

# **CHILD FATALITIES IN TENNESSEE 1999**



**Tennessee Department of Health  
Maternal and Child Health Section  
Bureau of Health Services**

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Governor**

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Commissioner**

## **Acknowledgments**

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Special thanks are given to the child fatality review teams for their efforts in child death review and prevention.

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The most recent child fatalities in Tennessee can be found on the internet: [www.state.tn.us/health/MCH](http://www.state.tn.us/health/MCH), click on Child and Adolescent Health, click on Child Fatality Review Teams, then click on latest report.

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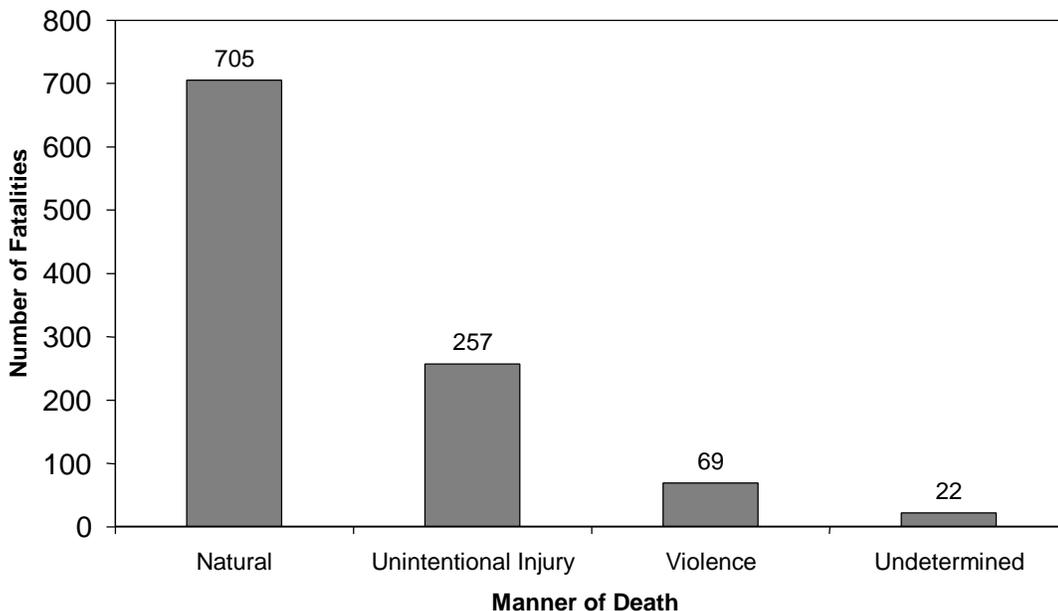
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# Executive Summary

## A. Overview of the Child Fatality Data for 1999

- A total of 1,067 fatalities among resident children under age 18 were recorded in 1999 on Tennessee death certificates by the Office of Health Statistics and Information, Tennessee Department of Health. This represents a fatality rate of 79.6 per 100,000 children (based on U.S. Census Bureau population estimates for 1999, which show 1,340,930 resident children in Tennessee under age 18).
- This report is based on the 1,053 deaths (99% of the 1,067 fatalities of Tennessee children) reviewed by the child fatality review teams (CFRT). The report reflects the teams' findings after a multidisciplinary review of the cause and circumstances of death. Therefore, the statistics in this report may differ slightly from others based solely on death certificate information.
- The manner of death was determined by the CFRT to be natural causes for 67% of the fatalities, unintentional injuries for 24%, violence-related (homicide or suicide) for 7%, and unknown or undetermined for 2%. [Figure 1]
- The CFRT agreed with the manner of death indicated on the death certificate in 85.3% of the cases and determined a different manner of death in 1.4%. For 13.3% of the child fatalities, the manner of death was not indicated on the death certificate and was determined by the CFRT.

**Figure 1: Number of Fatalities by Manner of Death (All Cases)**

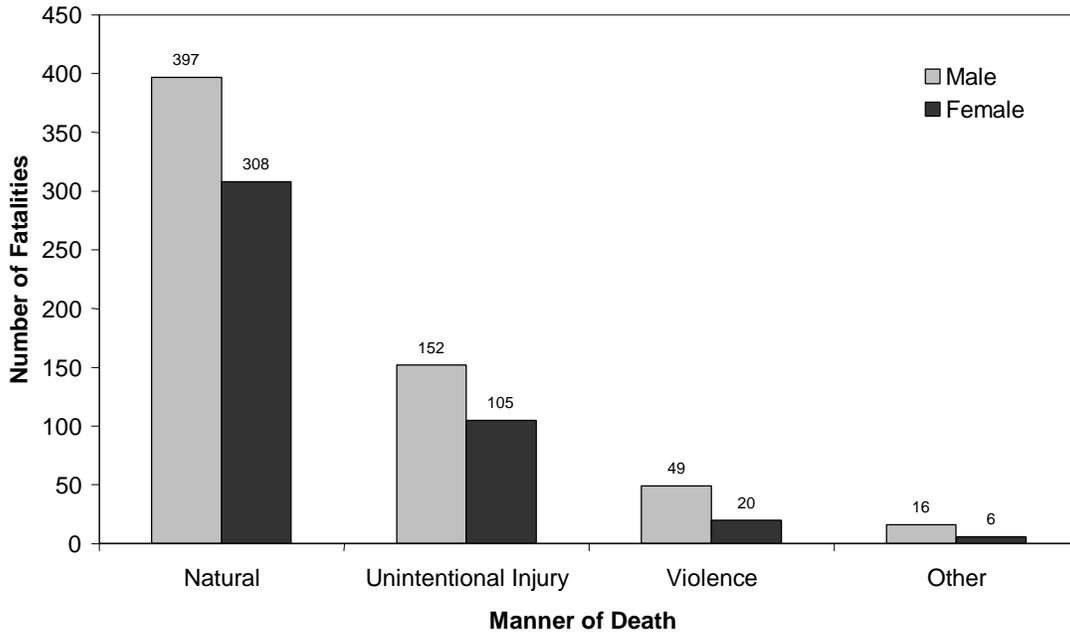


- The CFRT judged the death certificate to be incomplete in 25% of cases, and in 3% of the cases deemed the investigation into the death to be inadequate.
- Fifty-five percent of child fatalities were children less than one year old. Of the children less than one year old, 93% died of natural causes and 33% survived less than one day after birth. The next largest group of child fatalities was among children aged 16-17 (13%). Among 16-17 year olds, 61% of fatalities were due to unintentional injuries. [Table 1]
- The overall rate of child fatalities computed from the cases reviewed by the CFRT was 78.5 per 100,000. However, the rate of fatalities per 100,000 children was nearly nine times as great for children less than one year old than for the next largest age group (ages 16-17), which in turn had a rate of approximately two to five times as large as any of the intermediate age groups. For the age group less than one year old, this was due to the high rate of naturally caused deaths; for 16-17 year olds, it was due to the high rates of unintentional injury and violence-related deaths.

<b>Table 1: Number and Rate of Fatalities by Manner of Death and Age</b>							
<b>Age</b>	<b>Natural</b>	<b>Unintentional Injury</b>	<b>Violence</b>	<b>Undetermined</b>	<b>Total</b>	<b>%</b>	<b>Rates per 100,000</b>
<i>Detail of cases &lt; 1 year</i>							
< 1 day	187	2	--	1	<b>190</b>	32.6	--
1-6 days	102	1	1	--	<b>104</b>	17.8	--
7-28 days	82	3	--	1	<b>86</b>	14.8	--
29-364 days	171	13	8	10	<b>202</b>	34.7	--
<i>All cases</i>							
< 1 year	542	19	9	12	<b>582</b>	55.3	773.8
1-2 years	35	27	6	3	<b>71</b>	6.7	48.4
3-5 years	28	32	4	--	<b>64</b>	6.1	29.2
6-8 years	16	21	2	1	<b>40</b>	3.8	17.9
9-11 years	21	27	4	1	<b>53</b>	5.0	23.2
12-13 years	15	18	6	1	<b>40</b>	3.8	27.3
14-15 years	25	29	9	2	<b>65</b>	6.2	44.1
16-17 years	23	84	29	2	<b>138</b>	13.1	89.4
<b>Total</b>	<b>705</b>	<b>257</b>	<b>69</b>	<b>22</b>	<b>1053</b>		78.5
	67%	24%	7%	2%			

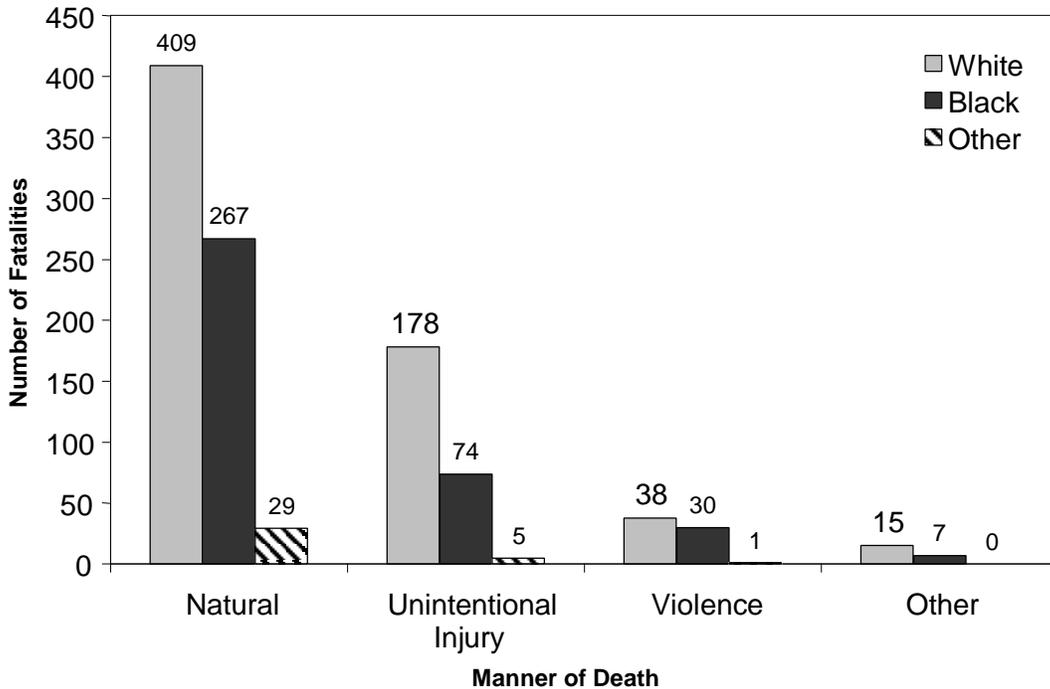
- Fifty-eight percent child fatalities were males and 42% were females, which corresponded to rates of 89.3 fatalities per 100,000 males and 67.2 per 100,000 females. [Figure 2]

**Figure 2: Number of Fatalities by Manner of Death and Sex**



- Of the child fatalities, 60.8% were reported as white, 35.9% black, 2.1% Hispanic, 0.47% Asian, and 0.76% for all other categories combined. The fatality rates were 62.0 per 100,000 for white children, 130.6 per 100,000 for black children, and 83.6 per 100,000 for all other children.

**Figure 3: Number of Fatalities by Manner of Death and Race**

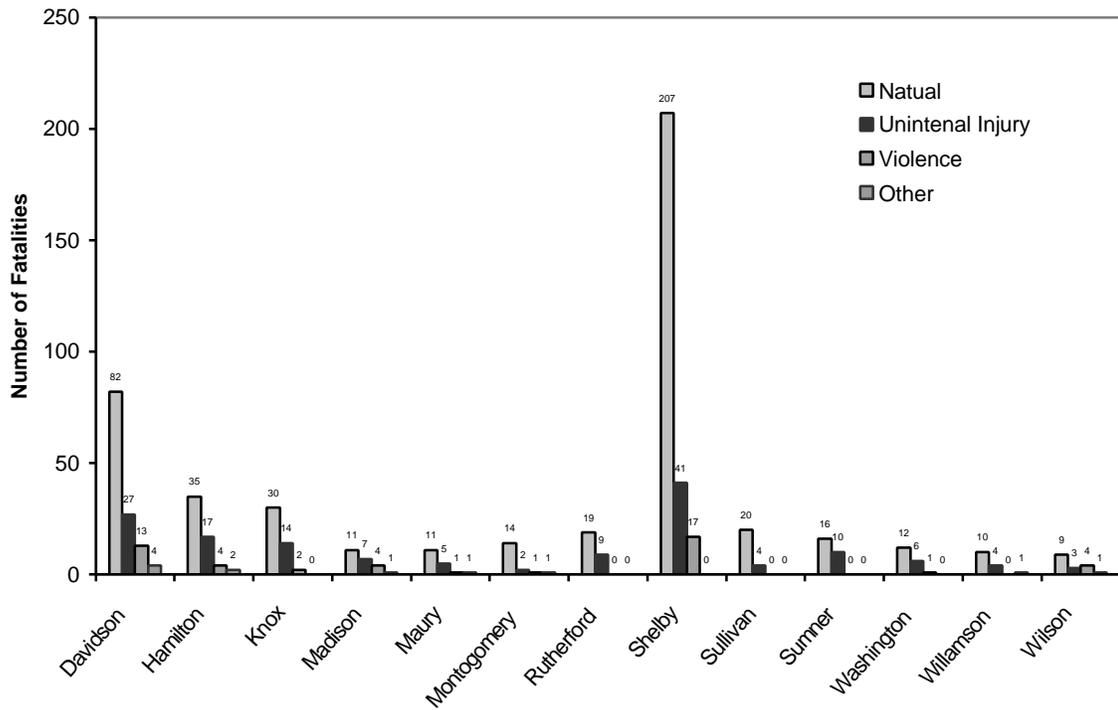


- Using the CFRT data to calculate child fatality rates by race is somewhat problematic. This is because the CFRT data collection form treats race as five mutually exclusive categories: white, black, Hispanic, Asian, and other. In the census data, which provides the denominators for calculating death rates, Hispanic is classified as an ethnic origin, which is independent of race. Given these problems, the death rates for any group other than the majority white and black populations should be considered as “rough” estimates.
- Across all groups, the highest rate of fatalities was during the first year of life. Taking age, race, and sex into account, the highest fatality rate was for black males under one year of age (1,603.3 per 100,000), followed by black females under one year of age (1,480.9 per 100,000). These rates were more than twice the rate of white males (614.3 per 100,000) and females (469.3 per 100,000) in the first year of life. [Table 2]
- Past the first year of life, male youth aged 16-17 had the highest fatality rates. Among that age group, black males (139.3 per 100,000) were slightly higher than white males (103.1 per 100,000). [Table 2]

Age	<b>Male</b>				<b>Female</b>			
	<b>White</b>		<b>Black</b>		<b>White</b>		<b>Black</b>	
	<i>Number</i>	<i>Rate</i>	<i>Number</i>	<i>Rate</i>	<i>Number</i>	<i>Rate</i>	<i>Number</i>	<i>Rate</i>
<i>Detail of Cases &lt; 1 year</i>								
< 1 day	54	--	45	--	40	--	40	--
1-6 days	33	--	23	--	27	--	16	--
7-28 days	25	--	14	--	23	--	20	--
29-364 days	72	--	45	--	43	--	38	--
<i>All cases</i>								
< 1 year	184	614.3	127	1,603.3	133	469.3	114	1,480.9
1-2 years	28	47.9	10	65.5	20	36.1	8	53.5
3-5 years	20	23.1	18	76.5	13	15.8	12	52.3
6-8 years	14	16.0	10	39.3	11	13.3	5	20.3
9-11 years	22	24.6	10	38.0	14	16.6	6	23.6
12-13 years	13	22.5	7	43.6	14	25.5	6	38.5
14-15 years	36	61.4	10	61.8	14	25.3	3	19.8
16-17 years	64	103.1	23	139.3	40	69.1	9	57.2
Total	<b>381</b>	71.8	<b>215</b>	146.0	<b>259</b>	51.7	<b>163</b>	114.6
	36.2%		20.4%		24.6%		15.5%	

- Sixty-five percent of all child fatalities occurred in 13 counties reporting 15 or more deaths each. The highly populated areas of Shelby and Davidson Counties accounted for 37.1% of all child fatalities, with 25.2% of the total in Shelby County. Two additional counties reported more than 30 deaths: Hamilton (5.5%) and Knox (4.4%). Nine counties reported between 15 and 28 deaths: Rutherford (2.7%), Sumner (2.5%), Sullivan (2.3%), Madison (2.2%), Washington (1.8%), Maury (1.7%), Montgomery (1.7%), Wilson (1.6%), and Williamson (1.4%).

**Figure 4: Number of Fatalities by Manner of Deaths for Counties with 15 or More Fatalities**



**A. Table 3: Child Fatalities by County and Manner of Death**

<b>County</b>	<b>Manner of Death</b>				<b>Total</b>	<b>Fatality Rate</b>	
	<i>Natural</i>	<i>Unintentional Injury</i>	<i>Violence</i>	<i>Other &amp; Undetermined</i>		<i>Population Age 0-17</i>	<i>Deaths per 100,000</i>
Anderson	6	2	1	--	9	16,318	55.2
Bedford	--	2	--	--	2	8,784	22.8
Benton	2	2	--	--	4	3,651	109.6
Bledsoe	--	--	--	--	0	2,589	0.0
Blount	5	3	3	--	11	23,118	47.6
Bradley	12	--	--	--	12	19,766	60.7
Campbell	3	1	1	--	5	9,553	52.3
Cannon	2	1	--	--	3	2,999	100.0
Carroll	4	1	1	--	6	6,805	88.2
Carter	5	1	1	--	7	11,320	61.8
Cheatham	2	5	1	--	8	9,891	80.9
Chester	2	--	--	--	2	3,521	56.8
Claiborne	--	--	--	--	0	7,366	0.0
Clay	1	--	--	--	1	1,647	60.7
Cocke	4	1	--	--	5	7,455	67.1
Coffee	3	2	--	--	5	11,473	43.6
Crockett	1	1	--	--	2	3,419	58.5
Cumberland	2	--	--	--	2	9,918	20.2
Davidson	82	27	13	4	126	119,541	105.4
Decatur	--	--	--	--	0	2,386	0.0
DeKalb	1	1	--	--	2	3,818	52.4
Dickson	6	1	--	--	7	11,595	60.4
Dyer	3	5	--	--	8	9,334	85.7
Fayette	3	1	--	--	4	9,285	43.1
Fentress	2	1	--	--	3	4,102	73.1
Franklin	4	--	--	--	4	8,820	45.4
Gibson	9	--	1	--	10	11,248	88.9
Giles	3	--	--	2	5	7,140	70.0
Grainger	--	--	--	--	0	4,777	0.0
Greene	10	1	--	1	12	13,269	90.4
Grundy	--	1	--	--	1	3,782	26.4
Hamblen	--	5	--	1	6	12,372	48.5
Hamilton	35	17	4	2	58	68,737	84.4
Hancock	--	--	--	--	0	1,665	0.0
Hardeman	7	--	--	--	7	6,831	102.5
Hardin	3	3	--	--	6	6,058	99.0
Hawkins	6	5	--	--	11	11,385	96.6
Haywood	2	2	--	--	4	5,640	70.9
Henderson	7	2	--	--	9	6,006	149.9
Henry	3	1	--	--	4	6,710	59.6
Hickman	1	1	--	1	3	5,009	59.9
Houston	--	--	--	--	0	1,856	0.0
Humphreys	1	1	--	--	2	4,130	48.4
Jackson	2	1	1	--	4	2,153	185.8
Jefferson	2	1	1	--	4	9,588	41.7
Johnson	1	--	--	--	1	3,483	28.7

Knox	30	14	2	--	46	82,887	55.5
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County	Manner of Death				Total	Fatality Rate	
	Natural	Unintentional Injury	Violence	Other & Undetermined		Population Age 0-17	Deaths per 100,000
Lake	1	--	--	--	1	1,431	69.9
Lauderdale	3	6	--	--	9	6,608	136.2
Lawrence	3	1	--	1	5	10,090	49.6
Lewis	2	5	--	--	7	2,972	235.5
Lincoln	2	1	--	--	3	7,159	41.9
Loudon	1	3	--	--	4	8,841	45.2
McMinn	2	2	--	1	5	10,985	45.5
McNairy	2	4	--	1	7	5,722	122.3
Macon	5	1	--	--	6	4,625	129.7
Madison	11	7	4	1	23	22,399	102.7
Marion	3	1	--	--	4	6,800	58.8
Marshall	9	1	--	--	10	6,680	149.7
Mauzy	11	5	1	1	18	18,205	98.9
Meigs	1	1	--	--	2	2,445	81.8
Monroe	8	--	1	--	9	8,806	102.2
Montgomery	14	2	1	1	18	35,424	50.8
Moore	--	--	--	--	0	1,259	0.0
Morgan	7	2	--	--	9	4,674	192.6
Obion	--	--	1	--	1	7,784	12.8
Overton	--	--	--	1	1	4,613	21.7
Perry	1	3	--	--	4	1,817	220.1
Pickett	1	--	--	--	1	1,123	89.0
Polk	2	--	--	--	2	3,485	57.4
Putnam	8	2	--	--	10	13,045	76.7
Rhea	3	2	3	--	8	6,885	116.2
Roane	3	1	1	--	5	11,061	45.2
Robertson	1	--	1	--	2	14,819	13.5
Rutherford	19	9	--	--	28	46,507	60.2
Scott	4	1	--	--	5	5,800	86.2
Sequatchie	1	1	--	--	2	2,698	74.1
Sevier	4	4	--	1	9	15,072	59.7
Shelby	207	41	17	--	265	236,129	112.2
Smith	--	1	--	--	1	4,144	24.1
Stewart	--	2	--	--	2	2,566	77.9
Sullivan	20	4	--	--	24	31,876	75.3
Sumner	16	10	--	--	26	33,400	77.8
Tipton	9	3	1	1	14	14,520	96.4
Trousdale	1	--	--	--	1	1,698	58.9
Unicoi	3	1	--	--	4	3,595	111.3
Union	--	1	--	--	1	4,323	23.1
Van Buren	1	--	--	--	1	1,263	79.2
Warren	4	--	3	--	7	8,887	78.8
Washington	12	6	1	--	19	21,923	86.7
Wayne	--	--	--	--	0	3,736	0.0
Weakley	3	1	--	--	4	7,194	55.6
White	1	2	--	--	3	5,302	56.6
Williamson	10	4	--	1	15	34,327	43.7
Wilson	9	3	4	1	17	23,013	73.9
<b>State Totals</b>	<b>705</b>	<b>257</b>	<b>69</b>	<b>22</b>	<b>1053</b>	<b>1,340,930</b>	<b>78.5</b>

## **B. Accomplishments of Child Fatality Review Teams: 1999**

Child Fatality Review Teams are active in all judicial districts in the state. Through the dedicated efforts of members, the 33 teams reviewed 1,053 (98.7%) of the 1,067 fatalities of Tennessee resident children. Department of Health team leaders provide administration and coordination of the teams. Some specific examples of team accomplishments are given below.

### ***Judicial District 3: Greene, Hamblen, Hancock, and Hawkins Counties***

- Recommended peer review at a local hospital for ER transfer procedures to tertiary care and assessment of acuity of an ill child. A child died in transport avoidably. The hospital has done so.
- Peer review at another local hospital on criteria for induction of labor. An OB/GYN induced a woman's labor at 38 weeks because he was going on vacation. The baby died, again an avoidable death. We also recommended that there be staff trained in infant resuscitation available in house 24/7. The hospital is proceeding with plans to implement these ideas.
- Gave Grand Rounds to the Pediatric Dept. at ETSU-COM on "CFRT in TN" on 8/1/01.

### ***Judicial District 4: Cocke, Grainger, Jefferson, and Sevier Counties***

### ***Judicial District 5: Blount County***

### ***Judicial District 7: Anderson County***

### ***Judicial District 8: Campbell, Claiborne, Fentress, Scott, and Union Counties***

### ***Judicial District 9: Loudon, Meigs, Morgan, and Roane Counties***

- Conducted a survey of all area hospitals to determine what types, if any, of genetic counseling/bereavement counseling their facilities offered.
- Conducted a survey to determine if there had been a significant rise in childhood deaths as a result of chromosomal problems.
- Conducted a survey to determine if the number of accidents on a bypass warrants a site study being done on the safety of that highway.
- Revised the questionnaire utilized by law enforcement and medical personnel to be specific for the district.
- One district reviews all childhood deaths that occur in their district regardless of their resident location.
- Included a member from the funeral home industry on their team.

### ***Judicial District 16: Rutherford County***

- When there is an unexplained child death, x-rays will be made at the local hospital prior to the body being transported for autopsy. This will provide some immediate information for the local medical examiner.
- The Health Department includes literature on SIDS and *Warning Against Placing Babies in Adult Beds* in the mailing to new parents.

### ***Judicial District 20: Davidson County***

- An experienced fire investigator spoke to the team to explain what he found while investigating a house fire where three girls died. He mentioned that on some occasions, fire investigators have not been able to get proper cooperation from police when running background checks on suspects. Two police sergeants on the team explained that fire investigators should call ID on the second floor of the Criminal Justice Center in order to get a copy of the files as needed. The fire investigator stated that he was happy to get the information from the team and that this would save staff time and help to determine the truth in questionable cases. A sergeant from Metro Police Homicide Division stated that fire department employees often remove deceased children from the death scene before the homicide detective can conduct a proper investigation. The official who represents the fire department on the team immediately said that the police and fire departments will work together to resolve this issue.
- In 1996, the Nashville Child Death Review Team contacted the Tennessee Commissioner of Health, explaining the need for tougher pool safety laws. The team had completed the review of a death caused by a young child who wandered into a neighbor's pool and drowned. Dr. Bailey's letter stated: "It is the recommendation of this committee that the regulations, including operational requirements for existing pools, and minimum design standards for new construction, be amended to include the requirement that all pool access gates and doors be equipped with self-closing and self-latching mechanisms." Effective May 27, 2000, revised Tennessee Department of Health regulations for public pools include new regulations for both existing and new pools requiring access doors and gates to be equipped with self-closing and self-latching hardware. This change demonstrates the effective results attainable through a well functioning child fatality review team.

### ***Judicial District 30: Shelby County***

- Dr. Mark Bugnitz of Lebonheur Children's Medical Center chairs this child fatality review team. Active participation and dedication by team members enable the team each year to review the largest number of deaths in the state (268 in 1999). The Preventive Medicine Department of the University of Tennessee assists the team with statistical analysis for each year's findings.

## C. Recommendations from Child Fatality Review Teams

After reviewing the year's progress, issues and concerns, CFR teams submitted recommendations that were discussed and summarized by CFRT leaders on a conference call. The major recommendations to the state child fatality prevention team follow:

1. Autopsies be performed on all deaths of children under the age of 18 when the cause is not definitive.
2. Full funding by the state be provided to the counties for autopsies to be performed on deaths of all children under the age of 18 where the cause of death is not definitive.
3. Emphasis be placed on educating parents on their child(ren)'s sleeping arrangements.
4. The intermediate driver's license law be re-addressed to prevent an intermediate license holder from having another passenger under the age of 21 in the vehicle without an unrestricted license driver.
5. More education/awareness be made regarding the dangers of smoking during pregnancy.
6. Collaborate with Safe Kids Coalition groups across the state in identifying prevention strategies and supporting and contributing to public awareness campaigns provided by these coalitions.
7. Support and provide funding for public awareness campaigns on fire safety.
8. Increase school and community awareness of suicide prevention and risks.
9. Increase prevention of firearm-related injury and death:
  - a) Explore the feasibility of recommending a child access prevention law for the state of Tennessee so that adults are held criminally liable for failure to safely store firearms inaccessible to children.
  - b) Education be conducted on the dangers of having unlocked firearms in the presence of children of any age.
  - c) Education on the high-risk factor of the combination of teenagers and firearms.
  - d) Emphasis be placed on promotion to encourage use of gunlocks.

## **D. Recommendations from the State Child Fatality Prevention Team**

The state child fatality prevention team discussed the recommendations submitted by the child fatality teams and felt they were all important. The state team decided the main items that needed to be brought before the legislature were:

1. In order to decrease the number of firearm-related injuries deaths, Commissioner Wadley should bring all parties involved to the table (National Rifle Association, Tennessee Bureau of Investigation, local authorities, and legislative members) to be able to create a gun control law that all could support.
2. Increase early intervention programs. A few examples of successful programs are:
  - a) Healthy Start – designed to: prevent child abuse and neglect; prevent or reduce developmental delays in children; insure that children are immunized, have a medical home and receive well child exams.
  - b) Jason Foundation – educates parents, teachers and students to look for signs of high-risk behavior in teens.
  - c) Success by Six – designed to see that medical and developmental needs of young children are met.
  - d) Risk & Resiliency - addresses problems that have over-lapping risk factors.
3. Tennessee needs a dedicated person to coordinate child fatality review. This person would be responsible to:
  - a) Follow-up on findings and recommendations of the review team.
  - b) Coordinate with agencies to facilitate recommendations of state review team, bringing them from theory to reality.

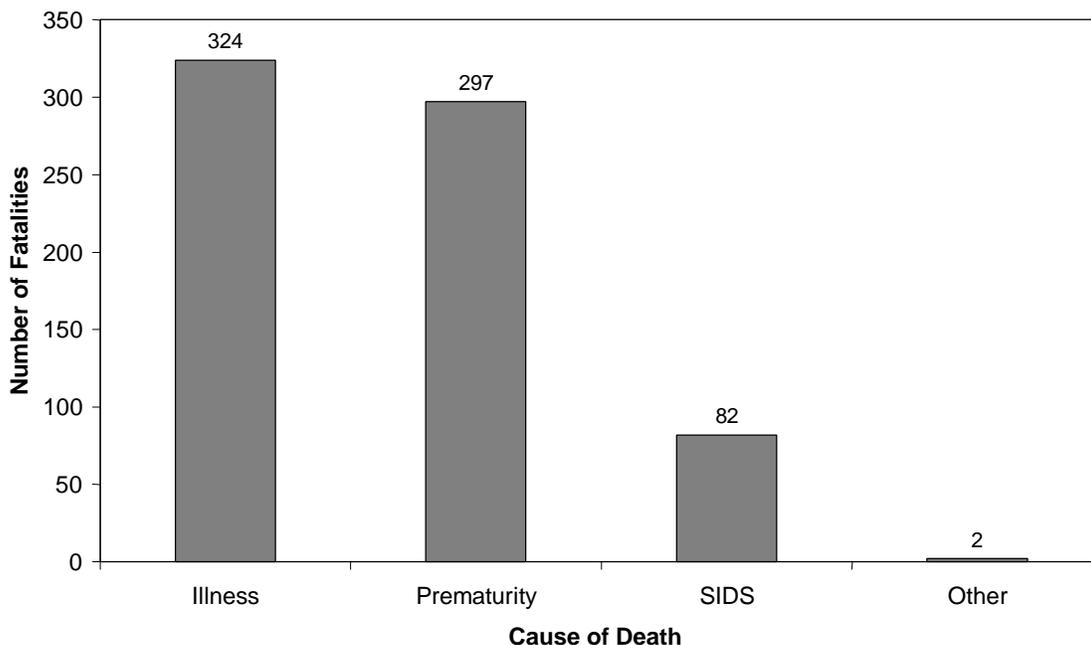
# Child Fatalities in Tennessee: 1999

## Causes and Circumstances of Child Fatalities

### A. Deaths Due to Natural Causes

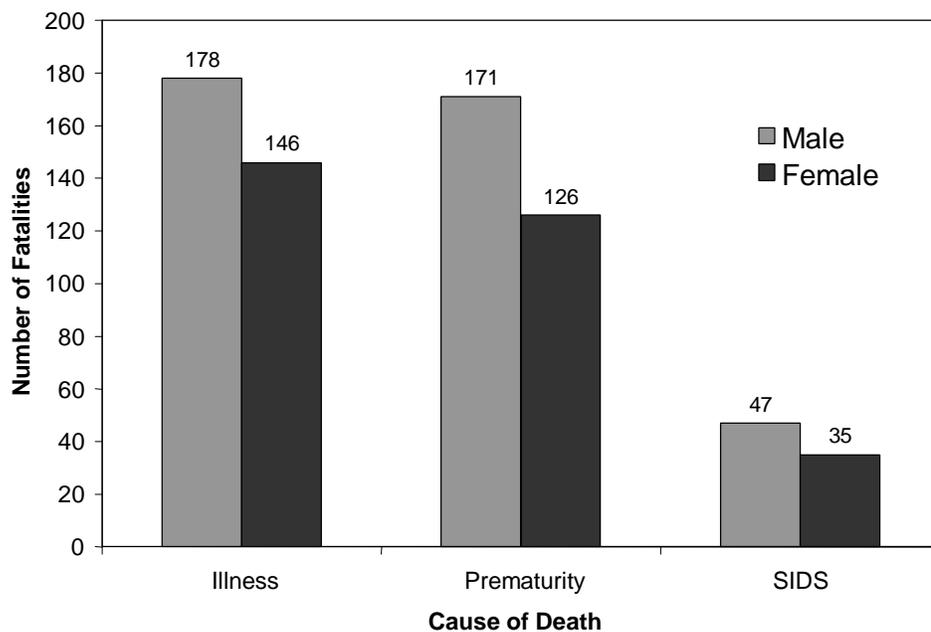
- There were 705 deaths due to natural causes among Tennessee children in 1999, representing 67% of all child fatalities. Of these, 46% resulted from illness, 42% from prematurity, and 12% from SIDS. Each of these is discussed in more detail in later sections of this report. Also among the 705 deaths, there was a full-term newborn who died from birth complications and another child who was classified by the CFRT as dying of natural causes and inadequate care. However, no additional details were provided for these two cases.
- The greatest number of deaths due to natural causes resulted from illness (325) followed by prematurity (297). Of the deaths due to prematurity, 107 deaths involved extremely premature infants (i.e., 22 weeks gestation or less) and 187 involved gestations of 23 to 37 weeks. The CFRT reviews of three fatalities believed to be due to prematurity did not include the length of gestation. [Figure 5, Table 7]

**Figure 5: Number of Fatalities Due to Natural Causes**



- Among the deaths due to natural causes, 54.9% were males and 45.1% were females. Additionally, the absolute proportion of male fatalities was greater in each of the major subcategories: illness, prematurity, and SIDS. The absolute proportion of male fatalities was also greater among premature deliveries (gestational age of 23 to 37 weeks) and extremely premature deliveries (less than 23 weeks gestation). Overall, the rate of naturally caused deaths for males and females was 57.7 and 47.2 per 100,000, respectively. Thus, males were 1.2 times more likely to die of natural causes than females.<sup>1</sup> [Figure 6, Table 4, Table 5, Table 7, Table 9]

**Figure 6: Number of Fatalities Due to Natural Causes by Sex**



- The majority of naturally caused deaths involved infants, with 76.9% of all natural fatalities involving children less than one year of age; 52.6% of natural deaths involved infants less than one month old, and more than one-quarter, 26.5%, involved newborns less than one day old. Beyond one year of age, the next largest age group was children 1-2 years of age, 5.0%. The rate of naturally caused deaths among less than 1-year-old children was 720.6 per 100,000, whereas the rate of naturally caused deaths among children ages 1-2 was 23.9 per 100,000. [Table 4]

<sup>1</sup>All relative rates in this report were calculated as risk ratios and were statistically significant  $p < 05$ .

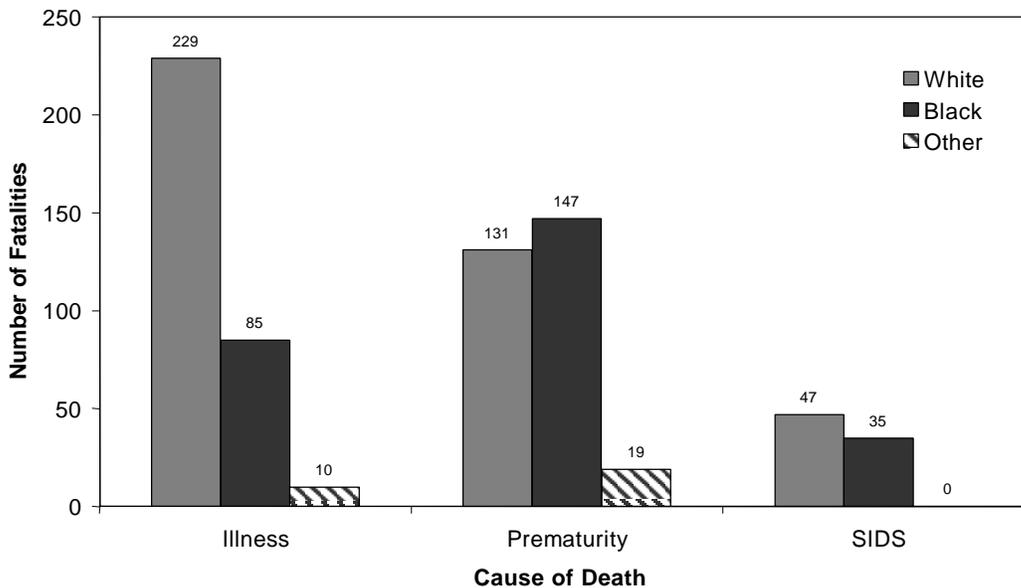
**Table 4: Fatalities Due Natural Causes by Age, Sex, and Race**

<b>Age</b>	<b>Count</b>	<b>Rate*</b>	<b>Sex</b>	<b>Count</b>	<b>Rate*</b>	<b>Race</b>	<b>Count</b>	<b>Rate*</b>
< 1 day	187	--	Male	397	57.7	White	409	39.7
1-6 days	102	--	Female	308	47.2	Black	267	92.3
7-28 days	82	--	<b>Total</b>	<b>705</b>		Other	29	69.3
29-364 days	171	--				<b>Total</b>	<b>705</b>	
<b>All cases</b>								
< 1 year	542	720.6						
1-2 years	35	23.9						
3-5 years	28	12.8						
6-8 years	16	7.2						
9-11 years	21	9.2						
12-13 years	15	10.3						
14-15 years	25	16.9						
16-17 years	23	14.9						
<b>Total</b>	<b>705</b>	<b>52.6</b>						

\*Fatalities per 100,000 population

- Of the fatalities due to natural causes, 58% were white children, 37.9% were black children, and 4.1% were children of other races, which translates into rates of 39.7, 92.3, and 69.3 per 100,000, for whites, blacks, and other races respectively. Thus, black children were 2.3 times more likely to die of natural causes than white children, and children of other races were 1.8 times more likely to die than white children. These differences were largely attributable to higher prematurity and SIDS rates for black children and higher prematurity rates for children of other races. These differences will be examined more fully in their respective sections. [Table 4, Figure 7]

**Figure 7: Number of Fatalities Due to Natural Causes by Race**



## 1. Deaths Due to Natural Causes: Illness

- In 1999, 324 children died from illnesses or other conditions. This represents 46% of all deaths due to natural causes and 30.8% of all child fatalities for the year. More than half (50.3%) of all fatalities due to illnesses involved children less than 1 year of age. Children less than one year of age died of illnesses at a rate of 218.1 per 100,000, whereas the age group with the second highest death rate, 1-2 year old children, died of illnesses at a rate of 23.2 per 100,000. Illness death rates for males and females and racial groups were relatively comparable. However, black children were 1.3 times more likely to die of illnesses than white children. [Table 5]

<b>Age</b>	<b>Count</b>	<b>Rate*</b>	<b>Sex</b>	<b>Count</b>	<b>Rate*</b>	<b>Race</b>	<b>Count</b>	<b>Rate*</b>
< 1 day	31	--	Male	178	25.9	White	229	22.2
1-6 days	43	--	Female	146	22.4	Black	85	29.4
7-28 days	21	--	<b>Total</b>	<b>324</b>		Other	10	23.9
29-364 days	68	--				<b>Total</b>	<b>324</b>	
<b>All cases</b>								
< 1 year	163	216.7						
1-2 years	34	23.2						
3-5 years	28	12.8						
6-8 years	16	7.2						
9-11 years	20	8.8						
12-13 years	15	10.3						
14-15 years	25	16.9						
16-17 years	23	14.9						
<b>Total</b>	<b>324</b>	<b>24.2</b>						

\*Fatalities per 100,000 population

- Congenital anomalies accounted for 113 deaths. Thus, congenital anomalies were the leading illness category representing 34.9% of all illness deaths. Of the children dying of congenital anomalies, 55 (48.7%) lived less than one month and 85 (75.2%) lived less than one year. The second leading illness cause of death was cancer, which accounted for 39 (12%) of all deaths due to illness. Conditions originating in the perinatal period and infectious diseases were also among the leading causes of death due to illness, accounting for 38 (11.7%) and 35 (11.4%) deaths, respectively. [Table 6]

- Of the deaths due to congenital anomalies, 31 (27.7%) were due to some form of congenital heart defect. Among the cancer deaths, 7 (18%) were due to some form of leukemia. There was one fatality due to sickle cell anemia. There were no childhood deaths due to AIDS or complications of HIV infection in 1999. However, one newborn died within one week of birth due to herpes infection.

**Table 6: Fatalities Due to Illness and Other Natural Conditions by Age**

<i><b>Illness or Condition</b></i>	<i><b>Age</b></i>						<i><b>Total</b></i>	
	<i><b>&lt;1 month</b></i>	<i><b>1-11 months</b></i>	<i><b>1-2 years</b></i>	<i><b>3-8 years</b></i>	<i><b>9-13 years</b></i>	<i><b>14-17 years</b></i>		
Congenital anomalies	55	30	8	7	5	8	<b>113</b>	34.9%
Cancers	1	2	4	12	11	9	<b>39</b>	12.0%
Conditions originating in the perinatal period	29	8	--	--	1	--	<b>38</b>	11.7%
Infectious diseases	4	11	4	6	4	6	<b>35</b>	10.8%
Diseases of the respiratory system	1	7	8	4	3	7	<b>30</b>	9.3%
Diseases of the nervous system	1	4	3	6	3	6	<b>23</b>	7.1%
Diseases of the circulatory system	2	4	0	5	4	6	<b>21</b>	6.5%
Endocrine, nutritional, metabolic, and immunity disorders	2	2	4	3	4	4	<b>19</b>	5.9%
Diseases of the blood	--	--	--	1	--	--	<b>1</b>	0.3%
Other/unknown conditions	--	--	3	--	--	2	<b>5</b>	1.5%
	<b>95</b>	<b>68</b>	<b>34</b>	<b>44</b>	<b>35</b>	<b>48</b>	<b>324</b>	
	29.3%	21.0%	10.5%	13.6%	10.8%	14.8%		

## **2. Deaths Due to Natural Causes: Prematurity**

- In 1999, 297 infants died from complications due to prematurity. Of these, 107 (36%) were 22 weeks or less gestational age, 187 (63%) were between 23 and 37 weeks gestational age, and the gestational age was not reported for 3 cases. Together these fatalities represent 42.1% of all deaths due to natural causes and 28.2% of all childhood deaths in 1999. [Table 7]

Of the fatalities due to prematurity with 22 weeks or less gestational age:

- 89 (83.2%) died within 24 hours of birth. Additionally, 13 (12.2%) died within six days of birth, 2 (1.9%) died between 7 and 28 days, and 3 infants lived more than 28 days. Of these, the longest surviving infant lived 62 days. [Table 7]

- 85 (79.4%) reported a birthweight of less than 500 grams and 22 (20.5%) reported a birthweight between 500 and 1499 grams.

Of the fatalities due to prematurity with 23 to 37 weeks gestational age:

- 66 (35.3%) died within 24 hours of birth. Additionally, 46 (24.6%) died within six days of birth, 47 (25.1%) died between 7 and 28 days, 27 (14.5%) between 28 days and one year, and 1 (.6%) lived for 366 days. [Table 7]
- 44 (23.5%) reported a birthweight of less than 500 grams, 119 (63.6%) reported a birthweight between 500 and 1499 grams, 17 (9.1%) reported a birthweight between 1500 and 2499 grams, and 7 (3.7%) reported a birthweight of 2500 grams or more.

There were substantial racial disparities in prematurity related fatality rates. Black births were 8.9 times more likely than white births to result in deaths due to gestations of 22 weeks or less, and 2.6 times more likely to result in deaths due to gestations of 23 to 37 weeks. Births to other racial groups were 3.7 times more likely than white births to result in deaths due to gestations of 22 weeks or less, and 1.8 times more likely to result in deaths due to gestations of 23 to 37 weeks. [Table 7]

<b>Table 7: Fatalities Due to Prematurity by Age, Sex, and Race</b>								
<b>Gestational Age 22 Weeks or Less</b>								
<b>Age</b>	<b>Count</b>		<b>Sex</b>	<b>Count</b>	<b>Rate*</b>	<b>Race</b>	<b>Count</b>	<b>Rate*</b>
< 1 day	89	83.2%	Male	59	1.5	White	29	0.5
1-6 days	13	12.2%	Female	48	1.3	Black	71	4.3
7-28 days	2	1.9%	<b>Total</b>	<b>107</b>		Other	7	1.8
29-364 days	3	2.8%				<b>Total</b>	<b>107</b>	
<b>Total</b>	<b>107</b>							
<b>Gestational Age 23 to 37 Weeks</b>								
<b>Age</b>	<b>Count</b>		<b>Sex</b>	<b>Count</b>	<b>Rate*</b>	<b>Race</b>	<b>Count</b>	<b>Rate*</b>
< 1 day	66	35.3%	Male	111	2.8	White	101	1.7
1-6 days	46	24.6%	Female	76	2.0	Black	74	4.5
7-28 days	47	25.1%	<b>Total</b>	<b>187</b>		Other	12	3.1
29-364 days	27	14.4%				<b>Total</b>	<b>187</b>	
> 1 year	1	0.6%						
<b>Total</b>	<b>187</b>							

\* Fatality rate per 1000 births in the population group. The records of three fatalities determined to be due to prematurity did not report the length of gestation. Of these three, there were two females and one male, one white and two blacks, one surviving less than a day, one surviving 29 days, and one surviving 41 days.

There were also substantial differences in prematurity related fatality rates associated with maternal age. Births to mothers aged 17 or less were 2.8 times more likely than births to mothers aged 18 and older to result in deaths due to gestations of 22 weeks or less, and 2.2 times more likely to result in deaths due to gestations of 23 to 37 weeks. [Table 8]

			<i>Gestational Age 23-37 Weeks</i>		
<i>Mother's Age</i>	<i>Count</i>	<i>Rate*</i>	<i>Mother's Age</i>	<i>Count</i>	<i>Rate*</i>
13-14	1	8.9	13-14	2	17.9
15-17	9	3.2	15-17	12	4.3
18-21	27	1.7	18-21	52	3.2
22-25	21	1.2	22-25	39	2.2
26-30	27	1.3	26-30	40	1.9
31-35	8	0.6	31-35	18	1.4
36-40	8	1.5	36-40	12	2.2
41-45	1	1.2	40-45	2	2.4
<b>Total</b>	102	1.3	<b>Total</b>	177	2.3

\*Fatalities per 1000 births in the population age group. The mother's age was not recorded for 5 births with a gestational age of 22 weeks or less and for 10 births with a gestational age of 23 to 37 weeks.

### 3. Deaths Due to Natural Causes: SIDS

In 1999, 82 deaths were reported as Sudden Infant Death Syndrome (SIDS). This represents 11.6% of all deaths due to natural causes, and 7.8% of all childhood deaths in 1999. [Table 9]

- The sleeping position for 45 (54.9%) of the SIDS fatalities was not reported. However among those whose position was reported, 20 (54.1%) were on their stomach face down, an additional 2 (5.4%) were on their stomach with their face to the side, 3 (8.1%) were on their side, and 12 (32.4%) were on their back.

**Table 9: Fatalities Due to SIDS by Age, Sex, and Race**

<b>Age</b>	<b>Count</b>		<b>Sex</b>	<b>Count</b>	<b>Rate*</b>	<b>Race</b>	<b>Count</b>	<b>Rate*</b>
< 1 day	0	0.0%	Male	47	1.2	White	47	0.8
1-6 days	0	0.0%	Female	35	0.9	Black	35	2.1
7-28 days	11	13.4%	<b>Total</b>	82		<b>Total</b>	82	
29-60 days	21	25.6%						
61-90 days	20	24.4%						
91-120 days	7	8.5%						
121-150 days	9	11.0%						
151-180 days	4	4.9%						
181-364 days	10	12.2%						
<b>Total</b>	82	1.05*						

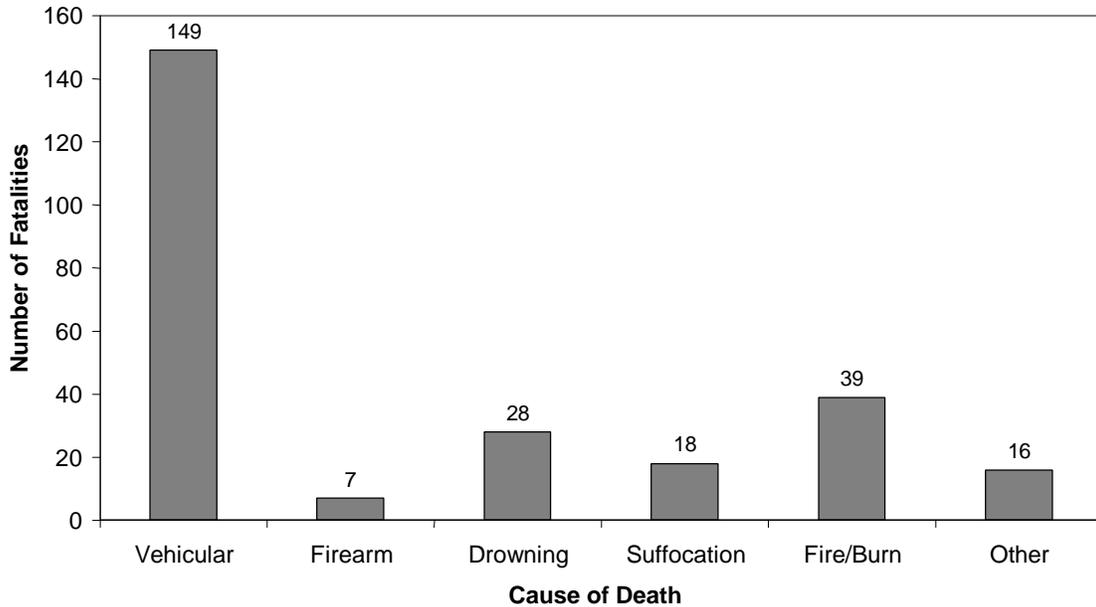
\*Fatality rate per 1000 births in the population group.

- There were significant racial disparities in SIDS rates with black infants 2.7 times more likely to be SIDS victims than white infants.
- The CFRT reported that child abuse was suspected in 1 (1.2%) SIDS death. Potential child abuse status was reported as unknown for 4 (4.9%) SIDS deaths and child abuse was not suspected in 77 (93.9%) SIDS deaths. Prior involvement with Child Protective Services was reported in 12 (14.8%) of SIDS deaths.
- Thirty-three (43.4%) SIDS mothers reported smoking during pregnancy. Overall, infants of women who smoked during pregnancy were 3.7 more likely to die of SIDS than infants of women who did not smoke.

## B. Deaths Due to Unintentional Injury

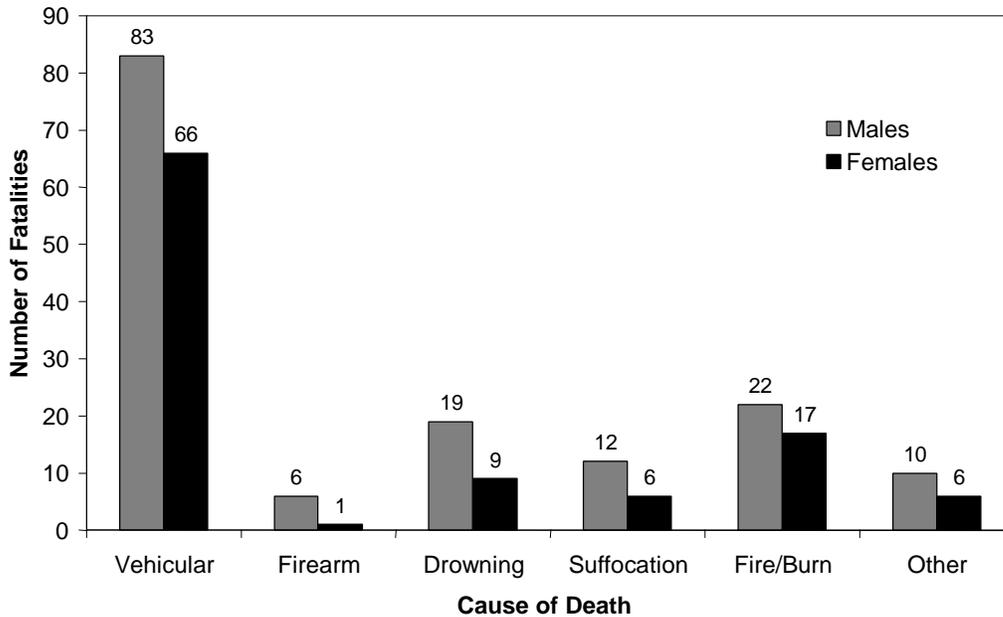
- There were 257 unintentional injury fatalities among children in 1999, representing 23.9% of all childhood fatalities. The greatest number of childhood fatalities due to unintentional injuries resulted from vehicular incidents, 149 (58%). Fire-related injuries were the next most common cause of death resulting in 39 (15.2%) fatalities, followed by drowning, 28 (10.9%), suffocation or strangulation, 18 (7%), and firearms, 7 (2.7%). Overall, childhood fatalities due to unintentional injuries occurred at a rate of 19.2 per 100,000 population. [Figure 8, Table 10]

**Figure 8: Number of Fatalities Due to Unintentional Injury by Cause**



- Childhood fatalities due to unintentional injuries were more prevalent among males, 152 (59.1%), than females, 105 (40.9%). Overall, male children were 1.37 times more likely to die of unintentional injuries than female children. The absolute proportion of male fatalities was also greater than female fatalities for each type of unintentional injury, vehicular, fire-related, drowning, suffocation, and firearms. [Figure 9, Table 10]

**Figure 9: Number of Fatalities due to Unintentional Injury by Cause and Sex**



- Children aged 16 to 17 had the greatest incidence of unintentional injury deaths, 84 (32.7%), which translates to a rate of 54.4 fatalities per 100,000 population. Infants less than one year of age had the next highest unintentional injury death rate at 26.6 per 100,000. Children aged 16 to 17 were 3.7 times more likely to die of unintentional injuries than children less than 16 years of age. Infants less than one year of age were 1.8 times more likely to die of unintentional injuries than children ages 1 through 15. [Table 10]

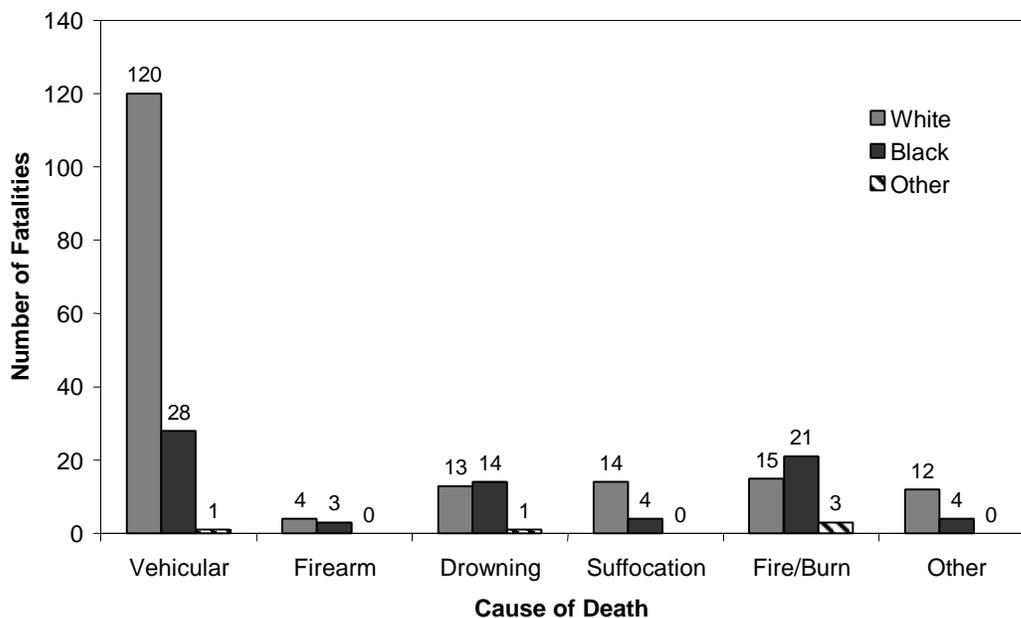
<b>Age</b>	<b>Count</b>	<b>Rate*</b>	<b>Sex</b>	<b>Count</b>	<b>Rate*</b>	<b>Race</b>	<b>Count</b>	<b>Rate*</b>
< 1 year	19	25.3	Male	152	22.1	White	178	17.6
1-2 years	27	18.4	Female	105	16.1	Black	74	25.7
3-5 years	32	14.6	<b>Total</b>	<b>257</b>		Other	5	11.9
6-8 years	21	9.4				<b>Total</b>	<b>257</b>	
9-11 years	27	11.8						
12-13 years	18	12.3						
14-15 years	29	19.7						
16-17 years	84	54.4						
<b>Total</b>	<b>257</b>	<b>19.2</b>						

\*Fatalities per 100,000 population

- Fatalities due to unintentional injuries were most prevalent among white children, 178, which represents 69.3% of all unintentional injury deaths.

There were 74 (28.8%) black children and 5 (1.9%) children of other races whose deaths were due to unintentional injuries. However, black children were 1.5 times more likely to die of unintentional injuries than white children. [Table 10, Figure 10]

**Figure 10: Number of Fatalities Due to Unintentional Injury by Cause and Race**



### 1. Unintentional Injury Deaths: Vehicle Crashes

- In 1999, 149 children died in accidental vehicle crashes. This represented 58% of all unintentional injury deaths and 14.2% of all child fatalities. Vehicular fatality rates for males and females and blacks and whites were roughly equivalent. There were 83 (55.7%) male and 66 (44.3%) female vehicular fatalities, which translates into rates of 12.1 per 100,000 and 10.1 per 100,000, respectively. There were 120 (80.5%) white children, 28 (18.8%) black children, and 1 (0.7%) child of another race whose deaths were due to vehicle-related accidents. Thus, the vehicular fatality rates for white and black children were 11.9 and 9.7 per 100,000, respectively. [Table 11]

**Table 11: Vehicle-Related Fatalities by Age, Sex, and Race**

<b>Age</b>	<b>Count</b>	<b>Rate*</b>	<b>Sex</b>	<b>Count</b>	<b>Rate*</b>	<b>Race</b>	<b>Count</b>	<b>Rate*</b>
< 1 year	3	4.0	Male	83	12.1	White	120	11.9
1-2 years	4	2.7	Female	66	10.1	Black	28	9.7
3-5 years	18	8.2	<b>Total</b>	<b>149</b>		Other	1	2.4
6-8 years	10	4.5				<b>Total</b>	<b>149</b>	
9-11 years	14	6.1						
12-13 years	10	6.8						
14-15 years	21	14.2						
16-17 years	69	44.7						
<b>Total</b>	<b>149</b>	<b>11.1</b>						

\*Fatalities per 100,000 population

- Regarding age, children 16 to 17 years of age were 6.6 times more likely to die of vehicle-related injuries than children younger than 16. Also, children 14 to 15 years of age were 2.5 times more likely to die of vehicle-related injuries than children younger than 14. [Table 11]
- Automobiles were involved in 111 (74.5%) vehicle-related fatalities and trucks or recreational vehicles were involved in 24 (16.1%). All-terrain vehicles were involved in 4 (2.7%) vehicle-related fatalities and bicycles were involved in 5 (3.4%). In one case, (0.7%) a train struck and killed a pedestrian. The vehicle type was unknown or not reported for 2 (1.3%) vehicle related fatalities. [Table 12]

**Table 12: Type of Vehicle and Position of Decedent**

<b>Type of Vehicle</b>	<b>Position of Decedent</b>					<b>Total</b>	
	Driver	Passenger	Pedestrian	Other	Unknown		
Automobile	42	57	9	2	1	<b>111</b>	74.5%
Truck/RV	6	10	7	0	1	<b>24</b>	16.1%
All-terrain vehicle	3	1	0	0	0	<b>4</b>	2.7%
Bicycle	5	0	0	0	0	<b>5</b>	3.4%
Other	0	0	1	1	1	<b>3</b>	2.0%
Unknown or Not Reported	0	0	0	0	2	<b>2</b>	1.3%
	<b>56</b>	<b>68</b>	<b>17</b>	<b>3</b>	<b>5</b>	<b>149</b>	
	37.6%	45.6%	11.4%	2.0%	3.4%		

- The fatally injured child was a passenger in 68 (45.6%) of the incidents and the driver in 56 (37.6%). In 17 (11.4%) of the incidents, the injured child was a pedestrian. Among the decedents whose position was classified as other, one involved falling off the trunk of a car, one was a rollerblader hit by a car, and one was an unborn fetus involved in a two-car accident. Among the

decedents whose position was classified as unknown, one involved a tractor accident, one a car accident, one a truck accident, and two were unreported. Both the car and truck accidents involved speeding. [Table 12]

- Among the 119 fatalities involving an occupant of a car, truck, or RV, 67 (56.3%) were passengers, 48 (40.3%) were drivers, and 4 (3.4%) cases were reported as unknown or other. Additionally, seat belts were not used in 77 (64.7%) cases, were used in 18 (15.1%), and their use was unknown or not reported in 16 (13.4%); safety seats were not in the vehicle in 4 (3.4%) cases, were used improperly in 2 (1.7%), and their use was unknown or not reported in 2 (1.7%). Road conditions were reported as normal in 73 (61.3%) cases, wet in 19 (16.0%), ice or snow in 2 (1.7%), loose gravel in 2 (1.7%), and other or unreported in 23 (19.3%). Overall, there were 6 (5.0%) citations issued for driving under the influence, 3 (2.5%) for speeding, and 2 (1.7%) for other violations. The driver of the 'other' vehicle was cited for driving under the influence in 2 (1.7%) cases and for other violations in 1 (0.8%) case. Finally, one accident involved a mechanical failure.
- Among the 67 cases where the fatally injured child was a passenger in a car, truck, or RV, the age of the driver was 18 or under in 26 (38.8%) accidents, 19 to 24 in 15 (22.4%), 25 or older in 21 (27.6%), and unknown or not reported in 5 (8.3%).
- Among the 17 pedestrian fatalities, 9 (52.9%) involved cars, 7 (41.2%) involved a truck, and 1 (5.9%) involved a train. Road conditions were reported as normal in 13 (76.5%) cases and were not reported for 4 (23.5%) cases. In one accident involving two fatalities, the driver was cited for violations other than speeding and driving under the influence.
- All 5 of the fatal accidents involving bicycles also involved another vehicle; 3 (60%) involved a single car, 1 (20%) involved two cars, and 1 (20%) involved a truck. In 4 (80%) of the accidents, the riders were not wearing a helmet, and in 1 (20%) accident, helmet use was not reported. In every case, the road conditions were reported as normal.
- Among the four cases involving an ATV, 3 (75%) of the fatalities were drivers and 1 (25%) was a passenger. One accident also involved an automobile. In that case, the automobile driver was cited for driving under the influence and the ATV driver was cited for other violations. In the case where the fatally injured child was a passenger, the driver was cited for speed. In 3 (75%) cases, the fatally injured child was not wearing a helmet and 1 (25%) case helmet use was not reported. In 2 (50%) cases, road conditions were reported as normal and in 2 (50%) cases, road conditions were not reported.

## 2. Unintentional Injury Deaths: Firearms

In 1999, 7 children died due to unintentional firearm injuries. This represents 2.7% of all unintentional injury deaths and 0.7% of all childhood fatalities. [Table 12]

<b>Age</b>	<b>Count</b>	<b>Rate*</b>	<b>Sex</b>	<b>Count</b>	<b>Rate*</b>	<b>Race</b>	<b>Count</b>	<b>Rate*</b>
< 1 year	0	0.0	Male	6	0.9	White	4	0.4
1-2 years	1	0.7	Female	1	0.2	Black	3	1.0
3-5 years	1	0.5	<b>Total</b>	<b>7</b>		<b>Total</b>	<b>7</b>	
6-8 years	2	0.9						
9-11 years	2	0.9						
12-13 years	0	0.0						
14-15 years	0	0.0						
16-17 years	1	0.7						
<b>Total</b>	<b>7</b>	<b>0.5</b>						

\*Fatalities per 100,000 population

- The person handling the firearm was killed in 2 (28.6%) cases, another person was handling the firearm in 4 (57.1%), and in 1 (14.3%) case the gun discharged after falling off a television set. In the four cases where another person was handling the gun, their ages were 4, 5, 11, and 12. In the two cases where the decedent was handling the gun, their ages were 11 and 16.
- The fatal injuries involved a handgun in 4 (57.1%) incidents, a shotgun in 2 (28.6%) incidents, and the type of gun was not reported in one incident. In 5 (71.4%) cases the children were playing with the gun and in 1 (14.3%) case the child had just found the gun. Who or what caused the gun to fall off of the television set was not specified.

### 3. Unintentional Injury Deaths: Drowning

In 1999, 28 children died from accidental drowning. This represents 10.9% of all unintentional injury deaths and 2.7% of all child fatalities.

<b>Age</b>	<b>Count</b>	<b>Rate*</b>	<b>Sex</b>	<b>Count</b>	<b>Rate*</b>	<b>Race</b>	<b>Count</b>	<b>Rate*</b>
< 1 year	2	2.7	Male	19	2.8	White	13	1.3
1-2 years	5	3.4	Female	9	1.4	Black	14	4.9
3-5 years	1	0.5	<b>Total</b>	<b>28</b>		Other	1	2.4
6-8 years	3	1.3				<b>Total</b>	<b>28</b>	
9-11 years	4	1.8						
12-13 years	4	2.7						
14-15 years	4	2.7						
16-17 years	5	3.4						
<b>Total</b>	<b>28</b>	<b>2.1</b>						

\*Fatalities per 100,000 population

- The largest number of drowning incidents, 16 (57.1%), occurred in a natural body of water, a river, creek, pond, or lake, 9 (32.1%) drowned in a swimming pool, 2 (7.1%) drowned in a bathtub, and 1 (3.6%) drowned in a bucket.
- Among the 16 drowning incidents occurring in a natural body of water, the victim was reported as entering the water from the water's edge in 5 (31.3%), from a boat in 2 (12.5%), from a raft or float in 2 (12.5%), from some other watercraft in 1 (6.3%), and as other or unknown in 6 (37.5%).
- Among the 25 drowning incidents occurring in a natural body of water or a swimming pool, only 1 (4%) was reported as wearing a flotation device, 18 (72%) were not wearing a flotation device, and in 6 (24%) cases their status was either unknown or not reported.

#### 4. Unintentional Injury Fatalities: Suffocation or Strangulation

In 1999, there were 18 child fatalities due to suffocation or strangulation. This represents 7% of all unintentional injury deaths and 1.7% of all child fatalities. Among these deaths, 9 (50%) involved a child less than one year old. Overall, a child less than one year of age was 16.8 times more likely to die of suffocation or strangulation than a child one year of age or older. Many of these deaths are due to infants' sleeping arrangements, especially sleeping with adults and older children.

**Table 15: Unintentional Suffocation or Strangulation Fatalities by Age, Sex, and Race**

<b>Age</b>	<b>Count</b>	<b>Rate*</b>	<b>Sex</b>	<b>Count</b>	<b>Rate*</b>	<b>Race</b>	<b>Count</b>	<b>Rate*</b>
< 1 year	9	12.0	Male	12	1.7	White	14	1.4
1-2 years	3	2.0	Female	6	0.9	Black	4	1.4
3-5 years	0	0.0	<b>Total</b>	<b>18</b>		<b>Total</b>	<b>18</b>	
6-8 years	0	0.0						
9-11 years	3	1.3						
12-13 years	1	0.7						
14-15 years	1	0.7						
16-17 years	1	0.7						
<b>Total</b>	<b>18</b>	<b>1.3</b>						

\*Fatalities per 100,000 population

- Of the 18 unintentional suffocation or strangulation fatalities, 9 (50%) involved the child's sleeping arrangements. Of these deaths, 6 involved another person overlying, rolling over, or somehow smothering the child, 2 involved soft mattresses, and 1 involved gastric reflux.
- Among the nine fatalities due to unintentional suffocation or strangulation fatalities that did not involve sleeping arrangements, five involved some form of accidental hanging or ligature strangulation, two involved food, one involved a plastic bag used for huffing solvents, and one involved a fallen chest of drawers.

#### 4. Unintentional Injury Fatalities: Fire and Burns

In 1999, there were 39 child fatalities due to fire and burn injuries. This represents 15.2% of all unintentional injury fatalities and 3.7% of all child fatalities.

**Table 16: Unintentional Fire and Burn Fatalities by Age, Sex, and Race**

<b>Age</b>	<b>Count</b>	<b>Rate*</b>	<b>Sex</b>	<b>Count</b>	<b>Rate*</b>	<b>Race</b>	<b>Count</b>	<b>Rate*</b>
< 1 year	3	4.0	Male	22	3.2	White	15	1.5
1-2 years	10	6.8	Female	17	2.6	Black	21	7.3
3-5 years	11	5.0	<b>Total</b>	<b>39</b>		Other	3	7.2
6-8 years	5	2.2				<b>Total</b>	<b>39</b>	
9-11 years	2	0.9						
12-13 years	3	1.3						
14-15 years	0	0.0						
16-17 years	5	3.2						
<b>Total</b>	<b>39</b>							

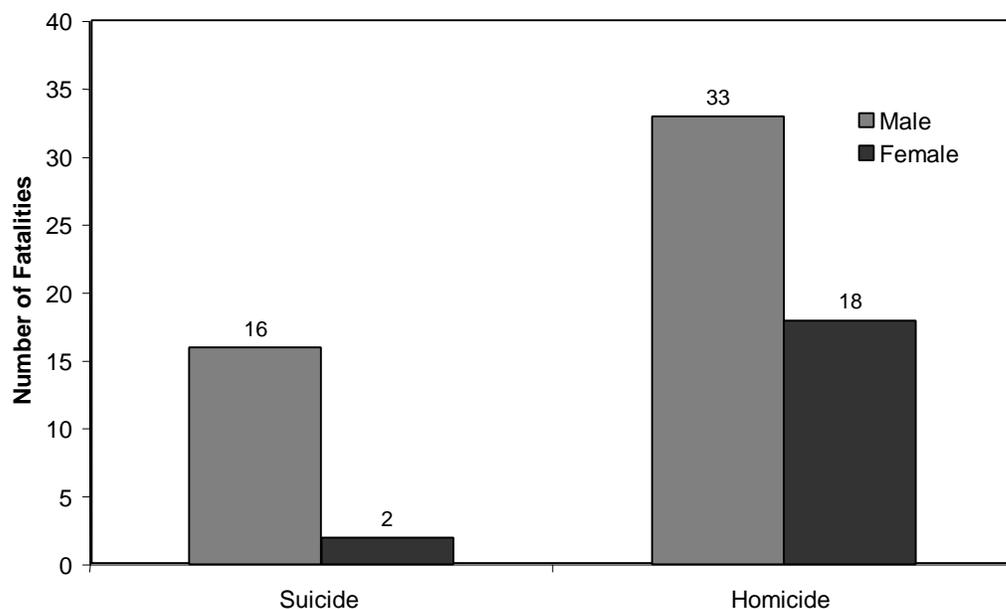
\*Fatalities per 100,000 population

- Of the 39 fire or burn fatalities, 9 (23.1%) were caused by faulty wiring or overloaded circuitry, 5 (12.8%) involved space heaters, 5 (12.8%) involved children playing with cigarette lighters, 2 (5.1%) involved fireplaces, one of which was gas, 1 (2.6%) involved a candle, 1 (2.6%) involved a water heater, and 1 (2.6%) involved a car's electrical system. For 15 (38.5%) of the fatalities, the cause of the fire was unknown.
- The structures involved in the fire and burn fatalities were wood-frame buildings in 27 (69.2%) cases, a concrete building in 1 (2.6%), a trailer in 1 (2.6%), a car in 1 (2.6%), and unknown or not reported in 9 (23.1%) cases.
- Four fires resulting in five fatalities were started by children playing with cigarette lighters. Two of the children who started the fires were five years old, one was four years old, and one was two years old. In one case, the total extent of the fire was a four-foot square section of carpet and the child died from smoke inhalation.
- For the 38 fatalities involving permanent structures, smoke alarms were present in 9 (23.7%) cases, were not present in 23 (60.5%). Whether an alarm was present was unknown in 6 (15.8%) cases. Smoke alarms sounded in 5 of the 9 cases, where an alarm was known to be present, did not sound in 2, and may or may not have sounded in 2.

### C. Violence Related Deaths

Violence-related deaths are those determined by the CFRT to be either suicides or homicides. There were 69 violence-related child fatalities in 1999, representing 6.6% of all child fatalities. Of these, 18 (26.1%) were suicides and 51 (73.9%) were homicides. Of the violence-related fatalities, 49 (71%) were males and 20 (29%) were females. Overall, males were 2.3 times more likely to die of violence-related injuries than females. [Figure 11, Table 18]

**Figure 11: Number of Fatalities Due to Violence by Manner and Race**



- Children aged 16 to 17 had the greatest incidence of violence-related fatalities, 29 (42%), which translates to a rate of 18.8 fatalities per 100,000 population. Infants less than one year of age were involved in 9 (13%) violence-related fatalities, which represents the next highest violence-related fatality rate at 12.0 per 100,000 population. Overall, children aged 16 to 17 were 6.7 times more likely to die of violence-related injuries than children ages 1 through 15. Infants less than one year of age were 4.3 times more likely to die of violence-related injuries than children ages 1 through 15. [Table 18]

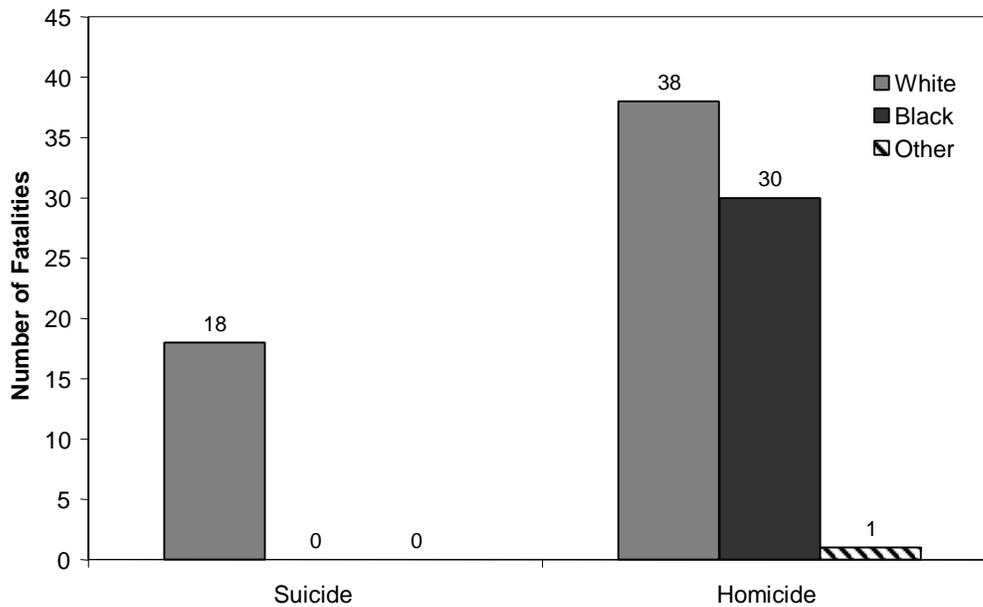
**Table 18: Violence Fatalities by Age, Sex, and Race**

<b>Age</b>	<b>Count</b>	<b>Rate*</b>	<b>Sex</b>	<b>Count</b>	<b>Rate*</b>	<b>Race</b>	<b>Count</b>	<b>Rate*</b>
< 1 year	9	12.0	Male	49	7.1	White	38	3.8
1-2 years	6	4.1	Female	20	3.1	Black	30	10.4
3-5 years	4	1.8	<b>Total</b>	<b>69</b>		Other	1	2.4
6-8 years	2	0.9				<b>Total</b>	<b>69</b>	
9-11 years	4	1.8						
12-13 years	6	4.1						
14-15 years	9	6.1						
16-17 years	29	18.8						
<b>Total</b>	<b>69</b>	<b>5.1</b>						

\*Fatalities per 100,000 population

- White children were involved in the majority of violence related fatalities, 38 (55.1%), followed by black children, 30 (43.5%), and children of other races, 1 (1.4%). However, black children were 2.8 times as likely to die of violence related injuries than white children. This difference is entirely due to the black homicide rate, as there were no black suicides in 1999. [Table 18, Figure 12]

**Figure 12: Number of Fatalities Due to Violence by Manner and Race**



## 1. Violence-Related Deaths: Suicide

In 1999, 18 children committed suicide. This represents 26.1% of all violence-related fatalities and 1.7% of all child fatalities in 1999. All of the suicide fatalities involved children 11 years old and older. The majority of suicide fatalities were white males, 16 (89%), and the remaining suicide fatalities were white females, 2 (11%). Overall, white males were 8.0 times more likely to commit suicide than white females. [Table 19]

<b>Age</b>	<b>Count</b>	<b>Rate*</b>	<b>Sex</b>	<b>Count</b>	<b>Rate*</b>	<b>Race</b>	<b>Count</b>	<b>Rate*</b>
< 1 year	--	--	Male	16	2.3	White	18	1.8
1-2 years	--	--	Female	2	0.3	Black	--	--
3-5 years	--	--	<b>Total</b>	<b>18</b>		<b>Total</b>	<b>18</b>	
6-8 years	--	--						
9-11 years	1	0.4						
12-13 years	2	1.4						
14-15 years	5	3.4						
16-17 years	10	6.5						
<b>Total</b>	<b>18</b>	<b>1.3</b>						

\*Fatalities per 100,000 population

- Of the 18 suicides, 11 (61.1%) were committed with a firearm, 5 (27.8%) by suffocation or strangulation, and 2 (11.1%) by poisoning or overdose. Of the 11 suicides committed with a gun, 8 (72.7%) were committed with a handgun and 3 (27.3%) were committed with a shotgun. Of the 5 strangulation or suffocation suicides, 4 (80%) involved strangulation and 1 (20%) involved suffocation. Both of the overdose suicides involved prescription drugs.
- Prior contact with Child Protective Services (CPS) was reported for 3 (16.7%) suicide cases, whereas no CPS contact was reported for 15 (83.3%) suicide cases. A history of child abuse was not reported for any of the suicide cases. However, the child abuse status of one suicide victim was reported as unknown.
- Nine of the suicide victims were reported as having previous contact with one or more public agencies. In particular, 1 (5.6%) child was receiving mental health counseling, 1 (5.6%) had contact with Children's Special Services (CSS), and 2 (11.1%) were involved with the juvenile court system.

## 2. Violence-Related Fatalities: Homicide

In 1999, 51 children were victims of homicide. This represents 73.9% of all violence-related child fatalities and 4.8% of all child fatalities in 1999.

- Of the child homicide victims, 33 (64.7%) were male and 18 (35.3%) were female. Regarding race, the majority of child homicide victims were black, 30 (58.8%), followed by white children, 20 (39.2%), and children of other races, 1 (2.0%). Overall, black children were 5.3 times more likely to be homicide victims than white children. [Table 20]

<b>Age</b>	<b>Count</b>	<b>Rate*</b>	<b>Sex</b>	<b>Count</b>	<b>Rate*</b>	<b>Race</b>	<b>Count</b>	<b>Rate*</b>
< 1 year	9	12.0	Male	33	4.8	White	20	2.0
1-2 years	6	4.1	Female	18	2.8	Black	30	10.4
3-5 years	4	1.8	<b>Total</b>	<b>51</b>		Other	1	2.4
6-8 years	2	0.9				<b>Total</b>	<b>51</b>	
9-11 years	3	1.3						
12-13 years	4	2.7						
14-15 years	4	2.7						
16-17 years	19	12.3						
<b>Total</b>	<b>51</b>	<b>3.8</b>						

\*Fatalities per 100,000 population

- Regarding age, children aged 16 to 17 and children less than 1 year old had the highest homicide rates, 12.3 and 12.0 per 100,000 population, respectively. Overall, children aged 16 to 17 years old were 6.0 times more likely to be homicide victims than children aged 1 to 15. Likewise, children less than 1 year old were 5.8 times more likely to be homicide victims than children aged 1 to 15. [Table 20]
- Overall, 28 (54.9%) homicides involved firearms, 14 (27.5%) were reported as inflicted injuries, 4 (7.8%) involved suffocation or strangulation, 3 (5.9%) were vehicular, 1 (2.0%) involved burns, and 1 resulted from inadequate care. [Table 21]
- Of the 28 homicides involving firearms, 21 (75%) involved hand guns, 1 (3.6%) involved a rifle, and in 6 (21.4%) cases, the type of firearm was not reported.
- Of the 14 fatalities involving inflicted injuries, 7 (50%) involved blunt trauma, 5 (35.7%) involved shaking injuries, and 2 (14.3%) involved stabbing injuries. Among the inflicted injury fatalities, 9 (64.3%) occurred in the child's residence, 2 (14.3%) occurred in child care, and in 5 (35.7%) cases the perpetrator was a parent or relative. [Table 21]

**Table 21: Reported Cause of Death for Homicide Fatalities by Age**

<i>Cause of Death</i>	<i>Age</i>			<i>Total</i>	
	0-2	3-13	14-17		
Firearm: Handgun	1	6	14	<b>21</b>	<b>41.1%</b>
Firearm: Rifle	--	--	1	<b>1</b>	<b>2.0%</b>
Firearm: Unknown	--	1	5	<b>6</b>	<b>11.8%</b>
Inflicted Injury: Shaken	5	--	--	<b>5</b>	<b>9.8%</b>
Inflicted Injury Stabbed	--	1	1	<b>2</b>	<b>3.9%</b>
Inflicted Injury: Blunt Trauma	4	2	1	<b>7</b>	<b>13.7%</b>
Suffocation	3	--	1	<b>4</b>	<b>7.8%</b>
Vehicle	1	2	--	<b>3</b>	<b>5.9%</b>
Fire/Burn	1	--	--	<b>1</b>	<b>2.0%</b>
Inadequate Care	--	1	--	<b>1</b>	<b>2.0%</b>
	<b>15</b>	<b>13</b>	<b>23</b>	<b>51</b>	
	<i>29.4%</i>	<i>25.5%</i>	<i>45.1%</i>		

- Prior CPS involvement was reported for 20 (39.2%) homicide cases. Other agency involvement was reported for 35 (68.6%) cases. In particular, 5 (9.8%) homicide victims were receiving mental health counseling, 4 (7.8%) had prior involvement with police agencies, and 3 (5.9%) had been involved with the juvenile court system. Additionally, 21 (41.2%) homicide fatalities involved suspected child abuse and 9 (17.7%) cases involved an apparent delay in seeking necessary medical treatment.

## C. Manner of Death Undetermined

In 1999, there were 22 fatalities for which the CFRT reported that the manner of death was undetermined or could not be determined. This represents 2.8% of all child fatalities in 1999. Of these, 13 were reported as indeterminable due to suspicious circumstances. Generally, it appears that the difficulty involved determining whether death was due to unintentional injury or homicide. Among the undetermined cases, the cause of death was listed as unknown for 8 (36.4%) cases, firearm for 3 (13.6%) cases, suffocation or strangulation for 3 (13.6%) cases, inflicted injury for 2 (9.1%) cases, and 1 (4.6%) case each for lack of adequate care, poisoning or overdose, fire/burn, drowning, and vehicular. Finally, one case was reported as other causes not listed.

- Children less than one year of age were disproportionately represented in the undetermined cases. The manner of death for children less than one year of age were 20.2 times more likely to be undetermined than for children aged one year old and older. Overall, prior CPS involvement was reported in 7 (33.3%) cases, suspected child abuse was reported in 6 (22.3%) cases, and delay in seeking necessary medical treatment was reported in 3 (13.6%) cases.

**Table 22: Undetermined Fatalities by Age, Sex, and Race**

<b>Age</b>	<b>Count</b>	<b>Rate*</b>	<b>Sex</b>	<b>Count</b>	<b>Rate*</b>	<b>Race</b>	<b>Count</b>	<b>Rate*</b>
< 1 year	12	16.0	Male	16	2.3	White	15	1.5
1-2 years	3	2.0	Female	6	0.9	Black	7	2.4
3-5 years	--	0.0	<b>Total</b>	<b>22</b>		<b>Total</b>	22	
6-8 years	1	0.5						
9-11 years	1	0.4						
12-13 years	1	0.7						
14-15 years	2	1.4						
16-17 years	2	1.3						
<b>Total</b>	<b>22</b>	<b>3.8</b>						

\*Fatalities per 100,000 population

# Appendix





**CHAPTER 142  
CHILD FATALITY REVIEW AND  
PREVENTION**

Section

- 68-142-101. Short title.
- 68-142-102. Child fatality prevention team.
- 68-142-103. Composition.
- 68-142-104. Voting members-Vacancies
- 68-142-105. Duties of state team.
- 68-142-106. Local teams-Composition-Vacancy-Chair-Meetings
- 68-104-107. Duties of local teams.
- 68-104-108. Powers of local team-Limitations-Confidentiality of state and local team records.
- 68-104-109. Staff and consultants.

**68-104-101. Short title.**

The chapter shall be known as and may be cited as the “Child Fatality Review and Prevention Act of 1995.”

[Acts 1995, ch.511,§ 1.]

**68-104-102. Child fatality prevention team.**

There is hereby created the Tennessee child fatality prevention team, otherwise known as the state team. For administrative purposes only, the state team shall be attached to the department of health.

[Acts 1995, ch. 511, § 1.]

**68-141-103. Composition.**

The state team shall be composed as provided herein. Any ex officio member, other than the commissioner of health, may designate an agency representative to serve in such person’s place. Members of the state team shall be as follows:

- (1) The commissioner of health, who shall chair the state team;
- (2) The attorney general and reporter;
- (3) The commissioner of children’s services;
- (4) The director of the Tennessee bureau of investigation;
- (5) A physician nominated by the state chapter of the American Medical Association;
- (6) A physician to be appointed by the commissioner of health who is credentialed in forensic
- (7) pathology, preferably with experience in pediatric forensic pathology;
- (8) The commissioner of mental health and mental retardation;
- (9) A member of the judiciary selected from a list submitted by the chief justice of the Tennessee Supreme Court;
- (10)The executive director of the commission of children and youth;
- (11)The president of the state professional society on the abuse of children

- (12) A team coordinator, to be appointed by the commissioner of health;
- (13) The chair of the select committee on children and youth;
- (14) Two (2) members of the house of representatives to be appointed by the speaker of the house, at least one (1) of whom shall be a member of the house health and human resources committee; and
- (15) Two (2) senators to be appointed by the speaker of the senate at least one (1) of whom shall be a member of the senate general welfare, health and human resources committee.

[Acts 1995, ch. 511, § 152.]

#### **68-142-104. Voting members-Vacancies**

All members of the state team shall be voting members. All vacancies shall be filled by the appointing or designating authority in accordance with the requirements of § 68-142-103.

[Acts 1995, ch. 511, § 1.]

#### **68-142-105. Duties of state team.**

The state team shall:

- (1) Review reports from the local child fatality review teams;
- (2) Report to the governor and the general assembly concerning the state team's activities and its recommendations for changes to any law, rule, and policy that would promote the safety and well-being of children;
- (3) Undertake annual statistical studies of the incidence and causes of child fatalities in this state. The studies shall include an analysis of community and public and private agency involvement with the decedents and their families prior to and subsequent to the deaths;
- (4) Provide training and written materials to the local teams established by this chapter to assist them in carrying out their duties. Such written materials may include model protocols for the operation of local teams;
- (5) Develop a protocol for the collection of data regarding child deaths;
- (6) Upon request of a local team, provide technical assistance to such team, including the authorization of another medical or legal opinion on a particular death; and
- (7) Periodically assess the operations of child fatality prevention efforts and make recommendations for changes as needed.

[Acts 1995, ch. 511, § 2.]

**68-142-106. Local teams-Composition-Vacancy-Chair-Meetings.**

- (a) There shall be a minimum of one (1) local team in each judicial district;
- (b) Each local team shall include the following statutory members or their designees;
  - (1) A supervisor of social services in the department of children's services within the area served by the team;
  - (2) The regional health officer in the department of health in the area served by the team or such officer's designee, who shall serve as interim chair pending the election by the local team;
  - (3) A medical examiner who provides services in the area served by the team;
  - (4) A prosecuting attorney appointed by the district attorney general;
  - (5) The interim chair of the local team shall appoint the following members to the local team:
    - (A) A local law enforcement officer;
    - (B) A mental health professional;
    - (C) A pediatrician or family practice physician;
    - (D) An emergency medical service provider or firefighter; and
    - (E) A representative from a juvenile court.
- (c) Each local child fatality team may include representatives of public and nonpublic agencies in the community that provide services to children and their families;
- (d) The local team may include non-statutory members to assist them in carrying out their duties. Vacancies on a local team shall be filled by the original appointing authority;
- (e) A local team shall elect a member to serve as chair;
- (f) The chair of each local team shall schedule the time and place of the first meeting, and shall prepare the agenda. Thereafter, the team shall meet no less often than once per quarter and often enough to allow adequate review of the cases meeting the criteria for review.

[Acts 1995, ch. 511, § 3; 1996, ch. 1079, § 152.]

**68-142-107. Duties of local teams.**

- (a) The local child fatality review teams shall:
  - (1) Be established to cover each judicial district in the state;
  - (2) Review, in accordance with the procedures established by the state team, all deaths of children seventeen (17) years of age or younger;
  - (3) Collect data according to the protocol developed by the state team;
  - (4) Submit data on child deaths quarterly to the state team;
  - (5) Submit annually to the state team recommendations, if any, and advocate for system improvements and resources where gaps and deficiencies may exist; and
  - (6) Participate in training provided by the state team.
- (b) Nothing in this chapter shall preclude a local team from providing consultation to any team member conducting an investigation.
- (c) Local child fatality review teams may request a second medical or legal opinion to be authorized by the state team in the event that a majority of the local team's statutory membership is in agreement that a second opinion is needed.

[Acts 1995, ch. 511, § 4.]

**68-142-108. Powers of local team-Limitations-Confidentiality of state and local team records.**

- (a) The local team shall have access to and subpoena power to obtain all medical records and records maintained by any state, county or local agency, including, but not limited to, police investigations data, medical examiner investigative data and social services records, as necessary to complete the review of a specific fatality.
- (b) The local team shall not, as part of the review authorized under this chapter, contact, question or interview the parent of the deceased child or any other family member of the child whose death is being reviewed.
- (c) The local team may request that persons with direct knowledge of circumstances surrounding a particular fatality provide the local team with information necessary to complete the review of the particular fatality; such persons may include the person or persons who first responded to a report concerning the child.
- (d) Meetings of the state team and each local team shall not be subject to the provisions of title 8, chapter 44, part 1. Any minutes or other information generated during official meetings of state or local teams shall be sealed from public inspection. However, the state and local teams may periodically make available, in a general manner not revealing confidential information about children and families, the aggregate findings of their reviews and their recommendations for preventive actions.
- (e)
  - (1) All otherwise confidential information and records acquired by the state team or any local child fatality review team in the exercise of the duties are confidential, are not subject to discovery or introduction into evidence in any proceedings, and may only be disclosed as necessary to carry out the purposes of the state team or local teams.
  - (2) In addition, all otherwise confidential information and records created by a local team in the exercise of its duties are confidential, are not subject to discovery or introduction in evidence in any proceedings, and may only be disclosed as necessary to carry out the purposes of the state or local teams. Release to the public or the news media of information discussed at official meetings is strictly prohibited. No member of the state team, a local team nor any person who attends an official meeting of the state team or a local team, may testify in any proceeding about what transpired at the meeting, about information presented at the meeting, or about opinions formed by the person as a result of the meeting.
  - (3) This subsection shall not, however, prohibit a person from testifying in a civil or criminal action about matters within that person's independent knowledge.
- (f) Each statutory member of a local child fatality review team and each non-statutory member of a local team and each person otherwise attending a meeting of a local child fatality review team shall sign a statement indicating an understanding of and adherence to confidentiality requirements, including the possible civil or criminal consequences of any breach of confidentiality.

[Acts 1995, ch. 511, § 5.]

**68-142-109. Staff and consultants.**

To the extent of funds available, the state team may hire staff or consultants to assist the state team and local teams in completing their duties.