoning, cut/pierce, falls and other injuries contributed to the remaining suicide deaths.

CPS involvement: Investigation found evidence of prior abuse in 17 suicides. The child had a history of abuse/neglect as a victim in 14 suicides and the child was placed outside of the home in 7 suicides.

Prevention

As with other categories of death, understanding the circumstances, risk factors, and events leading up to the suicide aids in developing appropriate interventions for future prevention efforts. Several risk factors were identified by local CFR teams that may have contributed to the child's despondency prior to the suicide. The most common factors noted were that children had a history of family discord (41%), school related issues (36%), or had an argument with a parent (31%) (Table 9).

Table 9. Factors That May Have Contributed to the Child's Despondency Prior to Suicide, Arizona, 2018	
Factor*	Percent
History of family discord	41%
School related issues	36%
Argument with parent	31%
History of substance use	27%
History of parent divorce	25%
History of abuse	25%
Victim of bullying	20%
History/recent break-up	14%
History of problems with the law	14%
*More than one factor may have been identified for each death	

For many of the child suicides, important information regarding risk factors was unknown or unavailable to review teams, even after law enforcement records were available.

Local review teams determined all suicides were preventable. Of the top preventable risk factors for child suicides, signs of suicide increased from thirteen in 2017 to thirty-nine in 2018, and substance use increased from seven in 2017 to seventeen in 2018 (Table 10).

Table 10. Preventable Factors for Child Suicides, Arizona, 2018		
Factor*	Number	Percent
Signs of Suicide	39	61%
Substance Use	17	27%
*More than one factor may have been identified for each death.		

There are ways to help children, youth, and their families strengthen protective factors and prevent suicide. Some of these factors include seeking early treatment of effective clinical care for mental, physical and substance use issues; restricting access to lethal means of suicide; building strong family and support connections; gaining and retaining skills in problem solving, conflict resolution and stress management; having family, friends, and acquaintances taking any discussion of suicide seriously and seeking help.

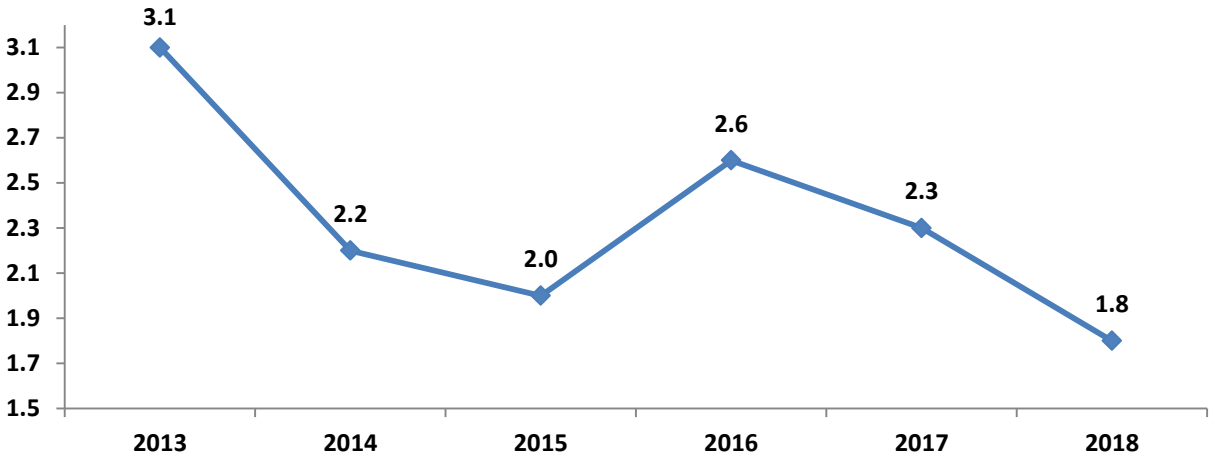
Suicide Prevention Recommendations

- Support funding and training to schools, communities, clinical and behavioral health services providers on the prevention of suicide.
- Educate parents, teachers, and caregivers on the risk factors for suicide. These factors include substance use, delinquency, depression and poor impulse control.
- Provide information for educators, parents and caregivers on how to seek help for children at risk after the first red flag.
- Continue to expand and enforce anti-bullying policies in schools.
- Expand resources for teens that are likely to be mourning the suicide death of a friend or family member.
- Strengthen services available to children and adolescents that address adverse childhood experiences and practice trauma informed care.
- Completely remove firearms from homes where individuals are experiencing mental health problems such as, depression, substance use, or suicidal ideation.
- Urge parents to monitor their child's social media for any talk about suicide and take immediate action if there is evidence of suicidal ideation.
- Encourage social media organizations to develop opportunities to flag information that might indicate suicidal thinking and respond with crisis information resources.
- Support funding and access for quality behavioral health and substance use assessment and treatment services for youth and their families, especially in rural communities.
- Promote and expand universal screening for suicide risk by all health care providers at each visit.
- Store all medications in a locked cabinet and discard unused medications safely and properly when they are no longer being taken.

Homicides

In 2018, thirty-one children were victims of homicide in Arizona accounting for 4% of all child deaths. The mortality rate for homicide decreased 22% from 2017 to 2018 (Figure 27).

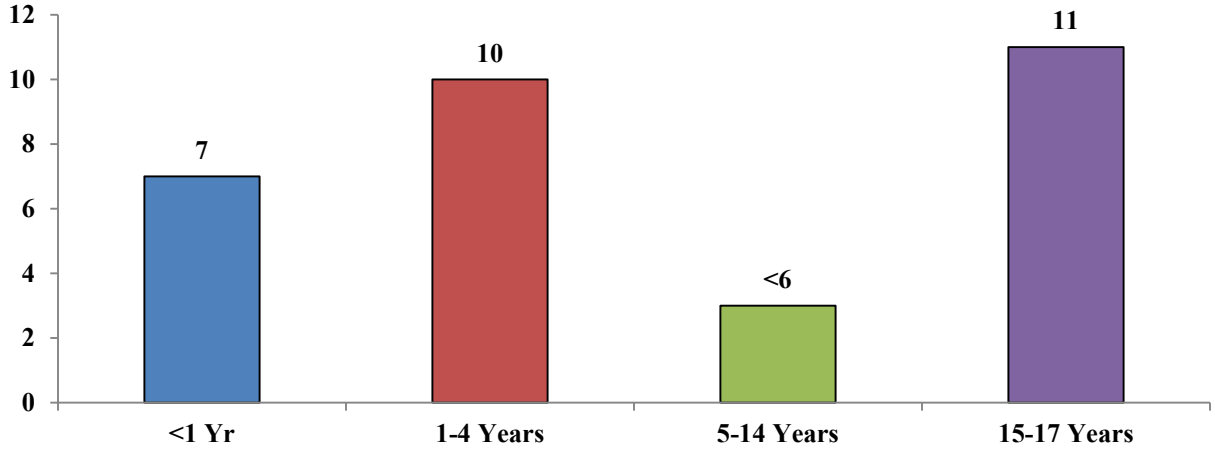
Figure 27. Mortality Rate due to Homicides per 100,000 Children, Ages 0-17 Years, Arizona, 2013-2018



In 2018, males (65%, n=20) were more likely to be victims of homicide than females (35%, n=11). Hispanic children experienced the highest number of child homicides accounting at 39% (n=12), and African American at 23% (n=7), followed by American Indian at 16% (n=<6) and White children at 13% (n=<6).

Children aged 15 through 17 years of age had the highest number of homicide deaths (n=11) along with children aged 1 through 4 years of age (n=10) (Figure 28).

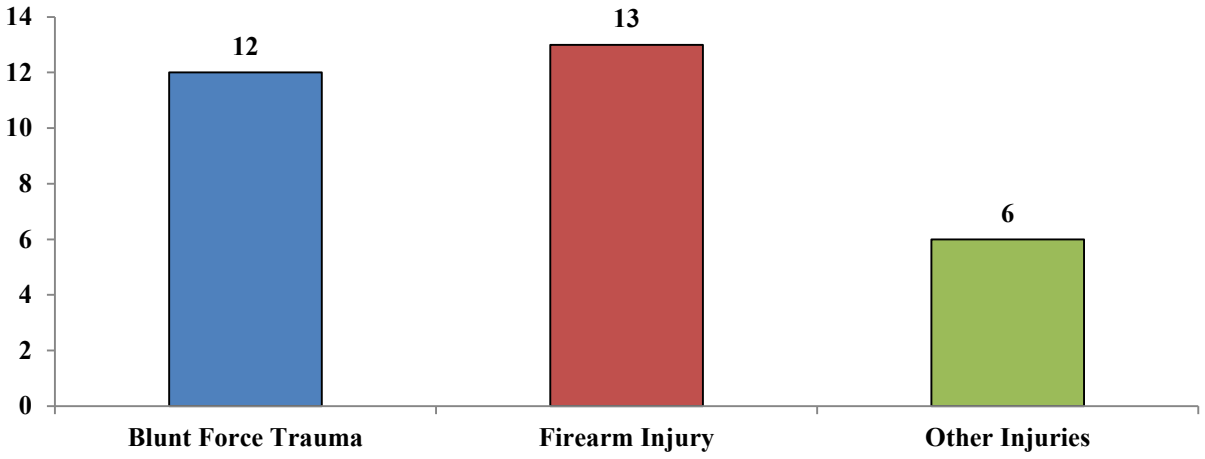
Figure 28. Number of Homicides for Children, Ages 0-17 Years, by Age Group, Arizona, 2018 (n=31)



Prevention

Local teams review the unique circumstances surrounding each child homicide to determine any patterns in the causes of death and identity of the perpetrator. These reviews provide the ability to learn from past experiences by attempting to understand how to prevent future occurrences. In 2018, blunt force trauma was used to commit 39% (n=12) of homicide deaths and firearms were used to commit another 42% (n=13) of child homicides (Figure 29).

Figure 29. Number of Homicides for Children by Cause of Death, Arizona, 2018 (n=31)



Of the thirty-one homicide deaths, 80% were committed by a known aggressor. Forth-eight percent of perpetrators were identified as the child's parents (Table 11).

Table 11. Homicides Among Children, Ages 0-17 Years, by Perpetrator, Arizona, 2018 (n=31)		
Perpetrator*	Number	Percent
Father	7	23%
Mother	8	26%
Parent's Partner	7	23%
Friend/Acquaintance	7	23%
Relative (Sibling, Grandparent, Cousin, etc.)	<6	19%
*There may be more than one perpetrator for each death		

All homicide deaths were determined by the team to be preventable and these deaths made up 9% of all preventable deaths among children. Identifying high-risk factors in homicide provides prevention points such as gender, the role of substance use, access to firearms, domestic violence and mental health. The most common preventable factors were substance use and involvement in other criminal activities (Table 12).

Table 12. Preventable Factors for Child Homicides, Ages 0-17 Years, Arizona, 2018		
Preventable Factors*	Number	Percent
Substance Use	18	58%
Access to Firearms	13	42%
Other Criminal Activity	13	39%
*More than one factor may have been identified for each death		

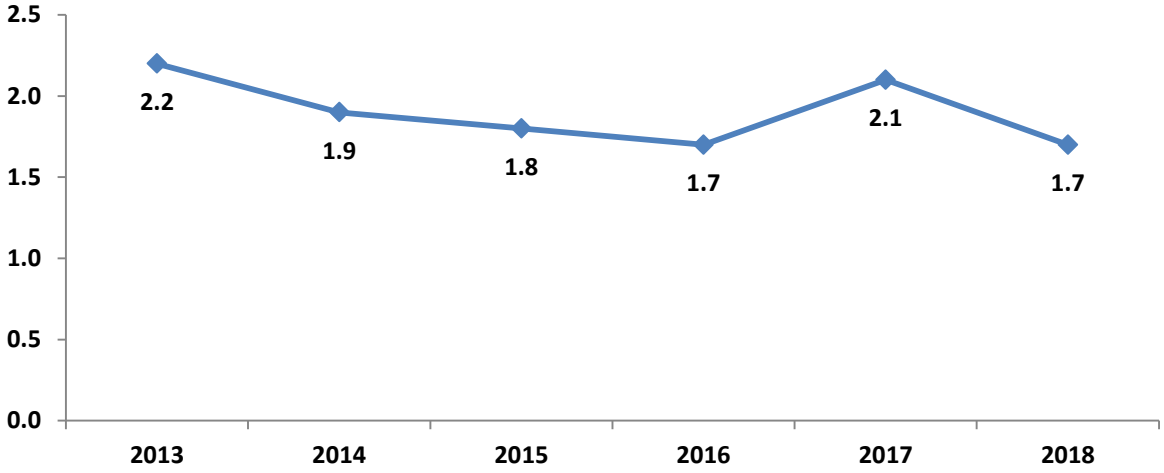
Homicide Prevention Recommendations

- Support sufficient funding and access to behavioral health and substance use assessment and treatment services for children, youth, and their families.
- Completely remove firearms from homes where individuals are experiencing mental health problems such as, depression, substance use, or suicidal ideation.

Drowning Deaths

Twenty-eight children died from drownings. This accounts for 3% of all child deaths in Arizona in 2018. The drowning mortality rate decreased 19% from 2017 to 2018 (Figure 30).

Figure 30. Mortality Rate due to Drowning per 100,000 Children, Ages 0-17 Years, Arizona, 2013-2018



Prevention

Drowning is a highly preventable cause of death with identifiable risk factors that can be recognized and addressed.

- *Sex*: males are twice as likely to drown as girls
- *Age*: children under the age of five are at highest risk for drowning
- Substance use or abuse: either by the caregiver or child
- Access to water: residential pools not adequately fenced

In 2018, review teams determined all of the drowning deaths (n=28) were preventable. Access to water was the most commonly identified factor in 86% of the drowning fatalities (n=24) and followed by lack of supervision which accounted for 89% of drowning fatalities (n=25) (Table 13).

Table 13. Preventable Factors for Child Drowning, Ages 0-17 Years, Arizona, 2018		
Factor*	Number	Percent
Lack of supervision	25	89%
Access to water	24	86%
*More than one factor may have been identified for each death		

The group at highest risk of drowning are children aged one to four years of age, accounting for 71% of the drowning deaths in 2018 (n=20). Males composed 82% of drowning deaths. White children made up 43% of drowning deaths (n=12); followed by Hispanic children who composed an additional 29% of the drowning deaths (n=8).

Seventy-nine percent (n=22) of children drowned in a pool, hot tub or spa. Other locations of drowning deaths included open bodies of water and bathtubs or buckets of water (n=6) (Table 14).

Table 14. Location of Child Drowning Fatalities, Ages 0-17 Years, Arizona, 2018 (n=28)		
Location	Number	Percent
Pool/hot tub/spa	22	79%
Other (Open bodies of water, bathtub, and bucket)	6	21%

Prevention strategies include close, constant and attentive supervision of children when they are in and around water. Additional prevention strategies include building and maintaining fencing around pools and other bodies of water when possible, promoting learning to swim, and encouraging the use of lifejackets.

Lack of supervision and access to water are the leading risk factors in drowning deaths, so prevention efforts need to continue to promote proper supervision of young children around water and “touch supervision” of young non-swimmers. Touch supervision is defined as the adult who is responsible for supervising the non-swimmer remain within an arm’s length of the child they are supervising.

Drowning Prevention Recommendations

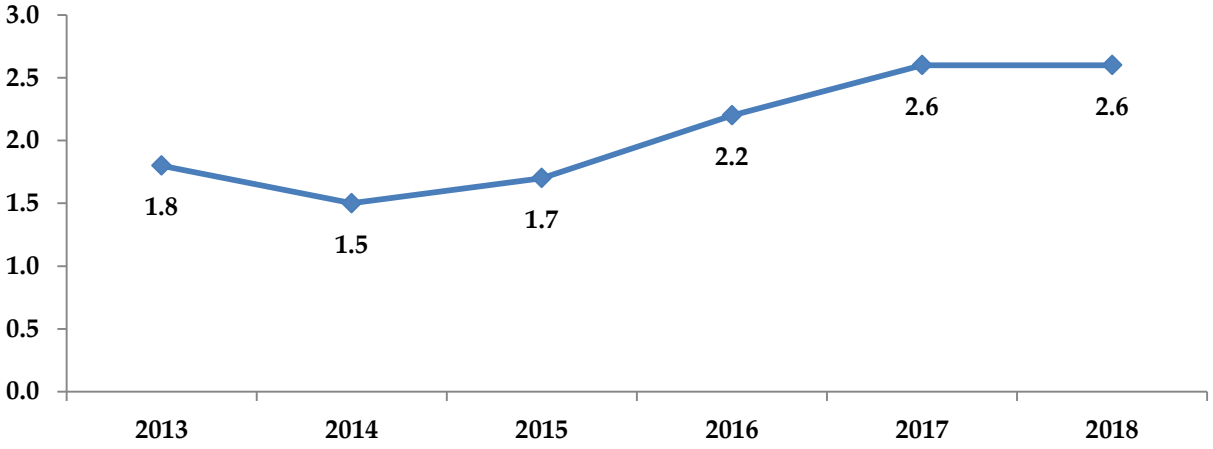
- Children and parents should learn to swim and learn water-safety skills.
- Children need to be taught never to swim alone and never to swim without adult supervision.
- Parents and caregivers should never (even for a moment) leave children alone or in the care of another child while in or near bodies of water including bathtubs and swimming pools.
- Continue to support and expand public drowning prevention education including public service announcements and increased access to quality swim lessons.
- Encourage parents, caregivers, and pool owners to learn CPR.
- To prevent unintended access, families should install a 4-sided isolation fence with a minimum height of 4 feet that separates the pool from the house and the rest of the yard with a self-closing, self-latching gate.
- Parents should require their children to wear US Coast Guard–approved life jackets whenever they are in watercraft or near bodies of water. Increase access to life jackets near all bodies of water, including tubing on the river.
- Parents should not use air-filled swimming aids (such as inflatable arm bands, floaties, rings and puddle jumpers) in place of life jackets. These devices are toys and should not be considered safety devices.
- Strengthen legislation and ordinances regarding proper pool fencing and barriers.

Firearm Deaths

The number of firearm deaths remained constant from 2017 (n=43) to 2018 (n=43). In 2018, firearm deaths accounted for 5% of all deaths. Over the last six years, the firearm mortality rate has steadily increased (Figure 31).

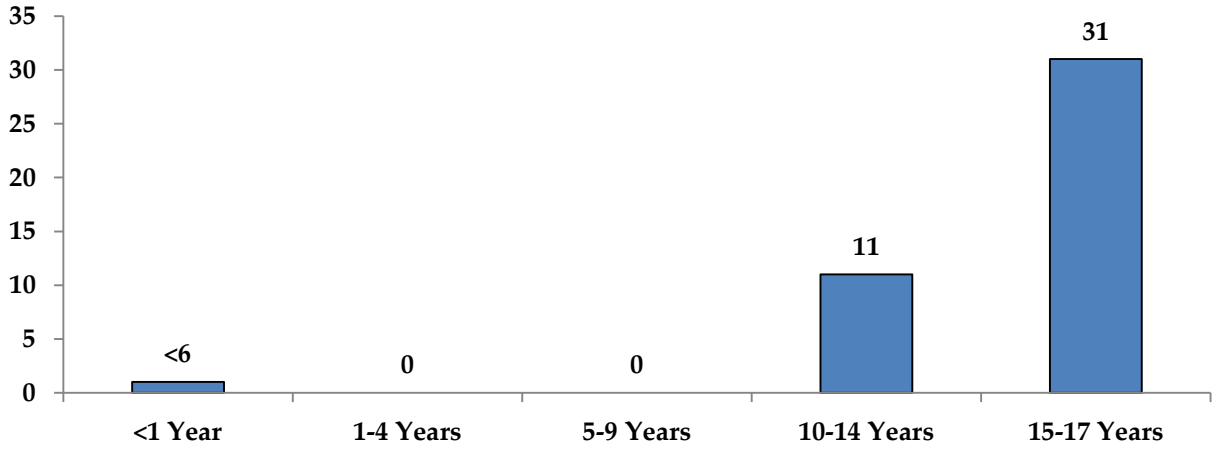
Males were victims (n=39) to 91% of firearm deaths compared to the 9% of female victims (n=4). White children were the most affected by firearm deaths representing 44% of the deaths (n=19).

Figure 31. Mortality Rates due to Firearms per 100,000 Children, Ages 0-17 Years, Arizona, 2013-2018



In 2018, children 15 through 17 years old accounted for 72% of firearm deaths (n=31) (Figure 32).

Figure 32. Number of Firearm Deaths for Children, Ages 0-17 Years, by Age Group, Arizona, 2018 (n=43)



Suicides and homicides accounted for 84% of firearm deaths in 2018. Fifty-six percent of firearm deaths were a result of suicide (n=24) and thirty percent of firearm deaths were homicides (n=13). Fifty-three percent of firearm deaths occurred in the child's home (n=23). Handguns accounted for 84% of the firearm fatalities in 2018 (n=37) (Table 15).

Table 15. Types of Firearms Involved in Child Deaths, Ages 0-17 Years, Arizona, 2018 (n=43)		
Type	Number	Percent
Handgun	37	84%
Other	6	14%

Forty-nine percent of firearm deaths involved guns owned by parents and nine percent of firearm deaths involved guns owned by a friend or acquaintance (Table 16).

Table 16. Owners of Firearms Involved in Child Deaths, Ages 0-17 Years, Arizona, 2018 (n=43)		
Owner	Number	Percent
Parent	21	49%
Other	11	26%
Unknown	7	16%
Friend/Acquaintance	<6	9%

In a majority of firearm deaths, the firearm was not stored or was in an unlocked cabinet (37%, n=16). Thirteen of the firearms were stored in an unknown location (30%) (Table 17).

Table 17. Locations of Firearms Involved in Child Deaths, Ages 0-17 Years Arizona, 2018 (n=43)		
Location	Number	Percent
Not Stored/Unlocked cabinet	10	37%
Unknown	14	30%
Other	8	14%
Locked Cabinet	6	9%

Prevention

All of the firearms deaths were determined to be preventable by review teams. Firearm deaths made up 13% of all preventable deaths. Substance use was a risk factor identified in 40% of firearm deaths (n=17) (Table 20).

Firearm Death Prevention Recommendations

- Gun owners should store all firearms in a safe condition; locked, out of reach and sight of children, and unloaded with ammunition stored separately.
- Parents should make sure their child does not have access to guns while attending childcare or visiting the homes of others.
- Support training for all health care providers on the recognition, assessment, and management of children at risk for suicide.
- Remove access to firearms if there is a family member at risk for suicide.

Substance Use Related Deaths

The CFR program defines substance use related deaths as deaths 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.

The CFR teams reviewed the records on each death to determine if the child was a substance user or if the child's parents or other caretakers were substance users.

In 2018, substance use was involved in 12% of all child fatalities (n=105). Forty percent of substance use related deaths (n=45) resulted in deaths due to accidental injuries followed by eighteen percent of deaths due to homicide (n=19) (Figure 33). Children 15 through 17 years had the highest risk of experiencing a substance use related death (46%, n=48). Accidental overdose deaths accounted for fifteen percent (n=16) of the substance use related deaths. All accidental overdose deaths were opioid poisonings and twelve of these involved fentanyl.

Figure 33. Number and Percentage of Deaths where Substance Use was found as a Direct or Contributing Factor leading to Death, Ages 0-17 Years, by Manner, Arizona, 2018 (n=105)

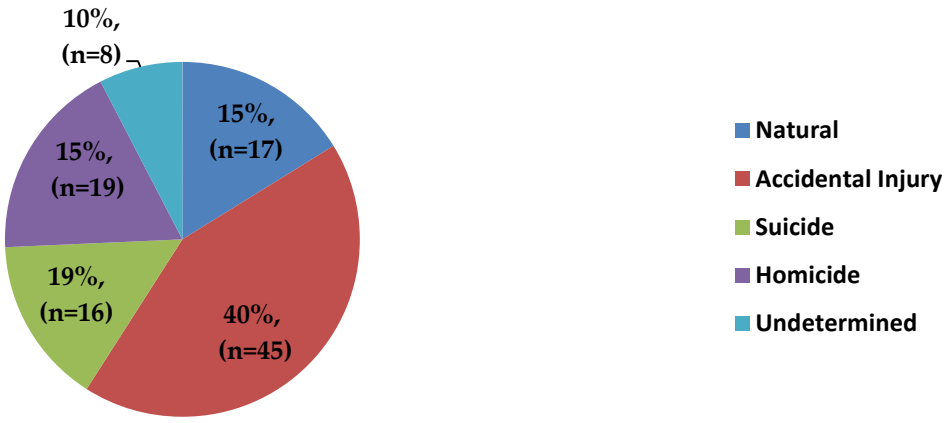
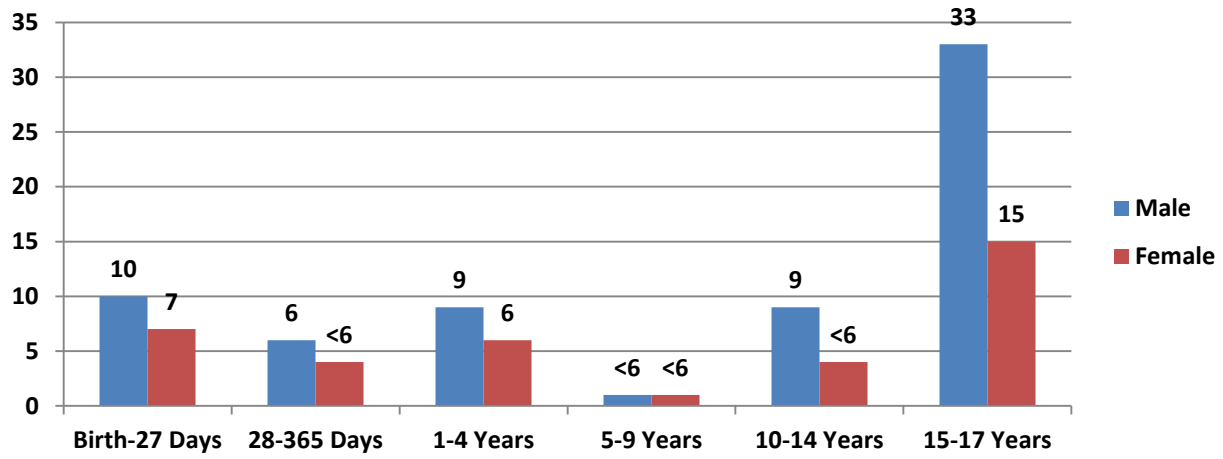


Figure 34. Percentage of Deaths, where Substance Use was a Direct or Contributing Factor to Death, Ages 0-17 Years, by Age Group & Sex, Arizona, 2018 (n=105)



Of the substance use related deaths, 21% (n=22) were due to motor vehicle crashes; 20% (n=21) were due to poisoning, 16% (n=17) were due to firearm injury and 9% (n=9) were due to prematurity (Table 18).

Table 18. Number and Percentage of Deaths where Substance Use was a Direct or Contributing Factor to the Death of Children, Ages 0-17 Years, Arizona, 2018

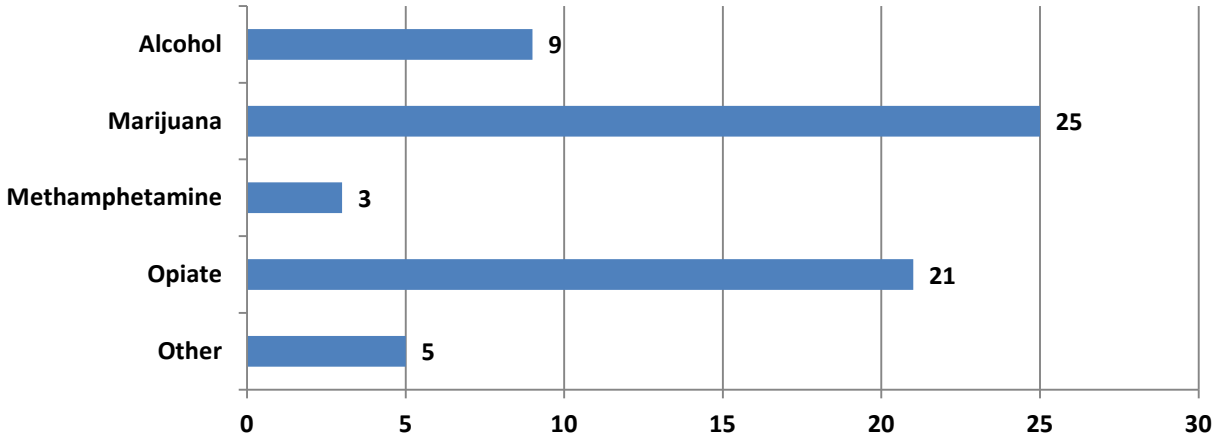
Cause of Death	Number	Percent
MVC	22	21%
Poisoning	21	20%
Firearm Death	17	16%
Prematurity	9	9%
Hanging	8	8%
Blunt Force Trauma	6	6%
Other Medical Conditions	6	6%
Undetermined	<6	5%
Suffocation	<6	4%

Of the substance use related deaths, alcohol was identified in 33% of deaths (n=35), marijuana was identified in 30% of deaths (n=32), opiates were identified in 29% (n=30), and methamphetamine was identified in 27% of deaths (n=28). In some deaths more than one drug was found to be a factor in the death of a child. Table 19 includes substances used by any user that may have caused or contributed to the child death.

Table 19. Substances found as a Direct or Contributing Factor to Child Deaths, Arizona, 2018		
Substance Used*	Number	Percent
Alcohol	35	33%
Marijuana	32	30%
Opiate (Includes Opioid Prescriptions, Fentanyl or Heroin)	30	29%
Methamphetamine	28	27%
Other (Includes Non-Opioid Prescription, over the counter drugs, and other Illegal drugs not listed in this table)	16	15%
Cocaine	<6	4%
*More than one substance may have been identified for each death		

In 42% of substance use related deaths (n=44), the parent was using or abusing alcohol or drugs and the child was using alcohol or drugs in 46% (n=48). Of these deaths where the child was the user, marijuana was used in 25 deaths and opiates were used in 21 deaths (Figure 35).

Figure 35. Number of Substances found as a Factor, by Child User, Arizona, 2018



Substance Use Prevention Recommendations

- Increase funding to support substance use prevention and community education on how to identify early symptoms of substance use in all Arizona communities.
- To prevent opioid deaths, learn how to treat an overdose and keep naloxone readily available if a family member is using opioids.
- Encourage health care providers to screen all children and adults for alcohol misuse and substance use.
- Strengthen services to address adverse childhood experiences and practice trauma informed care.
- Provide affordable and accessible counseling and other interventions for substance users.
- Store all medications in a locked cabinet and discard unused medications safely and properly when they are no longer being taken.
- Increase the availability of recreational activities for children and adolescents after school hours to reduce the risk of substance use.

Technical Appendix

Classifications

Injury deaths: Death certificates of all persons who died in Arizona are collected and maintained by the ADHS Bureau of Population Health and Vital Statistics. For the years 2013 through 2018, all deaths of Arizona residents and out-of-state residents aged birth through 17 were identified by underlying cause of death with International Classification of Disease codes, Version 10 (www.who.int/classifications/icd/en/). CFR local teams take the demographic and incident information from death certificates of children and youth aged birth through 17 for completing comprehensive reviews and subsequent aggregate data analysis. To categorize injury, intent, and mechanism, teams followed a guideline similar to the National Center for Health Statistics ICD-10 external cause of injury matrix available at: (www.cdc.gov/nchs/injury/injury_matrices.htm). Deaths caused by injuries, where the intent is known, are identified using the definitions below and the related ICD-10 codes:

Accidental injury: An injury or poisoning fatality that took place without any intent to cause harm or death to the victim. These are identified using ICD-10 codes V01-X59.

Homicide: An intentional injury resulting in death from the injuries inflicted by an act of violence carried out by another individual whose action was intended to cause harm, fear, and/or death. Homicide deaths are identified using ICD-10 codes X85-Y09.

Suicide: An injury death caused by an individual's purposeful intent to die because of their actions. Suicides are identified using ICD-10 codes X60-X84.

Undetermined injury death: An injury death that investigators and medical examiners have insufficient information available to determine a cause and/or manner of death. Undetermined injury deaths are identified using ICD-10 codes Y10–Y34.

Abuse/Neglect: An act or failure to act on the part of the parent or caregiver of a child resulting in the serious physical or emotional harm of the child. Some of the most common injuries CFR teams encounter while reviewing abuse/neglect cases involve physical abuse that includes internal abdominal and blunt force head injuries leading to a fatality. When reviewing neglect cases, CFR teams determine if parents or caregivers failed to provide the child's daily necessities including clothing, food, safe shelter, medical care and appropriate supervision. Deaths attributed to neglect are typically failure to thrive, accidents resulting from unsafe environments, and prenatal substance exposure. The circumstances surrounding

abuse/neglect deaths can vary greatly. Some abuse/neglect deaths are the result of long-term abuse/neglect both unintentional and intentional; however some cases result of a single incident.

To gain greater understanding of the contribution of abuse and neglect to child mortality, the Arizona CFR teams answer several questions regarding abuse and neglect during a review.
Classification of a death due to abuse/neglect must meet the following four conditions:

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

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

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

- Any death in which intoxication by drugs (prescription, over-the-counter, legal or illegal) or alcohol of the parent, guardian, or caregiver contributed to the death.
- Sleep related deaths when a parent/guardian/caregiver bed-sharing with or places an infant into an unsafe sleep environment while under the influence of drugs (prescription, over-the-counter, legal or illegal) or alcohol, or knowingly allows a child to be placed into an unsafe sleep environment under the care of someone under the influence of drugs (prescription, over-the-counter, legal or illegal) or alcohol.

- Natural deaths when medical neglect contributed to the death including failure to comply with a prescribed treatment plan, failure to obtain treatment, and/or failure to provide necessary medications e.g. an asthma related death where a caregiver did not provide the child with an inhaler.
- Prenatal exposure to illicit drug use or alcohol that causes or contributes to the death of the child e.g. a child born prematurely due to prenatal drug exposure to methamphetamines.
- Motor Vehicle Crash:
  - Parent/caregiver/supervisor drives under the influence of alcohol or drugs (prescription, over-the-counter, legal or illegal) with child passenger or knowingly allows child to be a passenger with driver under the influence.
  - If a child under the age of six years was a passenger and was not properly restrained (situations where a child was placed in the right type of restraint but the seat may not have been properly installed are not included as abuse/neglect).
  - Parent/caregiver/supervisor drives recklessly with child passenger and it was related to the child's death.
- Drowning:
  - Parent/caregiver/supervisor leaves a child near or in a body of water such as a pool, lake, or river without sober and inadequate adult supervision. This is if the child's age, mental capacity, or physical capacity puts the child at risk of drowning e.g. child is under the age of 5, and/or is unable to swim.
  - Parent/caregiver/supervisor leaves infant or toddler in a tub, unsupervised.
- Gunshot wound when a parent/caregiver/supervisor leaves a loaded weapon unsecure where a child would have access to the weapon.
- Exposure when a parent/caregiver/supervisor leaves young a child/infant alone in a car or outdoors.
- Poisoning when a parent/caregiver/supervisor allows medication or dangerous household products to be accessible to a child or teen with known behavioral health issues e.g. If there is a teen in the household with history of substance abuse or suicidal ideation and prescription medication, such as opiates, are not in a secured location.
- Suicide when a parent/caregiver/supervisor failed to secure hazards e.g. unsecured weapon, prescription drugs or did not seek care for the child when aware of any suicidal ideation.

Reporting: The number of child abuse/neglect deaths presented in this report is not comparable to child abuse/neglect deaths reported by the Arizona Department of Child Safety (DCS) (Formerly Arizona

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

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

Sudden unexpected infant deaths and sleep related suffocation deaths: In Arizona, all sudden unexpected infant deaths (SUID) are determined using a protocol based on the CDC's SUID guidelines. Based upon these guidelines, review teams will follow the protocol to determine if unsafe factors were in place at the time of the child's death. If any such factors are identified, then the death will be classified as one of the following:

(1) With sufficient evidence that supports the infant's airway was obstructed, it will be deemed as asphyxia or suffocation with an accidental manner;

(2) If there is not enough evidence to determine intent, but the cause of death of suffocation is clear then it will be labeled with an undetermined manner of death.

(3) If all evidence is reviewed and cause of death is suspected, but there is not enough information to fully determine the cause or manner then the death will be labeled as undetermined for both cause and manner.

Sleep related injury deaths in this report are identified by reviewing all potential cases of children less than 1 year of age, with causes and manners of death using the ICD-10 codes of W75, W84 (suffocation injuries) and Y33, Y34 (injuries of undetermined cause and intent). In addition, some natural cause of death if the death was sudden and unexpected and the infant was in a sleep environment. A death is considered sleep related if the child was found in a sleep environment or the last time they were seen alive was while they were asleep.

Limitations: 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 Native American 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.

Factors influencing protocols to certify SUID and sleep related deaths include death scene investigation by trained investigators and law enforcement, completion of the death scene investigation form, and the final determination of death by a certified forensic pathologist. The Arizona CFR program works to mitigate these limitations by providing statewide training to law enforcement on the statutorily required Arizona Infant Death Checklist, and completing both local and state level reviews of all identified SUID cases. In 2018, of the 60 deaths where a death scene investigation was completed, authorities filled out an infant death checklist in 47 of the cases. The cases in this report use the final cause and manner of death that are determined by the state SUID Review Team. This expert panel reviews all available information to determine the classification. However, the use of this methodology accounts for the differences between the numbers in the report and the numbers reported by vital records and medical examiners.

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

CFR team meetings: Local CFR team review meetings are closed to the public. All team members must sign a confidentiality statement before participating in the review process. The confidentiality statement specifically defines the conditions of participation and assures that members will not divulge information discussed in team meetings. In addition, identifying information in data and research reports are omitted to maintain confidentiality.

All cases reviewed by the CFR team are kept completely confidential. Information shared in the meetings is protected under ARS 36-3502 and shall not be shared with anyone outside the meeting. Every effort is made in this report to keep information private, and is intended only to provide summary statistics of all child deaths in Arizona.

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

Review Process

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

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

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

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

The State Team meets annually to review the analysis of these findings. State Team membership by

statute requires representatives from a variety of community and governmental agencies including:

- Attorney's General Office
- Bureau of Women's and Children's Health in the Arizona Department of Health Services
- Division of Behavioral Health in the Arizona Department of Health Services
- Arizona Health Care Cost Containment System
- Division of Developmental Disabilities in the Arizona Department of Economic Security
- Department of Child Safety
- Governor's Office of Youth, Faith, and Family
- Administrative Office of the Courts
- Parent assistance office of the Supreme Court
- Arizona Chapter of the American Academy of Pediatrics
- Medical Examiner who is a forensic pathologist
- Maternal Child Health Specialist who works with members of Tribal Nations
- Private nonprofit organization of Tribal Governments
- The Navajo Nation
- United States Military Family Advocacy Program
- Prosecuting Attorney's Advisory Council
- Law Enforcement Officer's Advisory Council with experience in child homicide
- Association of County Health Officers
- Child Advocates not employed by the state or a political subdivision of the state
- A member of the public

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

In Arizona, the cause of death refers to the injury or medical condition that resulted in death (e.g. firearm-related injury, pneumonia, cancer). Manner of death is not the same as cause of death, but specifically

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

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

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

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

Appendix of Summary Tables

The following section of this report provides additional data tables for both individual and agency use. These tables can be used as reference to guide prevention efforts within their respective organizations. It should be noted that all counts <6 have been suppressed to protect individual identification. The CFR program completed reviews for 100 percent of Arizona's child fatalities from 2013 through 2018 and included the data for comparative analysis. [12]

Table 20. Number and Percentage of Deaths by Age Group, Arizona, 2013- 2018

	2013		2014		2015		2016		2017		2018	
Age Group	#	%	#	%	#	%	#	%	#	%	#	%
0-27 Days	298	37	341	41	287	38	299	38	284	35	324	38
28-364 Days	156	19	183	22	178	23	144	18	173	21	140	17
1-4 Years	130	16	95	11	101	13	117	15	99	12	114	14
5-9 Years	47	6	56	7	51	7	45	6	66	8	46	5
10-14 Years	77	9	70	8	46	6	71	9	74	9	83	10
15-17 Years	103	13	89	11	104	13	107	14	110	14	136	16
Total	811		834		768		783		806		843	

Table 21. Mortality Rates per 100,000 Population by Age Group, Arizona, 2013- 2018

Age Group	2013	2014	2015	2016	2017	2018
<1 Year*	5.3	6.0	5.5	5.2	5.6	5.8
1-4 Years	37.0	27.1	29.1	34.1	28	32.1
5-9 Years	10.1	12.1	11.0	9.8	14.5	10.1
10-14 Years	16.9	15.3	10.0	15.5	16	17.7
15-17 Years	37.7	32.5	38.1	38.8	39.2	48.3
Total	49.5	51.3	47.3	48.2	49.2	51.2
*Neonatal/post-natal periods deaths are combined and represent infant mortality rate per 1,000 births						

Table 22. Number and Percentage of Deaths by Race/Ethnicity, Arizona, 2013- 2018

	2013		2014		2015		2016		2017		2018	
Race/Ethnicity	#	%	#	%	#	%	#	%	#	%	#	%
African American	78	10	75	9	68	9	75	10	74	9	78	9
American Indian	76	9	66	8	68	9	70	9	65	8	83	10
Asian	16	2	14	2	17	2	25	3	20	2	23	3
Hispanic	343	42	366	44	332	43	350	45	321	40	334	40
White	280	35	285	34	253	33	235	30	285	35	272	32
Multiracial	18	2	28	3	30	4	28	4	41	5	53	6
Total	811		834		768		783		806		843	

[12] For all tables in this Appendix, all data with a count less than six are denoted as <6 and are suppressed due to concern with individual identification.

Table 23. Mortality Rates per 100,000 Children by Race/Ethnicity, Arizona, 2013- 2018						
Race/Ethnicity*	2013	2014	2015	2016	2017	2018
African American	103.3	67.3	74.4	79.9	75.5	80.4
American Indian	76.7	53.4	78.6	80.8	76.2	94.9
Asian	35.7	22.3	32.0	46.4	34.8	41.1
Hispanic	49.6	57.7	46.9	49.5	46.2	45.7
White	38.5	41.0	36.7	34.4	41.9	40.2
*Includes multiracial						

Table 24. Number and Percentage of Deaths by County of Residence, Arizona, 2013- 2018												
	2013		2014		2015		2016		2017		2018	
County	#	%	#	%	#	%	#	%	#	%	#	%
Apache	17	2	15	2	17	2	24	3	9	1	<6	<1
Cochise	14	2	12	1	15	2	13	2	16	2	11	1
Coconino	17	2	14	2	20	3	17	2	17	2	20	2
Gila	9	1	12	1	6	<1	7	1	13	2	12	1
Graham	7	<1	6	1	<6	<6	<6	<6	<6	<1	7	<1
Greenlee	<6	<6	<6	<6	<6	<6	<6	<6	<6	<1	<6	<1
La Paz	<6	<6	<6	<6	<6	<6	<6	<6	<6	<1	<6	<1
Maricopa	477	59	501	60	445	58	488	62	502	62	481	57
Mohave	15	2	24	3	19	2	13	2	16	2	14	2
Navajo	23	3	20	2	21	3	13	2	25	3	31	4
Pima	102	13	112	13	85	11	91	12	82	10	113	13
Pinal	46	6	46	6	52	7	38	5	46	6	46	5
Santa Cruz	<6	<1	<6	<1	<6	<1	6	1	<6	<1	7	<1
Yavapai	20	2	21	3	20	3	20	3	19	2	21	2
Yuma	27	3	26	3	34	4	22	3	22	3	26	3
Outside Arizona	25	3	19	2	24	3	26	3	27	3	42	5
Total	810		834		768		783		806		843	

Table 25. Mortality Rates per 100,000 Children by Cause of Death, Arizona, 2013- 2018						
Cause	2013	2014	2015	2016	2017	2018
Abuse/Neglect	5.6	4.6	5.3	5.0	4.9	4.6
MVC	3.5	3.0	2.8	4.4	4.0	4.5
Homicide	3.1	2.2	2.0	2.6	2.3	1.9
Suicide	1.5	2.3	2.9	2.3	3	3.9
Firearms	1.8	1.5	1.7	2.2	2.6	2.6
Drowning	1.4	1.9	1.8	1.7	2.1	1.7
SUID*	0.87	0.98	0.91	0.94	1.02	0.74
*SUID rates are per 1,000 births						

Table 26. Number of Child Deaths by Age Group and Manner, Arizona, 2018							
Manner	Birth-27 Days	28-364 Days	1-4 Years	5-9 Years	10-14 Years	15-17 Years	Total
Natural	319	70	54	29	39	27	538
Accident	<6	40	43	16	20	50	170
Homicide	<6	6	10	0	<6	11	31
Suicide	0	0	0	0	19	45	64
Undetermined	<6	24	7	<6	<6	<6	40
Total	324	140	114	46	83	136	843

Table 27. Number and Percentage of Deaths Among Children Birth Through 17 Years by Manner, Arizona, 2013- 2018												
	2013		2014		2015		2016		2017		2018	
Manner	#	%	#	%	#	%	#	%	#	%	#	%
Natural	513	63	546	66	487	64	484	62	489	61	538	64
Accident	186	23	180	22	160	21	179	23	187	23	170	20
Undetermined	36	5	34	4	42	5	40	5	42	5	40	5
Homicide	51	6	36	4	32	4	42	5	38	5	31	4
Suicide	25	3	38	5	47	6	38	5	50	6	64	8
Total	811		834		768		783		806		843	

Table 28. Number of Deaths Among Children Birth to 17 Years by Cause and Manner, Arizona, 2018						
Cause	Natural	Accident	Suicide	Homicide	Undetermined	Total
Medical*	314	0	0	0	0	314
Prematurity	224	0	0	0	0	224
MVC	0	72	<6	0	<6	74
Suffocation	0	38	0	0	<6	39
Undetermined	0	0	0	0	31	31
Firearm	0	<6	24	13	<6	43
Drowning	0	27	0	<6	0	28
Blunt Force Trauma	0	0	<6	12	<6	17
Poisoning	0	18	<6	0	<6	23
Strangulation	0	<6	31	0	<6	33
Other Injury	0	11	<6	<6	0	17
Total	538	170	64	31	40	843
*Excluding prematurity						

Table 29. Number and Percentage of Deaths Among Children Birth Through 17 Years by Cause, Arizona, 2013- 2018												
	2013		2014		2015		2016		2017		2018	
Cause	#	%	#	%	#	%	#	%	#	%	#	%
Medical*	303	37	326	39	310	40	320	41	305	38	314	43
Prematurity	210	26	222	27	177	23	162	21	180	22	224	20
MVC	80	10	57	7	50	6	71	9	65	8	74	9
Suffocation	48	6	72	9	65	8	55	7	51	6	39	5
Firearm	29	4	25	3	28	4	36	5	43	5	43	5
Drowning	23	3	31	4	30	4	27	3	35	4	28	3
Blunt Force Trauma	28	3	19	2	11	1	20	3	19	2	17	2
Strangulation	18	2	14	2	17	2	24	3	<6	<1	33	4
Undetermined	35	4	31	4	43	6	41	5	42	5	31	4
Poisoning	14	2	9	1	15	2	13	2	16	2	23	3
Fire/burn	<6	<6	<6	<6	<6	<6	<6	<6	6	<1	<6	<1
Exposure	<6	<6	<6	<6	6	1	<6	<6	<6	<1	<6	<1
Fall/crush	<6	<6	7	<1	<6	<6	<6	<6	<6	<1	<6	<1
Other Injury	<6	<6	8	1	12	2	<6	<6	7	<1	7	<1
Total	811		834		768		783		806		843	
*Excluding prematurity												

Table 30. Number and Percentage of Natural Deaths by Age Group, Arizona, 2013- 2018												
	2013		2014		2015		2016		2017		2018	
Age Group	#	%	#	%	#	%	#	%	#	%	#	%
0-27 Days	289	56	332	61	279	58	290	60	274	56	319	59
28-364 Days	79	15	89	16	94	19	53	11	81	17	70	13
1-4 Years	62	12	40	7	40	8	53	11	47	10	54	10
5-9 Years	25	5	29	5	26	5	29	6	38	8	29	5
10-14 Years	36	7	37	7	20	4	34	7	28	6	39	7
15-17 Years	22	4	19	4	27	6	25	5	21	4	27	5
Total	513		546		487		484		489		538	

Table 31. Number and Percentage of Natural Deaths by Race/Ethnicity, Arizona, 2013- 2018

	2013		2014		2015		2016		2017		2018	
Race/Ethnicity	#	%	#	%	#	%	#	%	#	%	#	%
African American	52	10	48	9	42	9	35	7	40	8	39	7
American Indian	38	7	34	6	40	8	38	8	35	7	38	7
Asian/Pacific Islander	10	2	12	2	14	3	19	4	18	4	12	2
Hispanic	234	46	252	46	235	48	236	49	207	42	244	45
White	169	33	178	33	133	27	137	28	163	33	163	30
Multiracial	10	2	22	4	23	5	19	4	26	5	42	8
Total	513		546		487		484		489		538	

Table 32. Number and Percentage of Accidental injury deaths by Age Group, Arizona, 2013- 2018

	2013		2014		2015		2016		2017		2018	
Age Group	#	%	#	%	#	%	#	%	#	%	#	%
0-27 Days	6	3	6	3	<6	3	8	4	<6	3	<6	1
28-364 Days	44	23	63	35	53	33	54	30	53	28	40	24
1-4 Years	46	25	36	20	39	24	47	27	37	20	43	25
5-9 Years	20	11	21	12	18	11	10	6	24	13	16	9
10-14 Years	24	13	17	9	12	8	22	12	25	13	20	12
15-17 Years	46	25	37	21	33	21	38	21	43	23	50	29
Total	186		180		160		179		187		170	

Table 33. Number and Percentage of Accidental Injury Deaths Among Children by Race/Ethnicity, Arizona, 2013- 2018

	2013		2014		2015		2016		2017		2018	
Race/Ethnicity	#	%	#	%	#	%	#	%	#	%	#	%
African American	15	8	18	10	12	8	26	15	18	10	19	11
American Indian	21	11	25	14	17	11	17	10	19	10	18	11
Asian	<6	<6	<6	<6	<6	<6	<6	<6	<6	<1	6	4
Hispanic	70	38	71	39	62	39	71	40	71	38	53	31
White	70	38	62	34	60	38	58	33	70	37	68	40
Multiracial	<6	<6	<6	<6	<6	<6	<6	<6	8	4	6	4
Total	186		180		160		179		187		170	

Table 34. Number of Sudden Unexplained Infant Deaths by Age Group, Arizona, 2013- 2018						
Age Group	2013	2014	2015	2016	2017	2018
< 1 year	74	85	78	80	84	60

Table 35. Number and Percentage of Sudden Unexplained Infant Deaths by Race/Ethnicity, Arizona, 2013-2018												
	2013		2014		2015		2016		2017		2018	
Race/Ethnicity	#	%	#	%	#	%	#	%	#	%	#	%
African American	11	15	8	9	7	9	12	15	16	19	13	22
American Indian	6	8	9	11	<6	<6	8	10	5	6	8	13
Asian	0	0	0	0	0	0	<6	<6	<6	1	<6	5
Hispanic	22	30	36	42	32	42	24	30	27	32	16	27
White	34	46	29	34	30	39	31	39	28	33	19	32
Multiracial	<6	<6	<6	<6	<6	6	<6	<6	7	8	<6	2
Total	74		85		77		79		84		60	

Table 36. Number and Percentage of Abuse/Neglect Deaths by Age Group, Arizona, 2013- 2018

	2013		2014		2015		2016		2017		2018	
Age Group	#	%	#	%	#	%	#	%	#	%	#	%
0-27 Days	13	14	10	13	10	11	13	16	10	13	16	21
28-364 Days	29	32	26	35	29	33	22	27	27	34	17	23
1-4 Years	31	34	23	31	31	36	28	34	20	25	23	31
5-9 Years	<6	<6	9	12	8	9	10	12	10	13	<6	7
10-14 Years	11	12	7	9	<6	<6	<6	<6	7	9	9	12
15-17 Years	<6	<6	0	0	6	7	<6	<6	<6	6	<6	7
Total	92		75		87		82		79		75	

Table 37. Number and Percentage of Abuse/Neglect Deaths by Race/Ethnicity, Arizona, 2013- 2018

	2013		2014		2015		2016		2017		2018	
Race/Ethnicity	#	%	#	%	#	%	#	%	#	%	#	%
African American	11	12	8	11	11	13	18	22	12	15	12	16
American Indian	15	16	8	11	13	15	9	12	9	11	12	16
Asian	<6	<6	<6	<6	<6	<6	<6	<6	<6	<1	<6	<6
Hispanic	34	37	29	39	31	36	28	33	27	34	25	33
White	27	29	29	39	31	36	22	28	29	37	20	27
Multiracial	<6	<6	<6	<6	<6	<6	<6	<6	<6	<1	<6	<6
Total	92		75		87		82		79		75	

Table 38. Number and Percentage of Motor Vehicle Deaths by Age Group, Arizona, 2013- 2018

	2013		2014		2015		2016		2017		2018	
Age Group	#	%	#	%	#	%	#	%	#	%	#	%
0-27 Days	0	0	0	0	<6	<6	<6	<6	<6	<1	<6	1
28-364 Days	<6	<6	<6	<6	<6	<6	<6	<6	<6	<1	<6	4
1-4 Years	18	23	10	18	13	26	19	27	6	9	14	19
5-9 Years	17	21	12	21	9	18	7	10	16	25	10	14
10-14 Years	20	25	9	16	8	16	17	24	15	23	12	16
15-17 Years	24	30	25	44	18	36	24	34	25	38	34	46
Total	80		57		50		71		65		74	

Table 39. Number and Percentage of Motor Vehicle Deaths by Race/Ethnicity, Arizona, 2013- 2018												
	2013		2014		2015		2016		2017		2018	
Race/Ethnicity	#	%	#	%	#	%	#	%	#	%	#	%
American Indian	12	15	10	18	12	24	11	24	11	17	13	18
Hispanic	28	35	23	40	20	40	34	40	25	38	25	34
White	29	36	17	30	10	20	15	20	23	35	24	32
Other	11	14	7	12	8	16	11	16	6	9	12	16
Total	80		57		50		71		65		74	

Table 40. Number and Percentage of Suicides by Age Group, Arizona, 2013- 2018												
	2013		2014		2015		2016		2017		2018	
Age Group	#	%	#	%	#	%	#	%	#	%	#	%
<10 Years	<6	<6	0	0	0	0	<6	3	0	0	0	0
10-14 Years	8	32	11	29	12	26	9	24	16	32	19	30
15-17 Years	17	68	27	71	35	74	28	74	34	68	45	70
Total	25		38		47		38		50		64	

Table 41. Number and Percentage of Suicides by Race/Ethnicity, Arizona, 2013- 2018												
	2013		2014		2015		2016		2017		2018	
Race/Ethnicity	#	%	#	%	#	%	#	%	#	%	#	%
African American	<6	<6	0	0	<6	<6	<6	<6	<6	<1	<6	8
American Indian	<6	20	<6	8	<6	11	8	21	6	12	13	20
Hispanic	8	32	13	34	10	31	13	34	14	28	15	23
White	9	36	21	55	30	28	12	32	25	50	26	41
Other	<6	<6	<6	<6	<6	<6	<6	<6	<6	<1	<6	8
Total	25		38		47		38		50		64	

Table 42. Number and Percentage of Homicides by Age Group, Arizona, 2013- 2018												
	2013		2014		2015		2016		2017		2018	
Age Group	#	%	#	%	#	%	#	%	#	%	#	%
0-27 Days	<6	<6	0	0	0	0	0	0	<6	<1	<6	3
28-364 Days	7	14	7	19	<6	9	8	21	11	29	6	19
1-4 Years	16	31	14	39	18	56	10	23	7	18	10	32
5-9 Years	<6	<6	<6	14	<6	<16	<6	<12	<6	8	0	0
10-14 Years	9	18	<6	11	<6	<6	<6	<12	<6	13	<6	10
15-17 Years	16	31	6	17	<6	<16	15	35	11	29	11	35
Total	51		36		32		42		38		31	

Table 43. Number and Percentage of Homicides Deaths by Race/Ethnicity, Arizona, 2013- 2018												
	2013		2014		2015		2016		2017		2018	
Race/Ethnicity	#	%	#	%	#	%	#	%	#	%	#	%
African American	<6	<6	<6	<12	9	28	10	24	<6	11	7	23
American Indian	9	18	<6	<12	<6	<12	<6	<6	<6	<1	<6	16
Asian	0	0	0	0	0	0	<6	<6	0	0	<6	3
Hispanic	23	45	18	50	10	31	19	45	15	39	12	39
White	14	27	10	28	9	28	9	21	15	39	<6	13
Multiracial	<6	<6	<6	<6	<6	<6	<6	<6	<6	<1	<6	3
Total	51		36		32		42		38		31	

Table 44. Number and Percentage of Drowning Deaths by Age Group, Arizona, 2013- 2018												
	2013		2014		2015		2016		2017		2018	
Age Group	#	%	#	%	#	%	#	%	#	%	#	%
0-27 Days	0	0	0	0	0	0	0	0	0	0	0	0
28-364 Days	0	0	<6	<6	<6	<7	<6	<6	<6	<1	<6	4
1-4 Years	19	83	18	58	20	67	21	78	20	57	20	71
5-9 Years	<6	<6	<15	13	6	20	<6	<6	7	2	<6	14
10-14 Years	0	0	<6	13	<6	<6	0	0	<6	11	<6	7
15-17 Years	<6	13	<6	10	<6	<6	<6	15	<6	<1	<6	4
Total	23		31		30		27		35		28	

Table 45. Number and Percentage of Drowning Deaths by Race/Ethnicity, Arizona, 2013- 2018												
	2013		2014		2015		2016		2017		2018	
Race/Ethnicity	#	%	#	%	#	%	#	%	#	%	#	%
African American	<6	<6	6	19	<6	<13	<6	<8	<6	11	<6	7
American Indian	0	0	<6	<6	0	0	<6	<6	<6	<1	<6	7
Asian	<6	13	0	0	0	0	<6	<6	0	0	<6	4
Hispanic	14	61	7	23	10	33	9	33	17	49	8	29
White	<6	22	17	55	16	53	14	52	12	34	12	43
Multiracial	<6	<6	<6	<6	<6	<6	<6	<6	<6	<1	<6	11
Total	23		31		30		27		35		28	

Table 46. Number and Percentage of Firearm-Related Deaths by Age Group, Arizona, 2013- 2018												
	2013		2014		2015		2016		2017		2018	
Age Group	#	%	#	%	#	%	#	%	#	%	#	%
<10 Years	<6	10	<6	<20	<6	11	<6	<12	6	14	<6	2
10-14 Years	<6	17	6	24	6	21	<6	<12	10	23	11	26
15-17 Years	21	72	14	56	19	68	29	81	27	63	31	72
Total	29		25		28		36		43		43	

Table 47. Number and Percentage of Firearm Deaths by Race/Ethnicity, Arizona, 2013- 2018												
	2013		2014		2015		2016		2017		2018	
Race/Ethnicity	#	%	#	%	#	%	#	%	#	%	#	%
African American	<6	<7	<6	<6	<6	<6	6	17	<6	12	<6	12
American Indian	<6	<6	<6	<6	<6	<16	<6	<6	0	0	<6	5
Asian	<6	<6	<6	<6	<6	<6	<6	<6	0	0	<6	2
Hispanic	15	52	10	40	6	21	19	53	13	30	16	37
White	9	31	14	56	18	64	8	22	22	51	19	44
Multiracial	<6	<6	<6	<6	<6	<6	<6	<6	<6	7	0	0
Total	29		25		28		36		43		43	

Appendix of Child Deaths by Age Group

The following section of this report provides data on the cause and manner of child deaths by age group. Individuals and agencies can use the information provided for each age group to guide prevention efforts within each stage of child development. It should be noted that all counts <6 have been suppressed to protect individual identification. For the past ten years, teams' completed review of 100 percent of Arizona child fatalities and data from 2013 through 2018 are included in the following tables to provide comparison data. [13]

Table 48. Number of Deaths Among Children Ages Birth Through 27 Days by Cause and Manner, Arizona, 2018

Cause	Natural	Accident	Suicide	Homicide	Undetermined	Total
Medical*	166	0	0	0	0	166
Prematurity	152	0	0	0	0	152
MVC/Transport	<6	<6	0	0	0	<6
Suffocation	0	0	0	0	0	<6
Undetermined	<6	0	0	0	<6	<6
Other	<6	0	0	<6	0	<6
Total	319	<6	0	<6	<6	324
*Excluding prematurity						

Table 49. Number and Percentage of Deaths Among Children Ages Birth Through 27 Days by Cause, Arizona, 2013- 2018

	2013		2014		2015		2016		2017		2018	
Cause	#	%	#	%	#	%	#	%	#	%	#	%
Prematurity	188	63	195	57	152	52	145	48	158	56	152	47
Medical*	102	34	138	40	128	44	145	48	115	40	166	51
Undetermined	<6	<6	<6	<6	<6	<6	<6	<6	<6	2	<6	<6
MVC/Transport	<6	<6	0	0	<6	<6	<6	<6	<6	<1	<6	<6
Other	<6	<6	<6	<6	<6	<6	<6	<6	0	0	<6	<6
Suffocation	<6	<6	<6	<6	<6	<6	<6	<6	<6	1	<6	<6
Exposure	<6	<6	0	0	0	0	0	0	0	0	<6	<6
Drowning	<6	<6	0	0	0	0	0	0	0	0	<6	<6
Total	298		341		288		299		284		324	
*Excluding Prematurity												

[13] For all tables in this Appendix, all data with a count less than six are denoted as <6 and are suppressed due to concern with individual identification.

Table 50. Number and Percentage of Deaths Among Children Ages Birth Through 27 Days by Manner, Arizona, 2013- 2018												
	2013		2014		2015		2016		2017		2018	
Manner	#	%	#	%	#	%	#	%	#	%	#	%
Natural	289	97	332	97	280	97	290	97	274	96	319	98
Undetermined	<6	<6	<6	<6	<6	<6	<6	<6	<6	1	<6	<6
Accident	6	2	6	2	<6	<6	8	3	<6	2	<6	<6
Homicide	<6	<6	0	0	0	0	0	0	<6	1	<6	<6
Suicide	<6	<6	0	0	0	0	0	0	0	0	0	0
Total	298		341		288		299		284		324	

The Post-Neonatal Period, 28 Days through 364 Days

Table 51. Number of Deaths Among Children Ages 28 Days Through 364 Days by Cause and Manner, Arizona, 2018						
Cause	Natural	Accident	Suicide	Homicide	Undetermined	Total
Suffocation	0	37	0	0	0	38
Medical	57	0	0	0	0	57
Prematurity	0	0	0	0	0	13
Blunt Force Trauma	0	0	0	<6	0	<6
MVC/Transport	0	<6	0	0	0	<6
Drowning	0	<6	0	<6	<6	<6
Exposure	0	0	0	0	0	0
Underdetermined	0	0	0	0	23	23
Other	0	0	0	<6	0	<6
Total	70	40	0	6	24	140

Table 52. Number and Percentage of Deaths Among Children Ages 28 Days Through 364 Days by Cause, Arizona, 2013- 2018												
	2013		2014		2015		2016		2017		2018	
Cause	#	%	#	%	#	%	#	%	#	%	#	%
Suffocation	41	26	59	32	51	29	46	32	46	27	37	26
Medical	60	38	64	35	68	38	37	26	62	36	57	41
Undetermined	26	17	23	13	27	15	29	20	27	16	23	16
Prematurity	18	12	25	14	25	14	16	11	19	11	13	9
Blunt Force Trauma	6	4	6	3	<6	<6	8	6	8	5	<6	<6
MVC/Transport	<6	<6	<6	<6	<6	<6	<6	<6	<6	1	<6	<6
Drowning	0	0	<6	<6	<6	<6	<6	<6	<6	1	<6	<6
Firearm	<6	<6	<6	<6	0	0	0	0	<6	1	0	0
Exposure	<6	<6	<6	<6	<6	<6	<6	<6	<6	<1	0	0
Strangulation	<6	<6	0	0	0	0	0	0	0	0	0	0
Poisoning	0	0	0	0	<6	<6	0	0	<6	2	0	0
Fire/Burn	0	0	<6	<6	0	0	0	0	0	0	0	0
Other Injury	0	0	0	0	0	0	<6	<6	<6	<1	<6	<6
Fall/Crush	0	0	0	0	0	0	0	0	0	0	0	0
Total	156		183		178		144		173		140	

Table 53. Number and Percentage of Deaths Among Children Ages 28 Days Through 364 Days by Manner, Arizona, 2013- 2018												
	2013		2014		2015		2016		2017		2018	
Manner	#	%	#	%	#	%	#	%	#	%	#	%
Natural	79	51	89	49	94	53	53	37	81	47	70	50
Accident	44	28	63	34	53	30	53	37	53	31	40	29
Undetermined	26	17	24	13	28	16	29	20	28	16	24	17
Homicide	7	4	7	4	<6	<6	9	6	11	6	6	4
Suicide	<6	<6	0	0	0	0	0	0	0	0	0	0
Unknown	<6	<6	0	0	0	0	0	0	0	0	0	0
Total	156		156		178		144		173		140	

Children, One through Four Years of Age

Table 54. Number of Deaths Among Children Ages One Through Four Years by Cause and Manner, Arizona, 2018

Cause	Natural	Accident	Suicide	Homicide	Undetermined	Total
Medical*	52	0	0	0	0	52
Drowning	0	20	0	0	0	20
MVC/Transport	0	14	0	0	0	14
Undetermined	0	0	0	0	<6	<6
Blunt Force Trauma	0	0	0	9	<6	11
Prematurity	<6	0	0	0	0	<6
Strangulation	0	0	0	0	0	0
Suffocation	0	<6	0	0	0	<6
Poisoning	0	<6	0	0	<6	<6
Other Injury	0	<6	0	0	0	<6
Other Non-Medical	0	<6	0	<6	0	<6
Exposure	0	0	0	0	0	0
Total	54	43	0	10	7	114
*Excluding Prematurity						

Table 55. Number and Percentage of Deaths Among Children Ages One Through Four Years by Cause, Arizona, 2013- 2018

	2013		2014		2015		2016		2017		2018	
Cause	#	%	#	%	#	%	#	%	#	%	#	%
Medical*	62	48	40	42	40	40	50	43	42	42	52	46
Drowning	19	15	18	19	20	20	21	18	20	20	20	18
MVC/Transport	18	14	10	11	13	13	19	16	6	6	14	12
Undetermined	6	5	26	4	<6	<6	8	7	9	9	<6	<6
Blunt Force Trauma	14	11	10	11	9	9	6	5	<6	5	11	10
Firearm	<6	<6	<6	1	0	0	<6	<6	<6	3	0	0
Poisoning	<6	<6	0	0	<6	<6	<6	<6	<6	3	<6	<6
Fire/burn	<6	<6	0	0	0	0	<6	<6	<6	1	0	0
Fall/crush	<6	<6	<6	<6	<6	<6	<6	<6	<6	3	<6	<6
Strangulation	<6	<6	0	0	<6	<6	<6	<6	0	0	0	0
Prematurity	<6	<6	<6	<6	0	0	<6	<6	<6	2	<6	<6
Suffocation	<6	<6	<6	<6	6	6	<6	<6	<6	1	<6	<6
Other Injury	<6	<6	<6	<6	<6	<6	<6	<6	<6	3	<6	<6
Other non-Medical	<6	<6	<6	<6	<6	<6	0	0	0	0	<6	<6
Total	130		95		101		117		99		114	
*Excluding Prematurity												

Table 56. Number and Percentage of Deaths Among Children Ages One Through Four Years by Manner, Arizona, 2013- 2018												
	2013		2014		2015		2016		2017		2018	
Manner	#	%	#	%	#	%	#	%	#	%	#	%
Natural	62	48	40	42	40	40	53	45	47	47	54	47
Accident	46	35	36	38	39	39	47	40	37	37	43	38
Homicide	16	12	14	15	18	18	10	9	7	7	10	9
Undetermined	6	5	<6	5	<6	<6	7	6	8	8	7	6
Suicide	<6	<1	0	0	0	0	0	0	0	0	0	0
Unknown	<6	<1	0	0	0	0	0	0	0	0	0	0
Total	120		130		95		101		99		114	

Children, 5 through 9 Years of Age

Table 57. Number of Deaths Among Children Ages Five Through Nine Years by Cause and Manner, Arizona, 2018						
Cause	Natural	Accident	Suicide	Homicide	Undetermined	Total
Medical*	28	0	0	0	0	28
MVC/Transport	0	10	0	0	0	10
Firearm	0	0	0	0	0	0
Drowning	0	<6	0	0	0	<6
Undetermined	0	0	0	0	0	0
Fire/Burn	0	<6	0	0	0	<6
Exposure	0	0	0	0	0	0
Strangulation	0	<6	0	0	0	<6
Fall/Crush	0	0	0	0	0	0
Other	<6	0	0	0	<6	<6
Total	29	16	0	0	<6	46
*Excluding prematurity						

Table 58. Number and Percentage of Deaths Among Children Ages Five Through Nine Years by Cause, Arizona, 2013-2018												
	2013		2014		2015		2016		2017		2018	
Cause	#	%	#	%	#	%	#	%	#	%	#	%
Medical	24	51	30	54	25	49	29	64	37	56	28	61
MVC/Transport	17	36	12	21	9	18	7	16	16	24	10	22
Drowning	<6	<6	<6	<6	9	12	<6	<6	7	11	<6	<6
Firearm	<6	<6	<6	<6	<6	<6	<6	<6	<6	2	0	0
Blunt Force Trauma	<6	<6	<6	<6	<6	<6	<6	<6	<6	2	0	0
Fire/Burn	<6	<6	<6	<6	<6	<6	0	0	<6	2	<6	<6
Strangulation	<6	<6	<6	<6	0	0	<6	<6	0	0	<6	<6
Other	<6	<1	<6	<2	<6	2	0	0	0	0	<6	<6
Undetermined	<6	<6	0	0	<6	<6	0	0	0	0	<6	<6
Fall/Crush	<6	<6	<6	<6	<6	<6	<6	<6	0	0	0	0
Prematurity	<6	<1	0	0	0	0	0	0	<6	2	<6	<6
Suffocation	<6	<6	<6	<6	0	0	0	0	0	0	0	0
Poisoning	<6	<6	0	0	0	0	0	0	0	0	0	0
Total	47		56		51		45		66		46	
*Excluding Prematurity												

Table 59. Number and Percentage of Deaths Among Children Ages Five Through Nine Years by Manner, Arizona, 2013-2018												
	2013		2014		2015		2016		2017		2018	
Manner	#	%	#	%	#	%	#	%	#	%	#	%
Natural	25	53	29	52	26	51	29	64	38	58	29	63
Accident	20	43	21	38	18	35	10	22	24	36	16	35
Undetermined	<6	<6	<6	<6	<6	<6	0	0	<6	1	<6	<6
Homicide	<6	<6	<6	<6	<6	<6	<6	<6	<6	5	0	0
Suicide	0	0	0	0	0	0	<6	<6	0	0	0	0
Total	47		56		51		45		66		46	

Children, 10 through 14 Years of Age

Table 60. Number of Deaths Among Children Ages 10 Through 14 Years by Cause and Manner, Arizona, 2018						
Cause	Natural	Accident	Suicide	Homicide	Undetermined	Total
Medical*	37	0	0	0	0	37
MVC/Transport	0	12	0	0	0	12
Strangulation	0	0	13	0	0	13
Firearm Injury	0	<6	<6	<6	<6	11
Poisoning	0	0	0	0	0	0
Other	<6	<6	0	0	<6	<6
Undetermined	0	0	0	0	<6	<6
Exposure	0	0	0	0	0	0
Drowning	0	<6	0	0	0	0
Suffocation	0	<6	0	0	0	<6
Total	39	20	19	<6	<6	83

Table 61. Number and Percentage of Deaths Among Children Ages 10 Through 14 Years by Cause, Arizona, 2013- 2018												
	2013		2014		2015		2016		2017		2018	
Cause	#	%	#	%	#	%	#	%	#	%	#	%
Medical*	34	44	36	51	19	41	34	48	28	38	37	45
MVC/Transport	20	26	9	13	8	17	17	24	15	20	12	14
Strangulation	7	9	<6	<6	<6	<6	9	13	<6	11	13	16
Firearm	<6	6	6	9	6	13	<6	<6	10	14	11	13
Other Injury	<6	<6	<6	<6	<6	<6	<6	<6	0	0	<6	<6
Fall/Crush	<6	<6	<6	<6	<6	<6	<6	<6	0	0	0	0
Poisoning	<6	<6	<6	<6	<6	<6	<6	<6	<6	1	0	0
Blunt Force Trauma	<6	<6	<6	<6	0	0	<6	<6	<6	4	<6	<6
Exposure	<6	<6	0	0	<6	<6	0	0	0	0	0	0
Suffocation	<6	<6	<6	<6	<6	<6	0	0	0	0	<6	<6
Drowning	<6	<6	<6	<6	<6	<6	0	0	<6	5	<6	<6
Undetermined	<6	<6	<6	<6	<6	<6	<6	<6	<6	1	<6	<6
Fire/burn	<6	<6	<6	<6	0	0	0	0	<6	5	0	0
Total	77		70		46		71		74		83	
*Excluding Prematurity												

Table 62. Number and Percentage of Deaths Among Children Ages 10 Through 14 Years by Manner, Arizona, 2013- 2018												
	2013		2014		2015		2016		2017		2018	
Manner	#	%	#	%	#	%	#	%	#	%	#	%
Natural	36	47	37	53	20	44	34	48	28	38	39	47
Accident	24	31	17	24	12	26	22	31	25	34	20	24
Suicide	8	20	11	16	12	26	9	13	16	22	19	23
Homicide	9	23	<6	<6	<6	<6	<6	6	<6	6	<6	4
Undetermined	<6	<6	<6	<6	<6	<6	<6	<6	0	0	<6	2
Total	77		70		46		71		74		83	

Children, 15 through 17 Years of Age

Table 63. Number of Deaths Among Children Ages 15 Through 17 Years by Cause and Manner, Arizona, 2018						
Cause	Natural	Accident	Suicide	Homicide	Undetermined	Total
Firearm	0	0	20	9	<6	31
Medical*	26	0	0	0	0	27
MVC/Transport	0	32	<6	0	<6	34
Strangulation	0	0	19	0	0	19
Poisoning	0	15	<6	0	0	19
Drowning	0	<6	0	0	0	<6
Undetermined	0	0	0	0	0	<6
Fire/Burn	0	0	0	0	0	0
Other Injury	0	0	0	<6	0	0
Fall/Crush	0	<6	0	0	0	<6
Exposure	0	0	0	0	0	0
Suffocation	0	0	0	0	0	0
Total	27	50	45	11	<6	136
*Excluding prematurity						

Table 64. Number and Percentage of Deaths Among Children Ages 15 Through 17 Years by Cause, Arizona, 2013- 2018												
	2013		2014		2015		2016		2017		2018	
Cause	#	%	#	%	#	%	#	%	#	%	#	%
Firearm	21	20	14	16	19	18	29	27	27	25	31	23
Medical*	21	20	18	20	25	24	25	23	21	19	26	19
MVC/Transport	24	23	25	28	18	17	24	22	25	23	34	35
Strangulation	10	10	9	10	11	11	13	12	18	16	19	14
Poisoning	12	12	7	8	11	11	8	7	10	9	19	14
Other	<6	<6	<6	<6	8	8	<6	<6	<6	3	0	0
Exposure	<6	<6	<6	<6	<6	<6	0	0	0	0	0	0
Drowning	<6	<6	<6	<6	<6	<6	<6	<6	<6	2	<6	<6
Undetermined	<6	<6	0	0	<6	<6	<6	<6	0	0	<6	<6
Fall/Crush	<6	<6	<6	<6	<6	<6	<6	<6	<6	2	<6	<6
Blunt Force Trauma	<6	<6	0	0	0	0	<6	<6	<6	1	<6	<6
Fire/Burn	<6	<6	<6	<6	<6	<6	<6	<6	0	0	0	0
Suffocation	<6	<6	<6	<6	<6	<6	0	0	0	0	<6	<6
Total	103		89		104		107		110		136	
*Excluding Prematurity												

Table 65. Number and Percentage of Deaths Among Children Ages 15 Through 17 Years by Manner, Arizona, 2013- 2018												
	2013		2014		2015		2016		2017		2018	
Manner	#	%	#	%	#	%	#	%	#	%	#	%
Accident	46	45	37	42	33	32	38	36	43	39	50	37
Suicide	17	17	27	30	35	34	28	26	34	31	45	33
Natural	22	21	19	21	28	26	25	23	21	19	27	20
Homicide	16	16	6	7	<6	<6	15	14	11	10	11	8
Undetermined	<6	<6	0	0	<6	<6	<6	<6	<6	1	<6	2
Unknown	<6	<6	0	0	0	0	0	0	0	0	0	0
Total	103		89		105		107		110		136	

Appendix of Population Denominators for Arizona Children

The population denominators shown below were used in computing the rates presented in this report. Denominators for 2013 through 2018 were provided by the Arizona Department of Health Services Bureau of Public Health Statistics.

Population estimates for 2014 and forward were modified from previous years by applying county level demographic proportions in the census estimates for 2013 to the 2014 county population totals published by ADOA Department of Demography. This was done to determine the county-level proportions by race/ethnicity, gender, and age.

Table 66. Population of Children Ages Birth Through 17 Years by County of Residence, Arizona, 2013- 2018

County	2013	2014	2015	2016	2017	2018
Apache	21,493	21,271	21,132	20,848	20,925	20,254
Cochise	30,621	29,190	28,906	28,463	28,282	28,511
Coconino	31,463	31,097	30,902	30,498	30,504	30,440
Gila	11,351	11,062	11,091	11,085	11,215	11,157
Graham	10,818	10,871	10,874	10,693	10,683	10,410
Greenlee	3,016	2,952	2,967	2,950	3,100	2,903
La Paz	3,708	3,682	3,693	3,639	3,724	3,706
Maricopa	1,015,472	1,016,044	1,021,299	1,023,035	1,034,888	1,042,215
Mohave	39,786	39,076	38,404	37,694	37,653	37,220
Navajo	31,463	30,868	30,682	30,463	30,406	30,420
Pima	223,639	222,413	2,208,66	219,206	219,613	219,281
Pinal	103,403	99,111	99,049	98,531	100,282	100,387
Santa Cruz	14,369	14,304	14,243	14,065	14,238	14,289
Yavapai	39,417	38,243	37,841	37,671	37,643	37,907
Yuma	57,367	56,542	56,255	55,887	56,269	57,153
Total	1,637,386	1,626,726	1,628,204	1,624,728	1,639,425	1,647,253

Table 67. Population of Children Ages 0 through 17 by Race/Ethnicity, Arizona, 2013- 2018

Race/Ethnicity	2013	2014	2015	2016	2017	2018
African American	75,491	111,448	91,399	93,897	95,365	96,918
American Indian	99,014	123,657	86,548	86,600	88,123	87,468
Asian	44,838	62,673	53,073	53,827	54,545	55,894
Hispanic	691,459	634,110	707,456	706,954	720,700	730,489
White	726,558	694,838	689,731	683,450	680,692	676,484
Total	1,637,386	1,626,726	1,628,204	1,624,728	1,639,425	1,647,253

Table 68. Population of Children Ages 0 Through 17 Years by Age Group, Arizona, 2013- 2018						
Age Group	2013	2014	2015	2016	2017	2018
<1 Year	89,196	84,342	86,222	86,540	88,121	86,321
1-4 Years	351,077	350,065	346,443	343,263	353,344	354,651
5-9 Years	464,622	462,931	463,564	460,863	456,385	454,985
10-14 Years	459,528	458,488	458,966	457,960	461,239	469,804
15-17 Years	272,963	270,900	273,009	276,102	280,336	281,492
Total	1,637,386	1,626,726	1,628,204	1,624,728	1,639,425	1,647,253

Table 69. Number of Resident Births, Arizona, 2013- 2018					
2013	2014	2015	2016	2017	2018
84,963	86,648	85,024	84,404	81,460	80,539

Table 70. Number of Births by Race/Ethnicity, Arizona, 2013- 2018						
Race/Ethnicity	2013	2014	2015	2016	2017	2018
African American	4,726	4,522	4,361	4,388	4,595	4,655
American Indian	5,476	5,145	4,984	5,030	4,866	4,709
Asian	3,466	3,169	3,235	3,350	3,327	3,271
Hispanic	33,075	33,715	34,264	33,874	33,191	32,995
White	38,220	40,097	38,180	37,762	35,685	34,909
Total	84,963	86,648	85,024	84,404	81,460	80,539

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Resources

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.

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.

If in need of safe childcare, 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.

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

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.

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.

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.

Acknowledgements

Families First Prevention Service Act. For more information visit http://www.ncsl.org/research/human-services/family-first-prevention-services-act-ffpsa.aspx

In February of 2018, Congress enacted the Family First Prevention Services Act. Family First is designed to reform federal child welfare financing to promote the provision of services to families in crisis to help them heal and safely prevent the need for foster care. Beginning in October 2019 the new law offers states the opportunity to, for the first time ever, use the Title IV-E funding stream for time-limited evidence-based services for children at risk of entering foster care and their parents or caregivers. Those services include mental health, substance use treatment, and in-home parent skills training, and come with no income requirement.

In order to use federal funds in this new way, states will first need to affirmatively apply with the U.S. Department of Health and Human Services' (HHS) Administration for Children and Families' (ACF) Children's Bureau to participate in the program. In addition, the state will need to appropriate sufficient resources to contribute to the 50 percent state match in the initial years of the program, which over time will reduce to each state's matching share under the Medicaid program.

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Investigator Navajo County
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Kathy Bowen, MD
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Elizabeth Antone
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Aimee Cantu
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Mariana Casal
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Maria Chico
Suspected Child Abuse and Neglect-Cardon

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Francisco Morales
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Rochelle Rice
Member
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Missy Sikora
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Police Officer Yuma Police Department

Officer Maribel Saenz
Police Officer
Yuma Police Department