Arizona Child Fatality Review Program

TWENTY-FIRST ANNUAL REPORT
NOVEMBER 2014

November 15, 2014

Dear Friends of Arizona's Children:

In 2013, 811 children under 18 years of age died in Arizona, a decrease from 2012 when 854 children died. The number of deaths and mortality rates listed by cause of death has been decreasing over the last five years in every category but maltreatment where mortality rates have increased from 3.0 deaths per 100,000 in 2008 to 5.6 deaths per 100,000 in 2013. The Child Fatality Review Program determined that 92 of the child deaths in 2013 (11 percent) were due to maltreatment, which is an increase from 70 deaths in 2012. Deaths due to prematurity, which had been declining since 2008, also increased in 2013 going from 192 in 2012 to 210.

Deaths caused by drowning, motor vehicle crashes, medical conditions and suicide have declined since 2008 and continued to decrease in 2013. There was a decline in drowning deaths in 2013, decreasing from 36 in 2012 to 23 in 2013, and a slight decrease in firearm-related deaths from 32 in 2012 to 29.

The Arizona Child Fatality Review Program explores the causes and contributing factors associated with child deaths in order to identify recommendations addressing preventable fatalities of children based upon this collection of work. In 2013, Child Fatality Review Teams determined that 310 of the 811 deaths were preventable (38 percent) and that 98 percent of accidental deaths, 100 percent of homicides and 88 percent of suicides were determined to be preventable. The contributing factors identified by our reviews are the basis for many of the recommendations included in this report. While the factors vary with the cause of death, some of the identified factors in 2013 included substance use, lack of vehicle restraints, unsafe sleep environments, lack of supervision and bullying. Substance use was associated with 16 percent of all child deaths (n=128) in 2013 and was a contributing factor in 55 percent of the maltreatment deaths.

The Child Fatality Review Program also seeks to identify maltreatment deaths not previously reported to Arizona child protective services agencies. We hope that the information gathered by our Arizona Child Fatality Review Program and our prevention recommendations will be used by families, communities and policy makers to prevent future deaths.

Mary Ellen Rimsza, MD
Chair, Arizona Child Fatality Review Program

ARIZONA CHILD FATALITY REVIEW TEAM
TWENTY-FIRST ANNUAL REPORT
NOVEMBER 2014

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.

Submitted to:

The Honorable Janice K. Brewer, Governor, State of Arizona
The Honorable Andy Biggs, President, Arizona State Senate
The Honorable Andy Tobin, Speaker, Arizona State House of Representatives

This report is provided as required by A.R.S. §36-3501.C.3

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- Susan Newberry, Maricopa County Child Fatality Review Coordinator, who is responsible for coordinating the reviews of over 60 percent of all child deaths occurring annually in Arizona. Susan is a tireless champion for Arizona's children who donates her time and energy to producing effective collaboration, cooperation and communication among team members.

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

EXECUTIVE SUMMARY

The Arizona Child Fatality Review (CFR) Program was established in 1993 with the passing of (A.R.S. § 36-342, 36- 3501-4). Data collection and case reviews began in 1994. Since 2005, the program has reviewed the death of every child who died in the state. This will be the twenty-first annual report issued by the Arizona Child Fatality Review Team.

Arizona has 11 Local County CFR Teams who complete reviews at the county level throughout Arizona's 15 counties. The law mandates the CFR State Team to provide oversight to the local teams, produce this annual report summarizing the data and findings and identify recommendations addressing preventable child fatalities. The Arizona Department of Health Services (ADHS) provides professional and administrative support to the state and local teams, analyzes the review data and works in collaboration with multiple agencies, groups, communities and individuals who are invested in the needs and care of children.

In 2013, 811 children under the age of 18 years died in Arizona. This is a five percent decrease from 854 deaths in 2012. Arizona CFR Teams examined 100 percent of child deaths and determined 38 percent could have been prevented.

Of the 38 percent of preventable fatalities local teams found:

- 100 percent of homicides were preventable.
- 97 percent of firearm-related deaths were preventable.
- 100 percent of drowning deaths were preventable.
- 99 percent of maltreatment deaths were preventable.
- 88 percent of suicides were preventable.
- 98 percent of accidental deaths were preventable.
- 100 percent of motor vehicle & other transport deaths were preventable.
- 89 percent of the Sudden Unexplained and Sleep Related Deaths were preventable.

Report Highlights

Child fatalities due to maltreatment increased to 92 deaths in 2013 from 70 deaths in 2012. Eighty percent of children who died due to maltreatment were less than 5 years old. In 36 percent of maltreatment deaths, the perpetrator was the child's mother or father. Substance use was associated with 51 maltreatment deaths. In 2012, 11 of the deaths had a case open with a child protective services agency at the time of death; in 2013, 22 deaths had an open case with a child protection services agency at the time of death. Blunt force traumas, suffocation and motor vehicle crashes accounted for 57 percent of maltreatment deaths.

In 2013, 74 infants died from sleep related causes; this is a decrease from 81 in 2012. Rates have also declined 45% since 2008. **Sixty-five of the 74 infants died in unsafe sleep environments, an increase from 51 in 2012.** Thirty-four of those infants died while co-sleeping (bed sharing with adults and/or other children). Deaths due to suffocation remained high, and was determined to be the cause of death for 45 infants.

There were 128 deaths associated with substance use in 2013. Substance use is considered associated with a child's death if the child, the child's parent, caretaker and/or the person responsible, and anyone directly involved in the circumstances surrounding the time of the incident leading to the death, used or

abused substances, including illegal drugs, prescription drugs and/or alcohol. In 2013, substance use was associated with 16 percent of all child fatalities with accidents accounting for 51 percent of substance use related deaths. In 2013, marijuana was the most commonly used substance associated with a child's death in Arizona, followed closely by alcohol and then methamphetamines. Substance use or abuse was linked to the deaths of children in almost every listed cause of death. The top five causes of death were motor vehicle crashes, firearms, suffocation, poisonings and medically related fatalities.

Deaths continued to be disproportionately higher among some minorities in Arizona during 2013. American Indian children comprised six percent of the population and nine percent of deaths. African American children comprised five percent of the population and ten percent of deaths. These two populations also accounted for a high number of motor vehicle crash and other transport fatalities in 2013.

Prematurity accounted for 210 of all child deaths in 2013. Medical complications during pregnancy made up 80 percent of all prematurity deaths. Ten percent of the pregnant mothers received no prenatal care during pregnancy. The number of mothers starting prenatal care in the first trimester went down ten percent from 2012 to 2013. Hispanic children carried the largest burden of these deaths making up 45 percent of the prematurity fatalities in 2013.

Eighty children died in motor vehicle crashes and other transportation related accidents. There has been a 26 percent reduction in motor vehicle crash rates since 2008 and a nine percent decrease in the rate for all transport related deaths since 2012. One hundred percent of transportation related deaths were determined to have been preventable in 2013, and lack of proper vehicle restraint remained the leading preventable factor accounting for 30 motor vehicle crash fatalities.

Drowning deaths decreased from 36 children in 2012 to 23 in 2013. The number of drowning deaths, however, among children ages one through four years rose in 2013 and accounted for 83 percent of these fatalities.

Child suicides decreased to 25 in 2013 from 33 in 2012. The use of drugs was the most commonly identified preventable factor in suicides followed closely by family discord and bullying. Children aged 15 through 17 years were the most affected. Seventeen children ages 15 through 17 and eight children ages 10 through 14 died from suicide.

Initiatives Addressing Previous Recommendations

Deaths due to injuries

Arizona has many partners with a focus on injury prevention who provide numerous programs and materials aimed at reducing childhood injuries and deaths by promoting safe and healthy children, families and communities. Some of those programs include:

- ✓ child passenger safety training: car seat distribution, performing car seat checks
- ✓ bike and pedestrian safety: community safety events and distributing helmets
- ✓ child abuse and neglect prevention: distributing cribs to parents and promoting safe sleep practices
- ✓ home safety: sharing safety information in the community
- ✓ water safety: distributing water safety clings and training on proper supervision techniques

The following agencies have provided thousands of children, families, and parents with injury prevention materials and equipment:

Banner Good Samaritan Medical Center, Barrow Neurological Institute, Cardon Children's Medical Center, Phoenix Children's Hospital, St. Joseph's Hospital and Medical Center, Tuba City Regional Health Facility, University of Arizona Department of Surgery, Indian Health Services, the Colorado River Indian Tribes, the Gila River Indian Community, the Hualapai Tribe, the San Carlos Apache Tribe, all the Safe Kids Coalitions and many other injury prevention partners, fire departments and hospitals.

Strong Families Arizona, Arizona's alliance of home visitors has included home safety as a professional development focus. Home visitors received training on car seat safety, safe sleep, child abuse prevention and domestic violence screening.

With Title V Maternal and Child Health funding, a number of county health departments were able to strengthen their injury prevention infrastructure by having a process in place that focuses on injury prevention from a policy perspective.

Deaths due to substance abuse

The Screening, Brief Intervention and Referral to Treatment (SBIRT) grant continues to help primary care and mental health providers to identify patients at risk for or who have underlying substance abuse problems, which might otherwise go unnoticed and untreated. This grant, incorporated with funding from the 2012 Affordable Care Act Prevention and Public Health Fund, helps reduce the number of substance use related deaths and the prevalence of substance abuse disorders in the northern Arizona counties served by Northern Arizona Regional Behavioral Health Authority (NARBHA). Integration of behavioral health services into primary care centers and hospital emergency rooms provides opportunities for early intervention with at-risk substance users before more severe consequences occur. SBIRT funds provide pre-screenings for substance abuse services, full screenings for intervention services, and treatment referrals.

Unexplained infant deaths, including unsafe sleep environments

ADHS distributed the Infant Death Checklist and Unexplained Infant Death Investigation Protocol for first responders and law enforcement agencies statewide. The checklist standardizes child death scene investigations throughout the state and ensures medical examiners are provided sufficient information to assist in determining the cause and manner of the death. ADHS continues to provide training on the use of this checklist and on how to conduct child death scene investigations.

Deaths due to prematurity

In September 2011, Association of State and Territorial Health Officials President David Lakey (TX) issued his President's Challenge: the Healthy Babies Initiative selected the Healthy Babies Project - challenging each state to implement strategies to reduce prematurity and infant mortality based on successful national, regional, and state efforts to improve the health status of babies. Arizona joined in a national pledge to set a goal of reducing premature births by eight percent by 2014 and in fact did reduce prematurity by 8.7 percent by 2014.

ADHS is working with the Arizona Perinatal Trust (APT) and the Arizona March of Dimes to implement evidence-based strategies to reduce prematurity including:

- Expanding home visiting programs to families and pregnant women in high-risk communities
- Developing standards for home visiting programs throughout Arizona and providing professional development for home visitors so that these visits maximize opportunities to reduce risks for premature birth
- Expanding awareness of importance of preconception health and implementation of the Arizona Preconception Health Strategic Plan
- Continuing to support the March of Dimes "Healthy Babies are Worth the Wait" 39 Week Toolkit
- Renewing focus on infant safe sleeping practices to reduce post-neonatal infant mortality
- Using social media and public relations events to promote the overall campaign

ADHS continues to serve on the Centers for Disease Control and Prevention (CDC) Preconception Health Consumer Workgroup and screen preconception health materials designed for consumers prior to posting on the CDC Preconception Health Resource Center.

ADHS is participating in the National Governor’s Association, the Association of Maternal and Child Health Programs and the Collaboration Improvement & Innovation Network (COIIN) to Reduce Infant Mortality to develop an Arizona Improving Birth Outcome Learning Collaborative to foster healthy pregnancy and diminish the incidents of premature birth.

RECOMMENDATIONS

To prevent maltreatment deaths:

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 that child. Communities and families have a responsibility to protect children, Arizona's most vulnerable population, from any maltreatment. It remains a serious concern for Arizona's children. In 2013, maltreatment deaths made up 12 percent of all Arizona child fatalities for the year, and since 2012, there has been a 22 percent increase in the number of identified cases. Circumstances around these maltreatment deaths vary greatly, some fatalities are the result of long-term abuse and neglect, both unintentional and intentional, and some are the result of a single incident. Regardless of these circumstances, it is unlikely the abuse or neglect went completely unnoticed or unsuspected. Therefore, when a community member, family member or family friend has any reason to believe a child is being or has been abused and/or neglected, he/she has a responsibility to report that suspicion.

For the community:

- The Arizona legislature should increase and ensure there is sufficient funding for childcare assistance programs for low-income workers in order to reduce reliance on unqualified or unsafe caregivers.
- The Arizona Legislature should ensure there is sufficient funding for the Arizona Department of Child Safety, Juvenile Court System, Attorney General's Office and community based services to effectively prevent 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 about 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 Family Arizona, 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 (formerly Arizona Department of Economic Safety, Child Protective Services) at 1-888-SOS-CHILD (1-888-767-2445). Professional mandated reporters may use the online reporting system for non-emergency situations only. 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.

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 help for behavioral health or substance abuse issues contact the Arizona Division of Behavioral Health Services for more information at www.azdhs.gov/bhs/recipients/addiction.htm.
- 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 and information.
- 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.**

Resource links:

- Association for Supportive Child Care
www.asccaz.org
- Arizona Indicators
arizonaindicators.org/content/child-care-subsidies
- Arizona Childcare Resource & Referral: Child Care
www.arizonachildcare.org
- Birth to Five and Fussy Baby Helpline
www.swhd.org/programs/health-and-development/birth-to-five-helpline
- Childhelp: Prevention and Treatment of Child Abuse
www.childhelp.org
- Child Welfare Information Gateway
www.childwelfare.gov
- Fussy Baby Helpline
www.swhd.org/programs/health-and-development/fussy-baby
- Mental Health First Aid
www.azdhs.gov/bhs/mhfa.htm
- Strong Families Arizona
strongfamiliesaz.com
- National Parent Helpline
www.nationalparenthelpline.org/find-support

To prevent deaths associated with substance use:

In Arizona, there is a clear link between substance use and abuse and a considerable number of child deaths where substance use is an associated, contributing or direct cause of the fatality. However, it is important to remember the term associated is used here because it is not always clear if the substance use had a direct or contributing effect on the fatality incident. Because substance use is a known risk factor in child fatalities, it is important to identify those deaths related to substance use in order to understand if it is connected to the incident and, if it is, how best to inform prevention and awareness efforts. For its purposes, the Arizona Child Fatality Review program defines substance use as associated with a child's death if the child, the child's parent, caretaker and/or the person responsible, during or around the time of the incident leading to the death, used or abused substances, including illegal drugs, prescription drugs, and/or alcohol. In 2013, substance use was associated with 16 percent of all child fatalities in Arizona.

For parents and caregivers:

- Educate children about the risks associated with prescription and over-the-counter drug use.
- Follow directions carefully and properly discard old or unused medications.

For the community:

- Conduct community awareness campaigns regarding the risks and hazards to children of prescription drugs and over-the-counter medications.
- Medical care providers focusing on maternal and child health should receive training on how to identify and target care towards substance abusing women of childbearing age.
- Medical care providers focusing on maternal and child health should use the Controlled Substances Prescription Monitoring Program prior to prescribing a controlled substance.
- Physicians and behavioral health providers should work together to receive substance abuse awareness training on the dangers of prescribing medications to patients with substance abuse history.
- Law enforcement agencies, community leaders and parents should collaborate to promote awareness about drug take-back programs.
- Hospitals and pharmacies should consider becoming permanent collection sites collect to excess prescription controlled substances for disposal on an ongoing basis.

Resource links:

- Arizona Division of Behavioral Health Services
  www.azdhs.gov/bhs/
- Arizona Prescription Drug Monitoring Program
  https://pharmacypmp.az.gov
- Arizona Prescribing Guidelines
  www.azdhs.gov/clinicians/clinical-guidelines-recommendations/index
- Substance Abuse and Mental Health Services Administration (SAMHSA)
  www.samhsa.gov

To prevent sudden unexplained and sleep related infant deaths:

According to the Centers for Disease Control and Prevention (CDC), sudden unexplained infant deaths (SUID) are those fatalities occurring in an infant younger than one year of age abruptly and unexpectedly. Their cause of death is not immediately detectable prior to a complete investigation. Before the SUID designation, all of these deaths had the label of Sudden Infant Death Syndrome (SIDS), which is a type of SUID. Other types of SUID include infant deaths due to suffocation, asphyxia, poisoning, undetected medical disorders, hypothermia and hyperthermia. In 2012, Arizona established a SUID Committee to review unexplained or unexpected infant deaths. Prior to the SUID committee's process, local teams started using guidelines that are more stringent before classifying a death as SIDS or undetermined.

SUID rates have declined by 45 percent since 2008. For 2013, the percentage of SUID among all child deaths in Arizona remained high at nine percent. Eighty-eight percent of the preventable SUID fatalities occurred in an unsafe sleep environment.

To prevent a sudden unexplained infant death the American Academy of Pediatrics (AAP) recommends ensuring safe sleep environments for infants include: *(Also found on page 48)*

- **Safe Sleep Practices**
  - Always place babies to sleep on their backs during naps and at nighttime. Because babies sleeping on their sides are more likely to accidentally roll onto their stomach, the side position is just as dangerous as the stomach position.
  - Avoid letting the baby get too hot. The baby could be too hot if you notice sweating, damp hair, flushed cheeks, heat rash, and rapid breathing. Dress the baby lightly for sleep. Set the room temperature in a range that is comfortable for a lightly clothed adult.
  - Consider using a pacifier at naptime and bed time. The pacifier should not have cords or clips that might be a strangulation risk.
- **Safe Sleep Environment**
  - Place your baby on a firm mattress, covered by a fitted sheet that meets current safety standards. For more about crib safety standards, visit the Consumer Product Safety Commission's Web site at www.cpsc.gov.
  - Place the crib in an area that is always smoke free.
  - Don't place babies to sleep on adult beds, chairs, sofas, waterbeds, pillows, or cushions.
  - Toys and other soft bedding, including fluffy blankets, comforters, pillows, stuffed animals, bumper pads, and wedges should not be placed in the crib with the baby. Loose bedding, such as sheets and blankets, should not be used as these items can impair the infant's ability to breathe if they are close to his face. Sleep clothing, such as sleepers, sleep sacks, and wearable blankets are better alternatives to blankets.

For families & community:

- Families with infants should follow the AAP recommendations on safe sleep as listed above.
- The Arizona Perinatal Trust (APT) should require APT certified hospitals to provide safe sleep staff and patient education and safe sleep policy based on the AAP's guidelines.
- Arizona Safe Kids Coalitions should teach communities safe sleep practices and provide services and education to new parents. This may include PSAs for Safe Sleep Education, safe breastfeeding/sleep practices and co-sleep education in conjunction with car seat checkup events.
- Law enforcement and first responders should be trained to identify potential unsafe sleep environments, receive training on infant death scene investigations and completing the infant death investigation checklists.
- Early childhood home visitors should educate families about and reinforce safe sleep practices.

For hospitals:

- All Arizona hospitals caring for infants should model safe-sleep practices, using the AAP recommendations including placing infants on their back to sleep and having cribs free of soft objects and loose bedding.

For childcare providers:

- Adhere to applicable Arizona Statute's (Title 36, Chapter 7.1) regarding safe sleep.

Resource links:

- A Parent's Guide to Safe Sleep
www.healthychildren.org/English/ages-stages/baby/sleep/Pages/A-Parents-Guide-to-Safe-Sleep.aspx
- CDC's Sudden Unexpected Infant Death Initiative
www.cdc.gov/sids/suidabout.htm
- Safe Sleep for Baby
www.safesleepforbaby.com/
- La Leche League
www.llli.org/faq/cosleep.html

To prevent premature infant deaths:

The definition of a death due to prematurity is an infant who was born prior to 37 weeks gestation and had no other underlying cause of death. Annually, about a quarter of all child deaths in Arizona are due to prematurity, and in 2013, they accounted for 26 percent of those fatalities, a rise from 22 percent in 2012. Although, the overall rate has gone down over the last five years the rate of death due to prematurity went up nine percent in 2013. While it is not always possible to determine if a prematurity death is specifically preventable, many of the risk factors associated with the fatality are preventable; such risk factors include access to prenatal care and lack of information on preconception health. If properly addressed these measures, management of chronic disease and avoidance of the use of tobacco, drugs and alcohol help to improve positive birth outcomes.

For Arizona women of childbearing age regarding preconception health:

- Learn and understand the importance of prenatal health and improve reproductive, nutritional, physical and mental health prior to pregnancy, and know the long-term impact this behavior has on yours and any future children's health.

For medical care providers:

- Work to ensure every interaction a woman of childbearing age has with a medical care provider is an opportunity to discuss preconception or inter-conception health.
- Follow established guidelines to monitor and outreach to women known for higher risk pregnancy including substance-abusing women.

For the community and service providers:

- Understand and promote awareness about the importance of a women's preconception health and the long-term impact it has on her and any potential children's health.

Resource links:

- Arizona Perinatal Trust
www.azperinatal.org/
- Before, Between and Beyond Pregnancy
beforeandbeyond.org/
- Everyone Woman Arizona
www.azdhs.gov/phs/owch/pdf/preconception/PreconceptionHealth.pdf

To prevent deaths due to motorized vehicle crashes:

Deaths from motor vehicle and transport crashes remain a leading cause of death for children aged ten and older in the United States. In Arizona, effective prevention efforts have reduced the overall number of motor vehicle and transport crash fatalities, however crashes still account for ten percent of all child deaths in Arizona. Since 2008, the rate of motor vehicle crash fatalities alone dropped by 26 percent and the rate of motor vehicle crash fatalities combined with other transport deaths saw a nine percent decrease between 2012 and 2013.

For parents and caregivers:

- Place children in the appropriate child safety restraints when operating a motor vehicle.
- Children should always wear properly fitted helmets when participating in any motorized or un-motorized wheeled activities, including bicycles, skateboards, skates, scooters, ATVs, golf carts, etc. Children under 18 are required to wear a properly fitted and fastened U.S. DOT-approved helmet. (ARS 28-1179B) when operating an off-highway vehicle (OHV).
- Children below the age of 16 should not operate or ride on an OHV without proper training and supervision.
- Ensure proper supervision of children at all times.
- Model good behavior by always wearing a seatbelt and never operate a vehicle when under the influence of alcohol and/or drugs.

For the community:

- The Arizona Legislature should enact stricter distracted driving laws to include the prohibition of texting while driving.
- The Arizona Legislature should 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.
- Law enforcement officers should continue primary enforcement of child restraint violations.
- 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.
- Communities should collaborate with the Arizona Department of Health Services and Safe Kids Arizona to promote awareness about child passenger and motorized vehicle safety and encourage participation in events such as car-seat checkups, safety workshops and sports clinics; they should connect families with organizations who can provide information on child safety seats for those in need.

Resource links:

- American Academy of Pediatrics
  www.aap.org
- Children's Safety Network
  www.childrenssafetynetwork.org
- National Center for Injury Prevention and Control
  www.cdc.gov/injury/index.html
- National Highway Transportation Safety Administration
  www.nhtsa.gov
- Safe Kids Arizona
  www.safekids.org/coalition/safe-kids-arizona

- The Think First Injury Prevention Foundation
  www.thinkfirst.org

To prevent suicide deaths:

Child suicides have decreased in Arizona from 33 in 2012 to 25 in 2013. As with other categories of death, understanding the circumstances and events leading up to the suicide can aid in developing appropriate interventions for future prevention efforts. Several factors identified by local teams may have contributed to the child's despondency prior to the suicide. The most common factors of note in 2013 were bullying, a history of drug/alcohol use by the child, and a history of family discord prior to suicide.

For parents and caregivers:

- Watch 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 early 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.
- Monitor your child's social media for any talk about suicide and take immediate action.

For the community:

- Arizona schools should collaborate with the Arizona Suicide Prevention Coalition to support and implement school and community prevention programs teaching students how to address suicide and related behaviors.
- Community leaders should collaborate with the Arizona Firearm Injury Prevention Coalition to hold appropriate community events to provide education on gun safety and distribute gunlocks to families.

Resource links:

- American Foundation for Suicide Prevention
www.suicidology.org/web/guest/home
- Arizona Firearm Injury Prevention Coalition
www.afipc.org/programs.html
- Arizona Suicide Prevention Coalition
www.azspc.org
- National Center for Injury Prevention and Control, Youth Suicide Prevention Programs
A Resource Guide
www.cdc.gov/ncipc/pub-res/youthsui.htm
- SAMHSA Tribal Training and Technical Assistance Center-Suicide Prevention
www.samhsa.gov/tribal-ttac/resources/suicide-prevention
- Suicide Prevention Resource Center
www.sprc.org
- Suicide Prevention Advocacy Network
www.spanusa.org

To promote the general health and safety of a child:

- To prevent drowning, parents and caregivers should continue to have at least one responsible adult present and designated 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.

- Families with children should store all firearms unloaded, in a secure locked location. Firearms should be removed from homes where children, adolescents or caregivers have exhibited or are exhibiting signs or symptoms of substance abuse or mental illness, including depression.

INTRODUCTION

The Arizona Child Fatality Review (CFR) Program was established in 1993 with the passing of (A.R.S. § 36-342, 36- 3501-4); data collection and case reviews began in 1994. Since 2005, the program has reviewed the death of every child who died in the state. This will be the twenty-first annual report issued by the Arizona Child Fatality Review Program.

Arizona has 11 Local County CFR Teams who complete reviews at the county 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 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 Department of Child Safety (DCS: formerly Child Protective Services), 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.

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.**

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 Child Fatality Review Program's local teams. ***Note: Team members are required to maintain confidentiality and prohibited from contacting the child's family.***

During the review, the local team completes a standardized Child Death Review Case Report Form including detailed information regarding the circumstances surrounding the death. Following the review teams must then enter reports into a confidential database, created by the National Center for Child Death Review. Local team coordinators and staff members from the Arizona Department of Health Services' (ADHS) Office of Injury Prevention are allowed to enter these case reports. Once entered into the database the State CFR Program, which provides professional and administrative support for the teams, analyzes the data for inclusion into an annual report published each November by the CFR State Team.

An independent State level team meets annually to review the analysis of these findings, and is required to include representatives from the following agencies and organizations on the team:

- Attorney's General Office
- Bureau of Women's and Children's Health in the Department of Health Services
- Division of Behavioral Health in the Department of Health Services
- Division of Developmental Disabilities in the Department of Economic Security
- Division of Children, Youth and Families in the Department of Economic Security
- Governor's Office for Children, Youth and Families
- 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

Mandated by statute, the State Team produces the annual report detailing the findings and determining ways to reduce or eliminate any identified preventable fatalities. The statute authorizes them to do this in two ways, first by studying the adequacy of existing statutes, ordinances, rules, training and services in order to determine the need for changes. Second, they are 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 recommendation often occurs because the team is comprised of well-respected professionals from a variety of disciplines. One hundred percent of deaths are reviewed allowing for multi-year outcome comparisons and trend identification.

Overview of Risk and Protective Factors and Prevention

Child death review is a multidisciplinary process and rooted in understanding the risk and protective factors that play a role in each fatality. It requires an open and investigative methodology to identify those factors. Reviews of each fatality do not take place to blame individuals, agencies or communities but concentrate on learning about risk elements and how to ensure better outcomes for children in the future. Risk and protective factors exist for each of the categories discussed in this report. Some risk factors are found across each of the categories and might include substance use, socioeconomic status and behavioral choices. Of these risk factors, some are modifiable with the most prominent example in Arizona being substance use and abuse. In 2013, substance use was associated with 16 percent of all child fatalities especially the use or abuse of alcohol and drugs. It was also linked to fatalities in many of the listed causes of death including maltreatment related deaths, motor vehicle crashes, suicides, drowning, firearms, suffocation, poisonings and medically related fatalities. Below are examples of risk and protective factors, which appear throughout the report.

Maltreatment: Abuse and Neglect

Several modifiable risk factors exist putting a child at great risk for abuse and neglect. These factors, usually in combination, may involve the parent or caregiver, the family, the child or the environment.

Risk Factors

- *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

Protective Factors

- Mentally healthy caregivers
- A healthy relationship with a parent or caregiver
- Parental resilience and strong social connections

Prematurity

Risk Factors

- 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
- Domestic violence

Protective Factors

- Good preconception health
- Early access to prenatal care
- Community awareness about good health practices

Motor Vehicle and Other Transport Related Injuries

Risk Factors

- 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

Protective Factors

- Using proper child restraints and helmets every time a vehicle is in operation
- Teaching children about the dangers of improper use of a motor vehicle or other motorized transport
- Following passenger safety rules and established motor vehicle laws

Drowning

Risk Factors

- 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 that are not adequately fenced

Protective Factors

- 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
- Protecting children at risk: promote learning to swim, train lifeguards and practice proper supervision of children near water

Poisoning

Risk Factors

- Age: young children are curious putting them at particular risk for ingesting poisons, especially liquids. Their smaller size and weight also heightens the toxicity of some substances. Older children understand consequences but peer pressure and increased risk-taking behavior can lead to substance use and abuse including overdoses
- Sex: boys typically have higher rates of death by poisoning than girls
- Other factors include toxicity, packaging appearance and storage and access to adequate health care for treatment

Protective Factors

- Teaching children awareness about the dangers of improperly using substances including poisons, alcohol, prescription drugs and other medications
- Providing adequate supervision to young children
- Ensuring proper labeling on all packaging of potentially harmful substances, etc.

Sleep Related Deaths

Risk Factors

- Infant sleeping on stomach, on soft surfaces such as an adult mattress, couch, or chair or under soft coverings
- Overheating
- Exposure to cigarette smoke in the womb, in their home environment or elsewhere
- Co-sleeping in an adult bed or on other surfaces (couch, chair, etc.) with parents, other children, or pets
- The adult smokes, has recently had alcohol, or is tired
- Age: infants younger than 11 to 14 weeks of age

Protective Factors

- Using a firm sleep surface
- Room-sharing without bed-sharing
- Keeping soft objects and loose bedding out of the crib
- Breast-feeding
- Avoid smoke exposure
- Avoid substance use
- Avoid overheating

Suicide

Risk Factors

- 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

Protective Factors

- Seeking early treatment of effective clinical care for mental, physical and substance abuse issues
- Restricted access to highly lethal means of suicide
- Building strong family and support connections
- Gaining and retaining skills in problem solving, conflict resolution and stress management
- Family, friends and acquaintances taking any discussion of suicide seriously and seeking help

Prevention Planning

Prevention is the overarching goal of the Arizona CFR Program. In order to reduce these risk factors, promote the protective factors, and improve outcomes for Arizona's children everyone needs to participate. A child's death touches everyone regardless of age, race or socioeconomic status. Everyone is responsible for the health of children, and much of what needs to happen is already taking place, but more is needed. The CFR program serves as a resource to help further these efforts by organizing the individuals, agencies and communities who are doing this work.

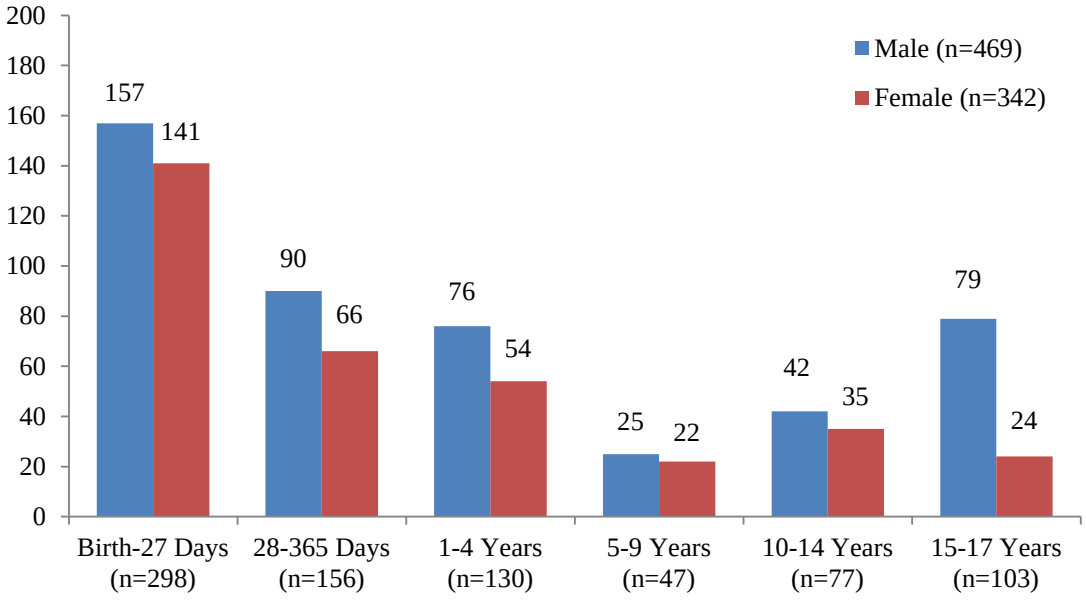
Many people might not consider themselves prevention agents, but they contribute a great deal to prevention strategies and programming. Some examples of these contributions include the physicians who speak with young female patients about preconception health, law enforcement officers training as car seat safety technicians, social workers who have 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.

CHILD FATALITY REVIEW FINDINGS, 2013

DEMOGRAPHICS

During 2013, there were 811 fatalities among children younger than 18 years of age in Arizona a decrease from 2012 when 854 died (Table 1). Males accounted for 58 percent of deaths (n=469) while females for 42 percent (n=342) (Figure 1).[i]

Figure 1. Number of Deaths Among Children by Age Group and Sex, Arizona, 2013 (n=811)



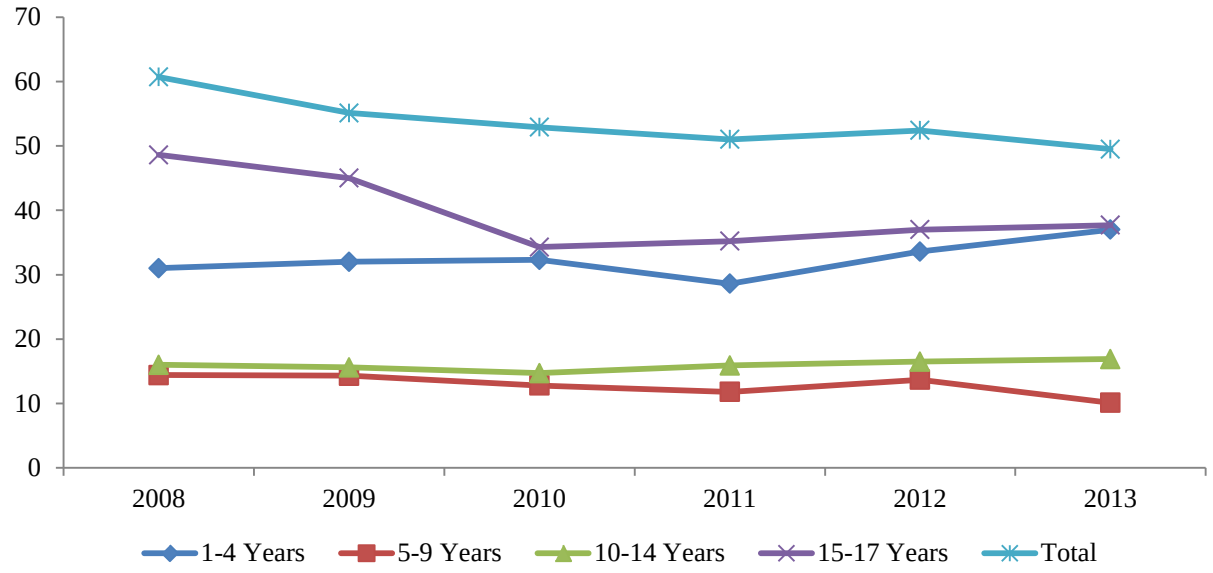
Continuing the trend from 2012, infants younger than 28 days (37 percent, n=298) made up the largest percentage of deaths. Compared to 2012, children aged 1-4 and 15-17 years saw a slight increase in the percentage of deaths. Percentages remained constant or slightly decreased for all other age groups (Table 1).

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

Table 1. Number and Percentage of Deaths Among Children by Age Group, Arizona, 2008-2013												
Age Group	2008		2009		2010		2011		2012		2013	
0-27 Days	423	42%	366	39%	334	38%	334	40%	325	38%	298	37%
28-365 Days	211	20%	183	19%	192	22%	175	21%	171	20%	156	19%
1-4 Years	126	12%	130	14%	119	14%	106	13%	120	14%	130	16%
5-9 Years	67	6%	67	7%	58	7%	54	6%	63	7%	47	6%
10-14 Years	74	7%	73	8%	66	8%	72	9%	75	9%	77	9%
15-17 Years	137	13%	128	14%	93	11%	96	11%	100	12%	103	13%
Total	1,038		947		862		837		854		811	

Overall child mortality rates showed a six percent decrease from 2012 to 2013 (from 52.4 in 2012 to 49.5 in 2013). The rate has decreased during the past five years, with the largest decrease occurring among children younger than one year of age (640 in 2008 to 509 in 2013). Children aged 15-17 years also saw a significant decrease (48.6 deaths per 100,000 population in 2008 to 37.7 deaths per 100,000 population in 2013) (Figure 2).

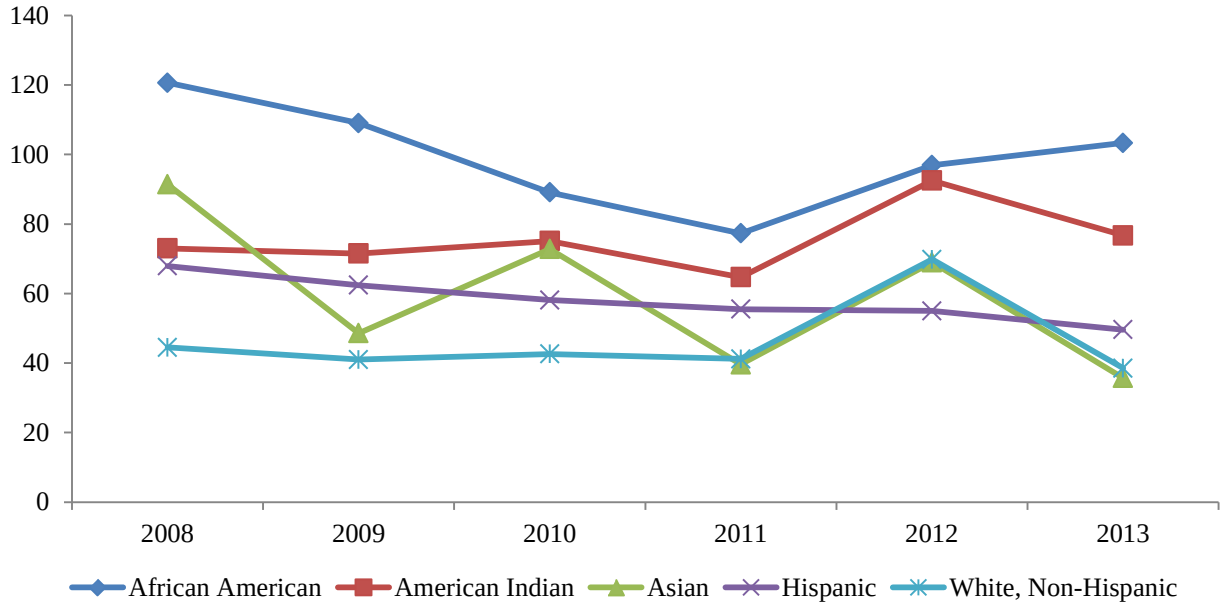
Figure 2. Mortality Rates per 100,000 Population Among Children by Age Group, 1 through 17 year olds, Arizona, 2008-2013[ii]



[ii] Mortality rates for less than one year were not included in Figure 2; these numbers are available in Table 2.

Table 2. Mortality Rates per 100,000 Population Among Children by Age Group, Arizona, 2008-2013						
Age Group	2008	2009	2010	2011	2012	2013
<1 Year*	640.0	595.0	600.8	577.0	568.9	509.0
1-4 Years	31.0	32.0	32.3	28.6	33.6	37.0
5-9 Years	14.4	14.3	12.8	11.8	13.7	10.1
10-14 Years	16.0	15.6	14.7	15.9	16.5	16.9
15-17 Years	48.6	45.0	34.3	35.2	37.0	37.7
Total	60.7	55.1	52.9	51.0	52.4	49.5
*deaths in the neonatal and post-natal periods have been combined						

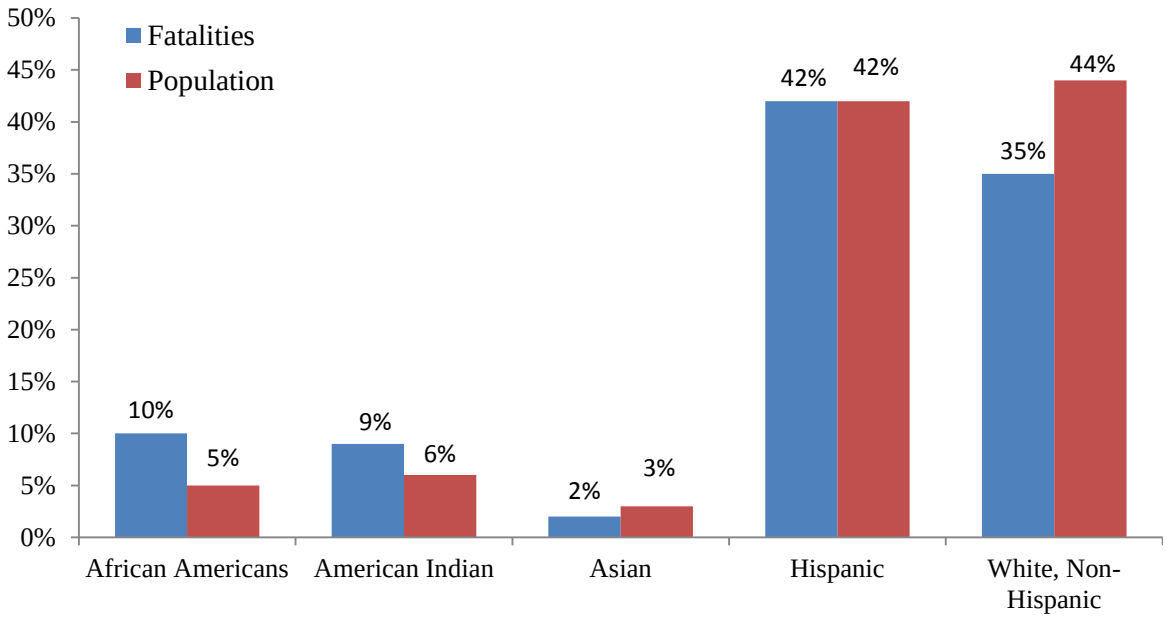
Figure 3. Mortality Rates Among Children by Race/Ethnicity, per 100,000 Population, Arizona, 2008-2013



Shown above are the mortality rates for the last six years among children by race and ethnicity. The most important thing to note about this graph is not the yearly fluctuation of the rates within each of the five categories it is that the rates for African Americans and American Indians. They show these two groups consistently represent higher rates of death compared to population more than any other races/ethnicities (Figure 3).

Table 3. Mortality Rates per 100,000 Children by Race/Ethnicity, Arizona, 2008-2013*						
Race/Ethnicity	2008	2009	2010	2011	2012	2013
African American	120.6	109.0	89.1	77.3	96.9	103.3
American Indian	73.00	71.5	75.1	64.7	92.5	76.7
Asian	91.4	48.6	72.8	39.6	69.0	35.7
Hispanic	67.9	62.4	58.1	55.5	55.0	49.6
White, non-Hispanic	44.5	41.0	42.6	41.2	36.8	38.5
*Does not include 18 cases for the category for 2 or more races						

Figure 4. Percentage of Deaths Among Children by Race/Ethnicity Compared to Population, Arizona, 2013 (n=793)[iii]



African American children comprised five percent of the population in Arizona but ten percent of fatalities. American Indian children comprised six percent of the population and nine percent of fatalities (Figure 4).

Compared to 2012, the percentages of fatalities among African American children and White non-Hispanic children rose slightly in 2013. For all other races/ethnicities, the percentages of child deaths declined (Table 4).

Table 4. Number and Percentage of Deaths Among Children by Race/Ethnicity, Arizona, 2008-2013

Race/Ethnicity	2008		2009		2010		2011		2012		2013	
African American	102	10%	93	10%	68	8%	65	8%	73	9%	78	10%
American Indian	86	8%	85	9%	74	9%	80	10%	91	11%	76	9%
Asian	41	4%	22	2%	32	4%	19	2%	30	4%	16	2%
Hispanic	456	44%	420	44%	393	45%	374	45%	376	44%	343	42%
White, Non-Hispanic	353	34%	327	35%	289	33%	293	35%	268	31%	280	35%
Total	1,038		947		856*		831*		838*		793*	

*Does not include the 18 from the category for 2 or more races.

[iii] Does not include the 18 from the category for 2 or more races.

There were notable increases in the percentages of deaths taking place in Apache and Pima counties. The majority of other counties showed a decrease in percentages (Table 5).

Table 5. Number and Percentage of Deaths Among Children by County of Residence, Arizona, 2008-2013

	2008		2009		2010		2011		2012		2013	
County	#	%	#	%	#	%	#	%	#	%	#	%
Apache	20	2	26	3	12	1	15	2	9	1	17	2
Cochise	24	2	21	2	20	2	15	2	17	2	14	2
Coconino	21	2	18	2	26	3	19	2	20	2	17	2
Gila	15	1	9	1	12	1	9	1	14	2	9	1
Graham	11	1	5	<1	6	<1	4	<1	6	1	7	<1
Greenlee	1	<1	0	--	2	<1	5	<1	1	<1	<6	<1
La Paz	5	<1	5	<1	2	<1	3	<1	8	1	<6	<1
Maricopa	577	56	542	57	486	56	478	57	500	59	477	59
Mohave	11	1	21	2	22	3	23	3	21	2	15	2
Navajo	30	3	22	2	23	3	26	3	28	3	23	3
Pima	165	16	130	14	130	15	109	13	91	11	102	13
Pinal	52	5	60	6	40	5	51	6	48	6	46	6
Santa Cruz	6	<1	7	1	9	1	4	<1	9	1	<6	<1
Yavapai	17	2	20	2	20	2	14	2	24	3	20	2
Yuma	39	4	28	3	31	4	33	4	26	3	27	3
Outside AZ	44	4	33	3	21	2	29	3	32	4	25	3
Total	1,038		947		862		837		854		810*	

*Does not include one death in which the county of residence was unknown

Cause and Manner of Child Fatalities

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 Child Fatality Review 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.

For Arizona's purposes, the cause of death refers to the injury or medical condition that resulted in the death and the manner is the intentionality behind the cause, whether it was intentional or unintentional.

Teams choose a manner of death from the following:

Natural deaths include medically related deaths from illnesses such as cancer, prematurity or congenital defects.

Accidental deaths include types of unintentional deaths such as hangings, gunshot wounds, auto/pedestrian fatalities and drowning.

Homicides are the killing of one human being by another human being. The term homicide is used regardless of the perpetrator's intent and describes events ranging in scope from accidents without clear intention or to the opposite extreme of an act of violence.

Suicide is the deliberate taking of one's own life. There is a wide variety of circumstances surrounding suicide deaths including contributing factors such as behavioral health issues, substance abuse, bullying or terminal illness.

Undetermined deaths are those situations where the medical examiner is unable to pinpoint a final method of death. These types of cases typically involve information that is either lacking, incomplete or conflicting impeding the examiner's ability to make a final determination. It might also be the case that intentionality in the death is unclear so it cannot be determined if the death was an accident or something else. For example, it may not be clear when a firearm death is due to an accident, suicide or homicide. The undetermined cases in this report are those where local teams were unable to find any further information and upheld the medical examiner's determination of death.

In the following sections, deaths are counted once in each applicable section based upon team consensus of the cause and manner of death. For example, a homicide involving a firearm injury perpetrated by an intoxicated caregiver would be counted in the sections addressing firearm injuries, homicides, substance use and maltreatment fatalities.

Note: *Teams only mark a death as "Pending" if information was not available to the review team.*

Figure 5. Mortality Rates per 100,000 Children by Cause of Death, Arizona, 2008-2013

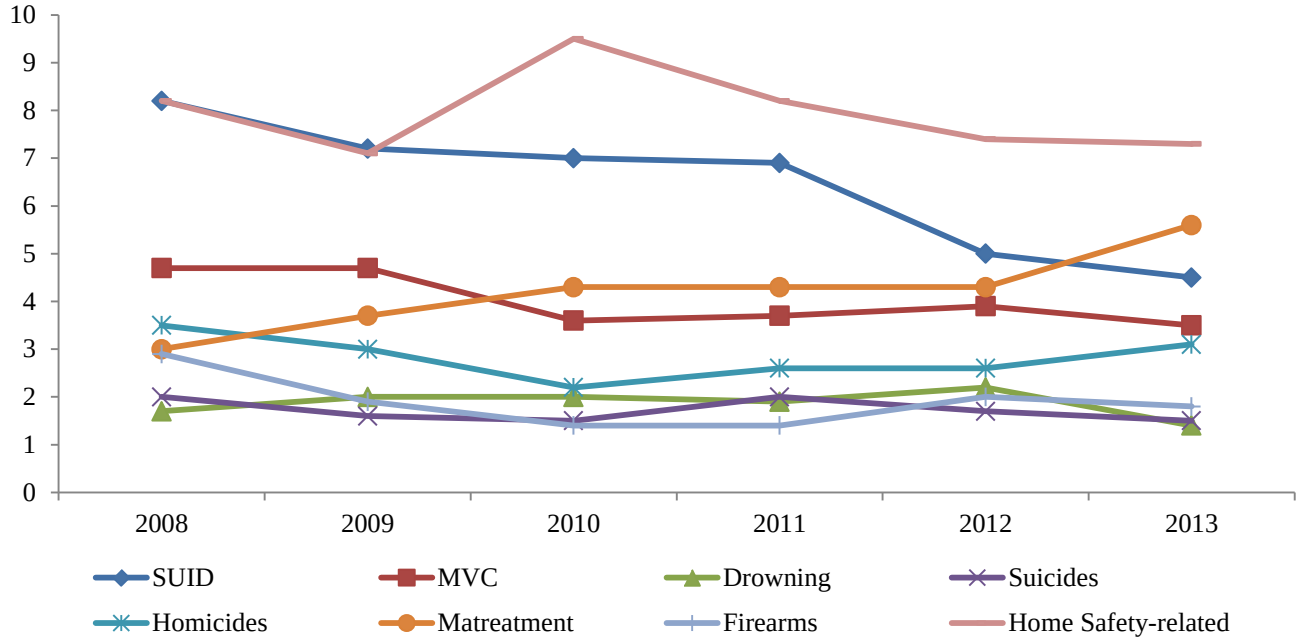


Table 6. Mortality Rates per 100,000 Children by Cause of Death, Arizona 0-17 Year Olds, 2008-2013						
Cause	2008	2009	2010	2011	2012	2013
SUID	8.2	7.2	7.0	6.9	5.0	4.5
Motor Vehicle Crashes	4.7	4.7	3.6	3.7	3.9	3.5
Drowning	1.7	2.0	2.0	1.9	2.2	1.4
Suicide	2.0	1.6	1.5	2.0	1.7	1.5
Homicide	3.5	3.0	2.2	2.6	2.6	3.1
Maltreatment	3.0	3.7	4.3	4.3	4.3	5.6
Firearms	2.9	1.9	1.4	1.4	2.0	1.8
Home Safety-Related	8.2	7.1	9.5	8.2	7.4	7.3

Mortality rates listed by cause of death have gone down over the last five years from 2008-2013 in every category but maltreatment. Mortality rates attributed to maltreatment increased from 3.0 deaths per 100,000 in 2008 to 5.6 deaths per 100,000 (Table 6).

Table 7. Percentage of Child Deaths by Age Group and Manner, Arizona, 2013 (n=811)						
Manner	Birth-27 Days (n=298)	28-365 Days (n=156)	1-4 Years (n=130)	5-9 Years (n=47)	10-14 Years (n=77)	15-17 Years (n=103)
Natural	97%	51%	48%	53%	47%	21%
Accident	2%	28%	35%	43%	31%	45%
Homicide	1%	4%	12%	2%	12%	16%
Suicide	<1%	<1%	<1%	<1%	10%	17%
Undetermined	<1%	17%	5%	2%	<1%	<1%

The percentage of 2013 deaths listed by manner show natural deaths (due to a medical condition) accounted for the highest number of deaths in each age group, except for ages 15-17 years. Natural deaths accounted for 97 percent of neonatal fatalities. Accidents were the next highest manner of deaths and accounted for 45 percent of deaths for 15-17 years (Table 7). Homicides took place in each age group with the majority happening after age one, and suicides occurred only with children aged 10 and over.

Table 8. Number and Percentage of Deaths Among Children Birth Through 17 Years by Manner, Arizona, 2008-2013

Manner	2008		2009		2010		2011		2012		2013	
Natural	702	68%	641	68%	565	66%	537	64%	542	63%	513	63%
Accident	168	16%	165	17%	160	19%	167	20%	190	22%	186	23%
Undetermined	73	7%	63	7%	74	9%	52	6%	45	5%	36	5%
Homicide	60	6%	51	5%	36	4%	42	5%	43	5%	51	6%
Suicide	35	3%	27	3%	24	3%	38	5%	33	4%	25	3%
Total	1,038		947		859*		836*		853*		811	

*Does not include deaths of pending manner

The percentages of overall deaths, when separated by manner, have remained relatively constant since 2008 (Table 8). In 2013, there were 303 child deaths due to medical conditions including one homicide; deaths due to prematurity increased from 192 in 2012 to 210; 80 deaths involved motor vehicle crashes or some other type of transportation. Blunt force traumas increased from 19 in 2012 to 28. Forty-eight children died from suffocation; in 35 deaths, there was insufficient information available to determine the manner or cause of death. There was a decrease in drowning deaths decreasing from 36 in 2012 to 23, and a slight decrease in firearm-related deaths from 32 in 2012 to 29. There were 18 hangings, 16 of which were suicides and two accidents. There were seven deaths from exposure, and poisonings doubled from seven in 2012 to 14 (Table 9).

Table 9. Number of Deaths Among Children Birth to 17 Years by Cause and Manner, Arizona, 2013 (n=811)						
Cause	Natural	Accident	Suicide	Homicide	Undetermined	Total
Medical*	302	<6	<6	<6	<6	303
Prematurity	209	<6	<6	<6	<6	210
Transport	<6	78	<6	<6	<6	80
Firearm	<6	<6	7	17	<6	29
Suffocation	<6	48	<6	<6	<6	48
Drowning	<6	23	<6	<6	<6	23
Blunt Force Trauma	<6	<6	<6	28	<6	28
Hanging	<6	<6	16	<6	<6	18
Undetermined	<6	<6	<6	<6	33	35
Other Non-Medical	<6	<6	<6	<6	<6	<6
Poisoning	<6	13	<6	<6	<6	14
Fire/Burn	<6	<6	<6	<6	<6	<6
Exposure	<6	6	<6	<6	<6	7
Fall/Crush	<6	<6	<6	<6	<6	6
Other Injury	<6	<6	<6	<6	<6	6
Total	513	186	25	51	36	811
*Excluding SIDS and prematurity						

Table 10. Number and Percentage of Deaths Among Children Birth Through 17 Years by Cause, Arizona, 2008-2013												
Cause	2008		2009		2010		2011		2012		2013	
Medical*	420	40%	372	39%	359	42%	342	41%	353	41%	303	37%
Prematurity	271	26%	241	25%	197	23%	199	24%	192	22%	210	26%
Transport	82	8%	82	9%	61	7%	70	8%	88	10%	80	10%
Firearm	49	5%	32	3%	22	3%	23	3%	32	4%	29	4%
Suffocation	21	2%	17	2%	25	3%	50	6%	53	6%	48	6%
Drowning	29	3%	35	4%	33	4%	32	4%	36	4%	23	3%
Blunt Force Trauma	16	1%	13	1%	11	1%	26	3%	19	2%	28	3%
Hanging	21	2%	20	2%	19	2%	27	3%	20	2%	18	2%
Undetermined	59	6%	57	6%	74	9%	46	6%	40	5%	35	4%
Other Non-Medical	-	-	-	-	-	-	-	-	1	<1%	<6	<1%
Poisoning	14	1%	17	2%	18	2%	10	1%	7	1%	14	2%
Fire/burn	4	1%	3	<1%	6	<1%	6	1%	5	1%	<6	<1%
Exposure	9	1%	7	1%	11	1%	0	0%	1	<1%	7	<1%
Fall/crush	9	1%	7	1%	4	<1%	4	<1%	5	1%	6	<1%
Other Injury	14	1%	16	2%	21	2%	0	0%	1	<1%	6	<1%
SIDS	20	2%	28	3%	1	<1%	2	<1%	0	0%	<6	<1%
Total	1,038		947		862		837		853		811	
*Excluding SIDS and prematurity												

PREVENTABILITY

The principles of public health are the framework in which the child fatality review process is rooted. Arizona's CFR program focuses on preventing all child deaths, and it does this by the investigation of each death's preventability factors and understanding the causes and impacts of each death. The overall goal is to improve the health and safety of all children and the community by assessing the risk factors that place a child at risk for illness or injury.

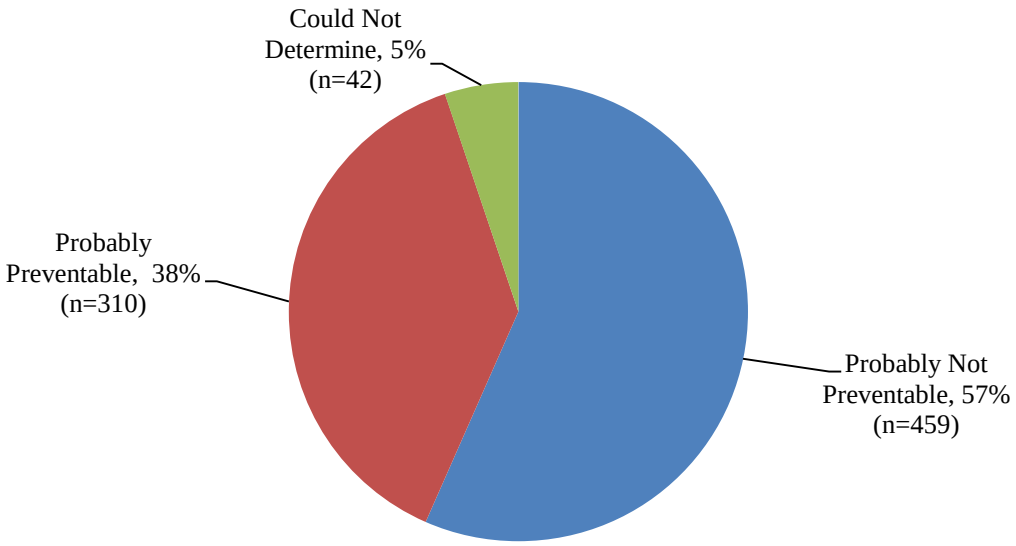
The World Health Organization (WHO) Public Health Approach to Injury Prevention consists of four steps:

- To define the problem through the systematic collection of information about the magnitude, scope, characteristics and consequences of injury.
- To establish why these injuries occur using research to determine the causes and correlates of injury, the factors that increase or decrease the risk for injury, and the factors that could be modified through interventions.
- To find out what works to prevent injury by designing, implementing and evaluating interventions.
- To implement effective and promising interventions in a wide range of settings. The effects of these interventions on risk factors and the target outcome should be monitored, and their impact and cost-effectiveness should be evaluated.

When reviewing a child's death, CFR Teams define a death as preventable when some reasonable action by an individual or by the community as a whole at any time could have prevented the death. Teams also identify the potential risk factors believed to have contributed to the death. For example, the team may have concluded an unsafe sleep environment (e.g., infant sleeping on an adult bed) was a contributing factor in an unexpected infant death. The team, however, may not have had sufficient information (e.g. the child's autopsy report or an adequate death scene investigation) to reasonably determine preventability. While the presence of a contributing factor might typically lead the team to decide that a death was preventable, this was not always the case.

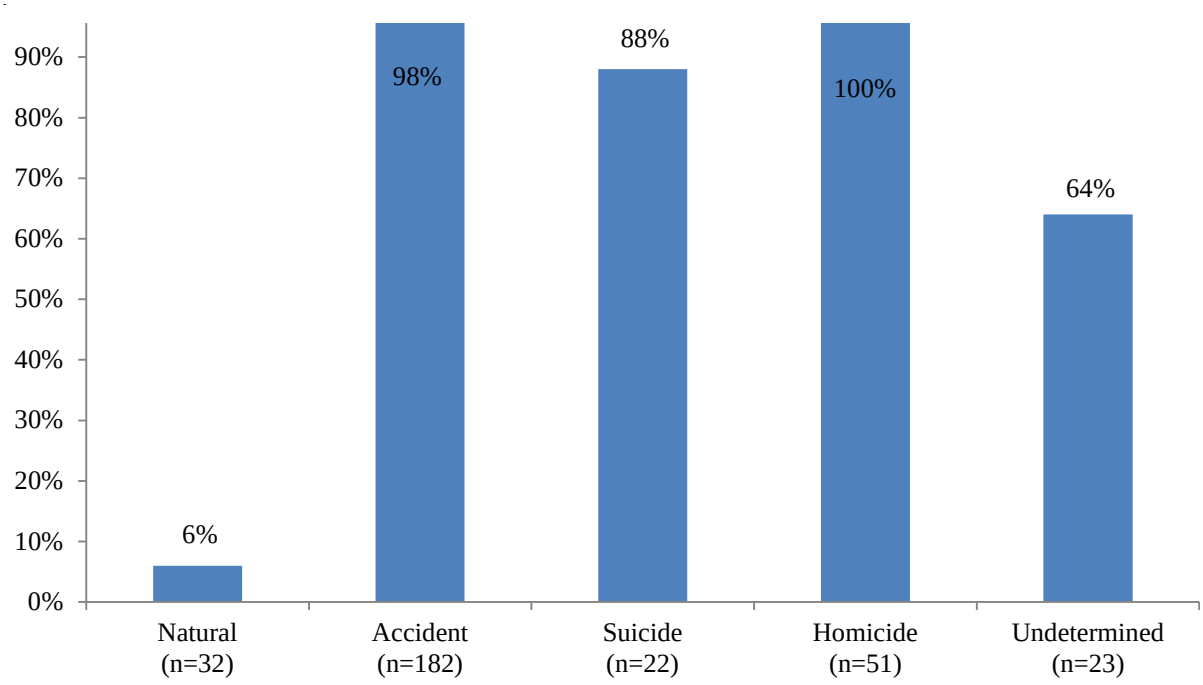
Teams must come to a solid consensus before determining preventability of each individual case, and this only occurs after discussing and reviewing all available data regarding the circumstances of a child's death. In some cases, there is insufficient information available to determine preventability or the team cannot reach consensus. In 2013, Child Fatality Review Teams determined 310 child deaths were probably preventable (38 percent), 459 child deaths were probably not preventable (57 percent), and could not reach consensus on 42 (five percent) (Figure 6).

Figure 6. Number and Percentage of Deaths Among Children by Preventability, Arizona, 2013 (n=811)



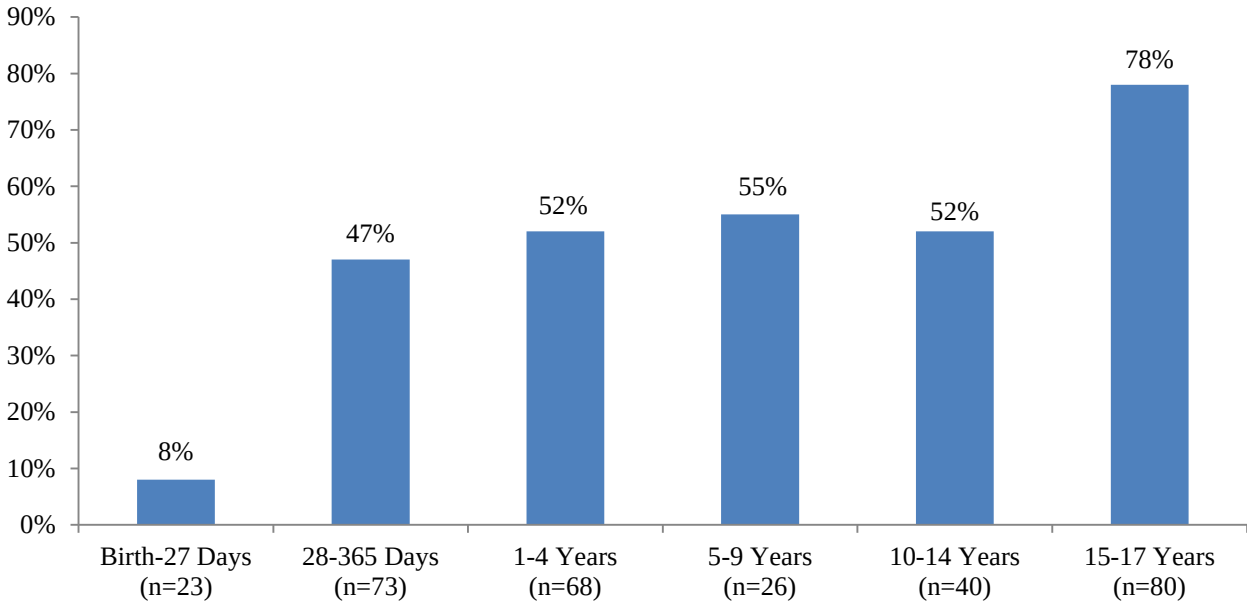
Child Fatality Review Teams determined 98 percent of accidental deaths were preventable (n=182), 100 percent of homicides were preventable (n=51), and 88 percent of suicides were preventable (n=22). Only six percent of natural deaths were determined to have been preventable (n=32) (Figure 7).

Figure 7. Number and Percentage of Preventable Deaths Among Children by Manner, Arizona, 2013



Preventability also varied by age group. Neonatal infants (birth to 27 days) had the lowest percentage of preventable deaths (8 percent, n=23). The highest percentage of preventable deaths was among youth between the ages of 15-17 years (78 percent, n=80).

Figure 8. Percentage of Preventable Deaths Among Children by Age Group, Arizona, 2013

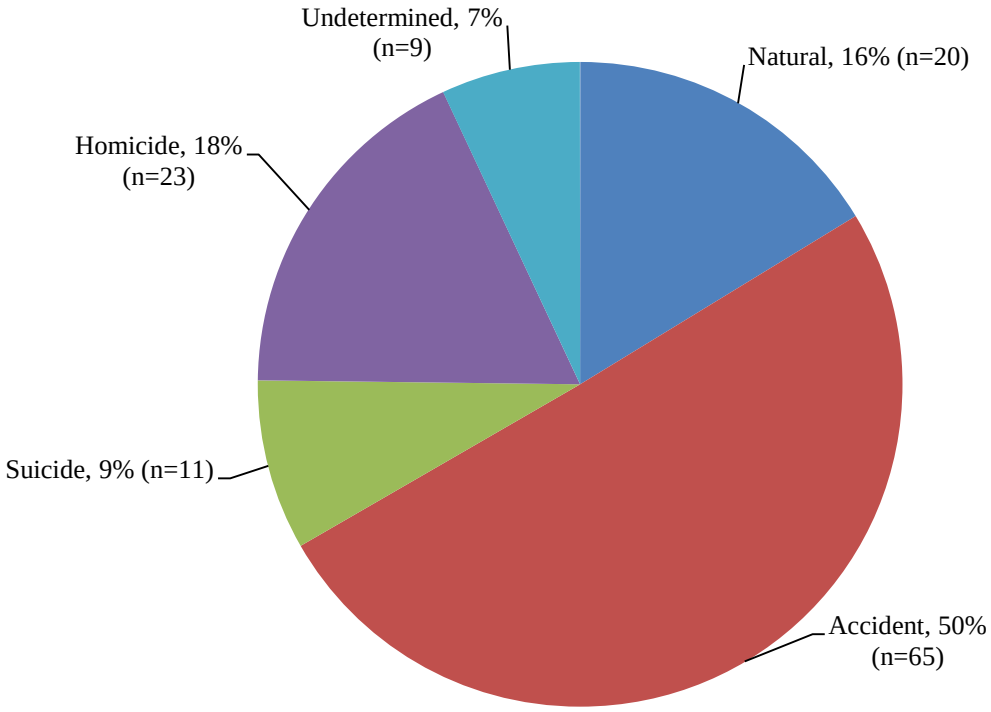


SUBSTANCE USE

In Arizona, there is a clear link between substance use and a considerable number of child deaths where it is an associated, contributing or direct cause of the fatality. Because of this connection, it is important to identify those deaths related to substance use in order to understand how or if it connects to the incident and, if it does, how best to inform prevention and awareness efforts. ***Note: Although substance use is a known risk factor in child fatalities, it is important to remember the term associated is used because it is not always clear if or how the substance use had a direct or contributing effect on the fatality incident.***[iv]

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. In 2013, substance use was associated with 16 percent of all child fatalities (n=128).

Figure 9. Number and Percentage of Deaths Among Children Associated with Drugs and/or Alcohol and/or Prescription Drugs by Manner, Arizona, 2013 (n=128)



[iv] For all tables in the Substance Use section, 2013 data with a count less than six are denoted as <6 and are suppressed due to concern with individual identification.

Drugs, alcohol and/or prescription drug use were associated with 23 percent of deaths due to firearm injury and suffocation (n=30); 21 percent of motor vehicle or other types of transport collision related deaths (n=27); and 11 percent were due to poisoning (n=14) (Table 11).

Table 11. Number of Child Deaths Associated With Drugs and/or Alcohol by Cause and Manner, Arizona, 2013 (n=128)

Cause	Accident	Homicide	Suicide	Natural	Undetermined	Total
Medical*	<6	<6	<6	12	<6	12
Prematurity	<6	<6	<6	8	<6	8
Motor Vehicle or Other Transport Collision	26	<6	<6	<6	<6	27
Firearm Injury	<6	11	<6	<6	<6	15
Suffocation	15	<6	<6	<6	<6	15
Drowning	<6	<6	<6	<6	<6	<6
Blunt/Sharp force trauma	<6	11	<6	<6	<6	11
Hanging	<6	<6	6	<6	<6	6
Undetermined	<6	<6	<6	<6	8	8
Poisoning	13	<6	<6	<6	<6	14
Fire/Burn	<6	<6	<6	<6	<6	<6
Exposure	<6	<6	<6	<6	<6	<6
Fall/Crush	<6	<6	<6	<6	<6	<6
Other Non-Medical	<6	<6	<6	<6	<6	<6
Total	65	23	11	20	9	128

*Excluding SIDS and prematurity

Of the drugs and/or alcohol or prescription drugs associated with death, marijuana was associated with 62 deaths (eight percent), alcohol with 46 deaths (six percent), opiates with 22 deaths (three percent) and methamphetamines with 20 deaths (three percent) (Table 12). Although there was a rise in associated marijuana use over alcohol in 2013, this may not be indicative of a new trend as the reported percentages of these two substances fluctuate from year to year (Table 12). It was also usually a combination of some of these substances and not just one, which played a part in the fatality incident.

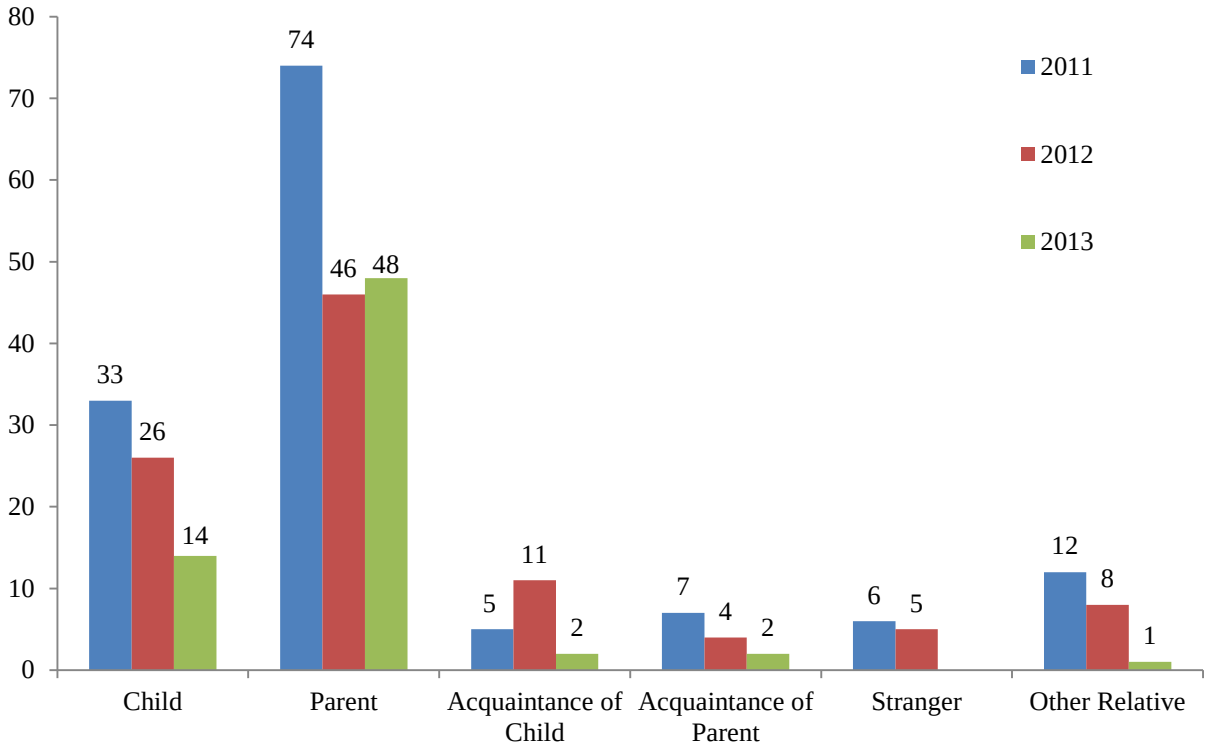
Table 12. Substances Associated in Deaths Among Children, Arizona, 2008-2013

Substance*	2008		2009		2010		2011		2012		2013	
Alcohol	76	7%	51	5%	65	7%	81	10%	56	7%	46	6%
Marijuana	57	5%	67	7%	70	8%	95	11%	43	5%	62	8%
Methamphetamine	39	4%	53	6%	33	4%	34	4%	25	3%	20	3%
Cocaine	21	2%	17	2%	15	2%	24	3%	12	1%	11	2%
Opiates	18	2%	24	3%	22	3%	17	2%	17	2%	22	3%

*More than one substance may have been associated with a single death

Drug and alcohol abuse was associated with the deaths of males and females in all age groups, with males being disproportionately higher. For 48 deaths, the user was the parent, and for 14 deaths, the user was the child themselves. This was a decrease from 2012 (n=26). The 15-17 year age group included 50 of the 128 deaths associated with drugs/alcohol/prescription drugs. Child deaths associated with substance use by the child are lower than in previous years between 2011 and 2013 (Figure 10).

Figure 10. Number of Deaths Associated with Drugs and/or Alcohol and/or Prescription Drugs by User, Arizona, 2011-2013

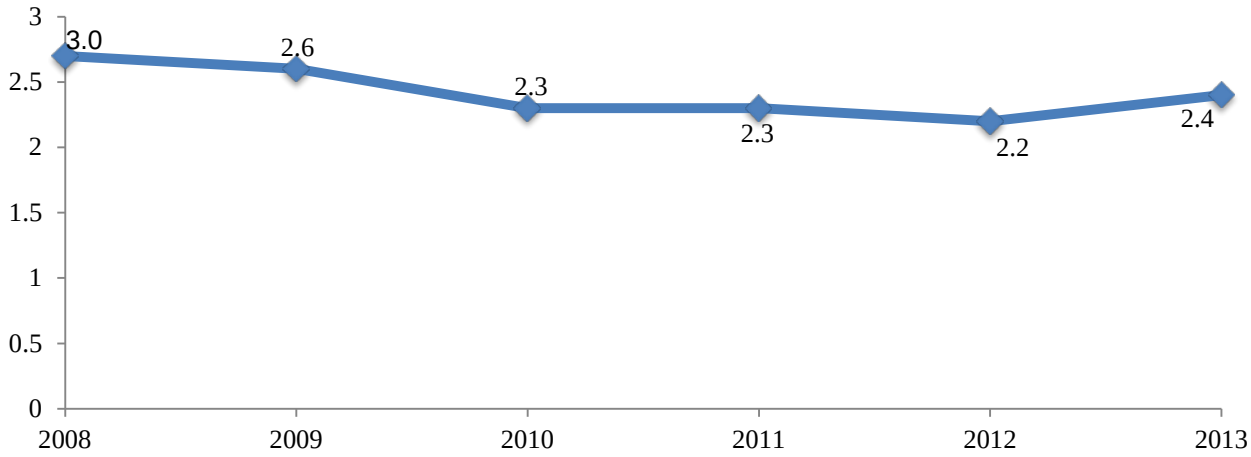


PREMATURITY

Annually, about a quarter of all child deaths in Arizona are due to prematurity, and in 2013 they accounted for 26 percent (n=210) of those fatalities, a rise from 22 percent in 2012 (n=192). Although, the overall rate of prematurity deaths has gone down over the last five years, the rate of death due to prematurity went up nine percent from 2.2 deaths per 1,000 live births in 2012 to 2.4 per 1,000 live births. This indicates a need for continued and expanded surveillance into the variety of risk and protective factors associated with the prevention of prematurity.

Note: The definition of a death due to prematurity is an infant dying who was born prior to 37 weeks gestation and had no other underlying cause of death.

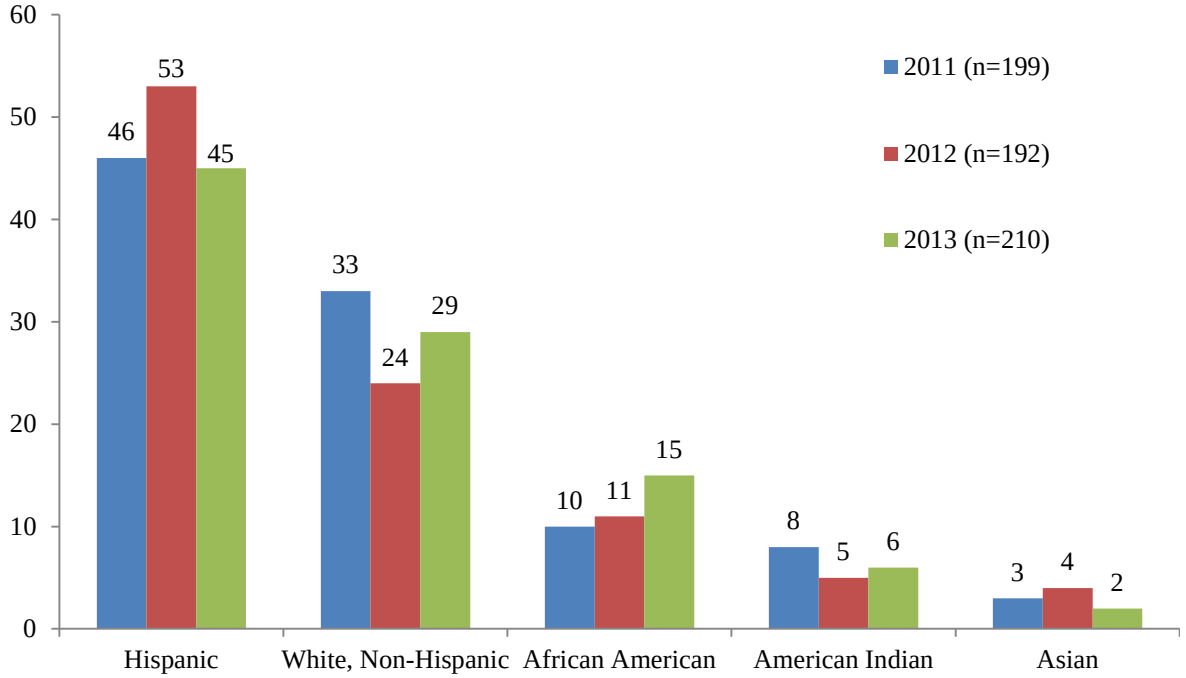
Figure 11. Mortality Rate due to Prematurity (per 1,000 live births), Arizona, 2008-2013



Prevention

Hispanic children remain at the highest risk in Arizona for prematurity related death making up 45 percent of the fatalities (n=94), although there has been a decrease from 53 percent in 2012 (n=101) (Figure 12).

Figure 12. Percentage of Child Deaths due to Prematurity by Race/Ethnicity, Arizona, 2011-2013



Risk factors for prematurity deaths include medical complications, no prenatal care and gestational age (Table 13). The top three risk factors for 2013 included medical complications during pregnancy (80 percent, n=167), preterm labor (34 percent, n=72) and bacterial infection (11 percent, n=24). Infants who were 18 through 25 weeks gestational age (75 percent, n=158) made up three quarters of all prematurity related deaths.

No prenatal care accounted for another ten percent of the deaths where the mother reported she did not receive any prenatal care (n=21). However, 67 percent of mothers started prenatal care within the first trimester of pregnancy (n=144). In 11 percent of the prematurity deaths, the mother was 14 through 19 years of age at the time of the birth (n=24). Fifty percent of the mothers were 20 through 29 years of age (n=106); 26 percent were 30 through 39 years of age (n=54), and two percent of mothers were 40 through 41 years of age (n=5). In 15 cases, the age of the mother at the time of the infant's death was unknown (7 percent).

Fifty-nine percent of mothers whose infants died from prematurity were insured by the Arizona's Medicaid System called the AZ 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 13. Risk Factors for Prematurity Deaths, Arizona, 2013

Factor*	Number	Percent
Medical complications during pregnancy	167	80
Preterm labor	72	34
Chorioamnionitis (bacterial infection)	24	11
No prenatal care	21	10
Cervical insufficiency	23	11
Drugs and/or alcohol use	12	6
*More than one factor may have been identified for each death		

It is not always possible to determine if any one of these prematurity deaths was specifically preventable. However, this information clearly shows there are areas prevention efforts can target to improve birth outcomes for groups at higher risk.

SUDDEN UNEXPLAINED AND SLEEP RELATED DEATHS

Sudden Unexplained Infant Death (SUID)

According to the Centers for Disease Control and Prevention (CDC) sudden unexplained infant deaths (SUID) are those fatalities occurring in an infant younger than one year of age abruptly and unexpectedly. Their cause of death is not immediately detectable prior to investigation. After conducting a complete autopsy, an examination of the death scene and a review of the clinical history, a determination of a SUID may occur.

Before the SUID designation was established, many of these deaths were called Sudden Infant Death Syndrome (SIDS). SIDS is a type of SUID when no other cause of death is determinable even after a thorough examination that may include review of the medical history, an autopsy and a scene investigation. For the most part, medical examiners across the United States are moving away from the use of SIDS as a cause of death on the death certificate. The alternative is to call the death undetermined. "Undetermined" typically means the team was unable to rule out enough possibilities for the manner of death to agree the death was SIDS and could not determine a clear cause of death. However, some county medical examiners still use SIDS as a cause of death classification and write it on the death certificate. The change to the use of SUID occurred after investigators uncovered a broader range of explanations for each death in addition to SIDS. Other types of SUID include infant deaths due to suffocation, asphyxia, poisoning, undetected medical disorders, hypothermia and hyperthermia. For these deaths, manner and cause of death may not be immediately obvious prior to the investigation or the team's review.

In 2012, Arizona's Child Fatality Review State Team established a SUID Committee to review all unexplained or unexpected infant deaths following reviews at the local team level. Prior to the SUID committee's process, the local teams started using guidelines that are more stringent before classifying a death as SIDS or undetermined. This caused a slight decrease in the number of fatalities classified as SIDS; while at the same time there was a significant increase in the number of deaths classified as undetermined.

Scene Investigation

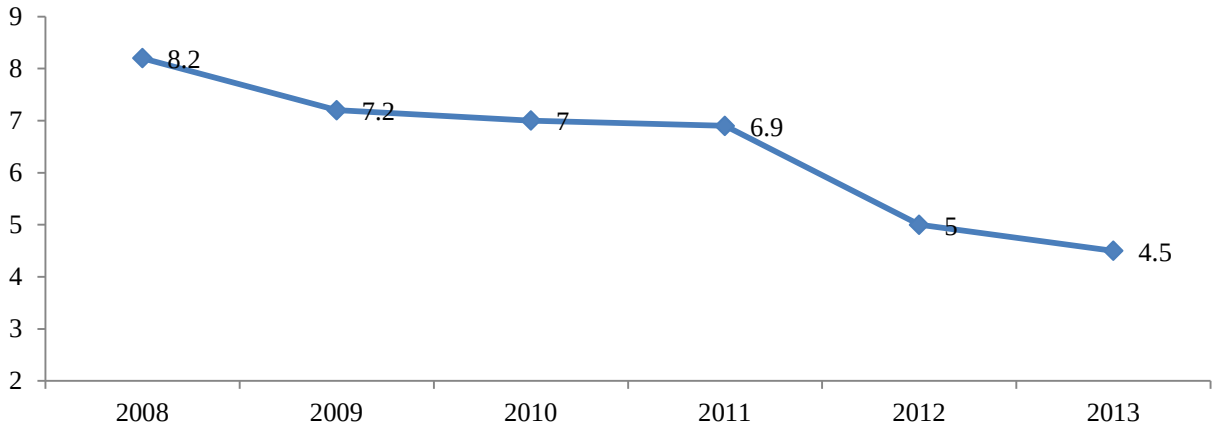
A systematic death scene investigation is vital in order to identify a SUID correctly. In 2013, Arizona law enforcement officials conducted scene investigations in 60 SUID cases (81 percent), and 99 percent of the deaths were referred to a Medical Examiner or hospital physician for review. These numbers demonstrate progress in educating law enforcement and death scene investigators on best practices for completing infant death scene investigations, but more training is needed. In several SUID cases the infant death checklist was either missing or there were errors in the information written on the checklist, including misinformation about the infant's sleep position and the description of the sleep environment. These situations can also lead to disagreement between investigative authorities causing difficulties in determining the final cause and manner of death. A more thorough and complete investigation can help lower potential disagreement between these authorities and the review teams when determining the final cause of death and further reduce the number of cases having an unknown cause of death.

Findings

Although, SUID rates have declined by 45 percent since 2008 and the number of SUIDs decreased from 81 in 2012 to 74 in 2013, their percentage among overall child deaths remains high at nine percent (Figure 13). Of these fatalities the race/ethnicity group most impacted by SUIDs in 2013 are White/Non-

Hispanic children accounting for 46 percent of the deaths (n=34). Hispanic children accounted for 30 percent (n=22), African Americans for 15 percent (n=11) and American Indians for eight percent (n=6).

Figure 13. Mortality Rate due to Sudden Unexplained Infant Death per 100,000 Children, Arizona, 2008-2013



Prevention

Local review teams determined 67 of these 74 SUID deaths were preventable (89 percent). Of the major causes of SUIDs in Arizona the most common cause was suffocation (61 percent, n=45) (Table 14).

Table 14. Number and Percentage of Sudden Unexpected Infant Deaths by Cause, Arizona, 2013 (n=74)

Cause	Number	Percent
Suffocation	45	61
Undetermined	25	34

An unsafe sleep environment was the preventable factor associated with the majority of SUID deaths; it was connected to 65 of the 74 SUID fatalities in 2013 (88 percent) (Table 15). Under the umbrella of unsafe sleep, there are a number of additional risk factors contributing to each death. These include co-sleeping and rollovers (when a parent accidently rolls over on top of the child while in bed). Thirty-four infants died while co-sleeping (bed sharing with adults and/or other children). Among co-sleeping deaths associated with the parent's use of substances, three infants were known to have had a crib available within the home. Twenty-nine infants died while sleeping in an adult bed, five died sleeping on a couch/futon, four died while sleeping in a car seat and 28 died while sleeping on their side or stomach.

Table 15. Preventable Factors for Sudden Unexpected Infant Deaths, Arizona, 2013

Factor*	Number	Percent
Unsafe sleep environment	65	88
Drugs and/or alcohol	10	14
*More than one factor may have been identified for each death		

Education and safety information best address preventable factors including those that may be part of cultural norms, such as co-sleeping. Therefore, the increased knowledge and practice of safe sleep techniques increases the likelihood of preventability, because it minimizes the danger to infants.

To prevent a sudden unexplained infant death the American Academy of Pediatrics (AAP) recommends ensuring safe sleep environments for infants include: *(also on page 17)*

- **Safe Sleep Practices**
  - Always place babies to sleep on their backs during naps and at nighttime. Because babies sleeping on their sides are more likely to accidentally roll onto their stomach, the side position is just as dangerous as the stomach position.
  - Avoid letting the baby get too hot. The baby could be too hot if you notice sweating, damp hair, flushed cheeks, heat rash, and rapid breathing. Dress the baby lightly for sleep. Set the room temperature in a range that is comfortable for a lightly clothed adult.
  - Consider using a pacifier at naptime and bed time. The pacifier should not have cords or clips that might be a strangulation risk.
- **Safe Sleep Environment**
  - Place your baby on a firm mattress, covered by a fitted sheet that meets current safety standards. For more about crib safety standards, visit the Consumer Product Safety Commission's Web site at www.cpsc.gov.
  - Place the crib in an area that is always smoke free.
  - Don't place babies to sleep on adult beds, chairs, sofas, waterbeds, pillows, or cushions.
  - Toys and other soft bedding, including fluffy blankets, comforters, pillows, stuffed animals, bumper pads, and wedges should not be placed in the crib with the baby. Loose bedding, such as sheets and blankets, should not be used as these items can impair the infant's ability to breathe if they are close to his face. Sleep clothing, such as sleepers, sleep sacks, and wearable blankets are better alternatives to blankets.

MOTOR VEHICLE CRASHES AND OTHER TRANSPORT FATALITIES

Deaths from motor vehicle and transport crashes remain a leading cause of death for children aged 10 years and older in the United States and still account for ten percent (n=80) of all child deaths in Arizona. However, effective prevention efforts have reduced the overall number of fatalities. Since 2008, the rate of motor vehicle crash (MVC) fatalities alone has been reduced by 26 percent (Figure 14), and the rate of MVC fatalities combined with other transport deaths saw a nine percent decrease between 2012 and 2013 (Figure 15).[v]

Figure 14. Mortality Rate Due to Motor Vehicle Crashes per 100,000 Children, Arizona, 2008-2013

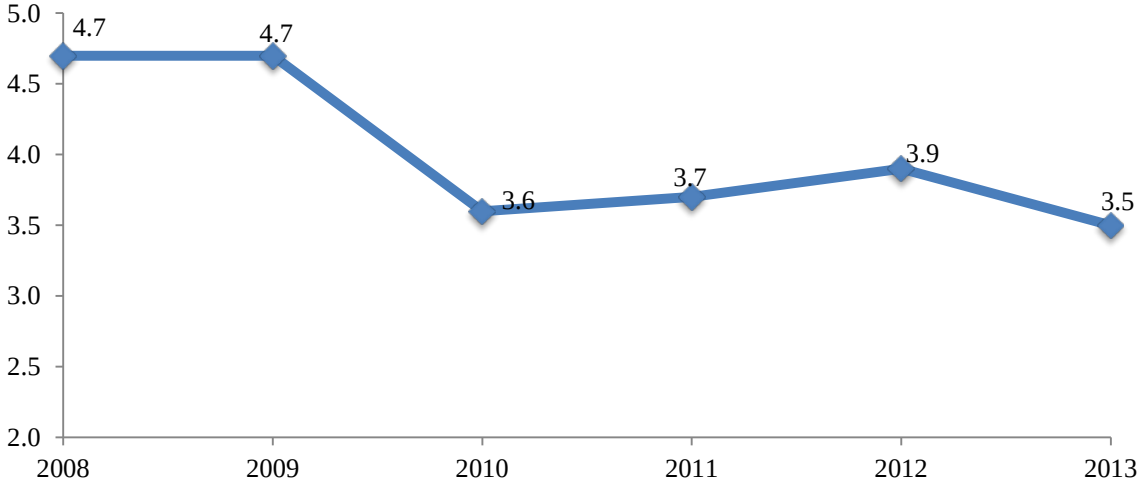
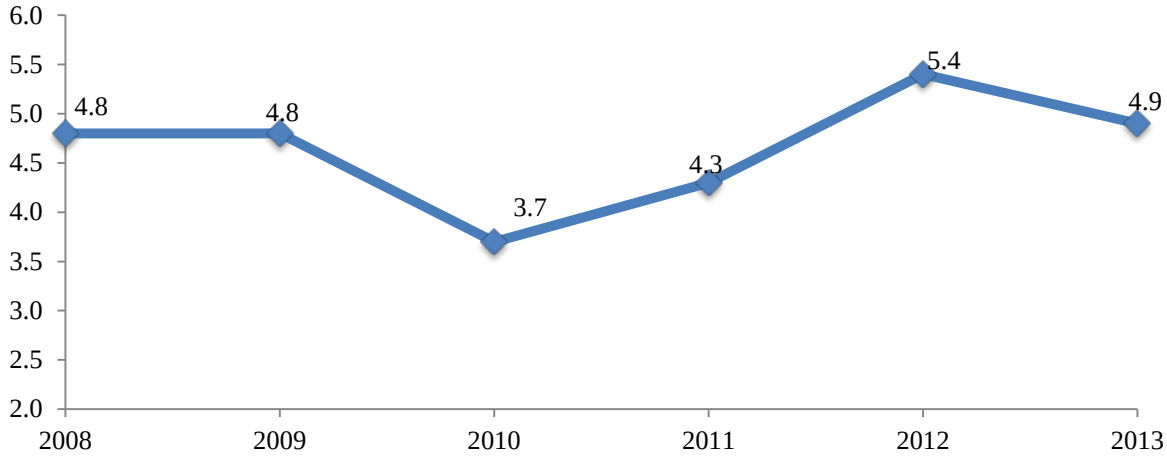


Figure 15. Mortality Rate Due to Motor Vehicle Crashes and Other Transport per 100,000 Children, Arizona, 2008-2013



Prevention

Local teams determined that 100 percent of the 80 MVC and transport fatalities were preventable. 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

[v] 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.

children, as they represent a higher percentage of deaths when compared to their percentage of the Arizona child population (Figure 16, Table 16).

Figure 16. Percentage of Motor Vehicle and Other Transport Deaths by Race/Ethnicity, Compared to Populations, Arizona, 2013

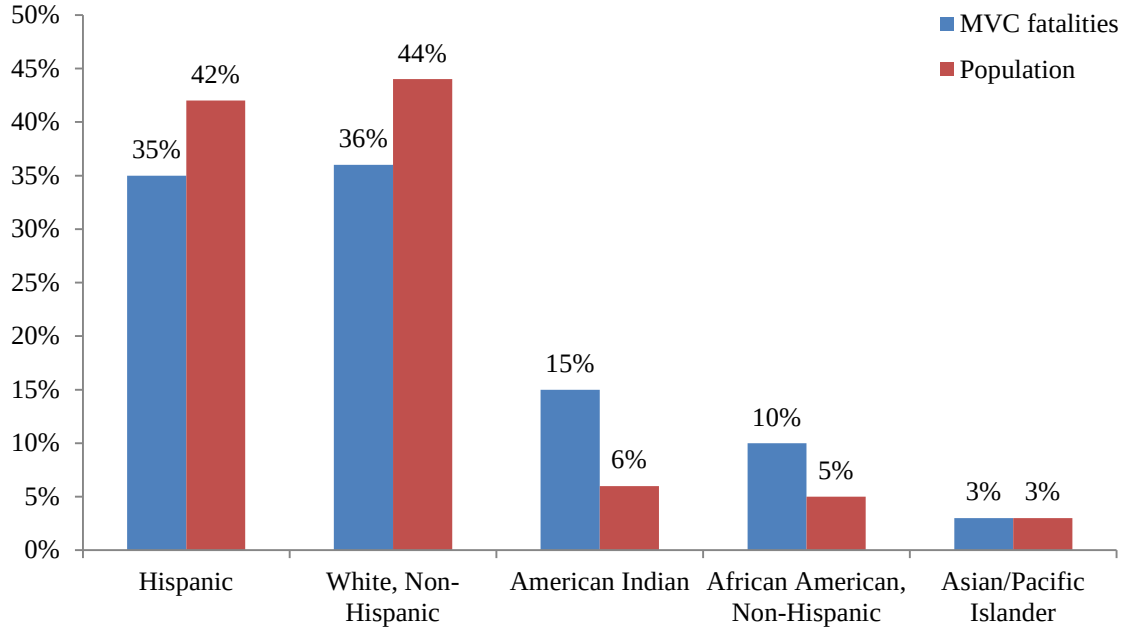
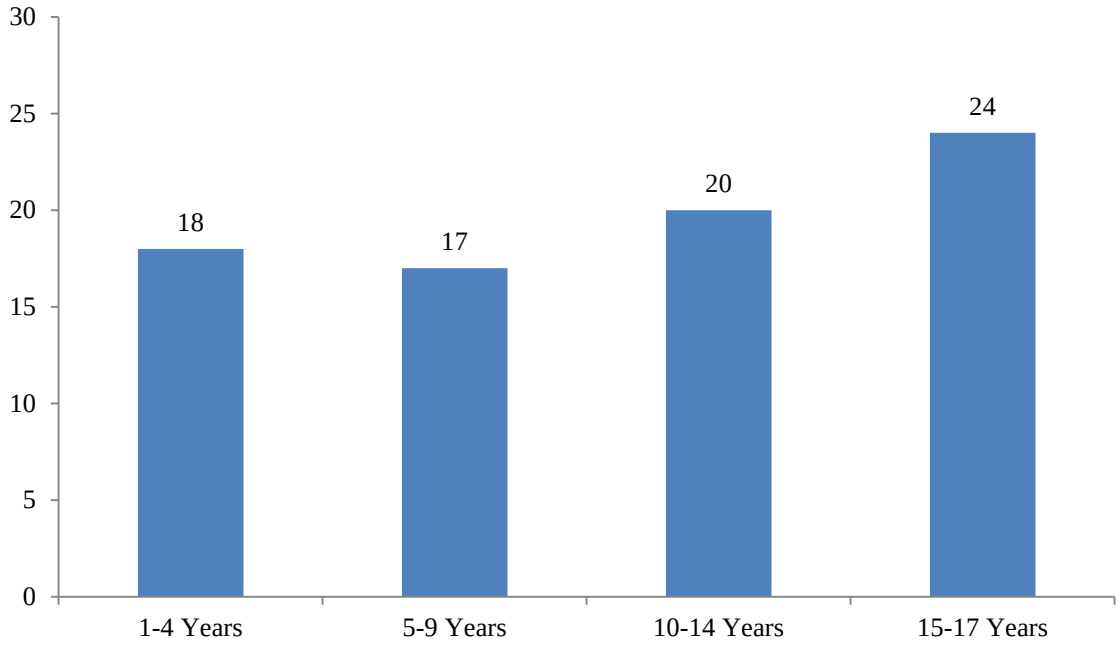


Table 16. Number and Percentage of Motor Vehicle and Other Transport Deaths Among Children by Race/Ethnicity, Arizona, 2008-2013

Race/Ethnicity	2008		2009		2010		2011		2012		2013	
American Indian	15	18%	10	12%	11	18%	13	19%	18	21%	12	15%
Hispanic	36	44%	37	45%	26	43%	28	40%	32	36%	28	35%
White, non-Hispanic	26	32%	31	38%	20	33%	24	34%	29	33%	29	36%
Other	5	6%	4	5%	4	6%	5	7%	9	10%	11	14%
Total	82		82		61		70		88		80	

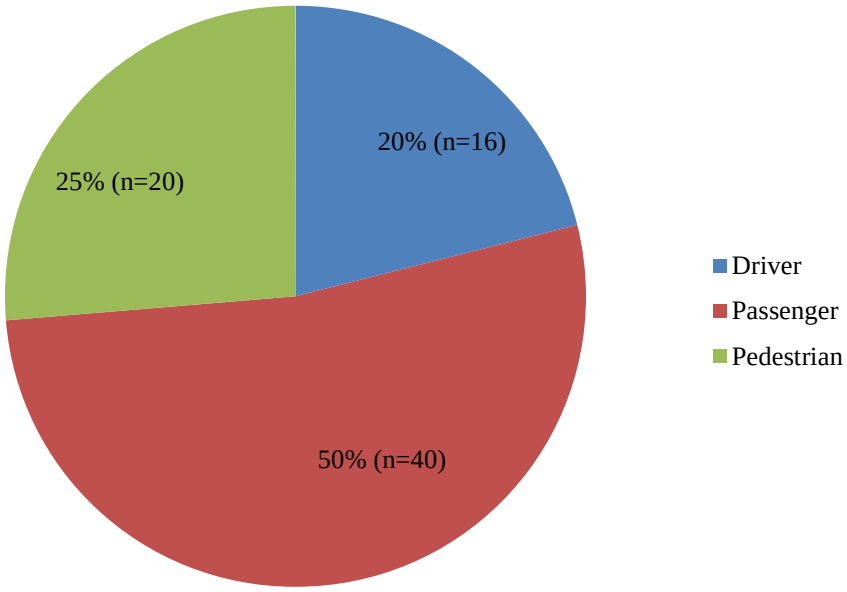
Another group at risk are those youth aged 10 to 17 years who made up over 40 percent of all MVC and transport fatalities (Figure 17). In addition, the specific age group with the highest percentage of deaths are those aged 15 to 17 years (30 percent, n=24), although since 2012 there was a 13 percent decrease for deaths in this age group.

Figure 17. Number of Motor Vehicle and Other Transport Deaths by Age Group, Arizona, 2013 (n=80)



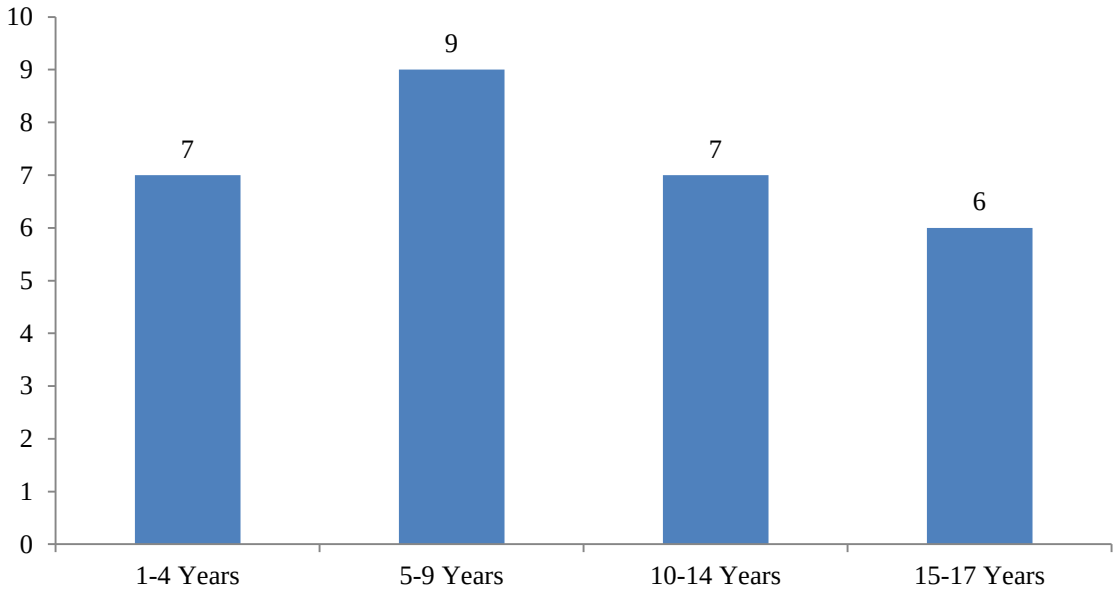
Of the 80 children who died in motor vehicle crashes and other types of transportation, 56 children were vehicle occupants, 20 children were pedestrians and three children were riding bicycles. Among the 56 motor vehicle occupant fatalities, 16 children were drivers and 40 were passengers. Among the passenger deaths, ten children were seated in the vehicle's front seat and 18 children were seated in the back seat. In nine child fatalities, the seating position within the vehicle was unknown.

Figure 18. Number and Percentage of Motor Vehicle Crash Deaths by Occupant Position, Arizona, 2013 (n=80)



In addition, 30 children were known to have been improperly or unrestrained in vehicles (38 percent) (Figure 19). When looking at risk factors, the highest number of transport related deaths were due to improper restraining (Table 17). This indicates although child safety restraint laws have reduced the number of motor vehicle crash fatalities further prevention efforts are needed.

Figure 19. Number of Motor Vehicle and Other Transport Deaths with Improper or Unknown Restraint Use by Age Group, Arizona, 2013 (n=30)



A number of other preventable risk factors are also associated with transport related deaths including speeding, reckless driving, driver inexperience, driver distraction (specifically texting while driving) and substance use. Each of these factors is 100 percent avoidable and best addressed through the continuation of targeted awareness and education efforts to the most at risk populations.

Table 17. Preventable Factors for Transportation-Related Deaths Among Children, Arizona, 2013

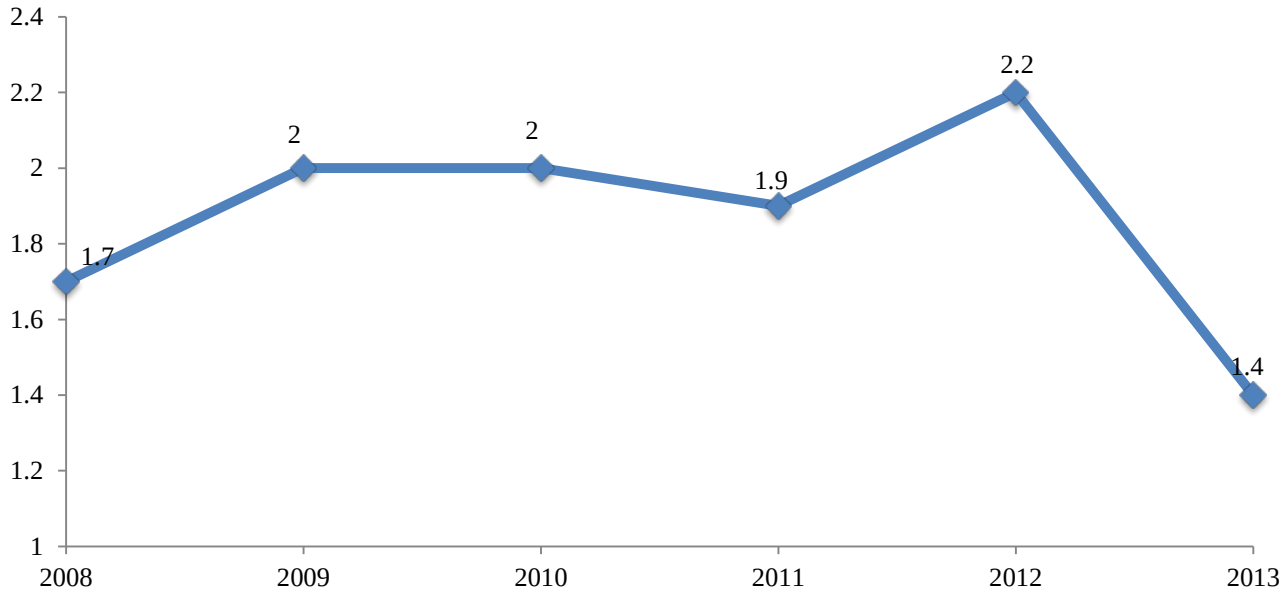
Factor*	Number	Percent
Lack of vehicle restraint	30	38
Excessive driving speed	26	33
Reckless driving	25	31
Drugs and/or alcohol	13	16
Driver inexperience	17	21
Driver distraction	10	13
Lacking helmet	9	11
Red light running/Driver fatigue	7	9

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

DROWNING

Drowning accounted for 23 child deaths and three percent of all child deaths in Arizona. The overall rate of drowning fatalities decreased dramatically by 36 percent (Figure 20) between 2012 and 2013.[vi]

Figure 20. Mortality Rate due to Drowning per 100,000 Children, Ages 0-17, Arizona, 2008-2013



Prevention

In 2013, review teams determined 100 percent of all 23 child-drowning fatalities were preventable. There are three main preventable factors associated with child drowning in Arizona (Table 18). Lack of supervision was the most commonly identified factor in 96 percent of drowning deaths (n=22), followed by access to water at 87 percent (n=20) and substance use at 13 percent.

Table 18. Preventable Factors for Child Drowning, Arizona, 2013

Factor*	Number	Percent
Lack of supervision	22	96
Access to water	20	87
Drugs and/or alcohol	<6	13

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

The group at highest risk of drowning are children aged one to four (Table 19) accounting for 83 percent of drowning deaths in 2013 (n=19), an increase from the previous year.

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

Table 19. Number and Percentage of Drowning Deaths Among Children by Age Group, Arizona, 2008- 2013												
Age Group	2008		2009		2010		2011		2012		2013	
0-27 Days	0	0%	0	0%	0	0%	0	0%	0	0%	<6	<1%
28-365 Days	1	3%	3	9%	2	6%	3	9%	4	11%	<6	<1%
1-4 Years	25	87%	24	68%	22	67%	18	56%	18	50%	19	83%
5-9 Years	2	7%	3	9%	4	12%	7	22%	5	14%	<6	4%
10-14 Years	0	0%	1	3%	2	6%	2	6%	4	11%	<6	<1%
15-17 Years	1	3%	4	11%	3	9%	2	6%	5	14%	<6	13%
Total	29		35		33		32		36		23	

Seventy-nine percent (n=18) of children drowned in a pool, hot tub or spa. The second most prevalent place was in open bodies of water (Table 20).

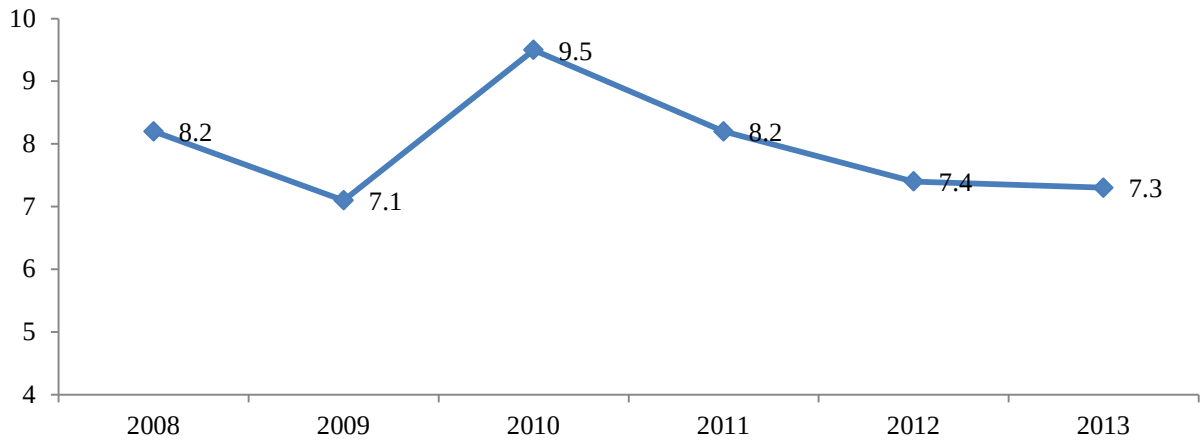
Table 20. Location of Child Drowning Fatalities, Arizona, 2013 (n=23)		
Location	Number	Percent
Pool/hot tub/spa	18	79
Open water/Other	<6	21

Drowning deaths have dramatically decreased over the last year, however, the increase in fatalities to children aged 1-4 (Table 19) shows a continued need for improvements in pool safety that include limiting access and reinforcing barriers. Lack of supervision is the leading risk factor in drowning deaths, so prevention efforts need to continue the promotion of proper supervision of young children around water and interventions such as “touch supervision.” This is a technique where proper supervision of a young non-swimmer requires the supervising adult to be within an arm’s length to provide “touch supervision.”

HOME SAFETY-RELATED DEATHS

Home safety-related deaths accounted for 15 percent (n=120) of all Arizona child fatalities in 2013, although this number has steadily gone down since 2010 (Figure 21). These are fatalities taking place in or around home environments (e.g. bedroom, driveway, yard, etc.) and categorized as accidental or undetermined. *Note: excluded from this category are deaths categorized as suicide, homicide or natural.*

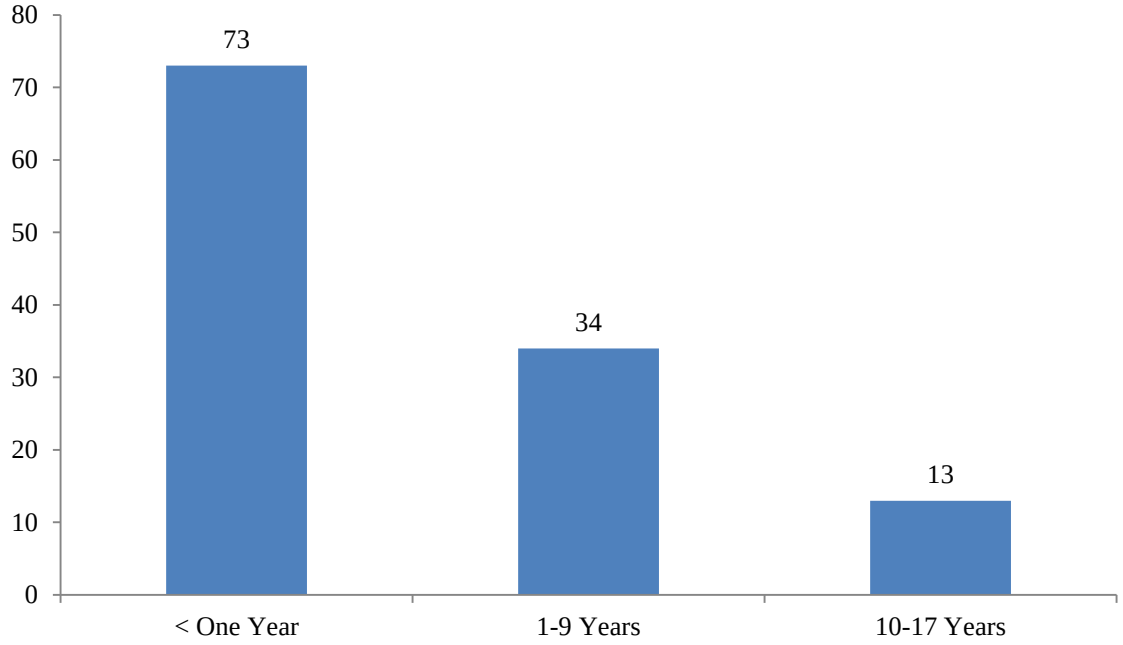
Figure 21. Mortality Rate due to Home Safety-Related Deaths per 100,000 Children, Ages 0-17, Arizona, 2008-2013



Prevention

In 2013, a child's gender, race, ethnicity and age put them at increased risk for a Home-Safety Related death. Males experienced the highest burden of the deaths at 68 percent (n=81) versus 32 percent of females (n=39). White/Non-Hispanic and Hispanic children accounted for three quarters of the fatalities with 50 deaths occurring among White/Non-Hispanic children (42 percent); 40 among Hispanic children (33 percent), 12 among American Indian children (ten percent) and 13 among African American children (11 percent). Children aged four and younger made up 88 percent of the fatalities in this category (n=106). In this age group over half of the deaths were infants less than one year (61 percent, n=73) (Figure 22).

Figure 22. Number of Home Safety Related Deaths Among Children by Age Group, Arizona, 2013



The most common cause of death in or around the home was suffocation accounting for 40 percent of fatalities (n=48) followed by 32 undetermined deaths (27 percent) and 15 drowning incidents at home (13 percent) (Table 21).

Table 21. Number and Percentage of Child Deaths In or Around the Home by Cause, Arizona, 2013 (n=120)

Cause	Number	Percent
Suffocation	48	40
Undetermined	32	27
Drowning	15	13
Motor Vehicle Crash	8	6
Poisoning	8	6
Other injury	9	8

The most commonly identified preventable factors were lack of supervision (56 percent, n=67), unsafe sleep environments for infants (49 percent, n=59) and substance use (43 percent, n=51) (Table 22).

Table 22. Preventable Factors for Child Deaths In or Around the Home, Arizona, 2013

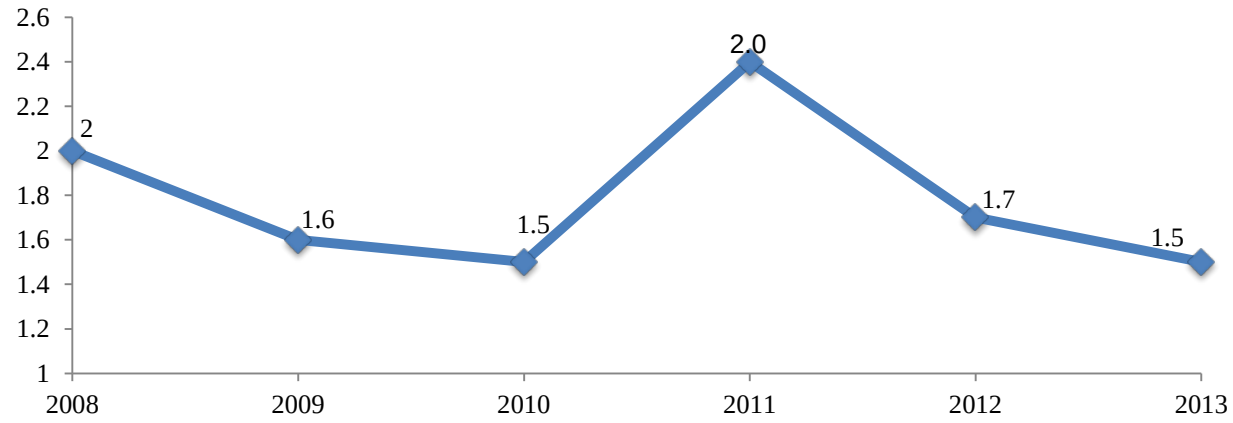
Factor*	Number	Percent
Lack of supervision	67	56
Unsafe sleep environment	59	49
Substance use	51	43
Access to water	13	11

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

SUICIDES

In 2013, there were 25 suicides among children in Arizona, which accounted for three percent of all child deaths this was a one percent reduction from 2012. This also continued a relative five-year downward trend in the overall child suicide rate in Arizona (Figure 23).[vii]

Figure 23. Mortality Rates due to Suicide per 100,000 Children, Arizona, 2008-2013



Looking at the number of suicides among children by gender, age, race and ethnicity shows males made up more than half of the suicides (males, 64 percent, n=16 vs. females, 36 percent, n=9). The distribution of suicide by race/ethnicity varies year by year. In 2013, White/Non-Hispanic and Hispanic children were almost equal in distribution accounting for approximately 70 percent of suicide deaths (Table 23).

Table 23. Number and Percentage of Suicides Among Children by Race/Ethnicity, Arizona, 2008-2013

Race/Ethnicity	2008		2009		2010		2011		2012		2013	
American Indian	6	17%	5	19%	6	25%	7	18%	9	27%	<6	20%
Hispanic	9	26%	12	44%	8	33%	10	26%	5	15%	8	32%
White/Non-Hispanic	18	51%	9	33%	9	38%	19	49%	17	52%	9	36%
Other	2	6%	1	4%	1	4%	3	7%	-	-	<6	8%
African American	-	-	-	-	-	-	-	-	2	6%	<6	4%
Total	35		27		24		39		33		25	

Youth ages 15 through 17 years remained at highest risk with 68 percent (n=17) of suicides followed by children 10 through 14 years of age (32 percent, n=8). This distribution of suicides by age group has remained consistent since 2008, with the larger proportion of child suicides occurring with children 15 through 17 years of age (Table 24).

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

Table 24. Number and Percentage of Suicides Among Children by Age Group, Arizona, 2008-2013												
Age Group	2008		2009		2010		2011		2012		2013	
<10 Years	0	0%	0	0%	0	0%	1	3%	0	0%	<6	<1%
10-14 Years	9	26%	3	11%	9	37%	13	33%	9	27%	8	32%
15-17 Years	26	74%	24	89%	15	63%	25	64%	24	73%	17	68%
Total	35		27		24		39		33		25	

Causes of death for suicides included hanging (64 percent) followed by firearm injuries (28 percent). Objects used for hanging suicides included belts, rope, strings and electrical cords.

Prevention

As with other categories of death, understanding the circumstances and events leading up to the suicide aids in developing appropriate interventions for future prevention efforts. Several factors identified by local teams may have contributed to the child's despondency prior to the suicide. The most common factors of note were that seven children were known to have been victims of bullying (28 percent); eight cases had a history of drug/alcohol use by the child (32 percent) and eight children (32 percent) identified as having a history of family discord prior to suicide (Table 25).

Table 25. Factors That May Have Contributed to the Child's Despondency Prior to Suicide, Arizona, 2013	
Factor*	Percent
History of drug/alcohol use	32
History of family discord	32
Victim of bullying	28
History/recent break-up	20
Argument with parent	12
History of suicide within the family	12
History of parent divorce	12
Argument with boyfriend or girlfriend	12
Failure in school	10
Death in the family	10
History of issues related to sexual orientation	10
History of physical abuse	5
History of sexual abuse	5
History of problems with the law	<1
*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 22 child suicides were preventable (88 percent). Of the top preventable factors for child suicides, the use of drugs was the most commonly identified (48 percent, n=12) followed by alcohol use (12 percent, n=3) (Table 26).

Table 26. Preventable Factors for Child Suicides, Arizona, 2013

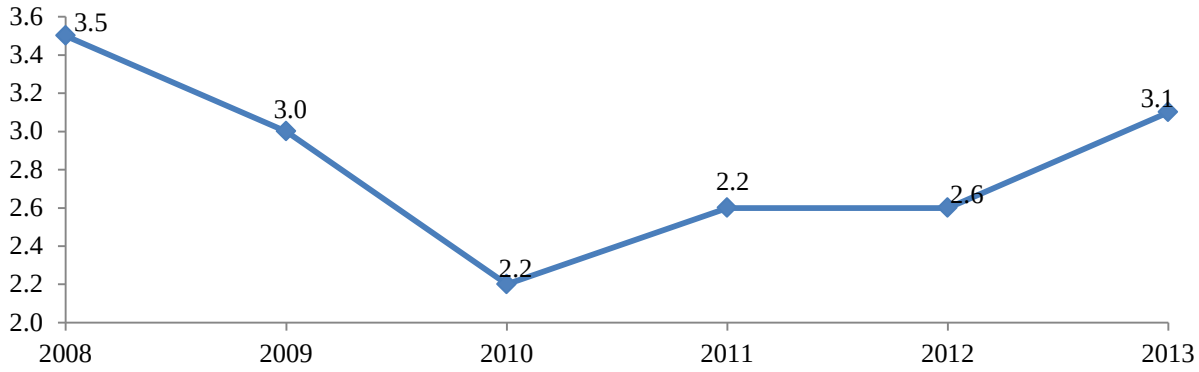
Factor*	Number	Percent
Drug use	12	48
Alcohol use	3	12

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

HOMICIDES

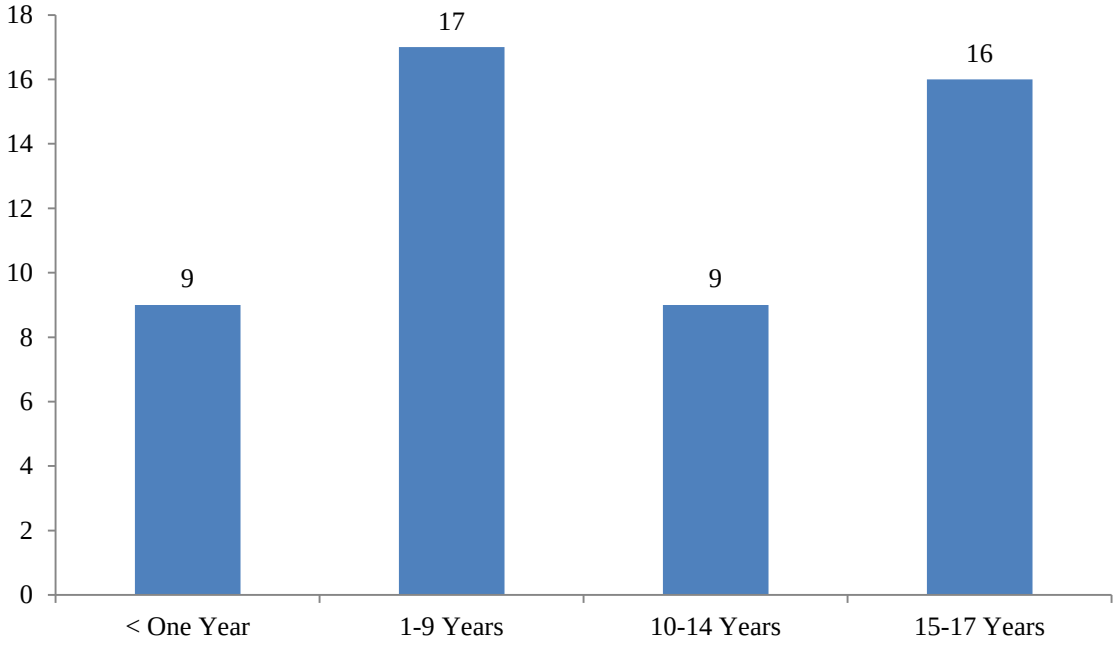
In 2013, fifty-one children were victims of homicide in Arizona accounting for six percent of all child deaths that year. The rate for child homicides rose by 19 percent between 2012 and 2013 (Figure 24).[viii]

Figure 24. Mortality Rate due to Homicides per 100,000 Children, Arizona, 2008-2013



Males accounted for the majority of homicides in 2013 (male, 69 percent n=35 vs. female, 31 percent, n=16). Hispanic children experienced the highest number of child homicides accounting for 45 percent of deaths (n=23) followed by 27 percent among White/non-Hispanics (n=14), 18 percent and ten percent, respectively, among American Indian (n=9) and the remaining were African American, Asian/Pacific Islander/Hawaiian and children of two or more races.

Figure 25. Number of Homicides Among Children by Age Group, Arizona, 2013 (n=51)



The number of homicides in some age groups has remained consistent since 2008 with an overall downward trend. However, from 2012 to 2013 the number of homicides for children ages 28-365 days

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

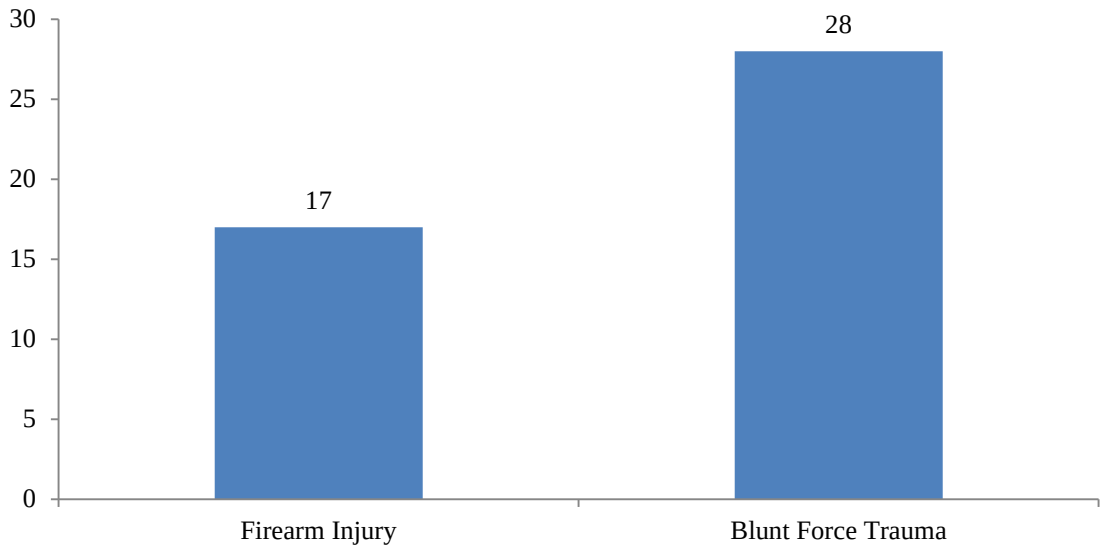
and 1-4 years decreased while children aged 10-17 years experienced a marked increase in the number of homicides (Table 27).

Table 27. Number and Percentage of Homicides Among Children by Age Group, Arizona, 2008-2013												
Age Group	2008		2009		2010		2011		2012		2013	
0-27 Days	1	2%	3	6%	1	3%	1	2%	2	5%	<6	4%
28-365 Days	14	23%	7	14%	8	22%	12	29%	10	23%	7	14%
1-4 Years	7	12%	12	24%	6	16%	12	29%	17	40%	16	31%
5-9 Years	2	3%	5	10%	6	16%	4	9%	3	7%	<6	2%
10-14 Years	6	10%	4	8%	4	11%	2	5%	2	5%	9	18%
15-17 Years	30	50%	20	39%	11	31%	11	26%	9	21%	16	31%
Total	60		51		36		42		43		51	

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 2013 blunt force trauma remained the leading cause of death among child homicides (55 percent, n=28), rising almost ten percent from 2012, followed by firearm injuries (33 percent, n=17) (Figure 26).

Figure 26. Number of Homicides Among Children by Cause of Death, Arizona, 2013 (n=51)



In 31 percent of child homicides, the biological parent of the child was the perpetrator. The mother's partner was responsible for 20 percent. In 12 percent, the perpetrator was an acquaintance of the child or a stranger. Teams were unable to identify the nature of the relationship between the perpetrator and the child in 13 percent of the deaths (Table 28).

Table 28. Homicides Among Children by Perpetrator, Arizona, 2013 (n=51)		
Perpetrator*	Number	Percent
Biological Parent	16	31
Mother's Partner	10	20
Unknown/Other	13	13
Acquaintance	<6	6
Stranger	<6	6
Other Relative	<6	4
Friend	<6	4
Adoptive Parent	<6	2
Babysitter	<6	2
*Perpetrator may fall into more than one category for each death		

One hundred percent of child homicides were determined to have been preventable (n=51) (Table 28). Drugs were associated with the highest percentage of homicides, followed by lack of supervision and alcohol. These remained the top three preventable risk factors in child homicides (Table 29).

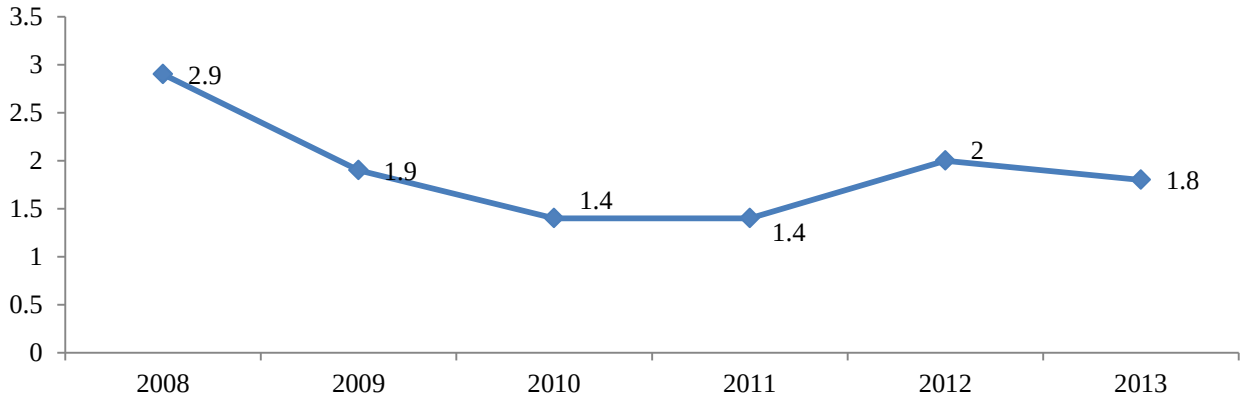
Table 29. Preventable Factors for Child Homicides, Arizona, 2013		
Factors*	Number	Percent
Drugs	27	53
Lack of supervision	15	29
Alcohol	11	22
*More than one factor may have been identified for each death		

FIREARM-RELATED FATALITIES

There were 29 firearm-related fatalities in 2013, compared to 32 in 2012. The percentage of firearm-related deaths for the year remained at four percent. The overall rate for firearm-related deaths has remained on a downward trend since 2008 with only a slight increase in 2012 and then decreasing again in 2013 (Figure 27).[ix]

The number of males dying from firearm-related fatalities is much higher than the number of females; 83 percent of firearm-related deaths in 2013 were among males and the remaining 17 percent were among females. Hispanic children were most affected representing 52 percent of firearm fatalities, followed by White/Non-Hispanic children at 31 percent, African American children at seven percent and three percent among American Indian children.

Figure 27. Mortality Rate due to Firearms per 100,000 Children, Ages 0-17, Arizona, 2008-2013



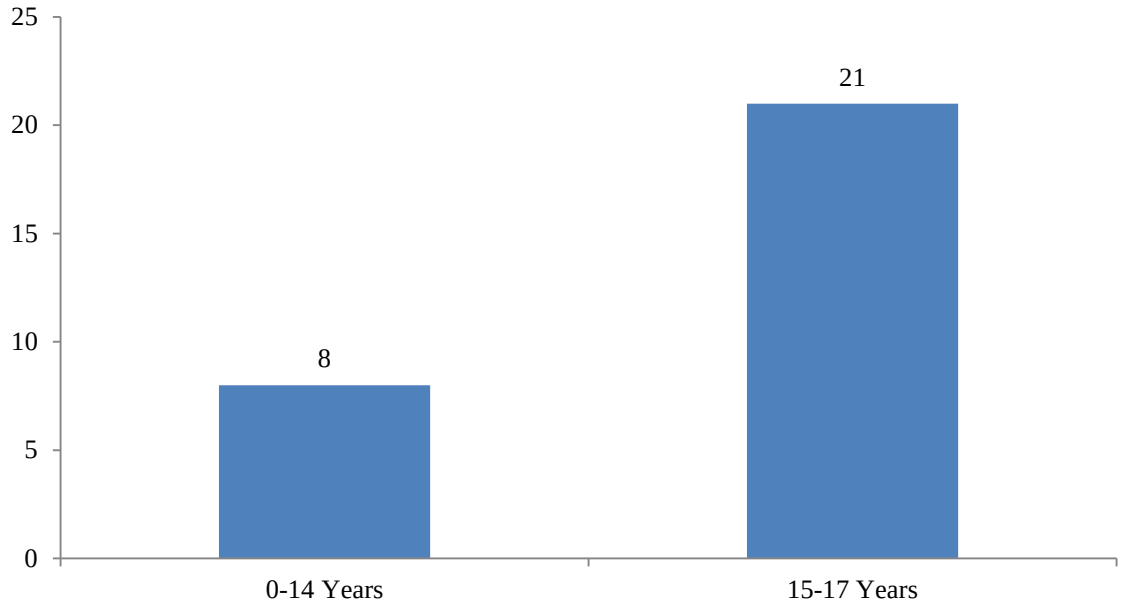
In 2013, children aged 15-17 years accounted for twenty-one firearm-related deaths (73 percent) (Table 30).

Table 30. Number and Percentage of Firearm-Related Deaths Among Children by Age Group, Arizona 2008-2013

Age Group	2008		2009		2010		2011		2012		2013	
<10 Years	5	10%	8	25%	7	32%	5	22%	6	19%	<6	10%
10-14 Years	7	14%	1	3%	8	36%	3	13%	4	13%	<6	17%
15-17 Years	37	76%	23	72%	7	32%	15	65%	22	69%	21	73%
Total	49		32		22		23		32		29	

[ix] For all tables in the Firearm-related Fatalities section, 2013 data with a count less than six are denoted as <6 and are suppressed due to concern with individual identification.

Figure 28. Number of Firearm-related Deaths Among Children by Age Group, Arizona, 2013 (n=29)



Suicides and homicides accounted for 83 percent of firearm-related deaths in 2013. Seven firearm-related deaths were a result of suicide (24 percent) and 17 firearm-related deaths were homicides (59 percent).

Handguns accounted for 75 percent of the firearm-related fatalities in 2013 (n=24) (Table 31).

Table 31. Types of Firearms Involved in Child Deaths, Arizona, 2013 (n=29)

Type	Number	Percent
Handgun	24	75
Other	<6	25

When reviewing cases to see who owned the firearm used in the fatality incident the category showing the greatest percentage was a biological parent (28 percent). The other category includes a variety of other individuals including acquaintances, mother's partner, friend, etc.

Table 32. Owners of Firearms Involved in Child Deaths, Arizona, 2013 (n=29)

Owner	Percent
Biological Parent	28
Other (e.g. acquaintance, mother's partner)	72
*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 (31 percent, n=9). Nine of the firearms were not stored in secured locations (31 percent).

Table 33. Locations of Firearms Involved in Child Deaths, Arizona, 2013 (n=29)		
Location	Number	Percent
Unknown	9	31
Other	8	28
Not Stored	9	31
Other	<6	9

Prevention

Local teams determined 97 percent of the firearm-related child deaths were preventable (n=28). Of the preventable risk factors for firearm-related deaths, drug and alcohol use were associated with 75 percent of deaths. Drug use was involved in 27 deaths (53 percent) and alcohol use factored into 11 deaths (22 percent). Lack of supervision contributed to 15 deaths (29 percent), and gang involvement was a factor in two firearm-related deaths (four percent) (Table 34).

Table 34. Preventable Factors for Firearm-Related Deaths Among Children, Arizona, 2013		
Factor*	Number	Percent
Drug use	27	53
Alcohol use	11	22
Lack of supervision	15	29
*More than one factor may have been identified for each death		

MALTREATMENT FATALITIES

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 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. CFR will report 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.

Findings

Maltreatment deaths made up 12 percent of all Arizona child fatalities in 2013. There was a 22 percent increase in maltreatment deaths from 70 in 2012 to 92. Males represented 62 percent of the maltreatment deaths, (n=57) versus 38 percent among females (n=35). Thirty-seven percent of children who died due to maltreatment were Hispanic (n=34); 29 percent were White/Non-Hispanic (n=27); 16 percent were American Indian (n=15); 12 percent were African American (n=11) and four percent were of two or more races.

Children birth to four years of age accounted for 80 percent of maltreatment deaths in 2013 (n=73) (Figure 29).

Figure 29. Number of Maltreatment Deaths Among Children by Age Group, Arizona, 2013 (n=92)

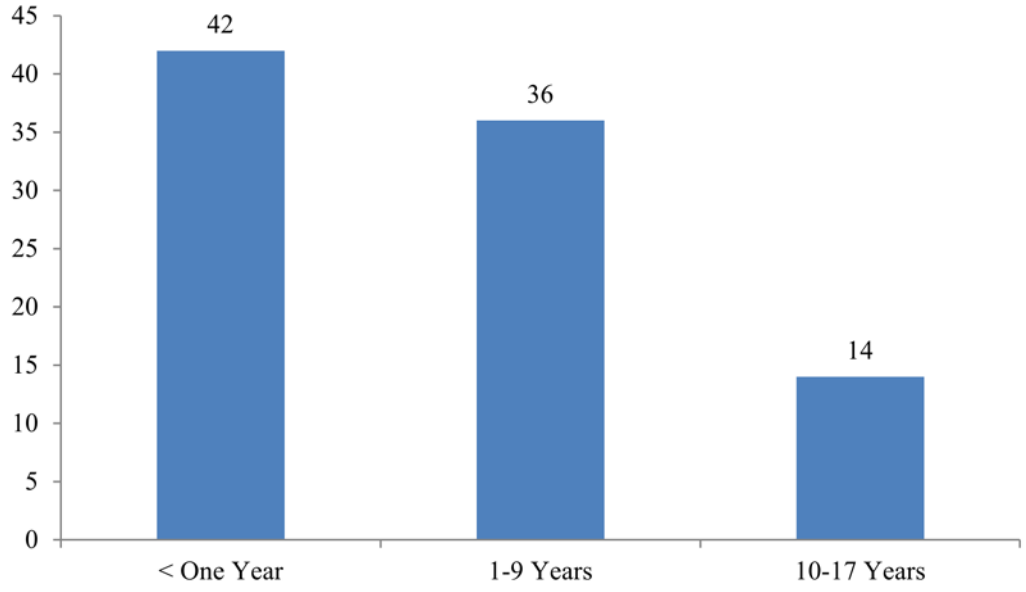
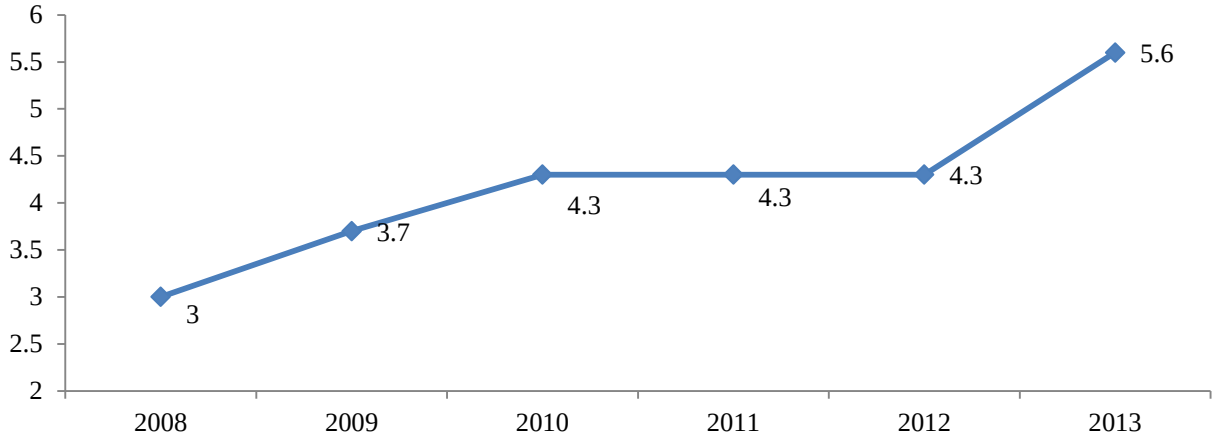


Figure 30. Mortality Rates due to Maltreatment per 100,000 Children, Arizona, 2008-2013



There was an 87 percent increase in mortality rates due to maltreatment from 2008 to 2013. From 2012 to 2013 the mortality rate jumped 30 percent from 4.3 deaths per 100,000 children to 5.6 deaths per 100,000 children (Figure 30). Accidents were the leading manner of death for maltreatment fatalities in Arizona (41 percent, n=38). This was followed closely by homicides which made up 37 percent of the deaths (n=34). Accidental maltreatment-related child deaths include unintended injuries or severe neglect due to drug/alcohol abuse by a caregiver. Twelve percent of maltreatment deaths were due to a natural manner (n=11) (Figure 31).[x] 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 31. Number and Percentage of Maltreatment Deaths Among Children by Manner, Arizona, 2013 (n=92)

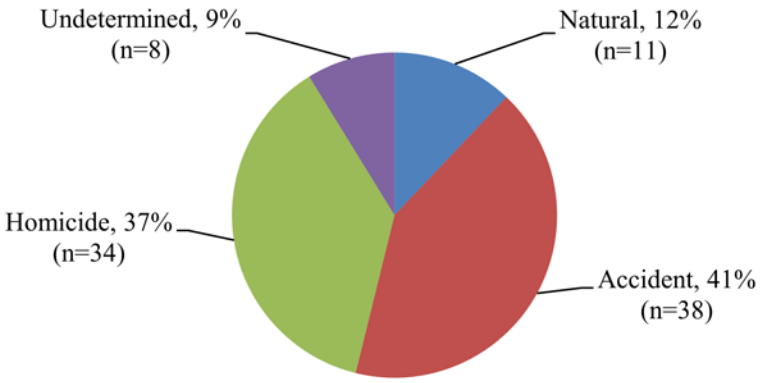


Table 35. Maltreatment Deaths Among Children by Top Three Causes of Death, Arizona, 2013 (n=92)	
Cause	Total
Blunt/sharp Force Trauma	25
Suffocation	14
Motor Vehicle Crash	13

[x] Note: Figure 31 excludes one case.

Blunt/sharp force trauma, suffocation, and motor vehicle crashes were the leading causes of maltreatment-related deaths among children in Arizona (57 percent, n=52) (Table 35). Child abuse was the leading act causing 35 percent of maltreatment deaths (n=32) with child neglect and other negligence accounting for 30 percent (n=28).

The primary perpetrator in 47 percent of maltreatment deaths was the child's mother (n=43). This was followed by 27 percent where the perpetrator was the child's father (n=25) and the mother's partner accounted for 12 percent of the deaths (n=11).

Table 36. Number and Percentage of Maltreatment Deaths Among Children by Primary Perpetrator, Arizona, 2013 (n=92)

Perpetrator	Number	Percent
Mother	43	47
Father	25	27
Mother's partner	11	12
Other relative	7	8
Other non-relative	6	6

Prevention

Ninety-nine percent of child maltreatment deaths were determined to have been preventable (n=91). In 2013, of the preventable factors present in maltreatment fatalities substance use or abuse was associated with 55 percent (n=51). A lack of supervision and an unsafe sleep environment made up the rest of the fatalities. Lack of supervision contributed to 38 percent of maltreatment deaths (n=35) and 25 percent were determined to be in an unsafe sleep environment (n=23) (Table 37).

Table 37. Preventable Factors for Maltreatment Deaths Among Children, Arizona, 2013

Factor*	Number	Percent
Substance use	51	55
Lack of supervision	35	38
Unsafe sleep environment	23	25

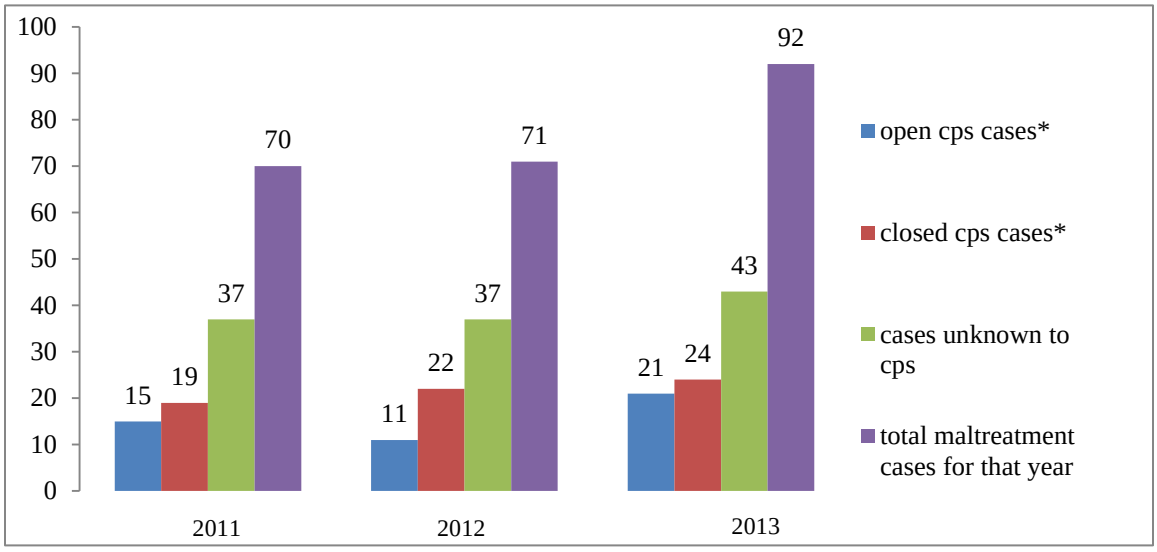
*More than one factor may have been identified for each death

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 Arizona DCS 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 2013, 49 of the 92 children who died from maltreatment were from families with prior involvement with any cps agency (53 percent). Among the families who had prior involvement with a cps agency, 21 of the 49 families had an open case with a cps agency at the time of the child's death (43 percent); 24 of the 49 families had a history of cps agency involvement but the case was closed at the time the child died (49 percent). The number of children from families with prior cps agency involvement increased from 33 families in 2012 to 49 in 2013. The number of families with an open cps case at the time of the child's death increased from 11 in 2012 to 21 in 2013 (Figure 32). Ten of the 92 maltreatment cases involved a Tribal cps agency and four cases involved out-of-state cps agencies. Legal charges were filed and pending against the perpetrators in seven maltreatment cases by the time of the review (eight percent). Legal charges were not filed in 23 maltreatment deaths (25 percent).

Figure 32. Maltreatment Deaths: involvement with any child protective services agency, Arizona, 2011-2013



*These cases were involved with a cps agency (State, Tribal or out-of-state).

APPENDIX A: CHILD DEATHS BY AGE GROUP

The following section of this report provides data on the cause and manner of child deaths by age group. Prevention efforts 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. [xi]

The Neonatal Period, Birth Through 27 Days

Table 38. Deaths Among Children Ages Birth Through 27 Days by Cause and Manner, Arizona, 2013 (n=298)

Cause	Natural	Accident	Suicide	Homicide	Undetermined	Total
Medical*	102	<6	<6	<6	<6	102
Prematurity	187	<6	<6	<6	<6	188
Suffocation	<6	<6	<6	<6	<6	<6
Blunt Force Trauma	<6	<6	<6	<6	<6	<6
Undetermined	<6	<6	<6	<6	<6	<6
MVC/other Transport	<6	<6	<6	<6	<6	<6
Total	289	6	<6	<6	<6	298

*Excluding SIDS and prematurity

Table 39. Deaths Among Children Ages Birth Through 27 Days by Cause, Arizona, 2008-2013

Cause	2008		2009		2010		2011		2012		2013	
Prematurity	256	60%	221	60%	180	54%	181	54%	172	53%	188	63%
Medical*	155	37%	128	35%	145	43%	143	43%	143	44%	102	34%
Undetermined	6	1%	5	1%	6	2%	5	2%	5	2%	<6	<1%
SIDS	3	1%	1	<1%	0	0%	0	0%	0	0%	<6	<1%
MVC/Transport	2	<1%	2	<1%	1	<1%	0	0%	3	1%	<6	<1%
Other	1	<1%	5	1%	0	0%	1	<1%	0	0%	<6	<1%
Suffocation	0	0%	4	1%	1	<1%	5	1%	2	1%	<6	<1%
Exposure	0	0%	0	0%	1	<1%	0	0%	0	0%	<6	<1%
Drowning	0	0%	0	0%	0	0%	0	0%	0	0%	<6	<1%
Total	423		366		334		334		325		298	

*Excluding SIDS and Prematurity

[xi] 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 40. Deaths Among Children Ages Birth Through 27 Days by Manner, Arizona, 2008-2013												
Manner	2008		2009		2010		2011		2012		2013	
Natural	414	98%	349	95%	324	97%	318	95%	315	58%	289	97%
Undetermined	6	1%	7	2%	7	2%	8	2%	4	9	<6	<6
Accident	2	<1%	7	2%	2	1%	7	2%	4	2%	6	2%
Homicide	1	<1%	3	1%	1	<1%	1	<1%	2	5%	<6	<6
Suicide	0	0%	0	0%	0	0%	0	0%	0	0%	<6	<1%
Total	423		366		334		334		325		298	

The Post-Neonatal Period, 28 Days through 365 Days

Table 41. Deaths Among Children Ages 28 Days Through 365 Days by Cause and Manner, Arizona, 2013 (n=156)						
Cause	Natural	Accident	Suicide	Homicide	Undetermined	Total
Medical*	60	<6	<6	<6	<6	60
Prematurity	18	<6	<6	<6	<6	18
MVC/Transport	<6	<6	<6	<6	<6	<6
Firearm	<6	<6	<6	<6	<6	<6
Suffocation	<6	41	<6	<6	<6	41
Blunt Force Trauma	<6	<6	<6	6	<6	6
Hanging	<6	<6	<6	<6	<6	<6
Undetermined	<6	<6	<6	<6	25	26
Exposure	<6	<6	<6	<6	<6	<6
Total	79	44	<6	7	26	156

Table 43. Deaths Among Children Ages 28 Days Through 365 Days by Manner, Arizona, 2008-2013												
Manner	2008		2009		2010		2011		2012		2013	
Natural	116	55%	116	63%	109	57%	92	53%	84	49%	79	51%
Undetermined	52	25%	42	23%	50	26%	32	18%	29	17%	26	17%
Accident	29	14%	18	10%	25	13%	38	22%	48	28%	44	28%
Homicide	14	7%	7	4%	8	4%	12	7%	10	6%	7	4%
Suicide	0	0%	0	0%	0	0%	0	0%	0	0%	<6	<1%
Unknown	0	0%	0	0%	0	0%	1	<1%	0	0%	<6	<1%
Total	211		183		192		175		171		156	

Children, One through Four Years of Age

Table 44. Deaths Among Children Ages One Through Four Years by Cause and Manner, Arizona, 2013 (n=130)						
Cause	Natural	Accident	Suicide	Homicide	Undetermined	Total
Medical*	61	<6	<6	<6	<6	62
Prematurity	<6	<6	<6	<6	<6	<6
MVC/Transport	<6	18	<6	<6	<6	18
Firearm	<6	<6	<6	<6	<6	<6
Suffocation	<6	<6	<6	<6	<6	<6
Drowning	<6	19	<6	<6	<6	19
Blunt Force Trauma	<6	<6	<6	14	<6	14
Undetermined	<6	<6	<6	<6	6	6
Poisoning	<6	<6	<6	<6	<6	<6
Exposure	<6	<6	<6	<6	<6	<6
Fall/Crush	<6	<6	<6	<6	<6	<6
Other Injury	<6	<6	<6	<6	<6	<6
Total	62	46	0	16	6	130
*Excluding SIDS and Prematurity						

Table 45. Deaths Among Children Ages One Through Four Years by Cause, Arizona, 2008-2013												
Cause	2008		2009		2010		2011		2012		2013	
Medical*	67	53%	50	38%	52	44%	40	38%	57	48%	62	48%
Drowning	25	20%	24	18%	22	18%	18	17%	18	15%	19	15%
MVC/Transport	10	8%	20	15%	19	16%	15	14%	11	9%	18	14%
Other non-Medical	7	5%	11	8%	7	6%	0	0%	1	1%	<6	<1%
Undetermined	7	5%	10	8%	6	5%	5	5%	4	3%	6	5%
Blunt Force Trauma	4	3%	7	5%	4	3%	10	9%	9	8%	14	11%
Firearm	2	2%	4	2%	2	2%	1	1%	4	3%	<6	<1%
Poisoning	2	2%	0	0%	0	0%	1	1%	1	1%	<6	<1%
Exposure	2	2%	0	0%	2	2%	0	0%	0	0%	<6	<1%
Fire/burn	1	1%	3	2%	2	2%	2	2%	1	1%	<6	<1%
Fall/crush	-	-	-	-	2	2%	2	2%	2	2%	<6	<1%
Hanging	-	-	-	-	1	<1%	3	3%	3	3%	<6	<1%
Prematurity	0	0%	1	1%	0	0%	1	1%	3	3%	<6	<1%
Suffocation	0	0%	0	0%	0	0%	8	8%	5	4%	<6	<1%
Other Injury	-	-	-	-	-	-	-	-	1	1%	<6	<1%
Total	126		130		119		106		120		130	
*Excluding SIDS and Prematurity												

Table 46. Deaths Among Children Ages One Through Four Years by Manner, Arizona, 2008-2013												
Manner	2008		2009		2010		2011		2012		2013	
Natural	67	53%	54	42 %	52	44%	40	38%	57	48%	62	48%
Accident	43	34%	56	43 %	52	44%	47	44%	39	33%	46	35%
Undetermined	9	7%	8	6%	8	7%	7	7%	7	6%	6	5%
Homicide	7	5%	12	9%	6	5%	12	11%	17	14%	16	12%
Suicide	0	0%	0	0%	0	0%	0	0%	0	0%	<6	<1%
Unknown	-	-	-	-	1	<1%	0	0%	0	0%	<6	<1%
Total	126		130		119		106		120		130	

Children, Five through Nine Years of Age

Table 47. Deaths Among Children Ages Five Through Nine Years by Cause and Manner, Arizona, 2013 (n=47)						
Cause	Natural	Accident	Suicide	Homicide	Undetermined	Total
Medical*	24	<6	<6	<6	<6	24
MVC/Transport	<6	16	<6	<6	<6	17
Prematurity	<6	<6	<6	<6	<6	<6
Other Non-Medical	<6	<6	<6	<6	<6	<6
Drowning	<6	<6	<6	<6	<6	<6
Blunt Force Trauma	<6	<6	<6	<6	<6	<6
Fall/Crush	<6	<6	<6	<6	<6	<6
Total	25	20	<6	<6	<6	47
*Excluding SIDS and prematurity						

Table 48. Deaths Among Children Ages Five Through Nine Years by Cause, Arizona, 2008-2013												
Cause	2008		2009		2010		2011		2012		2013	
Medical	43	64%	42	63%	31	53%	26	48%	37	59%	24	51%
Prematurity	0	0%	1	1%	0	0%	0	0%	0	0%	<6	<1%
MVC/Transport	10	15%	15	22%	10	17%	13	34%	12	19%	17	36%
Other	8	12%	6	9%	2	3%	0	0%	0	0%	<6	<1%
Drowning	2	3%	3	4%	4	7%	7	13%	5	8%	<6	<1%
Fire/Burn	2	3%	0	0%	2	3%	1	2%	3	5%	<6	<1%
Hanging	1	1%	0	0%	0	0%	1	2%	0	0%	<6	<1%
Firearm	-	-	-	-	5	9%	3	6%	1	2%	<6	<1%
Undetermined	-	-	-	-	1	2%	1	2%	1	2%	<6	<1%
Fall/Crush	-	-	-	-	2	3%	0	0%	2	2%	<6	<1%
Blunt Force Trauma	1	1%	0	0%	0	0%	1	2%	2	2%	<6	<1%
Suffocation	0	0%	0	0%	1	2%	1	2%	0	0%	<6	<1%
Poisoning	0	0%	0	0%	0	0%	0	0%	0	0%	<6	<1%
Total	67		67		58		54		63		47	
*Excluding SIDS and Prematurity												

Table 49. Deaths Among Children Ages Five Through Nine Years by Manner, Arizona, 2008-2013												
Manner	2008		2009		2010		2011		2012		2013	
Natural	42	63%	43	64%	32	55%	26	48%	37	59%	25	53%
Accident	19	28%	19	28%	20	34%	22	41%	22	35%	20	43%
Undetermined	4	6%	0	0%	0	0%	1	2%	1	2%	<6	<6
Homicide	2	3%	5	7%	6	10%	4	7%	3	5%	<6	<6
Suicide	0	0%	0	0%	0	0%	1	2%	0	0%	0	0%
Total	67		67		58		54		63		47	

Children, 10 through 14 Years of Age

Table 50. Deaths Among Children Ages 10 Through 14 Years by Cause and Manner, Arizona, 2013 (n=77)						
Cause	Natural	Accident	Suicide	Homicide	Undetermined	Total
Medical*	34	<6	<6	<6	<6	34
Prematurity	<6	<6	<6	<6	<6	<6
MVC/Transport	<6	20	<6	<6	<6	20
Firearm	<6	<6	<6	<6	<6	<6
Blunt Force Trauma	<6	<6	<6	<6	<6	<6
Hanging	<6	<6	7	<6	<6	7
Undetermined	<6	<6	<6	<6	<6	<6
Poisoning	<6	<6	<6	<6	<6	<6
Fire/Burn	<6	<6	<6	<6	<6	<6
Fall/Crush	<6	<6	<6	<6	<6	<6
Other Injury	<6	<6	<6	<6	<6	<6
Total	36	24	8	9	<6	77
*Excluding SIDS and prematurity						

Table 51. Deaths Among Children Ages 10 Through 14 Years by Cause, Arizona, 2008-2013												
Cause	2008		2009		2010		2011		2012		2013	
Medical*	34	46%	43	59%	29	44%	34	47%	35	47%	34	44%
MVC/Transport	19	26%	13	18%	12	18%	17	24%	21	28%	20	26%
Firearm	7	9%	1	1%	8	12%	3	4%	4	5%	<6	6%
Hanging	6	8%	3	4%	7	11%	10	14%	7	9%	7	9%
Other Injury	2	3%	8	11%	1	2%	0	0%	0	0%	<6	<6
Fall/Crush	2	3%	2	3%	0	0%	0	0%	0	0%0	<6	<6
Poisoning	2	3%	0	0%	1	2%	0	0%	0	0%	<6	<6
Blunt Force Trauma	1	1%	0	0%	0	0%	2	3%	0	0%	<6	<6
Exposure	1	1%	2	3%	1	2%	0	0%	0	0%	<6	<1%
Suffocation	0	0%	0	0%	0	0%	1	1%	1	1%	<6	<1%
Drowning	0	0%	1	1%	2	2%	2	3%	4	5%	<6	<1%
Undetermined	-	-	-	-	3	5%	1	1%	2	3%	<6	<6
Fire/burn	-	-	-	-	2	2%	2	3%	1	1%	<6	<6
	74		73		66		72		75		77	
*Excluding SIDS and Prematurity												

Table 52. Deaths Among Children Ages 10 Through 14 Years by Manner, Arizona, 2008-2013												
Manner	2008		2009		2010		2011		2012		2013	
Natural	33	45%	47	64%	30	45%	34	47%	36	48%	36	47%
Accident	26	35%	17	23%	18	27%	22	31%	27	36%	24	31%
Suicide	9	12%	3	4%	9	14%	13	18%	9	12%	8	20%
Homicide	6	8%	4	5%	4	6%	2	3%	2	3%	9	23%
Undetermined	0	0%	25	3%	5	8%	1	1%	1	1%	<6	<1%
Total	74		73		66		72		75		77	

Children, 15 through 17 Years of Age

Table 53. Deaths Among Children Ages 15 Through 17 Years by Cause and Manner, Arizona, 2013 (n=103)						
Cause	Natural	Accident	Suicide	Homicide	Undetermined	Total
Medical*	21	<6	<6	<6	<6	21
Prematurity	<6	<6	<6	<6	<6	<6
MVC/Transport	<6	23	<6	<6	<6	24
Firearm	<6	<6	6	14	<6	21
Drowning	<6	<6	<6	<6	<6	<6
Blunt Force Trauma	<6	<6	<6	<6	<6	<6
Hanging	<6	<6	9	<6	<6	10
Undetermined	<6	<6	<6	<6	<6	<6
Other Non-Medical	<6	<6	<6	<6	<6	<6
Poisoning	<6	11	<6	<6	<6	12
Exposure	<6	<6	<6	<6	<6	<6
Fall/Crush	<6	<6	<6	<6	<6	<6
Total	22	46	17	16	<6	103
*Excluding SIDS and prematurity						

Table 54. Deaths Among Children Ages 15 Through 17 Years by Cause, Arizona, 2008-2013												
Cause	**2008**		**2009**		**2010**		**2011**		**2012**		**2013**	
Firearm	37	27%	23	18%	7	8%	15	16%	22	22%	21	20%
MVC/Transport	35	25%	30	23%	18	19%	21	22%	38	38%	24	23%
Medical*	30	22%	32	25%	20	22%	25	26%	13	13%	21	20%
Hanging	13	9%	12	9%	11	12%	13	14%	9	9%	10	10%
Poisoning	10	7%	15	12%	16	17%	9	9%	6	6%	12	12%
Other	4	3%	4	3%	8	9%	0	0%	1	1%	<6	<1%
Exposure	4	3%	5	4%	6	6%	0	0%	0	0%	<6	<1%
Drowning	1	1%	4	3%	3	3%	2	2%	5	5%	<6	<1%
Undetermined	1	1%	1	1%	2	2%	4	4%	2	2%	<6	<1%
Fall/Crush	1	1%	0	0%	0	0%	2	2%	1	1%	<6	<1%
Blunt Force Trauma	1	1%	2	2%	1	1%	3	3%	2	2%	<6	<1%
Fire/Burn	0	0%	0	0%	0	0%	1	1%	0	0%	<6	<1%
Suffocation	-	-	-	-	1	1%	1	1%	1	1%	<6	<1%
Total	137		128		93		96		100		103	
*Excluding SIDS and Prematurity												

Table 55. Deaths Among Children Ages 15 Through 17 Years by Manner, Arizona, 2008-2013												
Manner	2008		2009		2010		2011		2012		2013	
Accident	49	36%	48	37%	43	46%	31	32%	50	50%	46	45%
Natural	30	22%	32	25%	18	19%	27	28%	13	13%	22	21%
Homicide	30	22%	20	16%	11	12%	11	11%	9	9%	16	16%
Suicide	26	19%	24	19%	15	16%	25	26%	24	24%	17	17%
Undetermined	2	1%	4	3%	4	4%	2	2%	3	3%	<6	<1%
Unknown	-	-	-	-	2	2%	0	0%	-	-	<6	<1%
Pending	-	-	-	-	-	-	-	-	1	1%	<6	<1%
Total	137		128		93		96		100		103	

APPENDIX B: POPULATION DENOMINATORS FOR ARIZONA CHILDREN

The population denominators shown below were used in computing the rates presented in this report. Denominators for 2008 through 2013 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.

Table 56. Population of Children Ages Birth Through 17 Years by County of Residence, Arizona, 2008-2013

	2008	2009	2010	2011	2012	2013
Apache	25,713	25,888	22,660	22,808	21,843	21,493
Cochise	34,786	35,356	30,250	30,099	30,434	30,621
Coconino	35,840	36,439	31,788	31,716	31,310	31,463
Gila	13,545	14,002	11,471	11,451	11,317	11,351
Graham	10,536	10,819	10,575	10,718	10,623	10,818
Greenlee	2,551	2,496	2,463	2,463	2,408	3,016
La Paz	4,130	4,074	3,678	3,682	3,685	3,708
Maricopa	1,059,737	1,064,572	1,007,861	1,014,790	1,008,347	1,015,472
Mohave	45,589	45,296	41,265	41,301	40,338	39,786
Navajo	35,684	35,814	31,973	31,901	31,551	31,463
Pima	243,987	244,390	225,316	226,652	223,677	223,639
Pinal	80,600	81,414	99,700	101,929	102,591	103,403
Santa Cruz	14,880	14,898	14,560	14,752	14,396	14,369
Yavapai	44,725	44,969	40,269	40,305	39,602	39,417
Yuma	59,083	59,089	55,185	56,547	56,415	57,367
Total	1,711,386	1,719,515	1,629,014	1,641,114	1,628,537	1,637,386

Table 57. Population of Children Ages 0 Through 17 Years by Age Group, Arizona, 2008-2013

	2008	2009	2010	2011	2012	2013
<1 Year	98,995	92,263	87,557	88,211	87,184	89,196
1-4 Years	402,486	406,201	368,158	370,926	356,828	351,077
5-9 Years	465,088	469,372	453,680	457,080	459,232	464,622
10-14 Years	462,890	467,149	448,664	451,989	454,826	459,528
15-17 Years	281,927	284,530	270,955	272,914	270,469	272,963
Total	1,711,386	1,719,515	1,629,014	1,641,108	1,628,539	1,637,386

APPENDIX C: DATA ANALYSIS METHODOLOGY

Child fatality review data include a variety of data sources, which may not be available to other individuals, programs or research endeavors. Arizona statute facilitates data collection among protected data sources, including, but not limited to, health and law enforcement records (A.R.S. §36-3503). Confidentiality of records is strictly enforced and case review meetings are not open to the public. The program destroys case records following publication of the annual report.

Teams make all reasonable efforts to obtain complete records for each death. However, case reviews still take place even when some records and information are unavailable. Records may be difficult to obtain for a variety of reasons including but not limited to the following:

- children who died in Arizona but were residents of other states or countries;
- children whose families only recently moved to Arizona;
- children residing in tribal communities.

Data from these cases may have had additional unknown risk factors that were uncollected by review teams.

This means the reliability of child fatality data are subordinate to the accuracy of the records provided for review. Data presented in the Child Fatality Review Annual Report may differ from other published sources.

After each case's review, local teams enter the aggregate review data into an electronic database maintained by the National Center for Child Death Review. The Arizona Department of Health Services, Office of Injury Prevention reviews these cases for completeness and quality assurance. Completed data are downloaded from the National Center for Child Death Review database, cleansed, and analyzed using SAS software, Version 9.3 (copyright 2010, SAS Institute Inc., Cary, NC).

Starting in 2013, Arizona Department of Health Services started suppressing counts less than six.

APPENDIX D: RESOURCES

Additional information regarding the **American Academy of Pediatrics** updated recommendations regarding safe sleep environments for infants can be found at HealthyChildren.org.

The American Academy of Pediatrics
141 Northwest Point Boulevard
Elk Grove Village, IL 60007-1098
847/434-4000 (tel)
800/433-9016 (toll-free tel)
847/434-8000 (fax)

Arizona Firearm Injury Prevention Coalition
P.O. Box 1809
Phoenix, AZ 85001
602/550-0133
Joseph T. Zerella MD, President
dzerella@aol.com

Suicide Prevention
www.suicidepreventionlifeline.org/getinvolved/locator.aspx

APPENDIX E: SUICIDE PREVENTION CHECKLIST

SUSPECTED Youth Suicide Death Investigation

A. DECEASED INFORMATION

Name (First, Middle, Last):

B. CAUSE OF DEATH – FIREARM

Firearm owned by:
☐ Decedent ☐ Family member ☐ Friend ☐ Unknown
☐ Other:

Had decedent received safety training or supervised training/range experience with an adult?
☐ Yes ☐ No ☐ Unknown Training agency/ organization:

Firearm stored in:
☐ Safe ☐ Locked box ☐ Trigger lock ☐ Drawer
☐ Closet ☐ Unknown ☐ Other:

Firearm stored with ammunition:
☐ Yes ☐ No ☐ Unknown

History of reckless behavior/playing with firearms (Russian Roulette, etc.):
☐ Yes ☐ No ☐ Unknown

C. SUICIDAL INTENT

Had decedent communicated distress to others:
☐ Yes ☐ No ☐ Unknown

If yes, to whom:

Had suicidal intent been expressed:
☐ Yes
☐ No
☐ Unknown

If yes, to whom:

How long ago had suicidal intent been expressed:
hours ago months ago years ago

Were family/friends concerned of risk of suicide:
☐ Yes ☐ No ☐ Unknown

Was there social media sites/history of suicidal intent:
☐ Yes ☐ No ☐ Unknown

If yes, which site:

D. NOTE/LETTER

Note written by decedent: If yes, please provide copy

E. POTENTIAL RISK FACTORS FOR SUICIDE

Sexual orientation:
☐ Heterosexual ☐ Homosexual ☐ Bisexual ☐ Transsexual/Transgender ☐ Unknown

Recent life stressors:
☐ Yes
☐ No
☐ Unknown

If yes, any interpersonal stressors:
☐ Divorce ☐ Death or suicide of loved one ☐ Fear of being a burden
☐ Break-up ☐ Victim of domestic violence ☐ Academic difficulties
☐ Isolation ☐ Perpetrator of abuse ☐ Online related conflict
☐ Suicide pact ☐ Anniversary of death of loved one ☐ Pregnancy or Abortion

If yes, any legal stressors:
☐ Recent charges ☐ Law enforcement contact
☐ School related ☐ Custody dispute

If yes, any financial stressors:
☐ Debt ☐ Unemployment
☐ Gambling ☐ Other:

If yes, any medical/psychological stressors:
☐ Depression ☐ Chronic pain ☐ Terminal illness ☐ Injury
☐ Decreased quality of life ☐ Illicit drug addiction ☐ Alcohol addiction ☐ Disability
☐ Prescription drug addiction ☐ Previous suicide attempt ☐ Psychiatric diagnosis

If yes, any additional specific stressors:

Any cultural considerations:

If yes, describe:

☐ Yes ☐ No ☐ Unknown	

F. ALCOHOL AND DRUG USE

History of alcohol abuse or drug addiction: ☐ Yes ☐ No ☐ Unknown	
Comments (please note if alcohol or drug paraphernalia was found at scene and/ or any indication of drug misuse):	

G. BEHAVIORAL HEALTH HISTORY

Behavioral health provider contacted during last year: ☐ Yes ☐ No ☐ Unknown	
Formal psychiatric diagnosis at time of death: ☐ Yes ☐ No ☐ Unknown	If yes, describe: Age at diagnosis:
Did the decedent receive prior treatment for disorder? ☐ Yes ☐ No ☐ Unknown	If yes, type of treatment: ☐ Counselor ☐ Psychologist ☐ Alcohol treatment center ☐ Support group ☐ Chaplain ☐ Drug treatment center ☐ Psychiatrist ☐ Web-based ☐ Voluntary hospitalization ☐ Medication ☐ Self-help ☐ Involuntary hospitalization ☐ Unknown
Family mental health history, describe:	

H. SUICIDAL HISTORY

History of suicide attempts: ☐ Yes ☐ No ☐ Unknown	If yes, method: ☐ Hanging ☐ Firearm ☐ Jumping ☐ Poison ☐ Drug intoxication ☐ Suffocation ☐ Sharp object ☐ Unknown ☐ Other:	
	Number of suicide attempts:	Age(s) at suicide attempts:
History of self-harm behaviors without suicide intent: ☐ Yes ☐ No ☐ Unknown		If yes, describe:
Family history of death by suicide: ☐ Yes ☐ No ☐ Unknown		If yes, relation to decedent:

I. EDUCATION

School	Recent changes in grades or behavior: ☐ Yes ☐ No ☐ Unknown	
	Recent discipline: ☐ Yes ☐ No ☐ Unknown	Complaints of bullying: ☐ Yes ☐ No ☐ Unknown
	Other school issues (recent cut from team, college admissions, etc.):	
Interpersonal conflict with family: ☐ Yes ☐ No ☐ Unknown		If yes, describe:

J. ADDITIONAL INFORMATION

Please provide any additional information you feel is relevant to the case (i.e. suspect physical and/ or sexual abuse, neglect, etc.) that may have contributed to the suicide :
Resources provided to survivors (family /friends interviewed) of the suicide: ☐ Yes ☐ No
COMPLETED BY: AGENCY: DATE COMPLETED:

APPENDIX F: ARIZONA CHILD FATALITY REVIEW TEAMS AND ARIZONA DEPARTMENT OF HEALTH SERVICES STAFF

State Child Fatality Review Team

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Mary Ellen Rimsza, MD, FAAP
University of Arizona College of Medicine
American Academy of Pediatrics

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Leticia D'Amore (proxy)
Administrative Office of the Courts

Mary Ellen Cunningham
Irene Burnton (proxy)
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Bureau of Women's and Children's Health

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Director of Child Welfare & Juvenile Justice
Children's Action Alliance

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Apache County Youth Council
Apache County Drug Free Alliance

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Chief Mike Hogan
Eagar Police Department

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Cindy Trembley
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Whiteriver Indian Health Services
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Injury Prevention & Safe Kids

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Joseph Lopez
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Kathy McLaughlin
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Kathy Swope, RN
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Mary Mochnal
Women and Children
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Chip Schneider
Amberly's Place

Robert Vigil
Medical Examiner's Office
Yuma County Sheriff's Office

Arizona Department of Health Services
Bureau of Women's and Children's Health

Office of Injury Prevention

Tomi St. Mars, MSN, RN, CEN, FAEN, Chief, Office of Injury Prevention

Yomaira Diaz, Injury Prevention Manager

Shannon Rupp, MPP, MSc, Program Manager, Child Fatality and Maternal Mortality

Review Jennifer Dudek, MPH, Injury Epidemiologist

Teresa Garlington, Administrative Secretary

To obtain further information, contact:

Arizona Department of Health Services
Bureau of Women's and Children's Health
Office of Injury Prevention
Child Fatality Review Program
150 North 18th Avenue, Suite 320
Phoenix, AZ 85007
Phone: 602-364-1400
Fax: 602-542-1843

Information about the Arizona Child Fatality Review Program may be found on the internet through the Arizona Department of Health Services at:

www.azdhs.gov/phs/owch/ipcfr/cfr.htm