
**Report to
The Vermont Legislature**

**Report of the Child Fatality Review Team
2020 Report to the Legislature**

In Accordance with Act 103 (2018),
An Act Relating to Establishing the Child Fatality Review Team

Submitted to: **The Vermont General Assembly
Governor Phil Scott**

Submitted by: **Commissioner Mark A. Levine, MD**

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Introduction

The Vermont Child Fatality Review Team (Team) is a multi-disciplinary panel — with expertise in death investigations, law and law enforcement, public health, child welfare, pediatrics, psychology, child abuse, domestic violence, and education — that reviews deaths that are unnatural, unexpected, unexplained, or preventable (established under 18 V.S.A. § chapter 30A; see Addendum A for membership). The Team’s charge is to review and analyze deaths of Vermont children in order to monitor population-level and system-level child hazards, identify processes and systems that need modification or additional attention, and make specific recommendations for risk prevention.

This Report includes a brief overview of the Team’s 2019 activities; Key Findings for the Youth Suicide and Infant Safe Sleep Focus Areas; and a summary of Vermont Child Fatality Data. Additional research and relevant recommendations will be included in the 2020 Annual Report to the Legislature.

2019 Activities

Case Reviews: The Team met for a total of 9 meetings, reviewing 27 cases (see Table 1). Generally, the only cases that are reviewed are deaths that are unnatural or potentially preventable, and not under active investigation or litigation. The Team does not review cases under active investigation so as not to interfere with the law enforcement activities.

8	Sudden Unexplained Infant Death (SUID)
6	Suicide
	4 - Hanging
	1 - Gunshot
	1 - Fall from tall height
5	Motor Vehicle Crash
2	Natural
2	Undetermined
2	Accidental Drowning
2	Sudden Unexplained Death of a Child (SUDC)
27	Total Cases Reviewed

Data Analysis: The Team continued to aggregate and analyze Vermont child fatality data and presents here 5-year aggregate data (See Addendum B). New this year is an analysis of deaths by leading causes, using methodology similar to that used for national-level epidemiology.

Focus Areas and Key Findings

The Team split up into sub-groups to examine three areas of concern. These sub-groups will continue to meet over the coming months to develop specific recommendations for each section. The following is a summary of their initial work.

Youth Suicide

There were 18 adolescent (17 years of age and younger) deaths by suicide occurring during the previous 5-year period (2014 - 2018), including an examination of factors that may have influenced the teens' decisions to take their own life. These findings reflect national research, indicating that mental health issues, a feeling of lack of community and connectedness, personal life stressors, and other life events are important factors.

The ready access to firearms may increase the risk that a youth may die by suicide. National research has indicated that most youth who survive a suicide attempt can recover and lead full and meaningful lives. Although Vermont has relatively few youth suicides (4.5 deaths on average each year), the impact is significant. An adolescent death by suicide is deeply traumatizing to the affected families and community, and efforts to prevent these deaths are critically important.

Additionally, the number of suicide deaths needs to be considered within the context of the greater number of adolescents who have attempted suicide and those teens who seriously consider death by suicide (i.e., "ideation"). Many state and community partners are working to prevent and respond to teen suicide. However, our findings detail the need for increased support and funding to create a statewide system of mental health and wellness programs for Vermont youth and their families, and to limit access to lethal means.

Key Findings

In reviewing the past five years of data (2014-2018), several key factors among adolescent deaths by suicide stood out. A review of available information for these cases indicates:

- Most had a previous or current mental health diagnosis.
- Many had a history of being diagnosed with depression.
- Many were currently receiving mental health treatment, although we do not have information to judge the level of engagement with treatment recommendations.
- Many had experienced a recent life stressor, such as a break-up with a romantic partner, recently divorced parents, transition to a new school, etc.
- Many had a previous history of suicide ideation.
- Some had a history of intentional self-harm, such as cutting.
- Some had experienced abuse or neglect.
- A few had a history of prior suicide attempts.
- A few had expressed to someone before their death an intent of killing themselves.
- A few had episodes of school truancy.
- Among the 5 deaths by suicide that used a firearm, most firearms were not stored in a safe with a lock and unloaded.

Infant Safe Sleep

Most sudden, unexpected, infant deaths in Vermont that remain unexplained or are due to accidental asphyxia are associated with unsafe sleep environments. These findings are consistent with the national data on risk factors for sudden infant death. Infants who are placed for sleep in an unsafe sleep environment are at a higher risk for death by positional asphyxia.

According to the American Academy of Pediatrics, safe sleep environments include supine positioning; the use of a firm sleep surface designed for infant sleep (such as a safety-approved crib); room-sharing without sleep-surface-sharing; and the avoidance of soft bedding, objects in the immediate environment, and overheating. A key prevention strategy is educating parents,

families, and caregivers about infant safe sleep practices as outlined by the American Academy of Pediatrics and Vermont Department of Health.

Key Findings:

- National research has shown that crib bumper pads and infant inclined sleep products can cause infant injury and death due to suffocation and entrapment. In December, the U.S. House of Representative passed H.R. 3172, the Safe Sleep for Babies Act of 2019, that if signed into law would ban such hazardous products under section 8 of the Consumer Product Safety Act.
- Families and caregivers of infants and young children need assistance from health care professionals, birthing centers and hospitals, family-serving organizations, and community groups, to evaluate their infant’s sleep environments, to identify and obtain products approved for infant sleep by the Consumer Product Safety Commission, and to find educational materials on appropriate parenting/care-giving skills for safe sleep and calming techniques.
 - Examples of existing local programs providing outreach services and parent education include the Vermont Department of Health District Offices’ nurses, the family education and crib distribution program at the University of Vermont Children’s Hospital, and the Vermont Department of Health infant safe sleep program materials, available at <https://www.healthvermont.gov/safesleep>
- Health care professionals, birthing centers and hospitals, family-serving organizations, community groups, and other workers who assist families with infants need access to comprehensive and consistent training and educational materials on infant safe sleep practices that include: the latest research findings regarding risk factors and causes of sudden infant death; the American Academy of Pediatrics recommendations for a safe infant sleeping environment; clear terminology when communicating about causes and risk factors of sudden infant death; and strategies for effective messaging and modeling of infant safe sleep.

Children in Childcare and Caregiving Settings

The Team considered issues of caregiving quality, accessibility, and affordability for families in Vermont and consulted with experts from Child Care Licensing under the DCF Child Development Division to learn more about childcare regulation and programming in Vermont. The Team recognizes that childcare affordability and availability is a key issue for families with young children that affects not only their income and livelihood, but their children’s safety. High quality, early childcare is essential for optimal growth and development and supports children to grow and thrive into healthy adults. To this end, it is imperative that our state systems support families and childcare providers by fully funding programs for childcare education, training, and regulatory oversight.

The Team reviewed the four deaths that occurred in a caregiving setting during the past five years (2014-2018), noting the following:

- Three of four deaths were in an unregulated childcare setting.
- Circumstances of these deaths included factors that might have been ameliorated by adherence to Vermont state child care regulations that are designed for assuring infant/child health and safety, such as adequate child/caregiver ratio and environments that follow age-appropriate safety recommendations (<https://dcf.vermont.gov/cdd/laws-regs/childcare>).

Vermont Child Fatality Data Overview

The following data were compiled by the Team in conjunction with the Vermont Department of Health Division of Health Surveillance, to provide data that educate the public, service providers, medical community, and policymakers about preventable deaths in Vermont.

Methodology

Data in this report are for Vermont residents from the Vermont Vital Statistics 2008-2017. Due to the small number of infant and child deaths each year, this analysis uses 10 years of data to examine trends and patterns in cause and manner of death. Averages are used in the report to approximate the number of deaths that occur each year. Please note that with the annual small number of deaths (<20), there is increased likelihood that trends occurred by chance. Infants, neonates, and post-neonates are examined separately for ease of comparison to U.S. data and for programmatic emphasis. Infant deaths are deaths within the first year of life, either in the neonatal period (≤ 27 days), or the post-neonatal period (≥ 28 days ≤ 364 days). Children presented in these analyses are between 1 and 18 years of age.

Manner of Death

The manner of death refers to the circumstances surrounding the death. Generally, there are five manners of death: Natural, Accident, Suicide, Homicide, and Could not be Determined (or Undetermined). This field is assigned by the certifying physician completing the death certificate. Manner of death is presented in this report to demonstrate the number of non-natural (i.e. suicide, accident, homicide) and undetermined deaths, relative to natural deaths. Non-natural deaths are the focus of the Child Fatality Review Team.

Cause of Death and Leading Causes

A cause of death is the etiologically specific disease or injury responsible for starting the sequence of events which ultimately lead to death. Causes of death are coded by the International Classification of Disease, 10th revision (ICD-10) and then grouped into categories of codes, commonly referred to as leading causes of death. While the leading cause categories are not etiologically specific causes (e.g. unintentional injury, unexplained sudden death in infancy), they are epidemiologically useful categories. Categories presented in this report are select leading causes of death from the National Center of Health Statistics (NCHS). This methodology allows comparisons to the United States and other jurisdictions.

Statistics

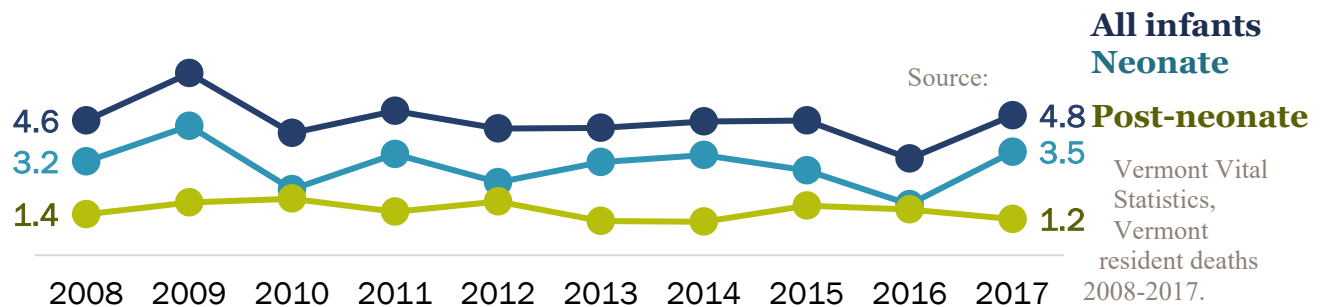
Key Points from Data

- In 2017, Vermont's infant and child mortality rates were similar to the United States.
- Most infant deaths are natural.
- After the first month of life, there is an increase in non-natural deaths.
- Unintentional injuries account for most of Vermont's non-natural deaths. For infants older than one month, most unintentional injury deaths are due to an unsafe sleep environment. Among children, many unintentional injury deaths are motor vehicle collisions.
- Suicides in children account for between 4 and 5 deaths each year.

Infants

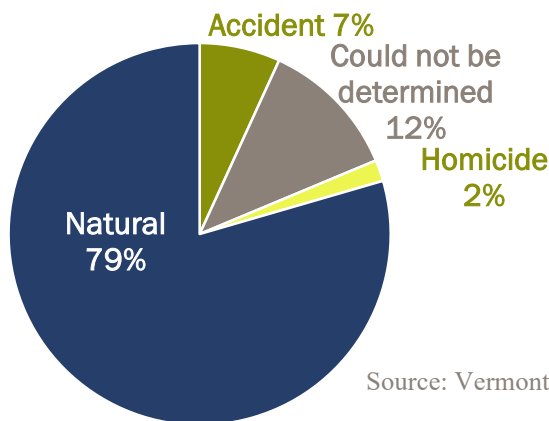
On average, approximately 28 infants die in Vermont each year. Over the past ten years, there have been as many as 38 infant deaths (in 2009) and as few as 19 deaths (2016); however, the changes in the number of deaths each year is not statistically increasing or decreasing.ⁱ The 2017 infant mortality rate is similar to the United States rate (Vermont 4.8 vs. U.S. 5.8 per 1,000 live births). Infant deaths can be in the neonatal period (≤ 27 days), or the post-neonatal period (≥ 28 days ≤ 364 days). Vermont's data shows that many deaths due to non-natural causes occur in the post-neonatal period, thus, statistics for post-neonatal and neonatal infants are presented separately. Over the past ten years 79% of infant deaths were assigned a natural manner of death.

Infant mortality rates have not significantly changed over the past decade
 Infant, neonatal, and post neonatal infant mortality rates per 1,000 live births



Most infant deaths are natural.

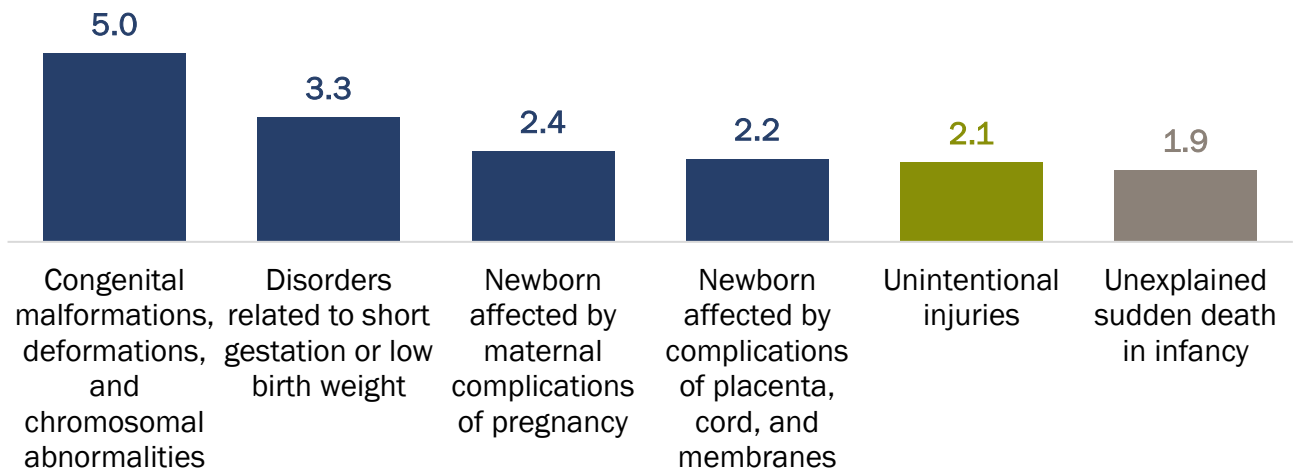
Infant deaths by manner



The top four leading causes of infant death are natural entities: congenital malformations, deformations, and chromosomal abnormalities (which account for 18% of infant deaths), disorders related to short gestation or low birth weight (12%), newborns affected by maternal complications of pregnancy (9%), and newborns affected by complications of placenta, cord, and membranes (8%). Unintentional injuries account for 8% of infant deaths and unexplained sudden death in infancy accounts for 7%. The leading causes of death highlighted here account for 87.3% of infant deaths.

Four in six leading causes of infant deaths are natural.ⁱⁱ

Average number of deaths per year for the leading causes of infant death



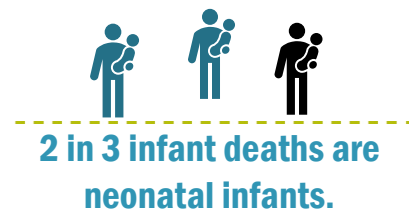
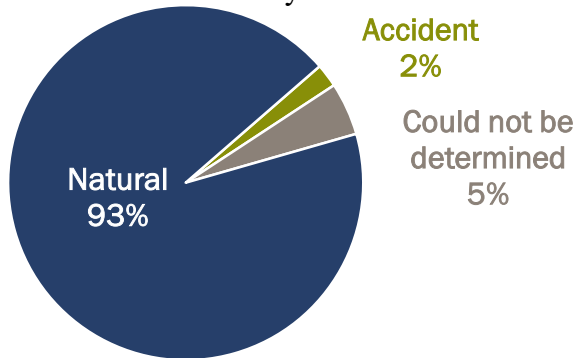
Source: Vermont Vital Statistics, Vermont resident deaths 2008-2017.

Neonatal Infants

Neonates are infants less than 28 days old. On average, approximately 18 neonates die in Vermont each year. Over the past ten years, there have been as many as 27 neonate deaths (in 2009) and as few as 10 deaths (2016); however, the changes in the number of deaths each year is not statistically increasing or decreasing. The 2017 neonate death rate is similar to the U.S. (Vermont 3.5 vs. U.S. 3.9 per 1,000 live births). Neonates account for two in three infant deaths. Over the past ten years, 93% of neonates were assigned a natural manner of death.

Most neonate deaths are natural.

Neonate infant deaths by manner

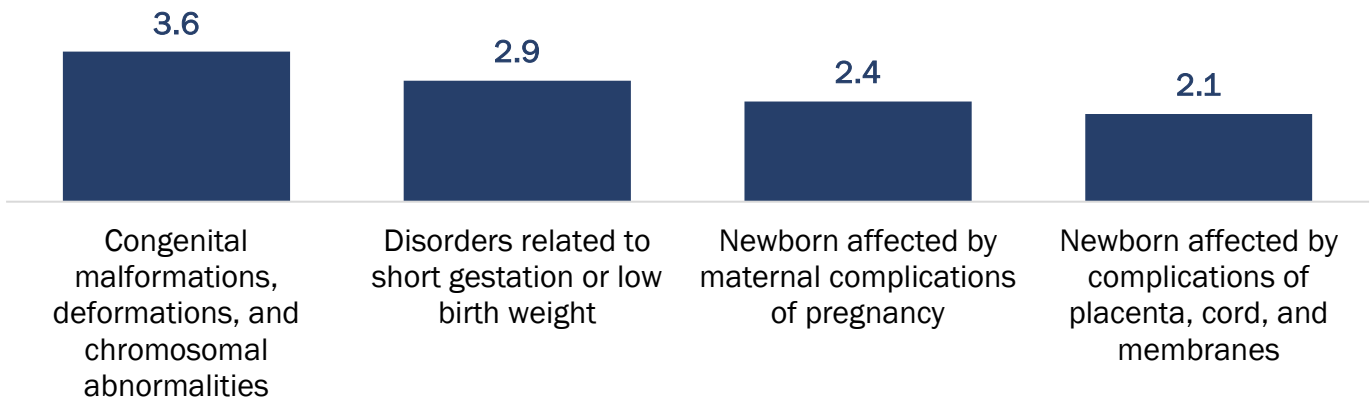


Source: Vermont Vital Statistics, Vermont residents 2008-2017.

The four leading causes of neonatal death are natural entities: congenital malformations (which account for 20% of neonate infant deaths), disorders related to short gestation or low birth weight (16%), newborn affected by maternal complications of pregnancy (13%), and newborns affected by complications of placenta, cord, and membranes (11%).

Most leading causes in neonate deaths are natural.

Average number of neonatal deaths per year by cause

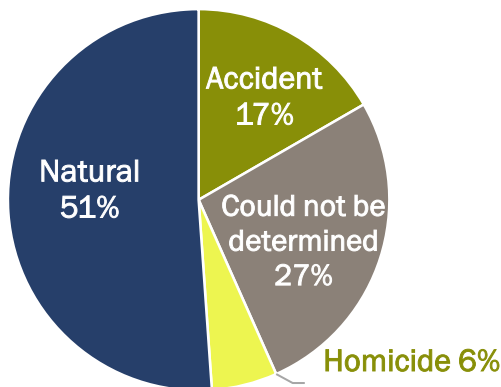


Source: Vermont Vital Statistics, Vermont residents 2008-2017.

Post-neonatal Infants

Post-neonatal infants are infants greater than 27 days old. On average, approximately nine post-neonatal infants die in Vermont each year. Over the past ten years, there have been as many as 12 deaths (in 2010) and as few as seven deaths (2013, 2014, 2017); however, the changes in the number of deaths each year is not statistically increasing or decreasing. Post-neonatal infants account for one in three infant deaths. During the past ten years 51% are assigned a natural manner of death, 25% are non-natural (accident or homicide), and 27% are of undetermined manner.

Half of post-neonatal infant deaths are **natural**.
Post-neonatal infant deaths by manner



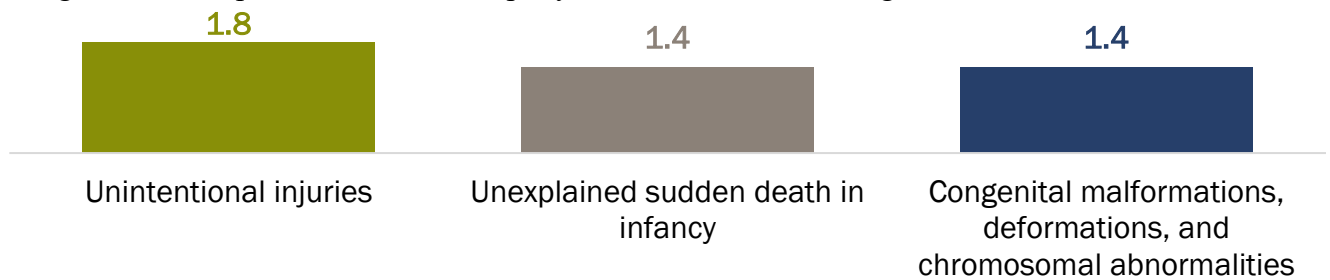
1 in 3 infant deaths are post-neonatal infants.

Source: Vermont Vital Statistics, Vermont residents 2008-2017.

Congenital malformations, deformations, and chromosomal abnormalities is the individual leading cause of natural deaths in post-neonatal infants. The rest of natural deaths in infants occur less than once a year on average. Other leading causes of post-neonatal death are unintentional injuries (which account for 20% of post-neonatal infant deaths) and unexplained sudden death in infancy (15%)ⁱⁱⁱ.

Unintentional injury is a leading cause of death in post-neonatal infants.

Average number of post-neonatal deaths per year for individual leading causes



Source: Vermont Vital Statistics, Vermont residents 2008-2017.

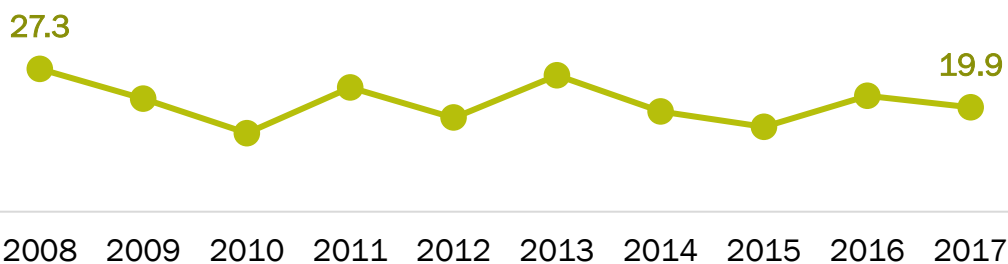
Most unintentional injury deaths are unintentional suffocation or strangulation, approximately 1.4 deaths per year on average. In this data set, all unintentional suffocation or strangulation deaths are related to an unsafe sleep environment. Unsafe sleep includes bed sharing with another person, being placed in a sleep environment with blankets, pillows, toys, or bumper pads, or being placed to sleep face down. The remaining unintentional injuries in post-neonatal infants are deaths due to motor vehicle collisions (less than one death per year).

Most unintentional injury deaths in post-neonatal infant are due to an unsafe sleep environment.

Unexplained sudden death in infancy is any death of an infant under one year of age that remains unexplained after a thorough case investigation including examination of the death scene, performance of a complete autopsy with ancillary tests, and review of the medical history. There are approximately 1.4 unexplained deaths of infants per year.

Non-Infant Child Deaths

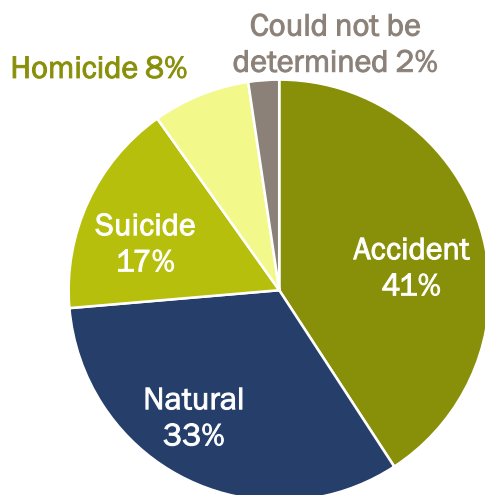
On average, approximately 27 children (≥ 1 year ≤ 18 years) die in Vermont each year, ranging from 36 deaths (in 2008) to 20 deaths (2010, 2015) in the ten year period; however, the changes in the number of deaths each year are not statistically increasing or decreasing. The 2017 Vermont child mortality rate is similar to the United States rate (Vermont 19.9, U.S. 23.1 per 100,000 children). Over the past ten years, 67% of deaths in children are assigned a non-natural manner of death.



Non-Infant child mortality rates have not significantly changed over the past decade.

Child mortality rate per 100,000 Vermont children 1-18 years of age

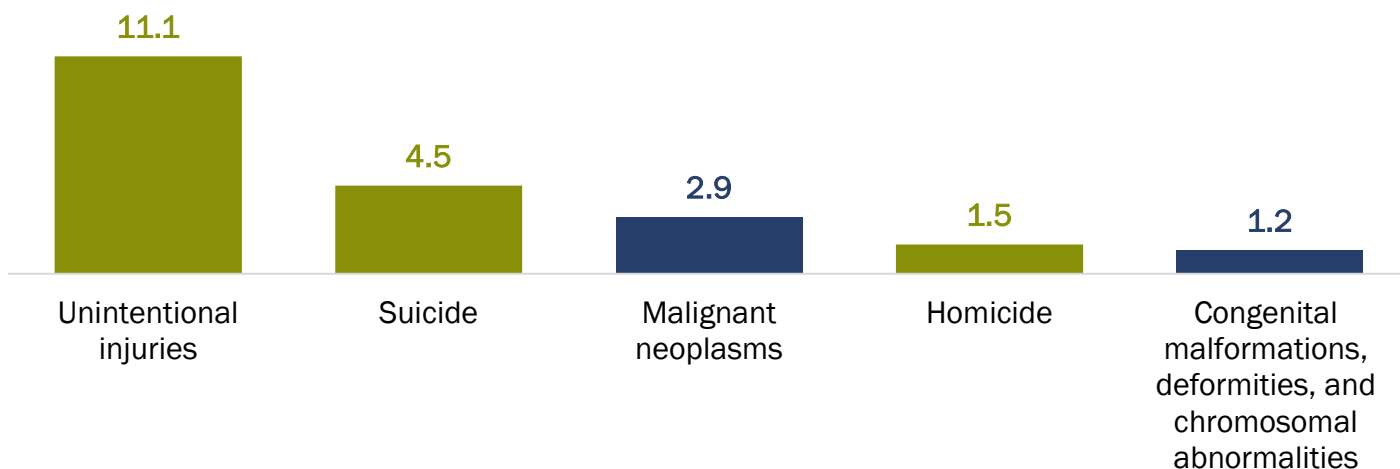
Two-thirds of non-infant child deaths are **non-natural**.



Non-infant child deaths by manner

Source: Vermont Vital Statistics, Vermont resident deaths 2008-2017.

There are five causes of child death that occur more than once a year on average. Three of the top five leading causes of non-infant child death are preventable: accidents, suicide, and homicide. The two remaining leading causes are natural: malignant neoplasms, and congenital malformations, deformities, and chromosomal abnormalities. The leading causes of death highlighted here account for 88.0% of child deaths.



Three in five leading causes of child deaths are **preventable**.
Average number of child deaths per year for the leading causes

Source: Vermont Vital Statistics, Vermont resident deaths 2008-2017.

Unintentional injuries account for 42% of non-infant child deaths, or approximately 11 deaths on average each year. Many unintentional injury deaths in children are motor vehicle collisions (56% of all unintentional injury deaths, approximately six deaths on average each year) and a few are drownings (13% of all unintentional injury deaths, approximately one death on average each year).



56% of unintentional injury deaths in children are motor vehicle collisions.

Death by suicide accounts for 17% of deaths, or approximately 4.5 child deaths on average each year. Of the child deaths by suicide, firearms and hanging are the methods for approximately 2.1 deaths on average each year. Other methods are uncommon.

Most common methods of suicide are firearms or hanging.

Homicides account for 6-8% of non-infant child deaths, approximately 1.5 deaths on average each year.ⁱⁱⁱ

Conclusions and Future Activities

The Team reviewed 27 deaths and conducted a further assessment of child deaths from youth suicide, infant deaths associated with unsafe sleep, and deaths in childcare. The review included factors such as circumstances at the time of the death, community and system issues that may have contributed to the child death, and interventions that could have been employed to prevent the death. The key findings identified in this report will continue to guide our work over the next year and will inform specific recommendations in future reports.

ⁱ Due to the small number of infant deaths each year, this analysis utilizes 10- year averages. All statistics in this section are averages of Vermont resident data from 2008 to 2017.

ⁱⁱ Leading causes are determined using the International Classification of Diseases Version 10 (ICD-10). Causes used in this report are all ranked leading causes of death for specific population groups.

ⁱⁱⁱThe percent of child deaths due to homicide or assault is dependent on methodology. The International Classification of Diseases ICD-10 defines assault (homicide) as U01-U03, X85-Y09, Y87.1. When using this methodology homicide accounts for 6% of deaths in children. Manner of death can also be used to determine homicides, when using this methodology homicide accounts for 8% of deaths in children.

Addendum A – Child Fatality Review Team Members

Member	Title
Allen, Chief Douglas	Chief of Police, Colchester Police Department
Bell, Rebecca, MD	Pediatric Critical Care Physician, University of Vermont Medical Center/University of Vermont Children’s Hospital
Borden, Sally	Co-Chair Vermont Citizen’s Advisory Board Executive Director, KidSafe Collaborative
Bundock, Elizabeth, MD, PhD (Team Chair)	Deputy Chief Medical Examiner, Vermont Department of Health
Evans, Rob	Vermont School Safety Liaison Officer for the Vermont Agency of Education and Public Safety
Fassler, David, MD	Child Psychiatrist, Otter Creek Associates
Hanson, Carolyn	Assistant Attorney General, State of Vermont Co-Chair, Domestic Violence Fatality Review Committee
Haskins, Debby	Board of Vermont Student Assistance Program Suicide Prevention Specialist, Center for Health & Learning
Hill, Cpt. Jeremy	Bureau of Criminal Investigation Commander, Vermont State Police
Katz, Benjamin	Detective Sergeant, Vermont State Police
Kerschner, Sally, RN (Team Vice-Chair)	Maternal and Child Health/Injury Prevention, Vermont Department of Health
Leduc, Courtney, RN	RN Clinical Supervisor, Northwestern Medical Center
Lucier, Kate	Assistant Attorney General, State of Vermont Director, AGO Department for Children and Families-Family Services Unit
McCorkel, Charlotte, LICSW	Senior Director of Client Services, Howard Center
McGivern, Lauri	Assistant Medical Examiner Coordinator Vermont Department of Health
Metz, James, MD	Division Chief, Pediatric Specialty Center, Child Abuse Physician, University of Vermont Children’s Hospital
Miller, Nancy	Child Safety Manager Operations Division, Vermont Department for Children and Families
Ober, Fred, MSW	Retired Child Safety and Field Operations Director, Vermont Department for Children and Families – RETIRED from Team July 2019
Patno, Karyn, MD	Child Abuse Pediatrician ChildSafe Program/Clinic @ UVMHC VT Citizen's Advisory Board (VCAB)
Rettew, David, MD	Medical Director, Department of Mental Health
Shapiro, Steven, MD	Chief Medical Examiner, Vermont Department of Health
Trefry, Sharonlee, RN	Nurse Program Coordinator, Vermont Department of Health
Wagner, Tracey, RN	Nurse Clinician-Child Safe Program, UVM Children’s Hospital
Wells, Tanya	Injury Prevention Chief, Vermont Department of Health
Staff	Title
Karen Lapan	Administrative Assistant, Vermont Department of Health
Caitlin Jelinek	Public Health Analyst, Vermont Department of Health