

- **Unintentional Injury Deaths  
Among Virginia's Children,  
Aged Four and Younger:  
1998**
  
- **A Portrait of All Child Deaths  
in Virginia: 1998**

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## **Mission Statement**

As an interdisciplinary team, we review and analyze sudden, violent or unnatural deaths of children so that strategies can be recommended to reduce the number of preventable child deaths in Virginia.

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## **Acknowledgements**

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# EXECUTIVE SUMMARY

The Virginia State Child Fatality Review Team, hereafter called the Team, was established by the General Assembly in 1995. The purpose of the Team, outlined in §32.1-283.1, is to systematically analyze deaths among Virginia's children who are less than 18 years old. Reviewed deaths may include violent and unnatural deaths, sudden child deaths in the first eighteen months of life, and deaths where the cause and manner was not determined with reasonable medical certainty. Prevention and intervention recommendations are a crucial component of each Team review. Governed by the principles and practices of public health, the Team conducts death reviews to learn about the causes and circumstances of individual deaths in order to develop suggestions for prevention, education and training that may reduce child deaths in the future.

This report presents conclusions and recommendations from Virginia's State Child Fatality Review Team after its review of Virginia's 1998 unintentional injury deaths of children who were four years of age or younger at the time of their death. It also provides a description of all child deaths in Virginia for the same year. The findings of the report are summarized below.

**The report was prepared for use by all Virginians – the Governor, members of the General Assembly, child advocates, policy makers, parents and citizens – with the firm conviction that injuries and deaths to children can be reduced.**

## **Part One: Unintentional Injury Review.**

The Team examined records in 49 unintentional injury deaths to young children age four and under that occurred in Virginia in 1998. Their review yielded the following conclusions:

- The majority of unintentional injury death is preventable and, as such, represents a significant public health challenge for the Commonwealth. The Team concluded that 86% of these deaths were definitely or probably preventable.
- More than one-third of the unintentional injury deaths to children were among infants. Three common fatal agents among infants included suffocation, drowning and motor vehicle accidents.
- The majority of injuries occurred at the child's home.
- Boys died more frequently than girls.
- Black children were over represented among these deaths to young children. While black children comprise 22% of all Virginia children less than five years of age, they were the victims of 43% of unintentional injury deaths in 1998.
- Many families who lost a child in an unintentional injury death lived at or below the poverty level.
- Review of these deaths underscored the importance of adult supervision to the prevention of future injury and death to young children.

The Team's review of specific forms of unintentional injury death suggested these conclusions:

- Fatal injury from a **motor vehicle accident** was the major cause of unintentional injury death to Virginia's young children in 1998. More than half of the children who died were not in a safety seat or seat belt at the time of the accident.

continued

- The majority of **suffocation** deaths were to infants and, in every case, the child's death was related to sleeping arrangements. The Team concluded that effective interventions to prevent further injury and death must include public education messages about safe sleeping practices for infants and campaigns to provide safe cribs for families who cannot afford them.
- **Drownings** occurred in a variety of places, including swimming pools, bathtubs, and public bodies of water. Team members noted that the crucial intervention message to caretakers is the need for vigilance when supervising infants and children around water.
- All **fires** took place in a family residence, four in a mobile home. The status of smoke detectors in the home was not known in most cases. Team members reviewed cases where children died when they became trapped in the sleeping areas of older mobile homes, revealing a need for doors and escapable windows that could be retrofitted in these homes.
- In **firearm** fatalities, children died in their homes as a result of easy access to a loaded firearm.

The Team made recommendations emphasizing five areas of change: legislative proposals; improvements in the investigation of children's deaths; support for law enforcement and prosecution; public awareness campaigns; and support for early intervention programs.

## **Part Two: Characteristics of All Children's Deaths.**

In 1998, 1,095 of Virginia's children under 18 years of age died.

- A total of 817, or 74%, of child deaths were due to natural causes. Most of these deaths, 655 or 80%, occurred in the first year of life.
- Males of all race or ethnic backgrounds are more likely than their female counterparts to die from natural causes.
- Leading causes of natural deaths to infants included conditions originating in the perinatal period, congenital anomalies, Sudden Infant Death Syndrome, and circulatory system diseases.
- Motor vehicle accidents were the leading cause of unintentional injury death among children ages one to seventeen.
- Over half of all homicides committed against children, 51%, were to children under the age of five. Thirty-one percent (31%) of child homicides were committed against teenagers between the ages of 15 and 17. Firearms were used in 41% of all homicides.
- Death rates for homicide reveal profound disparities. Rates for black male children far exceed those for black females, all whites and all hispanics.
- Suicides occurred among children over the age of 10, particularly among 15 to 17 year olds. More than half of all suicides, 54%, involved firearms.
- White males have the highest death rate for suicide, followed by black males. No suicides occurred among hispanic males or black or hispanic females in 1998.
- Unintentional injury death rates are highest among hispanic and black males, and lowest among hispanic females.



# PART ONE

## UNINTENTIONAL INJURY DEATHS AMONG VIRGINIA'S CHILDREN, AGED FOUR AND YOUNGER: 1998

*"Despite [advances made in health care in the United States over the course of the twentieth century], we remain stymied by the steady drumbeat of death and disfigurement attributable to childhood injuries. Injuries ... are one of the most significant public health issues facing children today, but public outrage is absent. As a result, proven solutions go unused, and thousands of children die each year."*<sup>1</sup>

### I. Introduction

This report presents conclusions and recommendations from Virginia's State Child Fatality Review Team after its review of Virginia's 1998 unintentional injury deaths of children who were four years of age or younger at the time of their death.<sup>2</sup> National data on causes of death suggest that unintentional injury deaths are the eighth leading cause of death among infants and the main cause of death among one to four year old children. Between 1996 and 1998, a total of 2,323 infants and 6,087 young children within the United States died as a result of these unintentional injuries; comparable figures for Virginia are 48 infants and 115 young children.<sup>3</sup>

The 49 deaths reviewed here<sup>4</sup> reflect just the tip of a much larger iceberg of childhood injuries. In addition to these fatalities, 1,196 children sustained injuries requiring hospitalization in 1998. The costs associated with these injuries were staggering at \$5,828,586.40, for an average of \$4873.40 per hospitalization.<sup>5</sup>

The majority of these injuries and injury-related deaths are preventable and, as such, represent a significant public health challenge for Virginians. The following report was prepared for use by all Virginians – the Governor, members of the General Assembly, child advocates, policy makers, parents and citizens – with the firm conviction that the injury and death of children can be reduced.

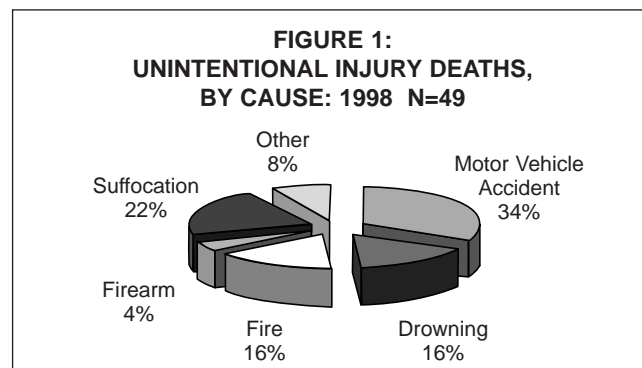
Virginia's State Child Fatality Review Team reviewed unintentional injury deaths to young children under the age of four for several reasons: (1) to understand

the characteristics of these children and their families; (2) to explore the circumstances surrounding their unfortunate deaths; and (3) most importantly, to make recommendations for the prevention of such deaths in the future. The findings presented here are descriptive, providing a snapshot portrait of unintentional injury deaths to children for one year - 1998. While not indicative of long term trends or conclusions, information about these children's deaths advances understanding and insight into this tragic manner of death in Virginia.

Section II presents aggregated information about the young children who died as a result of unintentional injuries. Section III briefly characterizes the children's injuries and deaths. Section IV presents the Team's consensus recommendations for the reduction of injury deaths to young children in Virginia.

### II. Demographic Characteristics of the Children and their Injuries

The Team reviewed 49 unintentional injury deaths to young children that occurred in 1998. Figure 1 shows the distribution of these deaths by mechanism of injury for the year. Slightly more than one-third, 16, of all deaths to children aged 4 and under resulted from motor vehicle accidents. Eleven children, 22%, died from suffocation. Eleven children, 22%, died from suffocation. Eight children, 16%, died in fires; another eight children, 16%, died from drowning. Two children, four percent of the total, died as a result of firearm injury. The four remaining cases, eight percent, died from other injuries. It is notable that none of the children in this review died as a result of poisoning injuries in 1998. Poisoning is a common mechanism of fatal injury identified in national trends.<sup>6</sup>



<sup>1</sup> Deal, Lisa W., Deanna S. Gomby, Lorraine Zippiroli, and Richard E. Behrman.

Unintentional Injuries in Childhood: Analysis and Recommendations. *The Future of Children*, special issue on Unintentional Injuries in Childhood (10)1: 4-22, 2000.

<sup>2</sup> See Part Two of the Report for a summary of child mortality in 1998.

<sup>3</sup> The *CDC State Injury Profiles*, Office of Statistics and Programming, National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.

<sup>4</sup> Data provided in Part Two show that 55 child deaths were classified as unintentional injury or accidental death by the Virginia Department of Health's Center for Health Statistics. The Team excluded six of these 55 cases for a variety of reasons, such as fetal deaths and deaths occurring out of state.

<sup>5</sup> Figures provided by Gerges Seifen, Epidemiologist at the Center for Injury and Violence Prevention, Virginia Department of Health.

<sup>6</sup> Grossman, David C. The History of Injury Control and the Epidemiology of Child and Adolescent Injuries. *The Future of Children* 10(1): 23-52, 2000.

**TABLE 1:  
AGE OF CHILD, BY CAUSE OF DEATH**

Age of Child at Death	Drowning	Fire	Firearms	Motor Vehicle Accident	Suffocation	Other	Total
<1	3	1	0	3	8	3	18
1	1	1	1	1	1	0	5
2	2	2	0	3	0	0	7
3	1	0	1	5	2	0	9
4	1	4	0	4	0	1	10
<b>TOTAL</b>	<b>8</b>	<b>8</b>	<b>2</b>	<b>16</b>	<b>11</b>	<b>4</b>	<b>49</b>

With regard to age, 18 of the 49 unintentional deaths to children, or 37%, were among infants under one year of age. Five deaths, ten percent of the total, were children who were one year old. Seven children, 14%, were two years old. Nine children, 18%, were three years old, and ten children, 20%, were four years old.

Table 1 lays out the ages of children by cause of death, revealing that, among very young children - those four years of age and younger - infants under one year of age are the most frequent victims of unintentional injury death. Three of eight drownings, 38%, and eight of eleven suffocation deaths, 73%, occurred among infants. Among one-year-olds, cause of injury is distributed evenly. Mechanism of fatal injury is distributed among drowning, fires and motor vehicle accidents among two-year olds. No two-year olds died from unintentional firearm or suffocation injuries in 1998. Death from injuries sustained in motor vehicle accidents is the most frequent cause of death among three-year old children, with two children dying from suffocation, one in a drowning and one in a firearm accident. Finally, two causes of death predominate among four-year olds: fires and motor vehicle accidents. One four year old died from drowning, and one from other injuries.

With regard to gender and race, patterns in Virginia mirror national trends.<sup>7</sup> Boys in Virginia die more frequently than girls as a result of unintentional injuries. Twenty-nine of the deaths reviewed here, 59%, were deaths to males, with 20 deaths, or 41%, to females. Black children are also over represented among these fatalities. Black children comprise 22% of all Virginia children less than four years old, but were the victims of 21, or 43%, of the unintentional injury deaths reviewed here. Slightly more than half of the deaths,

25 or 51%, were to white children. Six percent of these fatalities, three deaths, were to young children of other races or ethnic groups.

**The Economic Status of Children and their Families.** The Virginia Department of Social Services provided the Team with information about financial support provided to the families of these young children. More than half of the families, 28, or 57%, were receiving some social services benefit. Of these 28 families, 23 were receiving Medicaid, 10 were supported by TANF (Temporary Assistance for Needy Families) funds, and 10 were receiving food stamps. These figures provide a rough indicator of socioeconomic status, suggesting that many families who lost a child in an unintentional injury death lived at or below the poverty level. The link between poverty and unintentional injury death is well established in the research literature on risk factors associated with fatal injuries.<sup>8 9 10</sup> In this review, the families of children who died by drowning, in a fire or in a motor vehicle accident were most likely to receive social services.

**Place of Injury and Death.** The majority of injuries resulting in these young children's fatalities occurred at the child's home. Twenty-seven children, 55%, were injured at home. Four children, eight percent, were injured at another residence. The 16 children who died in motor vehicle accidents, 33%, were injured on a public or private roadway. Two children, four percent of the total, died in other locations. The vast majority of children, 38, or 78%, were transported to a medical facility for treatment. The Team's review revealed that most of these young children, 25 of the 49, or 51%, died at the scene, while 23 children, 47%, died at a hospital. Information about the place of death was not available in one child's case, or 2%.

<sup>7</sup> The CDC State Injury Profiles. Office of Statistics and Programming, National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.

<sup>8</sup> Grossman, David C. The History of Injury Control and the Epidemiology of Child and Adolescent Injuries. *The Future of Children* 10(1): 23-52, 2000.

<sup>9</sup> Hapgood, R., D. Kendrick and P. Marsh. How Well do Socio-Demographic Characteristics Explain Variation in Childhood Safety Practices? *Journal of Public Health Medicine* 22(3): 307-311, 2000.

<sup>10</sup> DiLiberti, John H. The Relationship Between Social Stratification and All-Cause Mortality Among Children in the United States: 1968-1992. *Pediatrics* 105(1): e2, 2000.

**TABLE 2:  
NUMBER AND PERCENTAGE OF DEATHS, BY HEALTH SERVICE AREA**

Health Service Area	Number of Deaths	Percent of Total
Central	10	20
Eastern	13	27
Northern	11	23
Northwest	6	12
Southwest	9	18
<b>TOTAL</b>	<b>49</b>	<b>100</b>

**Health Service Area.** For purposes of planning and policy development, the Virginia Department of Health has five health service areas. Table 2 shows that unintentional injury deaths to young children occurred in all five health service areas of the state. The number of deaths to children was highest in the Eastern region of the state, where 13 children, 27% of the total, died as a result of unintentional injury. The number of fatal injury deaths was lowest in the Northwest area of the state, with 6 deaths to young children, representing 12% of the total for the state.

**Investigations of the Injury and Death.** The State Child Fatality Review Team uses records collected from a variety of sources to understand the conditions surrounding a child's death. The Team's core record always begins with the medical examiner's report. In this review of unintentional deaths to young children, typical supplementary records included those from police and sheriff departments, emergency rooms and hospital patient records, pediatricians' offices, and local departments of social services.

The Team concluded that a complete investigation had been done in 39, or 80%, of the cases. In the other ten cases, Team members indicated that more information, such as more extensive interviews by law enforcement with persons who witnessed the injury or were in charge of the child at the time of the injury, as well as a detailed death scene investigation, would have strengthened the investigation.

Records indicated that a local department of social services (DSS) was contacted for a child protective services (CPS) investigation in 17, or 35%, of these unintentional injury deaths. No such contact was made in 21, or 43% of cases. Whether or not contact was made could not be determined in the remaining 11, or 22%, of the cases. Where the record indicated the name of the agency or person referring the case to child protective

services, law enforcement always made the referral. Among the 17 cases referred to a local DSS agency, seven, or 41%, resulted in a founded complaint for child neglect. Nine of the CPS investigations, or 53%, revealed an unfounded complaint. One case was not investigated. Two of the children whose records were reviewed for this report had a prior founded CPS complaint, and eight families had prior contact with CPS. Four of the 49 unintentional injury deaths resulted in criminal prosecution.

**Preventable Injuries and Deaths.** The central purpose of the Team's review of child fatalities is to determine if and how the reviewed deaths were preventable. In reaching this conclusion, they draw upon the conditions and characteristics of the injuries and deaths to make specific recommendations to avert any future deaths to children in similar circumstances. The Team defines as preventable those deaths in which retrospective analysis reveals that a reasonable intervention might have prevented the death. For instance, a reasonable intervention to reduce death to children in traffic accidents would be the consistent use of properly installed car safety seats or seat belts. A specific intervention to reduce children's deaths from firearms would be safe storage of firearms and ammunition or removal of firearms from homes with children.

In this review, the Team determined that 40 of the 49 reviewed deaths, 82%, were *definitely* preventable and that two deaths, four percent, were *probably* preventable. The Team concluded that six deaths, twelve percent of these unintentional injury deaths were not preventable, and could not reach a conclusion about the preventability of one case, two percent of the total. Section IV provides the Team's recommendations to prevent further unintentional injury deaths to infants and young children.

### III. Characteristics of Specific Unintentional Injury Deaths

Virginia law requires protection of the privacy of children's deaths, and the Team adheres to this requirement. In the section that follows, characteristics of the unintentional injury deaths reviewed for this report are outlined. Factors and issues common to each type of injury death and those that suggest prevention strategies and shape the Team's recommendations are emphasized. The details or nuances associated with any one fatality are not discussed, however.

**Motor Vehicle Accidents.** Fatal injury from a motor vehicle accident was the major cause of unintentional injury death to Virginia's young children in 1998, a pattern which mirrors national trends.<sup>11</sup> Sixteen children died as a result of such accidents. Children were vehicle occupants in twelve cases, and pedestrians in four. No children in this age group died in motor vehicle accidents involving bicycles.

In a review article, Grossman notes several factors found to be associated with motor vehicle crashes, particularly an "interaction among driver behavior, the car, and the highway environment."<sup>12</sup> Additional factors, such as structural characteristics of the car and the availability and proper use of safety equipment, influence the extent and scope of injuries when such accidents occur.<sup>13</sup>

The Team's findings relating to these motor vehicle injury deaths in 1998 reflected this complex set of factors. Although the majority of accidents occurred on highways with high speed limits, speeding and reckless driving were not factors in most of these child fatalities. Record review also suggested that no drivers were using alcohol or drugs at the time of the accident, although each of these can contribute to injury and death among very young children. Children were in the back seat of the vehicle in eleven of the twelve child passenger deaths; unfortunately, these eleven children did not garner the protective effects of this placement.<sup>14</sup>

The Team's review indicated poor judgement on the part of drivers and /or the adult responsible for the child at the time of the accident. Most importantly for prevention, non-use or the improper use of child safety restraints was a critical factor in these motor vehicle accident deaths. Children were not in a safety seat or seat belt at the time of the accident in seven of the twelve motor vehicle accidents. The Team's review suggested that six of these seven deaths could have been prevented had restraints been used. Among the four pedestrian deaths, the child was not with a caretaker at the time of the injury in a majority of cases. This pattern fits the national portrait, where motor vehicle injury deaths to toddlers and pre-school age children are strongly related to caretaker supervision at the time of the accident.<sup>15</sup>

**Suffocation.** Eleven of the 49 children who suffered fatal injuries in 1998 died from suffocation. The majority of these asphyxiation deaths were to infants. In every case, the child's death was related to sleeping arrangements. This review revealed that high risk sleeping environments in these deaths matched those described in other studies, including all of the following: an unstable crib or playpen, no crib in the household, an ill-fitting crib mattress, use of a playpen as a crib, use of adult bedding in a child's sleeping space, an adult and infant sleeping together, an infant sleeping on an adult-sized bed or piece of furniture, and the presence of a plastic bag near a sleeping infant.<sup>16 17 18</sup> The Team concluded that effective interventions to prevent further injury and death must include both public education messages about safe sleeping practices for infants, as well as campaigns to provide safe cribs for families who cannot afford them.

**Drowning.** Drowning was the mechanism of injury in eight of the unintentional injury deaths to young children in 1998. These drownings occurred in a variety of places, including swimming pools, bathtubs, and public bodies of water.<sup>19</sup> Consistent with findings in other drowning studies, the lack of age-appropriate supervision of the infant or young child by an adult

<sup>11</sup> Grossman, David C. The History of Injury Control and the Epidemiology of Child and Adolescent Injuries. *The Future of Children* 10(1): 23-52, 2000.

<sup>12</sup> Grossman, David C. The History of Injury Control and the Epidemiology of Child and Adolescent Injuries. *The Future of Children* 10(1): 23-52, 2000, page 32.

<sup>13</sup> Grossman, David C. The History of Injury Control and the Epidemiology of Child and Adolescent Injuries. *The Future of Children* 10(1): 23-52, 2000.

<sup>14</sup> Berg, Marc D., Lawrence Cook, Howard M. Corneli, Donald D. Vernon, J. Michael Dean. Effect of Seating Position and Restraint Use on Injuries to Children in Motor Vehicle Crashes. *Pediatrics* 105(4): 831-835, 2000.

<sup>15</sup> Grossman, David C. The History of Injury Control and the Epidemiology of Child and Adolescent Injuries. *The Future of Children* 10(1): 23-52, 2000.

<sup>16</sup> Byard, R.W., S. Beal and A.J. Bourne. "Potentially Dangerous Sleeping Environments and Accidental Asphyxia in Infancy and Early Childhood. *Archives of Disease in Childhood* 71(6): 497-500, 1994.

<sup>17</sup> Kemp, James S., Benjamin Unger, Davida Wilkins, Rose M. Psara, Terrance L. Ledbetter, Michael A. Graham, Mary Case, and Bradley T. Thach. Unsafe Sleep Practices and an Analysis of Bedsharing Among Infants Dying Suddenly and Unexpectedly: Results of a Four-Year, Population-Based, Death-Scene Investigation Study of Sudden Infant Death Syndrome and Related Deaths. *Pediatrics* 106(3): e41, 2000.

was the most significant factor in the drowning in many of the reviewed cases. In this review, lack of supervision was more significant than other factors such as improperly enclosed swimming pools or the use of flotation devices.<sup>20</sup> Team members concluded that the crucial intervention message to caretakers is the need for their vigilance when they are responsible for infants and young children around all bodies of water, including bathtubs, swimming pools, and lakes or ponds.<sup>21</sup>

**Fire.** Eight of the 1998 injury deaths to children resulted from a fire. All fires took place in a family residence, four in a mobile home. The source of the fire was described in each case, and included cooking appliances, extension cords (improperly used), cigarettes, space heaters, and flammable items that had been stored around household appliances. The presence of an adult caretaker and working smoke detectors in the home are strongly associated with reductions in the incidence of child deaths in fires.<sup>22 23</sup> In this review, however, the Team could not determine if smoke detectors were present. With regard to fires in mobile homes, Team members reviewed cases where children died when they became trapped in the sleeping areas of the home. This was especially problematic in mobile homes manufactured prior to 1976, when mobile homes were built with only one door and inescapable windows. The Team discussed the need for manufacturers to build doors and escapable windows that could be retrofitted in the bedrooms of these older homes.

**Firearms.** Two of the 49 deaths reviewed here resulted from firearm injuries. In both cases, very young children died in their homes as a result of easy access to a loaded firearm.

**The Significance of Adult Supervision.** The Team's review of these deaths to children who were aged four and under at the time of death underscores one central prevention theme: the significance of adult supervision for small children. The Team reviewed case after case where the child's injury happened "in a flash," when a parent or caretaker became distracted or was

not monitoring the child's behavior. In other cases, the child's immediate environment was not safe and led to tragic consequences. Consistent with these findings, the Team makes the following recommendations, which emphasize five areas of change: (1) legislative proposals that support the implementation of safety measures to protect children; (2) improvements in the investigation of children's deaths; (3) enforcement and prosecution of laws that support child safety; (4) public awareness campaigns, so that persons responsible for the care of young children understand their safety needs; and (5) early intervention programs that will assist young children and their families in the timely identification and resolution of child safety concerns.

## IV. Recommendations

### Legislation

The State Child Fatality Review Team recommends the following three legislative changes. Relevant code citations are provided in their entirety.

*Changes proposed by the Team are italicized:*

1. Section 18.2-56.2 regarding access to firearms by children:
  - A. It shall be unlawful for any person to ~~recklessly~~ *negligently* leave a loaded, unsecured firearm in such a manner as to endanger the life or limb of any child under the age of fourteen. Any person violating the provisions of this subsection shall be guilty of a Class ~~3~~ *1* misdemeanor.
  - B. It shall be unlawful for any person knowingly to authorize a child under the age of twelve to use a firearm except when the child is under the supervision of an adult. Any person violating this subsection shall be guilty of a Class 1 misdemeanor. For purposes of this subsection, "adult" shall mean a parent, guardian, person standing in loco parentis to the child or a person twenty-one years or over who has the permission of the parent, guardian, or person standing in loco parentis to supervise the child in the use of a firearm.

<sup>18</sup> Drago, Dorothy A. and Andrew L. Dannenberg. Infant Mechanical Suffocation Deaths in the United States, 1980-1997. *Pediatrics* 103(5): e59, 1999.

<sup>19</sup> Brenner, Ruth A., Ann C. Trumble, Gordon S. Smith, Eileen P. Kessler, and Mary D. Overpeck. Where Children Drown, United States, 1995. *Pediatrics* 108(1): 85-89, 2001.

<sup>20</sup> Logan, Pamela, Christine M. Branche, Jeffrey J. Sacks, George Ryan, and John Peddicord. Childhood Drownings and Fencing of Outdoor Pools in the United States, 1994. *Pediatrics* 101(6): e3, 1998.

<sup>21</sup> American Academy of Pediatrics, Committee on Injury and Poison Prevention. Drowning in Infants, Children and Adolescents. *Pediatrics* 92(2): 292-294, 1993.

<sup>22</sup> Marshall, S.W., C.W. Runyan, S.I. Bangdiwala, M.A. Linzer, J.J. Sacks, and J.D. Butts. Fatal Residential Fires: Who Dies and Who Survives? *Journal of the American Medical Association* 279(20): 1633-1637, 1998.

<sup>23</sup> American Academy of Pediatrics, Committee on Injury and Poison Prevention. Reducing the Number of Deaths and Injuries from Residential Fires. *Pediatrics* 105(6): 1355-1357, 2000.

C. *If any person violates subsection A or B or this statute, and such violation results in the death of a child by a firearm, such person shall be charged with a felony.*

2. Sections 46.2-1095 and 46.2-1098 regarding use of child safety restraint devices:

### § 46.2-1095

- A. Any person who drives on the highways of Virginia any motor vehicle manufactured after January 1, 1968, shall ensure that any child under the age of four whom he transports therein is provided with and properly secured in a child restraint device of a type which meets the standards adopted by the United States Department of Transportation.
- B. Any person transporting any child at least four years of age, but less than sixteen years of age, shall ensure that such child is provided with and properly secured by an appropriate safety belt system when driving on the highways of Virginia in any motor vehicle manufactured after January 1, 1968, equipped or required by the provisions of this title to be equipped with a safety belt system, consisting of lap belts, shoulder harnesses, combinations thereof or similar devices.
- C. A violation of this section shall not constitute negligence, be considered in mitigation of damages of whatever nature, be admissible in evidence or be the subject of comment by counsel in any action for the recovery of damages in a civil action.
- D. ~~Any person who violates subsection B of this section shall be subject to a mandatory civil penalty of twenty five one hundred dollars, which shall not be suspended in whole or in part, to be paid into the state treasury and credited to the Child Restraint Device Special Fund pursuant to § 46.2-1097. No assignment of demerit points shall be made under Article 19 (§ 46.2-489 et seq.) of Chapter 3 of this title and no court costs shall be assessed for violations of this section.~~  
(Subsection D is an exception to the penalties established in § 46.2-1098. The Team is

recommending similar penalties for violation of subsections A and B.)

E. A violation of this section may be charged on the uniform traffic summons form.

F. Nothing in this section shall apply to taxicabs, school buses, executive sedans, limousines, or the rear cargo area of vehicles other than pickup trucks.

### § 46.2-1098

Any person, including those subject to jurisdiction of a juvenile and domestic relations district court, found guilty of violating this article shall be subject to a **mandatory** civil penalty of ~~twenty five~~ **one hundred** dollars, **which shall not be suspended in whole or in part**, for a violation of § 46.2-1095, or, if applicable, a civil penalty of twenty dollars for failure to carry a statement as required by § 46.2-1096. The court may waive or suspend the imposition of the penalty for a violation of § 46.2-1095 if it finds that the failure of the defendant to comply with the section was due to his financial inability to acquire a child restraint system. All civil penalties collected pursuant to this section shall be paid into the Child Restraint Device Special Fund as provided for in § 46.2-1097.

Violations of this article shall not constitute negligence per se; nor shall violation of this article constitute a defense to any claim for personal injuries to a child or recovery of medical expenses for injuries sustained in any motor vehicle accident.

3. Localities should enact ordinances requiring that pre-HUD mobile homes (those built before 1976) be outfitted with escapable windows or additional doors in sleeping areas of those homes.

### Child Death Investigation

The State Child Fatality Review Team makes the following recommendations in the area of child death investigation:

1. The Department of Criminal Justice Services (DCJS) should develop and promulgate standards for law enforcement personnel who conduct child death investigations, including standards for accidental child deaths. Standards should address interviews with key persons in the case, particularly interviews with child witnesses, the use of photography, and comprehensive evidence collection.

2. DCJS and the Virginia Institute for Forensic Science and Medicine should provide training to local law enforcement and medical examiners on child death investigations.
3. The Virginia State Police should develop the capacity to provide case consultation on child death investigations to local law enforcement.
4. Virginia's Chiefs of Police and Sheriffs should develop expertise in child death investigation among their death investigators.
5. Every child death should be investigated immediately and completely, including unwitnessed deaths.
6. Local child protective services, law enforcement, medical examiners and commonwealth's attorneys should collaborate on child death investigations. These agencies should receive cross training to facilitate these collaborative efforts.
3. The CVIP should collaborate with the Virginia Department of Medical Assistance Services to develop injury prevention and child safety tips to include in their monthly mailings to Medicaid recipients.
4. The CVIP should publicize its Car Safety Seat Program.
5. The Virginia Hospital and Healthcare Association should encourage its member hospitals to share child safety information with new parents as part of discharge planning and with parents during emergency department visits.
6. The Virginia State Police should conduct campaigns to educate the public about the obligation of law enforcement to stop and cite those persons who violate § 46.2-1095 regarding child safety restraints.

### **Law Enforcement and Commonwealth's Attorneys**

The State Child Fatality Review Team submits these recommendations to support the enforcement and prosecution of Virginia law:

1. Commonwealth's attorneys should prosecute persons violating § 18.2-56.2 of the *Code of Virginia* regarding access to firearms by children.
2. Virginia's law enforcement personnel should continue to enforce §§ 46.2-1095 and 46.2-1098 of the *Code of Virginia* regarding child restraint devices and safety belts for children.

### **Educational Awareness**

The State Child Fatality Review Team makes these six recommendations to improve public awareness of child safety:

1. The Virginia Department of Health's (VDH) Center for Violence and Injury Prevention (CVIP) should collaborate with VDH's Division of Women's and Infants' Health to develop and implement a statewide campaign focusing on safe sleeping practices for infants. This effort should include public-private partnerships to establish a safe crib donation program.
2. The CVIP should continue to make fire safety a priority, particularly in mobile homes.
1. The Department of Motor Vehicles should reinstate the Please Be Seated child safety seat program, allowing citizens to submit the car license numbers of citizens who drive with children who are not in child restraint devices. Information provided to persons as part of this effort should emphasize the importance of child restraint to injury prevention, education about the proper use of child safety seats, and the availability of safety seats for qualifying families through the Department of Health's Low Income Safety Seat Program.
2. Funding should be increased for early intervention programs such as Resource Mothers and Healthy Families, which provide information to families regarding child development and positive approaches to caring for children.
3. The Commonwealth of Virginia should develop public-private partnerships that develop and promote home and product safety programs.

### **Early Intervention**

The State Child Fatality Review Team makes these three recommendations to improve early intervention to protect children:

# PART TWO

## A PORTRAIT OF ALL CHILD DEATHS IN VIRGINIA: 1998

In 1998, a total of 1,095 children under 18 years of age that were residents of Virginia died. The following discussion provides a description of those deaths.<sup>24</sup>

A numerical summary of these deaths is presented in Table 3, which lays out information about the number of children's deaths in Virginia in 1998, with specific breakdowns by manner of death, age, race and ethnicity, sex and health region of the state.

**Demographics.** The majority of deaths among children were a result of natural causes, accounting for 817, or 74%, of deaths. Unintentional injury accounted for 194, or 17%, of the deaths; homicide for 39, or 4%;

and suicide for 28, or 3%. Manner of death was undetermined in 17, or 2%, of cases.

With regard to age, children less than one year of age are most vulnerable to death. Infants accounted for 695 or 64% of the deaths to children in Virginia in 1998. Of these deaths, 342, 49%, were due to conditions originating in the perinatal period. Nine percent of the deaths occurred among children aged 1 to 4 (104 deaths). Six percent occurred among children aged 5 to 9 years (66 deaths). Eight percent of the deaths occurred among children who were 10 to 14 years old (92 deaths), and 13% occurred among youth aged 15 to 17 years (138 deaths).

Looking at race or ethnic background, Virginia's black children were disproportionately represented in child

**TABLE 3:  
DEMOGRAPHIC CHARACTERISTICS OF CHILDREN'S DEATHS,  
BY MANNER OF DEATH: VIRGINIA, 1998**

	Natural n=817	Unintentional Injury n=194	Homicide n=39	Suicide n=28	Undetermined n=17	Total Number N=1095	Total Percentage
<b>AGE</b>							
0	655	19	12	0	9	<b>695</b>	<b>64</b>
1-4	54	36	8	0	6	<b>104</b>	<b>9</b>
5-9	32	31	3	0	0	<b>66</b>	<b>6</b>
10-14	41	39	4	8	0	<b>92</b>	<b>8</b>
15-17	35	69	12	20	2	<b>138</b>	<b>13</b>
<b>Total Percentage</b>	<b>74</b>	<b>17</b>	<b>4</b>	<b>3</b>	<b>2</b>		<b>100</b>
<b>RACE/ETHNICITY &amp; SEX</b>							
<b>Male</b>							
White	234	78	6	19	4	<b>341</b>	<b>31</b>
Black	193	34	18	4	8	<b>257</b>	<b>23</b>
Other Races	11	3	1	2	0	<b>17</b>	<b>2</b>
Hispanic	18	6	0	0	0	<b>24</b>	<b>2</b>
Not Reported	4	0	1	0	0	<b>5</b>	<b>&lt;1</b>
<b>Subtotal, Male</b>	<b>460</b>	<b>121</b>	<b>26</b>	<b>25</b>	<b>12</b>	<b>644</b>	<b>59</b>
<b>Female</b>							
White	182	54	6	3	1	<b>246</b>	<b>23</b>
Black	157	16	4	0	3	<b>180</b>	<b>16</b>
Other Races	4	2	3	0	1	<b>10</b>	<b>1</b>
Hispanic	14	1	0	0	0	<b>15</b>	<b>1</b>
<b>Subtotal, Female</b>	<b>357</b>	<b>73</b>	<b>13</b>	<b>3</b>	<b>5</b>	<b>451</b>	<b>41</b>
<b>HEALTH SERVICE AREA<sup>1</sup></b>							
Central	155	38	11	5	8	<b>217</b>	<b>20</b>
Eastern	295	53	12	6	5	<b>371</b>	<b>34</b>
Northern	137	30	5	8	2	<b>182</b>	<b>17</b>
Northwest	101	34	2	4	2	<b>143</b>	<b>13</b>
Southwest	119	38	7	5	0	<b>169</b>	<b>16</b>
<b>Total Percentage</b>							<b>100</b>

<sup>1</sup> Total number of cases is 1,082. Health Service Area was not assigned in 13 children's deaths.

<sup>24</sup> Unless otherwise indicated, data in this section were provided by the Center for Health Statistics, Virginia Department of Health.



deaths when compared with white and hispanic children. Black children represented 23% of Virginia's population under the age of 18 in 1998, but 40% (437) of child deaths during that year. Slightly more than half of the deaths, 53% (587), were to white children, who represent 68% of the state's population of children. Hispanic children comprise five percent of Virginia's childhood population and 4% (39) of child deaths for the year. Two percent of deaths, 27, were to children of other races. Race was not provided for five children, <1%. Boys are also over represented in these data, accounting for 644 or 59% of the deaths compared to 451 or 41% of the deaths among girls.

With regard to resident status, one in five child deaths in 1998, 217, or 20%, occurred among residents of the Central health service area. More than a third, 371 or

34%, occurred among Eastern health service area residents. An additional 182 children, or 17%, were residents of the Northern health service area; 143 children, or 13%, were residents of the Northwest health service area; and 169 children, or 16%, were Southwest health service area residents. Health service area could not be determined in 13 deaths.

**Leading Causes of Children's Death.** Table 4 provides leading causes of children's death in 1998 for each age category. The five leading natural causes of death among infants include:

- conditions originating in the perinatal period, 342 deaths;
- congenital anomalies, 143 deaths;
- sudden infant deaths, 74;
- diseases of the circulatory system, 23 deaths; and
- symptoms, signs and ill-defined conditions, 22 deaths.

**TABLE 4:  
LEADING CAUSES OF CHILDREN'S DEATH, BY MANNER OF DEATH AND AGE GROUP: VIRGINIA, 1998**

Age of Child	Natural n=817	Unintentional Injury n=194	Homicide n=39	Suicide n=28	Undetermined n=17
<b>0</b>	Conditions Originating in the Perinatal Period (342) <sup>2</sup>	Suffocation (8)	Assault (8)	NC	Other Injury (8)
	Congenital Anomalies (143)	Motor Vehicle Traffic (4)	All Other Causes (4)		All Other Causes (1)
	Sudden Infant Deaths (74)	Drowning (3)			
	Diseases of the Circulatory System (23)	All Other Causes (4)			
	Symptoms, Signs and Ill-Defined Conditions (22)				
	All Other Causes (61)				
<b>1 to 4</b>					
	Diseases of the Circulatory System (10)	Motor Vehicle Traffic (14)	Assault (3)	NC	Other Injury (4)
	Congenital Anomalies (10)	Fire and Flames (7)	Firearms (3)		All Other Causes (2)
	Neoplasms (9)	Drowning (5)	All Other Causes (2)		
	Diseases of the Nervous System and Sense Organs (8)	Suffocation (4)			
	Diseases of the Respiratory System (5)	All Other Causes (6)			
	All Other Causes (12)				
<b>5 to 9</b>					
	Neoplasms (7)	Motor Vehicle Traffic (12)	All Other Causes (3) <sup>3</sup>	NC	NC
	Diseases of the Respiratory System (7)	Fire and Flames (7)			
	Diseases of the Circulatory System (5)	Drowning (6)			
	Diseases of the Nervous System and Sense Organs (4)	Suffocation (3)			
	Congenital Anomalies (3)	All Other Causes (3)			
	All Other Causes (6)				
<b>10 to 14</b>					
	Neoplasms (13)	Motor Vehicle Traffic (25)	Firearms (3)	Firearms (5)	NC
	Diseases of the Circulatory System (8)	Drowning (6)	All Other Causes (1)	All Other Causes (3)	
	Diseases of the Nervous System and Sense Organs (7)	Firearms (3)			
	Infectious and Parasitic Diseases (3)	All Other Causes (5)			
	Diseases of the Respiratory System (3)				
	All Other Causes (7)				
<b>15 to 17</b>					
	Diseases of the Circulatory System (7)	Motor Vehicle Traffic (52)	Firearms (10)	Firearms (10)	All Other Causes (2)
	Neoplasms (5)	Drowning (5)	All Other Causes (2)	Suffocation (8)	
	Diseases of the Nervous System and Sense Organs (5)	Other Accidents (3)		All Other Causes (2)	
	Diseases of the Respiratory System (4)	All Other Causes (9)			
	Symptoms, Signs and Ill-Defined Conditions (4)				
	All Other Causes (10)				

<sup>2</sup> Numbers in parentheses represent the number of deaths in that category. NC means that no cases fit the age and manner of death category.

<sup>3</sup> Specific causes of death in an age-specific category are not reported when the number of children who died from that cause is less than three.

Death from natural causes is far less frequent among older children. A review of the second column of Table 4 suggests that, in most cases, fewer than ten Virginia children aged 1 to 17 died from each of a cluster of natural causes, such as neoplasms, diseases of the circulatory system, diseases of the respiratory system, and congenital anomalies. The only exception to this trend is among the 10 to 14 year olds, where 13 children died from neoplasms.

In 1998, 194 children died as a result of unintentional injuries. In the same year, 3,468 children under the age of 18 sustained unintentional injuries that resulted in hospitalization, but not death.<sup>25</sup> Leading causes of unintentional injury deaths to children are provided in the third column of Table 4. Infants die most frequently of fatal injuries suffered from suffocation (8 deaths), motor vehicle traffic accidents (4 deaths), and drowning (3 deaths). Motor vehicle accidents are the leading cause of death among all other age categories, especially among 10 to 14 year olds (25 deaths) and 15 to 17 year olds (52 deaths). Unintentional injury death from drowning is also a leading cause of death in all age categories: three among infants, five among 1 to 4 year olds, six among 5 to 9 year olds, six among 10 to 14 year olds, and five among 15 to 17 year olds. Fatalities due to fire and flame injuries and suffocation are found among 1 to 4 year olds (7 deaths) and 5 to 9 year olds (7 deaths). Finally, death from unintentional firearm injuries was a leading cause of death among 10 to 14 year olds (3 deaths).

Leading causes of death by homicide, found in the fourth column of Table 4, include two main causes: assault, common among infants (8 deaths) and 1 to 4 year olds (3 deaths), and firearm deaths, with three deaths among 1 to 4 year olds, three among 10 to 14 year olds, and ten among 15 to 17 year olds.

Virginia data for 1998 shows that no child under the age of 10 took his or her own life in a suicide. Among 10 to 14 year olds, five suicides were firearm deaths. Among 15 to 17 year olds, ten children died from firearm injuries and eight from suffocation.

There were 17 deaths among children where after medico-legal investigation and autopsy the manner of death could not be determined. The final row of Table 4 reveals that the majority of undetermined deaths

occurred among infants (8 deaths) and 1 to 4 year olds (4 deaths).

**Age, Race, Ethnicity and Sex Trends in Cause of Death.** Manner and cause of death is also linked to the age, sex, and the race or ethnic background of the child. Table 5 provides death rates per 100,000 for each of the main categories of race or ethnicity among Virginia's children, which are further distinguished by age and sex.

A review of the rates in Table 5 reveals that, with the exception of homicides, males are more likely to die in infancy when compared with their race or ethnic specific female counterparts. For instance, the death rate per 100,000 for natural causes is 577.4 among white male infants compared with 454.6 among white female infants, 1644.8 among black male infants compared with 1283.7 among black female infants, and 571.8 among hispanic male infants compared with 434.2 among hispanic female infants. Unintentional injury death rates follow this same pattern. Among white infants, males are more likely to die at a rate of 19.3 per 100,000, compared with 6.8 per 100,000 among white females. Black male infants die from unintentional injuries at a rate of 60.2 compared with 40.1 among black female infants. The death rate for hispanic male infants is 35.7. No hispanic female infants died from unintentional injury death in 1998.

Sex differences in death rates are not as consistent in other age groups. Among whites, female death rates from natural causes are slightly higher than male death rates in the 1 to 4 year old and the 10 to 14 year old age categories. Among blacks, the female death rate from natural causes is higher than male death rates among 5 to 9 year olds and 10 to 14 year olds.

Other patterns in death rates by age and sex are notable. Among white infants, the death rate from homicides among females is more than double that for males, 13.7 and 6.4, respectively. Among black infants, the homicide death rate is the same for males and female. Death rates from homicides are 2.1 among white males aged 15 to 17, compared with no homicides among white 15 to 17 year old females. Death rates from homicides are 30.6 among black males between the ages of 15 and 17, compared to no homicides in 1998 among 15 to 17 year old black females.

<sup>25</sup> Figures provided by Gerges Seifen, Epidemiologist at the Center for Injury and Violence Prevention, Virginia Department of Health.

**TABLE 5:  
DEATH RATES FOR MANNER OF DEATH, BY AGE, SEX, RACE OR ETHNICITY,  
PER ONE HUNDRED THOUSAND: VIRGINIA 1998<sup>4</sup>**

	Population Estimate July 1, 1998 <sup>5</sup>	Natural	Unintentional Injury	Homicide	Suicide	Undetermined
<b>White</b>						
<b>Males</b>						
0	31163	577.6	19.3	6.4	NC	9.6
1-4	124637	13.6	7.2	1.6	NC	NC
5-9	164085	4.9	8.5	NC	NC	NC
10-14	159008	7.5	10.7	NC	3.1	NC
15-17	96951	10.3	32.0	2.1	14.4	NC
<b>Females</b>						
0	29255	454.6	6.8	13.7	NC	NC
1-4	118866	14.3	10.9	0.8	NC	0.8
5-9	154954	4.5	2.6	NC	NC	NC
10-14	150785	8.6	6.0	0.7	0.7	NC
15-17	90923	11.0	28.6	NC	2.2	NC
<b>Black</b>						
<b>Males</b>						
0	9971	1644.8	60.2	20.1	NC	40.1
1-4	39460	20.3	15.2	7.6	NC	7.6
5-9	56108	8.9	10.7	1.8	NC	NC
10-14	54211	11.1	12.9	3.7	NC	NC
15-17	32648	27.6	25.0	30.6	12.3	3.1
<b>Females</b>						
0	9971	1283.7	40.1	20.1	NC	10.0
1-4	38813	15.5	10.3	5.2	NC	2.6
5-9	55038	12.7	9.1	NC	NC	NC
10-14	52866	18.9	5.7	NC	NC	NC
15-17	31929	12.5	NC	NC	NC	3.1
<b>Hispanic</b>						
<b>Males</b>						
0	2798	571.8	35.7	NC	NC	NC
1-4	10532	9.5	9.5	NC	NC	NC
5-9	11441	8.7	17.5	NC	NC	NC
10-14	9951	NC	20.1	NC	NC	NC
15-17	6293	NC	NC	NC	NC	NC
<b>Females</b>						
0	2764	434.2	NC	NC	NC	NC
1-4	10244	9.8	NC	NC	NC	NC
5-9	11011	NC	NC	NC	NC	NC
10-14	9561	NC	NC	NC	NC	NC
15-17	5661	17.7	17.1	NC	NC	NC

<sup>4</sup> NC means that no cases fit the specific age or manner of death category. Note that the number of cases in specific age group categories can be quite small, and that caution should be used in interpreting death rates provided in this table.

<sup>5</sup> Population Estimates for States by Age, Race, Sex and Hispanic Origin: July 1, 1998. Population Estimates Program, Population Division, U.S. Census Bureau, Washington, D.C.

Finally, males are more likely than females to take their own lives. Suicide death rates for white males are 3.1 among 10 to 14 year olds and 14.4 among 15 to 17 year olds. While no black females died from suicide in 1998, the suicide death rate for 15 to 17 year old black males was 12.3.

Death rates provided in Table 5 also call attention to profound health disparities among children from different race or ethnic backgrounds. Overall, black children are more likely to die than white children, a pattern which holds across most age and manner of death categories. As mentioned earlier, death rates from

natural causes among infants is 577.6 per 100,000 for white males and 454.6 for white females. This rate more than doubles among black children, where death rates are 1644.8 for males and 1283.7 for females.

Death rates from natural causes are lowest among hispanic children, 571.8 for males and 434.2 for females. Where cause of death is undetermined among infants, black males have a death rate of 40.1, compared with 9.6 among white males.

With regard to homicides, black 15 to 17 year old males have a death rate of 30.6; this rate is remarkably lower, 2.1 per 100,000, among white 15 to 17 year old males. White children have the highest comparative death rates when manner of death is suicide. Hispanic children's death rates from fatal unintentional injuries are comparatively higher in the 5 to 9 year old and 10 to 14 year old age categories.

# APPENDICES

# APPENDIX A

## STATE CHILD FATALITY REVIEW TEAM STATUTE

### § 32.1-283.1 State Child Fatality Review Team established; membership; access to and maintenance of records; confidentiality; etc.

- A. There is hereby created the State Child Fatality Review Team, hereinafter referred to as the "Team," which shall develop and implement procedures to ensure that child deaths occurring in Virginia are analyzed in a systematic way. The Team shall review (i) violent and unnatural child deaths, (ii) sudden child deaths occurring within the first eighteen months of life, and (iii) those fatalities for which the cause or manner of death was not determined with reasonable medical certainty. No child death review shall be initiated by the Team until conclusion of any law-enforcement investigation or criminal prosecution. The Team shall (i) develop and revise as necessary operating procedures for the review of child deaths, including identification of cases to be reviewed and procedures for coordination among the agencies and professionals involved, (ii) improve the identification, data collection, and record keeping of the causes of child death, (iii) recommend components for prevention and education programs, (iv) recommend training to improve the investigation of child deaths, and (v) provide technical assistance, upon request, to any local child fatality teams that may be established. The operating procedures for the review of child deaths shall be exempt from the Administrative Process Act (§ 2.2-4000 et seq.) pursuant to subdivision 17 of subsection B of § 2.2-4002.
- B. The sixteen-member Team shall be chaired by the Chief Medical Examiner and shall be composed of the following persons or their designees: the Commissioner of the Department of Mental Health, Mental Retardation and Substance Abuse Services; the Director of Child Protective Services within the Department of Social Services; the Superintendent of Public Instruction; the State Registrar of Vital Records; and the Director of the Department of Criminal Justice Services. In addition, one representative from each of the following entities shall be appointed by the Governor to serve for a term of three years: local law-enforcement agencies, local fire departments, local departments of social services, the Medical Society of Virginia, the Virginia College of Emergency Physicians, the Virginia Pediatric Society, Virginia Sudden Infant Death Syndrome Alliance, local emergency medical services personnel, Commonwealth's attorneys, and community services boards.
- C. Upon the request of the Chief Medical Examiner in his capacity as chair of the Team, made after the conclusion of any law-enforcement investigation or prosecution, information and records regarding a child whose death is being reviewed by the Team may be inspected and copied by the Chief Medical Examiner or his designee, including, but not limited to, any report of the circumstances of the event maintained by any state or local law-enforcement agency or medical examiner, and information or records maintained on such child by any school, social services agency or court. Information, records or reports maintained by any Commonwealth's Attorney shall be made available for inspection and copying by the Chief Medical Examiner pursuant to procedures which shall be developed by the Chief Medical Examiner and the Commonwealth's Attorneys' Services Council established by § 2.2-2617. In addition, the Chief Medical Examiner may inspect and copy from any Virginia health care provider, on behalf of the Team, (i) without obtaining consent, the health and mental health records of the child and those perinatal medical records of the child's mother that related to such child and (ii) upon obtaining consent from each adult regarding his personal records, or from a parent regarding the records of a minor child, the health and mental health records of the child's family. All such information and records shall be confidential and shall be excluded from the Virginia Freedom of Information Act (§ 2.2-3700 et seq.) pursuant to subdivision A 54 of § 2.2-3705. Upon the conclusion of the child death review, all information and records concerning the child and the child's family shall be shredded or otherwise destroyed by the Chief Medical Examiner in order to ensure confidentiality. Such information or records shall not be subject to subpoena or discovery or be admissible in any criminal or civil proceeding. If available from other sources, however, such information and records shall not be immune from subpoena, discovery or introduction into evidence when obtained through such other sources solely because the information and records were presented to the Team during a child death review. Further, the findings of the Team may be disclosed or published in statistical or other form which shall not identify individuals. The portions of meetings in which individual child death cases are discussed by the Team shall be closed pursuant to subdivision A 22 of § 2.2-3711. In addition to the requirements of § 2.2-3712, all team members, persons attending closed team meetings, and persons presenting information and records on specific child deaths to the Team during closed meetings shall execute a sworn statement to honor the confidentiality of the information, records, discussions, and opinions disclosed during any closed meeting to review a specific child death. Violations of this subsection shall be punishable as a Class 3 misdemeanor.
- D. Upon notification of a child death, any state or local government agency maintaining records on such child or such child's family which are periodically purged shall retain such records for the longer of twelve months or until such time as the State Child Fatality Review Team has completed its child death review of the specific case.
- E. The Team shall compile annual data which shall be made available to the Governor and the General Assembly as requested. These statistical data compilations shall not contain any personally identifying information and shall be public records. (1994, c. 643; 1995, c. 499; 1999, cc. 703, 726.)

# APPENDIX B

## REVIEW PROTOCOL FOR VIRGINIA'S CHILD FATALITY REVIEW TEAM

The team analyzes child death data provided by the Center for Health Statistics to identify groups of death meeting the criteria for review established by the General Assembly. The Team may review violent and unnatural child deaths, sudden deaths occurring in the first eighteen months of life and fatalities where cause or manner has not been clearly determined. A group of deaths from a specific time period are selected. All reviews are retrospective and the Team reviews only resident deaths. The Coordinator obtains a database from the Center for Health Statistics and a database from the Medical Examiner System to verify that all records have been identified.<sup>1</sup> A case file is created for each death to include the Medical Examiner record, certificate of death and other records requested for review.

The Team is authorized by statute to review records from agencies or persons who provided services to the child whose death is under review. This may include, but is not limited to, records from the Department of Social Services, Child Protective Services, Emergency Medical Service providers, hospitals, physicians, police and sheriff departments, counselors, schools, Community Services Boards, Juvenile and Domestic Relations District Courts, and Court Services Units of the Department of Juvenile Justice. Each agency receives a cover letter and request form from the Chair. Initial letters are sent to law enforcement, physicians, hospitals and departments of social services. In addition, a list is provided to the Virginia Department of Social Services and to its Child Protective Services Unit in order to conduct a record search in their databases. When additional service providers are identified in the child's record – mental health providers or pediatricians, for example - requests for those records are also sent. Once the case file is complete, the death is assigned to three Team members who review the materials, hold a conference call to discuss them, and prepare a summary of the case for presentation at the Team meeting.

The Team meets every other month for case review. The business portion of these meetings is open to the public and routinely publicized in the *Virginia Register*. The meeting becomes a closed and confidential session when specific cases are under review. A team member of the subgroup that reviewed the case file presents the facts of the case, as well as suggestions for education, training or prevention. In each case, the Team considers whether there may have been opportunities to prevent the death, drawing a conclusion about whether or not the death was preventable. The Team also decides whether or not it agrees with the cause and manner of death. Ideas for education, prevention and training are also discussed. The subgroup is responsible for completing a Child Fatality Review form that will be entered into a database.

Data are entered into a database for summary and analysis of cases reviewed. At the conclusion of a review, the Team summarizes its findings, makes recommendations and presents a report to the General Assembly and to the public.

Confidentiality is protected in three ways. First, the records that the Team obtains are excluded from the Virginia Freedom of Information Act and a third party cannot obtain them. Second, each Team member signs a sworn confidentiality statement. Violations of confidentiality are a Class 3 misdemeanor. Third, the records are destroyed once the review is completed.

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<sup>1</sup> Differences in coding systems used by the two systems necessitate this cross-referencing. Coding errors may also account for some discrepancies.

# APPENDIX C

## LOCAL AND REGIONAL CHILD FATALITY REVIEW TEAM STATUTE

### § 32.1-283.2. Local and regional child fatality review teams established; membership; authority; confidentiality; immunity.

- A. Upon the initiative of any local or regional law-enforcement agency, fire department, department of social services, emergency medical services agency, Commonwealth's attorney's office, or community services board, local or regional child fatality teams may be established for the purpose of conducting contemporaneous reviews of local child deaths in order to develop interventions and strategies for prevention specific to the locality or region. Each team shall establish rules and procedures to govern the review process. Agencies may share information but shall be bound by confidentiality and execute a sworn statement to honor the confidentiality of the information they share. Violations shall be punishable as a Class 3 misdemeanor. The State Child Fatality Review Team shall provide technical assistance and direction as provided for in subsection A of § 32.1-283.1.
- B. Local and regional teams may be composed of the following persons from the localities represented on a particular board or their designees: a local or regional medical examiner, a local social services official in charge of child protective services, a director of the relevant local or district health department, a chief law-enforcement officer, a local fire marshal, the attorney for the Commonwealth, an executive director of the local community services board or other local mental health agency, and such additional persons, not to exceed five, as may be appointed to serve by the chairperson of the local or regional team. The chairperson shall be elected from among the designated membership. The additional members appointed by the chairperson may include, but are not restricted to, representatives of local human services agencies; local public education agencies; local pediatricians, psychiatrists and psychologists; and local child advocacy organizations.
- C. Each team shall establish local rules and procedures to govern the review process prior to conducting the first child fatality review. The review of a death shall be delayed until any criminal investigations connected with the death are completed or the Commonwealth consents to the commencement of such review prior to the completion of the criminal investigation.
- D. All information and records obtained or created regarding the review of a fatality shall be confidential and shall be excluded from the Virginia Freedom of Information Act (§ 2.2-3700 et seq.) pursuant to subdivision A 54 of § 2.2-3705. All such information and records shall be used by the team only in the exercise of its proper purpose and function and shall not be disclosed. Such information or records shall not be subject to subpoena, subpoena duces tecum, or discovery or be admissible in any criminal or civil proceeding. If available from other sources, however, such information and records shall not be immune from subpoena, subpoena duces tecum, discovery or introduction into evidence when obtained through such other sources solely because the information and records were presented to the team during a fatality review. No person who participated in the reviews nor any member of the team shall be required to make any statement as to what transpired during the review or what information was collected during the review. Upon the conclusion of the fatality review, all information and records concerning the victim and the family shall be returned to the originating agency or destroyed. However, the findings of the team may be disclosed or published in statistical or other form which shall not identify individuals. The portions of meetings in which individual cases are discussed by the team shall be closed pursuant to subdivision A 22 of § 2.2-3711. All team members, persons attending closed team meetings, and persons presenting information and records on specific fatalities to the team during closed meetings shall execute a sworn statement to honor the confidentiality of the information, records, discussions, and opinions disclosed during any closed meeting to review a specific death. Violations of this subsection shall be punishable as a Class 3 misdemeanor.
- E. Members of teams, as well as their agents and employees, shall be immune from civil liability for any act or omission made in connection with participation in a child fatality review team review, unless such act or omission was the result of gross negligence or willful misconduct. Any organization, institution, or person furnishing information, data, testimony, reports or records to review teams as part of such review, shall be immune from civil liability for any act or omission in furnishing such information, unless such act or omission was the result of gross negligence or willful misconduct. (1999, c. 867.)



# APPENDIX D

## LOCAL AND REGIONAL CHILD FATALITY REVIEW TEAMS

The investigation and prevention of childhood fatalities are responsibilities shared by the community and agencies that serve that community. Therefore, local Child Fatality Teams allow a community to assess and address the issues that surround the deaths of their children. Virginia currently has three local fatality teams.

### **Piedmont Region Child Fatality Review Team**

The Piedmont Regional Child Fatality Review Team was organized in 1994 under the guidance of the regional office of the Department of Social Services and the Child Abuse Prevention Council of the Roanoke Valley. The Team serves the geographic area corresponding to region six of the Virginia Department of Social Services. Staff from the regional office in Roanoke is the main contact for the review team. The Team serves the following localities: Alleghany, Amelia, Amherst, Appomattox, Augusta, Bath, Bedford, Botetourt, Brunswick, Buckingham, Campbell, Charlotte, Covington, Craig, Cumberland, Danville, Franklin, Halifax, Henry, Highland, Lunenburg, Martinsville, Mecklenburg, Patrick Nelson, Nottoway, Pittsylvania, Prince Edward, Roanoke, Rockbridge, Staunton, and Waynesboro.

*Contact person: Teresa Biggs tcb996@piedmont.dss.state.va.us*

### **Fairfax County Child Fatality Prevention Team**

The Fairfax County Child Fatality Prevention Team was established in 1994. The Fairfax County Team is one of the few in the country to review all child deaths including accidental and natural deaths. The Fairfax Team reviews all fatalities for children under the age of 18 who were either residents of the County or died in Fairfax County, including the cities of Fairfax and Falls Church. The Team also serves as a consultant to neighboring jurisdictions when requested.

*Contact person: Jim Pope jpoppe2@co.fairfax.va.us*

### **Hampton Roads Child Fatality Review Team**

The Hampton Roads Regional Child Fatality Review Team began in August 1994. The meeting was convened by the Hampton Roads Committee to Prevent Child Abuse and Children's Hospital of The King's Daughters with the purpose of establishing a local response to the problem of child fatalities. The Hampton Roads Team serves a large and diverse geographic area. It includes the cities of Hampton, Chesapeake, Newport News, Williamsburg, Norfolk, Portsmouth, Virginia Beach, Suffolk, and Franklin as well as the counties of Accomack, Brunswick, Isle of Wight, Surry, Southampton, Northampton, Gloucester, Mathews, James City and York/Poquoson.

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# APPENDIX E

## CHILD PROTECTIVE SERVICES CASES: FATALITIES DUE TO ABUSE OR NEGLECT<sup>2</sup>

The Virginia Department of Social Services is mandated by statute to investigate child abuse and neglect in Virginia. These investigations are performed by the Child Protective Services (CPS) units of local departments of social services. During calendar year 1998, CPS documented that 37 children died as a result of abuse or neglect. These deaths are represented in Part Two of this report and may be categorized as homicide, natural or unintentional.

The distinguishing feature of a CPS fatality is that the death occurred either: (1) at the hands of a parent or caretaker; or (2) because the parent or caretaker failed to provide adequate supervision or medical attention for the child. Preliminary analysis of the 37 fatalities investigated by CPS in 1998 indicates that 16 children died as a result of neglect and 19 as a result of abuse; a determination was not available in the other two cases.

Definitions of "cause" of a child's death differ for CPS and the medical examiner's system. The medical examiner classifies homicides by fatal agent or immediate cause of death, while a CPS investigation categorizes the fatality as child abuse, child neglect, or both. Therefore, a homicide where a child died from drowning injuries would be classified as a drowning by the medical examiner and a child abuse death by CPS.

### Demographic Characteristic of the Child Victims

**Age.** The age range of the children who died as a result of child abuse or neglect in 1998 was birth to seven years. Twenty deaths occurred among children less than one year old, representing 54% of the total. Children aged one to four were the second largest group, accounting for 13 children or 35% of the total. Children aged five to seven accounted for four deaths, or eleven percent of the total.

**Sex and Race.** Boys died as a result of child abuse or neglect more frequently than girls. Of the 37 children, 20 were male and 17 were female. With regard to race, 16 of the victims were white, 14 were black, and two were biracial. Race was unknown in the other five cases.

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<sup>2</sup> Information in this appendix was provided by the Child Protective Services (CPS) unit of the Virginia Department of Social Services (VDSS). VDSS typically reports child fatalities by fiscal year. The data presented here represent the calendar year, and are therefore different from previously published reports.



Additional copies of this report are available at the following website:  
<http://www.vdh.state.va.us/medexam/fatality.htm>



**Office of the Chief Medical Examiner**