Arizona Child Fatality Review Program

THIRTEENTH ANNUAL REPORT
NOVEMBER 2006

Arizona Department of Health Services
Public Health Prevention Services
Office of Women's and Children's Health

Arizona Department of Health Services

ARIZONA CHILD FATALITY REVIEW TEAM

THIRTEENTH ANNUAL REPORT

NOVEMBER 2006

MISSION

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

Submitted to

The Honorable Janet Napolitano, Governor, State of Arizona
The Honorable Ken Bennett, President, Arizona State Senate
The Honorable James P. Weiers, Speaker, Arizona State House of Representatives

Leadership for a Healthy Arizona

Janet Napolitano, Governor
State of Arizona

Susan Gerard, Director
Arizona Department of Health Services

MISSION

Setting the standard for personal and community health through direct care delivery, science, public policy and leadership.

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This publication can be made available in alternative format. Please contact the Child Fatality Review Unit at (602) 542-1875 (voice) or call 1-800-367-8939 (TDD).

ACKNOWLEDGEMENTS

We wish to acknowledge the dedication and tireless support of more than 250 volunteers throughout Arizona who contributed more than 4,000 hours of their time reviewing the circumstances surrounding every death of a child that occurred in Arizona in 2005. Due to the extraordinary efforts of the Child Fatality Review Teams, this is the first year that 100 percent of childhood deaths in Arizona were reviewed.

Each Child Fatality Review Team has a Team Coordinator who is responsible for the team meetings. Coordinators ensure that members have the tools necessary for successful meetings. It is due to the amazing work of these individuals that each child's death receives the comprehensive review that the child deserves. It is through their hard work that our state is able to learn about causes of childhood fatalities and what we as individuals and as a society can do to reduce preventable deaths of children. We would like to extend a special thank you to the following individuals who provide the critical service of coordinating child fatality reviews in their counties:

Charlie Dean, Coconino County Team

Leslie DeSantis, La Paz, Mohave, and Yuma County Teams

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Tameka Jackson, Maricopa County Team

Irene Klim, Navajo County Team

Zoe Ann Rowe, Pima and Greenlee County Team

Rebecca Ruffner, Yavapai County Team

Diana Ryan, Apache County Team

Hal Thomas, Cochise County Team

EXECUTIVE SUMMARY

The mission of the Arizona Child Fatality Review Program is to reduce child deaths by analyzing the circumstances surrounding these deaths. Using this data, the Child Fatality Review Team develops recommendations for legislation, public policy, and community education to help prevent deaths in the future. In 2005, 1,148 children died in Arizona. For the first time since the inception of the Arizona Child Fatality Review Program, a Child Fatality Team reviewed every one of these deaths.

The patterns of cause and manner of death in 2005 were, for the most part, similar to previous years of Child Fatality Review data. Cause of death refers to the injury or disease resulting in the death (e.g. motor vehicle crash, pneumonia). Manner of death explains how the death came about. Manners of death are categorized as natural, accident, homicide, suicide, or undetermined. Most childhood deaths are due to natural causes (n=765, 67 percent) followed by accidental deaths (n=253, 22 percent). During 2005, more children died from exposure, fires, hanging, and blunt force trauma than during 2004. In 2005, 20 children died as the result of fires or burns, a sharp increase over 2004 when no children in Arizona died from fires or burns. Exposure-related deaths increased from six in 2004 to nineteen in 2005. Most exposure deaths were the result of illegal border crossing; however, four children died after being left in a car. During 2005, Arizona saw a proportional decrease in deaths that were the result of medical conditions, such as prematurity, congenital anomalies, and infectious diseases.

Local Child Fatality Review Teams determined that 388 children's deaths, or 34 percent of children's deaths in 2005, could have been prevented. A child's death is determined to have been preventable if an individual or the community could reasonably have done something that would have changed the circumstances that led to the child's death. The percent of deaths determined to have been preventable, varies among manners of death. The proportion of deaths that were determined to have been preventable ranged from a low of 7 percent of natural deaths to a high of 93 percent of accidental deaths.

Motor vehicles crashes continued to account for the highest number of preventable deaths of children. There were 134 deaths due to motor vehicle crashes during 2005, with 126 (94 percent) determined to have been preventable. Child Fatality Review Teams found that the lack of appropriate use of vehicle restraints contributed to 44 percent of motor vehicle crash fatalities. Driver's inexperience was an identified factor in 36 percent of these fatalities.

Child Fatality Review Teams determined that 50 children's deaths or four percent of child fatalities resulted from maltreatment in 2005. During the past four years the proportion of childhood deaths due to maltreatment is unchanged at four percent each year. Eighty-eight percent of maltreatment deaths were children less than five years old. The most common factors contributing to the maltreatment were drug or alcohol abuse (n=31, 62 percent) and lack of parenting skills (n=31, 62 percent). Methamphetamine

was the substance most frequently identified contributing to 32 percent (n=16) of maltreatment deaths.

During 2005, 36 children committed suicide in Arizona accounting for three percent of all childhood deaths. Although the percentage of deaths due to suicide is similar to 2004, the number and proportion of suicides in children 10 through 14 years old has notably increased from three suicides (11 percent of suicide deaths) in 2004 to 13 suicides (36 percent of suicide deaths) in 2005. The most frequently identified factor contributing to suicides was unrecognized depressive symptoms contributing to nearly two-thirds of suicides. Other contributing factors included lack of suicide awareness, lack of mental health treatment, use of drugs or alcohol, and access to firearms.

Drug and alcohol abuse continued to be a prominent factor contributing to 131 deaths of children in 2005 (11 percent). Drugs and alcohol were determined to be a factor in all manners of death. Drugs and alcohol contributed to 60 percent of all homicides, 39 percent of suicides, 22 percent of deaths in which the manner could not be determined, and 18 percent of all accidents. Although this was a contributing factor for males and females in all age groups, adolescent males 15 through 17 years old accounted for more than one-third of the deaths involving drugs and alcohol (n=47, 35 percent).

The infant's sleep environment was the most frequently identified factor contributing to the unexpected infant deaths, including unsafe bedding in 44 deaths (49 percent), co-sleeping in 41 deaths (46 percent), sleep position in 31 deaths (34 percent), and drugs or alcohol in 15 deaths (17 percent). Among the 41 unexpected infant deaths in which co-sleeping with an adult or other children was cited, additional factors, such as unsafe bedding, sleep position, or drugs and alcohol were also present in 36 deaths.

KEY FINDINGS

- In 2005, 1,148 children died in Arizona.
- 388 children's deaths could have been prevented.
- 667 infants died before reaching their first birthday.
- The majority of childhood deaths (n=765, 67 percent) were the result of natural causes.
- 22 percent (n=253) of childhood fatalities in 2005 were the result of an accidental injury.
- 134 children died as a result of motor vehicle crashes. As in previous years, motor vehicle crashes continued to be the most common cause of preventable deaths. Of these deaths, 126 were determined to have been preventable.

- In 2005, 20 children died from fires or burns in Arizona, in contrast to 2004 during which no children in Arizona died as the result of fires or burns.

- In 2005, 19 children died as the result of exposure to excessive heat or cold in Arizona, compared to six exposure-related deaths of children in 2004. Four children died after being left in a car. Illegal border crossing was a factor in 13 of the exposure deaths and three deaths due to other causes in 2005.

- 36 children committed suicide. Thirteen of these children were less than 15 years old.

- 50 children in Arizona died as the result of maltreatment. Eighty-eight percent (n=44) of maltreatment deaths were of children less than five years old.

- Abuse of drugs or alcohol contributed to eleven percent (n=131) of all child deaths in Arizona.

RECOMMENDATIONS

- Arizona's graduated driver's license laws should be strengthened so that adolescents have sufficient driving experience and supervision to safely drive a motor vehicle.

- Parents should ensure that their adolescents have sufficient driving experience before allowing them to drive without an adult and should continue to monitor their adolescent's use of restraints and driving behavior after they obtain a license.

- Penalties for adolescents who drive at excessive speeds, fail to obey traffic laws, or do not use restraints should be strengthened and enforced by both parents and the community.

- Arizona should strengthen and enforce child safety restraint laws.

- Parents and caretakers should reduce children's access to firearms by always keeping firearms unloaded and locked up, bullets locked and stored separately, and keys hidden. Parents and caretakers should also remove firearms from homes of youth who are at high risk for suicide or other violence.

- Physicians should provide guidance regarding the importance of adequate supervision of children, even through adolescence.

- Programs that help parents, teachers, youth, and other members of the community recognize the signs and symptoms of depression among children and adolescents should be expanded.

- Mental health services for children and adolescents should be easily accessible, affordable, and provided in a timely manner to families.

- Hotlines for youth in crisis, including those contemplating suicide, should be readily available and promoted through media campaigns, schools, places of worship, and other community organizations.

- Evidence-based substance abuse prevention programs in schools should continue to be expanded.

- Substance abuse prevention, early intervention, and treatment programs should be readily accessible throughout Arizona.

- Parents, childcare providers, and anyone caring for an infant should be educated about the dangers of unsafe sleeping environments for infants.

- The Arizona Fire and Burn Educators' Association has developed a home safety checklist to reduce injuries from fires. This checklist, available at www.afbea.org, should be distributed and promoted by apartment managers, realtors, schools, pediatricians, and at community health/safety fairs.

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INTRODUCTION

The Arizona Child Fatality Review Program was created in 1993 (A.R.S. § 36-342, 36-350-4) and began data collection in 1994. A statewide team was mandated by statute to provide oversight of the program, develop the data collection system, and produce an annual report summarizing their findings. The state team also approves the development of each local team that is responsible for reviewing the child deaths in their own community and provides additional support and training for local team members as needed. By statute, the state team includes representatives of the Arizona Chapter of the American Academy of Pediatrics, Indian Health Service, law enforcement, a prosecuting attorney's office, a county health department, a military advocacy program, child protective services, American Indian agencies, and a county medical examiner's office.

The statute also outlines the composition of each local team. These teams must include local representatives from child protective services, the county medical examiner's office, the county health department, law enforcement, and the county prosecuting attorney's office. Other team members include a pediatrician or family physician, a psychiatrist or psychologist, a domestic violence specialist and a parent.

When a child dies in Arizona, a copy of the death certificate is sent to the local child fatality review team. The local team then requests the child's autopsy report, hospital records, child protective services records, law enforcement reports and any other relevant documents that provide insight into the child's death. If the child was less than one year of age at the time of the death, the birth certificate is also reviewed. The enabling legislation requires that hospitals and state agencies release this information to the Arizona Child Fatality Review Program's local teams. Team members are required to maintain confidentiality and are prohibited from contacting the child's family.

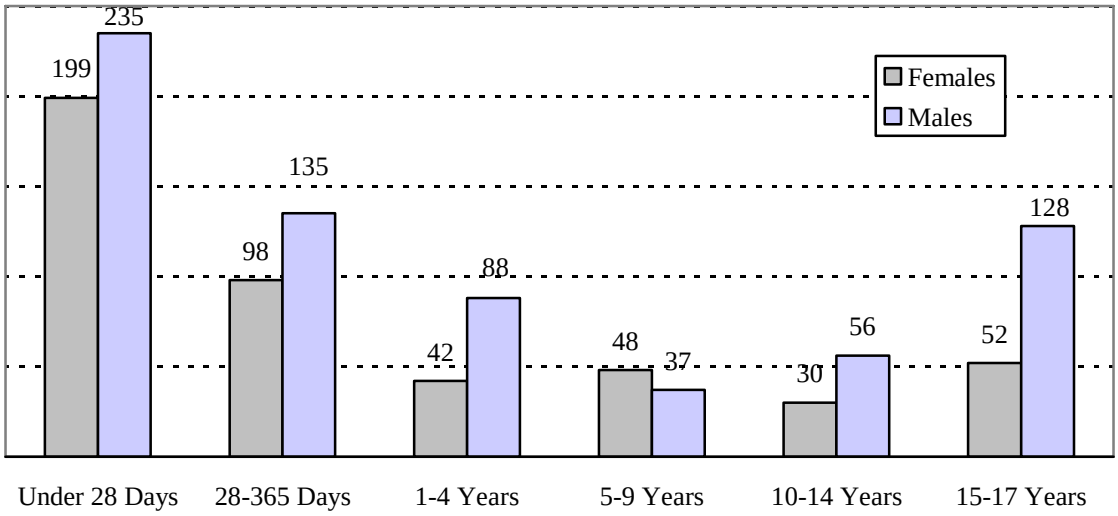
After reviewing all the documents, the local team assesses the preventability of each child's death and completes a standardized data sheet that includes extensive information regarding the circumstances surrounding the death. The Arizona Child Fatality Review Program defines a child's death as preventable if an individual or the community could reasonably have done something that would have changed the circumstances that led to the child's death. If team members cannot come to a consensus regarding the preventability of a child's death, the preventability is listed as unknown. Child Fatality Review Teams review deaths throughout each year and must submit them to the state team by August 15th of the following year. This deadline for completion of reviews is necessary so that the State Child Fatality Review Team can utilize the data to prepare an annual report published each November. If a team has not received sufficient information to complete a review by the August 15th deadline, the death will not be reviewed.

This is the thirteenth annual report issued by the Child Fatality Review Team. Child Fatality Review Teams located throughout Arizona reviewed all 1,148 deaths that occurred in 2005. The Arizona Department of Health Services and Arizona State University provide professional and administrative support for the teams.

CHARACTERISTICS OF CHILDREN WHO DIED

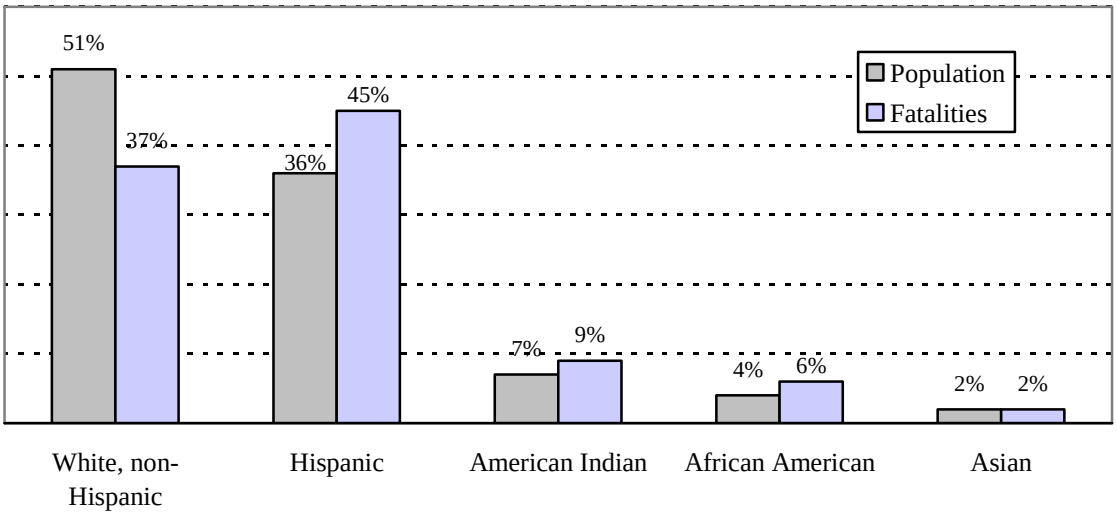
During 2005, there were 1,148 fatalities among children birth through 17 years of age in Arizona. Thirty-eight percent of these fatalities were in the neonatal period, which is before the 28th day of life. As in previous years, males were disproportionately represented among child deaths with 59 percent of the deaths overall. The increased risk for boys was even more pronounced in the adolescent age group (15 through 17 years) where 71 percent of the children who died were boys. Figure 1 shows the number of boys and girls who died in each age group.

Figure 1. Age Group and Gender for all Deaths
Birth through 17 Years, Arizona, 2005



Hispanic children are over-represented among childhood fatalities, comprising only 36 percent of the population of children in Arizona and 45 percent of deaths. Figure 2 shows the racial and ethnic composition of the children who reside in Arizona compared to those who died in Arizona during 2005. Other minority populations, including American Indians and African-Americans also appear to be overrepresented among the child deaths.

Figure 2. Race/Ethnicity of Population Birth through 17 Years Compared to Fatalities, Arizona, 2005



Sixty-one percent of Arizona's children live in Maricopa County and 15 percent live in Pima County. The remaining 24 percent are spread across the 13 other counties. Table 1 shows the distribution of child deaths by county of residence. The "outside Arizona" category of residence includes the deaths of children whose deaths occurred in Arizona, but who resided in other states or countries. This table demonstrates that no county in Arizona had an excessive number of childhood deaths when compared to the number of children residing in their county.

Table 1. Child Deaths by County of Residence as Reported on Death Certificate, Arizona, 2005

County	Number of Deaths	Percent of Deaths	Percent of Population
Apache	20	2%	2%
Cochise	27	2%	2%
Coconino	25	2%	2%
Gila	11	1%	1%
Graham	6	1%	1%
Greenlee	1	<1%	<1%
La Paz	5	<1%	<1%
Maricopa	642	56%	61%
Mohave	34	3%	3%
Navajo	36	3%	2%
Pima	160	14%	15%
Pinal	49	4%	4%
Santa Cruz	7	1%	1%
Yavapai	25	2%	3%
Yuma	25	2%	3%
Outside Arizona	75	7%	__
Total	1148	100%	100%

During each review of a child's death, teams attempt to identify the type of residence in which the child resided at the time of their death. Table 2 below shows the type of residence and the manner of the child's death. Infants who died in the hospital shortly after their birth are represented in the parent home category. Children included in the relative home or residential/group home categories may have been placed in these settings by an agency such as Child Protective Services, juvenile probation, or juvenile corrections; or the child's family may have arranged this placement.

Table 2. Child's Residence at Time of Death by Manner of Death

Type Of Residence	Accident	Homicide	Natural	Suicide	Undetermined	Total
Parent Home	207	44	716	29	29	1025
Relative Home	22	4	17	1	2	46
Foster Home	2	2	3	1	1	9
Homeless/ Runaway	4	2				6
Residential/ Group Care			7	1		8
Acquaintance		2	2			4
Correctional Institution		1	1	1		3
Other/Unknown	18	3	19	3	4	47
Total	253	58	765	36	36	1148

CHILD FATALITY REVIEW FINDINGS

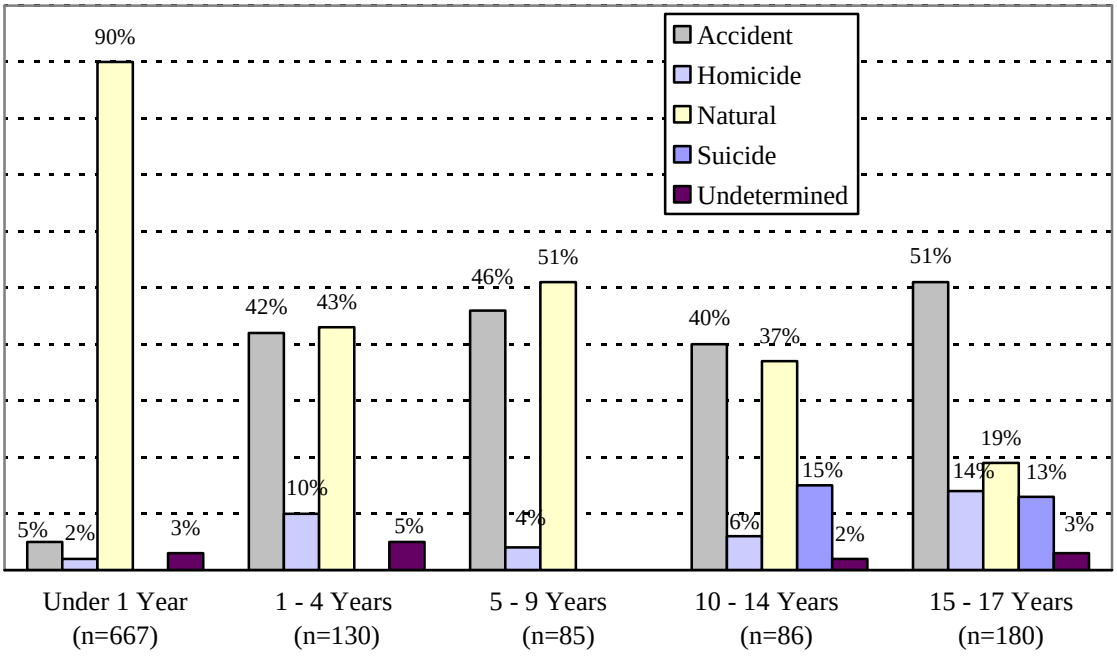
In 2005, 1,148 children died in Arizona. Child Fatality Review Teams review deaths of all children that occur in Arizona, including children that reside outside of Arizona. Conversely, deaths of Arizona residents that occur outside of Arizona are not reviewed for this report. This is the first year since the Child Fatality Review Program began that teams reviewed 100 percent of childhood deaths that occurred in Arizona.

CAUSE AND MANNER OF CHILD FATALITIES

Cause of death refers to the injury or disease resulting in the death (e.g. motor vehicle crash, pneumonia). Manner of death explains how the death came about. Manners of death are categorized as natural, accident, homicide, suicide, or undetermined. In addition to reviewing medical examiner reports, Child Fatality Review Teams review records from hospitals, emergency departments, law enforcement agencies, Child Protective Services, and other sources. As a result of this comprehensive, multidisciplinary approach, the team's determination of cause and manner sometimes differs from those recorded on the death certificate.

Natural deaths (e.g. medical conditions, congenital anomalies, prematurity) accounted for 67 percent of all childhood deaths. The most common natural cause of death was prematurity, which resulted in 287 deaths in 2005. The distribution of manner of death varies by age group. Figure 3 shows that infant deaths are primarily due to natural causes, while accident is the most common manner in children 10 years and older.

Figure 3. Manner of Arizona Childhood Fatalities by Age Group, 2005 (n=1,148)



Overall, twenty-two percent of childhood deaths were due to an accident and more than half of accidental deaths were due to motor vehicle crashes. Fifty-eight children were victims of homicide and 36 children died as the result of suicide. Table 3 shows a cross-tabulation of the cause and manner of death for children who died in Arizona in 2005.

Table 3. Cause And Manner of Death , Birth through 17 Years, Arizona, 2005

Cause	Accident	Homicide	Natural	Suicide	Undetermined	Total
Medical*			439			439
Prematurity			287			287
MVC	132	1		1		134
Gunshot wound	4	25		14		43
SIDS			37			37
Drowning	32	1			2	35
Suffocation	22	4			2	28
Undetermined	2		2		23	27
Blunt Force Trauma	4	17			2	23
Fire/Burn	20					20
Other Non-Medical	10	7			2	19
Poisoning	10	2		5	2	19
Exposure	15	1			3	19
Hanging	2			16		18
Total	253	58	765	36	36	1148
Percent of Manner	22%	5%	67%	3%	3%	100%

*Excluding SIDS and prematurity

The number of childhood deaths reviewed by Child Fatality Review Teams increased from 1,031 in 2004 (98 percent of 2004 child fatalities) to 1,148 in 2005 (100 percent of 2005 child fatalities). Although the number of deaths per cause typically increased (as the population in Arizona has increased), the percentage of deaths in each category was comparable from 2004 to 2005. Table 4 compares the causes of death in 2004 and 2005. There are some minor changes including a decrease in deaths due to medical causes and an increase in the percentage of deaths due to fire and burns, hanging, blunt force trauma, and exposure.

Table 4. Cause of Death, Birth through 17 Years, Arizona, 2004 Compared to 2005				
Cause	**2004**		**2005**	
Medical*	430	42%	439	38%
Prematurity	271	26%	287	25%
MVC	132	13%	134	12%
Gunshot wound	41	4%	43	4%
SIDS	31	3%	37	3%
Drowning	31	3%	35	3%
Suffocation	16	2%	28	2%
Undetermined	12	1%	27	2%
Blunt force trauma	9	1%	23	2%
Fire/Burn	0	0%	20	2%
Other non medical	25	2%	19	2%
Poisoning	16	2%	19	2%
Exposure	6	1%	19	2%
Hanging	11	1%	18	2%
Total	1031		1148	
*Excluding SIDS and prematurity				

As seen in the cause of death table above (Table 4), the proportion of deaths by manner in 2005 was consistent with 2004. Table 5 below shows the majority of childhood deaths are due to natural causes, followed by accidents, homicides, suicides, and deaths in which the manner could not be determined.

Table 5. Manner of Death, Birth through 17 Years, Arizona, 2004 Compared to 2005				
Manner	**2004**		**2005**	
Accident	204	20%	253	22%
Homicide	43	4%	58	5%
Natural	733	71%	765	67%
Suicide	27	3%	36	3%
Undetermined	24	2%	36	3%
Total	1031		1148	

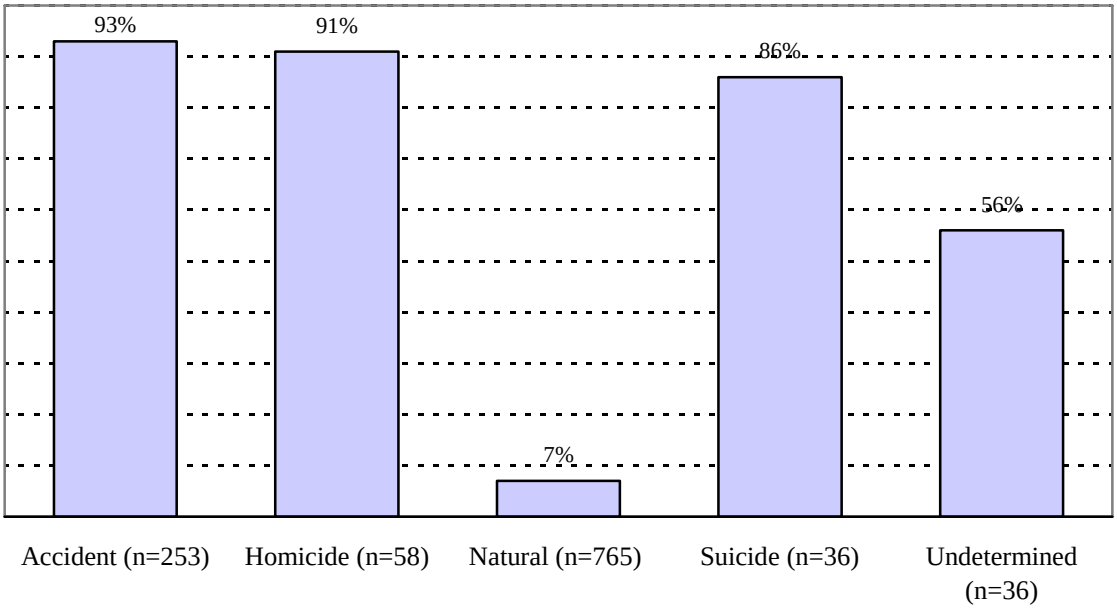
PREVENTABILITY

During reviews, teams examine the circumstances surrounding the death and identify factors that may have contributed to the death. Part of this review includes a 34-item checklist of contributing factors (Appendix A). After reviewing the contributing factors, the team determines whether the death was preventable.

Child Fatality Review Teams consider a child's death preventable if an individual or the community could reasonably have done something that would have changed the

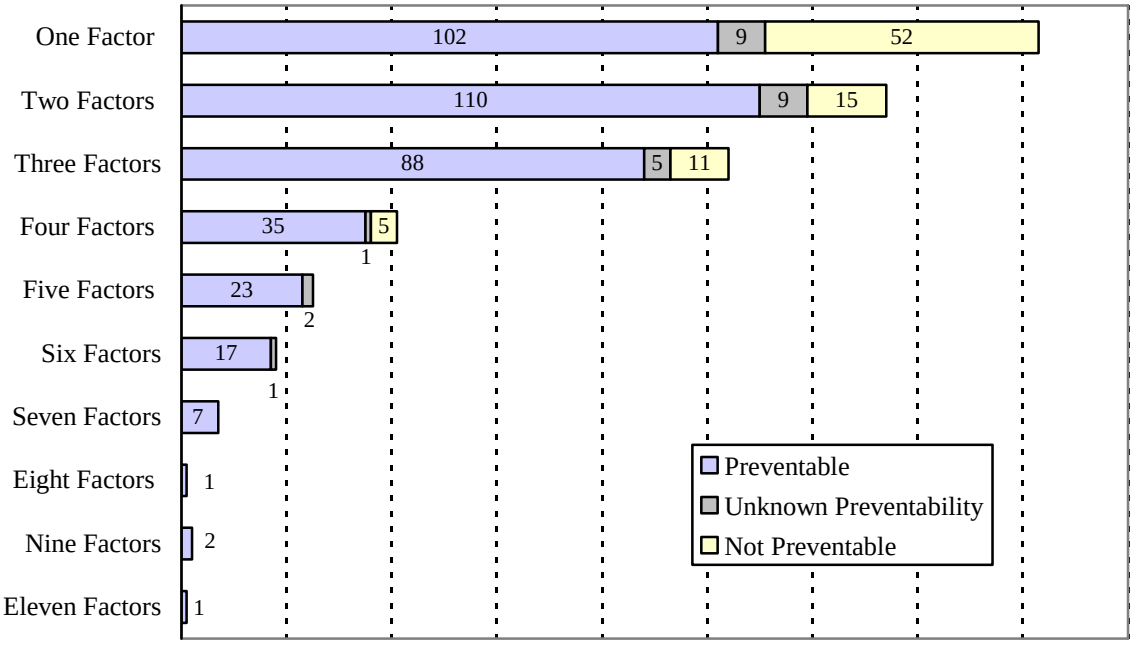
circumstances that led to the child's death. Local Child Fatality Review Teams determined that 388 (34 percent) of the child deaths reviewed in 2005 were preventable. Preventability varies by manner of death. Figure 4 below shows that the proportion of deaths that were determined to be preventable ranged from a low of seven percent of natural deaths to a high of 93 percent of accidental deaths.

Figure 4. Preventability by Manner of Death, Birth through 17 Years, Arizona, 2005



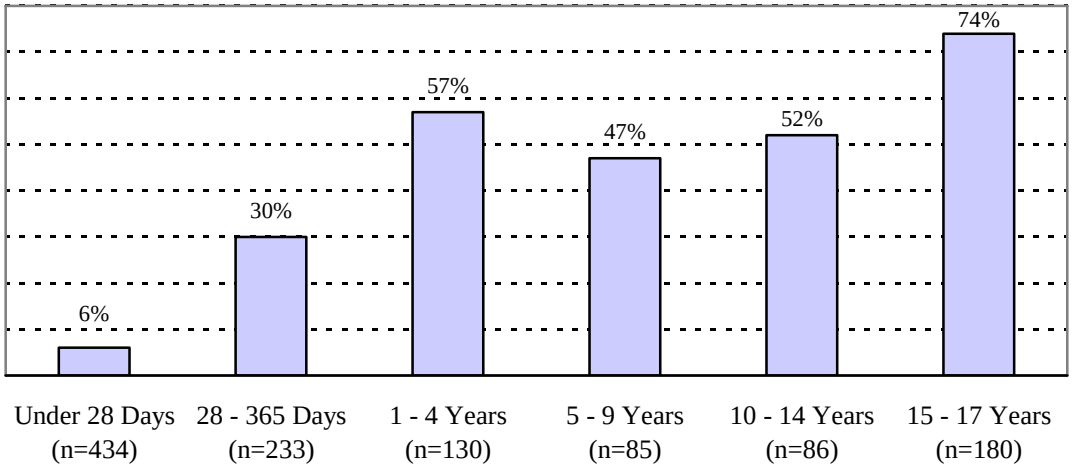
Existence of a contributing factor did not necessarily result in the determination that a death was preventable. Forty-three percent of all deaths (n=496) had at least one contributing factor noted. The most frequently identified factors were lack of supervision (12 percent), drug or alcohol abuse (11 percent), and lack of parenting skills (six percent). The number of contributing factors identified for each death ranged from zero to eleven. Figure 5 shows the number of deaths that were determined to be preventable by the number of contributing factors.

Figure 5. Number of Contributing Factors Among Deaths With At Least One Contributing Factor Identified (n=496), Arizona, 2005



In prior years, Child Fatality Review Teams have concluded that the number of deaths determined to be preventable steadily increased with the child's age. This is the first year that preventable childhood deaths in the one through four years range exceeded preventable deaths in the five through nine years age group and in the 10 through 14 years age groups. Figure 6 shows the percentage of preventable deaths by age group. For the youngest children, less than 28 days, only six percent of deaths were determined preventable compared to 74 percent of deaths occurring in adolescents 15 through 17 years.

Figure 6. Percent of Fatalities Determined to be Preventable by Age Group, Arizona, 2005



CHILDHOOD DEATHS BY AGE GROUP

Factors identified as contributing to the child's death vary by a child's developmental stage; therefore, the next section of this report will provide information on the causes, manners, and contributing factors by age group. The information provided in each age group section should guide prevention efforts within each specific stage of development.

THE NEONATAL PERIOD (BIRTH THROUGH 27 DAYS)

As is typically seen, the neonatal period was the age group with the largest number of deaths. In 2005, 38 percent of the children that died (n=434) in Arizona were less than 28 days old. Ninety-seven percent (n=421) of the deaths in the neonatal period were due to natural causes. More than half (61 percent, n=263) of the deaths were due to prematurity. Table 6 shows the principle cause and manner of death for children who died before their 28th day of life in Arizona.

Table 6. Cause and Manner of Death, Infants Under 28 Days, Arizona, 2005

Cause	Accident	Homicide	Natural	Suicide	Undetermined	Total
Prematurity			263			263
Medical*			155			155
MVC	4					4
SIDS			3			3
Suffocation	3					3
Exposure		1				1
Drowning		1				1
Other Non Medical		1				1
Undetermined					3	3
Total	7	3	421	0	3	434

*Excluding SIDS and prematurity

Table 7 shows the distribution of cause of death during the neonatal period looks similar in 2004 and 2005. The majority of deaths during this period are due to prematurity. The next largest proportion of deaths during the neonatal period is other medical causes. SIDS and suffocation each account for approximately one percent of deaths during the neonatal period.

Table 7. Cause of Death, Infants Under 28 Days, Arizona, 2004 Compared to 2005				
Cause	**2004**		**2005**	
Prematurity	244	58%	263	61%
Medical*	170	40%	155	36%
MVC	1	0%	4	1%
SIDS	5	1%	3	1%
Suffocation	2	0%	3	1%
Exposure	0	0%	1	0%
Drowning	1	0%	1	0%
Other non medical	0	0%	1	0%
Undetermined	1	0%	3	1%
Total	424		434	
*Excluding SIDS and prematurity				

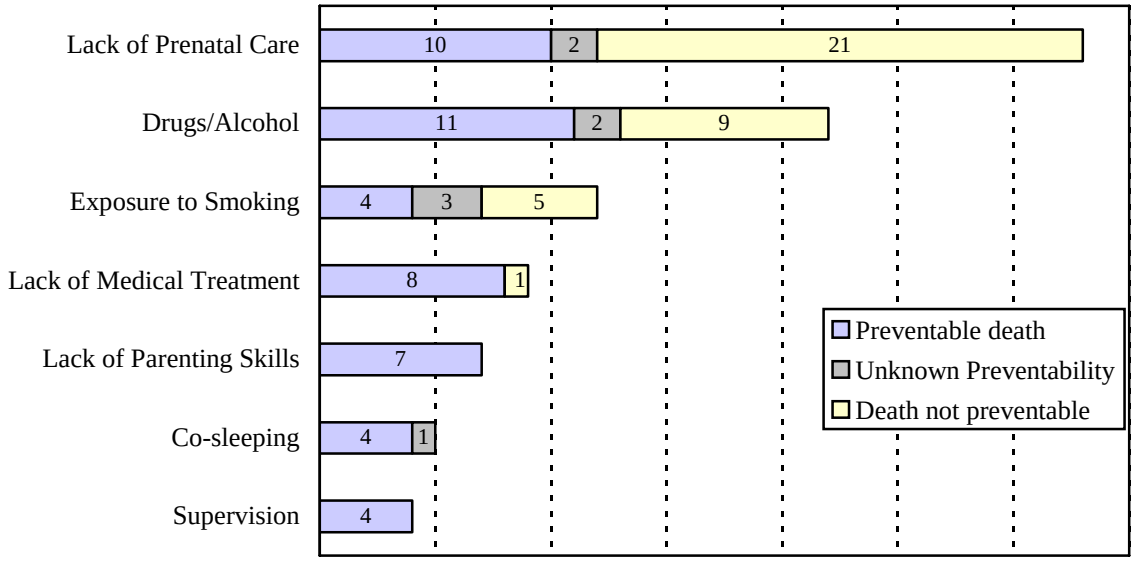
Table 8 compares the manner of neonatal deaths in 2004 to 2005. This distribution of deaths by manner in 2004 is similar to 2005. Although the percentage of deaths due to natural causes decreased in 2005 from 2004, they continue to be the majority of deaths in this age group.

Table 8. Manner of Death, Infants Under 28 Days, Arizona, 2004 Compared to 2005				
Manner	**2004**		**2005**	
Accident	3	1%	7	2%
Homicide	1	<1%	3	1%
Natural	418	99%	421	97%
Suicide	0	0%	0	0%
Undetermined	2	<1%	3	1%
Total	424		434	

CONTRIBUTING FACTORS DURING THE NEONATAL PERIOD

Although the neonatal period was the age group with the largest number of deaths, it was also the age group with the fewest number of contributing factors and smallest proportion of preventable deaths identified by the review teams (n=26, or six percent). Although lack of prenatal care was the most frequently identified contributing factor overall, drugs/alcohol was the most frequently identified factor in preventable deaths in this age group.

Figure 7. Contributing Factors Identified for Neonatal Deaths (n=434), Arizona, 2005



THE POST-NEONATAL PERIOD (28 DAYS THROUGH 365 DAYS)

In 2005, 233 children died in Arizona between their 28th day of life and their first birthday. The majority of these children died of natural causes (n=178, 76 percent). Fifteen percent (n=34) of children who died during the neonatal period died of Sudden Infant Death Syndrome (SIDS). Twelve percent (n=27) of the deaths were accidental, with suffocation (n=17) being the most common cause. Nine were victims of homicide.

Table 9. Cause and Manner of Death, Children 28 to 365 Days, Arizona, 2005

Cause	Accident	Homicide	Natural	Suicide	Undetermined	Total
Medical*			122			122
SIDS			34			34
Prematurity			21			21
Suffocation	17				2	19
Blunt Force Trauma		6			1	7
Other Non-Medical	2	2			1	5
Fire/Burn	3					3
MVC	1					1
Drowning	1					1
Exposure					1	1
Hanging	1					1
Poisoning		1				1
Undetermined	2		1		14	17
Total	27	9	178	0	19	233

*Excluding SIDS and prematurity

In 2004, all medical causes including prematurity and SIDS accounted for 83 percent of deaths for children who died during the post-neonatal period. During 2005, prematurity, SIDS, and other medical causes accounted for 76 percent of children's deaths in this age group. No post-neonatal deaths were reported to have been caused by hanging or fire/burns during 2004. However, in 2005, there were three deaths during this period due to fire/burns and one hanging death. All four of these deaths were accidental.

Table 10. Cause of Death, Infants 28 to 365 Days, Arizona, 2004 Compared to 2005

Cause	2004		2005	
Medical*	114	57%	122	52%
SIDS	26	13%	34	15%
Prematurity	25	13%	21	9%
Suffocation	10	5%	19	8%
Blunt Force Trauma	3	2%	7	3%
Other Non-Medical	5	3%	5	2%
Fire/Burns	0	0%	3	1%
MVC	2	1%	1	<1%
Drowning	1	<1%	1	<1%
Exposure	3	2%	1	<1%
Hanging	0	0%	1	<1%
Poisoning	2	1%	1	<1%
Undetermined	9	5%	17	7%
Total	200		233	

*Excluding SIDS and prematurity

Table 11 compares the manner of post-neonatal deaths in 2004 to 2005. Accidental deaths had the largest increase in proportion of deaths, accounting for nine percent of the deaths in 2004 and 12 percent in 2005.

Table 11. Manner of Death, Infants 28 to 365 Days, Arizona, 2004 Compared to 2005

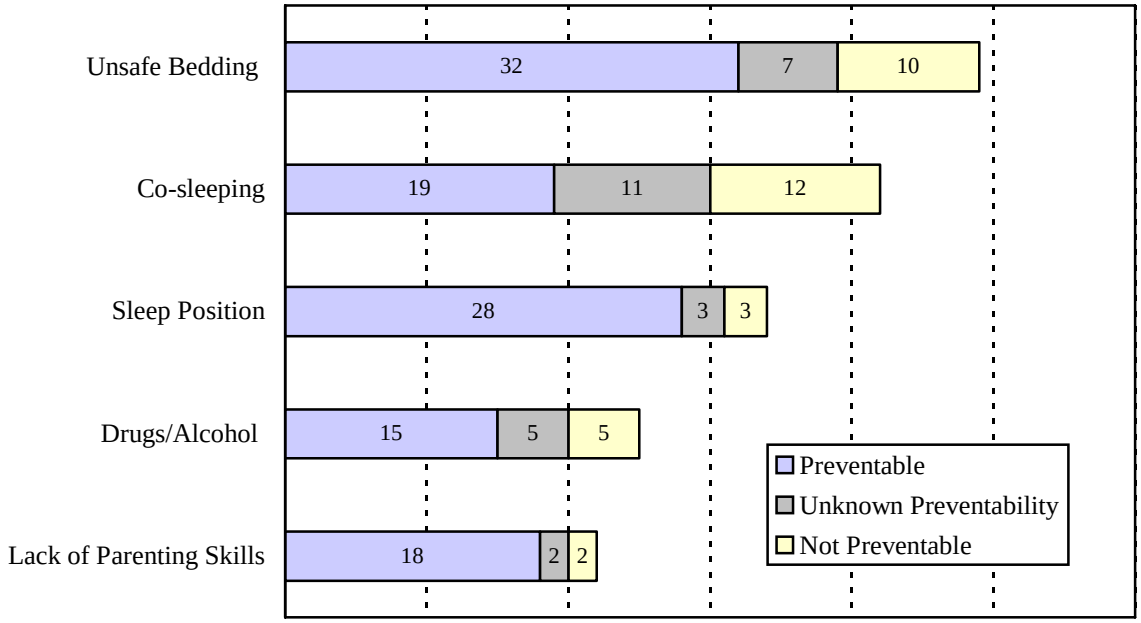
Manner	2004	2004	2005	2005
Accident	17	9%	27	12%
Homicide	6	3%	9	4%
Natural	164	82%	178	76%
Suicide	0	0%	0	0%
Undetermined	13	7%	19	8%
Total	200		233	

CONTRIBUTING FACTORS DURING THE POST-NEONATAL PERIOD

Three out of ten deaths (n=69) of infants 28 to 365 days were determined preventable by Child Fatality Review Teams. Unsafe bedding was the most frequently identified contributing factor (n=49) and was the contributing factor most often associated with a

death being preventable (n=32). Sleep position was a contributing factor in 28 preventable deaths in this age group, while co-sleeping was found to be a factor in 19 of the deaths that were determined to be preventable.

Figure 8. Contributing Fractors Identified for Infants 28-365 Days (n=233), Arizona 2005



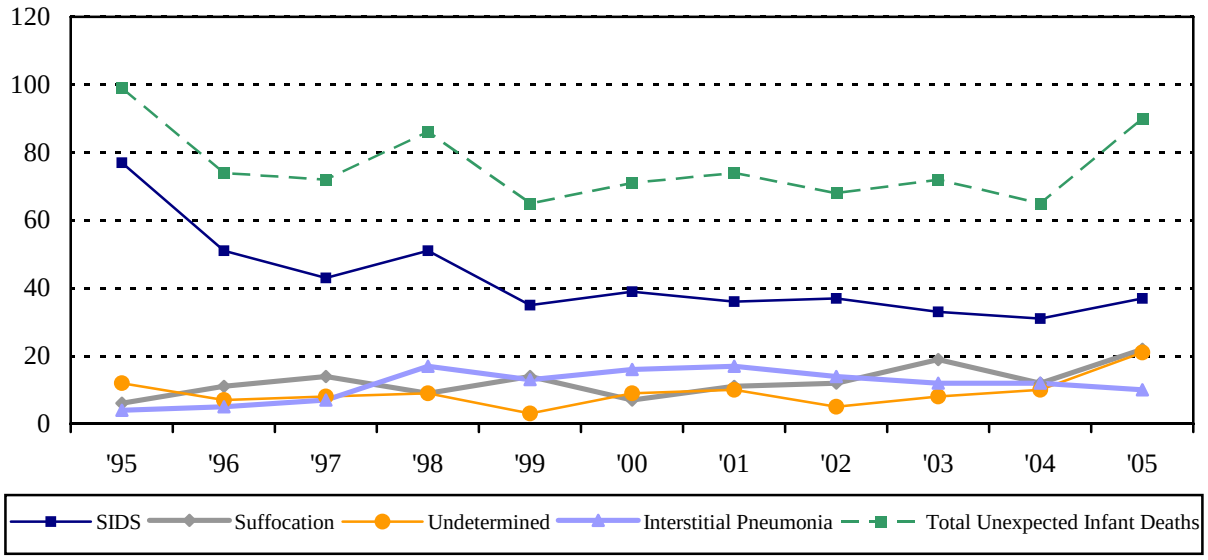
UNEXPECTED INFANT DEATHS, BIRTH TO ONE YEAR

According to the Center for Disease Control and Prevention, more than 4,500 infants die annually in the United States of no obvious cause. These sudden, unexpected infant deaths are largely reported as SIDS; however, the national incidence of SIDS has declined during the past fifteen years. By definition, SIDS can only be diagnosed after a thorough examination of the death scene, a review of the clinical history, and after an autopsy fails to find an explanation for the death. While the reduction in the SIDS rate may be attributed to campaigns designed to reduce risks associated with SIDS, such as sleep position and safe bedding, studies have also shown that some deaths previously classified as SIDS are now reported as an unknown cause or the result of suffocation.

Figure 9 compares the number of infant deaths in Arizona from 1995 through 2005 identified by Child Fatality Review Teams as SIDS to other unexpected infant deaths. The total number of unexpected infant deaths ranged from 99 in 1995 to a low of 65 in 1999 and 2004. In 2005, the total number of unexpected infant deaths increased to 90. When interpreting the number of deaths in this category, population growth should be considered. In 1995, there were an estimated 56,202 infants in Arizona compared to 90,288 infants in 2005. In 2005, there were 37 SIDS deaths and 53 other unexpected infant deaths. Figure 9 includes a line identifying the number of infants with interstitial

pneumonia identified as their cause of death. The rationale behind including these deaths is that there is wide variation in pathologists' use of this diagnosis as a cause of death. While some pathologists identify interstitial pneumonia as a cause of death for infants, others believe that this is rarely a cause of an infant's death and the cause should instead be identified as SIDS or unknown.

Figure 9. Unexpected Infant Deaths: SIDS, Suffocation, Undetermined Cause, and Interstitial Pneumonia, Arizona, 1995 - 2005



Child Fatality Review Teams determined that 95 deaths of infants, birth to one year, could have been prevented. Unexpected infant deaths accounted for only 14 percent of all infant deaths, however accounted for 49 percent of preventable infant deaths. The infant's sleep environment was the most frequently identified factor contributing to the unexpected infant deaths, including unsafe bedding in 44 deaths (49 percent), co-sleeping in 41 deaths (46 percent), sleep position in 31 deaths (34 percent), and drugs or alcohol in 15 deaths (17 percent). Among the 41 unexpected infant deaths in which co-sleeping with an adult or other children was cited, additional factors, such as unsafe bedding, sleep position, or drugs and alcohol were also present in 36 deaths.

CHILDREN, ONE THROUGH FOUR YEARS OLD

During 2005, 130 children died in Arizona between their first and fifth birthdays. Deaths due to medical causes accounted for 43 percent of these deaths. Fifty-four children (42 percent) died in accidents, 19 of which were drowning and 19 of which were motor vehicle crashes. Thirteen children were victims of homicide. Table 12 provides detailed information on cause and manner of death for these children.

Table 12. Cause and Manner of Death, Children One through Four Years, Arizona, 2005						
Cause	**Accident**	**Homicide**	**Natural**	**Suicide**	**Undetermined**	**Total**
Medical			56			56
Drowning	19				1	20
MVC	19					19
Blunt Force Trauma	2	8				10
Other Non-Medical	3	2				5
Fire/Burn	5					5
Poisoning	2	1			1	4
Exposure	3					3
Suffocation		2				2
Firearm Injury	1					1
Undetermined					5	5
Total	54	13	56	0	7	130

The most notable change in cause of death for children ages one through four years from 2004 to 2005 was the decrease in the proportion of deaths due to medical causes (57 percent in 2004 compared to 43 percent in 2005). Other changes included increases in blunt force trauma (from five to eight percent), fire/burns (from zero to four percent), and poisoning (from zero to three percent). Table 13 below shows the cause of death for children, one through four years of age, in 2004 and 2005.

Table 13. Cause of Death, Children One through Four Years, Arizona, 2004 Compared to 2005				
Cause	**2004**		**2005**	
Medical	59	57%	56	43%
Drowning	18	17%	20	15%
MVC	13	13%	19	15%
Blunt Force Trauma	5	5%	10	8%
Other Non-Medical	4	4%	5	4%
Fire/Burns	0	0%	5	4%
Poisoning	0	0%	4	3%
Exposure	1	1%	3	2%
Suffocation	1	1%	2	2%
Firearm Injury	1	1%	1	1%
Undetermined	2	2%	5	4%
Total	104		130	

Proportionately, accidental deaths increased and natural deaths declined during 2005 for the one through four years age group. In 2004, 32 percent of deaths in this age group were due to accidents and 56 percent were due to natural causes. In 2005, accidental deaths accounted for 42 percent and natural deaths accounted for 43 percent of deaths in

this age group. Table 14 provides a comparison of manner of death for children one through four years of age in 2004 and 2005. Most of the increase in accidental deaths was due to an increase in motor vehicle crash deaths (from 13 in 2004 to 19 in 2005), fire/burn deaths, (from zero in 2004 to five in 2005), and exposure deaths (from one in 2004 to three in 2005).

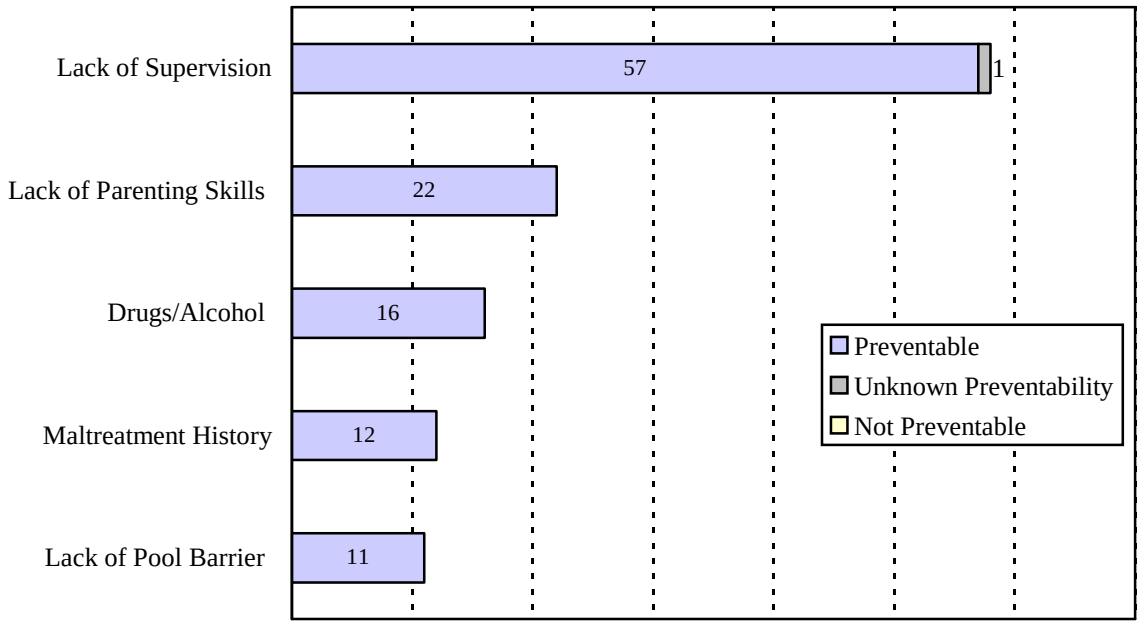
Table 14. Manner of Death, Children 1 through 4 Years, Arizona, 2004 Compared to 2005

Manner	2004		2005	
Accident	33	32%	54	42%
Homicide	9	9%	13	10%
Natural	58	56%	56	43%
Suicide	0	0%	0	0%
Undetermined	4	4%	7	5%
Total	104		130	

CONTRIBUTING FACTORS TO CHILDREN'S DEATHS, ONE THROUGH FOUR YEARS

More than half (57 percent) of the deaths in children one through four years of age were determined to have been preventable by Child Fatality Review Teams. Lack of supervision was the most frequently identified contributing factor in this age group (45 percent). Figure 10 shows that other contributing factors to deaths in this age group included lack of parenting skills, drugs/alcohol, maltreatment history, and lack of pool barriers.

Figure 10. Contributing Factors Identified in Fatalities of Children, 1 through 4 Years (n=130), Arizona, 2005



CHILDREN, FIVE THROUGH NINE YEARS OLD

During 2005, 85 children in Arizona died between their fifth and tenth birthdays. Just more than half (n=43, 51 percent) of these deaths were due to natural causes. One in four of these children (n=23, 27 percent) died in motor vehicle crashes and seven percent (n=6) drowned. Table 15 shows the cause and manner for each of the deaths in this age group.

Table 15. Cause and Manner of Death, Children 5 through 9 Years, Arizona, 2005

Cause	Accident	Homicide	Natural	Suicide	Undetermined	Total
Medical			43			43
MVC	23					23
Drowning	6					6
Fire/Burn	6					6
Other Non-Medical	1	1				2
Blunt Force Trauma	1	1				2
Firearm Injury		1				1
Poisoning	1					1
Suffocation	1					1
Total	39	3	43	0	0	85

The most notable difference in the cause of death for children ages five through nine years from 2004 to 2005 was an increase in fire or burn deaths. In this age group, there were six deaths from fire or burns in 2005 and no deaths due to fire or burns in 2004. No child of any age died as a result of fire or burns in 2004 in Arizona. In 2005, 20 children (birth through 17 years) died as the result of fires or burns. Thirty percent of these fire/burn deaths were in the five through nine years age group.

Table 16. Cause of Death, Children 5 through 9 Years, Arizona, 2004 Compared to 2005

Cause	2004		2005	
Medical	28	49%	43	51%
MVC	15	26%	23	27%
Drowning	5	9%	6	7%
Fire/Burns	0	0%	6	7%
Other Non-Medical	3	5%	2	2%
Blunt Force Trauma	1	2%	2	2%
Gun shot wound	2	4%	1	1%
Poisoning	1	2%	1	1%
Suffocation	0	0%	1	1%
Hanging	1	2%	0	0%
Fall	1	2%	0	0%
Total	57		85	

In 2005, there was a slight increase in the proportion of deaths due to accidents (46 percent) compared to 2004 (42 percent). This increase is primarily due to the six fire/burn deaths.

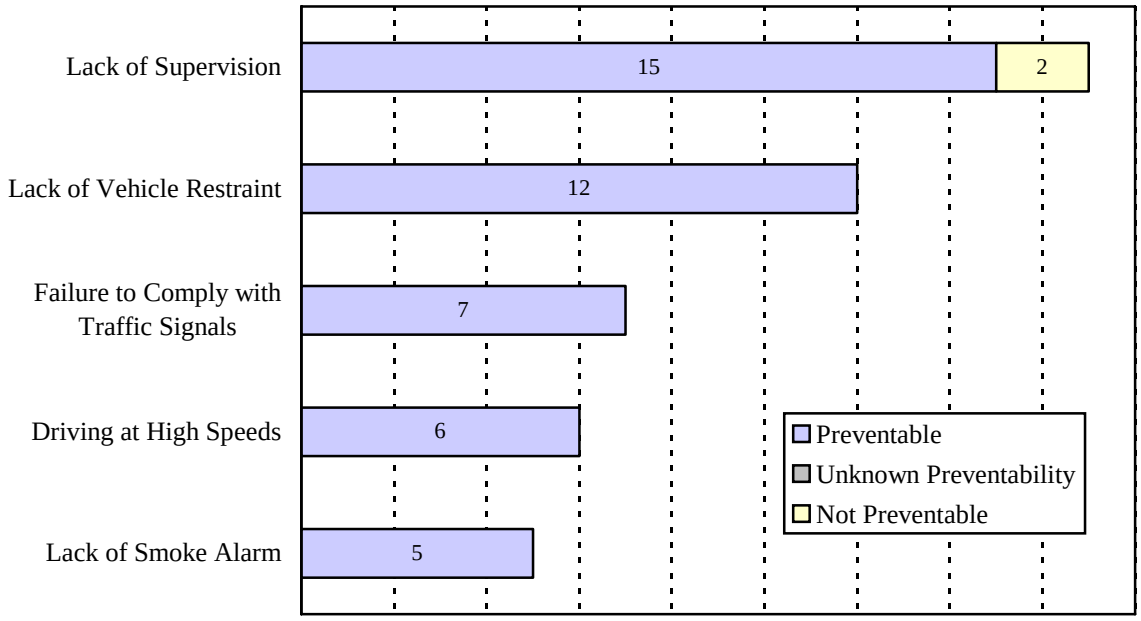
Table 17. Manner of Death, Children 5 through 9 Years, Arizona, 2004 Compared to 2005

Manner	2004		2005	
Accident	24	42%	39	46%
Homicide	3	5%	3	4%
Natural	28	49%	43	51%
Suicide	1	2%	0	0%
Undetermined	1	2%	0	0%
Total	57		85	

CONTRIBUTING FACTORS TO CHILDREN'S DEATHS, FIVE THROUGH NINE YEARS

Nearly half (47 percent) of deaths of children ages five through nine years were determined preventable by Child Fatality Review Teams. The contributing factor most frequently identified in these deaths was lack of supervision (n=17, 20 percent), followed by lack of vehicle restraint (n=12, 14 percent).

Figure 11. Contributing Factors Identified in Fatalities of Children, 5 through 9 Years (n=85), Arizona 2005



CHILDREN, TEN THROUGH FOURTEEN YEARS OLD

Eighty-six children, ages 10 through 14 years, died in Arizona during 2005. Table 18 shows the cause and manner of death for these children. Accidents accounted for 38 percent (n=33) and natural causes accounted for 37 percent (n=32).

Table 18. Cause and Manner of Death for Children 10 through 14 Years (n=86), Arizona, 2005

Cause	Accident	Homicide	Natural	Suicide	Undetermined	Total
Medical			32			32
MVC	20			1		21
Firearm Injury	2	2		3		7
Hanging				7		7
Fire/burn	5					5
Poisoning	1			2	1	4
Exposure	3				1	4
Suffocation	1	2				3
Drowning	1					1
Other Non-Medical	1					1
Blunt Force Trauma		1				1
Total	34	5	32	13	2	86

The 10 through 14 years age group is the only group with a decrease in the number of deaths from 2004 (n=90) to 2005 (n=86), even as the population grew. Both the proportion of deaths and the number of deaths due to medical causes and motor vehicle crashes declined in 2005. In 2005, there were more deaths due to fires or burns (from zero to six percent), exposure (from zero to five percent), hanging (from two to eight percent), and poisoning (from two to five percent).

Table 19. Cause of Death, Children 10 through 14 Years, Arizona, 2004 Compared to 2005

Cause	2004		2005	
Medical	37	41%	32	37%
MVC	35	39%	21	24%
Firearm Injury	9	10%	7	8%
Hanging	2	2%	7	8%
Fire/Burns	0	0%	5	6%
Poisoning	2	2%	4	5%
Exposure	0	0%	4	5%
Suffocation	2	2%	3	3%
Drowning	2	2%	1	1%
Other Non-Medical	1	1%	1	1%
Blunt Force Trauma	0	0%	1	1%
Total	90		86	

In juxtaposition to the five through nine years age group where the proportion of deaths due to accidents increased, the proportion of deaths due to accidents in the 10 through 14 years group declined from 48 percent in 2004 to 40 percent in 2005. The largest proportional increase in manner of death for this age group was in suicides, which increased from two percent of deaths in 2004 to 15 percent in 2005 (n=2 in 2004 and 13 in 2005).

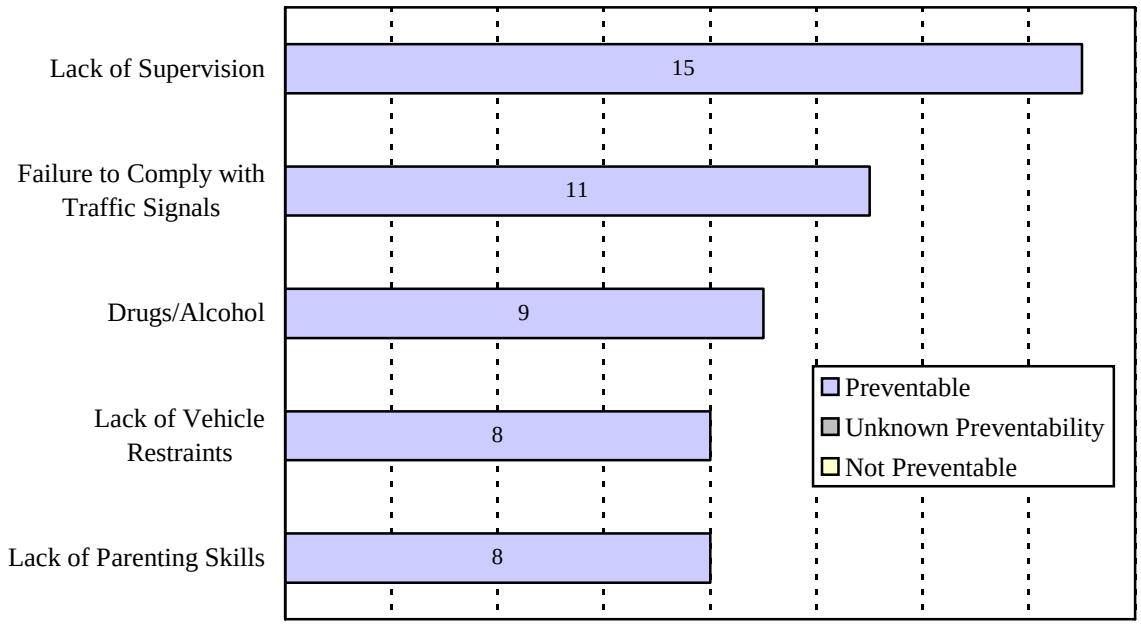
Table 20. Manner of Death, Children 10 through 14 Years, Arizona, 2004 Compared to 2005

Manner	2004		2005	
Accident	43	48%	34	40%
Homicide	7	8%	5	6%
Natural	37	41%	32	37%
Suicide	2	2%	13	15%
Undetermined	1	1%	2	2%
Total	90		86	

CONTRIBUTING FACTORS TO CHILDREN'S DEATHS, TEN THROUGH FOURTEEN YEARS

Fifty-two percent of childhood deaths in the 10 through 14 years age group were determined preventable by Child Fatality Review Teams. The most frequently identified contributing factor was lack of supervision (n=15, 17 percent), followed by failure to comply with traffic signals (n=11, 13 percent).

Figure 12. Contributing Factors Identified in Fatalities of Children 10 through 14 Years (n=86), Arizona, 2005



ADOLESCENTS, FIFTEEN THROUGH SEVENTEEN YEARS OLD

During 2005, 180 adolescents 15 through 17 years of age died in Arizona. More than one-third of these deaths were the result of motor vehicle crashes (n=66, 37 percent). Accidental deaths accounted for more than half of the deaths in this age group (n=92, 51 percent).

Table 21. Cause and Manner of Death for Children 15 through 17 Years Old, Arizona, 2005

Cause	Accident	Homicide	Natural	Suicide	Undetermined	Total
MVC	65	1				66
Firearm Injury	1	22		11		34
Medical			34			34
Hanging	1			9		10
Exposure	9				1	10
Poisoning	6			3		9
Drowning	5				1	6
Falls	3				1	4
Other Non-Medical		2				2
Blunt Force Trauma	1				1	2
Fire/burn	1					1
Unknown			1		1	2
Total	92	25	35	23	5	180

Compared to 2004, a lesser proportion of adolescent deaths were due to motor vehicle crashes (42 percent in 2004 compared to 37 percent in 2005). The largest proportional increase in deaths for this age group was in the exposure category, increasing from two deaths (one percent) in 2004 to 10 deaths (six percent) in 2005. Table 22 compares cause of death in 2004 to 2005 for adolescents, 15 through 17 years.

Table 22. Cause of Death, Adolescents 15 through 17 Years, Arizona, 2004 Compared to 2005

Cause	2004		2005	
MVC	66	42%	66	37%
Firearm Injury	29	19%	34	19%
Medical	27	17%	34	19%
Hanging	8	5%	10	6%
Exposure	2	1%	10	6%
Poisoning	11	7%	9	5%
Drowning	5	3%	6	3%
Falls	2	1%	4	2%
Other Non-Medical	5	3%	2	1%
Blunt Force Trauma	0	0%	2	1%
Fire/Burn	0	0%	1	1%
Undetermined	0	0%	2	1%
Suffocation	1	1%	0	0%
Total	156		180	

A comparison of the breakdown of manner of death for adolescents in 2004 and 2005, as shown in Table 23, reveals that there were some minor changes. Accidental deaths accounted for 54 percent of deaths in 2004 and 51 percent in 2005. The next most common manner for adolescents was natural deaths, accounting for 18 percent of deaths in 2004 and 19 percent in 2005.

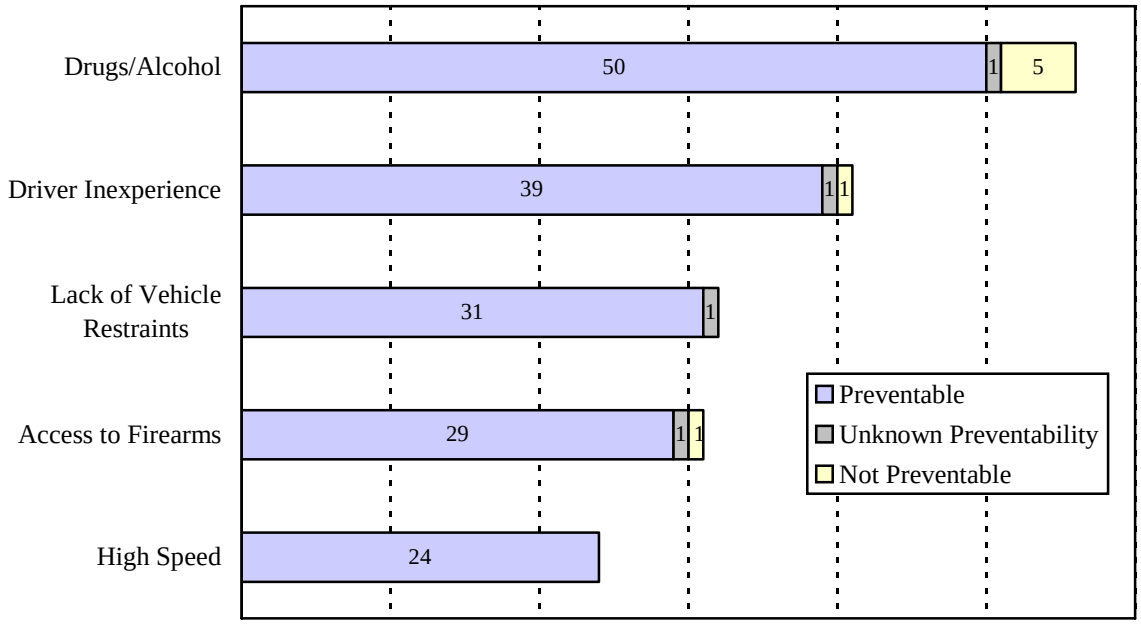
Table 23. Manner of Death, Adolescents 15 through 17 Years, Arizona, 2004 Compared to 2005

Manner	2004		2005	
Accident	84	54%	92	51%
Homicide	17	11%	25	14%
Natural	28	18%	35	19%
Suicide	24	15%	23	13%
Undetermined	3	2%	5	3%
Total	156		180	

CONTRIBUTING FACTORS TO CHILDREN'S DEATHS, FIFTEEN THROUGH SEVENTEEN YEARS

Seventy-four percent of deaths to adolescents in the 15 through 17 years age group were determined preventable by Child Fatality Review Teams. Figure 13 shows the top five contributing factors to deaths in this age group. Drugs/alcohol was the most frequently identified contributing factor, identified in 31 percent of these deaths. The second most frequently identified contributing factor for adolescents was driver inexperience, followed by lack of use of vehicle restraints.

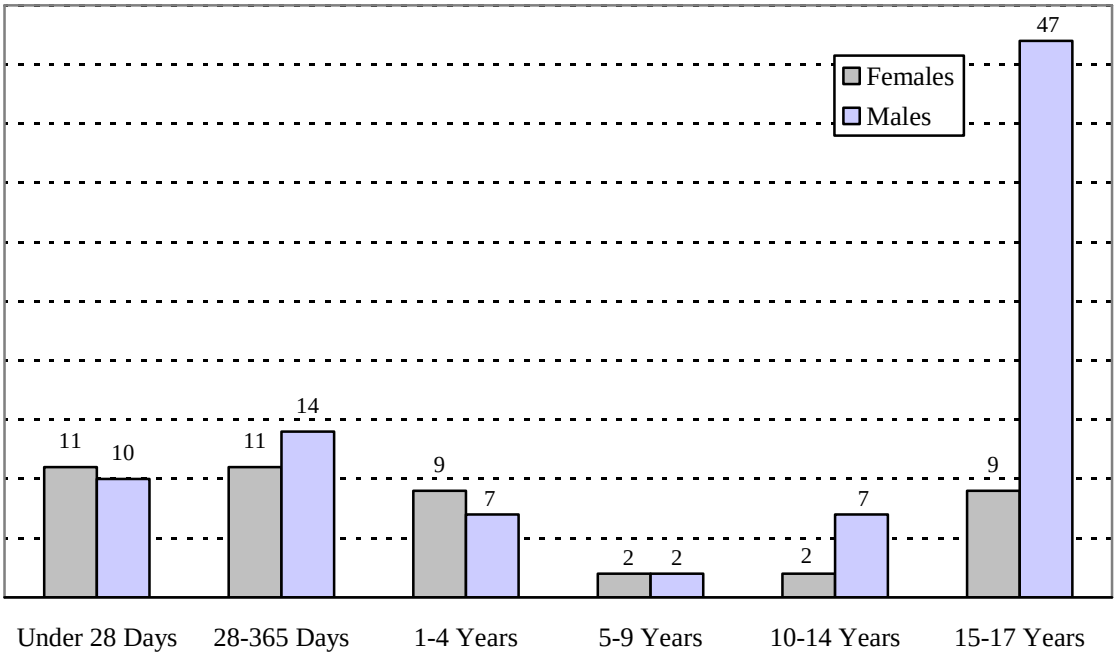
Figure 13. Contributing Factors Identified in Fatalities of Children, 15 through 17 Years (n=180), Arizona, 2005



DRUGS AND ALCOHOL AS CONTRIBUTING FACTORS IN CHILDHOOD FATALITIES

Child Fatality Review Teams determined that drugs or alcohol contributed to 131 deaths of children in 2005 (11 percent). Drugs or alcohol contributed to 60 percent of all homicides, 39 percent of suicides, 22 percent of deaths in which the manner could not be determined, and 18 percent of all accidents. Although drugs and alcohol were determined to be contributing factors for childhood deaths of males and females in all age groups, adolescent boys 15 through 17 years old accounted for more than one-third of the drug/alcohol related deaths (n=47, 36 percent).

Figure 14. Age Group and Gender for Drugs/Alcohol as a Contributing Factor to Death (n=131), Arizona, 2005



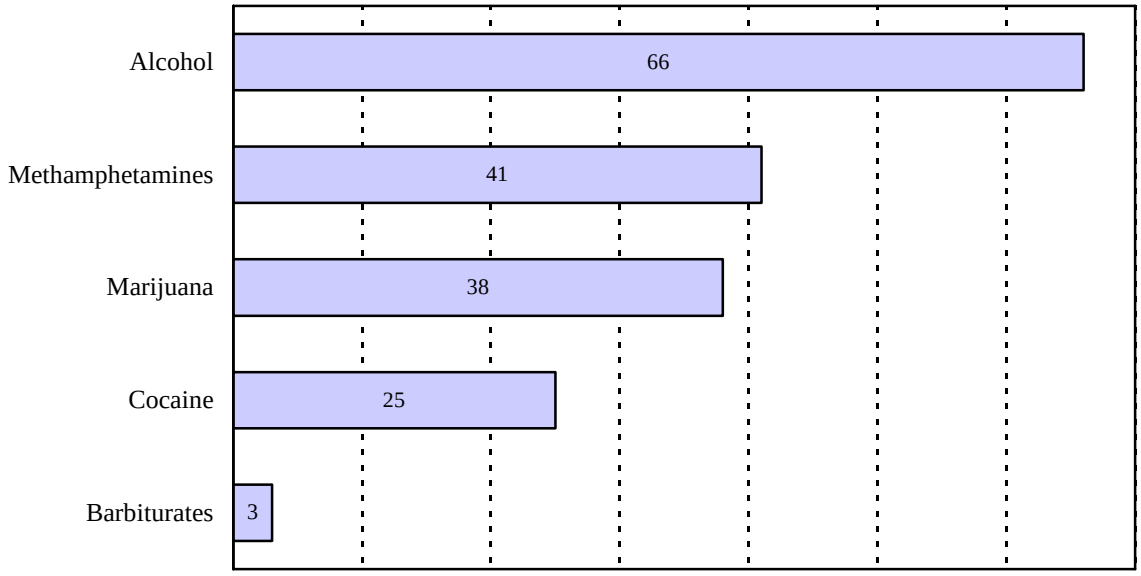
Drugs and alcohol were determined to contribute to fatalities in all manners of death and in all ages of children that died. Table 24 displays the manner and causes of death in which drugs or alcohol were factors. Accidents accounted for 34 percent of deaths with drugs or alcohol as contributing factors and only 22 percent of deaths overall. There were 26 motor vehicle crashes and 25 firearm fatalities in which drugs or alcohol were contributing factors. Examples of natural deaths in Table 24 include deaths in which prenatal substance abuse was a factor, parents whose substance abuse negatively impacted the quality of their parenting, and children whose health was harmed by exposure to drugs in the home.

Table 24. Manner and Cause of Death with Drugs or Alcohol as a Contributing Factor, Arizona, 2005

Cause	Accident	Homicide	Natural	Suicide	Undetermined	Total
MVC	24	1		1		26
Firearm Injury		17		8		25
Medical			14			14
Prematurity			13			13
Poisoning	7	2		3		12
Blunt Force Trauma		8				8
Drowning	4	1			1	6
Suffocation	3	1			2	6
Exposure	2	1			1	4
Other Non-Medical		3				3
Fire/Burn	2					2
Hanging				2		2
SIDS			2			2
Shaken Infant		1				1
Fall	1					1
Unknown	2				4	6
Total with Drugs/ Alcohol as Factor	45	35	29	14	8	131
Percentage of Deaths by Manner with Drugs/Alcohol as Factor	18%	60%	4%	39%	22%	11%

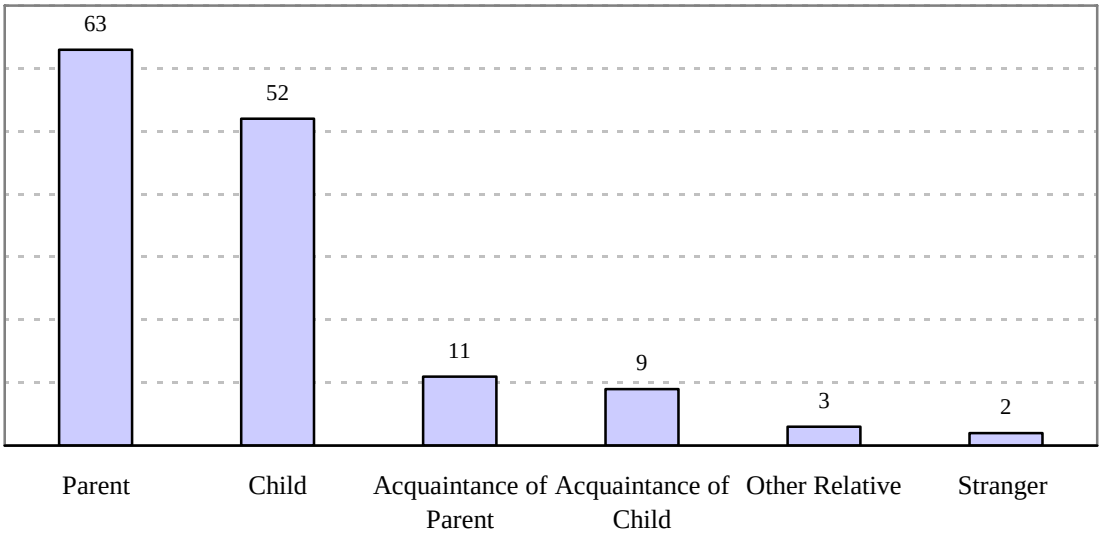
Figure 15 shows the frequency of the category of drugs determined to have contributed to the child's death. Alcohol was a factor in six percent (n=66) and methamphetamine was a factor in four percent (n=41) of all childhood deaths in Arizona in 2005. Multiple substances may have been identified as contributing to a child's death.

Figure 15. Drugs Most Frequently Identified as a Contributing Factor, Arizona, 2005



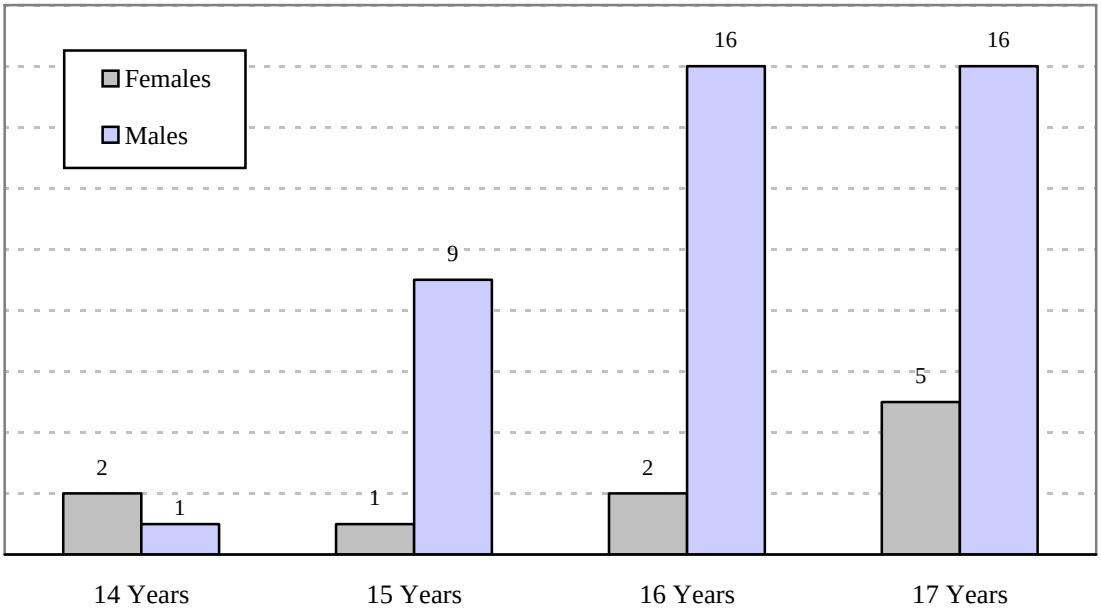
The individual using the drugs or alcohol may have been the parent, child, an acquaintance of the child or family, a relative, or a stranger. For example, if the child was a passenger in a car hit by an intoxicated driver in another car, "stranger" would be identified as the individual using the substance. In some deaths, more than one individual abusing substances may have been identified.

Figure 16. Substance User where Alcohol/Drug was a Contributing Factor, Arizona, 2005



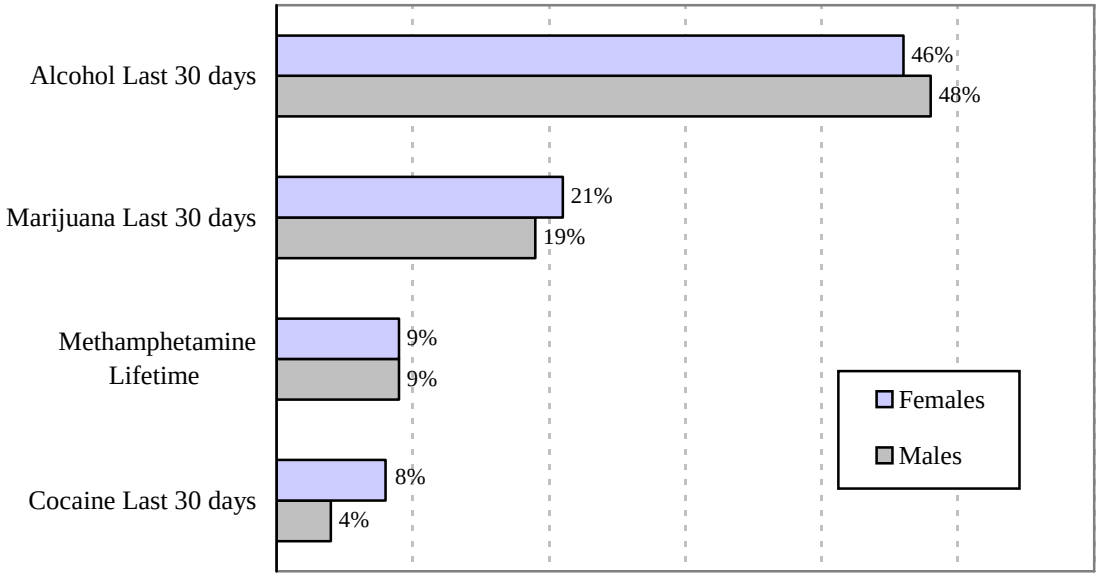
Of the 52 children whose own drug or alcohol use contributed to their deaths, 42 were males. Figure 17 shows the age and gender breakdown for these 52 children. The youngest child whose own drug or alcohol use contributed to their death was fourteen years old.

Figure 17. Age Group and Gender for Children Whose Own Substance Use Contributed to their Deaths (n=52), Arizona, 2005



According to the Youth Risk Behavior Survey, drug and alcohol use is common amongst 9th through 12th grade students in Arizona. Nearly half of the students surveyed in 2005 (47 percent) consumed at least one drink of alcohol in the last 30 days. Figure 18 provides a summary of drug and alcohol risk behaviors from Arizona's 2005 Youth Risk Behavior Survey by gender. Nearly one in ten students reported ever using methamphetamines.

Figure 18. Alcohol and Drug Use, 9th through 12th Grade Students, Arizona Youth Risk Behavior Survey, 2005



MALTREATMENT DEATHS

In order to get a fuller picture of the contribution of neglect and abuse to child mortality, the Arizona Child Fatality Review Teams answer the following question regarding each death: "Was this death the result of child maltreatment?"

A "yes" answer to this question indicates that all of the following three conditions were met:

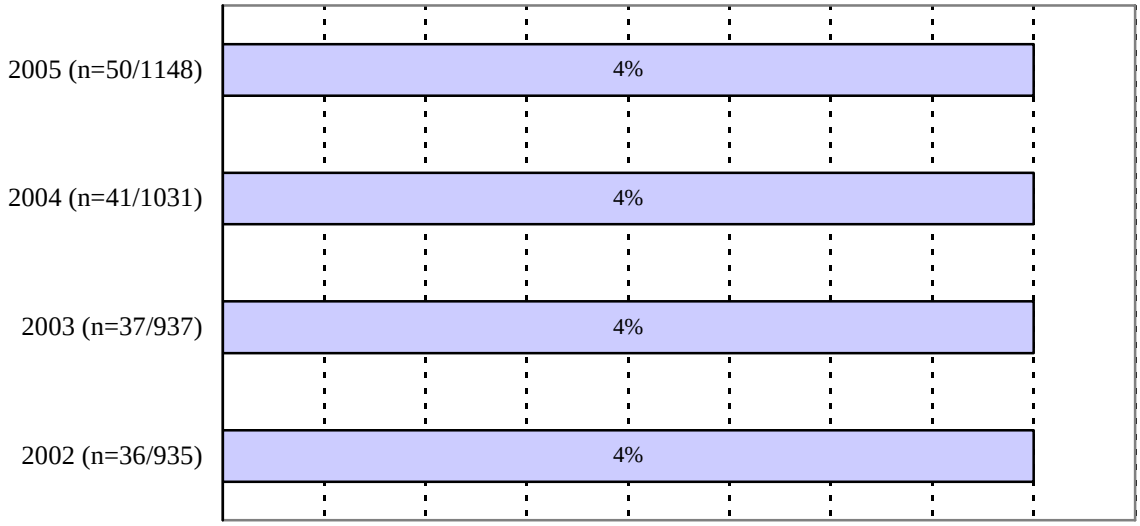
1) The U. S. Department of Health and Human Services definition of maltreatment: "An act or failure to act by a parent, caregiver, or other person as defined under State law which results in physical abuse, neglect, medical neglect, sexual abuse, emotional abuse, or an act or failure to act which presents an imminent risk of serious harm to a child" applied to the circumstances surrounding the death.
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 Child Protective Services.

Deaths included in this category are also reported in other categories, including manner and cause. For example, a death due to shaken baby syndrome would be classified as a manner of homicide, cause of shaken infant, and a maltreatment death. An accidental or natural death might also be identified as a maltreatment death if, in the opinion of the team, a caretaker's negligence or actions contributed to or caused the death. For example, a child dies in a motor vehicle crash due to the parent's intoxication.

The number of child maltreatment deaths included in this report is not comparable to child maltreatment deaths reported by the Arizona Department of Economic Security for the National Child Abuse and Neglect Data System (NCANDS). NCANDS will include maltreatment deaths identified through Child Protective Services investigations. Child Protective Services may not been notified of the death or may not have investigated the death at the time the report to NCANDS was generated.

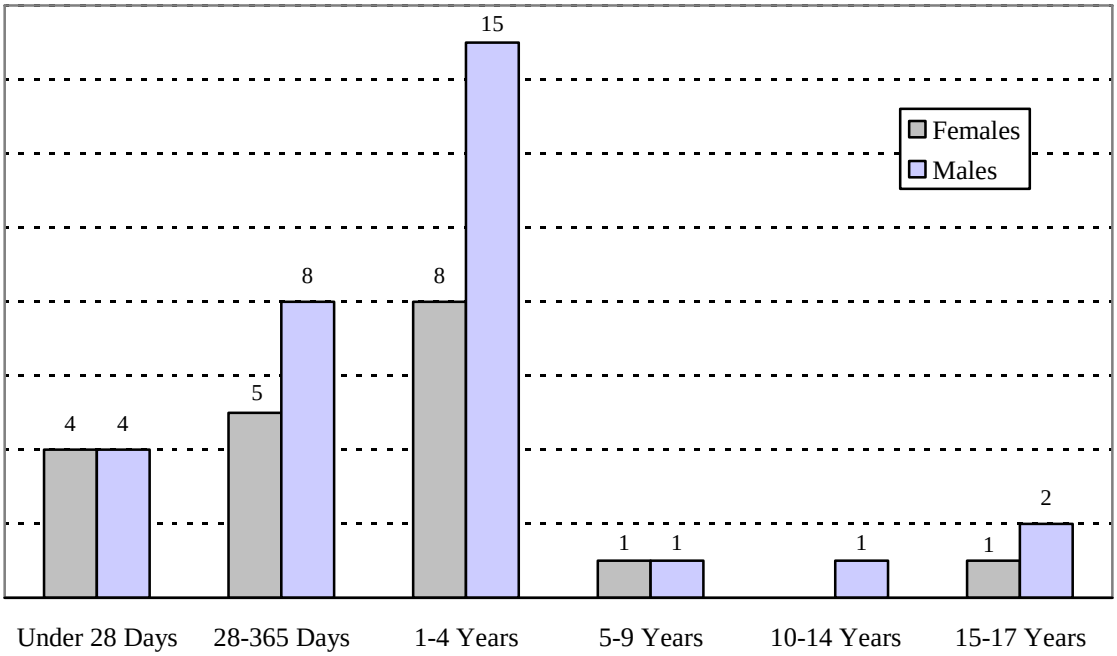
In 2005, 50 deaths were associated with maltreatment. Forty-nine of these deaths were determined to have been preventable by Child Fatality Review Teams. A comparison of maltreatment deaths during the last four years shows that maltreatment has consistently accounted for four percent of all reviewed childhood deaths occurring in Arizona (Figure 19).

Figure 19. Maltreatment Deaths, for Reviewed Cases, 2002 through 2005, Arizona



More boys (n=31, 62 percent) died of maltreatment than girls (n=19, 38 percent) during 2005. Figure 20 shows the age and gender breakdown of children who died of maltreatment during 2005. Eighty-eight percent (n=44) of the children who died of maltreatment were less than five years old.

Figure 20. Age Group and Gender for Maltreatment Deaths (n=50) Birth through 17 Years, Arizona, 2005



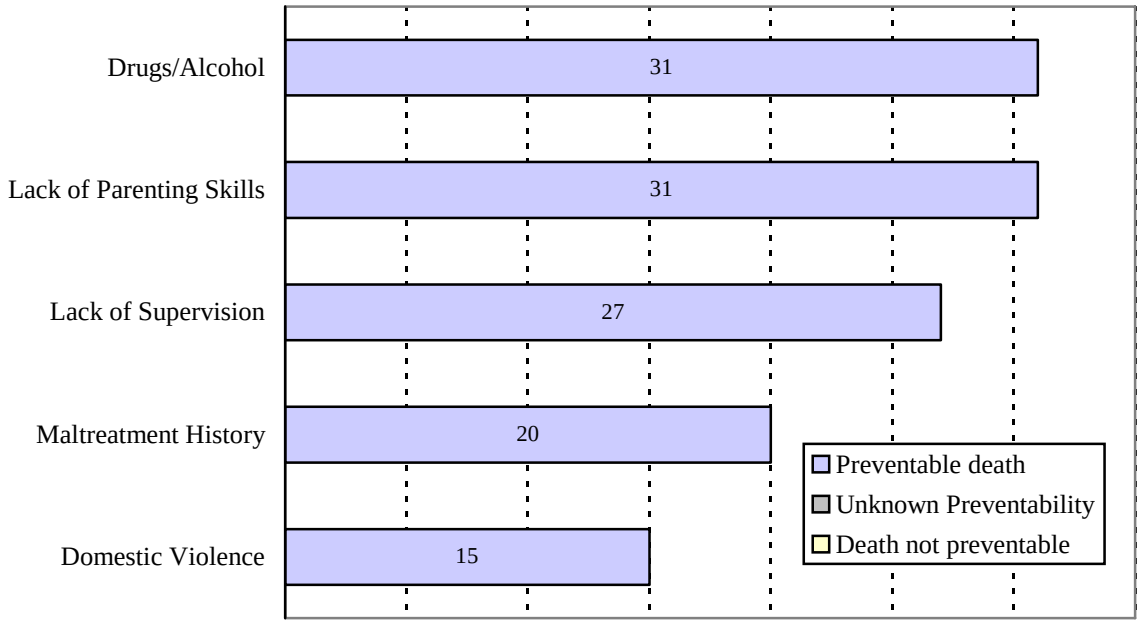
Homicide was the manner of death in the majority of maltreatment deaths in 2005 (n=29, 58 percent). The most common cause of maltreatment deaths was blunt force trauma, accounting for 17 (34 percent) of these deaths.

Table 25. Cause and Manner of Death, Maltreatment Related Deaths, Arizona, 2005

Cause	Accident	Homicide	Natural	Undetermined	Total
Blunt Force Trauma		17			17
Poisoning	2	2			4
Prematurity			4		4
Other Medical			3		3
MVC	3				3
Shaken Infant		3			3
Suffocation		2		1	3
Other Non-Medical		2		1	3
Drowning	1	1			2
Exposure		1		1	2
Fire/Burn	2				2
Firearm Injury		1			1
Unknown	1			2	3
Total	9	29	7	5	50

Drugs and alcohol contributed to 62 percent of all deaths due to maltreatment. Lack of parenting skills was also identified as a contributing factor in 62 percent of deaths due to maltreatment. Child Fatality Review Teams identified the type of substance(s) involved for fatalities in which drugs or alcohol was a contributing factor. Methamphetamine use contributed to 32 percent (n=16) of maltreatment deaths. Alcohol was identified in 24 percent (n=12), marijuana was identified in 14 percent (n=7), and cocaine in 12 percent (n=6).

Figure 21. Contributing Factors in Maltreatment Deaths (n=50)
Arizona, 2005



CHILD PROTECTIVE SERVICES INVOLVEMENT WITH FAMILIES OF CHILDREN WHO DIED

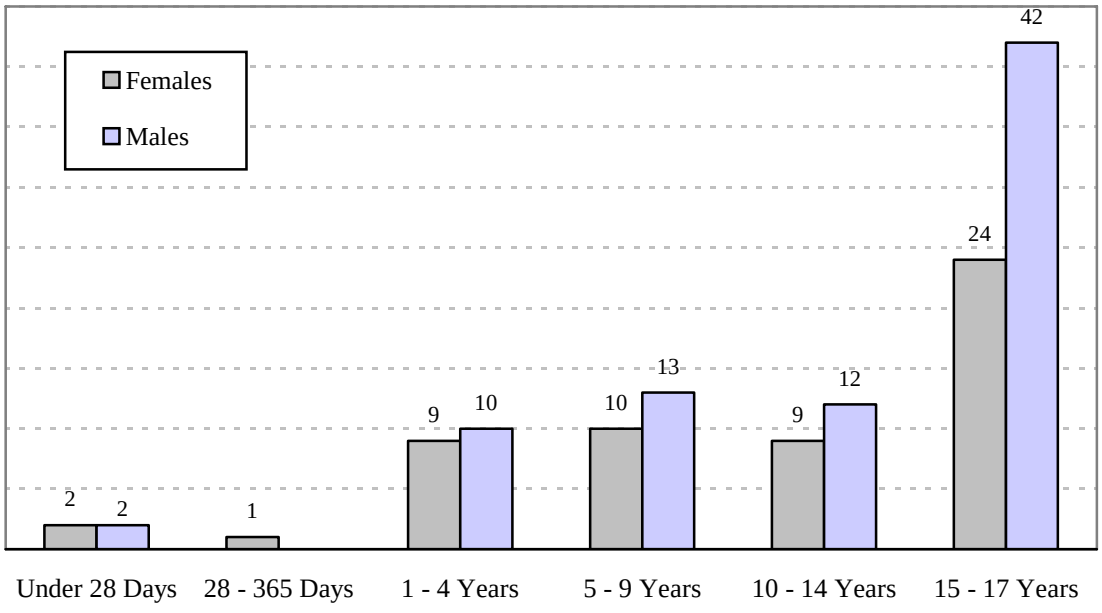
While doing reviews, Child Fatality Review Teams attempt to obtain records from child protective service agencies (CPS), including Arizona Child Protective Services and child protective services in other jurisdictions such as tribal authorities and other states. If a CPS agency had investigated a report of maltreatment for any child in the family prior to the incident leading to this child's death, then the family was considered to have had previous involvement with a CPS agency. This includes reports in which the maltreatment was substantiated and reports in which the maltreatment was not substantiated. Child Fatality Review Teams determined that 125 (11 percent) of the children who died in 2005 were from families with prior CPS involvement. Of the 125 children, 102 children died of causes unrelated to maltreatment. Child Fatality Review Teams determined, however, that 23 children whose families had prior involvement with a CPS agency, died as a result of maltreatment. Among these 23 children, 14 came from families who had open cases with a CPS agency at the time of the child's death.

MOTOR VEHICLE CRASHES

One hundred and thirty-four children died because of motor vehicle crashes in Arizona during 2005. One hundred and twenty-six of these deaths were determined to have been preventable by Child Fatality Review Teams. The vast majority of the children who died were either passengers or drivers in automobiles or trucks (n=122, 91 percent). Five children's deaths were due to motorcycle accidents, four children were in all-terrain vehicle (ATV) accidents, one accident that occurred while the child was on a scooter, another in a jet-ski accident, and one other who was riding a tricycle when the accident occurred. Twenty-two children, who died as the result of a motor vehicle crash, were pedestrians. Nine of the pedestrians were four years old or younger. Twenty-seven children, who died in a motor vehicle crash, were the drivers of the vehicle (automobiles, trucks, and motorcycles).

Figure 22 shows the ages of children that died as the result of motor vehicle crashes. Adolescents accounted for 49 percent (n=66) of all motor vehicle crash deaths and adolescent males accounted for 31 percent (n=42). Three newborns died as the result of in-utero trauma during a motor vehicle accident.

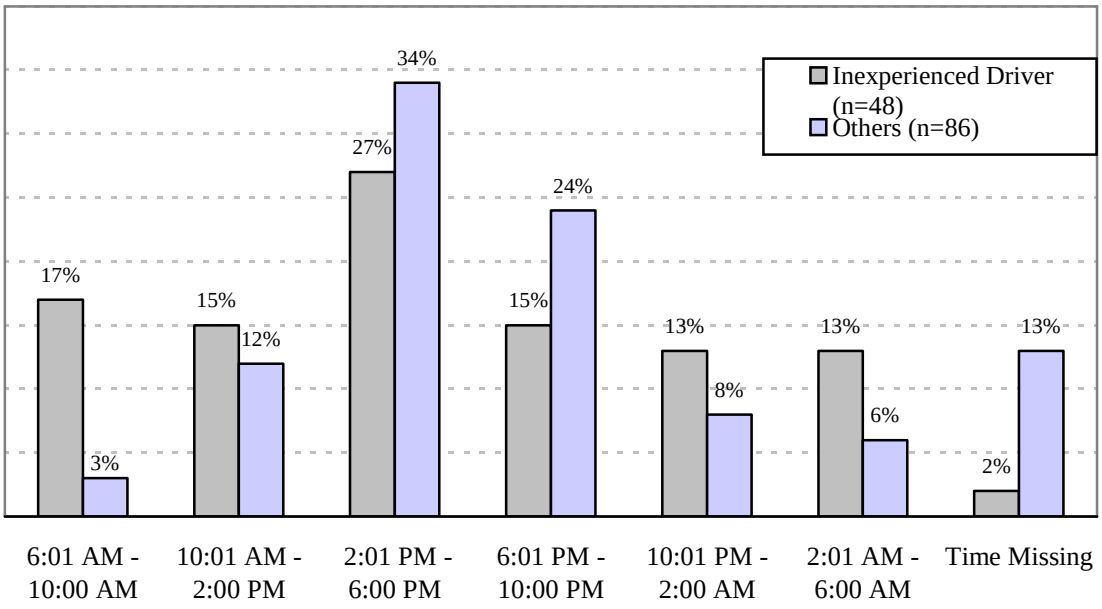
Figure 22. Age Group and Gender for Deaths due to Motor Vehicle Crashes (n=134), Birth through 17 Years, Arizona, 2005



Nearly one-third (31 percent) of fatal motor vehicle crashes occurred between 2 P.M. and 6 P.M. Figure 23 shows the time of the accident for deaths where driver inexperience was known to be a factor compared to motor vehicle crashes in which driver inexperience was not a factor in the crash. In both groups, the highest proportion of motor vehicle

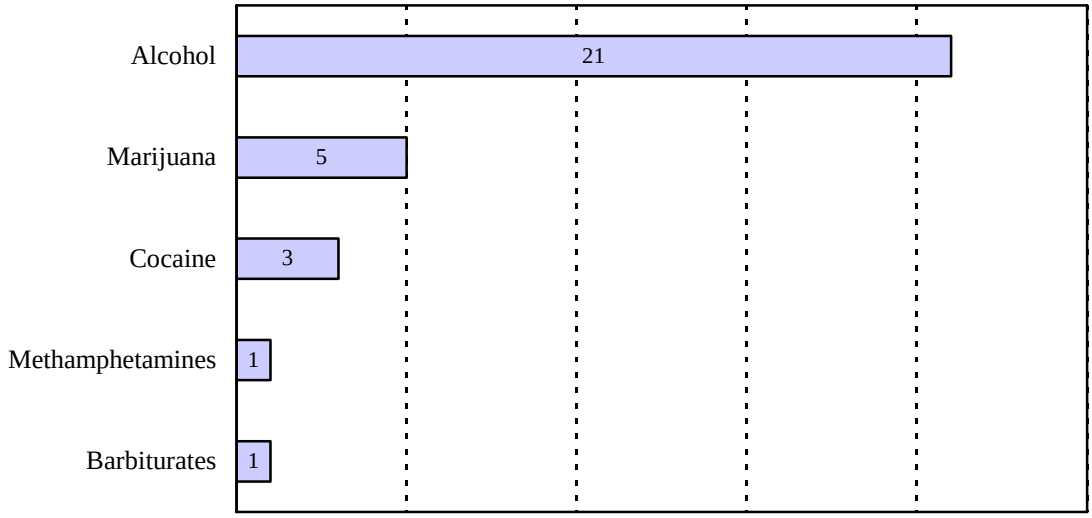
crashes resulting in a child's death occurred between 2:01 P.M and 6:00 P.M. For deaths in which driver inexperience was known to be a factor, the next highest time frame was 6:01 A.M to 10:00 A.M., raising the question of whether deaths related to driver inexperience occur as teens drive to and from school.

Figure 23. Time of Accident by Driver Experience for Deaths due to Motor Vehicle Crashes, Birth through 17 Years, Arizona, 2005



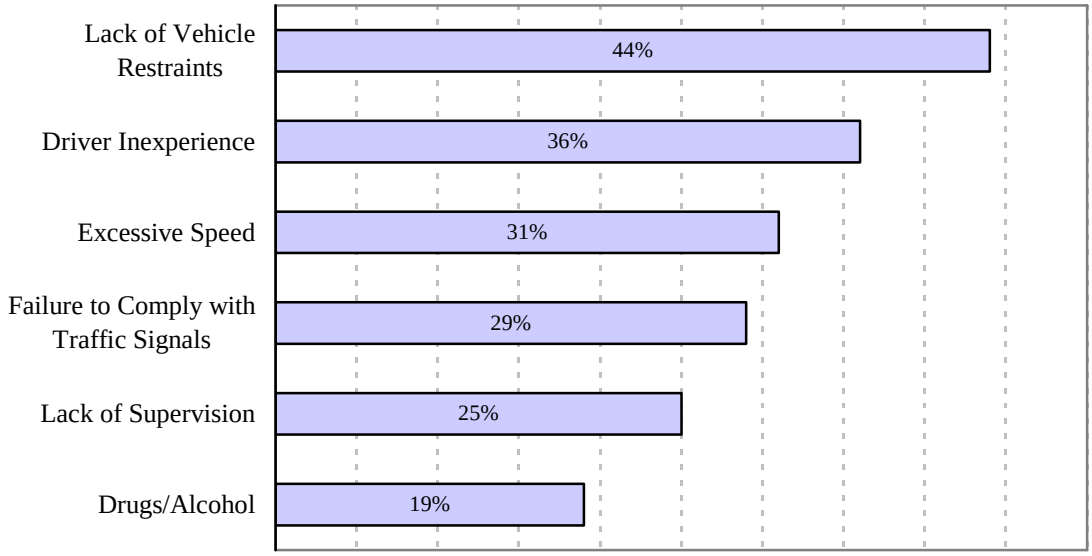
Drugs or alcohol contributed to the deaths of 26 children who died as a result of motor vehicle crashes in 2005. Alcohol was the substance of abuse most frequently identified in motor vehicle crash deaths as seen in Figure 24. While most of the deaths involved only one substance, seven deaths involved multiple substances.

Figure 24. Substances Contributing to Motor Vehicle Crashes, Arizona, 2005



Lack of appropriate vehicle restraint use contributed to 59 motor vehicle crash fatalities in which the child was either a passenger or driver of an automobile or truck. This factor was identified in all age groups of children, particularly in adolescents 15 through 17 years old. Child Fatality Review Teams determined that 47 percent (n=31) of the deaths of these teens may have been prevented, if they had used vehicle restraints. Driver's inexperience was a factor in 36 percent (n=48) of motor vehicle crash fatalities in children. All of the factors listed in Figure 25, with the exceptions of vehicle restraint use and supervision, may have been attributed to the child or to another individual. For example if an individual in another car ran a red light hitting the child's vehicle, "failure to comply with traffic signals" would have been identified as a contributing factor to this child's death.

Figure 25. Contributing Factors Identified for Motor Vehicle Crash Fatalities of Children, (n=134) Arizona, 2005



Restraints were known to be available for 82 of the 122 deaths of children who were either passengers or drivers in automobiles or trucks. Of the 82 deaths in which Child Fatality Review Teams determined that restraints were available, only 14 (17 percent) of the children were known to have been using restraints at the time of the crash.

Five of the children who died due to motor vehicle crashes were driving motorcycles and four were riding bicycles. Four of the motorcycle riders (80 percent) and one of the bicyclists (25 percent) were wearing helmets at the time of the crash.

In addition to monitoring other risk behaviors of 9th through 12th graders, the Youth Risk Behavior Survey (YRBS) asks students about behaviors that can reduce their risk of motor vehicle crash related injuries. According to the 2005 Arizona Youth Risk Behavior Survey, among students who rode a bicycle during the past 12 months, 87 percent reported never or rarely wearing a bicycle helmet. Fourteen percent of students reported never or rarely wearing a seat belt when riding in a car driven by someone else, and 34 percent reported riding in a vehicle one or more times during the past 30 days driven by someone who had been drinking alcohol.

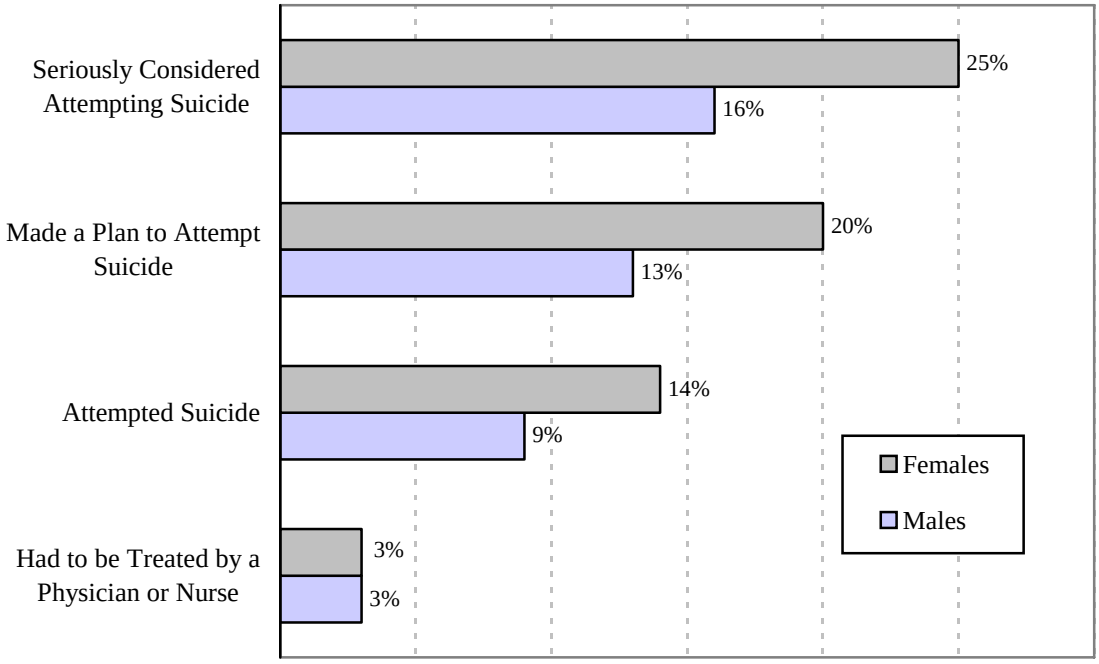
SUICIDES

During 2005, 36 children committed suicide in Arizona accounting for three percent of all childhood deaths. Similarly, in 2004, three percent (n=27) of the reviewed deaths were suicides. However, the portion of suicides in younger children in 2005 is noteworthy. In 2004, three of the children who committed suicide (11 percent) were less than 15 years old. In 2005, 36 percent (n=13) of the children who committed suicide were 10 through 14 years old. Figure 26 provides a breakdown of age and gender for children who committed suicide during 2005.

Figure 26. Age Group and Gender for Childhood Suicides (n=36), Arizona, 2005

As seen above, more males committed suicide than females. These findings are consistent with previous Child Fatality Review reports and other data sources. However, while males consistently commit suicide in greater numbers, females consistently have higher rates of suicide ideation and suicide attempts. Data from the 2005 Arizona YRBS are presented in Figure 27.

Figure 27. Suicide Ideation and Attempts in Past 12 Months, Arizona YRBS, 2005



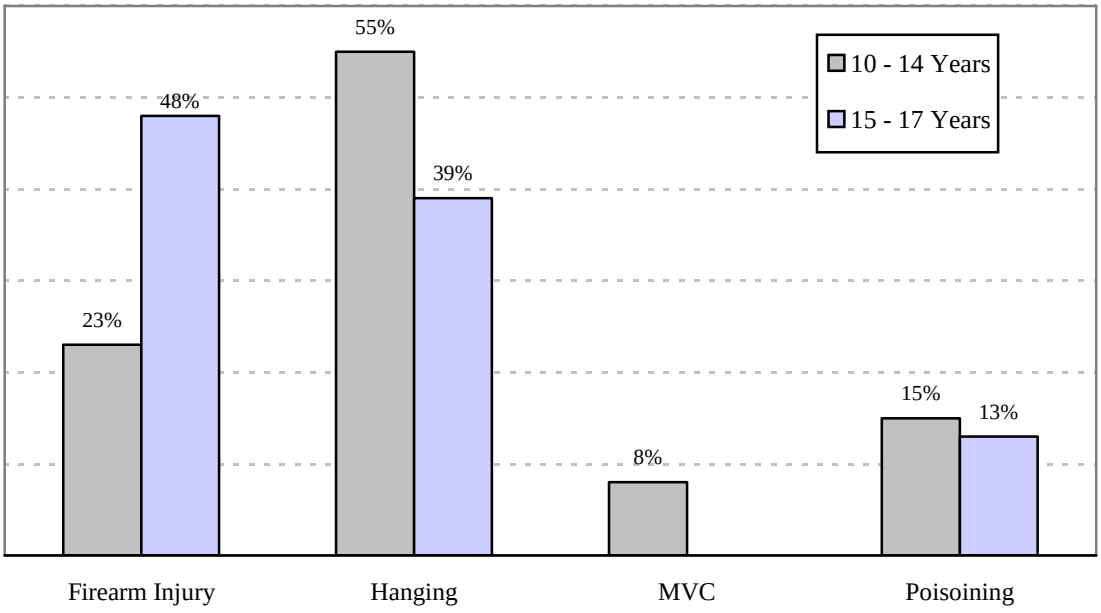
The two leading causes of suicides in children less than 18 years old are consistently firearm injuries and hanging. In 2003, hanging was the leading cause of death in suicides. Table 26 below shows that in 2004 the leading cause was firearm injuries and in 2005 the leading cause was hanging. Poisoning is the result of intentional overdose of a drug or toxic substance. For both 2004 and 2005, poisoning accounted for more than one in ten suicides.

Table 26. Childhood Suicides, Causes of Death, Arizona, 2004 Compared to 2005

Cause	2004		2005	
MVC	0	0%	1	3%
Firearm Injuries	13	48%	14	39%
Suffocation	1	4%	0	0%
Poisoning	3	11%	5	14%
Hanging	10	37%	16	44%
Total	27		36	

The cause of suicide deaths appears to vary by the age of the child. Hanging is the mechanism most frequently used for younger children whereas firearms are the mechanism most frequently used in the older age group. Figure 28 provides a breakdown of cause of death by age group for suicides.

Figure 28. Childhood Suicides, Causes of Death by Age Group (n=36), Arizona, 2005



Cause of death also appears to vary by gender. Females were less likely to die of firearm injuries and more likely to die of hanging, as shown in Figure 29.

Figure 29. Childhood Suicides, Causes of Death by Gender (n=36), Arizona, 2005

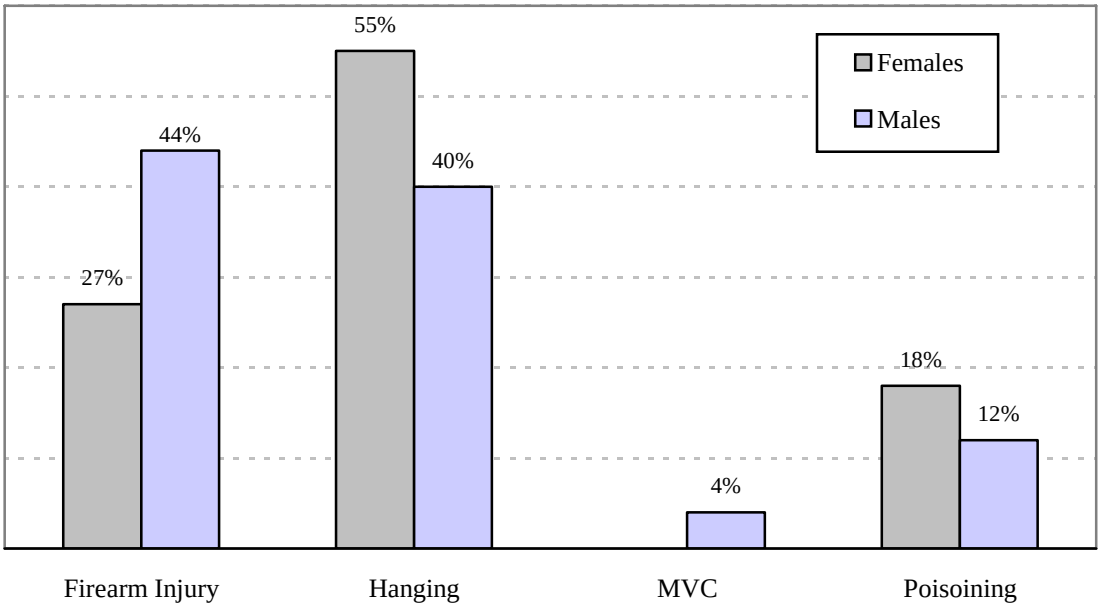
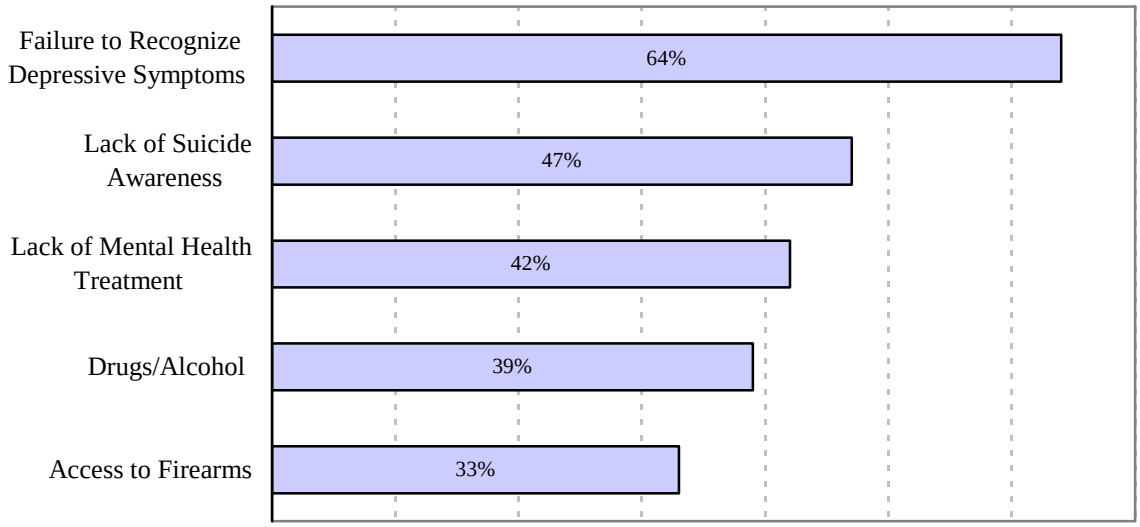


Figure 30 provides information on the most frequently identified factors contributing to childhood suicides during 2005. Child Fatality Review Teams identified unrecognized

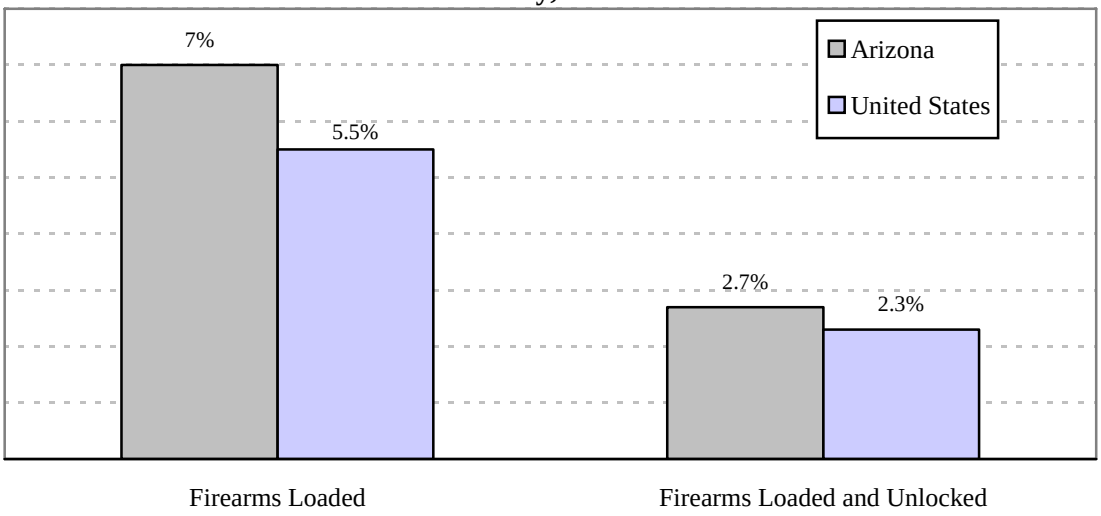
depressive symptoms as a contributing factor in nearly two-thirds of childhood suicides in 2005. Other contributing factors included lack of suicide awareness, lack of mental health treatment, drug/alcohol use, and access to firearms.

Figure 30. Contributing Factors Identified for Childhood Suicides, (n=36) Arizona, 2005



The Behavioral Risk Factor Survey monitors risk behaviors in adults ages 18 years and older. Figure 31 shows that, of those households with children less than 18 years of age, households in Arizona were more likely than the national average to have loaded guns in the house, and to keep these loaded guns in unlocked areas of the house.

Figure 31. Percent of Households with Children Under 18 Years with Loaded and Unlocked Firearms, Behavioral Risk Factor Surveillance Survey, 2004



RECOMMENDATIONS TO REDUCE CHILDHOOD DEATHS

From factors identified in the reviews of child deaths in Arizona, the Child Fatality Review Team develops recommendations to reduce preventable deaths. These recommendations are for public administrators, elected officials, parents, educators, and the public at large in the interest of the safety and welfare of Arizona's children.

- Arizona's graduated driver's license laws should be strengthened so that adolescents have sufficient driving experience and supervision to safely drive a motor vehicle.

- Parents should ensure that their adolescents have sufficient driving experience before allowing them to drive without an adult and should continue to monitor their adolescent's use of restraints and driving behavior after they obtain a license.

- Penalties for adolescents who drive at excessive speeds, fail to obey traffic laws, or do not use restraints should be strengthened and enforced by both parents and the community.

- Arizona should strengthen and enforce child safety restraint laws.

- Parents and caretakers should reduce children's access to firearms by always keeping firearms unloaded and locked up, bullets locked and stored separately, and keys hidden. Parents and caretakers should also remove firearms from homes of youth who are at high risk for suicide or other violence.

- Physicians should provide guidance regarding the importance of adequate supervision of children, even through adolescence.

- Programs that help parents, teachers, youth, and other members of the community recognize the signs and symptoms of depression among children and adolescents should be expanded.

- Mental health services for children and adolescents should be easily accessible, affordable and provided in a timely manner to families.

- Hotlines for youth in crisis, including those contemplating suicide, should be readily available and promoted through media campaigns, schools, places of worship, and other community organizations.

- Expansion of evidence-based substance abuse prevention programs in schools should continue.

- Substance abuse prevention, early intervention, and treatment programs should be readily accessible throughout Arizona.

- Parents, childcare providers, and anyone caring for an infant should be educated about the dangers of unsafe sleeping environments for infants.

- The Arizona Fire and Burn Educators' Association has developed a home safety checklist to reduce injuries from fires. This checklist is available at www.afbea.org and should be distributed and promoted by apartment managers, realtors, schools, pediatricians, and at community health/safety fairs.

LOOKING FORWARD

Child Fatality Review Teams continually strive to enhance their reviews of children's deaths, with the goal of understanding how and why children die and what our community can do to prevent childhood fatalities. With this in mind, in 2006 Arizona's Child Fatality Review Teams will begin participating in the Child Death Review Case Reporting System through the National Center for Child Death Review. The Maternal and Child Health Bureau created the National Center for Child Death Review as a resource center for child fatality review programs. The National Center, in collaboration with child fatality review programs across the nation, developed a reporting tool and review protocol in an effort to standardize reporting of child fatalities. Through participation in this multi-state program Arizona will attain an even greater understanding of the circumstances surrounding childhood fatalities, the contributing factors, and strategies to reduce preventable deaths of children. In addition, Arizona will be better able to compare aggregate data with other states and with national trends.

APPENDIX A: RISK FACTOR CHECKLIST

CHECK ALL THAT CONTRIBUTED TO DEATH

- ☐ Access to firearms
- ☐ Barriers to pool, lack of adequate
- ☐ Child alone in/around water
- ☐ Co-sleeping
- ☐ Criminal behavior
- ☐ Curfew violation
- ☐ Domestic violence
- ☐ Driver fatigue
- ☐ Driving at excessive speed
- ☐ Drug or alcohol use
- ☐ Exposure to smoking
- ☐ Failure to comply with traffic signals
- ☐ Failure to recognize depressive symptoms
- ☐ Failure to report abuse
- ☐ Gang involvement
- ☐ Helmet usage, lack of
- ☐ Illegal border crossing
- ☐ Immunization, lack of
- ☐ Inexperienced driver
- ☐ Infant sleep position
- ☐ Maltreatment history
- ☐ Medical error
- ☐ Medical treatment, lack of
- ☐ Mental health treatment, lack of
- ☐ Parenting skills, lack of
- ☐ Passenger in back of truck
- ☐ Prenatal care, lack of
- ☐ Prenatal substance abuse
- ☐ Public awareness of suicide, lack of
- ☐ Smoke alarms, lack of working
- ☐ Substance abuse treatment, lack of
- ☐ Supervision problem
- ☐ Unsafe bedding
- ☐ Vehicle restraints not used or improper use

APPENDIX B: ARIZONA CHILD FATALITY REVIEW TEAMS

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Maureen Domogala
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Bureau of Health Statistics

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Susan Newberry, Unit Manager

Therese Neal, Citizen Review Panel Manager

Teresa Garlington, Administrative Secretary

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