a report from the

Virginia State Child Fatality Review Team

- **Review of Caretaker Homicide and Undetermined Child Death, 1998-1999**
- **Child Death in Virginia, 2002**

March 2005

Printing of this report is supported by Children's Justice Act Grant No. G-0201VACJA1, awarded by the U.S. Department of Health and Human Services, Administration for Children, Youth and Families. Points of view or opinions expressed do not necessarily represent the official position or policies of the Department of Health and Human Services.

Virginia State Child Fatality Review Team

2005 Report

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.

Acknowledgements

The State Child Fatality Review Team gratefully acknowledges the efforts and contributions made by the following individuals and organizations during the preparation of this report: Molly Carpenter of the Virginia Department of Social Services; within the Virginia Department of Health, Curtis Conway of the Office of the Chief Medical Examiner, Calvin Reynolds of the Center for Health Statistics, Michelle White of the Center for Injury and Violence Prevention. Mary Neathawk, Office of the Chief Medical Examiner, designed and produced this report.

State Child Fatality Review Team Members

Marcella F. Fierro, M.D., Chair
Chief Medical Examiner

Cheryl Singleton Al-Mateen, M.D.
Virginia Treatment Center for Children

Valerie H. Bowen
Office of the Commonwealth's Attorney
City of Norfolk

Pam Fitzgerald Cooper
Commonwealth of Virginia
Department of Mental Health, Mental Retardation, and Substance Abuse Services

J. Patrick Dorgan, Ed.D.
Middle Peninsula-Northern Neck Community Services Board

Donald C. Fleming, Ph.D.
Commonwealth of Virginia
Department of Education

Wendy M. Gunther, M.D.
Commonwealth of Virginia
Office of the Chief Medical Examiner
Tidewater District

Beverly G. Harris
Old Dominion Emergency Medical Services Alliance

Sondra McGarvey Held
Virginia SIDS Alliance

Stephen K. Jurentkuff
Prevent Child Abuse Virginia

Rita L. Katzman, MSW
Commonwealth of Virginia
Department of Social Services
Child Protective Services

Donald W. Kees, M.D.
Virginia Pediatric Society

Deborah Little-Bowser
Commonwealth of Virginia
Department of Health
Office of Vital Records

Clancy McQuigg
OWL-Volunteer Fire Department

Holly S. Oehrlein
Commonwealth of Virginia
Department of Criminal Justice Services

James D. Price, Jr.
Virginia Beach Police Department

Pamela Ross, M.D.
American College of Emergency Physicians
Virginia Chapter

Thomas J. Sullivan, M.D.
Medical Society of Virginia

Richard M. Verilla
Campbell County Department of Social Services

OCME Staff

Suzanne J. Keller, M.A., State Child Fatality Review Team Coordinator, 1996 - 2001

Virginia Powell, Ph.D., State Child Fatality Review Team Coordinator, 2001 - 2004

Angela M. Myrick, M.P.H., State Child Fatality Review Team Coordinator, 2004 - 2005

CONTENTS

CONTENTS

Figures

Part I

Part II

Tables

Part I

Part II

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. Prevention and intervention recommendations are a crucial component of each Team review. 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.

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 1998 and 1999 caretaker homicide and undetermined child deaths in Virginia. It also provides a description of all 2002 child deaths in Virginia. 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: Caretaker Homicide and Undetermined Child Death. The Team examined 53 cases of caretaker homicide and 28 cases of undetermined child death.

Caretaker Homicide

- The majority of caretaker homicide death is preventable and, as such, represents a significant public health challenge for the Commonwealth. The Team concluded that 72% of these deaths were definitely or probably preventable.
- Approximately four of every ten caretaker homicide deaths occurred among infants. More than eight out of ten of these deaths occurred among children under the age of five.
- The majority of injuries occurred at the child's home.
- Black children were overrepresented among these deaths to young children. While black children comprised roughly 23% of all Virginia children in 1998 and 1999, they were the victims of 42% of caretaker homicide deaths.
- Many families who lost a child in a caretaker homicide death lived at or below the poverty level.
- More than one-half of caretaker homicide deaths to children were caused by severe beatings which resulted in blunt force traumas. Gunshot wounds were the second leading cause of death among reviewed cases.
- Autopsy findings revealed that 31% of children had injuries suggesting chronic abuse by a caretaker.

- Team members reviewed three categories of caretaker homicide child death: abandoned or discarded infants; family annihilations; and child abuse and neglect-related deaths. Roughly seven out of ten deaths were child abuse and neglect-related deaths.
- Caretakers were described with the following characteristics: they lacked understandings of age-appropriate developmental needs or disciplinary strategies for their children; they were quick to anger; they had a history of violence and conflict with their intimate partners; they struggled financially and with stable housing; and, while some could not find stable and safe childcare arrangements, others had heavy child care responsibilities. Team members noted unique struggles for military families and a remarkable degree of social chaos and stress in these children's families, which cumulated to put infants and children at profound risk for abuse and neglect.
- As described by caretakers, some of the provocations for child abuse or neglect include: frustrations with crying and/or sleepless infants with complex feeding needs or with failed toilet training attempts; feelings of jealousy toward the child; and concerns over child care payments.
- The Team's review highlighted the importance of family and friends, of health care providers, and of the child protective services system in recognizing, reporting and responding to child abuse and neglect complaints.

Undetermined Child Death

- Undetermined child deaths are those in which no definitive cause and/or manner of death can be found after death investigation. Team review revealed that most undetermined child deaths, 64%, were definitely or probably preventable.
- Roughly seven of every ten undetermined child deaths occurred among infants.
- Black children were dramatically overrepresented among these deaths to young children, comprising 71% of undetermined child death victims.
- Many families who lost a child to undetermined child death lived at or below the poverty level.
- The majority of these children were being supervised by a parent or both parents at the time of their injury or death.
- Team review revealed that family and child sleeping arrangements were not safe in 16 of these 28 child deaths. For instance, children were placed for sleep on their stomachs, or in adult beds, or with adults or other children, or with adult bed coverings, or with adults who were using drugs or alcohol.
- Team members focused on safe and age-appropriate sleeping practices when discussing reasonable interventions to prevent these child deaths.

Executive Summary

At the conclusion of its review, The State Child Fatality Review Team made recommendations emphasizing eight target areas for change: legislative proposals; primary prevention efforts; public education initiatives; health care providers; social services; the judiciary; prosecution; and parents, caretakers, and citizens of the Commonwealth.

Part Two: Child Deaths in Virginia. In 2002, 1,087 of Virginia's children ages 0 to 17 died.

Child Injury Death.

- A total of 224 child deaths were due to injuries.
- Motor vehicle accidents were the leading cause and drowning was the second leading cause of unintentional injury death among children.
- Unintentional injury death rates for males were more than twice the rate for females. Similar disparities were found among males and females from all race and ethnic backgrounds.
- The very young and teenagers were most likely to be the victims of homicide. Of all homicides committed against children, 43.6% were to children under the age of five and 35.9% were committed against teenagers between the ages of 15 and 17. Firearms were used in 46.2% of all homicides.
- Death rates for homicide reveal profound disparities. Rates for Black male children far exceeded those for Black females and White males and females.
- Suicides occurred among children over the age of 10 and were most frequent among 15 to 17 year olds. Firearms were used in 44.8% of these deaths.
- White males had the highest death rate for suicide, followed by Black males. No suicides occurred among Black females in 2002.

Natural Death to Children.

- A total of 863 child deaths were due to natural causes. Most of these deaths, 690, occurred in the first year of life.
- Males of all race or ethnic backgrounds were 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 infectious and parasitic diseases.
- The deaths of 71 Virginia infants were attributed to Sudden Infant Death Syndrome (SIDS).
- Overall infant mortality rates revealed a clear race disparity. The risk of death among Black infants was more than twice that for White infants. Black infants had nearly double the rate of SIDS deaths when compared to White infants.

PART I

PART I: CARETAKER HOMICIDE & UNDETERMINED CHILD DEATH by Virginia Powell, Ph.D.

Introduction

This report presents conclusions and recommendations from Virginia's State Fatality Child Review Team after its review of 1998 and 1999 caretaker homicide and undetermined child deaths in Virginia. The Team reviewed these deaths for several reasons: (1) to understand the characteristics of the children who died and of their families; (2) to explore the circumstances surrounding their tragic and violent deaths; (3) to comprehend the system responses to their deaths; and (4) most importantly, to identify points of intervention and make recommendations for the prevention of such deaths in the future. The findings presented here are descriptive, providing a snapshot portrait of caretaker homicide and undetermined child deaths for two years – 1998 and 1999. While not necessarily indicative of long term trends or conclusions, information about these children's deaths advances understanding and insight into the dynamics of child death in Virginia.

The majority of these injuries and injury-related deaths are preventable and, as such, represent a significant child safety and protection issue 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 number of deaths to Virginia's children can be reduced.

Organization of the Report. Part I of this report contains three distinct sections. Section I presents general information about the children who died as a result of caretaker homicide in 1998 and 1999, and then provides more detailed descriptions of three categories of caretaker homicide: (1) abandoned or discarded infants; (2) family annihilations; and (3) child abuse and neglect-related deaths. This distinction was made to highlight common child and family characteristics and prevention modalities. Section II describes children's deaths from undetermined circumstances. Section III presents the Team's consensus recommendations for the reduction of caretaker homicide and undetermined deaths to young children in Virginia.

Part II of the report provides a statistical overview of child death in Virginia for the year 2002.

Several appendices are also included with this report. Appendix A provides a copy of the statute for the State Child Fatality Review Team; Appendix B sets out the Team's protocol for case review. Appendix C provides a copy of the statute for Virginia's local and regional child fatality review efforts, and Appendix D includes a report of activities from three of Virginia's local and regional teams. Appendix E associates each Virginia locality with its health services area, medical examiner district, and perinatal region.

Appendices F, G, H and I provide summary information on child death in Virginia, and support the portrait of child fatality described in Part II of the report. Appendix J summarizes information provided by the Virginia Department of Social Services on 2002 child fatalities attributed to child abuse or neglect.

Definitions of Key Terms. For this report, *caretaker homicide* refers to those deaths to 0 to 17-year-olds where the injury was intentionally inflicted by the person or persons responsible for the care and supervision of the child. Child homicides reviewed by the Team were selected using two additional criteria: (1) Virginia's Office of the Chief Medical Examiner took jurisdiction over the case because the death had occurred in Virginia; and (2) after medico-legal death investigation, the child's death was certified as a homicide. Many of these caretaker homicide fatalities are described by social services agencies or by the media as child abuse or neglect-related deaths or child maltreatment deaths.[1]

In addition to these child homicide deaths, the State Child Fatality Review Team reviewed 1998 and 1999 cases of child death where the cause or manner of the child's death was ruled *undetermined*. An undetermined death is one where, after medico-legal death investigation, a forensic pathologist cannot identify or isolate the precise fatal injury or disease that caused a death and/or the specific circumstances surrounding the death that would distinguish a manner of death from

[1] Numbers of child abuse and neglect-related fatalities for Virginia that are published by the Virginia Department of Social Services will differ from those reported here. The State Child Fatality Review Team reviewed all cases of caretaker homicide whether or not a local department of social services accepted the case for a child abuse or neglect-related investigation. See Appendix J.

unintentional injury, homicide, suicide or natural events. The Team decided to review the cases of undetermined child death because they often suggest questions about adequate care and supervision by the child's caregiver. As with child homicides, undetermined cases were selected using two additional criteria: (1) Virginia's Office of the Chief Medical Examiner took jurisdiction over the case because the death had occurred in Virginia; and (2) after medico-legal death investigation, the child's death was certified as undetermined.

In this report, *caretaker* refers to the person or persons responsible for the care and supervision of the child at the time of injury. Caretakers have varied relationships to the child, such as a parent, stepparent, godparent, boyfriend or girlfriend of a parent, babysitter, grandparent, child care worker or foster parent.

SECTION I: Caretaker Homicide Child Death

Demographic Characteristics. The Team reviewed 53 caretaker homicide deaths to Virginia's children that occurred in 1998 and 1999. Twenty-five of these deaths occurred in 1998, and 28 in 1999. These child deaths reflect just the tip of a much larger iceberg of childhood injury attributed to child abuse or neglect. Hospitalization data for Virginia suggest that, in 1998 and 1999, 74 children had abuse-related injuries severe enough to be treated in a hospital; no children were hospitalized for injuries related to intentional neglect. Hospital charges in these 74 cases totaled $768,382.00 representing a mean charge of $10,383.54 per child, an average length of stay of seven days per episode of care, and a median charge per episode of care of $5,274.00 [2]

Infants and toddlers were the most likely victims of homicide by a caretaker. See Figure 1. Twenty-four of the 53 homicide victims were infants. An additional 22 were one to four years of age; four were five to nine years of age; two were ten to fourteen years old; and one child was between fifteen and seventeen years of age.

Boys and girls were the victims of caretaker homicide in roughly equal proportions. Among the 53 caretaker homicide deaths reviewed by the Team, 26 of the victims were boys and 27 were girls.

With regard to race or ethnicity, 22 (41.5%) of the children were White, 23 (43.3%) were Black; three (5.7%) were Hispanic, and three (5.7%) were from another race or ethnic background. Race could not be determined in two cases (3.8%). Two of the white children and four of the Black children were also described as biracial in records reviewed by the Team.[3]

Health Services Area and OCME District Office. For purposes of planning and policy development, Virginia has five health services areas.[4] Children in the central and eastern regions of the state died at the hands of a caretaker more frequently than children in other regions of the state. Sixteen deaths occurred in the Central Health Services Area (HSA); another 16 occurred in the Eastern HSA; eight in the Northern HSA; seven in the Northwest HSA; and six in the Southwest HSA. See Figure 2. In conjunction with these patterns,

Figure 1. Caretaker Homicide Child Deaths by Age
Virginia, 1998-1999 (N=53)

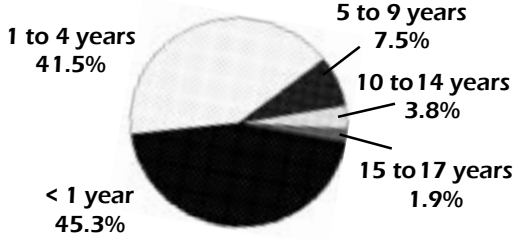
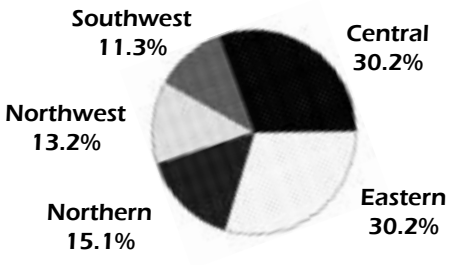
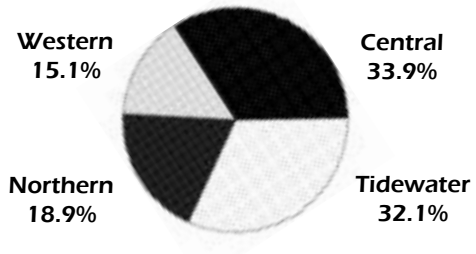


Figure 2. Caretaker Homicide Child Deaths by Health Services Area
Virginia, 1998-1999 (N=53)



[2] Figures provided by the Center for Injury and Violence Prevention, Virginia Department of Health.
[3] Race or ethnicity was recorded from the child's death certificate. Whether or not the child was biracial came from descriptions provided in other records.
[4] Virginia is divided into five Health Services Areas (HSA). See Appendix E for a listing of localities within each HSA.

Figure 3. Caretaker Homicide Child Deaths by Medical Examiner District Virginia, 1998-1999 (N=53)



18 deaths were investigated by the Central Office of the Chief Medical Examiner (OCME);[5] 17 were investigated by the Tidewater OCME; ten by the Northern OCME; and eight by the Western OCME. See Figure 3.

The Ecomomic Status of Children and their Families. The Team also considered the economic status of the families of caretaker homicide victims. Roughly one-half of the families, 25 (47.2%), received no public assistance. An additional 25 (47.2%) families were receiving some social services benefit. Of these 25 families, 23 were receiving Medicaid, eight were supported by TANF (Temporary Assistance for Needy Families) funds, and 11 were receiving food stamps. Information on public assistance was not available in the remaining three cases. These figures provide a rough indicator of socioeconomic status, suggesting that many families lived at or below the poverty level.

Fatal Injury Patterns. All 53 of these deaths were investigated by the Office of the Chief Medical Examiner. An autopsy was performed in 52 cases prior to a final determination of cause and manner of death. All deaths were ruled a homicide, but the injury that caused these children's death varied.

Table 1 provides cause of death injuries discovered at the time of death investigation among these 53. More than one-half of caretaker homicide deaths to children were caused by severe beatings which resulted in blunt force trauma injuries. Chief among these blunt force traumas were those to the child's head, which were found in the largest number of cases, 24 of the total. Descriptions of the circumstances surrounding these deaths revealed that infants' and children's heads were struck against hard surfaces such as walls, crib railings, bed frames, or metal and concrete poles, or that they sustained these injuries when they were shaken or thrown against a hard surface by their caretakers. Five other children suffered blunt force trauma injuries to other parts of the body: four to the abdomen and one to the chest. In these cases, the child was punched by the caretaker's fist or pushed into a fixed or hard object by the caretaker's body.

The second most common cause of child death for these two years was gunshot wound. Eight children were shot to death by their caretaker. Firearm deaths to children figured largely in a category of child death called "family annihilations," where a caretaker killed

TABLE 1. CAUSE OF DEATH INJURIES IN CARETAKER HOMICIDE CHILD DEATHS
VIRGINIA, 1998-1999 (N=53)

Fatal Injury Pattern	Number of Cases	Percentage of Total
Blunt force trauma to head	24	45.3
Gunshot wound	8	15.1
Blunt force trauma to abdomen	4	7.5
Asphyxia	4	7.5
Stab wound	4	7.5
Drowning	3	5.7
Starvation or dehydration	2	3.8
Burns	2	3.8
Exposure to cold	1	1.9
Blunt force trauma to chest	1	1.9
Total	**53**	**100**

[5] The Office of the Chief Medical Examiner has offices in four districts of the state. See Appendix E for a listing of localities within each district office.

all or most members of a family, and often themselves, as part of the child's homicide. These deaths will be distinguished and discussed later in this report.

Other causes of death among these caretaker homicide deaths were less common. Four children died from asphyxia-related injuries, and four children were stabbed to death. Three children were drowned by their caretaker. Two children died from starvation or dehydration, and two children died from burns. One child died from exposure to the cold.

Other Injuries. The Team reviewed the autopsy report in 52 cases. Autopsy reports describe other injuries found on the child, those not directly related to the child's death. These injuries provide clues about the prevention of child abuse and neglect within Virginia. Table 2 provides a list of injuries noted among forensic pathologists' physical descriptions of these caretaker homicide victims.

Were fatal injuries the only injuries suffered by the child, suggesting that the homicide represented an acute or short-lived violent event? Or was there evidence of old injuries, such as healing rib fractures or healed burn marks, to suggest chronic child abuse or neglect? Injuries to the child were acute in 36 cases (69.2%), suggesting that the child's fatal injuries were the only abuse or neglect-related injuries discovered during autopsy. However, in 16 cases (30.8%), autopsy results revealed that the child had been abused over a period of time: weeks, months and, in a few cases, probably years.

Place of Injury and Death. The majority of injuries resulting in these young children's fatalities occurred at the child's home. Forty-four children were injured at home. Four children were injured at another residence, typically that of a babysitter, a childcare provider, or a relative. Five children were fatally injured at other scenes, including a place of business, a school, an open field, and a public park.

Death Investigations. 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 caretaker homicide and undetermined deaths to young children, typical supplementary records included those from police and sheriff departments, emergency medical services, emergency departments and hospital admissions, pediatricians' offices, and local departments of social services.

Pursuant to provisions in the *Code of Virginia*, the State Child Fatality Review Team also makes recommendations to improve child death investigation processes and procedures throughout the Commonwealth. In this review, Team members relied upon records from law enforcement and social services agencies to understand the specific circumstances of these caretaker homicide child deaths.

TABLE 2. CARETAKER HOMICIDE CHILD DEATHS BY INJURY PATTERNS
VIRGINIA, 1998-1999 (N=53)

Injury Pattern	Number of Cases[6]	Percentage of Cases
Bruises, abrasions, contusions	26	49.1
Shaking injuries	13	24.5
Unusual scars	11	20.7
Rib fractures	8	15.1
Skull fractures	8	15.1
Other broken bones	5	9.4
Malnutrition/dehydration	4	7.5
Burns	3	5.7
Failure to thrive	3	5.7
Head traumas[7]	2	3.8

[6] Number of cases exceeds 53, and percentage exceeds 100, because multiple injuries were found in these child deaths.
[7] These two non-fatal head traumas were described as hematomas.

Law Enforcement. Records indicate that a law enforcement agency – a local sheriff or police department, the Virginia State Police, or the U.S. military - investigated all of these 53 caretaker homicide child deaths. While the substance and the quality of records varied from case to case, death investigation reports were received in all 53 cases. Team members determined that the strongest child death investigations included the following records: an original incident report; descriptions of the death scene investigation and evidence collected; a narrative summary of steps taken in the death investigation by the law enforcement agency; interviews with suspects and witnesses, including other children who may have witnessed the fatal injury; and interviews with family members, friends or co-workers who knew the child and the family.

While death investigations were by and large thorough and competently done, Team members also reviewed cases where the child death investigation was problematic. In one case, a local law enforcement agency was called to the hospital for suspicious and severe child injuries. While at the hospital, the officer interviewed the two adults who lived with the child and who were present at the time of the injury together and at the same time in the waiting room. In another case, a child from the household was interviewed in the presence of the suspect. In another case, law enforcement arrived at the family home to collect evidence several days after the child's death. They found that the parents of the child had cleaned the child's room a day earlier, and had therefore destroyed most of the potential evidence in the case.

In some cases, local law enforcement lacked the time and resources to follow-up with multiple interviews in a child death investigation. In others, typically small jurisdictions, the local agency had little experience or expertise to investigate suspicious child deaths. In a few cases, local law enforcement officers either knew the family personally or responded to the death scene and the family as if the death had resulted from unintentional injuries, and therefore minimized the significance of the child's death as a potential homicide. The Team reviewed five cases where local law enforcement would not collaborate with the local department of social services who was conducting its own investigation of the child's death. Yet, inter-agency collaboration permits a fuller picture of the child's biography, as well as events leading to his or her fatal injury.

After its review of these caretaker homicides, the Team identified several best practices for law enforcement's child death investigations. These included practices such as the following:

- Conducting a compassionate and thorough death investigation, one that balances an index of suspicion for homicide with empathy for family members who have lost a child.
- Investigating the death immediately by getting to the crime scene right after the injury or death to observe and preserve evidence at the scene.
- Creating a time line of the fatal injury event: this includes comprehensive information about the who, what, when, where and why of the injury.
- Interviewing all potential suspects, including all adults or caretakers present at the time of the injury or death.
- Interviewing all potential witnesses, including all adults or children present at the time of the injury or the death, those who know the child and the suspects, and those who may have observed a pattern of child abuse or neglect or other problems in the household.
- Interviewing all suspects and witnesses separately.
- Re-interviewing suspects and key witnesses when details of a child's death are not understood or are inconsistent.
- Removing the law enforcement official from the case when s/he knows the family personally.

- Fully collaborating with the local department of social services and other local agencies in conducting the death investigation.
- Taking advantage of time in unsolved cases by re-opening them to pursue new leads and information.

Child Protective Services. Records indicated that a local department of social services (DSS) accepted the caretaker homicide case for a child protective services (CPS) investigation in 43, or 81.1%, of these caretaker homicide deaths. No CPS investigation was conducted in nine cases, or 17.0%. Whether or not the case was accepted could not be determined in one case, or 1.9%.

Section 63.2–1509 of the *Code of Virginia* outlines those professionals and other persons who are required to report child injury suspicious for child abuse and neglect. Mandated reporters include law enforcement officers, mental health professionals, physicians and others practicing the healing arts, hospital residents and interns, nurses, teachers, and social workers. Who was likely to report these caretaker homicides for investigation? Where the record indicated the name of the agency or person referring the case to child protective services, that referral was made by law enforcement in 15 cases, by hospital staff in 11 cases, and by the medical examiner in seven cases.

The Team received social services death investigation records in 36 of these 43 cases. The following kinds of records and materials were received: a narrative of the agency's investigation, including all contacts made to uncover the circumstances surrounding the child's death (30 cases); the printout of a record from the Virginia Department of Social Services' information management system, OASIS (10 cases); copies of interviews with alleged abusers, witnesses, or other persons who knew the child or family (31 cases); and letters of disposition, which report the outcome of the agency's investigation to involved parties (26 cases). By far, the most valuable document among these was the narrative of the agency's investigation, which helped Team members to understand the time frame for the injury and death; the steps taken to investigate the child's injury and death; the social history of the child and the family; relationships between and among household members; the story of the child's injury and death; actions taken by the agency to protect other children in the home and/or to provide services to the family; and contacts between and among professionals who were investigating the death.

Who was the alleged abuser in these 43 cases?[8] Among persons related to the child, biological mothers were most likely to be investigated for child abuse and neglect. Nineteen biological mothers were investigated, compared with seven biological fathers, two step-fathers, one adoptive mother, and three other relatives. Unrelated caregivers investigated in these cases included ten male partners, one female partner, three babysitters, one foster mother, and two friends of the family. Alleged abusers were unknown in three cases.

Among the 52 persons investigated by a local DSS agency, 28 (53.9%) resulted in a founded complaint for physical child abuse; the disposition was child neglect in an additional six cases (11.5%). Caretakers in 13 cases (25.0%) were founded to have physically abused and neglected or medically neglected the child. The final disposition was unfounded in two cases (3.8%) and unknown in three cases (5.8%).

In contrast with criminal death investigations by law enforcement, child fatality investigations by local departments of social services are conducted to determine if a child's death was abuse or neglect-related and to identify service and safety needs for surviving household members, particularly children. In general, these investigations were thorough and complete. In two cases, however, the Team's retrospective review revealed that the local agency should have removed children from the home of an alleged abuser who was accused of killing another unrelated child. The Team also reviewed cases where the agency was unable to conduct a full investigation. In these cases, local

[8] The following count exceeds 43 because two or more persons were investigated for alleged abuse or neglect in some cases. The total number of persons investigated in these 43 caretaker homicide deaths was 52.

law enforcement agencies restricted access to the crime scene or to the alleged abuser and witnesses, or failed to provide critical information to the investigating social worker. For instance, one local CPS social worker learned on the evening news that a child had been murdered in the community because the case had not been reported to CPS. Again, inter-agency collaboration permits a fuller picture of the child's biography, as well as events leading to his or her fatal injury.

Many best practices mentioned earlier with regard to law enforcement are also applicable in child protective services investigations. The Team identified specific best practices to improve child death investigation by CPS agencies:

- Investigate every death where a child's injuries or death are suspicious for child abuse and neglect. Such investigations will protect children and assist policy makers and prevention workers within the social services system.
- Conduct risk and safety assessments for all children who are in contact with an alleged offender after the death of a child.
- Fully collaborate with all local agencies involved in a death investigation.

Prior Child Protective Services Involvement. Ten of the children whose records were reviewed for this report had been the subject of a CPS complaint prior to their deaths. All ten complaints were investigated, and five were founded. In nine cases, the child's caretaker at the time of fatal injury had been the subject of the earlier CPS investigation.

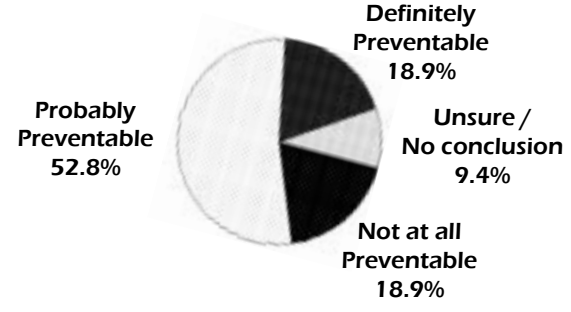
In reviewing these early records, State Child Fatality Review Team members identified cases and circumstances where social services missed an opportunity to intervene and protect a child prior to the fatal event. After its review, the Team identified several best practices for child abuse investigation:

- Use a higher index of suspicion when caretakers are reported for suspected abuse or neglect on more than one occasion. In a related way, the Team discussed the importance of removal of children who are chronically abused or neglected.
- Seek a medical evaluation when infants are described as chronically crying or not sleeping.
- Require a second opinion when children's injuries are attributed to a medical condition.
- Assist families in making wise child care or babysitting choices.

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 so that interventions can be identified. In reaching this conclusion, Team members 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 blunt force trauma homicide to children would be public health education campaigns about the dangers of shaking children, safe responses to crying infants, and appropriate techniques of toilet training. A reasonable intervention to reduce children's deaths from unsafe sleeping practices would be education about age-appropriate safe-sleeping practices as newborns and their families are discharged from the hospital and the provision of cribs to families who cannot afford them.

In this review, the Team determined that ten of the 53 reviewed caretaker homicide deaths were definitely preventable. The Team concluded that 28 deaths were probably preventable and that ten deaths were not at all preventable. The Team was unsure or could not reach a conclusion about preventability in five cases. See Figure 4.

Figure 4. Caretaker Homicide Child Deaths by Degree of Preventability Virginia, 1998-1999 (N=53)



Types of Caretaker Homicide Deaths. Virginia law requires protection of the privacy of children's deaths, and the Team adheres to this requirement. In the section that follows, the 53 caretaker homicide deaths just described are divided into three categories for further description and for purposes of distinguishing prevention modalities. These three categories are: *discarded or abandoned infants, family annihilations, and child abuse and neglect-related fatalities*. Factors and issues common to each type of homicide and those that suggest prevention strategies or shape the Team's recommendations are emphasized.

1. Abandoned or Discarded Infants. The Team reviewed seven cases of caretaker homicide where the child was discarded or abandoned at birth. Most of these infants died on the day of their birth; all died within two days of their birth. Four of the infants were female and three were male. With regard to race, four were White and one was Black; race could not be determined in two cases.

Four of these deaths were investigated by the Central Office of the Chief Medical Examiner (OCME), two by the Tidewater OCME area, and one by the Northern OCME. Four infants were abandoned or discarded in a family residence, while the other three were found at a college or a place of business. The infant was found in a toilet or bathtub in three cases, in a bedroom in two cases, and in a college dormitory building in two cases. Cause of death in three of the cases was drowning. Blunt force trauma to the head caused the death of two other infants. Hypothermia, or exposure to the cold, was the cause of death in one case, and suffocation caused the death of one infant.

Information about the infants' families was available in five of these seven cases. The person who inflicted injuries or discarded the infant was the biological mother of the infant in all five cases. Mothers' ages ranged from 16 to 28 years of age, with a median age of 24 years. Although no fathers were present when the infant was born or discarded, a father was identified in four cases. Fathers' ages ranged from 17 to 47 years of age, with a median age of 26. The mother of the infant was living with her parents in three cases and with her husband and child in another case. One young mother was an in-home child-care worker.

Further investigation of these deaths revealed the following details about the mother's pregnancy:

- Family or friends suspected the mother was pregnant in two cases. A family member questioned the mother in each of these cases, but the woman denied the pregnancy. In one of these cases, the family member took an extra step to confirm the pregnancy by purchasing a pregnancy test. The mother of the child refused to take the test and no further action seems to have been taken.
- No one suspected the mother was pregnant in another three cases.
- In three cases, the mother of the discarded infant took steps to conceal her pregnancy from others by spending more time alone, wearing oversized or bulky clothing, or claiming an unusual medical condition.

As mentioned earlier, the mother of the child was identified as the perpetrator in five of these discarded infant cases. The assailant was never identified in two cases. Criminal charges were filed in all five of these cases. These mothers were charged with involuntary manslaughter (1 case), voluntary manslaughter (1 case), second degree murder (1 case), and felony child neglect (2 cases). Charges were subsequently dropped in one case. The four remaining perpetrators were sentenced to prison terms ranging from five to fifteen years. In three of these cases, the perpetrator's sentence was suspended in full; the Court suspended part of the sentence in the fourth case.

The Child Protective Services unit of the local department of social services investigated each of these seven cases of abandoned infants and, in each case, a finding of abuse or neglect was made. Final dispositions in these cases included one founded case for child abuse and neglect, three cases founded for child neglect, two cases founded for physical abuse, and one case founded for medical neglect.

The Team determined that one of these deaths was definitely preventable, that two were probably preventable, and that two were not at all preventable. The Team did not have sufficient information to determine preventability in two cases.

The State Child Fatality Review Team struggled to find sound and reasonable interventions that would prevent the deaths of abandoned or discarded infants. Since mothers of these infants denied or concealed their pregnancies, it was difficult to identify interventions that could penetrate these dynamics. In general, family members did not know about the pregnancy or did not push the issue when their loved one denied her pregnancy. Mothers did not receive prenatal care for their pregnancies. None of these families were known to the local department of social services prior to the infant's death. In other words, Team members could not identify an agency or organization that might have intervened to protect the infant.

At the same time, Team members discussed broad areas of intervention that could reduce the number of abandoned infants. The Team considered the importance of family and friends in these deaths, including the need for firm and non-judgmental confrontations by family and friends and for assistance in finding safe alternatives to abandonment. The Team also discussed the potentially protective effects of private and confidential pregnancy treatment and of "safe haven" laws which outline procedures and legal protections when an infant is safely left at designated drop-off centers. At a societal level, the Team identified the need for stronger social and cultural supports for placing a child for adoption.

2. Family Annihilation. The Team also reviewed nine cases of caretaker homicide where the child was murdered when a perpetrator killed most or all other family members. In this report, murders such as these are called family annihilations. Seven families were involved in these family annihilations.

Children murdered by their caretakers in a family annihilation ranged in age from one to fifteen years, with a median age of seven years. Five of the victims were female and four were male. With regard to race, seven children were White and two were Asian. Three of these deaths were investigated by the Central Office of the Chief Medical Examiner (OCME), one by the Tidewater OCME, one by the Western OCME, and four by the Northern OCME. Eight of these children died in their own homes, many while they were sleeping. One child died in a public recreational area.

All of these children were murdered by their caretaker within the context of a family annihilation event. Unlike infant abandonment where mothers were the perpetrators, fathers committed family annihilations. In eight of these cases, the child's father was the perpetrator. In the ninth case, the child's father hired a hit man to kill his wife and child. The mothers of five of these children were also murdered in the homicide event; three others were targeted for murder but survived the homicide attempt on their lives. The perpetrator killed himself in five of these nine cases and survived a suicide attempt in another case.

In general, the fathers of these children were residing in the home at the time of the homicides. This was the case in seven of the nine cases of family annihilation. Mothers were living in the home in all nine cases. Fathers' ages ranged from 23 to 43 with a median age of 35. Mothers' ages ranged from 22 to 50, with a median age of 37.

Retrospective case review revealed that domestic violence was present in the parent relationship and a factor in the murder in three children's cases. An adult protective order was in place in one case, but clearly failed to stop the perpetrator. Marital or relationship conflict was described in five of the nine cases of family annihilation. Witnesses and family members reported that the perpetrator had threatened to kill his wife and/or children in three cases. Employment or financial worries were described as precipitating factors in five cases. Concern about child support payments was a possible motive in two cases.

The father of the child was identified as the perpetrator in these nine family annihilations. The father of five children died in the homicide-suicide event. Criminal charges were filed in all four of the cases where the father survived. One of these cases was adjudicated in the federal court system; the Team did not receive information about the charges or the disposition of this case. Among the other three cases, first degree murder charges were brought in two cases and capital murder in another case. The father was sentenced to death in two cases and to 50 years in prison with no suspension of time in the third case.

Most family annihilation deaths were not investigated by the Child Protective Services unit of the local department of social services. However, one case was investigated with a final disposition of a founded complaint for physical abuse. Furthermore, these were not families that were known to Child Protective Services; that is, there were no prior referrals for child abuse or neglect in any of these nine cases.

The State Child Fatality Review Team determined that three of these deaths were probably preventable and that five were not preventable. The Team was unsure about preventability in one case.

As with discarded or abandoned infants, the State Child Fatality Review Team discussed the importance of family and friends to the prevention of family annihilation deaths such as these. The Team had the benefit of hindsight and retrospective review. At the same time, its review revealed a number of family problems – marital conflicts about money, debt, sex, and fidelity; physical assaults related to jealousy, control and a pattern of domestic violence; worries about paternity and child support; and concerns that family members would suffer from financial problems or indebtedness. It is family and friends who have access to this intimate terrain of family life and, as such, they play a critical role in identifying and intervening to prevent child deaths.

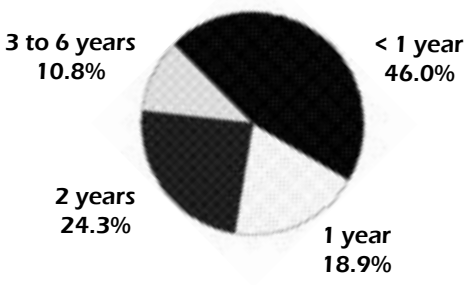
3. Child Abuse and Neglect-Related Deaths. The Team reviewed 37 cases of caretaker homicide where the child died as a result of abuse or neglect. These children ranged in age from 0 to 6 years of age. Nearly half (17) were infants who died before their first birthday. An additional seven children were one year old; nine children were two years of age. Four children ranged in age from three to six. See Figure 5. Eighteen of the infants were female and 19 were male. With regard to race, 11 children (29.7%) were White, 22 children (59.5%) were Black, and three children (8.1%) were Hispanic. One child (2.7%) was from another race or ethnic background. The largest number of these deaths, 14 (37.9%), were investigated by the Tidewater Office of the Chief Medical Examiner (OCME); 11 (29.7%) cases were investigated by the Central OCME; seven (18.9%) children's deaths were investigated by the Western OCME area, and five (13.5%) by the Northern OCME.

The majority of children who died from child abuse and neglect-related homicides died in their own homes. This was so in 33 (89.2%) of the 37 cases reviewed by the Team. The other four (10.8%) children died in another residence: in the home of an unrelated godparent, a babysitter, or a relative.

Characteristics of Alleged Abusers and Perpetrators. Information about the infants' families was available in all 37 of these caretaker homicide cases. In 23 (62.2%) of these cases, a male was the perpetrator. The person who abused or neglected the child was most frequently a parent's boyfriend (10 cases), the child's biological mother (10 cases), or a child's biological father (9 cases). In other cases, the child was abused or neglected by a babysitter (3 cases), a stepfather (2 cases), or another person including an uncle, a foster mother, parent's girlfriend, and a friend of the family (4 cases).[9]

Mothers' ages were reported in 32 of these 37 cases, and ranged from 16 to 37 years of age, with a median age of 21 years. Fathers' ages were reported in 20 of the 37 cases and ranged from 18 to 40 years of age, with a median age of 23. The children were living with both parents in 10 cases (27.0%); with both parents and other relatives

Figure 5. Child Abuse and Neglect-Related Child Deaths by Age
Virginia, 1998-1999 (N=37)



[9] The total number of assailants is greater than 37 because, in some cases, two or more caretakers were found to have abused or neglected the child.

in three cases (8.1%); with a single parent in three cases (8.1%); with a parent and that parent's boyfriend or girlfriend in ten cases (27.0%); with one parent and other relatives in six cases (16.3%); in a foster home in one case (2.7%); and in other household situations in four cases (10.8%). Household size varied from two to twelve people, with a median number of household members of four. The number of minors in the household varied from one to ten, with a median value of two. Of these 37 children, 36 were in the custody of one or both of their parents; one child was in a foster care placement with a relative. One child was described as adopted.

The Economic Status of Children and their Families. Approximately one-third of families, 13 (35.1%) received no public assistance. An additional 23 families (62.2%) were receiving some social services benefit in the year prior to the child's birth. Information was not available for one family (2.7%). Of the 23 families who had received benefits: 21 were receiving Medicaid, eight were supported by TANF (Temporary Assistance for Needy Families) funds, ten were receiving food stamps, and three families received other services. These figures provide a rough indicator of socioeconomic status, suggesting that many children killed in abuse and neglect-related events lived in families subsisting at or below the poverty level.

Social and Behavioral Characteristics of Child Abusers. The Team's review of these child records also suggested characteristics of the caregivers or the child's household that are important indicators of child abuse and neglect and of families at risk. The following qualities were identified through Team review:

- The caregiver lacked an understanding of age-appropriate developmental needs of the child in 14 cases (37.8%). In these cases, the child was abused for failing to meet the perpetrator's unrealistic expectations.
- The caregivers had an authoritarian discipline style or a temper that was quick to anger in another 11 cases (29.7%).
- The household was characterized with employment or money problems in 12 cases (32.4%). Team members noted that several working families struggled with stable and reliable child care arrangements for their children as a result of these financial limitations.
- There was a known history of intimate partner violence between adults in the household in nine cases (24.3%). The caregiver's intimate partner relationship was described as conflicted in another eight cases (21.6%).
- The child's caregiver had heavy child care responsibilities in nine cases (24.3%).
- Caregiver abuse of drugs or alcohol was described in seven cases (18.9%).
- The caregiver was on active military duty in six cases (16.2%).
- The caregiver and family had problems with stable housing in six cases (16.2%).
- The caregiver had documented chronic mental health problems in three cases (8.1%). The caregiver was described as having postpartum depression in an additional two cases (5.4%).
- The caregiver was abused or neglected as a child in three cases (8.1%).
- The caregiver was in foster care as a child in one case (2.7%).

Three additional observations emerged as the State Child Fatality Review Team reviewed these 37 cases of child abuse and neglect-related deaths. These insights came up on a regular basis as Team members looked for interventions to reduce child abuse and neglect.

- The Team noted unique struggles for young parents in the military. Separated from the support of family and friends, young parents move from one military assignment to another. In addition to this social isolation, case review suggested financial struggles, long shifts away from home and, most importantly in this review, fragile and unreliable child care

arrangements that place children in grave danger of abuse or neglect.

- The Team observed the high numbers of men who abused children–62% in this review–and noted how important it is that men with childrearing responsibilities be educated about age-appropriate child development.
- Overall, the children whose deaths were reviewed for this report lived in the midst of profound social chaos, a term used often by Team members in their discussions. Social chaos ran a gamut and included all of the issues mentioned above: financial instability, precarious and unsafe child care arrangements and family violence, but also incarceration, lack of transportation, shifting household composition or frequent moves, and inadequate housing. Team members discussed the cumulative effect of these stressors on a family, which put infants and children at profound risks for child abuse and neglect.

Abusers' Descriptions of Children. Statements made by perpetrators during law enforcement and social services investigations of the child's death provided Team members with clues about perpetrator's perceptions of the child and the child's behaviors in the time leading up to the fatal injury event. Such information was available in 23 of the 37 cases. Juxtaposed with characteristics of the caregiver and the household, these suggest a dangerous and precarious situation for children who are the targets of child abuse and neglect.

For instance, perpetrators described the provocation for the child abuse or neglect in these ways:

- The child was described as crying or fussy in 14 cases (37.8%). Among these 14 children, three were described as sleepless and five as not eating or having complex eating needs associated with reflux or prematurity. Three children were using an apnea monitor.
- The immediately precipitating event was failed toilet training in four additional cases (10.8%). These perpetrators described the child as not listening, as "knowing better," or as deliberately disobedient.
- Three perpetrators, all biological fathers, expressed direct hostility toward the child: two expressed jealousy and one outright hatred. In these cases, the child became the scapegoat for the change in the perpetrator's relationship to the child's mother after the child's birth.
- In two cases, the perpetrator was concerned about child care payments.
- In two cases, the perpetrator was mentally ill and heard voices directing them to kill the child. In one of these cases, this killing was described in religious terms as an attempt to save the child.

Prosecution. Charges were filed in 34 (91.9%) of these 37 cases of child abuse and neglect-related homicides. A single perpetrator was charged in 28 of these 34 cases, and two perpetrators were charged in the other six cases. Charges were subsequently dropped in three cases, and the case moved to prosecution in 31 of the 34 cases. Perpetrators were typically convicted of second degree murder (20 cases), felony child abuse (9 cases), involuntary manslaughter (6 cases), or felony child neglect (6 cases). In a few cases, perpetrators were convicted of first degree murder (1 case) or voluntary manslaughter (1 case). In one case, a mentally ill perpetrator was found not guilty by reason of insanity. In another, the perpetrator died before trial. A total of 32 perpetrators were sentenced to prison terms ranging from one to 60 years with a median sentence of 20 years. Another perpetrator was sentenced to life in prison. The perpetrator's sentence was suspended in full in one of these cases, suspended in part in 20 cases, and not suspended in 11 cases.

Death Investigations by Child Protective Services. The Child Protective Services unit of the local department of social services investigated 35 of these 37 cases of caretaker homicide. Dispositions were available in 34 of these cases. One alleged abuser was identified in 27 cases and two alleged abusers were identified in seven cases. Final dispositions for these perpetrators included 27 cases founded for physical abuse, five cases founded for child neglect, and eight cases for

physical abuse and neglect or medical neglect. One case was unfounded.

History of Abuse as Discovered at Autopsy. Autopsy reports in these child abuse and neglect-related deaths revealed whether or not the child had likely been abused prior to the fatal injury event. Chronic abuse was indicated by the existence of healing skull or rib fractures, broken bones, or unusual scarring or burn marks. Autopsies were performed on 36 of the 37 children whose child abuse or neglect-related deaths were reviewed here. Of those 36 children, 16 (44.4%) indicated chronic abuse. As the following discussion suggests, persons in these children's lives often suspected such abuse.

System Contacts. The Team also asked questions about contacts between potentially protective agents and these children and their families. Which people, agencies and organizations saw these children and their families on a regular basis? Who might have suspected or known about the abuse? Three kinds of contacts were revealed through this review: family and friends, health care providers and child protective service workers.

1. Family, Friends, and Neighbors. Investigations by law enforcement and child protective services revealed that someone in the family's private life suspected or knew the child was being abused in 14 of these caretaker homicide cases. This reflects more than one-third (37.8%) of the cases. The suspicion of child abuse and neglect was reported to law enforcement or to a local department of social services in only three of these 14 cases. In general, family members suspecting abuse or neglect by a caretaker included grandparents, aunts, cousins, and even the other parent of the child. Other persons included babysitters, co-workers, neighbors and maintenance workers. State Child Fatality Review Team members noted the critical role these persons play in protecting children by reporting their suspicions of child abuse or neglect.

2. Health Care Providers. When available, State Child Fatality Review Team members reviewed records from health care providers. Information about contact with health care providers was obtained in 30 of these 37 cases. Regular contact with a primary care provider was found in 23 of these 37 cases (62.2%). A primary care physician was identified, but the child had not ever seen the physician, in an additional five cases. Records indicated a use of urgent care facilities or emergency departments in two cases.[10] In one case, the death investigation revealed that the child was never seen by a physician after birth.

Among the 24 cases where a health care provider record was obtained, these records suggest a documentation of injuries in eight cases (33.3%). Six of these records suggest injuries suspicious for child abuse or neglect; a call to child protective services was made in each of these cases.

Team members noted the association between missed medical appointments and the possibilities for child abuse or neglect. Medical records for seven children suggested missed appointments; five of these seven children were found to be chronically abused at autopsy.

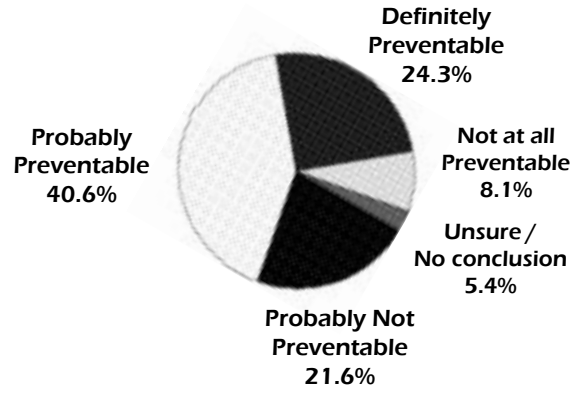
3. Child Protective Services. The Team's review included information about the child's and/or the caregiver's prior contacts with Child Protective Services. Ten of these 37 abuse and neglect-related child deaths had a CPS complaint for the decedent child prior to the fatal event; eight cases had had one CPS complaint; one case had two CPS complaints; and one case had three CPS complaints.[11] Five of these ten complaints were founded. In nine cases, the child's caretaker at the time of the fatal injury had been the subject of the earlier CPS investigation. In seven of these ten cases, autopsy results revealed that the child was in all likelihood chronically abused.

Preventable Deaths. The Team determined that nine of these deaths were definitely preventable, that 15 were probably preventable, that eight were probably not preventable, and that three were not at all preventable. The Team did not have

[10] In one of these cases, the child was seen by a primary care physician as well.
[11] In this case, two of the three complaints were under investigation at the time of the child's death.

sufficient information to determine preventability in one case, and did not agree on preventability in one other case. See Figure 6.

Figure 6. Child Abuse and Neglect-Related Child Deaths by Degree of Preventability Virginia, 1998-1999 (N=37)



SECTION II: *Undetermined Child Death*

In addition to the child deaths attributed to homicides, the State Child Fatality Review Team reviewed 1998 and 1999 cases of child death where the cause or manner of the child's death was ruled undetermined. What does this mean? In general, an undetermined death is one where, after medico-legal death investigation, a forensic pathologist cannot identify or isolate (1) the precise fatal injury or disease that caused a death; and/or (2) the specific circumstances surrounding the death that would distinguish a manner of death from unintentional injury, homicide, suicide or natural events. For instance: Did the one-year-old drown unintentionally when left alone in the bathtub, or was the child the victim of a homicide? Did a four-month old who was sleeping in a single bed with her mother die from natural causes, such as Sudden Infant Death Syndrome, or because she was unintentionally suffocated when placed for sleep on her stomach in an adult bed? Child deaths are ruled undetermined when clear and decisive answers to questions such as these are not available.

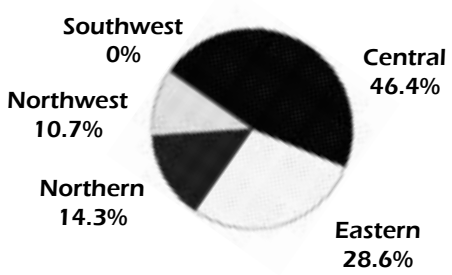
The State Child Fatality Review Team decided to review these 28 cases of undetermined child death in conjunction with the 53 caretaker homicide cases described above. It is not the case that all of these child deaths were suspicious for homicide; indeed, most were not. But the following discussion reveals that undetermined child deaths commonly occur among infants and toddlers, those most vulnerable and therefore most dependent upon a caretaker for their safety and protection. Like caretaker homicide, they highlight the need for childcare by competent and diligent caregivers.

Manner of death was ruled undeterminded in all 28 cases. The cause of death was undetermined in 23 of these 28 cases. Among the five cases where a precise cause of death was determined, three children died from drowning, one child from malnutrition, and one child from a gunshot wound to the head.

Characteristics of Children and Families. The highest numbers of undetermined deaths occurred among Black male infants. Nineteen deaths (67.9%) occurred among infants, while the other nine deaths occurred among children who were in the 1-4 year age range. Most of the infants were males (17, 60.7%), while 11 were females (39.3%). With regard to race, seven children (25.0%) were White, 20 children (71.4%) were Black, and one child (3.6%) was of another race.

Most undetermined deaths occurred in the central region of the state. In terms of Health Services Area (HSA), 13 deaths occurred in the Central HSA, eight children died in the Eastern HSA, four in the Northern HSA, and three in the Northwest HSA. No undetermined deaths were recorded for the Southwest HSA. See Figure 7. More than half of

Figure 7. Undetermined Child Deaths by Health Services Area Virginia, 1998-1999 (N=28)



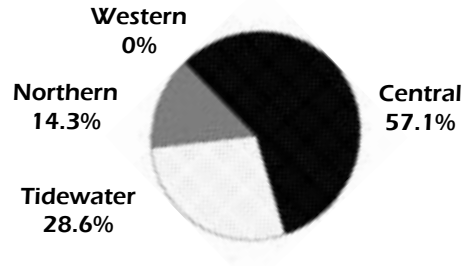
these undetermined child deaths, 16, were investigated by the Central Office of the Chief Medical Examiner (OCME). Eight deaths were investigated by the Tidewater OCME, and four cases were investigated by the Northern OCME. The Western OCME recorded no undetermined deaths in 1998 and 1999. See Figure 8.

Records indicated that 17 families (60.7%) were receiving some form of public assistance at the time of the child's death. Of these 17 families, 16 were receiving Medicaid, 11 were receiving food stamps, and nine were receiving Temporary Assistance to Needy Families (TANF).

Sixteen of the 28 children lived with both of their parents, while 11 children lived in single parent homes. One child lived in an extended family setting. Fathers' ages ranged from 19 to 42, with a median age of 29. Mothers' ages ranged from 14 to 40, with a median age of 25.

The majority of these children were being supervised by a parent or both parents at the time of injury or death. This was so in 21 cases (75.0%). Two children (7.1%) were in the care of a babysitter and two children (7.1%) were being cared for in a licensed child care facility. One child (3.6%) was being cared for by a grandparent. The person who was supervising the child was unknown in the other two cases (7.1%).

Figure 8. Undetermined Child Deaths by Medical Examiner District Virginia, 1998-1999 (N=28)



Potential Risk Factors in Undetermined Child Death. Is there a portrait of risk for children who die from undetermined causes or circumstances? The Team's review of each child's birth and medical records suggested the following:

- The child's birth was described as normal or unremarkable in 15 cases (53.6%).
- The child was described with a premature birth or with low birth weight in ten cases (35.7%); the child had an extended hospital stay after birth in six of these ten cases.
- The mother of the child used drugs and/or alcohol during pregnancy in four cases (14.3%).
- The infant's family was referred for home health care visits in four cases (14.3%).
- The child had a medical condition in addition to those associated with low weight and prematurity in two cases (7.1%).

When available, the Team also reviewed records from local Child Protective Services agencies and local law enforcement to understand some of the family and living circumstances surrounding the deaths of these children. These records indicated the following:

- The parent was parenting alone without a lot of family support in nine cases (32.1%).
- At least one of the primary caretakers for the child used drugs or alcohol in eight cases (28.6%).
- The caretaker lacked an understanding of appropriate expectations for infants and young children in three cases (10.7%).
- The family was active duty military in three cases (10.7%).
- Members of the household had a history of domestic violence in two cases (7.1%).
- At least one caretaker had been diagnosed with a mental illness in two cases (7.1%).
- The caretaker was described as mentally retarded in one case (3.6%).

Death Investigations. Forensic pathologists depend on thorough death investigations by law enforcement and child protective services, and on the sharing of the results of those investigations,

when making a final determination on cause and manner in child deaths. This is particularly so in undetermined deaths where there is often no decisive injury pattern to identify cause of death. In these cases, comprehensive scene investigation and evidence collection by law enforcement, and detailed interviewing of caretakers and witnesses by both law enforcement and local social services personnel, is critical to making this determination.

The Team received law enforcement investigative reports in 26 of these 28 cases. Typical records included an initial incident report (26 cases); information from interviews with caretakers (22 cases) and/or other witnesses who were not in a caretaking role but present in the home near the time of injury or death (13 cases); and descriptions of evidence collected at the scene of the fatal injury or death (11 cases).

At the same time, Team members were frustrated with child death investigations in these undetermined infant and child deaths. When compared with caretaker homicide deaths, undetermined deaths were not investigated with the same breadth and depth. Many of the best practices for death investigation mentioned earlier in this report were relevant to these deaths as well, particularly the need for a compassionate but thorough death investigation, complete scene investigation and evidence collection, interviews with all witnesses in the household, and cooperation with other agencies in the death investigation.

Through its review, the Team learned that a local department of social services received a referral in 15 of these 28 child death cases (53.6%) and investigated the child's death in 12 of these 15 referred cases.

A total of 15 caretakers were investigated for potential child abuse and neglect in these deaths. A single caretaker was the subject of investigation in nine child death cases, and two caretakers were the subject in the other three child death cases. More than half of these investigations (eight cases) resulted in an unfounded disposition. Other dispositions included child neglect (four cases), child neglect and medical neglect (one case), physical abuse (one case), and physical abuse and neglect (one case).

Prosecution. Charges were filed in one of these 28 cases of undetermined child death. One perpetrator was charged in this case was convicted of second degree murder and felony child neglect and was sentenced to a prison term of seven years. The sentence was not suspended.

Prior Child Protective Services Involvement. Three of the children whose undetermined death was reviewed for this report had been the subject of a CPS complaint prior to his or her death. In one of these cases, the complaint was founded. Six caregivers had at least one CPS complaint prior to the child death complaint; one caregiver had two previous complaints. In one of these cases, the complaint was founded.

The Significance of Sleeping Arrangements. In stark contrast with the caretaker homicide deaths described earlier, there was no evidence of traumatic injury that would explain the child's deaths in 23 of these 28 undetermined child deaths. More critically for the Team, however, the family and child sleeping arrangements were not safe in 16 of these 23 non-traumatic child deaths. Upon further investigation, these circumstances were described among the 16 sleep-related child deaths:

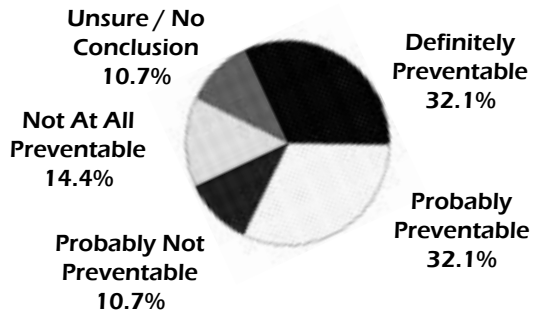
- Ten children were sleeping in an adult bed, three children were in a crib or bassinet, and three were placed for sleep in other sleeping environments that would normally be deemed safe for infants or young children.
- Nine children were put to sleep on their stomachs, five were placed on their backs, one was placed on the side, and one position was unknown. In general, children were found dead or unresponsive in the same position they were placed for sleep: six were found on their backs, nine on their stomachs, and one on his/her side.
- Ten of the 16 children were sleeping with someone else. Five children were sleeping with one adult, two children were sleeping with two adults, two children were sleeping with an adult and another child, and one was sleeping with another child.
- The child was described in good health in 14 of the 16 cases.

- An adult co-sleeper was using alcohol or drugs in four cases.
- An adult co-sleeper was described as overweight or obese in three cases.
- The child was covered with adult bed coverings — pillows, quilts, or bedspreads — in two cases.

Preventable Deaths. The Team determined that the majority of these children's deaths were either definitely preventable (9 cases) or probably preventable (9 cases). The Team concluded that three of these deaths were probably not preventable and that four were not at all preventable. The Team was unsure about preventability in three cases.

Team members focused on safe and age-appropriate sleeping practices as they discussed reasonable interventions to prevent these child deaths. They noted the high risks associated with co-sleeping when caretakers are using drugs or alcohol or when premature and low-birth weight infants are placed for sleep in adult beds with other people, blankets, pillows and quilts designed for use by adults. Many of the families who lost a child reported that they were unable to afford a crib or bed for their child.

Figure 9. Undetermined Child Deaths by Degree of Preventability Virginia, 1998-1999 (N=28)



SECTION III: State Child Fatality Review Team Recommendations

The State Child Fatality Review Team offers the following recommendations to reduce the number of caretaker homicide and undetermined child deaths in Virginia:

LEGISLATION

1. The State Child Fatality Review Team supports legislation that would no longer require a *de novo* hearing in termination of parental rights cases in the Circuit Court. This would expedite adoption for children who have been abused or neglected, and for whom the conditions that brought them into care have not been remedied.
2. Amend and re-enact § 63.2-1509, referring to mandatory reporters of child abuse or neglect. The Team recommends the addition of emergency medical services personnel as mandatory reporters. Specific statute changes proposed by the Team are italicized below.

   § 63.2-1509. Physicians, nurses, teachers, etc., to report certain injuries to children; penalty for failure to report.

   A. The following persons who, in their professional or official capacity, have reason to suspect that a child is an abused or neglected child, shall report the matter immediately to the local department of the county or city wherein the child resides or wherein the abuse or neglect is believed to have occurred or to the Department's toll-free child abuse and neglect hotline:

      1. Any person licensed to practice medicine or any of the healing arts;
      2. Any hospital resident or intern, and any person employed in the nursing profession;
      3. Any person employed as a social worker;
      4. Any probation officer;
      5. Any teacher or other person employed in a public or private school, kindergarten or nursery school;
      6. Any person providing full-time or part-time child care for pay on a regularly planned basis;

7. Any duly accredited Christian Science practitioner;
8 Any mental health professional;
9. Any law-enforcement officer;
10. *Any person certified to provide emergency medical services;*
11. Any mediator eligible to receive court referrals pursuant to § 8.01-576.8;
12. Any professional staff person, not previously enumerated, employed by a private or state-operated hospital, institution or facility to which children have been committed or where children have been placed for care and treatment;
13. Any person associated with or employed by any private organization responsible for the care, custody or control of children; and
14. Any person who is designated a court-appointed special advocate pursuant to Article 5 (§ 9.1-151 et seq.) of Chapter 1 of Title 9.1.

PRIMARY PREVENTION

1. Partnerships between public and private organizations should be cultivated for the purpose of child safety and protection. For instance, the State Child Fatality Review Team supports efforts like the "Cribs for Kids" program, a public-private venture between the WaWa Corporation and Sudden Infant Death Services of the Mid-Atlantic. Cribs for Kids provides cribs to qualifying families and educates parents about age-appropriate safe sleeping practices.
2. Funding should be increased for primary prevention programs such as Resource Mothers, Baby Care, Healthy Families, CHIP of Virginia and other one-on-one case management/ home visitation programs which provide information to families regarding child development and positive approaches to caring for children.
3. The Department of Criminal Justice Services should continue to provide CPR training and support recertification for all law enforcement officers who are first responders.
4. The Office of Emergency Medical Services should collaborate with the Virginia Department of Social Services to develop a curriculum on recognizing the signs and indicators of child abuse and neglect, and incorporate this curriculum into basic training courses for emergency medical services personnel.

PUBLIC EDUCATION INITIATIVES

1. New parents should be educated about the care of their infants and children, including age-appropriate expectations and needs. The State Child Fatality Review Team supports Governor Mark Warner's New Parent's Tool Kit for new parents in the Commonwealth.
2. The Virginia Department of Social Services (VDSS) and the Virginia Department of Health's Office of Family Health Services (OFHS) should collaborate on the development and promulgation of educational materials that encourage child protection and prevent child abuse and neglect. This review suggested several foci for these efforts:
   a. age-appropriate child development markers and parenting skills
   b. childcare needs for infants and children
   c. safe and appropriate childcare arrangements for infants and children
   d. the dangers of shaking infants and children
   e. age-appropriate approaches to toilet training
   f. firearm safety in the home
   g. links between domestic violence and child maltreatment
   h. age-appropriate safe sleeping practices
   i. adoption as a safe alternative to infant abandonment
   j. Virginia's new Safe Haven laws
   k. the central role of the family in reporting child abuse or neglect and family violence
   l. the requirement to report suspected child abuse and neglect among Virginia's mandatory reporters

3. Fathers and other men who care for children should receive education about age-appropriate care for infants and children.
4. The OFHS should develop expertise in and allocate resources for child abuse and neglect-related injury prevention.
5. The Virginia Department of Education should develop information which incorporates principles of child safety and injury prevention into the appropriate curriculum, including the dangers of shaking or striking a child and age-appropriate discipline strategies and child development markers.
6. The Department of Corrections should develop and implement a parenting and domestic violence curriculum for persons incarcerated in Virginia's prisons. The curriculum should include descriptions of children's developmental childcare needs, alternatives to corporal punishment, and techniques of anger management and batterer intervention.
7. Virginia's faith-based communities should provide information to their congregations which emphasize safe alternatives to abandonment, such as adoption and safe haven laws.

HEALTH CARE PROVIDERS

This review revealed the important role played by health care providers in the lives of infants and children who are vulnerable to fatal injury from child abuse and neglect. Physicians, nurses, and other health care providers see these families on a regular basis and therefore have an opportunity to educate their patients and to evaluate for family problems such as violence, substance use, mental illness, social isolation, perinatal depression, and inadequate child care. Health care providers often know the medical and social history of their patients, and can therefore target the families of fragile infants – those born prematurely or with low birth weight, fussy babies, infants with complex feeding needs, and those with poor weight gain or delayed child development - for referral and additional services. In the spirit of these conclusions, the State Child Fatality Review Team makes the following recommendations to Virginia's health care provider communities.

1. To Virginia's health care professional associations and their members - the Medical Society of Virginia; the Virginia chapter of the American Academy of Pediatrics; the Virginia College of Emergency Physicians; Virginia members of the American College of Obstetricians and Gynecologists; the Virginia Academy of Family Physicians; the Virginia Primary Care Association; the Virginia OB/GYN Society; the Association of Women's Health, Obstetric, and Neonatal Nurses; the Virginia Nurses Association; the Virginia Council of Nurse Practitioners; and Virginia members of The American College of Nurse-Midwives - the State Child Fatality Review Team makes the following best practice recommendations:

   a. Emphasize the importance of a medical home (primary care physician) for each infant and child. A medical home assures coordination and continuity of medical care and supports health and safety.

   b. Encourage ALL caretakers, men and women, to attend medical appointments for their infants and children. Hold evening clinics to accommodate this practice and work schedules.

   c. Assure that all caregivers receive anticipatory guidance with regard to infant and child care. Educate caregivers about safe and appropriate babysitting/child care arrangements.

   d. Be aware of available resources and services in your community for vulnerable families.

   e. Assess for family violence, mental illness, substance abuse and other markers of family dysfunction, and make appropriate referrals for families identified as in need of services.

   f. Recognize the correlation between domestic violence and child abuse and neglect. Assess for child abuse and neglect in instances when domestic violence is suspected, and assess for domestic violence when child abuse and neglect is suspected.

   g. Assess for signs of perinatal depression, social isolation and capacity for care among new parents. When appropriate, make referrals for community services. This is

especially important for the parents of low birth weight, premature and fussy infants.

h. Be knowledgeable about the interpersonal dynamics of child abuse and neglect and the signs and indicators of child abuse and neglect. Objectively assess injury patterns among infants and children. When appropriate, consult a colleague with expertise in child abuse and neglect-related injuries for a second opinion.

i. Report all cases of suspected child abuse and neglect to a local department of social services or to the 24-hour state hotline at 1-800-552-7096. Report cases of suspected assault to local law enforcement.

j. Educate all caretakers, but especially new parents, on how to care for infants. This should include management of a crying baby, care of a low birth weight or premature infant, anti-shaking messages, age-appropriate expectations and approaches to discipline for infants and children, and age-appropriate recommendations about safe sleeping practices.

2. The Virginia Hospital and Healthcare Association should encourage the following best practices among its member hospitals:

   a. Assess every family with an infant treated in a neonatal intensive care unit (NICU) for the need of a follow-up home visit and further assessment.

   b. Discuss and provide information about child health insurance options with new parents as part of discharge planning.

   c. Send records from a child's emergency department visits to the child's primary care physician.

   d. Assess for signs of postpartum depression, social isolation and capacity for care among new parents. When appropriate, make referrals for community services.

3. The Virginia Association of Health Plans (VAHP) should develop and promulgate tools which assist members as they identify, assess and make referrals for family problems among their patients. VAHP should encourage as best practice that members educate new parents about child protection and injury prevention.

4. The Medical Society of Virginia should take the lead in:

   a. Developing a statewide consultation system whereby physicians can confer with colleagues and other specialists on the recognition, care and treatment of abused and neglected children.

   b. Educating primary care physicians about reimbursement for time spent identifying and referring patients and parents with mental health issues for services.

5. The Virginia College of Emergency Physicians should develop and promulgate a model protocol for treating child abuse and neglect victims in emergency departments.

6. The Virginia Department of Health's Office of Family Health Services (OFHS) should:

   a. Evaluate the breadth and depth of pre- and post-natal care provided to high risk families in local health departments. Where appropriate, policy and practice should be strengthened to better support vulnerable infants, children and their families.

   b. Provide training and education on the dynamics of child abuse and neglect and child injury patterns to health care providers in local health departments.

   c. Continue to sponsor and support community programs on safe sleeping through its Regional Perinatal Councils and Fetal-Infant Mortality Review (FIMR) Program.

7. Local health departments should develop public-private partnerships to support safe sleeping practices for infants and children.

8. To Virginia's mental health provider associations and their members – the Psychiatric Society of Virginia, the Virginia Society for Clinical Social Work, the Virginia Psychoanalytic Society, the Virginia Psychological Association, the Virginia Council of the American Academy of Child and Adolescent Psychiatry, and the Virginia Board of Professional Counselors: mental health providers should make recommendations

to all patients (and their parents, if the patient is a child) regarding the patient's ability to care for children. This should include the situations in which babysitting or childcare would be a high risk for the particular patient and recommendations for accommodations or needed supports to care for children safely.

SOCIAL SERVICES

Recognizing the important role played by social services in the protection and safety of Virginia's children, the State Child Fatality Review Team makes the following recommendations to the Virginia Department of Social Services:

1. Develop a standard set of best practice tools to guide child protective services and foster care workers in the safety and protection of children. This review highlighted four important areas for this effort: (1) guidance about when infants and children should be removed from their caregivers, reunited with families, and placed with relatives; (2) safety assessments and safety planning; (3) service delivery to children and families identified through these processes; and (4) concurrent permanency planning for children in foster care.
2. Develop collaborative initiatives with other agencies, such as schools, public health departments, churches, and domestic violence shelters, to address the impact of family violence on infants and children.
3. Take the lead in identifying and working with other organizations to explore ways of providing a coordinated network of support to new parents in areas such as home visitation, medical supervision, childcare for working parents, crisis care, and emergency financial assistance.
4. Implement policies and procedures that require the review and reassessment of all cases in which a child is seriously injured on more than one occasion.
5. Provide cross training among Child Protective Services (CPS) and Temporary Assistance to Needy Families (TANF) staff. This training should focus on the dynamics of child abuse and neglect and family violence.
6. Devote one FTE position to the intensive study of all child abuse and neglect-related fatalities in the Commonwealth. The study should include analysis by locality, economic indicators, race/ethnicity, and high risk or underserved communities, so that specific preventive strategies can be designed or implemented. The results of this study should be published on an annual basis.
7. With the Office of the Chief Medical Examiner and the Virginia Department of Mental Health, Mental Retardation and Substance Abuse Services, sponsor a summit on child abuse and neglect. The summit should explore ways to prevent child injury and death and promote child protection.
8. Continue and expand its collaborative initiatives with other public and private agencies to facilitate access to childcare for low-income families.

THE JUDICIARY

1. The Supreme Court of Virginia should continue to educate judges about the integral relationship between domestic violence and child abuse and neglect.
2. The Supreme Court of Virginia should emphasize to judges the preventive value of child protective orders in petitions involving domestic violence and child abuse and neglect. Protective orders are an important judicial tool that can support a safe environment for children, whether those children live at home or are placed in foster care.
3. The Virginia Criminal Sentencing Commission should study conviction and sentencing patterns for the homicide of children versus that of adults. The purpose of this study would be to understand what, if any, disparities exist in these children versus adult cases.

DEATH INVESTIGATION

1. Child death should be investigated using a multidisciplinary team approach. 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 efforts.

2. The Department of Criminal Justice Services (DCJS) should develop and promulgate a model lesson plan for law enforcement in child death investigation.
3. DCJS and the Virginia Institute for Forensic Science and Medicine should provide training and protocols to local law enforcement and medical examiners on child death investigation.
4. Local law enforcement should continue to cultivate skill and expertise on child death investigation among their investigators. When appropriate, local law enforcement agencies should use the case consultation services of the Virginia State Police in child death investigations.
5. Child Protective Services should investigate all child fatalities in which child abuse or neglect by a caretaker is suspected.
6. The Office of the Chief Medical Examiner should report all cases of suspected child abuse and neglect to the appropriate local department of social services.

PROSECUTION

1. The Commonwealth's Attorneys' Services Council should continue to train members on best practices in the prosecution of child abuse and neglect cases.
2. The Governor should identify and appoint special state prosecutors for child abuse and neglect cases. These prosecutors should be available to jurisdictions that do not have expertise in the prosecution of child abuse and neglect-related cases.

PARENTS, CARETAKERS, AND CITIZENS OF THE COMMONWEALTH

Throughout its review, the State Child Fatality Review Team was reminded of this simple but profound truth: relatives and friends have intimate, first-hand knowledge about the homes and lives of their loved ones. This includes information about financial difficulties, mental health crises, substance use problems, and the potential for domestic violence and child abuse and neglect. The Team makes three recommendations to these relatives and friends:

1. All persons in a child's community – parents, other family members, neighbors and others – should report cases of suspected child abuse and neglect to a local department of social services or to the 24-hour hotline at 1-800-552-7096 immediately.
2. Relatives and friends should seek help for family members and friends whose behaviors and emotions change dramatically, who become depressed, or who are violent or abusive towards others.
3. Relatives and friends should confront women who they suspect are concealing a pregnancy, to offer support and to help develop a plan for the safe resolution of the pregnancy.

The Team makes these recommendations to parents and other caretakers:

4. Caretakers should be educated about and educate others about child discipline strategies that include alternatives to striking an infant or a child.
5. Caretakers should be educated that they should never shake a baby. Shaking a baby is not a safe way to calm infants, and can result in severe injury or death.
6. Parents should select babysitters and childcare providers who have the appropriate knowledge, patience and experience to take care of infants and children.
7. Caretakers should not abuse alcohol or drugs when responsible for the care of infants and children.
8. Caretakers should follow age-appropriate safe sleeping practices with infants and children, such as placing infants on their backs to sleep.
9. Caretakers should avoid high-risk co-sleeping arrangements, such as putting an infant or a child to bed in an adult bed and co-sleeping with adults who have abused alcohol or drugs.

PART II

PART II: CHILD DEATH IN VIRGINIA, 2002 by Angela M. Myrick, MPH

Introduction

Data Sources. The information provided in this part of the report comes from three sources. Information on violent and unexpected deaths was generated from the Management Information System of the Office of the Chief Medical Examiner (OCME). Pursuant to § 32.1-283 of the *Code of Virginia*, all of the following deaths are investigated by the OCME:

- any death from trauma, injury, violence, or poisoning attributable to accident, suicide, or homicide;
- sudden deaths of persons in apparent good health or deaths unattended by a physician;
- deaths of persons in jail, prison, or another correctional institution, or in police custody (this includes deaths from legal intervention);
- deaths of patients/residents of state mental health or mental retardation facilities;
- the sudden death of any infant less than eighteen months of age whose death might be attributable to Sudden Infant Death Syndrome; and
- any other suspicious, unusual, or unnatural death.

Other mortality data came from the Virginia Center for Health Statistics (CHS) in the Virginia Department of Health. The CHS records all deaths of Virginia's children. In this report, CHS data will be used to provide information about the sizeable number of natural deaths of children that were not attributed to Sudden Infant Death Syndrome and therefore are not routinely investigated by the OCME. The CHS also provided estimates of the number of live births to support the calculation of infant mortality rates.

A final source of data for this report was the United States Bureau of the Census. Population estimates from 2002 were used to calculate population-based death rates.

There are two differences between the OCME and CHS data. First, the OCME and the CHS information describe different categories of death. The OCME conducts a medico-legal investigation on every sudden, violent, and unexplained death that occurs within the boundaries of the state. The OCME data presented here reflect deaths of Virginia's resident children that were investigated by the OCME. In contrast, the CHS records deaths of all Virginia residents, regardless of where they died. Second, the OCME and the CHS sometimes differ in their coding of manner of death. When a discrepancy occurred in 2002 data, the OCME manner of death was used in this report. Therefore, the CHS data provided here may differ from official CHS publications.

Organization of the Report. Part II of this report is organized into three sections. Section I presents information about child injury death in Virginia, which includes deaths due to unintentional injury, homicide, and suicide. Firearm deaths are also described in more detail. Section II briefly characterizes child deaths where manner and/or cause of death were undetermined after medico-legal death investigation. Section III summarizes information about natural deaths of children and characterizes deaths from Sudden Infant Death Syndrome.

Information about each cause or manner of death is provided in a standard format throughout the report. Comparisons are made by age, sex, and race/ethnicity grouping as well as by geographic location in the state. Location is provided using two distinctions: Virginia's Health Services Area and Office of the Chief Medical Examiner Districts. Information about natural deaths to infants is also provided for Virginia's Perinatal Regions. For reference purposes, Appendix E provides a listing of localities in Virginia by Health Services Area, by OCME District, and by Perinatal Region. Appendices F through I provide a summary of child death data for each manner of death and include population-based death rates.

SECTION I: Child Injury Death in Virginia

In this section, 224 injury deaths of children between the ages of 0 and 17 resulting from unintentional injury, homicide, and suicide are described. Thirty-four of these deaths, 15.2%, involved the use of a

firearm. These deaths are examined separately. All of these deaths were investigated by the OCME.

While child death is a relatively rare event, injury death reflects a small and tragic portion of a much larger number of injuries to children. For example, injury and hospitalization data for Virginia reveal that 2,862 children sustained injuries requiring hospitalization in 2002. The costs associated with these injuries totaled $30,954,965.00, a mean of $10,815.85 and a median of $6,113.00 per hospitalization.[1]

1. Unintentional Injury[2]

Unintentional injury death was the leading manner of injury death among Virginia's children in 2002. A total of 156 deaths, 69.6% of all child injury deaths, were from unintentional injuries.

Figures 1 through 4 portray characteristics of these deaths. The largest number of unintentional injury deaths, 71 (45.5%), occurred among teenagers 15 to 17 years of age (Figure 1). The frequency of unintentional injury death increased as age of the child increased, with the exception of children ages 5 to 9, who had slightly fewer injury deaths compared to younger children ages 1 to 4 and adolescents ages 10 to 14.

With regard to sex and race or ethnicity, Figure 2 suggests two clear patterns: first, White children died more frequently from unintentional injury than Black children or children from other race or ethnic backgrounds; and second, within race and ethnic categories, males died more frequently from unintentional injury than females. A total of 67 White males died, compared with 33 White females. Among Black children, 27 males and 12 females died. Among children from other races or ethnic groups, 13 males and four females died.

Observed by Health Services Area (Figure 3),[3] the largest percentage of unintentional injury in the state occurred in the Southwestern and Eastern Areas, with 40 deaths (26.2%) and 39 deaths (25.5%), respectively. The OCME investigated 47 deaths (30.1%) in the Central District and 47 deaths (30.1%) in the Western District. An additional 35 deaths (22.5%) were investigated by the Northern District (Figure 4).[4]

Figure 1. Unintentional Injury Deaths of Children Ages 0 to17 by Age Group Virginia, 2002 (N=156)

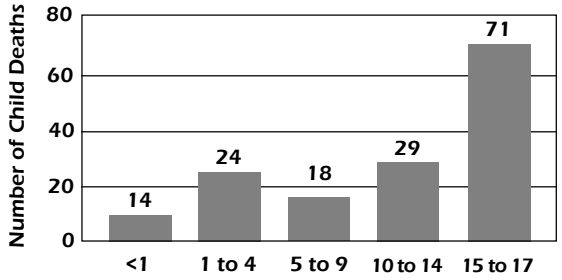
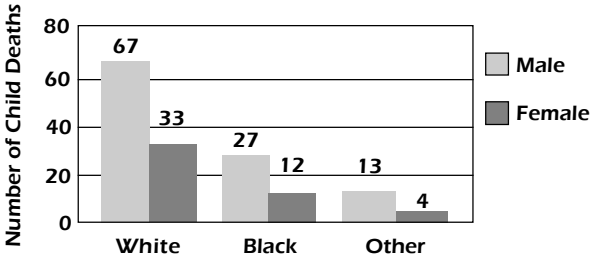


Figure 2. Unintentional Injury Deaths of Children Ages 0 to17 by Sex and Race/Ethnicity Virginia, 2002 (N=156)



Leading Mechanisms of Injury for Unintentional Injury Death:

- Vehicular death was the most frequent cause of unintentional injury death in 2002. Ninety-three of the 156 children (59.6%) who died from unintentional injuries died in vehicular crashes. Children were passengers in 48 fatal vehicular crashes, drivers in 26, and pedestrians in 12 incidents. Three children died in All Terrain Vehicle (ATV) crashes, one child in a bicycle incident, and one child in a motorcycle incident. The type of vehicle or position of the child was not specified in two cases.

[1] Data provided by the Center for Injury and Violence Prevention, Virginia Department of Health.

[2] Appendix F summarizes the information presented in this section in table format. Rates of child death are also provided.

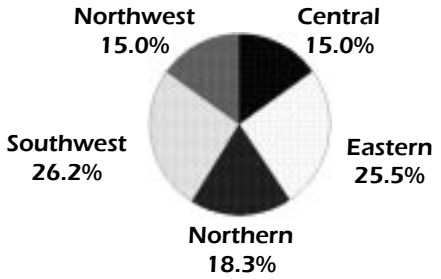
[3] See Appendix E for a listing of localities in each of Virginia's five Health Services Areas. Health Services Area represents the place of injury for unintentional injury deaths.

[4] See Appendix E for a listing of localities in each of Virginia's four Medical Examiner Districts.

- When observed by age category, the frequency of vehicular death increases as age increases with three deaths among infants, six deaths each among children ages 1 to 4 and 5 to 9, 20 deaths among children ages 10 to 14, and 58 deaths among children ages 15 to 17. In fact, vehicular incidents were the leading cause of death among children ages 10 to 14 and 15 to 17, accounting for 69.0% and 81.7%, respectively, of all unintentional injury deaths within these age groups.
- When observed by gender, males accounted for 24 of the 26 driver fatalities, ten of the 12 pedestrian incidents, and all three of the ATV deaths. Twenty-five males and 23 females were fatally injured as passengers.
- Eleven children (11.8%) had a blood alcohol content (BAC) that was greater than 0.01%. All of these children were passengers, and ten of the 11 were between the ages of 15 and 17. Three of the 11 children had a BAC greater than or equal to the legal limit of 0.08%.

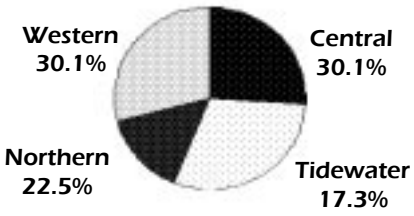
- Drowning deaths represented the second leading cause of unintentional injury death. Twenty-six children (16.7%) died from drowning deaths with 30.8% of these deaths occurring among children ages 5 to 9 and 26.9% occurring among children under the age of 5 years.
- Threats to breathing were responsible for the deaths of 15 children (9.6%). Eight children, all infants, died from suffocation. Three children, all females, died from choking; and four children, all males, died from unintentional hangings.
- Fire-related injury deaths claimed the lives of nine children in 2002 (5.89%). Seven children died as a result of inhaling soot and smoke, where six of these children were age 9 or less. Two children, both ages 15 to 17, died from burns.
- Among the other causes of unintentional injury death, four children died from poisonings, three children from firearms, two children from falls, and one child each died from an airplane crash, exposure to heat, cuts from glass, and an incident with machinery.

Figure 3. Unintentional Injury Deaths of Children Ages 0 to17 by Health Services Area Virginia, 2002 (N=153)*



* Place of injury could not be determined in two cases; the child was injured out of state in the third case.

Figure 4. Unintentional Injury Deaths of Children Ages 0 to17 by Medical Examiner District Virginia, 2002 (N=156)



2. Homicide[5]

Thirty-nine children between the ages of 0 and 17 were the victims of homicide in 2002. Homicide accounted for 17.4% of all child injury deaths. Characteristics of these children are described below and are presented in Figures 5 through 8.

The age distribution for homicide depicts that the very young and teenagers were most vulnerable to homicide in 2002 (Figure 5). The largest number of homicides, 14 (35.9%), occurred among teenagers between the ages of 15 and 17. Nine deaths (23.1%) occurred among infants and eight deaths (20.5%) among 1 to 4 year olds.

Patterns of homicide by sex were similar to those observed among unintentional injuries, while those observed by race or ethnicity differed. As seen in unintentional injuries, males were homicide victims more frequently than females, where 64.1% of all homicide victims were male. Furthermore, this observation held within racial groups, with

[5] Appendix G summarizes the information presented in this section in table format. Rates of child death are also provided.

more homicides among males than among their race-specific female counterparts. A clear racial disparity was also noted; however, this was in contrast to the racial distribution observed among unintentional injury deaths. Twenty-eight of the 39 homicides (71.8%) occurred among Black children (Figure 6). In addition, Black children had a higher frequency of homicide within all age categories.

Roughly half of all child homicides, 20 deaths, occurred in the Eastern Health Services Area of the state (Figure 7). Eight (20.5%) of these deaths occurred in the Central Area, while six (15.4%) occurred in the Southwest Area. In conjunction with these patterns, the Tidewater and Central OCME Districts investigated the majority of child homicides that took place in 2002 (Figure 8). Eighteen (46.1%) of these child deaths were investigated by the Tidewater District, and 12 (30.8%) were investigated by the Central District.

Leading Mechanisms of Injury for Child Homicide: There is a clear relationship between mechanism of injury and age among children's homicide deaths:

- Firearm deaths accounted for 18 of the 39 deaths (46.2%). The majority of these deaths, 66.7%, occurred among children ages 15 to 17, while 22.2% occurred among children ages 10 to 14.
- Blunt force traumas that were intentionally inflicted abuse or beating deaths accounted for nine of the 39 deaths (23.1%). Eight of these deaths occurred among children ages 4 and younger.

Figure 5. Homicide of Children Ages 0 to 17 by Age Group, Virginia, 2002 (N=39)

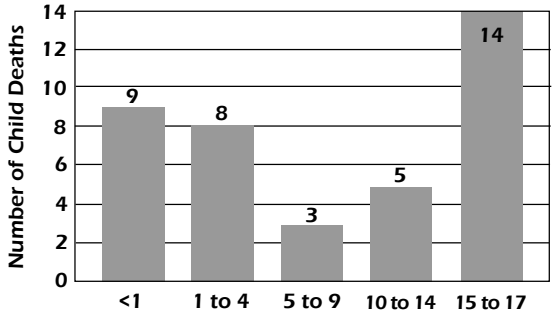


Figure 6. Homicide of Children Ages 0 to 17 by Sex and Race/Ethnicity Virginia, 2002 (N=39)

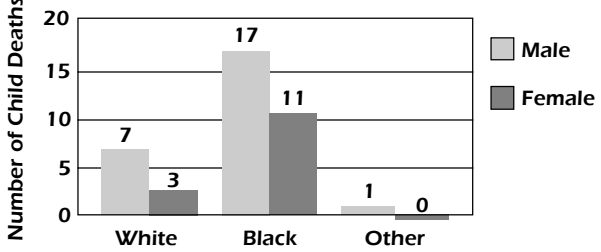
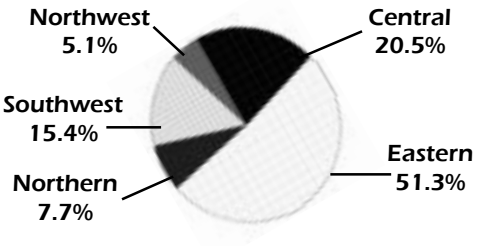
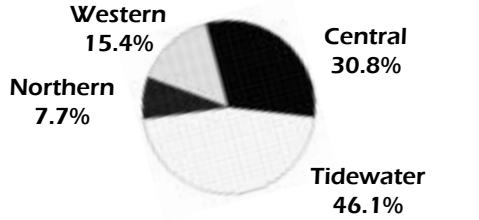


Figure 7. Homicide of Children Ages 0 to 17 by Health Services Area Virginia, 2002 (N=39)



- Drowning deaths accounted for four homicides (10.3%). All of these were inflicted on children ages 4 and younger.
- The other leading mechanisms for child homicide included suffocation, fire or smoke, and stabbing.

Figure 8. Homicide of Children Ages 0 to 17 by Medical Examiner District Virginia, 2002 (N=39)



3. Suicide[6]

Twenty-nine children between the ages of 0 and 17, 12.9% of all child injury deaths, died through the act of suicide in 2002. All of the children who died from suicide were over the age of 10 years. Nineteen children (65.5%) were 15 to 17 years old, and ten children (34.5%) were 10 to 14 years old.

[6] Appendix H summarizes the information presented in this section in table format. Rates of child death are also provided.

Males self-inflicted injury more frequently than females in 2002. Twenty-one suicide deaths (72.4%) occurred among males. In addition, White children accounted for 82.8% of all suicide deaths. Among White children, 17 males and seven females committed suicide. Among Black children, three children, all males, committed suicide. One male and one female from other race or ethnic groups committed suicide in 2002 (Figure 9).

The number of self-inflicted injury deaths of children was nearly evenly distributed among the Northern, Southwestern, Central, and Northwestern Health Services Areas of Virginia, with 20.7% to 27.6% of the suicide deaths (Figure 10). However, the Eastern Area had far fewer suicide deaths with only two fatalities (6.9%). When observed by medical examiner district of investigation, the Central District investigated the largest percentage of suicide deaths, 44.8% or 13 deaths (Figure 11). The Northern and Western Districts investigated eight cases (27.6%) and six cases (20.7%), respectively. The Tidewater District investigated two suicide deaths (6.9%).

Figure 9. Suicide of Children Ages 0 to 17 by Sex and Race/Ethnicity Virginia, 2002 (N=29)

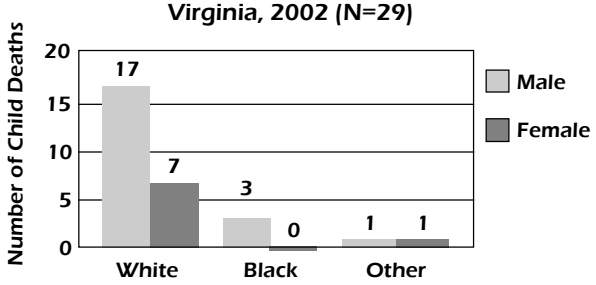


Figure 10. Suicide of Children Ages 0 to 17 by Health Services Area Virginia, 2002 (N=29)

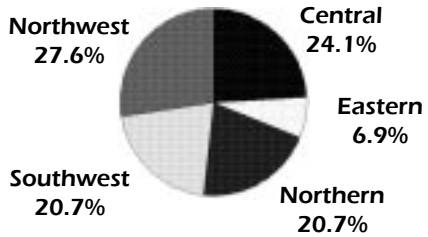
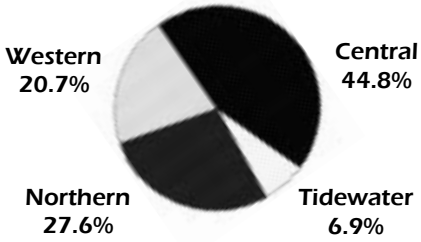


Figure 11. Suicide of Children Ages 0 to 17 by Medical Examiner District Virginia, 2002 (N=29)



Leading Mechanisms of Injury for Child Suicide:

- A firearm was used in 13 of the 29 suicide deaths (44.8%). Males committed suicide with the use of a firearm five times more frequently than females. Three firearm suicides were among children ages 10 to 14, and ten were among children ages 15 to 17.
- Hanging was the method of injury in 11 deaths (37.9%). The incidence of hanging was more frequent among males, where nine males committed suicide by hanging. In addition, the incidence of hanging was equally distributed between children ages 10 to 14 and 15 to 17 years.
- Poisoning was the method in two deaths (6.9%). Both of these self-inflicted poisonings were among females.
- Other mechanisms for self-inflicted injury deaths included two intentional falls and one vehicular crash.

4. Firearm Deaths[7]

Thirty-four children between the ages of 0 and 17 died from unintentional or intentional firearm injuries in 2002, representing 15.2% of all child injury deaths. These firearm deaths are described and portrayed in Figures 12 through17. One additional firearm death was investigated and is described in Section Two of this report.

Homicides that were carried out with the use of a firearm represent 52.9% of all firearm deaths, a total of 18 deaths. Suicide was the next leading manner of firearm death with 13 deaths accounting for 38.2% of all firearm deaths. Only three unintentional injury firearm deaths were reported, representing 8.8% of all firearm deaths.

[7] Firearm deaths are distinguished and re-analyzed here as a unique category of child injury death. These cases have already been included in the previous discussion, depending on whether the firearm death was the result of unintentional injury, homicide, or suicide.

The relationship between age of the child and manner of death for all firearm deaths is portrayed in Figure 12:

- No infants died from firearm injuries in 2002.
- Unintentional injury firearm deaths occurred more frequently to children ages 1 to 4 years than to any other age group. One unintentional injury firearm death was reported among children ages 10 to 14, and none were reported among children ages 5 to 9 and 15 to 17 years.
- At least one child from each age category died as a result of a firearm homicide in 2002. The number of firearm homicides increased sharply among adolescents and teens, where homicide was the leading manner of a firearm death.
- Suicide deaths where the mechanism of injury was a firearm were confined to adolescents and teens. Three deaths occurred among 10 to 14 year olds, and ten deaths occurred among 15 to 17 year olds.

The relationship between sex of the child and manner of death for all firearm deaths is portrayed in Figure 13:

- Males died more frequently than females from firearm deaths, a pattern that is consistent for all manners of death.
- All unintentional injury deaths were among males.

Figure 14 reveals yet another dimension of firearm deaths among children, the relationship between manner of death and racial or ethnic background of the child. These data reinforce previously observed patterns in this report:

- Homicide deaths from firearms were more frequent among Black children, with 12 deaths, compared to five deaths among White children. One child from another race or ethnicity died from a firearm homicide.
- Conversely, suicide deaths from firearms were more frequent among White children, with 11 suicide deaths, compared to two suicide deaths among Black children.
- Unintentional injury deaths reveal that two White children and one Black child died from the misuse of a firearm.

The manner of death for firearm deaths also varies by Health Services Area (Figure 15). The Eastern Area had ten firearm deaths, the largest number of all firearm deaths, followed closely by the Central Area with a total of eight deaths. In addition, the Eastern Area had the largest number of firearm homicide deaths, eight deaths, followed by the Central Area with five deaths. Suicide deaths comprised the largest number of firearm deaths in the Northwestern Area with five deaths, while no homicide or unintentional injury firearm deaths were reported in this area.

Figure 12. Firearm Deaths of Children Ages 0 to 17 by Age and Manner of Death Virginia, 2002 (N=34)

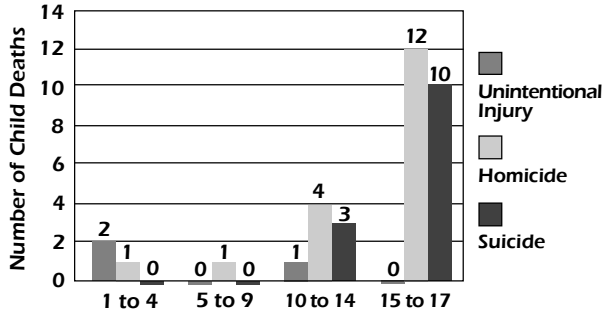


Figure 13. Firearm Deaths of Children Ages 0 to 17 by Sex and Manner of Death Virginia, 2002 (N=34)

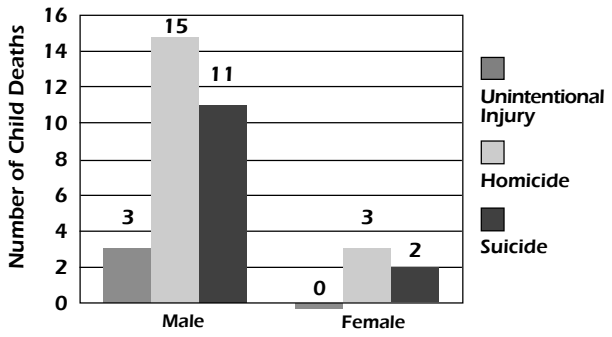
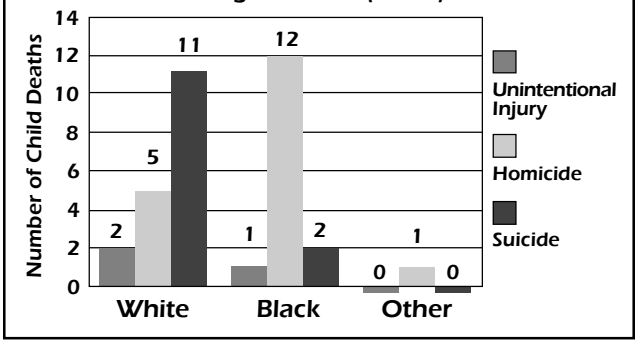


Figure 14. Firearm Deaths of Children Ages 0 to 17 by Race/Ethnicity and Manner of Death Virginia, 2002 (N=34)



These patterns are also reflected in OCME District of Investigation (Figure 16). The Central District investigated the greatest number of firearm deaths overall, 12 deaths, including the greatest number of suicide deaths. The Tidewater District investigated the largest number of homicide deaths, seven, followed closely by the Central District with six homicide deaths. The Western District investigated the most unintentional injury firearm deaths, two deaths.

A handgun was used in the majority of firearm deaths (22 or 64.7%) and was the most frequent mechanism of fatal injury across all manners of death. All three unintentional injury deaths resulted from the misuse of a handgun, while 13 homicides and six suicides resulted from the use of a handgun. All children between the ages of 1 and 9 who died from firearm injuries were fatally injured by a handgun. A shotgun was the means of fatal injury in seven deaths (20.6%), and six of the seven deaths occurred among children 15 to 17 years of age. A rifle was used in three deaths (8.8%), all among children 15 to 17 years of age (Figure 17).

Figure 15. Firearm Deaths of Children Ages 0 to 17 by Health Services Area and Manner of Death Virginia, 2002 (N=34)

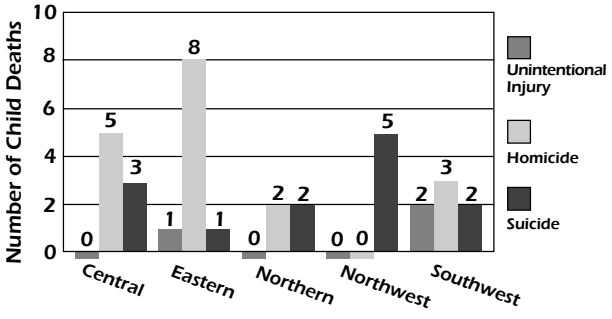


Figure 16. Firearm Deaths of Children Ages 0 to 17 by Medical Examiner District and Manner of Death Virginia, 2002 (N=34)

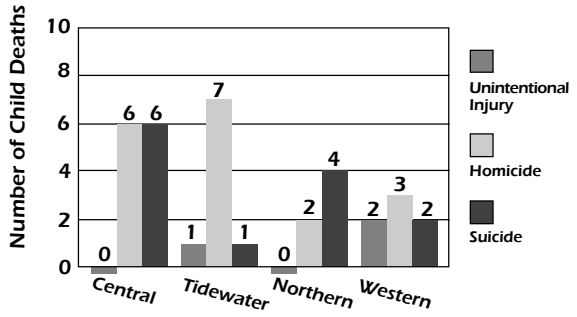
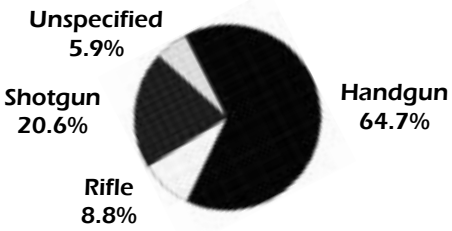


Figure 17. Firearm Deaths of Children Ages 0 to 17 by Type of Gun Used Virginia, 2002 (N=34)



SECTION II: Child Death Where Manner of Death is Undetermined

Forensic pathologists rule a death undetermined when an autopsy and a thorough death investigation do not indicate a clear and decisive manner for that death. Deaths classified as undetermined include all of the following: child deaths where the cause is unclear, such as the sudden death of an infant versus accidental asphyxia; skeletal remains with no injury to bone and unclear circumstances; and injuries where circumstances do not make clear if the manner is unintentional injury, suicide, or homicide. Manner of death was ruled undetermined in 24 child deaths in 2002. In addition:

- Both cause and manner were undetermined in nine of the 24 cases. Among other causes where manner was undetermined, children died from injuries such as fire or smoke inhalation, drowning, sudden death in infancy, and one firearm injury.
- Over half, 14 of the 24 deaths, occurred among children less than one year; and four deaths occurred among children ages 1 to 4 years.
- The number of undetermined deaths by gender was nearly evenly distributed with 13 male deaths and 11 female deaths.
- Undetermined deaths were more frequent among White children, 16 of the 24 deaths (66.7%). Seven Black children's deaths were ruled undetermined, and one death of a child from another race or ethnic background was ruled undetermined.
- The largest number of undetermined cases, ten of the 24 (41.7%), was in the Central Health Services Area. Six cases were in the Eastern Area, three

in the Northern Area, three in the Northwest Area, and two in the Southwest Area.

- With regard to OCME District, the Central District investigated 13 undetermined child death cases (54.2%), while the Northern District had five cases, the Tidewater District had four cases, and the Western District had two cases.

SECTION III: Natural Death[8]

While violent and unexpected child deaths are routinely investigated by the Office of the Chief Medical Examiner, most Virginia children died from natural causes in 2002. A total of 863 natural deaths of children were recorded in Virginia in 2002.[9] This section of the report provides information about these child deaths.[10]

When observing the age distribution for the 863 cases of natural child death, there is a clear preponderance of natural deaths among infants and a comparative rarity of death from natural causes among children after infancy (Figure 18). Eight of every ten natural deaths of children (690 or 80.0%) were deaths of infants. Males generally died from natural causes more frequently than females, and this difference was more pronounced among White children than among Blacks and Others. In addition, the number of natural deaths among White children was 470 (54.5%), while the number of deaths among Black children was 358 (41.4%) and among children of other race or ethnicities was 35 (4.1%) (Figure 19). Roughly one-third, 285, of the natural deaths occurred in the Eastern Health Services Area, while 168 occurred in the Central Area, 160 in the Northern Area, 140 in the Southwest Area, and 110 in the Northwest Area. (Figure 20).

Leading Causes of Natural Death. Table 1 provides a breakdown of leading causes of natural death organized by age group. Looking down the infant column shows that 384 of 690 infants (55.7%) died from conditions originating in the perinatal period.

Figure 18. Natural Deaths of Children Ages 0 to 17 by Age Group, Virginia, 2002 (N=863)

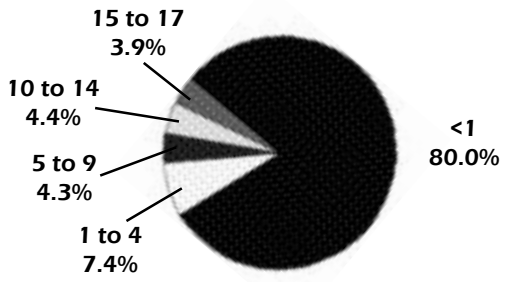
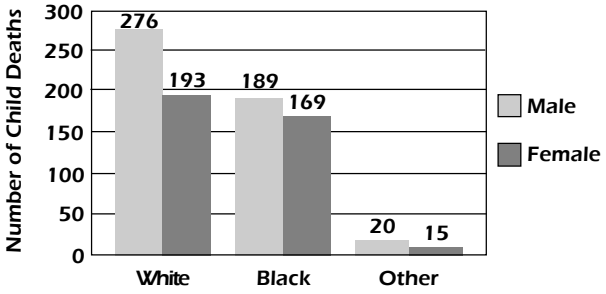
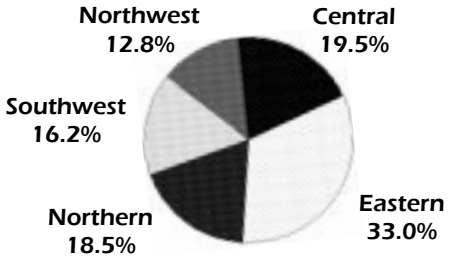


Figure 19. Natural Deaths of Children Ages 0 to 17 by Sex and Race/Ethnicity Virginia, 2002 (N=862)*



*The sex of a child was not reported for one case.

Figure 20. Natural Deaths of Children Ages 0 to 17 by Health Services Area Virginia, 2002 (N=863)



An additional 127 infants (18.4%) died from congenital anomalies. Seventy-one infants (10.3%) died from Sudden Infant Death Syndrome (SIDS). Eighteen infants (2.6%) died from infectious or parasitic diseases, 14 (2.0%) each from diseases of the circulatory or nervous systems, and 12 (1.7%) each from diseases of the respiratory or digestive systems.

[8] Appendix I summarizes the information presented in this section in table format. Rates of child death are also provided.

[9] In general, the information presented here was provided by The Virginia Center for Health Statistics. However, details about Sudden Infant Death Syndrome (SIDS) cases came from the Management Information System of the Office of the Chief Medical Examiner. Virginia law mandates that all suspected SIDS deaths be thoroughly investigated by the OCME.

[10] The Office of the Chief Medical Examiner investigated 137 of the 863 natural child deaths (15.9%). Of the 137 natural deaths investigated, 71 cases (51.8%) were attributed to Sudden Infant Death Syndrome (SIDS) and 66 deaths (48.2%) were attributed to other natural causes. These deaths are described within the portrait of all natural child deaths in this section.

TABLE 1.
LEADING CAUSES OF NATURAL CHILD DEATH BY AGE GROUP: VIRGINIA, 2002 (N=863)

<1 N=690	1-4 YEAR OLDS N=64	5-9 YEAR OLDS N=37	10-14 YEAR OLDS N=38	15-17 YEAR OLDS N=34
Conditions Originating in the Perinatal Period* (384)**	Congenital Anomalies (17)	Congenital Anomalies (7)	Congenital Anomalies (7)	Diseases of the Circulatory System (8)
Congenital Anomalies (127)	Diseases of the Respiratory System (13)	Neoplasms (6)	Infectious and Parasitic Diseases (7)	Diseases of the Nervous System and Sense Organs (6)
Sudden Infant Death Syndrome (71)	Neoplasms (12)	Diseases of the Nervous System and Sense Organs (5)	Diseases of the Circulatory System (6)	Neoplasms (5)
Infectious and Parasitic Diseases (18)	Diseases of the Nervous System and Sense Organs (6)	Infectious and Parasitic Diseases (4)	Neoplasms (5)	Infectious and Parasitic Diseases (4)
Diseases of the Circulatory System (14)	Infectious and Parasitic Diseases (4)	Diseases of the Respiratory System (4)	Diseases of the Respiratory System (4)	Diseases of the Blood (3)
Diseases of the Nervous System and Sense Organs (14)	Diseases of the Circulatory System (4)	Endocrine, Nutritional, and Metabolic Diseases (4)	Diseases of the Nervous System and Sense Organs (4)	
Diseases of the Respiratory System (12)				
Diseases of the Digestive System(12)				
Endocrine, Nutritional, and Metabolic Diseases (7)				
Neoplasms (3)				
Diseases of the Genitourinary System (3)				
All Other Natural Causes (25)***	All Other Natural Causes (8)	All Other Natural Causes (7)	All Other Natural Causes (5)	All Other Natural Causes (8)

* In this table, the perinatal perid extends from 28 weeks gestation to seven days after birth.

** Numbers in parentheses represent the number of deaths in that category.

*** Cause of death is not distinguished when the number of children who died from that is cause is less than three.

The number of children dying from natural causes drops dramatically after the first year of life. The precise causes of death also change as observed by glancing down and across the columns of Table 1. For example:

- Child death due to congenital anomalies appeared among the leading causes of death for children ages 14 and younger.
- The percentage of deaths attributable to infectious and parasitic diseases increased across age groups from 2.6% of the deaths among infants to 18.4% of the deaths among 10 to 14 year olds, before decreasing to 11.8% of the deaths among children ages 15 to 17.
- Child death from neoplasms appeared among the leading causes of death for every age group after infancy. The percentage of deaths attributable to neoplasms was 0.4% among infants, 18.8% among children ages 1 to 4, 16.2% among children ages 5 to 9, 13.2% among children ages 10 to 14, and 14.7% among children ages 15 to 17.
- Diseases of the circulatory system were the leading cause of child death among 15 to 17 year olds, accounting for 23.5% of all deaths in this age group. The percentage of circulatory system deaths increased from 2.0% among infants to 6.3% among children ages 1 to 4 and they accounted for 15.8% of the deaths among children ages 10 to 14.
- Diseases of the nervous system and sense organs were also a leading cause of death that increased after infancy. Two percent of these deaths were among infants, 9.4% were among children ages 1 to 4, 13.5% were among children ages 5 to 9, 10.5% were among children ages 10 to 14, and 17.6% were among children ages 15 to 17.

Infant Mortality Rates[11]

One way of exploring risk of infant death is by calculating an infant mortality rate. Table 2 provides infant mortality rates for 2002 natural deaths of infants, broken down by sex and race or ethnic background of the child, by Perinatal Region, and by Health Services Area.

The overall rate of infant mortality for Virginia's infants in 2002 was 6.95 per 1,000 live births. The risk of death among males (7.82) was slightly greater than that among females (6.03). Organized by race or ethnic background of the child, infant mortality rates reveal a clear race disparity. The risk of death among Black infants (13.83) was nearly three times that for White infants (5.26). A glance at infant mortality rates by Perinatal Region and by Health Services Area shows the highest infant mortality rates in the Eastern, Central, and South Central communities of the state and the lowest infant mortality rates in the Northern Virginia communities.

Natural Death from Sudden Infant Death Syndrome. The deaths of 71 Virginia infants were attributed to Sudden Infant Death Syndrome (SIDS) in 2002. Each of these deaths was investigated by the Office of the Chief Medical Examiner.

In 2002, the number of days lived ranged from 14 to 243 days, with an average of 90 days

TABLE 2.
INFANT MORTALITY RATES FOR NATURAL DEATHS (PER 1,000): VIRGINIA, 2002

	Natural Deaths	Live Births	Infant Mortality Rate
TOTALS	**690**	**99,235**	**6.95**
Sex*			
Male	395	50,488	7.82
Female	294	48,746	6.03
Race/Ethnicity			
White	361	68,658	5.26
Black	302	21,834	13.83
Other	27	8,743	3.09
Perinatal Region			
Southwest Virginia	24	3,384	7.09
Blue Ridge	46	6,780	6.78
South Central	39	4,606	8.47
Skyline Region	58	9,844	5.89
No.Va. Healthy Mothers, Healthy Babies Coalition	123	30,831	3.99
Central Commonwealth	176	20,632	8.53
Eastern Virginia	224	23,158	9.67
Health Services Area			
Central	147	15,952	9.22
Eastern	235	24,718	9.51
Northern	84	13,725	6.12
Northwest	123	30,831	3.99
Southwest	101	14,009	7.21

* The sex of a child was not reported for one case.

[11] The Infant Mortality Rate is calculated in the following way: the number of deaths for a specified time period divided by the number of live births for the same time period. The product is then multiplied by a constant, such as 100 or 1,000. Infant mortality rates in this report are multiplied by 1,000 and represent the risk of infant death per 1,000 live births.

and a median of 79 days, or approximately three months. Males and females died from SIDS with nearly equal frequencies, where 37 males and 34 females died (Figure 21). Organized by race and ethnicity, 22 White males and 22 White females died from SIDS, while 13 Black males and 12 Black females died. Among children from other race/ethnic groups, two males and no females died of SIDS. White infants accounted for 62.0% of all SIDS deaths, Black infants accounted for 35.2%, and infants of other race/ethnicities accounted for 2.8%. However, Black infants have nearly double the rate of SIDS deaths, 1.14 per 1,000 live births, compared to White infants, 0.64 per 1,000 live births, and nearly 5 times the rate compared to infants of other race/ethnicities, 0.23 per 1,000 live births.

In terms of geographic location, the largest number of SIDS deaths, 23, occurred in the Central Health Services Area, while 20 deaths occurred in the Eastern Area (Figure 22). Among medical examiner districts, the greatest number of SIDS deaths, 27, was investigated by the Central District. Eighteen cases were investigated by the Tidewater District, 18 cases by the Northern District, and eight cases by the Western District (Figure 23).

Figure 24 shows the distribution of SIDS deaths by the month of the child's death. The number of SIDS deaths by month ranged from three to nine, with a median of six cases over the year; however, no clear pattern emerged. The number of SIDS deaths for 2002 was highest in March (8 deaths), June (9 deaths), and November (8 deaths) and was lowest in April (3 deaths).

Figure 21. Sudden Infant Death Syndrome Deaths by Sex and Race/Ethnicity Virginia, 2002 (N=71)

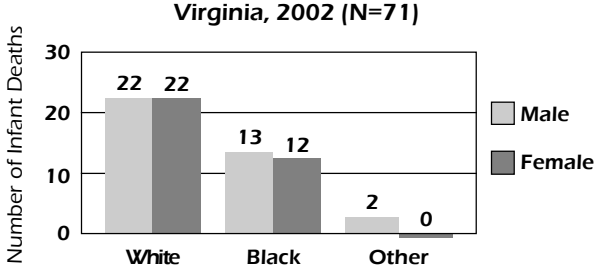


Figure 22. Sudden Infant Death Syndrome Deaths by Health Services Area Virginia, 2002 (N=71)

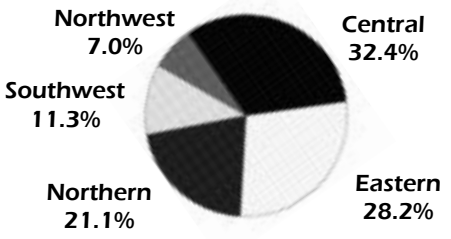


Figure 23. Sudden Infant Death Syndrome Deaths by Medical Examiner District Virginia, 2002 (N=71)

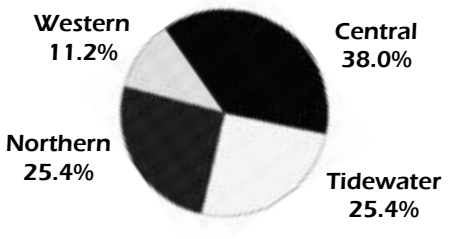
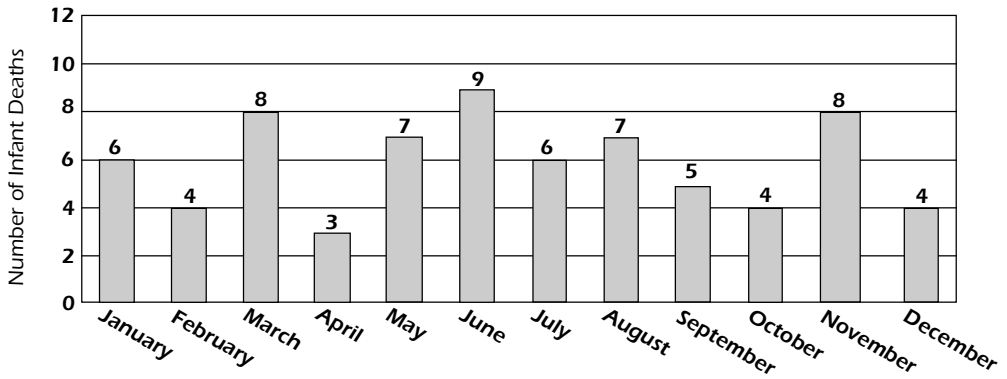


Figure 24. Sudden Infant Death Syndrome Deaths by Month of Death Virginia, 2002 (N=71)



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.)

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.[1] 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.

[1] 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.)

Local & Regional Child Fatality Review Teams in Virginia

The investigation and prevention of childhood fatalities are responsibilities shared by the community and agencies that serve those communities. Local and regional 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.

1. Fairfax County Child Fatality Prevention Team

Contact person: Jim Pope — jpope2@co.fairfax.va.us

Background and Review Process. 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.

2. Hampton Roads Child Fatality Review Team

Contact person: Gail Heath — gail.health@dss.virginia.gov

Background and Purpose. The Hampton Roads Regional Child Fatality Review Team began in August 1994. A meeting was convened by the Hampton Roads Committee to Prevent Child Abuse and Children's Hospital of The King's Daughters (CHKD) 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, Greensville, Isle of Wight, James City, Northampton, Surry, Sussex, Southampton, and York-Poquoson.

The Team is comprised of a core group of members representing various related professions and localities. The Regional Child Protective Services Coordinator currently chairs the Team and a social service representative from each locality serves as a designated member. An Assistant Chief Medical Examiner is also a core Team member. Other attendees represent the medical community, law enforcement, the legal community, and child advocacy groups. With each review, additional people from the locality of the death join the Team to examine the case.

The purpose of the Team is to accurately identify and document the causes of child death, to collect uniform and accurate statistics on child death, to coordinate efforts among participating agencies, to identify circumstances surrounding deaths that could be prevented in the future, to improve criminal investigation and prosecution of child abuse homicides, todesign and implement cooperative protocols for investigation of certain categories of child death, to improve communication among agencies, to provide a safe, confidential forum for agency representatives to talk with each other and resolve conflicts among the agencies, to generate needed changes in legislation, policy and practice and to identify public health issues and recommendations.

Review Process. The Hampton Roads Child Fatality Review Team currently reviews cases of child death that have been investigated by local social service agencies. Some of the cases reviewed are determined unfounded, meaning that the death did not occur as a result of caretaker abuse or neglect. By law, proceedings of the individual reviews are confidential and the information compiled as a result of the work of the Team can be made public only in the form of statistics which contain no personal identifying information.

APPENDIX D

Highlights from the Team's Recent Report. There were thirteen child deaths in Hampton Roads caused by the abuse or neglect of a caretaker in FY 2002 (July 1, 2001 to June 30, 2002).

- Nearly half, 45%, of Virginia's abuse and neglect fatalities occurred in Hampton Roads. Last year 34% of the state's fatalities were in Hampton Roads.
- The overall number of fatalities due to abuse or neglect in the region increased from ten in FY 2001.
- The number of *founded* fatalities due to neglect continues to increase in the region. This year, eight of the thirteen deaths, 62%, were founded for neglect.
- Five children who died had not reached their first birthday, and ten of the thirteen children were age three or under.
- Eight of the thirteen victims were males.
- More than one-third of the thirteen children had previous injuries documented by autopsy.
- Six of the founded caretakers had a previous child abuse complaint. Three caretakers had criminal convictions for violent crimes.
- Two newborns were abandoned.
- The Team reviewed ten additional cases which were *unfounded* cases for child abuse or neglect. Four of these deaths occurred to infants six months of age or younger who were sleeping in high risk sleeping environments.
- Many child deaths are preventable. There should be an ongoing effort in Hampton Roads focused on reducing the number of child fatalities in the region.
- The Team noted two trends of potential significance to the Hampton Roads area with regard to child death. First, the Team is currently seeing an increase in the number of abandoned infants in the region. This trend will significantly impact its report for FY 2003. Second, the number of children killed intentionally by their caretakers is also increasing. The abusers in these cases seem to have profound mental health problems; some committed suicide after murdering their children.

Team Activities. As a result of the case reviews and findings, the Team has made recommendations and initiated programs and projects to help prevent future fatalities.

The Team has continued to improve record keeping and has recommended better processes to facilitate communications between the various agencies in order to enhance the collection of more complete, timely, and legally relevant information. A current project of the Team is the development of suggested best practice protocols for the investigation of child fatalities. Data collection methodology is being revised to generate more detailed information and to be part of other similar state data collection projects.

Many new strategies to better educate parents and the public regarding child safety and health and child development issues have been explored and implemented. Because of the high percentage of deaths and children left in vegetative or disabled states from being shaken, an ongoing Shaken Baby Awareness Campaign has been instituted. Videos have been purchased and placed in physician's offices, departments of social services, hospitals, and libraries to help people understand the seriousness of this type of injury. Members of the Team have participated in prevention trainings on the national, state and local levels. Co-sleeping dangers are also a Team educational priority and a number of Team agencies have been working to get these messages out to their clients as well as the public at large. The Children's Hospital of The King's Daughters has developed and

distributed a series of informational cards for caretakers that address a number of child safety concerns identified by the Team. CHKD sponsors programs and publishes information for both parents and professionals aimed at preventing child fatalities.

Collaboration with a number of community groups and agencies such as CHKD, the United States Navy, Healthy Families Hampton Roads, Child Abuse Prevention Services, the Child Abuse Program at CHKD, the Suburban Junior Woman's Club, Chesapeake General Hospital, KidsPriorityOne and Prevent Child Abuse Hampton Roads have helped to enhance the Team's prevention efforts.

Child fatalities from abuse or neglect are preventable and Team members are involved in on-going efforts to raise community awareness about the issues and make everyone a partner in prevention. Team members regularly conduct lectures and trainings for professionals, parents, and other community members.

3. Piedmont Region Child Fatality Review Team

Contact persons: Teresa Biggs — teresa.biggs@dss.virginia.gov
Janice Dinkins Davidson — mail@preventchildabuseroanoke.org

Background and Purpose. 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. Until recently, the Team served the geographic area corresponding to Region Six of the Virginia Department of Social Services, which included 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.

Review Process. Cases for review are limited to deaths among children under the age of 18, residents of the Piedmont region, and those deaths investigated by the medical examiner. Initially, reviews were not conducted on deaths due to motor vehicle accidents, but these are now included for review. Retrospective reviews are conducted on deaths that occurred in the previous quarter. Local social service and law enforcement representatives attend meetings and present information when appropriate. A desktop review is conducted utilizing information gathered from human services agencies and other sources. Team members review and discuss the cases, consider the cause and manner of each death, and then focus on possible prevention methods.

Findings. The Piedmont Regional Child Fatality Review Team reviewed 209 childhood deaths between November 1994 and June 2002. Basic descriptive data regarding these deaths include the following:

- Males died more frequently than females; during the review period, 127 males and 73 females died. Sex was not reported in 9 cases.
- White children died in higher numbers than Black children or children from other race backgrounds. A total of 129 White children's deaths were reviewed, compared with 59 Black children, and six children from other races. Race was unknown or not reported in 15 cases.
- With regard to age, infants (55) and teenagers aged 15 to 17 (71) were the most common ages among child deaths reviewed.
- There was a clear relationship between age of the child and cause of death. Sudden Infant Death Syndrome (SIDS) was the most common cause of death among infant cases reviewed by the Team. Among 1 to 5 year olds, two main causes of death predominated: motor vehicle accidents and fire deaths. Motor vehicle accidents were the most frequent cause of death among all other age groups.

APPENDIX D

Team Activities. The Piedmont Regional Child Fatality Team develops a work plan each year based on findings from previous reviews. The first work plan focused on community education regarding SIDS and training for law enforcement related to investigation of fatalities involving child abuse or neglect. Team members have served as trainers and educators on these topics for professionals and the community. Current plans include training for team members to enhance their ability to review cases. Future work plans include improving public awareness through outreach to community agencies and media coverage through public service announcements. The information will focus on safety issues for the prevention of injury and the protection of children.

New Challenges and Opportunities. The Team currently faces a new challenge due to a restructuring of service areas within the Virginia Department of Social Services. The geographical area now covered by the Team has grown considerably. As a result, the Team will review child deaths in the following cities and counties in Virginia: Alleghany, Amherst, Appomattox, Bath, Bedford, Bland, Botetourt, Bristol, Buchanan, Buckingham, Campbell, Covington, Clifton Forge, Carroll, Craig, Danville, Dickenson, Floyd, Franklin County, Galax, Giles, Grayson, Halifax, Henry, Lee, Martinsville, Lexington, Lynchburg, Montgomery, Norton, Patrick, Pittsylvania, Pulaski, Radford, Roanoke City, Roanoke County, Rockbridge, Buena Vista, Russell, Scott, Smyth, Tazewell, Washington, Wise and Wythe. This new area provides for participation by approximately 40 local social services agencies and other community-based groups with an interest in child injury prevention.

The Piedmont Regional Child Fatality Review Team will change its review process to accommodate this new area. Representatives from local social services agencies, law enforcement, local health departments and other organizations interested in child protection and safety will be invited to attend Team meetings. At these quarterly meetings, the Team will focus on a specific category of child death, such as those attributed to Sudden Infant Death Syndrome (SIDS), motor vehicle crashes, or fire-related injuries. Staff members in the Roanoke Office of the Chief Medical Examiner will lead discussions and offer educational information about the circumstances of child death. Janice Dinkins Davidson, Executive Director of the Children's Advocacy Center of the Roanoke Valley, Inc. will provide administrative services, including volunteers, to support the efforts of the Team. Teresa Biggs, Family Services Program Consultant for the Virginia Department of Social Services, will offer administrative and case management oversight to the Team.

Virginia Localities, Listed by Health Services Area, Medical Examiner District, and Perinatal Region

VIRGINIA COUNTIES

LOCALITY NAME	HEALTH SERVICES AREA (HSA)	MEDICAL EXAMINER DISTRICT (OCME)	PERINATAL REGION
Accomack	Eastern	Tidewater	Eastern Virginia
Albemarle	Northwest	Central	Skyline Region
Alleghany	Southwest	Western	Blue Ridge
Amelia	Central	Central	Central Commonwealth
Amherst	Southwest	Western	South Central
Appomattox	Southwest	Western	South Central
Arlington	Northern	Northern	No. Va. Healthy Mothers, Healthy Babies Coalition
Augusta	Northwest	Western	Skyline Region
Bath	Northwest	Western	Skyline Region
Bedford	Southwest	Western	South Central
Bland	Southwest	Western	Blue Ridge
Botetourt	Southwest	Western	Blue Ridge
Brunswick	Central	Central	Central Commonwealth
Buchanan	Southwest	Western	Southwest Virginia
Buckingham	Central	Central	Skyline Region
Campbell	Southwest	Western	South Central
Caroline	Northwest	Central	Central Commonwealth
Carroll	Southwest	Western	Blue Ridge
Charles City	Central	Central	Central Commonwealth
Charlotte	Central	Central	South Central
Chesterfield	Central	Central	Central Commonwealth
Clarke	Northwest	Northern	Skyline Region
Craig	Southwest	Western	Blue Ridge
Culpeper	Northwest	Northern	Skyline Region
Cumberland	Central	Central	Central Commonwealth
Dickenson	Southwest	Western	Southwest Virginia
Dinwiddie	Central	Central	Central Commonwealth
Essex	Eastern	Central	Central Commonwealth
Fairfax	Northern	Northern	No. Va. Healthy Mothers, Healthy Babies Coalition
Fauquier	Northwest	Northern	Skyline Region
Floyd	Southwest	Western	Blue Ridge
Fluvanna	Northwest	Central	Skyline Region
Franklin	Southwest	Western	Blue Ridge
Frederick	Northwest	Northern	Skyline Region
Giles	Southwest	Western	Blue Ridge
Gloucester	Eastern	Central	Eastern Virginia
Goochland	Central	Central	Central Commonwealth
Grayson	Southwest	Western	Southwest Virginia
Greene	Northwest	Central	Skyline Region
Greensville	Central	Central	Central Commonwealth
Halifax	Central	Central	South Central
Hanover	Central	Central	Central Commonwealth
Henrico	Central	Central	Central Commonwealth
Henry	Southwest	Western	South Central
Highland	Northwest	Western	Skyline Region
Isle of Wight	Eastern	Tidewater	Eastern Virginia
James City	Eastern	Central	Central Commonwealth
King and Queen	Eastern	Central	Central Commonwealth

APPENDIX E

Virginia Localities, Listed by Health Services Area, Medical Examiner District, and Perinatal Region

VIRGINIA COUNTIES

LOCALITY NAME	HEALTH SERVICES AREA (HSA)	MEDICAL EXAMINER DISTRICT (OCME)	PERINATAL REGION
King George	Northwest	Central	Central Commonwealth
King William	Eastern	Central	Central Commonwealth
Lancaster	Eastern	Central	Central Commonwealth
Lee	Southwest	Western	Southwest Virginia
Loudoun	Northern	Northern	No. Va. Healthy Mothers, Healthy Babies Coalition
Louisa	Northwest	Central	Skyline Region
Lunenburg	Central	Central	Central Commonwealth
Madison	Northwest	Northern	Skyline Region
Mathews	Eastern	Central	Eastern Virginia
Mecklenburg	Central	Central	Central Commonwealth
Middlesex	Eastern	Central	Central Commonwealth
Montgomery	Southwest	Western	Blue Ridge
Nelson	Northwest	Central	Skyline Region
New Kent	Central	Central	Central Commonwealth
Northampton	Eastern	Tidewater	Eastern Virginia
Northumberland	Eastern	Central	Central Commonwealth
Nottoway	Central	Central	Central Commonwealth
Orange	Northwest	Northern	Skyline Region
Page	Northwest	Northern	Skyline Region
Patrick	Southwest	Western	Blue Ridge
Pittsylvania	Southwest	Western	South Central
Powhatan	Central	Central	Central Commonwealth
Prince Edward	Central	Central	South Central
Prince George	Central	Central	Central Commonwealth
Prince William	Northern	Northern	No. Va. Healthy Mothers, Healthy Babies Coalition
Pulaski	Southwest	Western	Blue Ridge
Rappahannock	Northwest	Northern	Skyline Region
Richmond	Eastern	Central	Central Commonwealth
Roanoke	Southwest	Western	Blue Ridge
Rockbridge	Northwest	Western	Skyline Region
Rockingham	Northwest	Western	Skyline Region
Russell	Southwest	Western	Southwest Virginia
Scott	Southwest	Western	Southwest Virginia
Shenandoah	Northwest	Northern	Skyline Region
Smyth	Southwest	Western	Southwest Virginia
Southampton	Eastern	Tidewater	Eastern Virginia
Spotsylvania	Northwest	Central	Central Commonwealth
Stafford	Northwest	Central	Central Commonwealth
Surry	Central	Central	Central Commonwealth
Sussex	Central	Central	Central Commonwealth
Tazewell	Southwest	Western	Southwest Virginia
Warren	Northwest	Northern	Skyline Region
Washington	Southwest	Western	Southwest Virginia
Westmoreland	Eastern	Central	Central Commonwealth
Wise	Southwest	Western	Southwest Virginia
Wythe	Southwest	Western	Blue Ridge
York	Eastern	Tidewater	Eastern Virginia

APPENDIX E

Virginia Localities, Listed by Health Services Area, Medical Examiner District, and Perinatal Region

VIRGINIA CITIES AND TOWNS

LOCALITY NAME	HEALTH SERVICES AREA (HSA)	MEDICAL EXAMINER DISTRICT (OCME)	PERINATAL REGION
Alexandria	Northern	Northern	No. Va. Healthy Mothers, Healthy Babies Coalition
Bedford City	Southwest	Western	South Central
Bristol	Southwest	Western	Southwest Virginia
Buena Vista	Northwest	Western	Skyline Region
Charlottesville	Northwest	Central	Skyline Region
Chesapeake	Eastern	Tidewater	Eastern Virginia
Clifton Forge	Southwest	Western	Blue Ridge
Colonial Heights	Central	Central	Central Commonwealth
Covington	Southwest	Western	Blue Ridge
Danville	Southwest	Western	South Central
Emporia	Central	Central	Central Commonwealth
Fairfax City	Northern	Northern	No. Va. Healthy Mothers, Healthy Babies Coalition
Falls Church	Northern	Northern	No. Va. Healthy Mothers, Healthy Babies Coalition
Franklin City	Eastern	Tidewater	Eastern Virginia
Fredericksburg	Northwest	Central	Central Commonwealth
Galax	Southwest	Western	Blue Ridge
Hampton	Eastern	Tidewater	Eastern Virginia
Harrisonburg	Northwest	Western	Skyline Region
Hopewell	Central	Central	Central Commonwealth
Lexington	Northwest	Western	Skyline Region
Lynchburg	Southwest	Western	South Central
Manassas	Northern	Northern	No. Va. Healthy Mothers, Healthy Babies Coalition
Manassas Park	Northern	Northern	No. Va. Healthy Mothers, Healthy Babies Coalition
Martinsville	Southwest	Western	Blue Ridge
Newport News	Eastern	Tidewater	Eastern Virginia
Norfolk	Eastern	Tidewater	Eastern Virginia
Norton	Southwest	Western	Southwest Virginia
Petersburg	Central	Central	Central Commonwealth
Poquoson	Eastern	Tidewater	Eastern Virginia
Portsmouth	Eastern	Tidewater	Eastern Virginia
Radford	Southwest	Western	Blue Ridge
Richmond City	Central	Central	Central Commonwealth
Roanoke City	Southwest	Western	Blue Ridge
Salem	Southwest	Western	Blue Ridge
South Boston	Central	Central	South Central
Staunton	Northwest	Western	Skyline Region
Suffolk	Eastern	Tidewater	Eastern Virginia
Virginia Beach	Eastern	Tidewater	Eastern Virginia
Waynesboro	Northwest	Western	Skyline Region
Williamsburg	Eastern	Central	Central Commonwealth
Winchester	Northwest	Northern	Skyline Region

APPENDIX F

Unintentional Injury Deaths of Children Ages 0 to17: Virginia, 2002

	Number[1]	Percentage	Population Estimate[2]	Rate[3]
TOTAL	**156**	**100%**	**1,779,387**	**8.77**
Sex				
Male	107	68.6	909,112	11.77
Female	49	31.4	870,275	5.63
Age				
<1	14	9.0	101,135	13.84
1 - 4	24	15.4	384,213	6.25
5 - 9	18	11.5	482,119	3.73
10 - 14	29	18.6	514,773	5.63
15 - 17	71	45.5	297,147	23.89
Race/Ethnicity[4]				
White	100	64.1	1,176,592	8.50
Black	39	25.0	435,988	8.95
Other	17	10.9	220,187	7.72
Race/Ethnicity and Sex[4]				
White				
Male	67	42.9	603,541	11.10
Female	33	21.2	573,051	5.76
Black				
Male	27	17.3	220,264	12.26
Female	12	7.7	215,724	5.56
Other				
Male	13	8.3	112,093	11.60
Female	4	2.6	108,094	3.70
Health Services Area*				
Central	23	15.0	303,728	7.57
Eastern	39	25.5	453,282	8.60
Northern	28	18.3	484,368	5.78
Northwest	23	15.0	257,809	8.92
Southwest	40	26.2	280,200	14.28
Medical Examiner District				
Central	47	30.1	466,779	10.07
Northern	35	22.5	565,345	6.19
Tidewater	27	17.3	411,325	6.56
Western	47	30.1	335,938	13.99

* Health Services Area was not reported in three cases. Percents are calculated based on N=153.

[1] Data source: Management Information System, Office of the Chief Medical Examiner, Virginia Department of Health.
[2] Data source: United States Bureau of the Census, 2002 Population Estimates.
[3] All rates are calculated per 100,000 persons in the population.
[4] Population Estimates for Race/Ethnicity as well as Race/Ethnicity and Sex do not sum to National Estimates due to controlled rounding.

Homicide of Children Ages 0 to17: Virginia, 2002

	Number[1]	Percentage	Population Estimate[2]	Rate[3]
TOTAL	**39**	**100%**	**1,779,387**	**2.19**
Sex				
Male	25	64.1	909,112	2.75
Female	14	35.9	870,275	1.61
Age				
<1	9	23.1	101,135	8.90
1 - 4	8	20.5	384,213	2.08
5 - 9	3	7.7	482,119	0.62
10 - 14	5	12.8	514,773	0.97
15 - 17	14	35.9	297,147	4.71
Race/Ethnicity[4]				
White	10	25.6	1,176,592	0.85
Black	28	71.8	435,988	6.42
Other	1	2.6	220,187	0.45
Race/Ethnicity and Sex[4]				
White				
Male	7	17.9	603,541	1.16
Female	3	7.7	573,051	0.52
Black				
Male	17	43.6	220,264	7.72
Female	11	28.2	215,724	5.10
Other				
Male	1	2.6	112,093	0.89
Female	0	0.0	108,094	0.00
Health Services Area				
Central	8	20.5	303,728	2.63
Eastern	20	51.3	453,282	4.41
Northern	3	7.7	484,368	0.62
Northwest	2	5.1	257,809	0.78
Southwest	6	15.4	280,200	2.14
Medical Examiner District				
Central	12	30.8	466,779	2.57
Northern	3	7.7	565,345	0.53
Tidewater	18	46.1	411,325	4.38
Western	6	15.4	335,938	1.79

[1] Data source: Management Information System, Office of the Chief Medical Examiner, Virginia Department of Health.
[2] Data source: United States Bureau of the Census, 2002 Population Estimates.
[3] All rates are calculated per 100,000 persons in the population.
[4] Population Estimates for Race/Ethnicity as well as Race/Ethnicity and Sex do not sum to National Estimates due to controlled rounding.

APPENDIX H

Suicide of Children Ages 0 to17: Virginia, 2002

	Number[1]	Percentage	Population Estimate[2]	Rate[3]
TOTAL	**29**	**100%**	**1,779,387**	**1.63**
Sex				
Male	21	72.4	909,112	2.31
Female	8	27.6	870,275	0.92
Age				
<1	0	0.0	101,135	0.00
1 - 4	0	0.0	384,213	0.00
5 - 9	0	0.0	482,119	0.00
10 - 14	10	34.5	514,773	1.94
15 - 17	19	65.5	297,147	6.39
Race/Ethnicity[4]				
White	24	82.8	1,176,592	2.04
Black	3	10.3	435,988	0.69
Other	2	6.9	220,187	0.91
Race/Ethnicity and Sex[4]				
White				
Male	17	58.6	603,541	2.82
Female	7	24.1	573,051	1.22
Black				
Male	3	10.3	220,264	1.36
Female	0	0.0	215,724	0.00
Other				
Male	1	3.5	112,093	0.89
Female	1	3.5	108,094	0.93
Health Services Area				
Central	7	24.1	303,728	2.30
Eastern	2	6.9	453,282	0.44
Northern	6	20.7	484,368	1.24
Northwest	8	27.6	257,809	3.10
Southwest	6	20.7	280,200	2.14
Medical Examiner District				
Central	13	44.8	466,779	2.79
Northern	8	27.6	565,345	1.42
Tidewater	2	6.9	411,325	0.49
Western	6	20.7	335,938	1.79

[1] Data source: Management Information System, Office of the Chief Medical Examiner, Virginia Department of Health.
[2] Data source: United States Bureau of the Census, 2002 Population Estimates.
[3] All rates are calculated per 100,000 persons in the population.
[4] Population Estimates for Race/Ethnicity as well as Race/Ethnicity and Sex do not sum to National Estimates due to controlled rounding.

Natural Deaths of Children Ages 0 to17: Virginia, 2002

	Number[1]	Percentage	Population Estimate[2]	Rate[3]
TOTAL	**863**	**100%**	**1,779,387**	**48.49**
Sex*				
Male	485	56.3	909,112	53.35
Female	377	43.7	870,275	43.32
Age				
<1	690	80.0	101,135	682.26
1 - 4	64	7.4	384,213	16.66
5 - 9	37	4.3	482,119	7.67
10 - 14	38	4.4	514,773	7.38
15 - 17	34	3.9	297,147	11.44
Race/Ethnicity[4]				
White	470	54.5	1,176,592	39.95
Black	358	41.4	435,988	82.11
Other	35	4.1	220,187	15.90
Race/Ethnicity and Sex[4]*				
White				
Male	276	32.0	603,541	45.73
Female	193	22.4	573,051	33.68
Black				
Male	189	21.9	220,264	85.81
Female	169	19.6	215,724	78.34
Other				
Male	20	2.3	112,093	17.84
Female	15	1.8	108,094	13.88
Health Services Area				
Central	168	19.5	303,728	55.31
Eastern	285	33.0	453,282	62.87
Northern	160	18.5	484,368	33.03
Northwest	110	12.8	257,809	42.67
Southwest	140	16.2	280,200	49.96

* The sex of one child was not reported. Percents are calculated based on N=862

[1] Data source: Virginia Center for Health Statistics and the Management Information System, Office of the Chief Medical Examiner, Virginia Department of Health.

[2] Data source: United States Bureau of the Census, 2002 Population Estimates.

[3] All rates are calculated per 100,000 persons in the population.

[4] Population Estimates for Race/Ethnicity as well as Race/Ethnicity and Sex do not sum to National Estimates due to controlled rounding.

APPENDIX J

Child Protective Services Cases: Fatalities Due to Abuse or Neglect

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 2002, CPS ruled that 27 children died as a result of abuse or neglect; these are also called founded cases of child abuse or neglect.

The distinguishing feature of a CPS fatality is that the death occurred either: (1) at the hands of a parent or caretaker, child abuse; or (2) because the parent or caretaker failed to provide adequate supervision or medical attention for the child, child neglect. Preliminary analysis of the 27 fatalities investigated by CPS in 2002 indicates that 18 children died as a result of child abuse and 9 as a result of child neglect.

Demographic Characteristic of Child Victims in 2002

Age. The age range of the children who died as a result of child abuse or neglect in 2002 was birth to fourteen years. Eleven deaths occurred among children less than one year old, representing 41% of the total. Children aged one to four accounted for nine child abuse or neglect deaths, or 33% of the total. Children aged five to nine accounted for five deaths, or 19% percent of the total. Finally, two children between the ages of ten and fourteen, 7%, died as a result of child abuse and neglect-related injuries.

Sex. Girls and boys died as a result of child abuse or neglect in roughly equal numbers. Of the 27 children, 14 (52%) were female and 13 (48%) were male.

Race. With regard to race, 16 (59%) of the victims were Black; 10 (37%) were White; and one child (4%) was Biracial.

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

VDH VIRGINIA DEPARTMENT OF HEALTH
Protecting You and Your Environment
www.vdh.virginia.gov

OFFICE OF THE CHIEF MEDICAL EXAMINER