Arizona Child Fatality Review Program

Twenty-Second Annual Report

November 15, 2015

Mission: To reduce preventable child fatalities through systematic, multidisciplinary, multi-agency and multi-modality review of child fatalities in Arizona through interdisciplinary training, community-based prevention education, and data-driven recommendations for legislation and public policy.

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Dear Friends of Arizona's Children:

For over 20 years, the Arizona Child Fatality Review (CFR) Program has explored the causes and contributing factors associated with child deaths in order to identify recommendations that could reduce the number of preventable deaths. In 2014, 834 children under 18 years of age died in Arizona which is a four percent increase in our Arizona child mortality rate from 2013 when 811 children died. The Arizona CFR Teams reviewed 100 percent of these deaths and determined that 36 percent of these deaths could have been prevented.

In 2014, 547 of the child deaths were due to natural causes (medical conditions). This is an increase from the 513 deaths due to medical conditions in 2013. The most common medical condition was prematurity which accounted for 27 percent of all child deaths in Arizona in 2014, a six percent increase since 2013. Our review found that 85 percent of these deaths due to prematurity were associated with medical complications during pregnancy and that 18 percent of the pregnant mothers who lost their child due to prematurity had received no prenatal care. Deaths caused by unsafe sleep environments, suicide and drowning also increased. One hundred percent of the drowning deaths, 94 percent of the sleep related infant deaths and 87 percent of the suicides were determined to be preventable. However, motor vehicle crash deaths decreased 29 percent from 2013 to 2014. Although there has been a 24 percent increase in maltreatment deaths since 2009, the mortality rate dropped 18 percent in 2014.

Preventability

In 2014, 834 children under the age of 18 years died in Arizona. Arizona CFR Teams reviewed 100 percent of these deaths and determined 36 percent could have been prevented.

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

- ✓ Homicides
- ✓ Firearm-related deaths
- ✓ Drowning deaths
- ✓ Maltreatment deaths

The Arizona CFR Program reviews each child death in order to identify future actions that can reduce the number of preventable deaths. Some of our recommendations this year include taking action to reduce the number of uninsured, decrease medical complications of pregnancy, increase safe sleep practices for infants and support suicide prevention programs and access to mental health services. We have included specific recommendations in this report to prevent child deaths for individuals, communities, first responders, elected officials and the public.

Mary Ellen Rimsza, MD
Chair, Arizona CFR Program

Submitted to:

The Honorable Douglas A. Ducey, Governor, State of Arizona

The Honorable Andy Biggs, President, Arizona State Senate

The Honorable David Gowan, 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 percent of all child deaths occurring annually in Arizona. Susan has spent more than 30 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, Fatality/Near Fatality Information Release Officer, Arizona Department of Child Safety, who acts as liaison between both state and local CFR teams. Ms. Strength has been instrumental in improving communication and records sharing for all CFR teams. She is a strong advocate for improving the health and safety of all children and their families in Arizona.
- Dr. Jeffrey Johnston, Chief Medical Examiner, Maricopa County Office of the Medical Examiner, who is responsible for overseeing the examination of two-thirds of all deaths occurring in Arizona. Dr. Johnston is a strong partner with county and state CFR teams helping to improve training efforts and collaboration among agencies, review teams, and the community.
- All agencies (e.g. hospitals, doctors, medical examiner's, child protective service agencies, and law enforcement) that promptly provided the CFR program with the records teams have requested. Informed child fatality reviews are only possible when the teams have accurate, current detailed information to review.
- Local team members that have served for several years who are retiring this year: Dr. Herbert Winograd, Maricopa County; Zannie Weaver, Maricopa County; Cindy Porterfield, D.O., Pima County; Lt. David McBride, Yuma County; Detective Debbie Machin, Yuma County; Wendy Holt, Yuma County (posthumously).

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Executive Summary

The Arizona Child Fatality (CFR) Program has spent more than 20 years reviewing child fatalities occurring in the state. This year there is hopeful news to share as well as areas for improvement. The number of deaths identified in four critical categories of preventable fatalities has decreased since the previous year. These categories are unintentional injuries including motor vehicle crashes, child abuse and neglect, homicides and firearm-related deaths.

While the overall number of deaths has greatly decreased over the past five years, the number of deemed preventable child deaths have gone up in the following categories: natural deaths (e.g. prematurity), sudden unexplained infant deaths, suicide and drowning. Local teams found that in 2014, 36 percent of all deaths could have been prevented. This conclusion is drawn from in depth reviews conducted by local CFR teams. These teams examined the factors surrounding the deaths of all children less than 18 years old who died in their community in 2014. In order to determine the causes and preventability of each child's death, teams spend many hours each year reviewing records, providing their expertise and coming up with recommendations for prevention. Their hard work results in the information within this report based upon a total of 834 deaths that were reviewed in 2014.

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 also for all of us who care about children. 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 years, more work is needed and the hope is the findings will assist those who are working to prevent child deaths

Many people might not consider themselves prevention agents, but they contribute a great deal to prevention strategies and programming. Some examples of these contributions include law enforcement officers who serve as car seat safety technicians, social workers who provide valuable insight into the signs and symptoms of abuse and neglect, and a parent who takes the time to speak with their child daily about their lives and daily stresses. The combined contributions of these individuals can positively affect the community, parents and caregivers to help prevent future fatalities.

This annual report provides recommendations that can help 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 (Deaths due to Medical Conditions)

- Natural deaths **increased** from 513 in 2013 to 547 in 2014 and accounted for 66 percent of all child deaths in Arizona.
- The average mortality rate due to natural causes between 2009 and 2014 was 33.8 deaths per 100,000 children.
- Prematurity accounted for 41 percent (n=222) of all natural deaths.
- Congenital anomalies, neurological disorders, cancer, cardiovascular diseases and infections were the other leading causes of natural death.
- The majority of children who died from natural causes were less than 1 year old (n=421, 77 percent).
- Hispanic and African American deaths were disproportionately higher than the percentages of the population they comprise.
- Only five percent of the natural deaths were determined by the team to be preventable.

Prematurity

- Prematurity accounted for 222 (27 percent) of all child deaths in 2014, a six percent **increase** from 2013 (n=210).
- The average prematurity mortality rate between 2009 and 2014 was 2.4 deaths per 1,000 live births.
- Eighty-five percent of the deaths due to prematurity (n=188) were associated with medical complications during pregnancy.
- Eighteen percent of the pregnant mothers had received no prenatal care (n=41), an increase from ten percent in 2013.
- Sixteen percent of the prematurity deaths were infants born at less than 20 weeks of gestation (n=35); 68 percent were between 20 and 25 weeks of gestation (n=152); the remaining 14 percent were between 26 and 37 weeks of gestation (n=31).
- Hispanic and African American deaths were disproportionately higher.
- Six percent of the prematurity deaths were determined to be preventable.

Unintentional Injury Deaths (Deaths due to Accidents)

- Unintentional injury deaths **decreased** from 186 in 2013 to 180 in 2014 and composed 22 percent of all child deaths.
- The average mortality rate between 2009 and 2014 was 10.6 deaths per 100,000 children.
- Thirty-eight percent of these children were less than one year old (n=68).
- African American and American Indian deaths were disproportionately higher.
- Boys accounted for 62 percent of the 186 deaths (n=115).
- Ninety-seven percent of unintentional injury deaths were determined by the team to be preventable.

Sudden Unexplained Infant Deaths (SUID) and Sleep Related Deaths

- In 2014, 85 infant deaths were categorized as SUID and accounted for 10 percent of all child deaths in Arizona; this is a 15 percent **increase** from 74 in 2013.
- The average SUID mortality rate between 2009 and 2014 was 0.96 deaths per 1,000 live births.
- Eighty-two of the 85 infants died in unsafe sleep environments, an increase from 65 in 2013.
- Forty-one (50 percent) of those infants died while co-sleeping (bed sharing with adults and/or other children).
- Deaths due to suffocation remained high, and it was determined to be the cause of death for 60 infants compared to 45 in 2013.
- Hispanic, African American and American Indian deaths were disproportionately higher.
- 92 percent of SUID deaths were preventable.
- 94 percent of sleep related deaths were determined by the team to be preventable.

Maltreatment Deaths (Deaths due to Child Abuse and Neglect)

- Child fatalities due to maltreatment **decreased** from 92 in 2013 to 75 in 2014 and accounted for nine percent of all child deaths in Arizona.
- Blunt force traumas, suffocation, drowning and motor vehicle crashes accounted for 65 percent of maltreatment deaths (n=49).
- The average mortality rate due to maltreatment between 2009 and 2014 was 4.5 deaths per 100,000 children.
- Seventy-nine percent of children who died due to maltreatment were less than 5 years old.
- In 43 percent of maltreatment deaths, the perpetrator was the child's mother or father.
- Substance use was associated with 55 maltreatment deaths (73 percent).
- African American and American Indian deaths were disproportionately higher.
- 100 percent of maltreatment deaths were determined by the team to be preventable.

Motor Vehicle Crash and Other Transport Deaths

- Fifty-seven children died in motor vehicle crashes and other transportation related accidents accounting for seven percent of all child deaths.
- The average mortality rate due to motor vehicle crashes and other transport between 2009 and 2014 was 3.7 deaths per 100,000 children.
- There has been a 29 percent **decrease** in motor vehicle crash deaths since 2013 (n=80).
- American Indian deaths were disproportionately higher.
- 96 percent of motor vehicle and other transport deaths were determined by the team to be preventable and lack of proper vehicle restraint remained the leading preventable factor accounting for 28 motor vehicle crash fatalities (49 percent).

Suicides

- Child suicides **increased** from 25 in 2013 to 38 in 2014 and accounted for five percent of all child deaths.
- The average mortality rate due to suicide between 2009 and 2014 was 1.8 deaths per 100,000 children.
- Drug use was the most commonly identified preventable factor in suicides followed closely by family discord and bullying.
- The majority of suicide deaths occurred in children 15 through 17 years old (n=27).
- White, non-Hispanic deaths were disproportionately higher.
- 87 percent of suicides were determined by the team to be preventable.

Homicides

- Homicides **decreased** from 51 in 2013 to 36 in 2014 and accounted for four percent of all child deaths.
- The average mortality rate due to homicide between 2009 and 2014 was 2.6 deaths per 100,000 children.
- Twenty-seven of the homicide deaths (73 percent) were due to child abuse.
- The biological parents were the perpetrator in 41 percent of the deaths (n=15).
- Nineteen of the deaths were from blunt force trauma and ten were due to firearms.
- Children aged one through four years were the most affected (n=14, 38 percent).
- Hispanic and African American deaths were disproportionately higher.
- 100 percent of homicides were determined by the team to be preventable.

Drowning Deaths

- Drowning deaths **increased** from 23 children in 2013 to 31 in 2014 and accounted for less than four percent of all child deaths.
- The average mortality rate due to drowning between 2009 and 2014 was 1.9 deaths per 100,000 children.
- The majority of drowning deaths (58 percent) occurred in children one through four years of age (n=18).
- Sixty-one percent of the deaths occurred in a pool or hot tub (n=19) and six deaths took place in open water (19 percent).
- Lack of supervision was the contributing factor in 83 percent of the deaths (n=26).
- White, non-Hispanic and African American deaths were disproportionately higher.
- 100 percent of drowning deaths were determined by the teams to be preventable.

Firearm Deaths

- Firearm deaths **decreased** from 29 in 2013 to 25 in 2014 and accounted for three percent of all child deaths.
- The average mortality rate due to firearms between 2009 and 2014 was 1.7 deaths per 100,000 children.
- Substance abuse was identified as a preventable factor in nine deaths (36 percent).

- The majority of firearm deaths (56 percent) occurred in children 15 through 17 years of age (n=14).
- The majority (56 percent) of firearm deaths occurred in White, non-Hispanic children (n=14).
- One hundred percent of firearm deaths were determined by the teams to be preventable.

Disparities

- Deaths continued to be disproportionately higher among some race/ethnicities in Arizona during 2014 and varied by cause and/or manner of death.
- Hispanic children represented higher percentages of deaths compared to their population make-up in deaths due to natural causes, the sub-category prematurity, SUID and homicides.
- African American child deaths are overrepresented in deaths due to natural causes, the sub-category prematurity, unintentional injuries, SUID, maltreatment, homicide and drowning deaths.
- American Indian child deaths were higher in unintentional injuries, SUID and motor vehicle crash deaths.
- White, non-Hispanic children comprised higher percentages of suicides, drowning and firearm deaths.

Future Actions for Prevention

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

- Promote public awareness of the importance of healthy behaviors and women's overall health prior to pregnancy in order to prevent pregnancy complications and improve the health of women and their future children.
- Promote safe sleep practices and provide services and education to new parents. This may include public service announcements for Safe Sleep education, safe breastfeeding/sleep practices and co- sleeping education.
- Support and implement community suicide prevention and awareness programs, such as Mental Health First Aid, that train community members, teachers, families and students how to identify and address depression, bullying, and related behaviors that can lead to suicide.
- Promote community and family awareness about drowning risks through public awareness campaigns that address the need for age-appropriate supervision of infants and children near water and barriers to young children's access to pools.
- Support sufficient funding for behavioral health and substance abuse assessment and treatment services for children, youth and their families and drug prevention education and awareness programs in Arizona.

Glossary

ADES - Arizona Department of Economic Security

ADCS - Arizona Department of Child Safety (formerly child protective services under Arizona Department of Economic Security (ADES))

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.

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.

Firearm-related 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.

Home-safety related death – Home safety-related deaths are unintentional or undetermined deaths that occur in or around the home environment (e.g. bedroom, driveway, yard).

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

Infant – A child younger than one year of age.

Intentional injury – Injury resulting from 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 an intent to kill oneself (e.g., suicide).

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

Manner of death – The circumstances of the death as determined by postmortem examination, death scene investigation, police reports, medical records, or other reports. Manner of death categories include: natural, accident (e.g., unintentional), homicide (e.g., intentional), suicide (e.g., intentional), 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.

Prematurity death - A death that was due to a premature birth (less than 37 week gestation).

Preventable death - A child's death is considered to be 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) should be considered in making this determination.

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

Sleep-related death – A unique grouping of infant injury deaths inclusive of select injury causes (unintentional 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 as associated with a child's death if the child, the child's parent, caretaker and/or if the person responsible for the death, during or about the time of the incident leading to the death, used or abused substances, including illegal drugs, prescription drugs and/or alcohol.

Suffocation death – Death resulting from inhalation, aspiration or ingestion of food or other object that blocks the airway or causes suffocation; intentional or accidental mechanical suffocation, including hanging, strangulation or lack of air in a closed place.

State CFR Team - Established by A.R.S. 36-3501 et seq., the State CFR Team provides oversight to Local CFR Teams, prepares an annual report of review findings and develops recommendations to reduce preventable child deaths.

Suicide – Death from self-directed intentional behavior where the intent is to die as a consequence of that behavior.

Sudden Unexplained Infant Death (SUID) – 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 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. Many of these SUIDs are due to suffocation and unsafe sleep environments.[1]

Undetermined – Deaths 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 information is lacking, incomplete or conflicting. In some cases, a death is listed as undetermined because it is not clear if it was an intentional injury or an unintentional injury. For example, it may not be clear when a firearm death is due to an accident, suicide or homicide.

Unintentional injury – This is when an injury occurred where there was no intent to cause harm or death; an injury that was not intended to take place. This is also often referred to as an "accident."

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

Introduction

Injuries and preventable medical conditions are the leading causes of death among children in Arizona and the United States. Injuries in particular are often seen as being the result of unavoidable incidents. This is problematic as many injuries follow patterns of behavior and circumstances that can be tracked based upon factors such as age and gender. Such risk and protective factors can then be anticipated and prevented.

The Arizona CFR (CFR) Program was established in order to review factors in a child's death and determine ways to reduce or eliminate any identified preventable fatalities. Legislation passed in 1993 (A.R.S. § 36-342, 36- 3501-4) authorizing the creation of the CFR Program. Data collection and case reviews began in 1994. Since 2005, the program has reviewed the death of every child in the state.

This report provides comprehensive review of fatalities among children and youth 0-17 years of age occurring in Arizona. Descriptive statistics and trend analysis 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. Demographic and prevention information represented in the 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

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According to the National Center for Child Death Review, there are six steps to a quality review of a child's death:

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

Methods

Arizona has 11 Local County CFR Teams who complete reviews at the county level (Second level reviews of SUID and Maltreatment Deaths are done at the State level). The review process begins when a child under 18 years-old dies and the State CFR program sends a copy of their death certificate to the local CFR team in the deceased child's county of residence. If the child is not a resident of Arizona, the local team in the county where the death occurs will conduct the review. These teams are located throughout the state and must include local representatives from the ADCS, a county medical examiner's office, a county health department, law enforcement and a

county prosecuting 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.

Descriptive statistics are used in the report to present summary information about cases as well as the leading causes under each manner of death by age, gender and race/ethnicity. Frequencies and cross-tabulations are used, if the sample size is small, tests for statistical significance are not always completed as they would not provide accurate statements about statistical significance. Rather the demographic and prevention information represented in the report is primarily used to help broadly inform public health initiatives and the community.

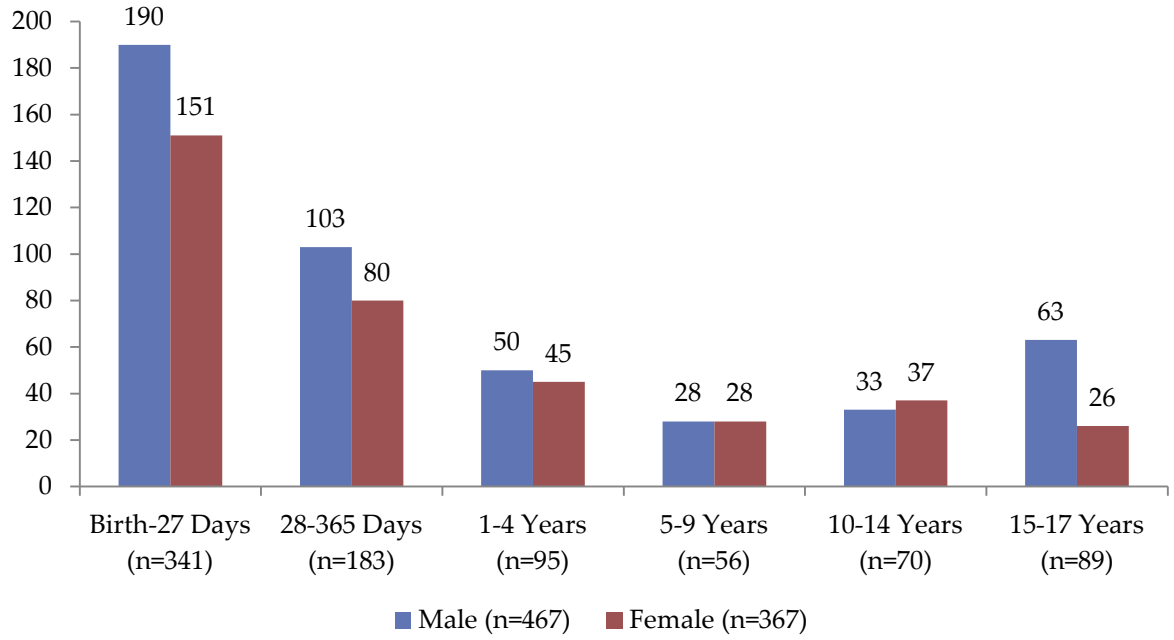
In Arizona, the cause of death refers to the injury or medical condition that resulted in death (e.g. firearm-related injury, pneumonia, cancer). Manners of death include natural (e.g., cancer), accident (e.g., unintentional car crash), homicide (e.g., assault), suicide (e.g., self-inflicted intentional 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 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.

Demographics

During 2014, there were 834 fatalities among children younger than 18 years of age in Arizona an increase from the 811 deaths in 2013. Males accounted for 56 percent of deaths (n=467) and females composed the remaining 44 percent (n=367) (Figure 1).

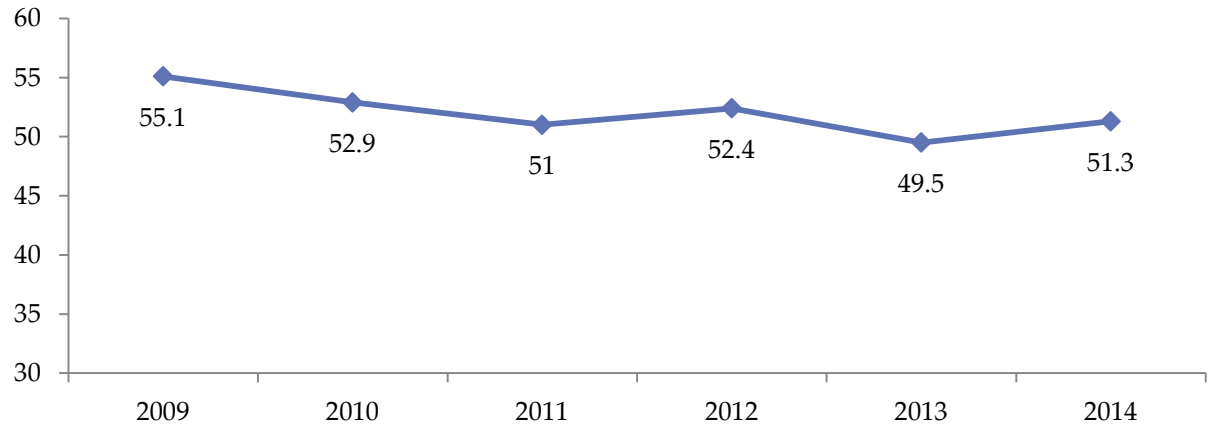
[2] For a full list of participants see the Technical Appendix.

Figure 1. Number of Deaths among Children by Age Group and Sex, Arizona, 2014 (n=834)



Arizona's child mortality rate showed a four percent increase from 2013 to 2014 (from 49.5 in 2013 to 51.3 in 2014) (Figure 2). The rate has decreased seven percent overall during the past five years, from 55.1 deaths per 100,000 children in 2009 to 51.3 deaths per 100,000 children in 2014.

Figure 2. Mortality Rates per 100,000 Population among Children 0 through 17 year olds, Arizona, 2009-2014[3]

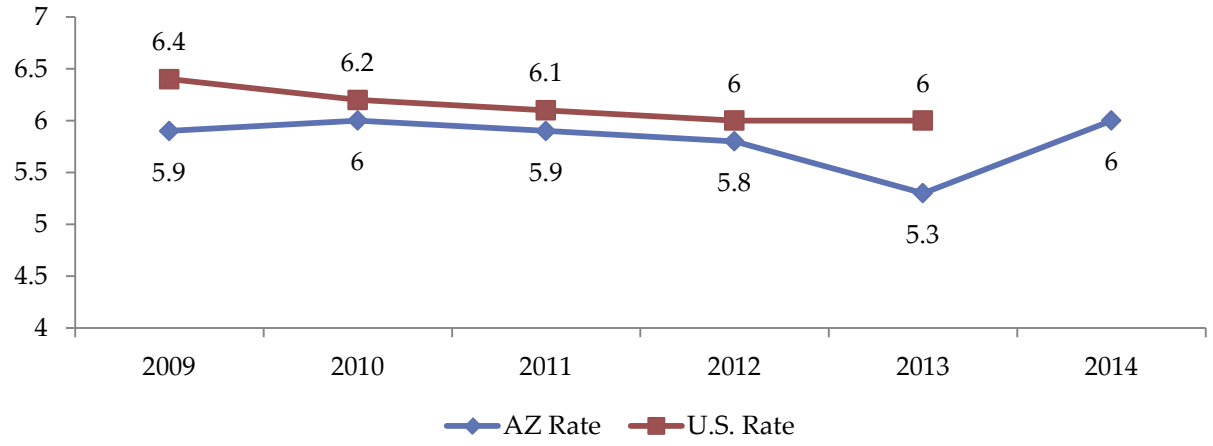


From 2009 to 2014 mortality rates decreased in every age group except for those less than one year old which increased from 5.9 deaths per 1,000 live births in 2009 to 6.0 in 2014 (Figure 3).

[3] Note that for all rate charts throughout the report that there was a change in the calculation for population denominators in 2014. See the Appendix of Population Denominators for Arizona Children for further information.

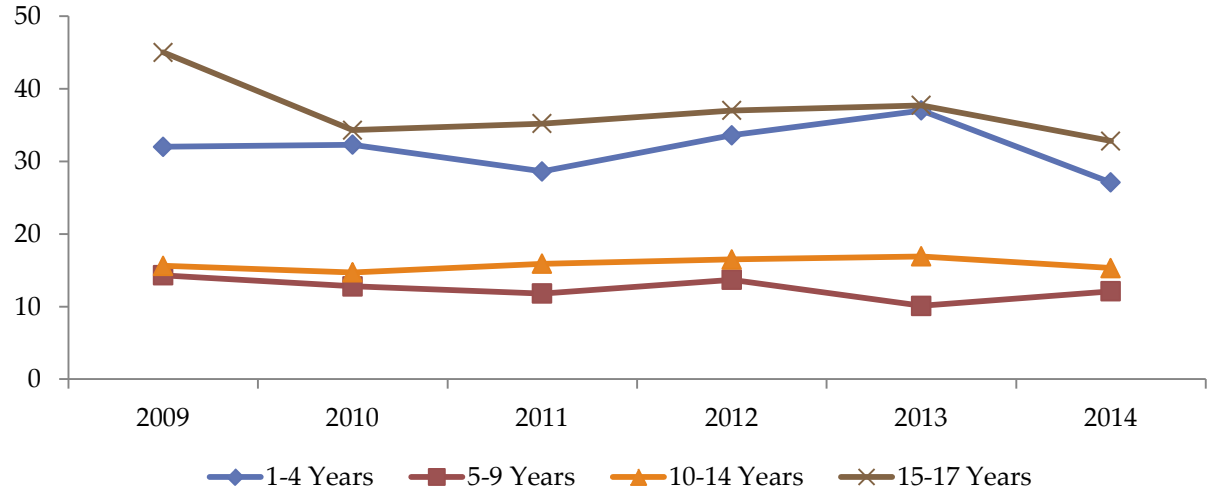
The infant mortality rate in Arizona in 2014 was the same as the U.S. rate for 2013 as reported from the CDC (6.0 infant deaths per 1,000 live births).

Figure 3. Infant Mortality Rates per 1,000 Live Births, Arizona & U.S., 2009-2014



Children aged 15-17 years saw the most significant decrease in mortality rates (27 percent) from 45 deaths per 100,000 population in 2009 to 32.8 deaths per 100,000 population in 2014 (Figure 4).

Figure 4. Mortality Rates per 100,000 Population among Children by Age Group, 1 through 17 year olds, Arizona, 2009-2014[4]



[4] Mortality rates for children less than one are calculated differently and can be seen in Figure 3.

Figure 5. Mortality Rates among Children by Race/Ethnicity, per 100,000 Population, Arizona, 2009-2014

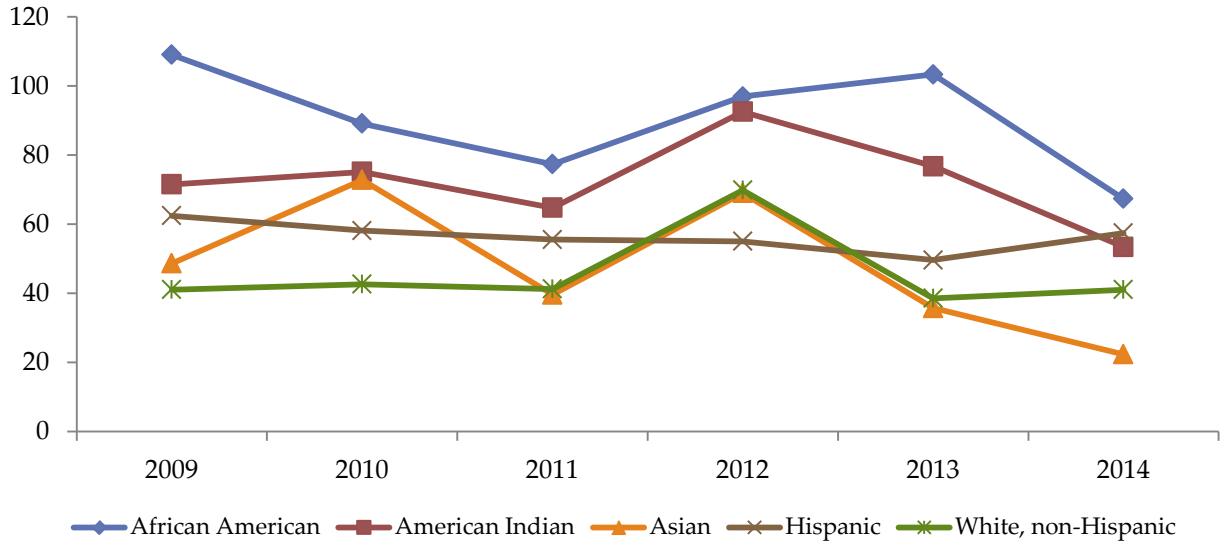
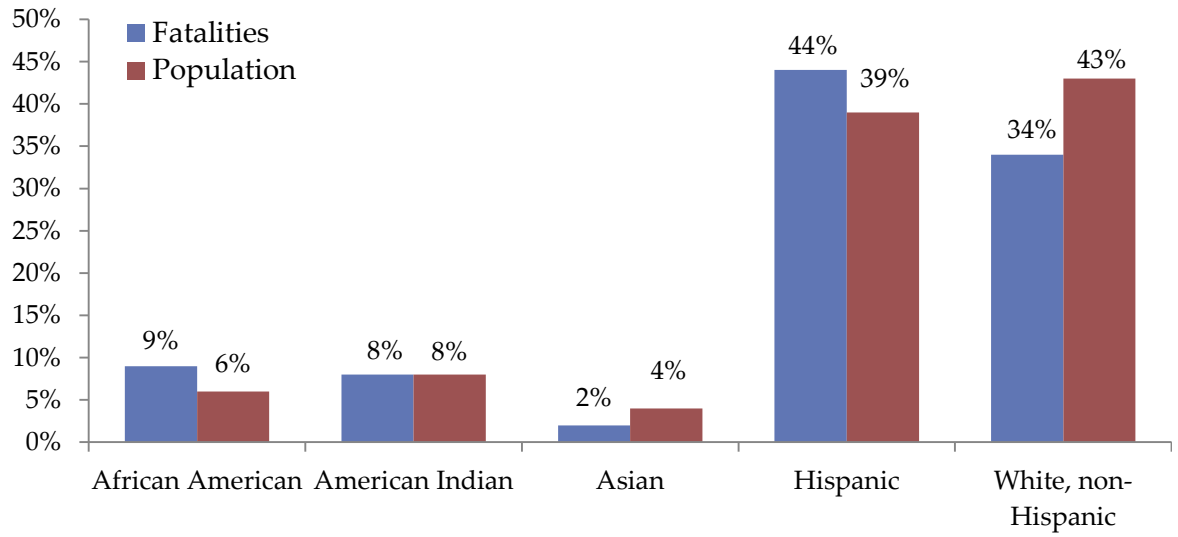


Figure 5 shows the child mortality rates for the last five years by race and ethnicity. While there is some yearly fluctuation of the rates within each of the five categories, the graph illustrates that African American and American Indian children consistently maintain higher rates of death compared to other races/ethnicities. Though the graph above indicates the rates for African American and American Indian children have decreased significantly from 2013 to 2014, the population estimate methodology changed in 2014 and therefore changed the denominators used to calculate the mortality rates. The change in the race/ethnicity population denominators may have contributed to the increases in White, non-Hispanic and Hispanic mortality rates between 2013 and 2014 as well (see table 70 in the appendix for population denominators by race/ethnicity).

African American children comprised six percent of the Arizona child population in 2014 but make up nine percent of all child fatalities. Hispanic children comprised 39 percent of the population and 44 percent of the fatalities (Figure 6). Though White, non-Hispanic children made up a significantly lower percentage of deaths than the percentage of the population they represent, there are some categories in which they were overrepresented compared to other race/ethnicities. Each section heading includes disparities information by race/ethnicity and gender.

Figure 6. Percentage of Deaths among Children by Race/Ethnicity Compared to Population, Arizona, 2014 (n=806)[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" will be used. Each multi-disciplinary team is made up of professionals who review the circumstances of a child's death using 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 to be 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.

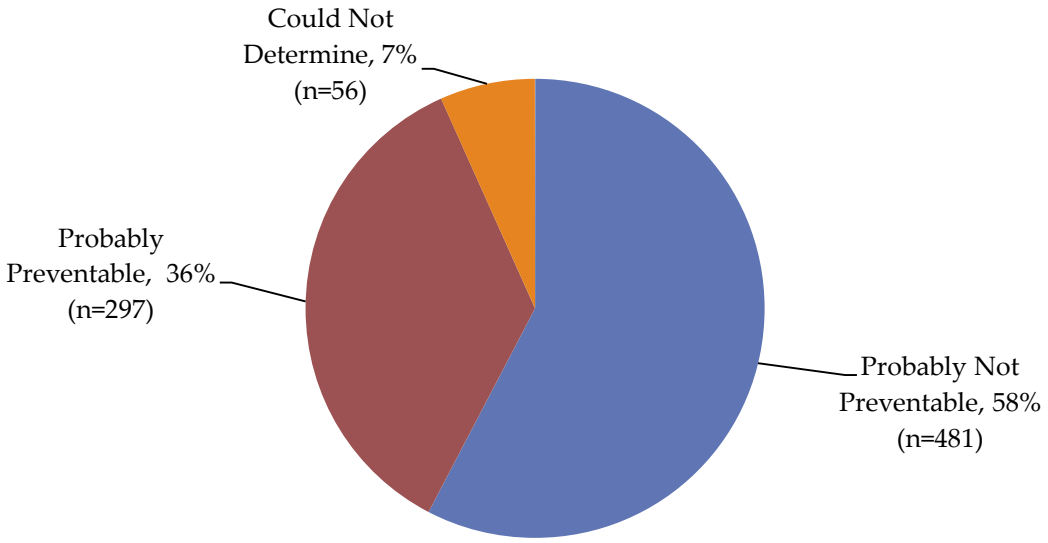
"Yes, probably," means that some circumstance or factor related to the death could probably have been prevented. "No, probably not" indicates that everything reasonable was most likely done to prevent the death, but the child would still have died. A designation of "Team could not determine" means that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

[5] Does not include the 28 from the category for 2 or more races.

When discussing all deaths, the report is referring to the total 834 child deaths that took place in 2014. 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 seen as preventable by the teams. This is important so that efforts are targeted to the areas where prevention initiatives will be most effective.

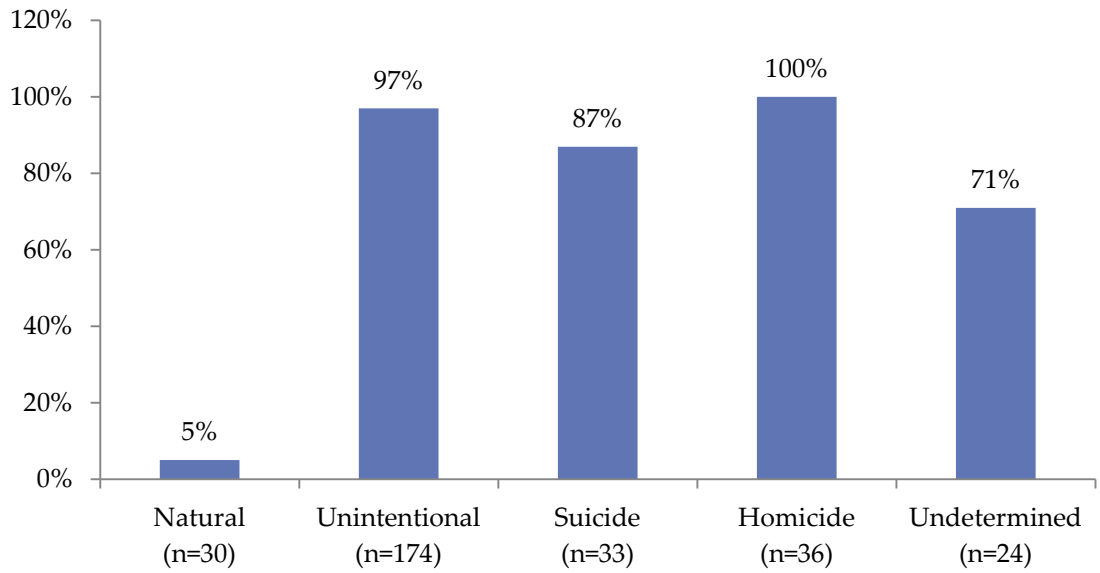
In 2014, CFR Teams determined 297 child deaths were probably preventable (36 percent), 481 child deaths were probably not preventable (58 percent), and could not determine in 56 deaths (7 percent) (Figure 7).

Figure 7. Number and Percentage of Deaths among Children by Preventability, Arizona, 2014 (n=834)



CFR Teams determined 97 percent of the unintentional injury deaths were preventable (n=174), 100 percent of homicides were preventable (n=36), and 87 percent of suicides were preventable (n=33). Only five percent of natural deaths were determined to have been preventable (n=30) (Figure 8).

Figure 8. Number and Percentage of Preventable Deaths among Children by Manner, Arizona, 2014 (n=297)



Preventability also varied by age group. Neonatal infants (birth to 27 days) had the lowest percentage of preventable deaths (7 percent, n=25). The highest percentage of preventable deaths was among youth between the ages of 15-17 years (72 percent, n=64) (Figure 9).

Figure 9. Percentage of Preventable Deaths among Children by Age Group, Arizona, 2014 (n=297)

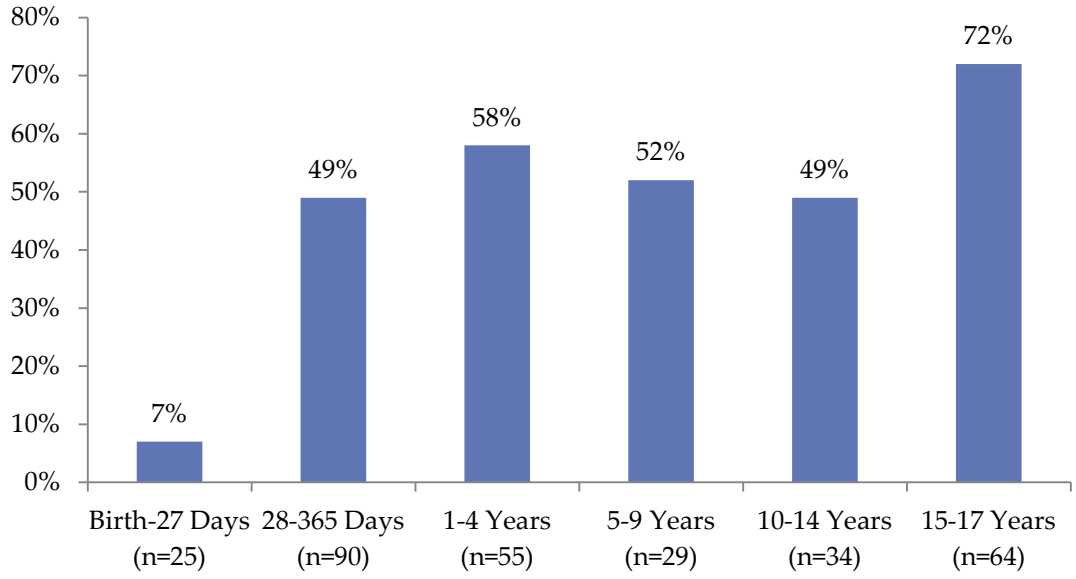


Table 1 shows the leading causes of death by age group in Arizona. Those boxes highlighted in blue are some of the leading causes of preventable injury deaths. Two of the top causes were suffocation which was the most common cause of preventable death in infants and motor

vehicle crashes which was the most common cause of preventable deaths among children 15-17 years old. Drowning was the most common cause of preventable death for children aged 1-4 years and Other Injuries was the most common cause of preventable deaths among children aged 5-14 years old.

Table 1. Leading Causes of Death by Age Group, Arizona, 2014[6]

Rank	0-27 Days 41% (n=341)	28-365 Days 22% (n=183)	1-4 Years 11% (n=95)	5-9 Years 7% (n=56)	10-14 Years 8% (n=70)	15-17 Years 11% (n=89)	All Deaths 100% (n=834)
1	Prematurity (n=195)	Suffocation (n=59)	Other medical condition (n=30)	Other medical condition (n=16)	Other medical condition (n=21)	MVC (n=25)	Prematurity (n=222)
2	Congenital Anomaly (n=74)	Other Medical Condition (n=36)	Drowning (n=18)	Other Injury (n=14)	Other Injury (n=16)	Firearm Injury (n=14)	Other medical condition (n=217)
3	Other Medical Condition (n=40)	Congenital Anomaly (n=28)	Blunt Force Trauma (n=10)	MVC (n=12)	Cancer (n=15)	Hanging (n=9)	Congenital Anomaly (n=109)
4	Other Perinatal Condition (n=24)	Prematurity (n=25)	MVC (n=10)	Cancer (n=8)	MVC (n=9)	Poisoning (n=7)	Suffocation (n=72)
5	Unintentional Injury (n=9)	Undetermined (n=23)	Cancer (n=10)	Neurological & Seizure Disorders (n=6)	Firearm Injury (n=6)	Cancer (n=7)	MVC (n=57)

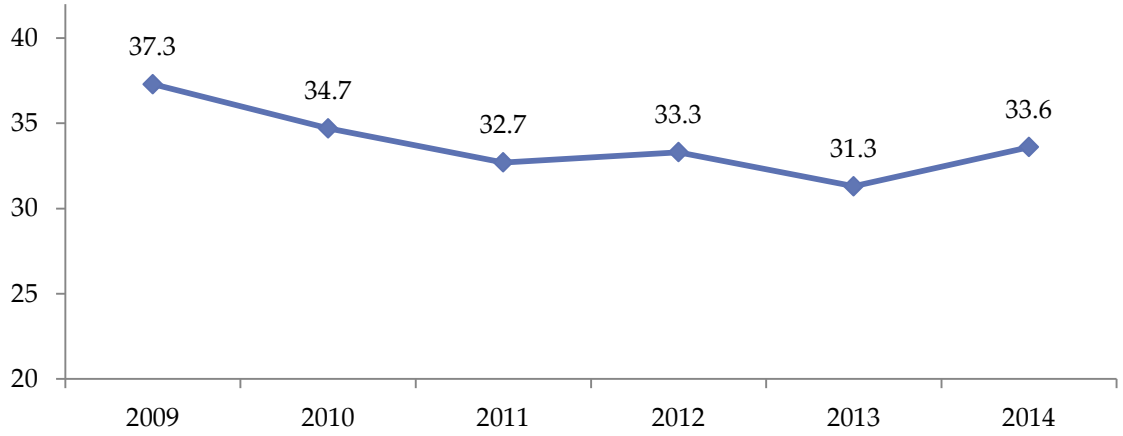
Natural Deaths

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 seven percent from 513 in 2013 to 547 in 2014. Prematurity accounted for 41 percent (n=222) and other medical conditions accounted for the remaining 59 percent of the deaths (n=324). Children less

[6] Note that causes highlighted in blue are the most common causes of preventable death in each age group.

than 1 year were the most affected, comprising 77 percent of total natural deaths (n=421). Hispanic children accounted for 46 percent (n=251) of natural deaths and were overrepresented compared to the 39 percent of the population they compose. White, non-Hispanic children made up 33 percent (n=178) of the deaths. Congenital anomalies, neurological disorders, cancer, cardiovascular diseases and infections were the leading causes of natural death.

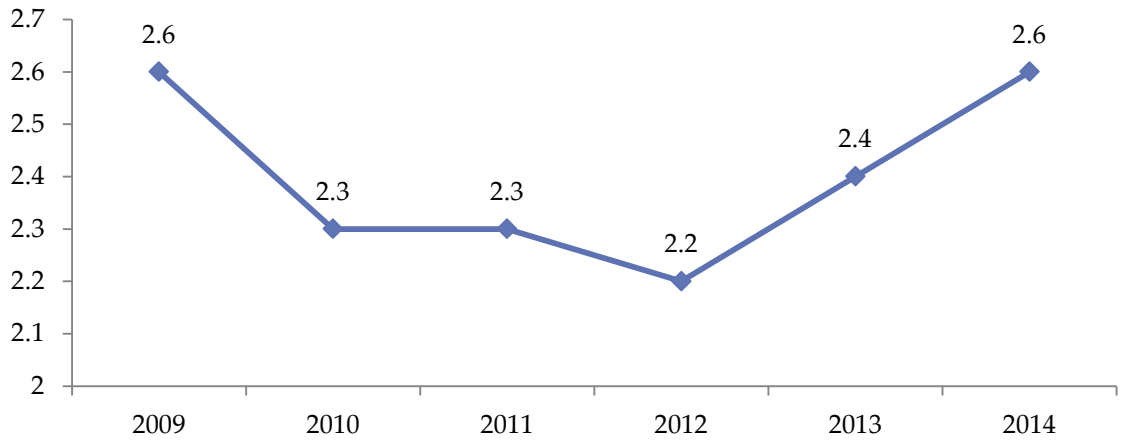
Figure 10. Mortality Rates Due to Natural Causes per 100,000 Children, Arizona, 2009-2014



Prematurity

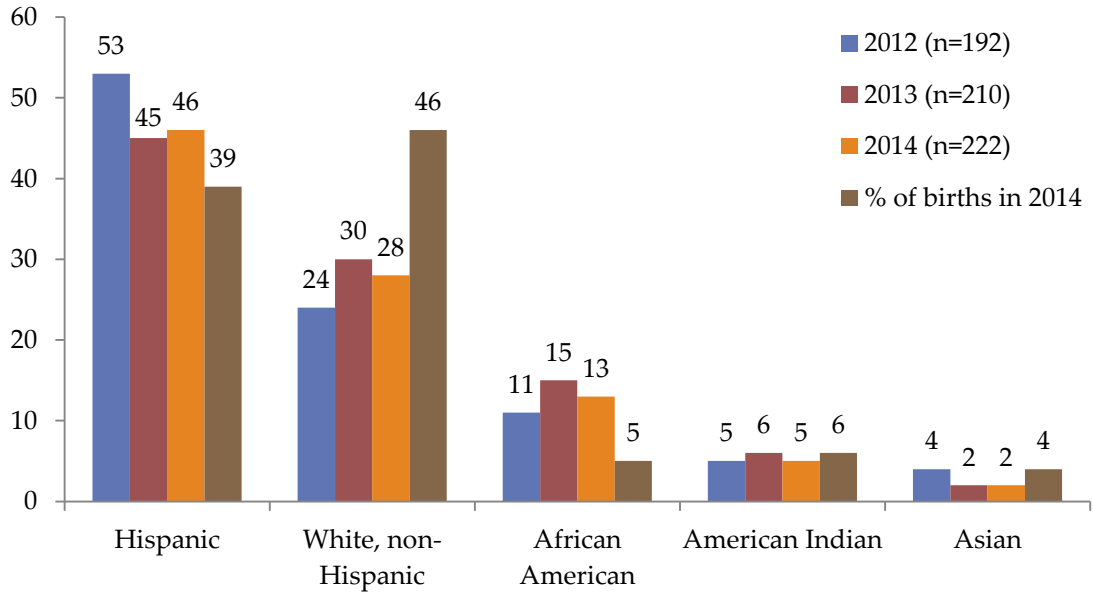
For the purposes of this report, a death is due to prematurity if the infant was born before 37 weeks gestation and with no underlying medical condition besides being premature. Approximately, a quarter of all child deaths in Arizona are due to prematurity, and in 2014, accounted for 27 percent (n=222) of those fatalities, a slight rise from 26 percent in 2013 (n=210). The rate of prematurity deaths has been increasing since 2012 from 2.2 deaths per 1,000 live births in 2012 to 2.6 deaths per 1,000 live births in 2014 (Figure 11).

Figure 11. Mortality Rate due to Prematurity (per 1,000 live births), Arizona, 2009-2014



Hispanic children remain at the highest risk in Arizona for prematurity related death. Forty-six percent of the prematurity related deaths were Hispanic infants (n=103) compared to making up 39 percent of the total birth population in 2014 (Figure 12).

Figure 12. Percentage of Child Deaths due to Prematurity Compared to Percentage of Births by Race/Ethnicity, Arizona, 2012-2014



Prevention

It can be difficult to determine the exact cause of premature birth. The report instead identifies the preventable risk factors that are known to be associated with premature birth for each of these infants. The steady increase in the prematurity rate indicates a need for continued and

expanded 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 partner, mother's age and education level and domestic violence.

The top three risk factors for 2014 included medical complications during pregnancy (85 percent, n=188), preterm labor (51 percent, n=114) and bacterial infection (15 percent, n=34). Sixteen percent of the prematurity deaths were less than 20 weeks of gestation (n=35); 68 percent were between 20 and 25 weeks of gestation (n=152); the remaining 14 percent were between 26 and 37 weeks of gestation (n=31) (Table 2).

Lack of prenatal care is a risk factor for premature birth. In eighteen percent of the prematurity deaths the mother reported that she did not receive any prenatal care (n=41). Only forty-seven percent of the mothers whose infants died due to prematurity started prenatal care within the first trimester of pregnancy (n=105), a 20 percent decrease from 67 percent in 2013. In eight percent of the prematurity deaths, the mother was 16 through 19 years of age at the time of the birth (n=18). Fifty-one percent of the mothers were 20 through 29 years of age (n=113); 32 percent were 30 through 39 years of age (n=71), and three percent of mothers were 40 through 45 years of age (n=7). In six percent of the cases the age of the mother was unknown (n=13).

Fifty-nine percent of mothers whose infants died from prematurity were insured by the Arizona's Medicaid System called the Arizona Health Care Cost Containment System (AHCCCS) (n=124). Ten percent of mothers had less than a high school education (n=22); 49 percent completed high school (n=103); and 24 percent attended at least some college (n=51); six percent were post-graduates (n=12); and for another six percent the mother's educational status was unknown (n=12).

Table 2. Risk Factors for Prematurity Deaths, Arizona, 2014

Factor*	Number	Percent
Medical complications during pregnancy	188	85
Preterm labor	114	51
No prenatal care	41	18
Chorioamnionitis (bacterial infection)	34	15
Cervical insufficiency	16	7
Drugs and/or alcohol use[7]	15	7
*More than one factor may have been identified for each death		

[7] Note: For further information on the change to the reporting of substance use and abuse in this report see the Technical Appendix.

It is not always possible to determine if any one of these prematurity deaths was specifically preventable. 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.[8] There are several protective factors that can help 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.[9]

Recommendations

For the Arizona public

- In order to have a healthy baby, take care of your health before pregnancy by maintaining a healthy weight, adopting healthy eating habits, and avoiding alcohol and other drugs. Seek prenatal care as soon as you become pregnant.
- Assure that all Arizona women of child bearing age have access to medical care by providing educational resources regarding their health insurance options in both English and Spanish for their families.
- Support public awareness campaigns and distribution of resources regarding the importance of healthy behaviors and women's overall health prior to pregnancy in preventing pregnancy complications and improving the health of women and their future children.

Unintentional Injury Deaths

Unintentional injury deaths, decreased from 186 in 2013 to 174 in 2014. The mortality rate for unintentional injury deaths decreased by four percent from 2013 to 2014, overall the rate has increased by 14 percent from 2009 to 2014 (Figure 13). Thirty eight percent of unintentional injury deaths occurred in children less than one year of age (n=68). American Indian children composed 14 percent of the unintentional injury deaths but represent eight percent of the total 0-17 population in Arizona (n=25). African American children were also disproportionately represented, totaling ten percent of the deaths but comprising six percent of the child population. Boys were almost twice as likely as girls to die from an unintentional injury. There were 115 boys who died from an unintentional injury compared to 63 girls. The leading causes of unintentional injury deaths are shown in Figure 14.

[8] http://economics.mit.edu/files/9922.
[9] http://www.amchp.org/Transformation-Station/Documents/AMCHP%20Preconception%20Issue%20Brief.pdf.

Figure 13. Unintentional Injury-Related Mortality Rates per 100,000 Children, Arizona, 2009-2014

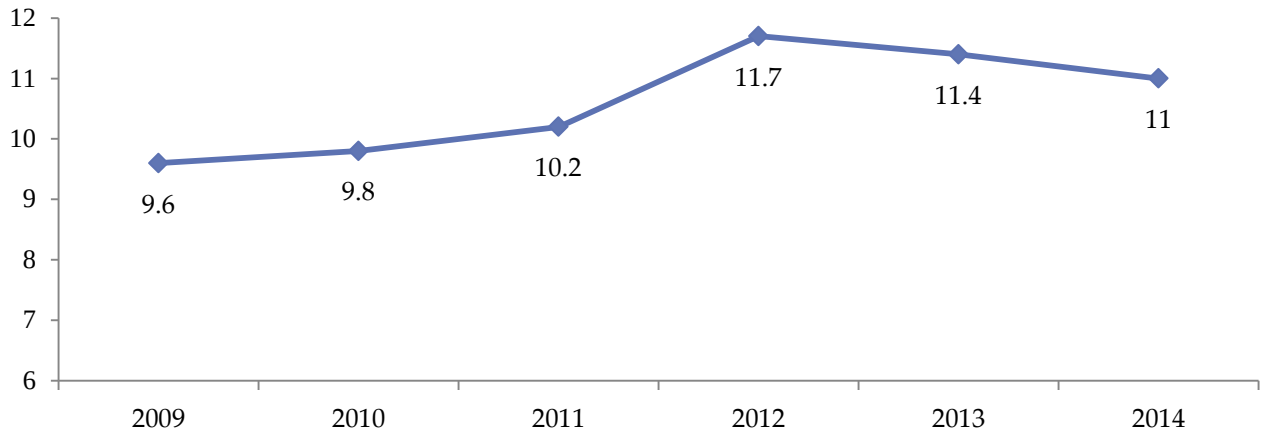
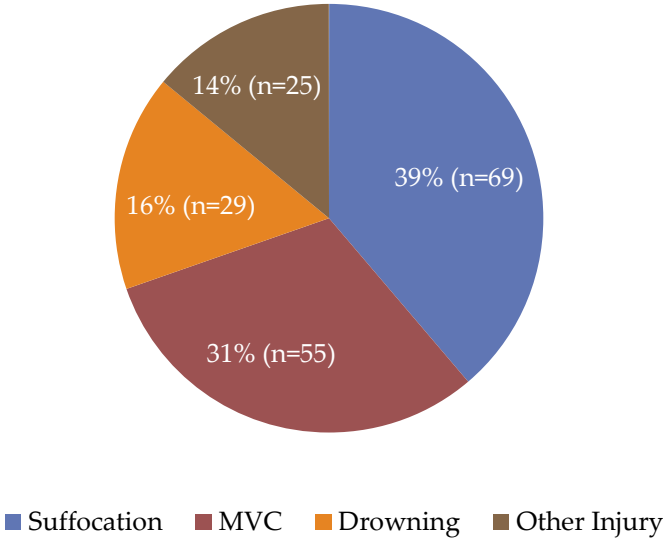


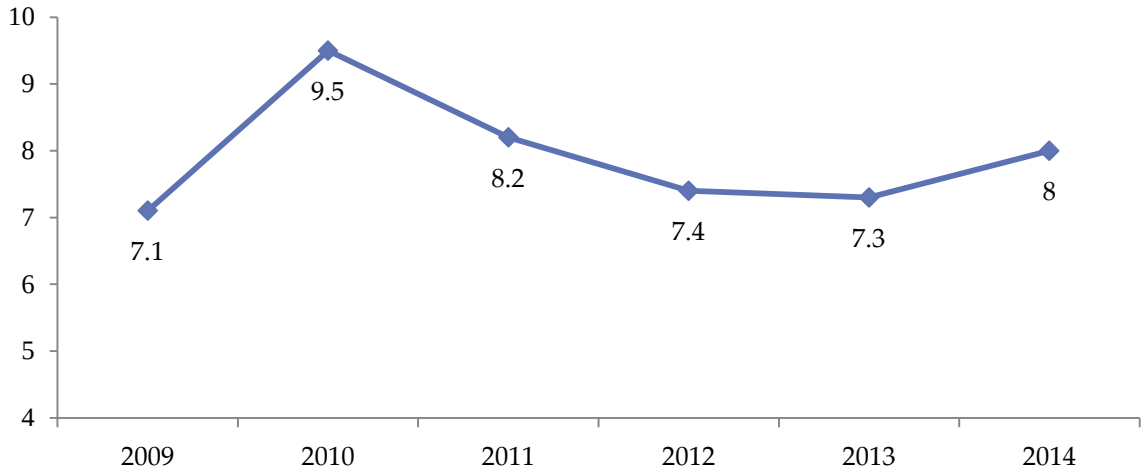
Figure 14. Leading Causes of Unintentional injury deaths for Children 0-17 Years, Arizona, 2014



Home-Safety Related Deaths

Home safety-related deaths are unintentional or undetermined deaths that occur in or around the home environment (e.g. bedroom, driveway, and yard). Although other deaths due to suicide, natural causes or homicide may also occur in the home environment, these categories are not included in the home-safety related deaths. Sixteen percent (n=130) of all Arizona child fatalities in 2014 were classified as home-safety related. Although the numbers of deaths have gone down since 2010, the rate has increased by 14 percent since 2009 (Figure 15).

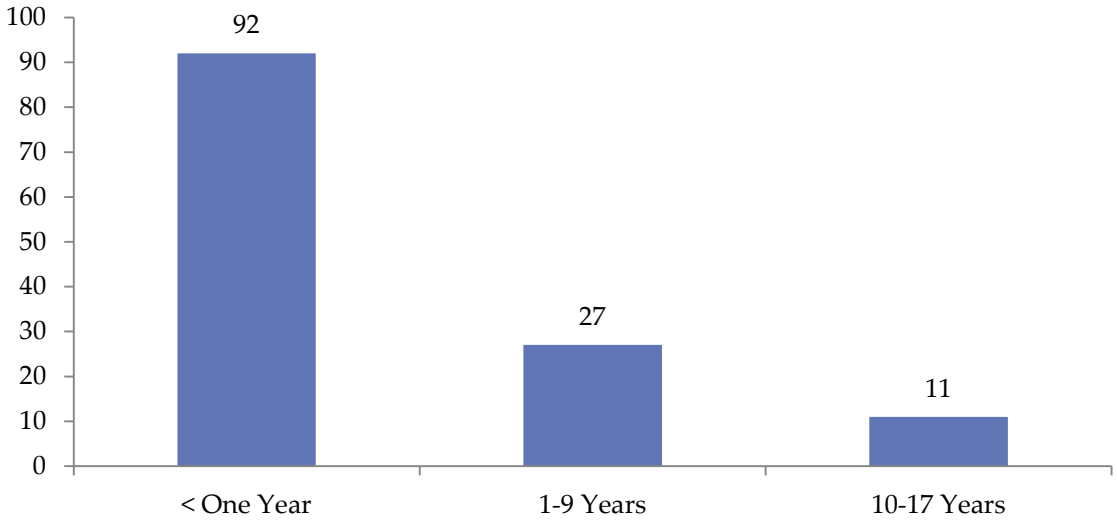
Figure 15. Mortality Rate due to Home Safety-Related Deaths per 100,000 Children, Ages 0-17 Years, Arizona, 2009-2014



Prevention

In 2014, a child's gender, race, ethnicity and age were the main risk factors associated with an increased risk for a Home-Safety Related death. Ninety three percent of children who died in this category were less than five years old (n=121) and more than half of the deaths were infants less than one year (71 percent, n=92) (Figure 16). Sixty percent (n=78) were boys and forty percent were girls (n=52). Thirty-six percent were White, non-Hispanic (n=47) and 40 percent were Hispanic (n=52). American Indian (n=14) and African American (n=14) children each accounted for 11 percent. Twenty-two percent of these deaths were also classified as maltreatment deaths due to neglect by the child's caretaker (n=29).

Figure 16. Number of Home Safety Related Deaths among Children by Age Group, Arizona, 2014



The most common cause of death in or around the home was suffocation accounting for 52 percent of fatalities (n=68), followed by 28 undetermined deaths (22 percent) and 12 drowning incidents at home (9 percent) (Table 3).

Table 3. Number and Percentage of Child Deaths In or Around the Home by Cause, Arizona, 2014 (n=130)		
Cause	Number	Percent
Suffocation	68	52
Undetermined	28	22
Drowning	12	9

The most commonly identified preventable factors were lack of supervision (48 percent, n=62), unsafe sleep environments for infants (62 percent, n=80) and substance use (50 percent, n=65) (Table 4).

Table 4. Preventable Factors for Child Deaths In or Around the Home, Arizona, 2014		
Factor*	Number	Percent
Lack of supervision	62	48
Unsafe sleep environment	80	62
Substance use	65	50
Access to water	7	5
*More than one factor may have been identified for each death		

There are a variety of protective factors that can be employed to reduce these types of deaths. This might include educating families about the dangers of unsafe sleep environments, how to

store medications safely, learning the warning signs of substance use by children, having proper pool fencing and providing adequate supervision to young children.

Recommendations

For the Arizona public

- Conduct community awareness campaigns regarding the risks and hazards to children of prescription drugs and over-the-counter medications.
- Physicians and behavioral health providers should limit their prescriptions of potentially addicting medications for their patients, especially if there is a history of substance abuse.
- Law enforcement agencies, community leaders and parents should collaborate to promote awareness of drug take-back programs.

For parents and caregivers

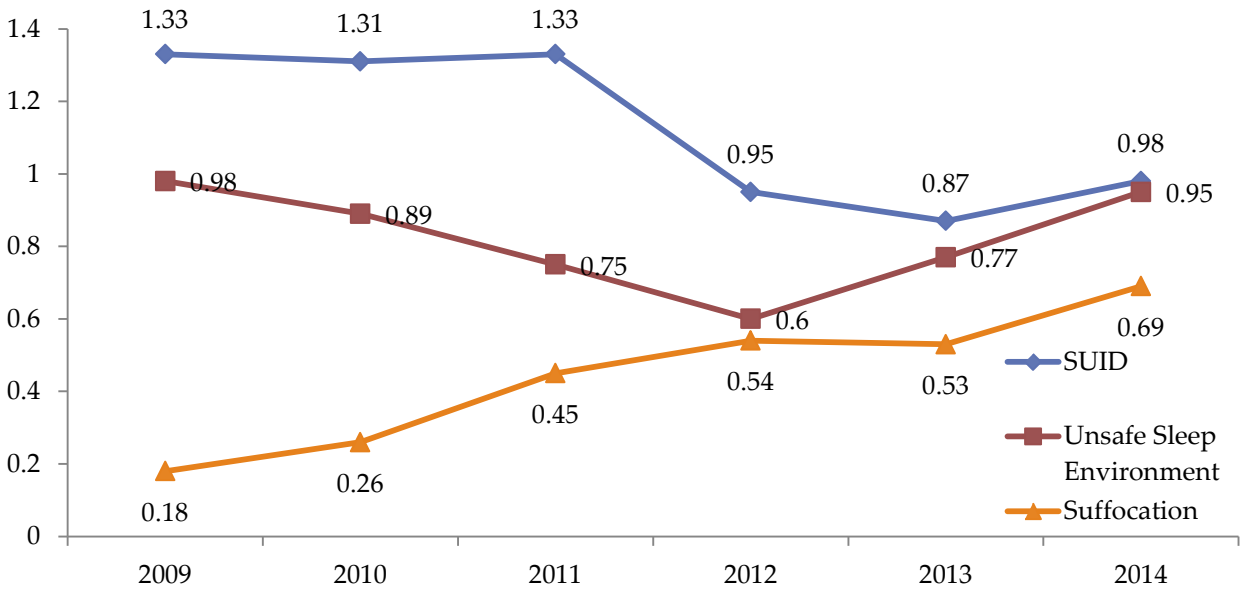
- Educate children about the risks associated with prescription and over-the-counter drug use and other dangerous substances present in the home.
- Follow directions for the use of medications carefully and properly discard old or unused medications.

Sudden Unexplained Infant Death (SUID) and Sleep Related 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 but not all of these deaths are sleep-related. Many SUIDs are due to suffocation and unsafe sleep environments.[10] Although SUID mortality rates have declined by 26 percent since 2009, the number of SUIDs increased from 74 in 2013 to 85 in 2014 (Figure 17). Hispanic children accounted for 42 percent of the deaths (n=36), White, non-Hispanic children for 33 percent (n=28), American Indians for 11 percent (n=9) and African Americans for nine percent (n=8).

[10] Please see the Methodological Appendix for an expanded definition of SUID and its subcategories.

Figure 17. Mortality Rates due to Sudden Unexplained Infant Death, Unsafe Sleep Environments, and Suffocation per 1,000 Live Births, Arizona, 2009-2014*



*These mortality rates are number of deaths per 1,000 live births.

Prevention

Local CFR teams determined 78 of these 85 SUIDs were preventable (92 percent). The most commonly identified cause of SUID was suffocation (71 percent, n=60) (Table 5). The major risk factors in many SUIDs are situations where a young infant (less than 14 weeks old) is placed to sleep on his/her stomach; on an unsafe sleeping surface, such as an adult mattress, couch, or chair; excessive soft coverings; in an overheated environment; has been exposed to cigarette smoke either prenatally or postnatally; with adults, other children or pets, especially in an adult bed or on other surfaces (e.g. couch, chair) and/or they are co-sleeping with an adult who smokes or is impaired due to alcohol or drugs.

Table 5. Number and Percentage of Sudden Unexpected Infant Deaths by Cause, Arizona, 2014 (n=85)

Cause	Number	Percent
Suffocation	60	71
Undetermined	23	27

An unsafe sleep environment was associated with the majority of SUID deaths in Arizona; 82 of the 85 SUID fatalities in 2014 (96 percent) (Table 6). Forty-one infants died while co-sleeping (bed sharing with adults and/or other children) and in seven of these deaths there was no crib in

the home. Thirty infants died while sleeping in an adult bed, four died sleeping on a couch/futon and 21 died while sleeping on their side or stomach.

Table 6. Preventable Factors for Sudden Unexpected Infant Deaths, Arizona, 2014		
Factor*	Number	Percent
Unsafe sleep environment	82	96
Drugs and/or alcohol	48	56
*More than one factor may have been identified for each death		

These deaths could have potentially been prevented by using safe sleep practices. These include being alone on their back in a crib, always using a firm sleep surface, keeping soft objects and loose bedding out of the crib, and placing young infants to sleep on their back instead of on their side or stomach. Other measures that are known to be associated with a decreased risk for SUID include breast-feeding, and placing an infant to sleep in a crib in the same room with the caretaker. Since exposure to cigarette smoke has been associated with SUID, reducing smoking exposure can also help reduce the risk of SUID. Education and safety information that addresses these factors in a culturally appropriate way should be provided to all new parents in order to minimize the risk of SUID.

Recommendations

For the Arizona public

- Parents and other caregivers should always place babies to sleep alone on their backs, in a crib that does not have toys or extra bedding.
- Parents should make sure all those who care for their infant understand safe sleep practices (use of a crib, avoidance of co-sleeping, and positioning infants on their back to sleep).
- Early childhood home visitors should educate families about and reinforce safe sleep practices.
- Encourage all health care providers and Arizona hospitals caring for infants to model safe-sleep practices including placing infants on their back to sleep and having cribs free of soft objects and loose bedding.
- Encourage all health care providers working with parents to discuss unsafe sleep practices and risk factors at every visit.
- Arizona Perinatal Trust should continue to promote safe sleep guidelines in birthing hospitals.
- Child care centers promote and enforce safe sleep practices.

For elected officials and public administrators

- Support public awareness campaigns and distribution of resources regarding the risk factors associated with sudden unexplained and sleep related infant deaths.

- Support and expand the use of the Arizona Unexpected Infant Death Investigation Checklist by Law enforcement, first responders, and medical investigators through regular training.
- ADHS continue to reinforce safe sleep practices.

Maltreatment Deaths (Deaths due to Child Abuse and Neglect)

Nine percent (n= 75) of Arizona child fatalities in 2014 were due to maltreatment. There has been a 24 percent increase in mortality rates due to maltreatment from 2009 to 2014. From 2012 to 2013 the mortality rate increased 30 percent from 4.3 deaths per 100,000 children to 5.6 deaths per 100,000 children but decreased by 18 percent from 2013 to 2014 as noted in Figure 19. In 2013, 92 children died due to maltreatment compared to 75 in 2014. In 59 percent of the 2014 maltreatment deaths (n=44) physical abuse such as intentional trauma, suffocation and drowning was the cause of death. Child neglect was the cause of 36 percent of the deaths (n=30). However, it is important to note that while the number of maltreatment deaths has gone down in the last year this does not necessarily indicate that overall incidences of child abuse and neglect have been reduced.[11]

Males represented 49 percent of the maltreatment deaths, (n=37) versus 51 percent among females (n=38). Thirty-nine percent of children who died due to maltreatment were Hispanic (n=29); 39 percent were White, non-Hispanic (n=29); 11 percent were American Indian (n=8) and 11 percent were African American (n=8). Seventy-nine percent of the children who died from maltreatment were less than five years old.

[11] Please see the Technical Appendix for a full explanation and definition on maltreatment.

Figure 18. Number of Maltreatment Deaths among Children by Age Group, Arizona, 2014 (n=75)

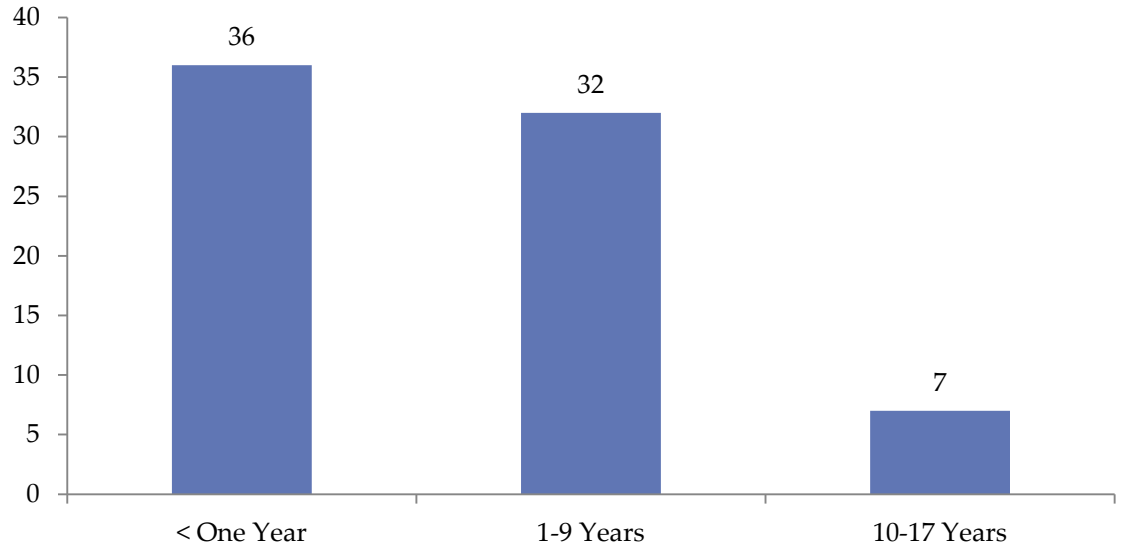
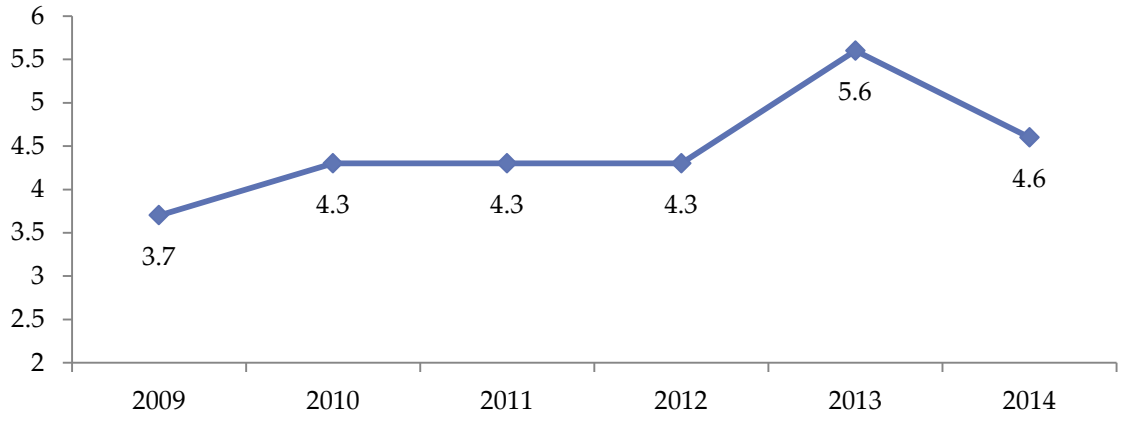


Figure 19. Mortality Rates due to Maltreatment per 100,000 Children, Arizona, 2009-2014



Neglect that resulted in unintentional injuries (accidents) was the leading manner of death for maltreatment fatalities in Arizona (43 percent, n=32). This was followed by homicides which made up 36 percent of the deaths (n=27). Thirteen percent of maltreatment deaths were due to a natural manner (n=10) (Figure 20). Examples of maltreatment deaths due to a natural manner of death include prenatal substance use resulting in premature birth or failure to obtain medical care.

Figure 20. Number and Percentage of Maltreatment Deaths among Children by Manner, Arizona, 2014 (n=75)

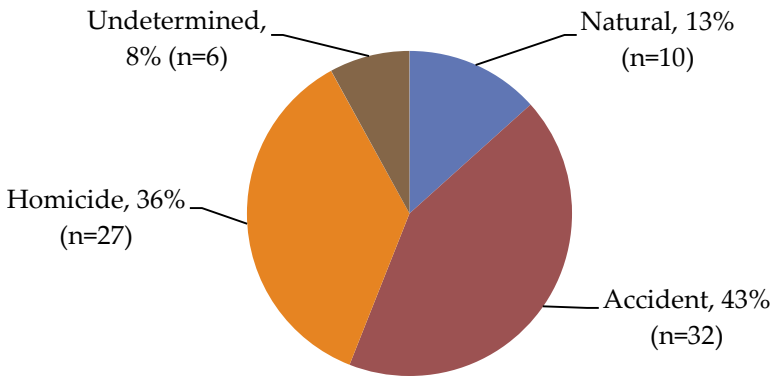


Table 7. Maltreatment Deaths Among Children by Top Three Causes of Death, Arizona, 2014 (n=75)		
Cause	Number	Percent
Blunt/sharp Force Trauma	19	25
Suffocation	15	20
Drowning	10	13

Blunt/sharp force trauma, suffocation and drowning were the leading causes of maltreatment-related deaths among children in Arizona (59 percent, n=44) (Table 7).

The primary perpetrator in 49 percent of maltreatment deaths was the child's mother (n=37). This was followed by 19 percent where the perpetrator was the child's father (n=14) and the mother's partner accounted for nine percent of the deaths (n=7) (Table 8).

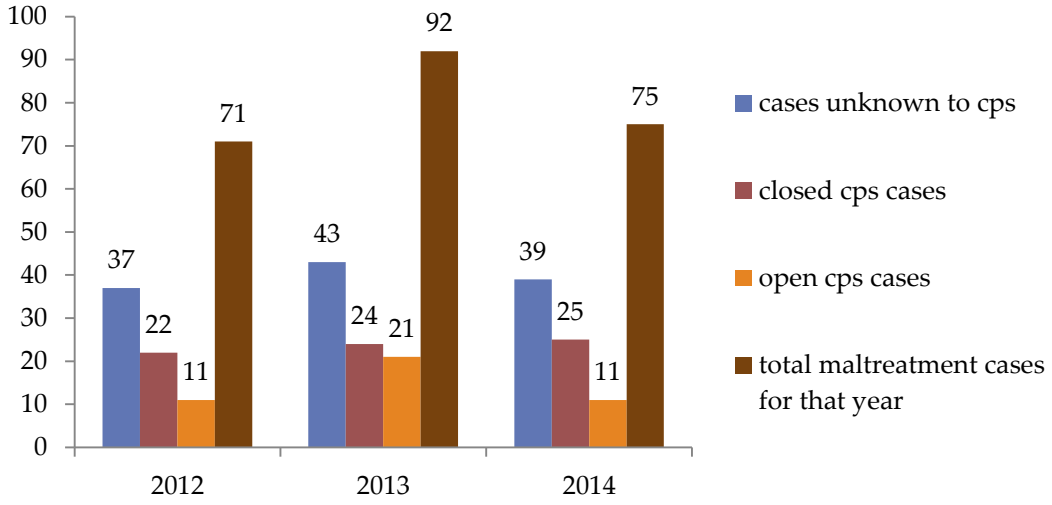
Table 8. Number and Percentage of Maltreatment Deaths Among Children by Primary Perpetrator, Arizona, 2014 (n=75)		
Perpetrator	Number	Percent
Mother	37	49
Father	14	19
Mother's partner	7	9
Other relative	<6	7
Other non-relative	12	16

Any Child Protective Services Involvement with Families of Children Who Died Due to Maltreatment

Local CFR Teams attempt to obtain records from child protective services (cps) agencies, including ADCS and cps agencies in other jurisdictions, such as tribal authorities and other states. Review teams consider a family as having previous involvement with a cps agency if a cps agency investigated a report of maltreatment for any child in the family prior to the incident leading to the child's death. Unsubstantiated reports of maltreatment are also included in this definition.

In 2014, 36 of the 75 children who died from maltreatment were from families with prior involvement with any cps agency (48 percent). Among the families who had prior involvement with a cps agency, 11 of the 36 families had an open case with a cps agency at the time of the child's death (31 percent); 25 of the 36 families had a history of cps agency involvement but the case was closed at the time the child died (69 percent). The number of children from families with prior cps agency involvement decreased from 49 in 2013 to 36 in 2014. The number of families with an open cps case at the time of the child's death decreased from 21 in 2013 to 11 in 2014 (Figure 21). Less than six of the 75 maltreatment cases involved a Tribal cps agency or involved out-of-state cps agencies.

Figure 21. Maltreatment deaths: involvement with any child protective services agency, Arizona, 2012-2014



Prevention

Child maltreatment is any act or series of acts of commission or omission by a parent or other caregiver (e.g., clergy, coach, teacher) that results in harm, potential for harm, or threat of harm to a child. There are several modifiable risk factors that exist when a child is at risk for

maltreatment. These factors, usually in combination, may involve the parent or caregiver, the family, the child or the environment.[12]

- *Parent or caregiver factors*: personality characteristics and psychological well-being, having a history of maltreatment as a victim and/or perpetrator, history or patterns of substance use/abuse, incorrect attitudes and/or knowledge about caring for a child i.e. 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
- *Environmental factors*: poverty and unemployment, social isolation and lack of social support and community violence

One hundred percent of child maltreatment 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 or abuse which was associated with 73 percent (n=55) of the deaths. Lack of supervision contributed to 47 percent of maltreatment deaths (n=35) and 20 percent were determined to be in an unsafe sleep environment (n=15) (Table 9). Twenty-two maltreatment deaths were also considered to be associated with a poor caregiver choice. More than one factor may have been identified for each death.

Table 9. Preventable Factors for Maltreatment Deaths Among Children, Arizona, 2014

Factor*	Number	Percent
Substance use	55	73
Lack of supervision	35	47
Unsafe sleep environment	15	20
*More than one factor may have been identified for each death		

When a child is at risk for maltreatment 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.

Recommendations

For the Arizona public

- The Arizona legislature should increase funding for childcare assistance programs so that all low-income working families can have access to safe child care for their children and are not forced to use caregivers who may harm or neglect their child.
- The Arizona Legislature should ensure there is sufficient funding for the Arizona Department of Child Safety, Juvenile Court System, Attorney General's Office and

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

community based services to effectively prevent and respond to child abuse and neglect.

- Public and community leaders should expand public awareness campaigns and provide free community trainings to promote knowledge and understanding about child abuse and neglect reporting laws, and effective prevention programs such as Safe Sleep, the Protective Factors, Adverse Childhood Experiences, Who Do You Trust with Your Child, Don't Shake a Baby and Prevent Child Abuse America initiatives.
- Communities should support evidenced based programs focused on prevention such as Healthy Families Arizona, Nurse Family Partnership, Triple P-Positive Parent Program, Family Resource Centers, Strengthening Families and Nurturing Parenting.
- Report any suspected abuse or neglect to the Department of Child Safety at 1-888-SOS-CHILD (1-888-767-2445). For professional mandated reporters an online reporting system is available for non-emergency situations. Concerns submitted online will be reviewed within 72 hours of submission. Register for online reporting at: https://**www.azdes.gov/dcyf/cps/mandated_reporters/**
- Home visiting programs should collaborate with law enforcement and child protective services agencies to increase awareness and support for home-visitation programs and child abuse prevention initiatives that assist parents and caregivers.
- Law enforcement agencies and the Arizona Department of Public Safety should collaborate with the Arizona Department of Child Safety and receive training on the recognition of signs and symptoms of maltreatment.
- Support sufficient funding for timely behavioral health and substance abuse assessment and treatment services for parents and their children.

For parents and caregivers

- Report any 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 Arizona Childcare Resource & Referral or the Association for Supportive Child Care (ASCC) for assistance. They match parents seeking childcare with appropriate community resources.

Motor Vehicle Crash and Other Transport Deaths

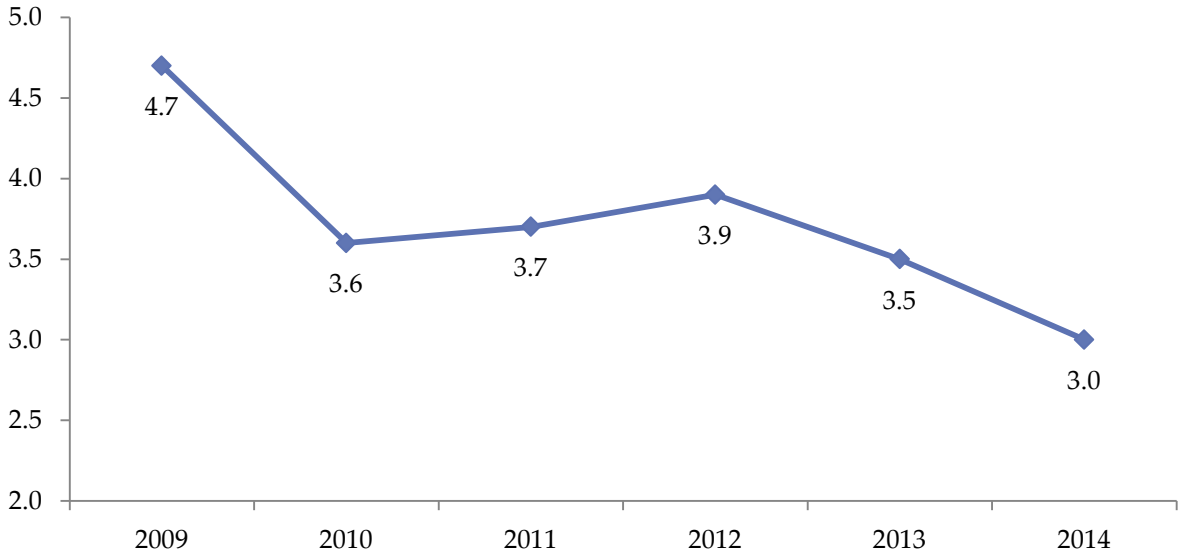
Deaths due to motor vehicle crashes have decreased since 2009, yet remain one of the leading causes of death for children aged 10 years and older in the United States and accounted for seven percent (n=57) of all child deaths in Arizona. There are a number of risk factors that contribute to these deaths.

- *Age and gender*: males aged 15–19 are at greatest risk, children under 11 are less able to make safe decisions and teens and young adults have the lowest seatbelt use ratings
- *Improperly or unrestrained children*, especially children under five, 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
- Excessive speed, distracted and reckless driving including using mobile devices and texting

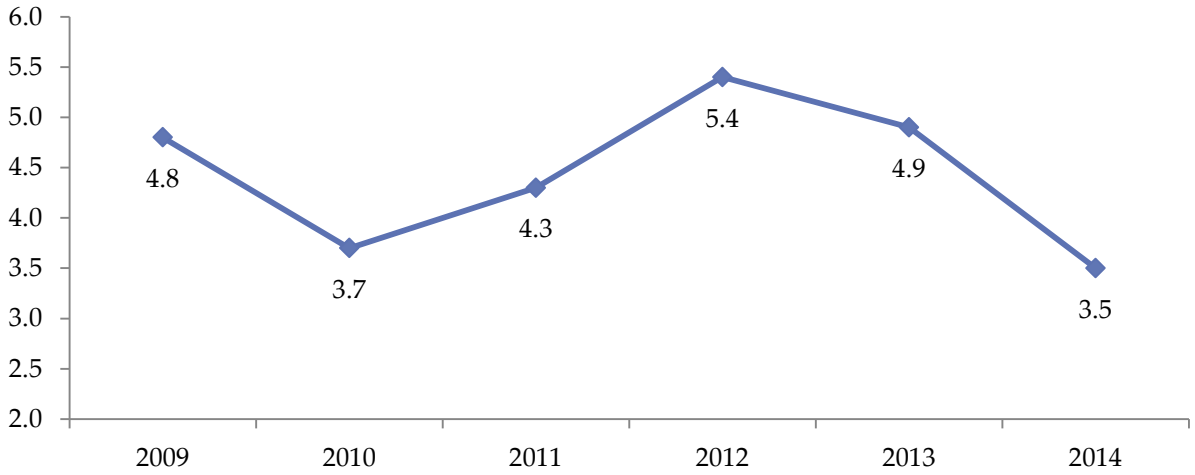
Effective prevention efforts have reduced the overall number of fatalities. Since 2009, the rate of motor vehicle crash (MVC) fatalities alone has been reduced by 36 percent (Figure 22), and the rate of MVC fatalities combined with other transport deaths saw a 29 percent decrease between 2013 and 2014 (Figure 23).[13]

Figure 22. Mortality Rate Due to Motor Vehicle Crashes per 100,000 Children, Arizona, 2009-2014



[13] Other transport accident is defined as any accident involving a device designed primarily for, or used at the time primarily for, conveying persons or good from one place to another. Examples include all-terrain vehicles (ATV) and pedacyclist collisions with motor vehicles.

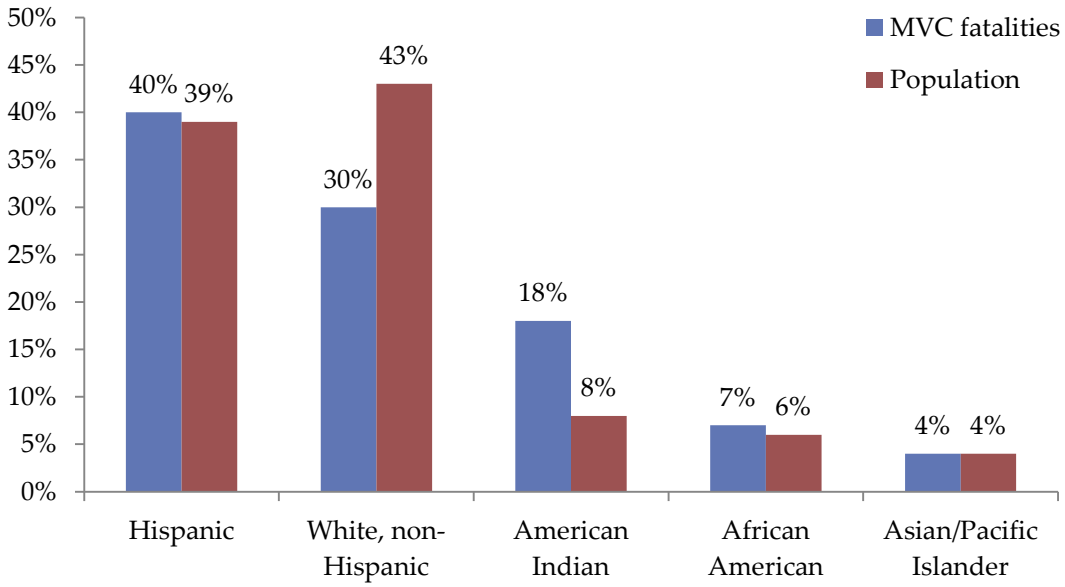
Figure 23. Mortality Rate Due to Motor Vehicle Crashes and Other Transport per 100,000 Children, Arizona, 2009-2014



Prevention

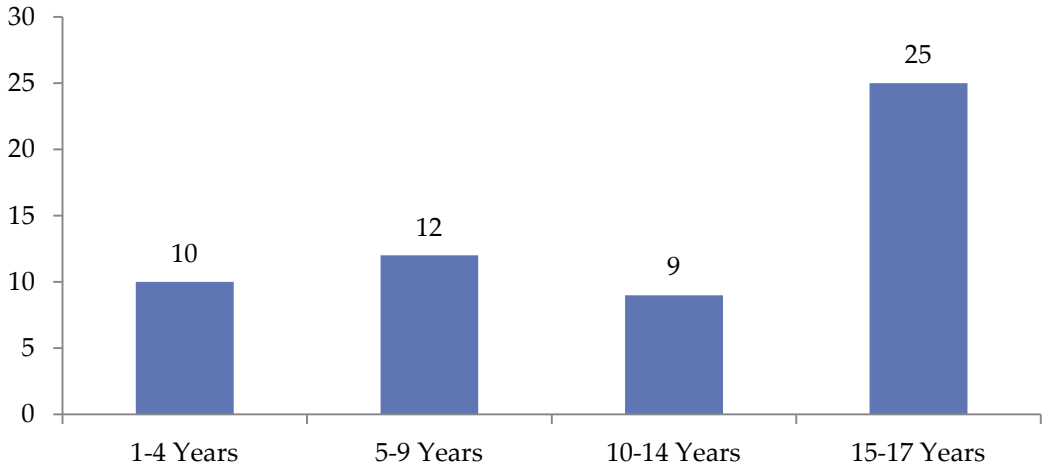
Local CFR teams determined that 96 percent of the 57 MVC and transport fatalities were preventable (n=55). Among these fatalities, certain groups still carry a larger part of the mortality burden and are in need of targeted prevention initiatives. Two of these groups continue to be American Indian and African American children, as they represent a higher percentage of deaths when compared to their percentage of the Arizona child population (Figure 24).

Figure 24. Percentage of Motor Vehicle and Other Transport Deaths by Race/Ethnicity, Compared to Populations, Arizona, 2014



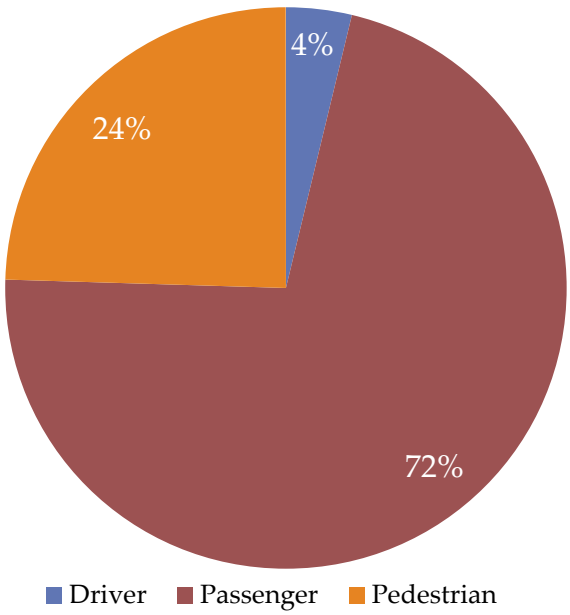
Teenagers 15 to 17 years old made up more than 44 percent of all MVC and transport fatalities in 2014 (Figure 25). Although the total number of motor vehicle and transport deaths decreased by 29 percent from 2013 to 2014, the number of deaths to those 15 to 17 years old remained relatively the same with 24 deaths in 2013 and 25 deaths in 2014. The second highest age group were those five to nine years old accounting for 21 percent of all transport fatalities (n=12), followed by those one through four year of age with 18 percent of the deaths (n=10).

Figure 25. Number of Motor Vehicle and Other Transport Deaths by Age Group, Arizona, 2014 (n=57)



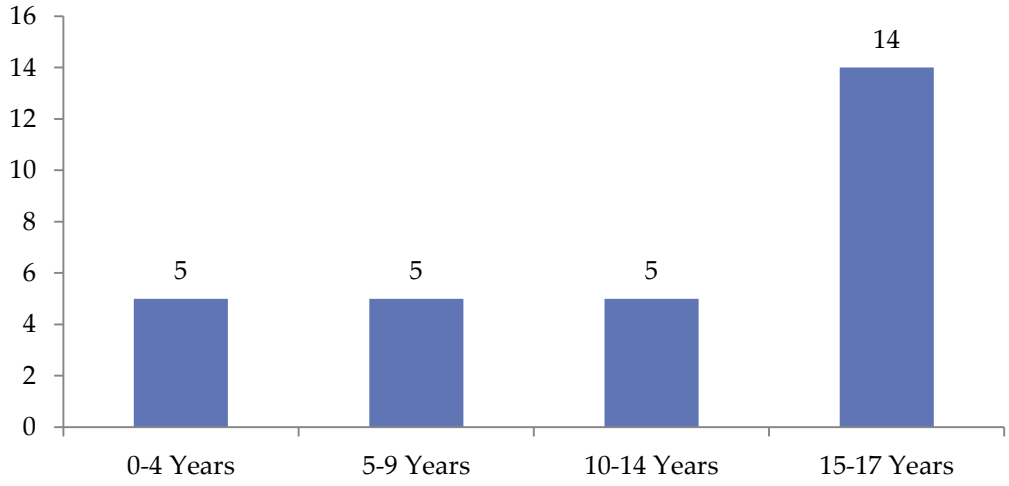
Of the 57 children who died in motor vehicle crashes and other types of transportation, 40 children were vehicle occupants, 13 children were pedestrians and three children were riding bicycles. Among the 40 motor vehicle occupant fatalities, 38 children were passengers. Among the passenger deaths, ten children were seated in the vehicle's front seat and 19 children were seated in the back seat. In eight child fatalities, the seating position within the vehicle was unknown.

Figure 26. Number and Percentage of Motor Vehicle Crash Deaths by Occupant Position, Arizona, 2014 (n=57)



In addition, 29 children were known to have been improperly restrained or unrestrained in vehicles (51 percent) (Figure 27). The highest number of transport related deaths were due to lack of vehicle restraint (Table 10). This indicates although child safety restraint laws have reduced the number of motor vehicle crash fatalities further prevention efforts are needed.

Figure 27. Number of Motor Vehicle and Other Transport Deaths with Improper or Unknown Restraint Use by Age Group, Arizona, 2014 (n=29)



Additional preventable risk factors associated with transport related deaths in Arizona include speeding, reckless driving, driver inexperience, driver distraction, and substance use (Table 10).

Table 10. Preventable Factors for Transportation-Related Deaths Among Children, Arizona, 2014		
Factor*	Number	Percent
Lack of vehicle restraint	29	51
Excessive driving speed	25	44
Reckless driving	20	35
Drugs and/or alcohol	13	23
Driver inexperience	11	19
Driver distraction/ Driver fatigue	8	14
*More than one factor may have been identified for each death		

Each of these factors was determined to be 100 percent avoidable. They can be best addressed by strengthening protective factors such as using proper child restraints every time a vehicle is in operation, wearing helmets, following passenger safety and established motor vehicle laws. The continuation of targeted awareness and education efforts to the most at risk populations is essential.

Recommendations

For parents and caregivers

- Place children in the appropriate child safety restraints when operating a motor vehicle.
- Model good behavior by always wearing a seatbelt and never operate a vehicle while distracted.

For the elected officials and other public administrators

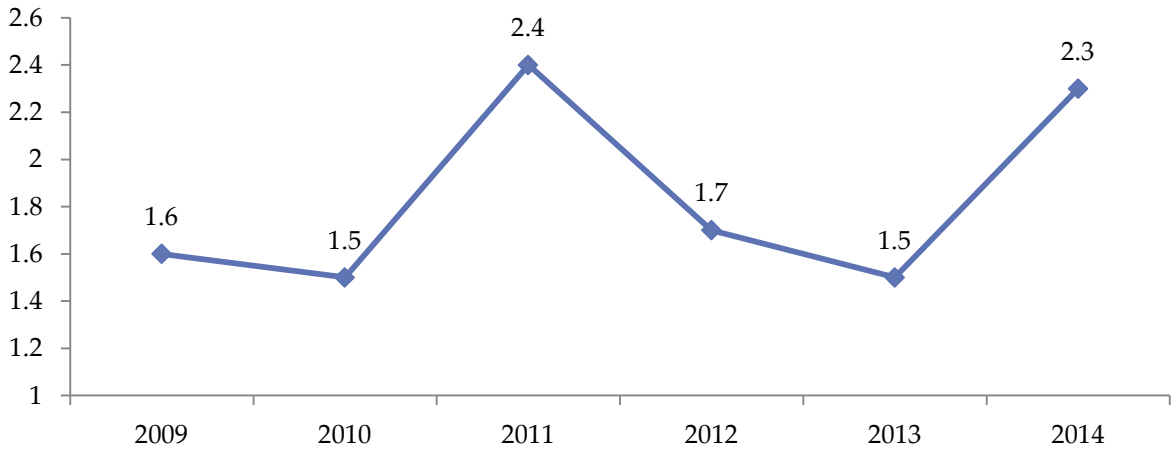
- Enact stricter distracted driving laws to include the prohibition of texting while driving.
- Enact a primary seat belt law to allow law enforcement officers to cite a driver and occupants for not wearing a seat belt in the absence of other traffic violations.
- Strengthen the graduated driver licensing system to build driving skills and experience among new drivers.
- Law enforcement officers should continue rigorous DUI enforcement and educate the community regarding the consequences of driving under the influence of alcohol and/or drugs.
- Promote awareness about child passenger and motorized vehicle safety and encourage participation in events such as car-seat checkups, safety workshops, and sports clinics.

Suicides

In 2014, there were 38 suicides among children in Arizona, which accounted for five percent of all child deaths. This was a 53 percent increase from 2013. There are number of identifiable risk factors associated with suicide deaths.

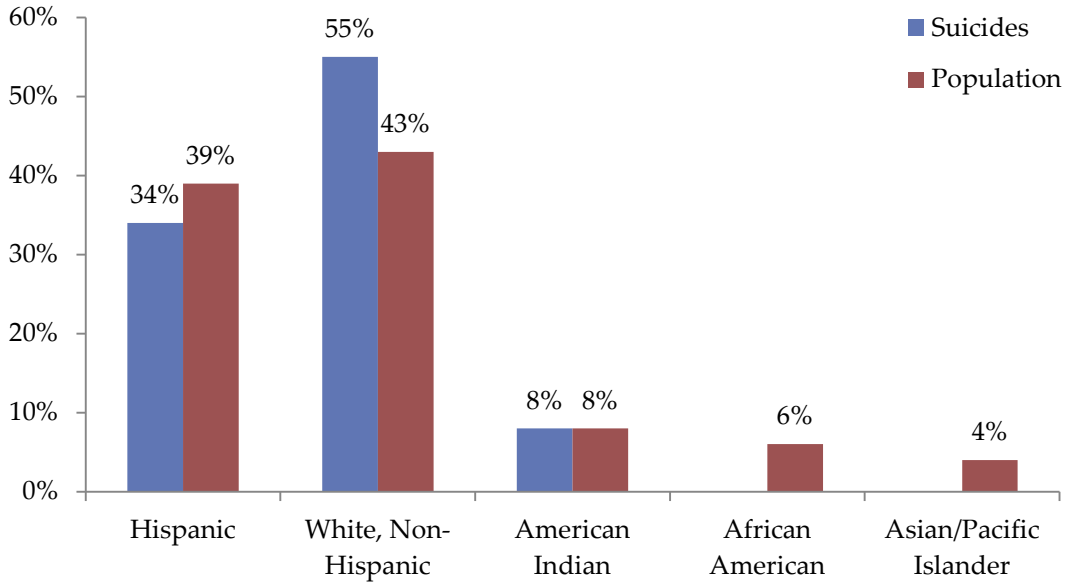
- Behavioral health issues and disorders, particularly mood disorders, depressant and anxiety disorders
- Substance use and abuse
- Impulsive and/or aggressive tendencies
- History of trauma or abuse
- Major physical illnesses
- Family history of suicide and previous suicide attempts
- Easy access to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

Figure 28. Mortality Rates due to Suicide per 100,000 Children, Arizona, 2009-2014



The majority of suicide deaths occurred in boys. Seventy-four percent of all suicide deaths occurred in boys (n=28) compared to 26 percent (n= 10) in girls. The distribution of suicide by race/ethnicity varies year by year. In 2014, White, non-Hispanic children made up 55 percent of the suicide deaths (n=21) and Hispanic children accounted for 34 percent (n=13) (Figure 29). White, non-Hispanic children were overrepresented compared to the population accounting for more than half the suicides.

Figure 29. Percentage of Suicide Deaths by Race/Ethnicity, Compared to Populations, Arizona, 2014



Youth ages 15 through 17 years remained at highest risk for suicide death with 71 percent (n=27) of suicides followed by children 10 through 14 years of age (29 percent, n=11). This distribution of suicides by age group has remained consistent since 2009.

Causes of death from suicides included firearm injuries (37 percent) followed by hanging (34 percent). Objects used for hanging suicides included belts, rope, strings and electrical cords.

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 were known to have a history of family discord (34 percent); a history of drug/alcohol use by the child (26 percent) and history of a recent break-up with a girlfriend or boyfriend (26 percent) (Table 11).

Table 11. Factors That May Have Contributed to the Child's Despondency Prior to Suicide, Arizona, 2014	
Factor*	Percent
History of drug/alcohol use	26
History of family discord	34
Victim of bullying	11
History/recent break-up	26
Argument with parent	21
History of suicide within the family	0
History of parent divorce	13
Argument with boyfriend or girlfriend	11
Failure in school	18
Death in the family	8
History of issues related to sexual orientation	0
History of physical abuse	0
History of sexual abuse	0
History of problems with the law	11
*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 33 child suicides were preventable (87 percent). Of the top preventable factors for child suicides, the use of drugs was the most commonly identified (39 percent, n=15) followed by alcohol use (18 percent, n=7) (Table 12).

Table 12. Preventable Factors for Child Suicides, Arizona, 2014		
Factor*	Number	Percent
Drug use	15	39
Alcohol use	7	18
*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 abuse 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.

Recommendations

For the Arizona public

- Arizona schools should collaborate with the Arizona Suicide Prevention Coalition to support and implement school and community prevention programs, such as Mental Health First Aid, that train teachers and students how to address suicide, bullying, and related behaviors.
- Increase awareness about suicide prevention and reporting resources by connecting communities and families with these resources.

For parents and caregivers

- Monitor children with known behavioral problems (substance abuse and delinquency) or possible mental disorders (depression or impulse control problems) for signs and symptoms of suicide and immediately seek treatment and care.
- Talk with children about firearm safety if there is any evidence of mental health issues and limit youth access to any lethal means.
- Completely remove firearms from homes where children or adolescents are showing signs of mental health issues, substance abuse, or suicide.
- Monitor your child's social media for any talk about suicide and take immediate action.

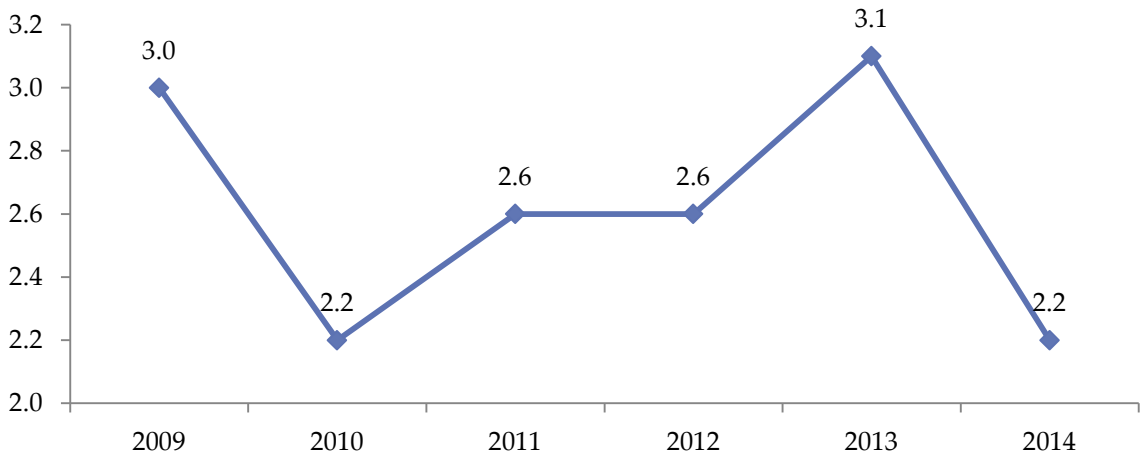
For the elected officials and other public administrators

- Schools should work closely with suicide prevention groups to expand and implement bullying awareness and prevention programs.
- Support funding for behavioral health and substance use assessment and treatment services for youth and their families**.**

Homicides

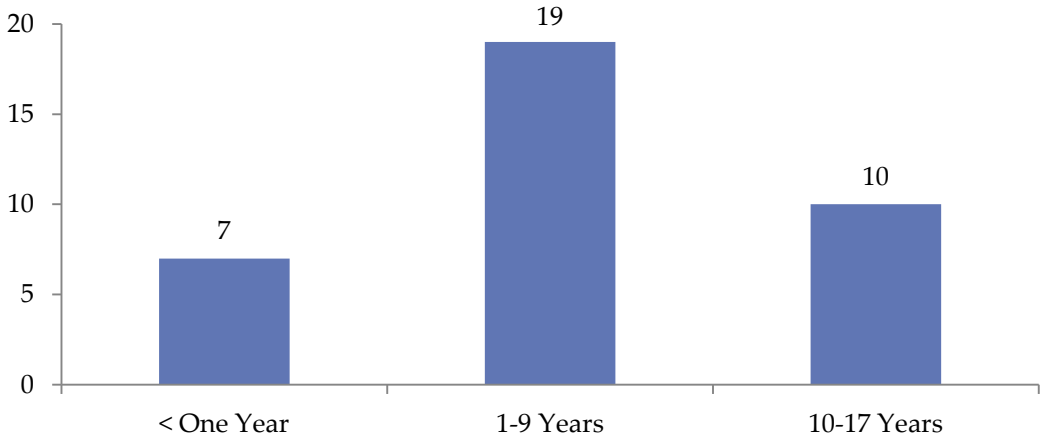
In 2014, thirty-six children were victims of homicide in Arizona accounting for four percent of all child deaths. The child homicide rate decreased between 2013 and 2014 by 29 percent (Figure 30).

Figure 30. Mortality Rate due to Homicides per 100,000 Children, Arizona, 2009-2014



Unlike previous years, females accounted for the majority of homicides in 2014 (female, 58 percent n=21 vs. male, 42 percent, n=15). Hispanic children experienced the highest number of child homicides accounting for 50 percent of deaths (n=18) followed by 27 percent among White, non-Hispanics (n=10). The remaining 23 percent were African American, American Indian, Asian/Pacific Islander/Hawaiian and children of two or more races.

Figure 31. Number of Homicides among Children by Age Group, Arizona, 2014 (n=36)

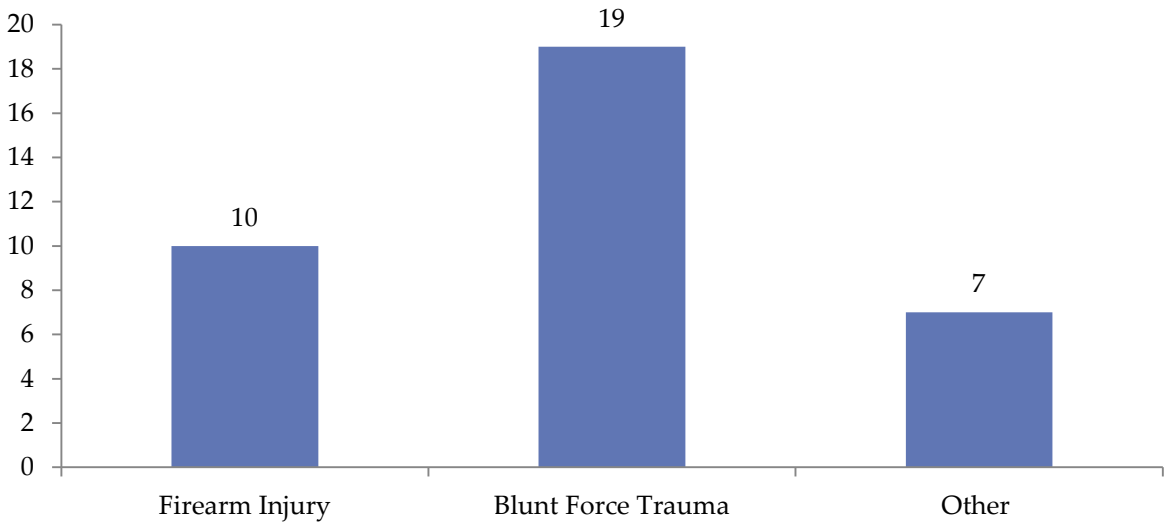


The number of homicides in some age groups has remained consistent since 2009 with an overall downward trend except in those one to nine years of age. Children aged 10-17 years experienced a decrease in the number of deaths from 25 homicides in 2013 to ten in 2014 (Figure 31).

Prevention

Local teams review the unique circumstances surrounding each child homicide in order to determine any patterns in the causes of death and identity of the perpetrator. In 2014, blunt force trauma remained the leading cause of death among child homicides (53 percent, n=19), decreasing only two percent from 2013, followed by firearm injuries (28 percent, n=10) (Figure 32).

Figure 32. Number of Homicides among Children by Cause of Death, Arizona, 2014 (n=36)



In 42 percent of child homicides, the biological parent of the child was the perpetrator. The mother's partner was responsible for 17 percent. Teams were unable to identify the nature of the relationship between the perpetrator and the child in 13 percent of the deaths (Table 13).

Table 13. Homicides Among Children by Perpetrator, Arizona, 2014 (n=36)		
Perpetrator*	Number	Percent
Biological Parent	15	42
Mother's Partner	6	17
*Perpetrator may fall into more than one category for each death		

One hundred percent of child homicides were determined to have been preventable (n=36). The most common preventable factor was drugs, followed by lack of supervision and alcohol. These remained the top three preventable risk factors in child homicides from 2013 to 2014 (Table 14).

Table 14. Preventable Factors for Child Homicides, Arizona, 2014		
Factors*	Number	Percent
Drugs	24	67
Lack of supervision	12	33
Alcohol	9	25
*More than one factor may have been identified for each death		

Recommendations

For parents and caregivers

- 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.

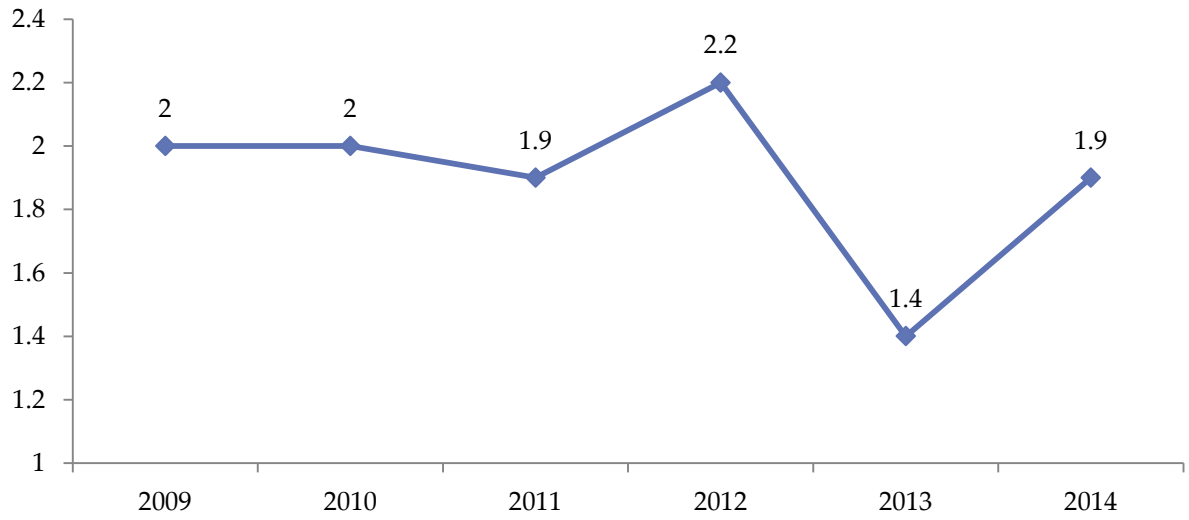
For the elected officials and other public administrators

- Support sufficient funding for behavioral health and substance use assessment and treatment services for children, youth and their families.

Drowning Deaths

Drowning accounted for 31 child deaths and four percent of all child deaths in Arizona. While the drowning rate increased by 36 percent from 1.4 deaths in 2013 to 1.9 deaths in 2014, the rate has decreased by five percent since 2009 (Figure 33). It is important to note with some of these rates that while they appear to fluctuate quite drastically from year to year are just a result of small numbers. Therefore, a slight increase or decrease in the total number of deaths can impact the rates from year to year. It is more important to look at the five-year average rate when determining whether a change is significant or not.

Figure 33. Mortality Rate due to Drowning per 100,000 Children, Ages 0-17, Arizona, 2009-2014



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 2014, review teams determined 100 percent of the 31 child-drowning fatalities were preventable. There are three main preventable factors associated with child drowning in Arizona (Table 15). Lack of supervision was the most commonly identified factor in 84 percent of drowning deaths (n=26), followed by access to water at 68 percent (n=21) and substance use at 33 percent.

Table 15. Preventable Factors for Child Drowning, Arizona, 2014		
Factor*	Number	Percent
Lack of supervision	26	84
Access to water	21	68
Drugs and/or alcohol	10	33
*More than one factor may have been identified for each death		

The group at highest risk of drowning are children aged one to four accounting for 58 percent of drowning deaths in 2014 (n=18), the remaining 13 deaths are relatively evenly distributed among the other age groups. White, non-Hispanic children made up 55 percent of the deaths (n=17); Hispanic children composed an additional 23 percent of the drowning deaths (n=7) followed by African American children at 19 percent (n=6).

Sixty-one percent (n=19) of children drowned in a pool, hot tub or spa. The second most prevalent place was in open bodies of water (Table 16).

Table 16. Location of Child Drowning Fatalities, Arizona, 2014 (n=31)		
Location	Number	Percent
Pool/hot tub/spa	19	61
Open water	6	19

Drowning fatalities in Arizona have been reduced overall in the past several years, but vigilance in promoting protective factors must continue. It is especially important because drowning deaths have increased over the last year, although, the number of fatalities to children aged 1-4 remained fairly stable. Prevention strategies include removing the hazard by draining unnecessary accumulations of water i.e. pools and bathtubs; creating barriers by building and maintaining fencing around pools and other bodies of water when possible; and protecting children at risk: promote learning to swim, train lifeguards and practice proper supervision of children near water.

Lack of supervision is the leading risk factor 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.

Recommendations

For the Arizona public

- Teach children to swim and about water safety at an appropriate age.
- Never leave a young child alone and without "touch" supervision around all bodies of water.
- Seek training on child and infant CPR.
- Secure public and private pools by installing fencing and self-latching gates that are kept in good repair.

- Support public drowning prevention education including public service announcements and legislation regarding proper pool fencing.

For parents and caregivers

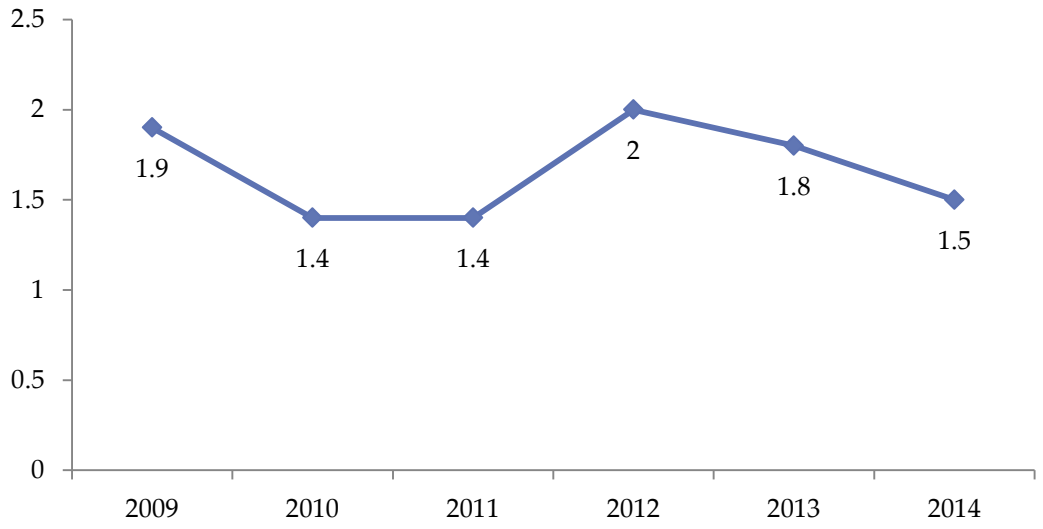
- To prevent drowning, parents and other caregivers should designate at least one responsible adult to monitor the pool area when children are present. They should also not rely solely on flotation devices to protect the child from drowning. Continue to use "touch supervision," where the adult can reach out and touch the child at all times.

Firearm Deaths

There were 25 firearm-related fatalities in 2014, compared to 29 in 2013 and 32 in 2012. The percentage of firearm-related deaths for the year was three percent. The overall rate for firearm-related deaths has remained on a downward trend since 2009 with only a slight increase in 2012 and decreasing again in 2013 (Figure 34).

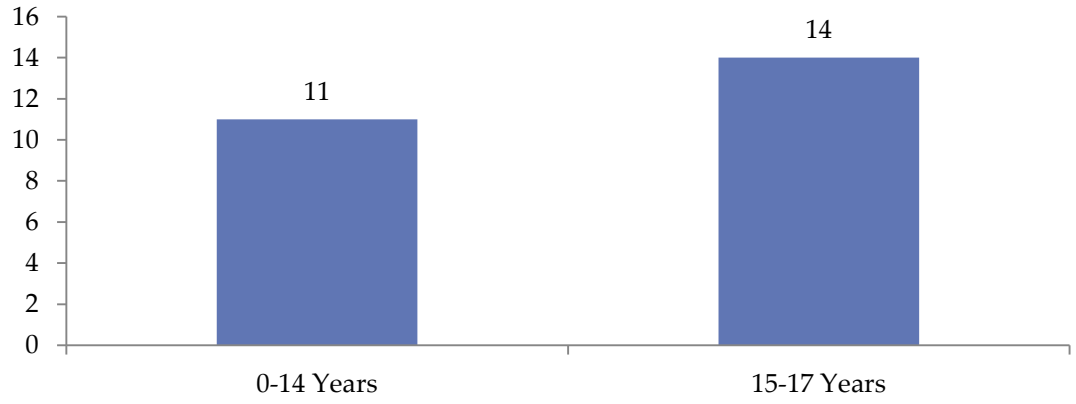
The number of males dying from firearm-related fatalities continually remains higher than the number of females; 76 percent of firearm-related deaths in 2014 were among males and the remaining 24 percent were among females. White, non-Hispanic children were most affected representing 56 percent of firearm fatalities, followed by Hispanic children at 40 percent.

Figure 34. Mortality Rate due to Firearms per 100,000 Children, Ages 0-17, Arizona, 2009-2014



In 2014, children aged 15-17 years accounted for fourteen firearm-related deaths (56 percent) and those 0-14 composed an additional 44 percent (n=6) (Figure 35).

Figure 35. Number of Firearm-related Deaths Among Children by Age Group, Arizona, 2014 (n=25)



Suicides and homicides accounted for 96 percent of firearm-related deaths in 2014. Fourteen firearm-related deaths were a result of suicide (56 percent) and ten firearm-related deaths were homicides (40 percent).

Handguns accounted for 68 percent of the firearm-related fatalities in 2014 (n=17) (Table 17).

Table 17. Types of Firearms Involved in Child Deaths, Arizona, 2014 (n=25)		
Type	Number	Percent
Handgun	17	68
Other	8	32

When reviewing cases to see who owned the firearm used in the fatality incident the category showing the greatest percentage was a biological parent (44 percent). The other category includes a variety of other individuals including acquaintances, mother's partner, friend, etc (Table 18).

Table 18. Owners of Firearms Involved in Child Deaths, Arizona, 2014 (n=25)	
Owner	Percent
Biological Parent	44
Other (e.g. acquaintance, mother's partner)	56
*other category the numbers are too small to separate	

In several firearm-related deaths, the storage location of the firearm was unknown to the review teams (56 percent, n=14). Eleven of the firearms were not stored in secured locations (44 percent) (Table 19).

Table 19. Locations of Firearms Involved in Child Deaths, Arizona, 2014 (n=25)		
Location	Number	Percent
Unknown	14	56
Other (e.g. unsecure location)	11	44

Prevention

Local teams determined 100 percent of the firearm-related child deaths were preventable (n=25). Of the preventable risk factors for firearm-related deaths, drug and alcohol use were associated with 56 percent of deaths. Drug use was involved in 9 deaths (36 percent); alcohol use factored into 5 deaths (20 percent) and lack of supervision contributed to 6 deaths (24 percent) (Table 20).

Table 20. Preventable Factors for Firearm-Related Deaths Among Children, Arizona, 2014		
Factor*	Number	Percent
Drug use	9	36
Alcohol use	5	20
Lack of supervision	6	24
*More than one factor may have been identified for each death		

Recommendations

For the Arizona public

- Collaborate with the firearm injury prevention programs to hold community events promoting gun safety education.

For parents and caregivers

- Families with children should store all firearms unloaded, in a secure locked location.

Accomplishments of the CFR Program

The following are accomplishments achieved by the CFR Program in the past year:

- Establishment of an informed partnership with Arizona's Vital Records Office to increase the timely collection and distribution of death and birth certificates to local teams for completing on time reviews of all child deaths.
- Completion of three infant death scene re-enactment trainings for law enforcement and other first responders increasing awareness and use of the statutorily required Arizona Infant Death Checklist.
- Implementing a new Safe Sleep Awareness campaign and the creation of crib cards for new parents.

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 2009 through 2014, all deaths of Arizona residents and out-of-state residents aged 0 to 17 were identified by underlying cause of death with International Classification of Disease codes, Version 10 (ICD-10; http://www.who.int/classifications/icd/en/). CFR local teams take the demographic and incident information from death certificates of children and youth aged 0 to 17 for the purpose of 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:

(http://www.cdc.gov/nchs/injury/injury_matrices.htm). Deaths caused by injuries where the intent is known are identified using the definitions below and related ICD-10 codes:

Unintentional injury. An injury or poisoning fatality that took place without any intent to cause harm or death to the victim, also referred to as an accident. 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 as a result of their actions. Suicides are identified using ICD-10 codes X60-X84.

Undetermined injury death. These can be injury death in which investigators and medical examiners have insufficient information available to fully determine a cause and/or manner of death. Undetermined injury deaths are identified using ICD-10 codes Y10–Y34.

Maltreatment. Maltreatment is a form of child abuse and 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 will encounter in maltreatment cases involve physical abuse which includes internal abdominal and blunt head injuries leading to fatalities. When looking at neglect cases, CFR teams determine if parents or caregivers failed to arrange for 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 around these maltreatment deaths vary greatly, some fatalities are the result of long-term abuse and neglect, unintentional and intentional, but some are the result of a single incident.

To gain greater understanding of the contribution of abuse and neglect to child mortality, the Arizona CFR Teams answers several questions regarding maltreatment during a review. Classification of a death due to maltreatment 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 maltreatment).
2. The relationship of the individual accused of committing the maltreatment 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 maltreatment in other categories by manner and cause of death. For example, one classifies a death from abusive head trauma caused by the use of blunt force as a homicide and a maltreatment death. Teams may also classify an accidental or natural death as a maltreatment death if the team concludes a caretaker's negligence or actions contributed to or caused the fatality. For example, the death of child in a motor vehicle crash due to the actions of a parent who drove while intoxicated would be considered a maltreatment fatality.

Reporting. The number of child maltreatment deaths presented in this report is not comparable to child maltreatment 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 maltreatment deaths identified through child protective services investigations, and because some maltreatment 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 maltreatment 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.

It is also important to note the differences in reporting of maltreatment numbers in this report compared to the number of maltreatment fatalities reported by DCS. DCS reports only those

deaths that have been investigated by DCS and substantiated as maltreatment. The CFR team reports all deaths related to maltreatment to DCS, if a report has not been previously generated.

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 unexplained infant deaths and sleep-related 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, including death scene reenactment photos, death checklist information, and autopsy results, 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 one year 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). A death is considered to be 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 also 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 impacting 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 AZ Infant Death Checklist, and completing both local and state level reviews of all identified SUID cases. In 2014, out of 270 deaths where a death scene investigation was completed, authorities filled out a death checklist in 63 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 certification. However, 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. 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. To further maintain confidentiality, identifying information in data and research reports has been omitted.

All cases reviewed by the CFR 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 of all child deaths in Arizona.

Substance Use. In Arizona, substance use and abuse are a contributing factor in some preventable child deaths. In previous annual reports this was a separate section, but to be clearer about when substance use and abuse are a contributing factor in a child death this information has been moved and is now noted in the prevention portion of each section of the report.

Review Process

Case reviews take place 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 death. Additionally, the birth certificate is reviewed when the child is younger than one year of age at the time of death. Legislation requires that hospitals and state agencies release this information to the Arizona CFR Program's local teams. **Note: Team members are required to maintain confidentiality and prohibited from contacting the child's family.**

During the review, team members from representing agencies provide information on each case. If an agency representative is unable to attend a meeting 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. The data is entered by the local team staff using a collection tool developed by the National Center for Child Death Review. The form is formatted using a wide variety of variables so all possible detailed information is collected using specific questions about the demographics of the child, the supervisor of the child at the time of the fatality incident, caregiver, the family, and the circumstances surrounding the fatality. There are several variables present on the form, but not all such specific information will be available to teams.

The form 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 county level data is then put through a system of quality assurance checks by the State CFR Program Office. The resulting dataset is used to produce the statistics found in this report.

An independent state level team meets annually to review the analysis of these findings, and is required to include statutorily mandated 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
- Division of Developmental Disabilities in the Arizona Department of Economic Security
- Division of Children, Youth and Families in the Arizona Department of Economic Security
- Governor's Office of Youth, Faith, and Family

- Administrative Office of the Courts
- Arizona Chapter of the American Academy of Pediatrics
- Medical Examiner's Office
- 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 in order to determine the need for changes. Second, the state team is responsible for raising awareness and educating the public on the causes and number of fatalities and by providing recommendations for prevention strategies. Adoption of the recommendations has often occurred as a result 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-related 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 maltreatment 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: Age Group, Cause and Manner of Death

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. For the past nine years, teams' completed review of 100 percent of Arizona child fatalities and data from 2008 through 2013 are included in the following tables in order to provide comparison data. [14]

Table 21. Number and Percentage of Deaths Among Children by Age Group, Arizona, 2009-2014

Age Group	2009		2010		2011		2012		2013		2014	
0-27 Days	366	39%	334	38%	334	40%	325	38%	298	37%	341	41%
28-365 Days	183	19%	192	22%	175	21%	171	20%	156	19%	183	22%
1-4 Years	130	14%	119	14%	106	13%	120	14%	130	16%	95	11%
5-9 Years	67	7%	58	7%	54	6%	63	7%	47	6%	56	7%
10-14 Years	73	8%	66	8%	72	9%	75	9%	77	9%	70	8%
15-17 Years	128	14%	93	11%	96	11%	100	12%	103	13%	89	11%
Total	947		862		837		854		811		834	

Table 22. Mortality Rates per 100,000 Population Among Children by Age Group, Arizona, 2009-2014

Age Group	2009	2010	2011	2012	2013	2014
<1 Year*	5.9	6.0	5.9	5.8	5.3	6.0
1-4 Years	32.0	32.3	28.6	33.6	37.0	27.1
5-9 Years	14.3	12.8	11.8	13.7	10.1	12.1
10-14 Years	15.6	14.7	15.9	16.5	16.9	15.3
15-17 Years	45.0	34.3	35.2	37.0	37.7	32.5
Total	55.1	52.9	51.0	52.4	49.5	51.3
*deaths in the neonatal and post-natal periods have been combined and are rates per 1,000 births						

[14] For all tables in Appendix A, 2013 and 2014 data with a count less than six are denoted as <6 and are suppressed due to concern with individual identification.

Table 23. Number and Percentage of Deaths Among Children by Race/Ethnicity, Arizona, 2009-2014*												
	2009		2010		2011		2012		2013		2014	
Race/Ethnicity	#	%	#	%	#	%	#	%	#	%	#	%
African American	93	10	68	8	65	8	73	9	78	10	75	9
American Indian	85	9	74	9	80	10	91	11	76	9	66	8
Asian	22	2	32	4	19	2	30	4	16	2	14	2
Hispanic	420	44	393	45	374	45	376	44	343	42	366	44
White, non-Hispanic	327	35	289	33	293	35	268	31	280	35	285	34
Total	947		856		831		838		793		806*	
*Does not include the 28 from the category for 2 or more races.												

Table 24. Mortality Rates per 100,000 Children by Race/Ethnicity, Arizona, 2009-2014*						
Race/Ethnicity	2009	2010	2011	2012	2013	2014
African American	109.0	89.1	77.3	96.9	103.3	67.3
American Indian	71.5	75.1	64.7	92.5	76.7	53.4
Asian	48.6	72.8	39.6	69.0	35.7	22.3
Hispanic	62.4	58.1	55.5	55.0	49.6	57.7
White, non-Hispanic	41.0	42.6	41.2	36.8	38.5	41.0
*Does not include 28 cases for the category for 2 or more races						

Table 25. Number and Percentage of Deaths Among Children by County of Residence, Arizona, 2009-2014												
	2009		2010		2011		2012		2013		2014	
County	#	%	#	%	#	%	#	%	#	%	#	%
Apache	26	3	12	1	15	2	9	1	17	2	15	2
Cochise	21	2	20	2	15	2	17	2	14	2	12	1
Coconino	18	2	26	3	19	2	20	2	17	2	14	2
Gila	9	1	12	1	9	1	14	2	9	1	12	1
Graham	5	<1	6	<1	4	<1	6	1	7	<1	6	1
Greenlee	0	--	2	<1	5	<1	1	<1	<6	<1	<6	<1
La Paz	5	<1	2	<1	3	<1	8	1	<6	<1	<6	<1
Maricopa	542	57	486	56	478	57	500	59	477	59	501	60
Mohave	21	2	22	3	23	3	21	2	15	2	24	3
Navajo	22	2	23	3	26	3	28	3	23	3	20	2
Pima	130	14	130	15	109	13	91	11	102	13	112	13
Pinal	60	6	40	5	51	6	48	6	46	6	46	6
Santa Cruz	7	1	9	1	4	<1	9	1	<6	<1	<6	<1
Yavapai	20	2	20	2	14	2	24	3	20	2	21	3
Yuma	28	3	31	4	33	4	26	3	27	3	26	3
Outside AZ	33	3	21	2	29	3	32	4	25	3	19	2
Total	947		862		837		854		810*		834	

Table 26. Mortality Rates per 100,000 Children by Cause of Death, Arizona 0-17 Year Olds, 2009-2014						
Cause	2009	2010	2011	2012	2013	2014
SUID*	1.33	1.31	1.33	0.95	.87	.98
Motor Vehicle Crashes	4.7	3.6	3.7	3.9	3.5	3.0
Drowning	2.0	2.0	1.9	2.2	1.4	1.9
Suicide	1.6	1.5	2.0	1.7	1.5	2.3
Homicide	3.0	2.2	2.6	2.6	3.1	2.2
Maltreatment	3.7	4.3	4.3	4.3	5.6	4.6
Firearms	1.9	1.4	1.4	2.0	1.8	1.5
Home Safety-Related	7.1	9.5	8.2	7.4	7.3	8.0
*SUID rates are per 1,000 births						

Table 27. Percentage of Child Deaths by Age Group and Manner, Arizona, 2014 (n=834)						
Manner	Birth-27 Days	28-365 Days	1-4 Years	5-9 Years	10-14 Years	15-17 Years
Natural	97	49	42	52	53	21
Accident	2	34	38	37	24	42
Homicide	0	4	15	9	6	7
Suicide	0	0	0	0	16	30
Undetermined	1	13	5	2	1	0
Total	341	183	95	56	70	89

Table 28. Number and Percentage of Deaths Among Children Birth Through 17 Years by Manner, Arizona, 2009-2014												
	2009		2010		2011		2012		2013		2014	
Manner	#	%	#	%	#	%	#	%	#	%	#	%
Natural	641	68	565	66	537	64	542	63	513	63	546	66
Accident	165	17	160	19	167	20	190	22	186	23	180	22
Undetermined	63	7	74	9	52	6	45	5	36	5	34	4
Homicide	51	5	36	4	42	5	43	5	51	6	36	4
Suicide	27	3	24	3	38	5	33	4	25	3	38	5
Total	947		859*		836*		853*		811		834	
*Does not include deaths of pending manner												

Table 29. Number of Deaths Among Children Birth to 17 Years by Cause and Manner, Arizona, 2014						
Cause	Natural	Accident	Suicide	Homicide	Undetermined	Total
Medical*	324	0	0	0	2	326
Prematurity	221	0	0	0	1	222
Transport	0	55	2	0	0	57
Firearm	0	1	14	10	0	25
Suffocation	0	70	1	0	1	72
Drowning	0	30	0	1	0	31
Blunt Force Trauma	0	0	0	19	0	19
Hanging	0	0	13	1	0	14
Undetermined	1	0	0	1	29	31
Other Non-Medical	0	0	0	1	0	1
Poisoning	0	5	4	0	0	9
Fire/Burn	0	5	0	1	0	6
Exposure	0	4	0	0	1	5
Fall/Crush	0	7	0	0	0	7
Other Injury	0	3	4	1	0	8
Total	546	180	38	36	34	834
*Excluding SIDS and prematurity						

Table 30. Number and Percentage of Deaths Among Children Birth Through 17 Years by Cause, Arizona, 2009-2014												
	2009		2010		2011		2012		2013		2014	
Cause	#	%	#	%	#	%	#	%	#	%	#	%
Medical*	372	39	359	42	342	41	353	41	303	37	326	39
Prematurity	241	25	197	23	199	24	192	22	210	26	222	27
Transport	82	9	61	7	70	8	88	10	80	10	57	7
Firearm	32	3	22	3	23	3	32	4	29	4	25	3
Suffocation	17	2	25	3	50	6	53	6	48	6	72	9
Drowning	35	4	33	4	32	4	36	4	23	3	31	4
Blunt Force Trauma	13	1	11	1	26	3	19	2	28	3	19	2
Hanging	20	2	19	2	27	3	20	2	18	2	14	2
Undetermined	57	6	74	9	46	6	40	5	35	4	31	4
Other Non-Medical	-	-	-	-	-	-	1	<1	<6	<1	<6	<1
Poisoning	17	2	18	2	10	1	7	1	14	2	9	1
Fire/burn	3	<1	6	<1	6	1	5	1	<6	<1	6	<1
Exposure	7	1	11	1	0	0	1	<1	7	<1	<6	<1
Fall/crush	7	1	4	<1	4	<1	5	1	6	<1	7	<1
Other Injury	16	2	21	2	0	0	1	<1	6	<1	8	1
SIDS	28	3	1	<1	2	<1	0	0	<6	<1	0	0
Total	947		862		837		853		811		834	
*Excluding SIDS and prematurity												

Table 31. Number and Percentage of Natural Deaths Among Children by Age Group, Arizona, 2009- 2014												
	2009		2010		2011		2012		2013		2014	
Age Group	#	%	#	%	#	%	#	%	#	%	#	%
0-27 Days	349	55	324	57	318	59	315	58	289	56	332	61
28-365 Days	116	18	109	19	91	17	84	16	79	15	89	16
1-4 Years	54	8	52	9	40	8	57	11	62	12	40	7
5-9 Years	43	7	32	6	26	5	37	7	25	5	29	5
10-14 Years	47	7	30	5	34	6	36	6	36	7	37	7
15-17 Years	32	5	18	3	27	5	13	2	22	4	19	4
Total	641		565		536		542		513		546	

Table 32. Number and Percentage of Natural Deaths Among Children by Race/Ethnicity, Arizona, 2009-2014												
	2009		2010		2011		2012		2013		2014	
Race/Ethnicity	#	%	#	%	#	%	#	%	#	%	#	%
African American	62	10	50	9	43	8	48	9	52	10	48	9
American Indian	57	9	40	7	42	8	45	8	38	7	34	6
Asian/Pacific Islander	15	2	24	4	13	2	20	4	10	2	12	2
Hispanic	297	46	280	50	256	48	266	49	234	46	252	46
White, non-Hispanic	210	33	170	30	179	33	152	28	169	33	178	33
Total	641		565		536		542		513		546	

Table 33. Number and Percentage of Unintentional injury deaths Among Children by Age Group, Arizona, 2009- 2014												
	2009		2010		2011		2012		2013		2014	
Age Group	#	%	#	%	#	%	#	%	#	%	#	%
0-27 Days	7	4	<6	<2	7	4	<6	2	6	3	6	3
28-365 Days	18	11	25	16	38	23	48	25	44	23	63	35
1-4 Years	56	34	52	33	47	28	39	21	46	25	36	20
5-9 Years	19	12	20	13	22	13	22	12	20	11	21	12
10-14 Years	17	10	18	11	22	13	27	14	24	13	17	9
15-17 Years	48	29	43	27	31	19	50	26	46	25	37	21
Total	165		160		167		190		186		180	

Table 34. Number and Percentage of Unintentional injury deaths Among Children by Race/Ethnicity, Arizona, 2009-2014												
	2009		2010		2011		2012		2013		2014	
Race/Ethnicity	#	%	#	%	#	%	#	%	#	%	#	%
African American	8	5	<6	<3	12	7	13	7	15	8	18	10
American Indian	17	10	20	13	20	12	24	13	21	11	25	14
Asian	<6	3	6	4	<6	<3	7	4	<6	<3	<6	<2
Hispanic	65	39	57	36	62	37	69	36	70	38	71	39
White, non-Hispanic	70	42	70	44	69	41	75	39	70	38	62	34
Total	165		160		167		190		186		180	

Table 35. Number and Percentage of Home Safety Related Deaths Among Children by Age Group, Arizona, 2009- 2014												
	2009		2010		2011		2012		2013		2014	
Age Group	#	%	#	%	#	%	#	%	#	%	#	%
0-27 Days	11	9	6	4	11	8	6	5	6	5	8	6
28-365 Days	51	44	70	45	67	49	70	58	67	56	84	65
1-4 Years	39	33	45	29	36	27	7	22	33	28	21	16
5-9 Years	<6	<2	8	5	7	5	7	6	<6	<1	6	5
10-14 Years	<6	<1	9	6	5	4	<6	2	<6	<2	6	5
15-17 Years	13	11	17	11	10	7	8	7	11	9	<6	4
Total	117		155		136		121		120		130	

Table 36. Number and Percentage of Home-Safety Related Deaths Among Children by Race/Ethnicity, Arizona, 2009-2014												
	2009		2010		2011		2012		2013		2014	
Race/Ethnicity	#	%	#	%	#	%	#	%	#	%	#	%
African American	21	18	11	7	10	7	11	9	13	11	14	11
American Indian	8	7	10	7	12	9	11	9	12	10	14	11
Asian	<6	<4	<6	<2	<6	<3	<6	<3	<6	<2	0	0
Hispanic	37	32	54	35	57	42	44	36	40	33	52	40
White, non-Hispanic	47	40	75	48	53	39	50	41	50	42	47	36
Total	117		155		136		121		120		130	

Table 37. Number of Sudden Unexplained Infant Deaths Among Children by Age Group, Arizona, 2009- 2014												
Age Group	2009		2010		2011		2012		2013		2014	
< 1 year	123		114		114		81		74		85	

Table 38. Number and Percentage of Sudden Unexplained Infant Deaths Among Children by Race/Ethnicity, Arizona, 2009-2014												
	2009		2010		2011		2012		2013		2014	
Race/Ethnicity	#	%	#	%	#	%	#	%	#	%	#	%
African American	22	18	13	11	13	11	8	10	11	15	8	9
American Indian	17	14	16	14	13	11	7	9	6	8	9	11
Asian	<6	<1	<6	<1	0	0	<6	<4	0	0	0	0
Hispanic	45	37	45	39	50	44	31	38	22	30	36	42
White, non-Hispanic	38	31	36	32	38	35	31	38	34	46	29	34
Total	123		114		114		81		74		85	

Table 39. Number and Percentage of Maltreatment Deaths Among Children by Age Group, Arizona, 2009- 2014												
	2009		2010		2011		2012		2013		2014	
Age Group	#	%	#	%	#	%	#	%	#	%	#	%
0-27 Days	9	14	17	24	7	10	9	13	13	14	10	13
28-365 Days	18	28	20	29	29	40	23	33	29	32	26	35
1-4 Years	20	31	18	26	22	30	23	33	31	34	23	31
5-9 Years	5	8	10	14	7	10	7	10	<6	<6	9	12
10-14 Years	6	9	<6	<5	<6	5	<6	<3	11	12	7	9
15-17 Years	6	9	<6	<3	<6	5	<6	<8	<6	<4	0	0
Total	64		70		73		69		92		75	

Table 40. Number and Percentage of Maltreatment Deaths Among Children by Race/Ethnicity, Arizona, 2009-2014												
	2009		2010		2011		2012		2013		2014	
Race/Ethnicity	#	%	#	%	#	%	#	%	#	%	#	%
African American	9	14	8	11	6	8	<6	<6	11	12	8	11
American Indian	7	11	7	10	1	15	13	19	15	16	8	11
Asian	<6	<2	<6	<3	<6	<2	0	0	<6	<2	0	0
Hispanic	20	31	27	39	34	47	29	42	34	37	29	39
White, non-Hispanic	27	42	25	36	21	29	21	30	27	29	29	39
Total	64		70		73		69		92		75	

Table 41. Number and Percentage of Motor Vehicle Deaths Among Children by Age Group, Arizona, 2009- 2014												
	2009		2010		2011		2012		2013		2014	
Age Group	#	%	#	%	#	%	#	%	#	%	#	%
0-27 Days	<6	<3	<6	<2	0	0	<6	<4	0	0	0	0
28-365 Days	<6	<3	<6	<2	<6	<6	<6	<4	<6	<2	<6	<2
1-4 Years	20	24	19	31	15	21	11	13	18	23	10	18
5-9 Years	15	18	10	16	13	19	12	14	17	21	12	21
10-14 Years	13	16	12	20	17	24	21	24	20	25	9	16
15-17 Years	30	37	18	30	21	30	38	43	24	30	25	44
Total	82		61		70		88		80		57	

Table 42. Number and Percentage of Motor Vehicle and Other Transport Deaths Among Children by Race/Ethnicity, Arizona, 2009-2014												
	2009		2010		2011		2012		2013		2014	
Race/Ethnicity	#	%	#	%	#	%	#	%	#	%	#	%
American Indian	10	12	11	18	13	19	18	21	12	15	10	18
Hispanic	37	45	26	43	28	40	32	36	28	35	23	40
White, non-Hispanic	31	38	20	33	24	34	29	33	29	36	17	30
Other	4	5	4	6	5	7	9	10	11	14	7	12
Total	82		61		70		88		80		57	

Table 43. Number and Percentage of Suicides Among Children by Age Group, Arizona, 2009-2014												
	2009		2010		2011		2012		2013		2014	
Age Group	#	%	#	%	#	%	#	%	#	%	#	%
<10 Years	0	0	0	0	1	3	0	0	<6	<1	0	0
10-14 Years	3	11	9	37	13	33	9	27	8	32	11	29
15-17 Years	24	89	15	63	25	64	24	73	17	68	27	71
Total	27		24		39		33		25		38	

Table 44. Number and Percentage of Suicides Among Children by Race/Ethnicity, Arizona, 2009-2014												
	2009		2010		2011		2012		2013		2014	
Race/Ethnicity	#	%	#	%	#	%	#	%	#	%	#	%
American Indian	5	19	6	25	7	18	9	27	<6	20	<6	8
Hispanic	12	44	8	33	10	26	5	15	8	32	13	34
White, non-Hispanic	9	33	9	38	19	49	17	52	9	36	21	55
Other	1	4	1	4	3	7	-	-	<6	8	<6	3
African American	-	-	-	-	-	-	2	6	<6	4	0	0
Total	27		24		39		33		25		38	

Table 45. Number and Percentage of Homicides Among Children by Age Group, Arizona, 2009-2014												
	2009		2010		2011		2012		2013		2014	
Age Group	#	%	#	%	#	%	#	%	#	%	#	%
0-27 Days	3	6	1	3	1	2	2	5	<6	4	0	0
28-365 Days	7	14	8	22	12	29	10	23	7	14	7	19
1-4 Years	12	24	6	16	12	29	17	40	16	31	14	39
5-9 Years	5	10	6	16	4	9	3	7	<6	2	<6	14
10-14 Years	4	8	4	11	2	5	2	5	9	18	<6	1#
15-17 Years	20	39	11	31	11	26	9	21	16	31	6	17
Total	51		36		42		43		51		36	

Table 46. Number and Percentage of Homicides Deaths Among Children by Race/Ethnicity, Arizona, 2009-2014												
	2009		2010		2011		2012		2013		2014	
Race/Ethnicity	#	%	#	%	#	%	#	%	#	%	#	%
African American	7	14	<6	<3	<6	<10	<6	<12	<6	<6	<6	<12
American Indian	<6	<6	<6	<3	<6	<15	<6	<12	9	18	<6	<9
Asian	0	0	<6	<3	<6	<3	<6	<3	0	0	0	0
Hispanic	24	47	21	58	23	55	19	44	23	45	18	50
White, non-Hispanic	17	33	7	19	8	19	11	26	14	27	10	28
Total	51		36		42		43		51		36	

Table 47. Number and Percentage of Drowning Deaths Among Children by Age Group, Arizona, 2009- 2014												
	2009		2010		2011		2012		2013		2014	
Age Group	#	%	#	%	#	%	#	%	#	%	#	%
0-27 Days	0	0	0	0	0	0	0	0	<6	<1	0	0
28-365 Days	3	9	2	6	3	9	4	11	<6	<1	<6	6
1-4 Years	24	68	22	67	18	56	18	50	19	83	18	58
5-9 Years	3	9	4	12	7	22	5	14	<6	4	<6	13
10-14 Years	1	3	2	6	2	6	4	11	<6	<1	<6	13
15-17 Years	4	11	3	9	2	6	5	14	<6	13	<6	10
Total	35		33		32		36		23		31	

Table 48. Number and Percentage of Drowning Deaths Among Children by Race/Ethnicity, Arizona, 2009-2014												
	2009		2010		2011		2012		2013		2014	
Race/Ethnicity	#	%	#	%	#	%	#	%	#	%	#	%
African American	<6	<6	0	0	<6	<4	<6	<9	<6	<5	6	19
American Indian	0	0	<6	<7	<6	<7	<6	<12	0	0	<6	<4
Asian	<6	<6	<6	<7	<6	<10	<6	<9	<6	13	0	0
Hispanic	15	43	10	30	11	9	9	25	14	61	7	23
White, non-Hispanic	16	46	19	58	15	17	17	47	<6	22	17	55
Total	35		33		32		36		23		31	

Table 49. Number and Percentage of Firearm-Related Deaths Among Children by Age Group, Arizona 2009-2014												
	2009		2010		2011		2012		2013		2014	
Age Group	#	%	#	%	#	%	#	%	#	%	#	%
<10 Years	8	25	7	32	5	22	6	19	<6	10	<6	20
10-14 Years	1	3	8	36	3	13	4	13	<6	17	6	24
15-17 Years	23	72	7	32	15	65	22	69	21	73	14	56
Total	32		22		23		32		29		25	

Table 50. Number and Percentage of Firearm-Related Deaths Among Children by Race/Ethnicity, Arizona, 2009-2014												
	2009		2010		2011		2012		2013		2014	
Race/Ethnicity	#	%	#	%	#	%	#	%	#	%	#	%
African American	<6	<10	0	0	<6	<5	<6	<10	<6	<7	0	0
American Indian	<6	<7	0	0	<6	<5	<6	<7	<6	<4	<6	4
Asian	0	0	0	0	0	0	0	0	<6	<4	0	0
Hispanic	14	44	9	41	14	61	9	28	15	52	10	40
White, non-Hispanic	13	41	13	59	7	30	18	56	9	31	14	56
Total	32		22		23		32		29		25	

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. For the past nine years, teams' completed review of 100 percent of Arizona child fatalities and data from 2008 through 2013 are included in the following tables in order to provide comparison data. [15]

The Neonatal Period, Birth through 27 Days

Table 51. Number of Deaths Among Children Ages Birth Through 27 Days by Cause and Manner, Arizona, 2014

Cause	Natural	Accident	Suicide	Homicide	Undetermined	Total
Medical*	138	0	0	0	0	138
Prematurity	194	0	0	0	<6	195
Suffocation	0	<6	0	0	0	<6
Blunt Force Trauma	0	0	0	0	0	0
Undetermined	0	0	0	0	<6	<6
Other Injury	0	<6	0	0	0	<6
Total	332	6	0	0	<6	341
*Excluding SIDS and prematurity						

Table 52. Number and Percentage of Deaths Among Children Ages Birth Through 27 Days by Cause, Arizona, 2009-2014

	2009		2010		2011		2012		2013		2014	
Cause	#	%	#	%	#	%	#	%	#	%	#	%
Prematurity	221	60	180	54	181	54	172	53	188	63	195	57
Medical*	128	35	145	43	143	43	143	44	102	34	138	40
Undetermined	5	1	6	2	5	2	5	2	<6	<1	<6	<1
SIDS	1	<1	0	0	0	0	0	0	<6	<1	0	0
MVC/Transport	2	<1	1	<1	0	0	3	1	<6	<1	0	0
Other	5	1	0	0	1	<1	0	0	<6	<1	<6	<1
Suffocation	4	1	1	<1	5	1	2	1	<6	<1	<6	<2
Exposure	0	0	1	<1	0	0	0	0	<6	<1	0	0
Drowning	0	0	0	0	0	0	0	0	<6	<1	0	0
Total	366		334		334		325		298		341	
*Excluding SIDS and Prematurity												

[15] For all tables in Appendix A, 2013 data with a count less than six are denoted as <6 and are suppressed due to concern with individual identification.

Table 53. Number and Percentage of Deaths Among Children Ages Birth Through 27 Days by Manner, Arizona, 2009-2014												
	2009		2010		2011		2012		2013		2014	
Manner	#	%	#	%	#	%	#	%	#	%	#	%
Natural	349	95	324	97	318	95	315	58	289	97	332	97
Undetermined	7	2	7	2	8	2	4	9	<6	<6	<6	<1
Accident	7	2	2	1	7	2	4	2	6	2	6	2
Homicide	3	1	1	<1	1	<1	2	5	<6	<6	0	0
Suicide	0	0	0	0	0	0	0	0	<6	<1	0	0
Total	366		334		334		325		298		341	

The Post-Neonatal Period, 28 Days through 365 Days

Table 54. Number of Deaths Among Children Ages 28 Days Through 365 Days by Cause and Manner, Arizona, 2014						
Cause	Natural	Accident	Suicide	Homicide	Undetermined	Total
Medical	64	0	0	0	0	64
Prematurity	25	0	0	0	0	25
MVC/Transport	0	<6	0	0	0	<6
Firearm	0	0	0	<6	0	<6
Suffocation	0	58	0	0	<6	59
Drowning	0	<6	0	0	0	<6
Blunt Force Trauma	0	0	0	<6	0	6
Undetermined	0	0	0	0	23	23
Fire/Burn	0	<6	0	0	0	<6
Exposure	0	<6	0	0	0	<6
Total	89	63	0	7	24	183

Table 55. Number and Percentage of Deaths Among Children Ages 28 Days Through 365 Days by Cause, Arizona, 2009-2014												
	2009		2010		2011		2012		2013		2014	
Cause	#	%	#	%	#	%	#	%	#	%	#	%
Medical	77	42	82	43	75	43	68	40	60	38	64	35
Prematurity	18	10	17	9	17	10	17	10	18	12	25	14
MVC/Transport	<6	<2	<6	<1	<6	2	<6	<2	<6	<1	<6	<1
Firearm	0	0	0	0	<6	<1	<6	<1	<6	<1	<6	<1
Suffocation	13	7	22	11	34	19	44	26	41	26	59	32
Drowning	<6	<2	<6	1	<6	<2	<6	2	0	0	<6	1
SIDS	27	15	<6	<1	<6	1	0	0	0	0	0	0
Blunt Force Trauma	<6	<2	6	3	9	5	6	4	6	4	6	3
Hanging	0	0	0	0	0	0	<6	<1	<6	<1	0	0
Undetermined	35	19	56	29	29	17	26	15	26	17	23	13
Poisoning	<6	<1	<6	<1	0	0	0	0	0	0	0	0
Fire/Burn	0	0	0	0	0	0	0	0	0	0	<6	<1
Exposure	0	0	<6	<1	0	0	<6	<1	<6	1	<6	<1
Fall/Crush	<6	<2	0	0	0	0	0	0	0	0	0	0
Other Injury	<6	<1	<6	<2	6	<1	0	0	0	0	0	0
Total	183		192		175		171		156		183	

Table 56. Number and Percentage of Deaths Among Children Ages 28 Days Through 365 Days by Manner, Arizona, 2009-2014												
	2009		2010		2011		2012		2013		2014	
Manner	#	%	#	%	#	%	#	%	#	%	#	%
Natural	116	63	109	57	92	53	84	49	79	51	89	49
Undetermined	42	23	50	26	32	18	29	17	26	17	24	13
Accident	18	10	25	13	38	22	48	28	44	28	63	34
Homicide	7	4	8	4	12	7	10	6	7	4	7	4
Suicide	0	0	0	0	0	0	0	0	<6	<1	0	0
Unknown	0	0	0	0	1	<1	0	0	<6	<1	0	0
Total	183		192		175		171		156		156	

Children, One through Four Years of Age

Table 57. Number of Deaths Among Children Ages One Through Four Years by Cause and Manner, Arizona, 2014						
Cause	Natural	Accident	Suicide	Homicide	Undetermined	Total
Medical*	39	0	0	0	<6	40
Prematurity	<6	0	0	0	0	<6
MVC/Transport	0	10	0	0	0	10
Firearm	0	0	0	<6	0	<6
Suffocation	0	<6	0	0	0	<6
Drowning	0	17	0	<6	0	18
Blunt Force Trauma	0	0	0	10	0	10
Undetermined	0	0	0	<6	<6	<6
Poisoning	0	0	0	0	0	0
Exposure	0	<6	0	0	<6	<6
Fall/Crush	0	<6	0	0	0	<6
Other Injury	0	0	0	<6	0	<6
Total	40	36	0	14	<6	95
* Excluding SIDS and Prematurity						

Table 58. Number and Percentage of Deaths Among Children Ages One Through Four Years by Cause, Arizona, 2009-2014												
	2009		2010		2011		2012		2013		2014	
Cause	#	%	#	%	#	%	#	%	#	%	#	%
Medical*	50	38	52	44	40	38	57	48	62	48	40	42
Drowning	24	18	22	18	18	17	18	15	19	15	18	19
MVC/Transport	20	15	19	16	15	14	11	9	18	14	10	11
Other non-Medical	11	8	7	6	0	0	1	1	<6	<1	<6	1
Undetermined	10	8	6	5	5	5	4	3	6	5	26	4
Blunt Force Trauma	7	5	4	3	10	9	9	8	14	11	10	11
Firearm	4	2	2	2	1	1	4	3	<6	<1	<6	1
Poisoning	0	0	0	0	1	1	1	1	<6	<1	0	0
Exposure	0	0	2	2	0	0	0	0	<6	<1	<6	2
Fire/burn	3	2	2	2	2	2	1	1	<6	<1	0	0
Fall/crush	-	-	2	2	2	2	2	2	<6	<1	<6	2
Hanging	-	-	1	<1	3	3	3	3	<6	<1	0	0
Prematurity	1	1	0	0	1	1	3	3	<6	<1	<6	1
Suffocation	0	0	0	0	8	8	5	4	<6	<1	<6	5
Other Injury	-	-	-	-	-	-	1	1	<6	<1	<6	1
Total	130		119		106		120		130		95	
*Excluding SIDS and Prematurity												

Table 59. Number and Percentage of Deaths Among Children Ages One Through Four Years by Manner, Arizona, 2009-2014												
	2009		2010		2011		2012		2013		2014	
Manner	#	%	#	%	#	%	#	%	#	%	#	%
Natural	54	42	52	44	40	38	57	48	62	48	40	42
Accident	56	43	52	44	47	44	39	33	46	35	36	38
Undetermined	8	6	8	7	7	7	7	6	6	5	<6	5
Homicide	12	9	6	5	12	11	17	14	16	12	14	15
Suicide	0	0	0	0	0	0	0	0	<6	<1	0	0
Unknown	-	-	1	<1	0	0	0	0	<6	<1	0	0
Total	130		119		106		120		130		95	

Children, Five through Nine Years of Age

Table 60. Number of Deaths Among Children Ages Five Through Nine Years by Cause and Manner, Arizona, 2014						
Cause	Natural	Accident	Suicide	Homicide	Undetermined	Total
Medical*	29	0	0	0	<6	30
MVC/Transport	0	12	0	0	0	12
Firearm	0	<6	0	<6	0	<6
Suffocation	0	<6	0	0	0	<6
Drowning	0	<6	0	0	0	<6
Blunt Force Trauma	0	0	0	<6	0	<6
Hanging	0	0	0	<6	0	<6
Fall/Crush	0	<6	0	0	0	<6
Other Injury	0	<6	0	0	0	<6
Total	29	21	0	<6	<6	56
*Excluding SIDS and prematurity						

Table 61. Number and Percentage of Deaths Among Children Ages Five Through Nine Years by Cause, Arizona, 2009-2014												
	2009		2010		2011		2012		2013		2014	
Cause	#	%	#	%	#	%	#	%	#	%	#	%
Medical	42	63	31	53	26	48	37	59	24	51	30	54
Prematurity	1	1	0	0	0	0	0	0	<6	<1	0	0
MVC/Transport	15	22	10	17	13	34	12	19	17	36	12	21
Other	6	9	2	3	0	0	0	0	<6	<1	<6	<2
Drowning	3	4	4	7	7	13	5	8	<6	<1	4	7
Fire/Burn	0	0	2	3	1	2	3	5	<6	<1	0	0
Hanging	0	0	0	0	1	2	0	0	<6	<1	<6	2
Firearm	-	-	5	9	3	6	1	2	<6	<1	<6	5
Undetermined	-	-	1	2	1	2	1	2	<6	<1	0	0
Fall/Crush	-	-	2	3	0	0	2	2	<6	<1	<6	4
Blunt Force Trauma	0	0	0	0	1	2	2	2	<6	<1	<6	4
Suffocation	0	0	1	2	1	2	0	0	<6	<1	<6	2
Poisoning	0	0	0	0	0	0	0	0	<6	<1	0	0
Total	67		58		54		63		47		56	
*Excluding SIDS and Prematurity												

Table 62. Number and Percentage of Deaths Among Children Ages Five Through Nine Years by Manner, Arizona, 2009-2014												
	2009		2010		2011		2012		2013		2014	
Manner	#	%	#	%	#	%	#	%	#	%	#	%
Natural	43	64	32	55	26	48	37	59	25	53	29	52
Accident	19	28	20	34	22	41	22	35	20	43	21	38
Undetermined	0	0	0	0	1	2	1	2	<6	<6	<6	2
Homicide	5	7	6	10	4	7	3	5	<6	<6	<6	9
Suicide	0	0	0	0	1	2	0	0	0	0	0	0
Total	67		58		54		63		47		56	

Children, 10 through 14 Years of Age

Table 63. Number of Deaths Among Children Ages 10 Through 14 Years by Cause and Manner, Arizona, 2014						
Cause	Natural	Accident	Suicide	Homicide	Undetermined	Total
Medical*	36	0	0	0	0	36
MVC/Transport	0	9	0	0	0	9
Firearm Injury	0	0	<6	0	0	6
Suffocation	0	<6	0	0	0	<6
Drowning	0	<6	0	0	0	<6
Blunt Force Trauma	0	0	0	<6	0	<6
Hanging	0	0	<6	0	0	<6
Undetermined	<6	0	0	0	<6	<6
Poisoning	0	<6	<6	0	0	<6
Fire/Burn	0	<6	0	<6	0	<6
Fall/Crush	0	<6	0	0	0	<6
Other Injury	0	0	0	<6	0	<6
Total	37	17	11	<6	<6	70

Table 64. Number and Percentage of Deaths Among Children Ages 10 Through 14 Years by Cause, Arizona, 2009-2014												
	2009		2010		2011		2012		2013		2014	
Cause	#	%	#	%	#	%	#	%	#	%	#	%
Medical*	43	59	29	44	34	47	35	47	34	44	36	51
MVC/Transport	13	18	12	18	17	24	21	28	20	26	9	13
Firearm	1	1	8	12	3	4	4	5	<6	6	6	9
Hanging	3	4	7	11	10	14	7	9	7	9	<6	6
Other Injury	8	11	1	2	0	0	0	0	<6	<6	<6	1
Fall/Crush	2	3	0	0	0	0	0	00	<6	<6	<6	1
Poisoning	0	0	1	2	0	0	0	0	<6	<6	<6	3
Blunt Force Trauma	0	0	0	0	2	3	0	0	<6	<6	<6	1
Exposure	2	3	1	2	0	0	0	0	<6	<1	0	0
Suffocation	0	0	0	0	1	1	1	1	<6	<1	<6	1
Drowning	1	1	2	2	2	3	4	5	<6	<1	<6	6
Undetermined	-	-	3	5	1	1	2	3	<6	<6	<6	3
Fire/burn	-	-	2	2	2	3	1	1	<6	<6	<6	3
Total	73		66		72		75		77		70	
*Excluding SIDS and Prematurity												

Table 65. Number and Percentage of Deaths Among Children Ages 10 Through 14 Years by Manner, Arizona, 2009-2014												
	2009		2010		2011		2012		2013		2014	
Manner	#	%	#	%	#	%	#	%	#	%	#	%
Natural	47	64	30	45	34	47	36	48	36	47	37	53
Accident	17	23	18	27	22	31	27	36	24	31	17	24
Suicide	3	4	9	14	13	18	9	12	8	20	11	16
Homicide	4	5	4	6	2	3	2	3	9	23	<6	<6
Undetermined	25	3	5	8	1	1	1	1	<6	<1	<6	1
Total	73		66		72		75		77		70	

Children, 15 through 17 Years of Age

Table 66. Number of Deaths Among Children Ages 15 Through 17 Years by Cause and Manner, Arizona, 2014						
Cause	Natural	Accident	Suicide	Homicide	Undetermined	Total
Medical*	18	0	0	0	0	18
Prematurity	<6	0	0	0	0	<6
MVC/Transport	0	23	<6	0	0	25
Firearm	0	0	8	0	0	14
Suffocation	0	0	<6	6	0	<6
Drowning	0	<6	0	0	0	<6
Hanging	0	0	9	0	0	9
Poisoning	0	<6	<6	0	0	7
Fire/Burn	0	<6	0	0	0	<6
Exposure	0	<6	0	0	0	<6
Fall/Crush	0	<6	0	0	0	<6
Other Injury	0	0	<6	0	0	<6
Total	19	37	27	6	0	89
*Excluding SIDS and prematurity						

Table 67. Number and Percentage of Deaths Among Children Ages 15 Through 17 Years by Cause, Arizona, 2009-2014												
	2009		2010		2011		2012		2013		2014	
Cause	#	%	#	%	#	%	#	%	#	%	#	%
Firearm	23	18	7	8	15	16	22	22	21	20	14	16
MVC/Transport	30	23	18	19	21	22	38	38	24	23	25	28
Medical*	32	25	20	22	25	26	13	13	21	20	18	20
Hanging	12	9	11	12	13	14	9	9	10	10	9	10
Poisoning	15	12	16	17	9	9	6	6	12	12	7	8
Other	4	3	8	9	0	0	1	1	<6	<1	<6	6
Exposure	5	4	6	6	0	0	0	0	<6	<1	<6	2
Drowning	4	3	3	3	2	2	5	5	<6	<1	<6	<3
Undetermined	1	1	2	2	4	4	2	2	<6	<1	0	0
Fall/Crush	0	0	0	0	2	2	1	1	<6	<1	<6	2
Blunt Force Trauma	2	2	1	1	3	3	2	2	<6	<1	0	0
Fire/Burn	0	0	0	0	1	1	0	0	<6	<1	<6	3
Suffocation	-	-	1	1	1	1	1	1	<6	<1	<6	1
Total	128		93		96		100		103		89	
*Excluding SIDS and Prematurity												

Table 68. Number and Percentage of Deaths Among Children Ages 15 Through 17 Years by Manner, Arizona, 2009-2014												
	2009		2010		2011		2012		2013		2014	
Manner	#	%	#	%	#	%	#	%	#	%	#	%
Accident	48	37	43	46	31	32	50	50	46	45	37	42
Natural	32	25	18	19	27	28	13	13	22	21	19	21
Homicide	20	16	11	12	11	11	9	9	16	16	6	7
Suicide	24	19	15	16	25	26	24	24	17	17	27	30
Undetermined	4	3	4	4	2	2	3	3	<6	<1	0	0
Unknown	-	-	2	2	0	0	-	-	<6	<1	0	0
Pending	-	-	-	-	-	-	1	1	<6	<1	0	0
Total	128		93		96		100		103		89	

Appendix of Population Denominators for Arizona Children

The population denominators shown below were used in computing the rates presented in this report. Denominators for 2009 through 2014 were provided by the Arizona Department of Health Services Bureau of Public Health Statistics.

Population denominators for 2010 were tabulated from the 2010 Decennial Census, Summary File 1, available online from: www.census.gov.

Population estimates for 2014 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 in order to determine the county-level proportions by race/ethnicity, gender, and age.

Table 69. Population of Children Ages Birth Through 17 Years by County of Residence, Arizona, 2009-2014

County	2009	2010	2011	2012	2013	2014
Apache	25,888	22,660	22,808	21,843	21,493	21,271
Cochise	35,356	30,250	30,099	30,434	30,621	29,190
Coconino	36,439	31,788	31,716	31,310	31,463	31,097
Gila	14,002	11,471	11,451	11,317	11,351	11,062
Graham	10,819	10,575	10,718	10,623	10,818	10,871
Greenlee	2,496	2,463	2,463	2,408	3,016	2,952
La Paz	4,074	3,678	3,682	3,685	3,708	3,682
Maricopa	1,064,572	1,007,861	1,014,790	1,008,347	1,015,472	1,016,044
Mohave	45,296	41,265	41,301	40,338	39,786	39,076
Navajo	35,814	31,973	31,901	31,551	31,463	30,868
Pima	244,390	225,316	226,652	223,677	223,639	222,413
Pinal	81,414	99,700	101,929	102,591	103,403	99,111
Santa Cruz	14,898	14,560	14,752	14,396	14,369	14,304
Yavapai	44,969	40,269	40,305	39,602	39,417	38,243
Yuma	59,089	55,185	56,547	56,415	57,367	56,542
Total	1,719,515	1,629,014	1,641,114	1,628,537	1,637,386	1,626,726

Table 70. Population of Children Ages 0 though 17 by Race/Ethnicity, Arizona, 2009-2014

Race/Ethnicity	2009	2010	2011	2012	2013	2014
African American	85,301	73,298	84,112	75,371	75,491	111,448
American Indian	118,917	98,555	123,712	98,426	99,014	123,657
Asian	45,230	43,969	47,936	43,452	44,838	62,673
Hispanic	672,777	75,146	673,462	683,843	691,459	634,110
White, non-Hispanic	797,290	677,752	711,892	727,446	726,558	694,838
Total	1,719,515	1,629,014	1,641,108	1,628,539	1,637,386	1,626,726

Table 71. Population of Children Ages 0 Through 17 Years by Age Group, Arizona, 2009-2014						
	2009	2010	2011	2012	2013	2014
<1 Year	92,263	87,557	88,211	87,184	89,196	84,342
1-4 Years	406,201	368,158	370,926	356,828	351,077	350,065
5-9 Years	469,372	453,680	457,080	459,232	464,622	462,931
10-14 Years	467,149	448,664	451,989	454,826	459,528	458,488
15-17 Years	284,530	270,955	272,914	270,469	272,963	270,900
Total	1,719,515	1,629,014	1,641,108	1,628,539	1,637,386	1,626,726

Table 72. Number of Resident Births, Arizona, 2009-2014					
2009	2010	2011	2012	2013	2014
92,454	86,945	85,142	85,675	84,963	86,648

Table 73. Number of Births by Race/Ethnicity, Arizona, 2009-2014						
Race/Ethnicity	2009	2010	2011	2012	2013	2014
African American	4,263	4,230	4,290	4,674	4,726	4,522
American Indian	6,090	5,746	5,787	5,547	5,476	5,145
Asian	3,388	3,284	3,493	4,674	3,466	3,169
Hispanic	37,985	34,059	32,217	33,030	33,075	33,715
White, non-Hispanic	40,428	39,626	39,355	38,800	38,220	40,097
Total	92,454	86,945	85,142	85,675	84,963	86,648

Appendix: Arizona Local CFR Teams

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