



North Carolina Office of the Chief Medical Examiner

Child Fatality Annual Report

2022

Report prepared by:

Murphy L. Jones

Social and Clinical Research – Data and Information Unit, Child Fatality

Updated as of July 24, 2024

Contents

- Contents2
- Introduction.....4
- 2022 Child Fatality Overview – North Carolina Medical Examiner System4
 - Trends and Patterns in Child Fatalities for 20224
 - Monthly Trends4
 - Manner of Death5
 - Geographic Distribution5
- Analysis by Common Manner and Means of Death6
 - Accidental Deaths6
 - Asphyxia6
 - Drowning.....7
 - Firearm/Gun7
 - Fire/Burns.....8
 - Motor Vehicle8
 - Toxin/Poisoning10
 - Homicides11
 - Homicide by Parent/Caregiver12
 - Homicide by Other12
 - Natural Causes12
 - Circumstances13
 - Suicides13
 - Methods13
 - Undetermined13
 - Common Factors13
- Age of Child at Time of Death.....13
 - Infants (0 – 11 months)14
 - Leading Cause of Death14
 - Ages 1-4 years14
 - Leading Cause of Death14
 - Ages 5-9 years14

Leading Cause of Death	14
Ages 10-14 years	14
Leading Cause of Death	14
Ages 15 to 17 years	14
Leading Cause of Death	14
Demographic Analysis	15
Age	15
Race/Ethnicity.....	16
Gender.....	16
Summary Table.....	17

Introduction

According to N.C. General Statutes § 130A-383, a medical examiner is notified to investigate the circumstances surrounding deaths due to violence, poisoning, accident, suicide, or homicide; occurring suddenly when the deceased had been in apparent good health or when unattended by a physician; or occurring under any suspicious, unusual, or unnatural circumstance.

Cases investigated by the Medical Examiner system, a trusted authority in determining the cause and manner of death, included several natural deaths, as well as accidents, homicide, suicides, and deaths for which no cause or manner of death could be determined. The system assigns a means of death for each case, referring to how the death occurred. Means included unknown, motor vehicle, natural, firearm, asphyxia, drowning, blunt, fire, toxicology, other, SIDS, fall/jump, animal, electrocution, exposure, medical treatment, environmental, falling object, and sharp.

Deaths reviewed under Medical Examiner jurisdiction will be included in the total number of child fatalities within a report produced by the North Carolina State Center for Health Statistics (SCHS). This report publishes the total number of child deaths in North Carolina each year.

In 2022, the North Carolina Medical Examiner system investigated the cause and manner of death for 659 children. Of these, 36 fatalities involved non-North Carolina residents. This report focuses exclusively on child fatalities among North Carolina residents that occurred during the 2022 calendar year. Of 659 cases within medical examiner jurisdiction, excluding 32 pending cases and 36 cases involving non-North Carolina residents, 591 child fatality review cases are represented below. The small number of cases not included may have characteristics that differ from the majority summarized here. Due to pending cases, numbers are subject to change.

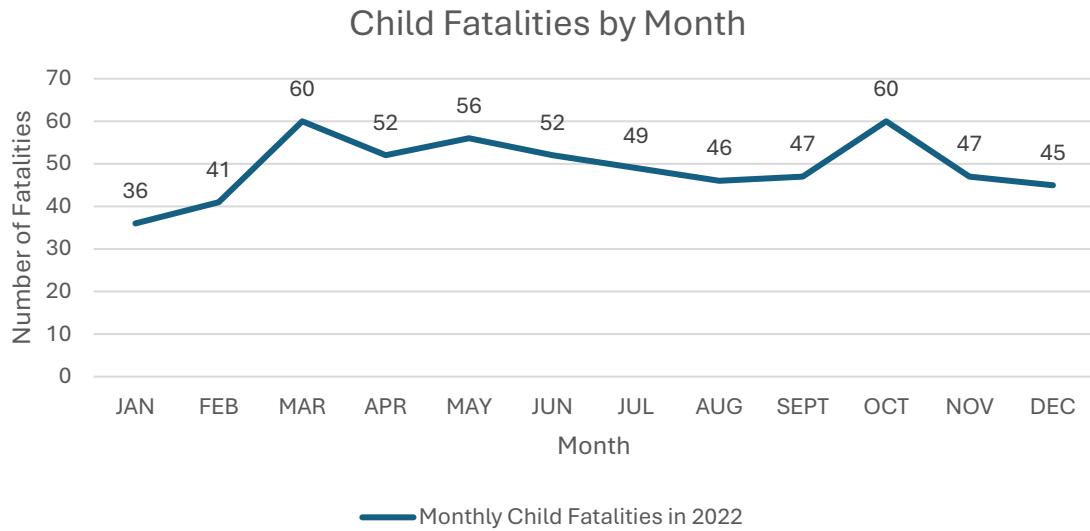
2022 Child Fatality Overview – North Carolina Medical Examiner System

Trends and Patterns in Child Fatalities for 2022

Monthly Trends

Throughout 2022, the number of child fatalities fluctuated noticeably, with certain months exhibiting higher incidences than others. As shown in the figure below, the total number of child fatalities peaked in the early spring and late fall, with notable peaks in March and October. The total number of child fatalities was lowest in January and February. With their stark variations, these figures underscore the urgency of ongoing efforts to ensure child safety.

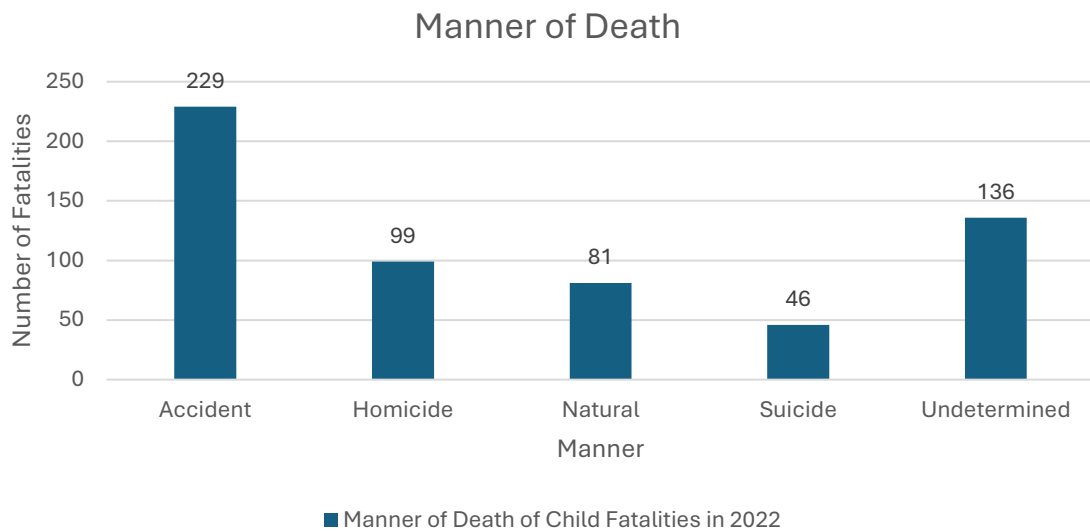
Figure 1. Monthly Child Fatalities in 2022



Manner of Death

The figure below illustrates that accidental deaths were the most common manner of child fatalities in 2022, followed by undetermined and homicides.

Figure 2. Manner of Death of Child Fatalities in 2022



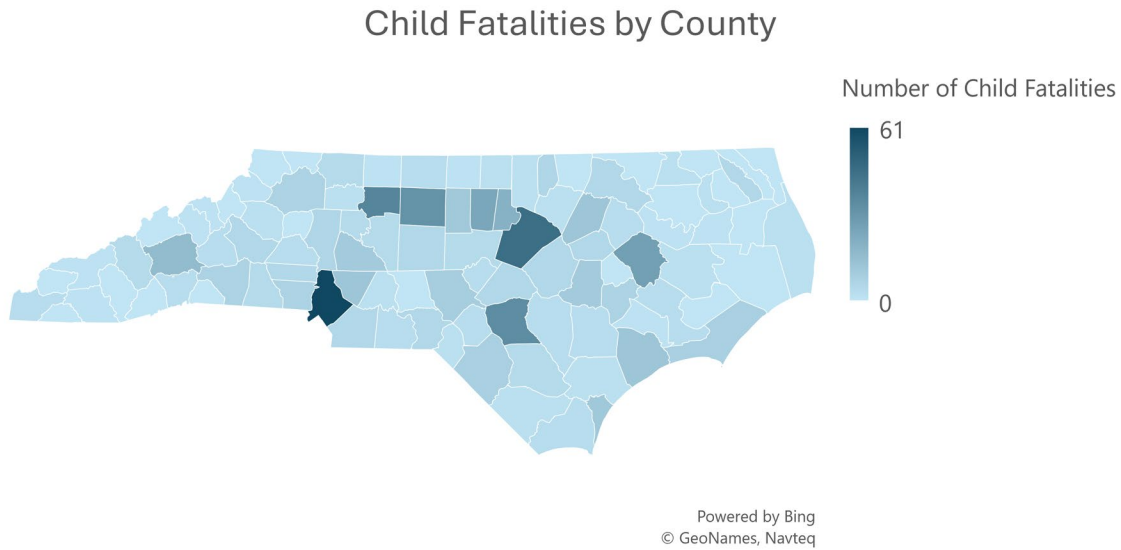
Geographic Distribution

Geographic data maps help guide prevention efforts. Such maps can help raise awareness within particular areas to strengthen community-driven initiatives and advocacy for child safety. The data map below indicates higher concentrations of child fatalities in counties with larger populations,

with Mecklenburg (61), Wake (46), Forsyth (37), Cumberland (34), and Guilford (32) counties having the highest child fatality numbers in 2022. This distribution may be influenced by healthcare access, socioeconomic status, and population density.

At the time of this report, 22 counties reported zero child fatalities. Numbers are subject to change due to finalizing cases within the ME System.

Figure 3. Number of Child Fatalities in 2022 by County



Analysis by Common Manner and Means of Death

It is important to note that not all fatalities may be represented below. The analysis in the following sections aims to highlight the primary manner and means of child fatalities most often seen within the ME System. A few cases not included may have characteristics that differ from the majority summarized below.

Accidental Deaths

In 2022, there were 229 accidental deaths among children aged 0 to 17 years. This is a 13% increase compared to 2021.

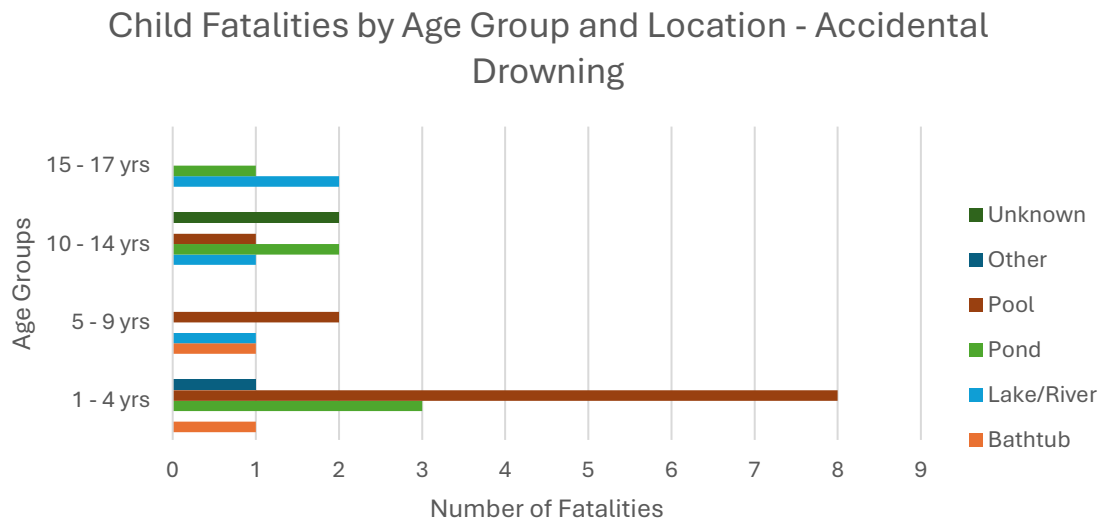
Asphyxia

Accidental asphyxiation was the manner and means of death for 38 children in 2022. Infants constituted many of the asphyxiation deaths, with 25 of the fatalities being attributed to accidental asphyxiation in a sleeping environment, either during co-sleeping or by being placed in an unsafe physical sleep environment. Additional information on infants in hazardous sleep environments at the time of death can be found in the 2022 Spotlight on Infant Death Report on the OCME website under ‘N.C. Child Fatality Prevention Team’ (<https://www.ocme.dhhs.nc.gov/nccfpp/index.shtml>)

Drowning

Accidental drowning resulted in the deaths of 26 children in 2022. These incidents can occur in various settings and involve different scenarios depending on the age and activity of the child involved.

Figure 4. Child Fatalities in 2022 by Age Group and Location – Accidental Drowning

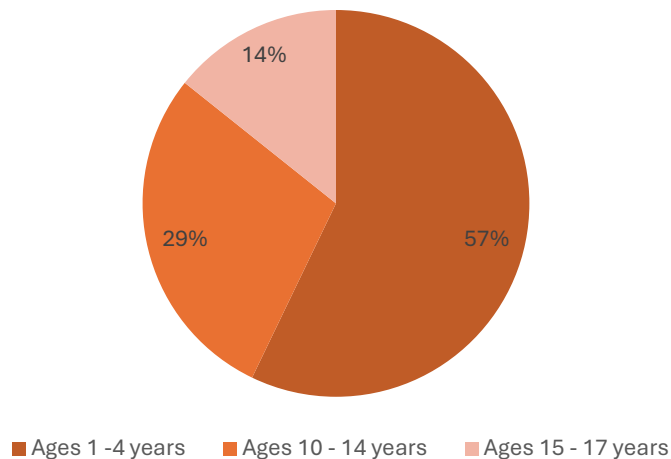


Firearm/Gun

In 2022, there were 7 deaths due to accidental firearm discharges. This underscores the critical need for continued support of safe storage practices and comprehensive firearm education.

Figure 5. Child Fatalities in 2022 by Age Group – Accidental Firearm/Gun

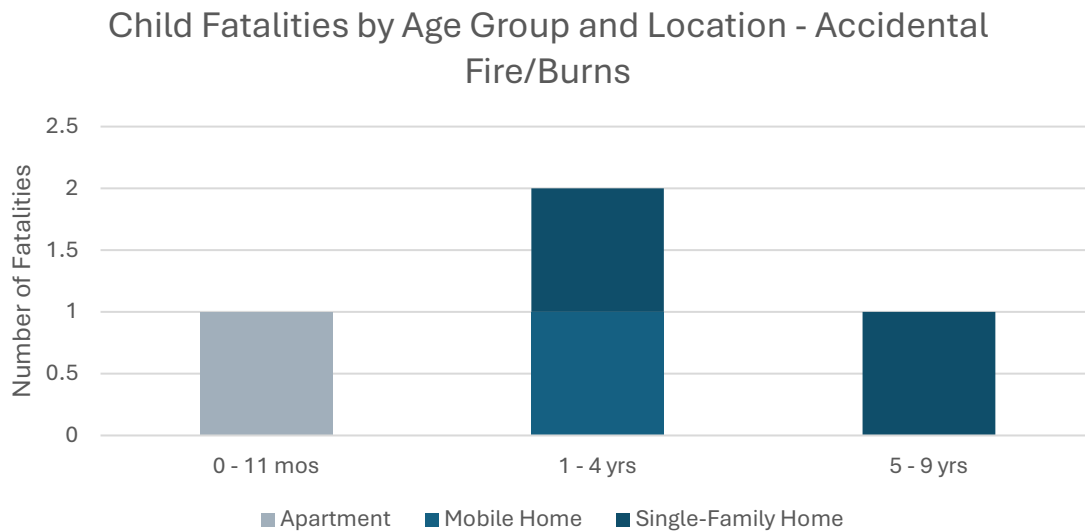
Child Fatalities by Age Group - Accidental Firearm/Gun



Fire/Burns

There were 5 deaths from fires/burns in 2022. All 5 of the deaths occurred among children aged 0 to 11 months, 1 to 4 years, and 5 to 9 years. The location of the child at the time of the fatality is depicted below.

Figure 6. Child Fatalities in 2022 by Age Group and Location – Accidental Fire/Burns



Motor Vehicle

In 2022, there were 71 child fatalities related to motor vehicle accidents. Some vehicle types, such as ATVs, lack restraint options. Additionally, at the scene of a vehicle accident it is sometimes impossible to determine the decedent's role in the vehicle or if the child was properly restrained at the time of the incident.

The following table provides a detailed breakdown of various age groups, specifically infants aged 0 to 11 months, young children aged 1 to 4 years, older children aged 5 to 9 years, and 10 to 14 years. The table includes a comprehensive summary of the total fatalities within each age group. Additionally, the table categorizes the role of each child at the time of the motor vehicle fatality (such as driver, passenger, pedestrian, etc.) and whether the seatbelt or child restraint system was used. This information is crucial for understanding the safety measures in place and identifying areas that require improvement in child passenger safety.

Table 1. Motor Vehicle Accidents in 2022 – Ages 0 – 14 years

Age Group	Sum of Number of Fatalities	Role	Seatbelt/Proper Restraint Used
0 - 11mos	3	In utero	N/A
0 - 11mos	1	Passenger	No
1 - 4yrs	3	Passenger	No
1 - 4yrs	1	Passenger	Unknown
1 - 4yrs	1	Passenger	Yes
1 - 4yrs	3	Pedestrian	N/A
1 -4yrs	2	Pedestrian	N/A
10 - 14yrs	1	Driver	N/A
10 - 14yrs	2	Driver	No
10 - 14yrs	5	Passenger	No
10 - 14yrs	1	Passenger	Unknown
10 - 14yrs	2	Passenger	Yes
10 - 14yrs	2	Pedestrian	N/A
10 - 14yrs	1	Pedestrian	No
10 - 14yrs	2	Unknown	No
5 - 9yrs	2	Passenger	No
5 - 9yrs	2	Passenger	Unknown
5 - 9yrs	5	Passenger	Yes
5 - 9yrs	2	Pedestrian	N/A

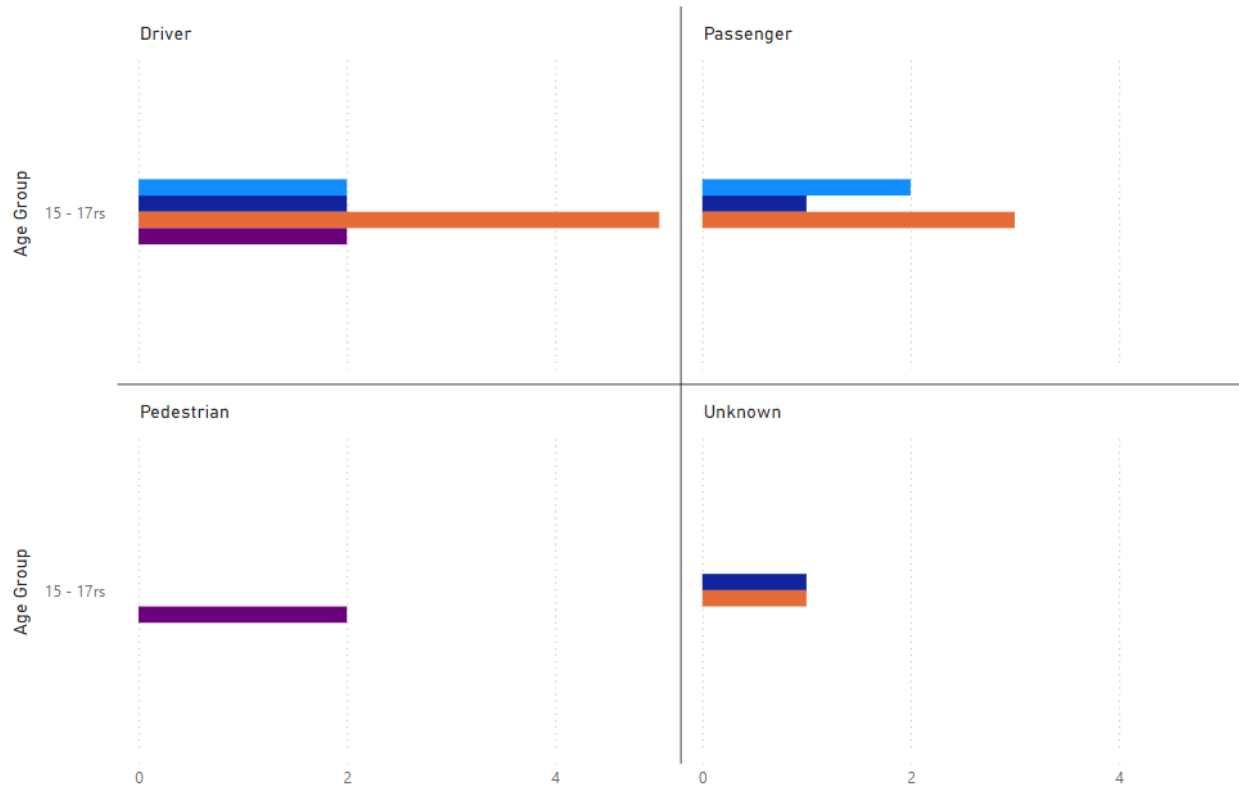
The infographic below focuses specifically on incidents in 2022 among individuals within the 15 to 17-year-old age group to highlight the critical issue of motor vehicle accidents involving teenage drivers.

The infographic details the specific roles of the teenagers at the time of the motor vehicle accidents, whether they were driving, were passengers, or pedestrians. Additionally, it examines the seatbelt usage if applicable to the specific circumstance. The analysis sheds light on the safety practices and challenges this age group faces, emphasizing the importance of continued support for drivers' education programs.

Figure 7. Spotlight on Teenage Drivers, Motor Vehicle Accidents in 2022 – Age 15 – 17 years

Motor Vehicle Accidents by Role and Seatbelt Usage - 15 to 17 years

Seatbelt Used ● Yes ● Unknown ● No ● N/A



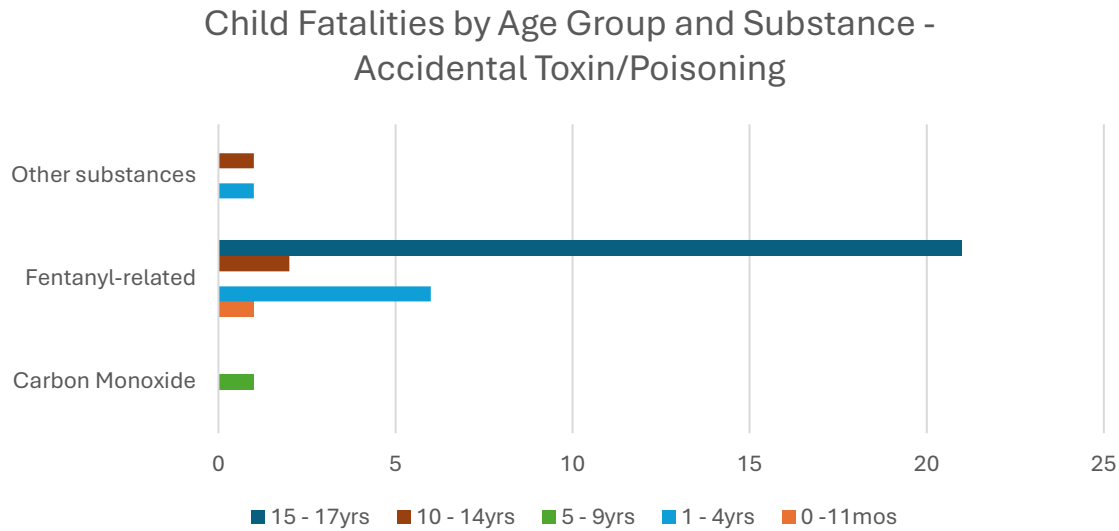
Toxin/Poisoning

In 2022, there were 33 accidental child deaths related to toxin/poisonings. This section provides a brief overview of the toxicology findings of these 33 deaths. The toxicological analyses of our office revealed that fentanyl was a contributing factor in 30 out of the 33 accidental child deaths related to toxins/poisonings. This finding highlights a concerning trend of the powerful opioid.

Several factors contribute to the high incidence of fentanyl-related deaths, including accidental ingestion, accessibility, and secondary exposure. Children within the 1 to 4-year age group are especially vulnerable to unintentional ingestion due to their natural curiosity and tendency to put their hands/objects into their mouths. For all age groups, there is an increased risk of ingestion due to the presence of fentanyl and other substances in households. This presence leads to the potential for secondary exposure, where children can come into the substance or residue unknowingly.

The figure below illustrates the distribution of substances affecting each age group within the accidental toxin/poisoning child fatalities for 2022.

Figure 8. Child Fatalities in 2022 by Age Group and Substance – Accidental Toxin/Poisoning



Homicides

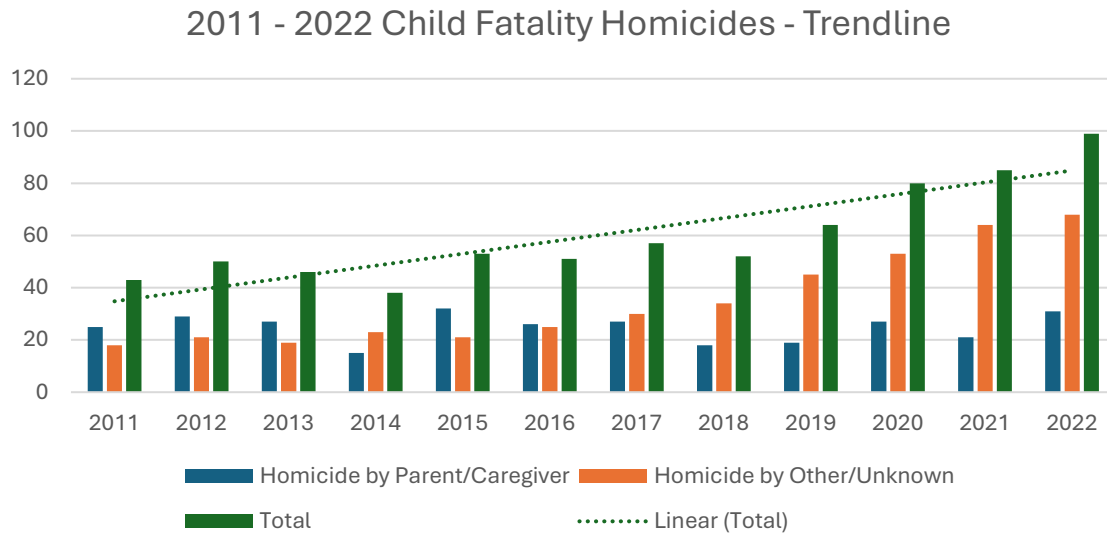
There were 99 child homicide fatalities in 2022.

In this report, child homicides are further reviewed by using two subcategories: homicides by parent or caregiver, and homicide by other. These subcategories help identify trends related to age and manner of death.

Homicide by parent or caregiver is a subset of homicides defined as a death that is the direct result of the action(s) of the person(s) responsible for the child's well-being at the time of the death. This classification is assigned by the North Carolina Child Fatality Prevention Team based on the injuries and circumstances of the death.

Of all homicides, regardless of perpetrator, race and ethnicity of decedents are as follows: Black non-Hispanic children comprised many of the homicides at 67; 19 deaths were of White non-Hispanic children; 11 children identified as Hispanic; 2 children identified as American Indian; 0 deaths of children Asian descent.

Figure 9. 2011-2022 Child Fatality Homicides – Trendline



Homicide by Parent/Caregiver

Homicide by parent or caregiver deaths accounted for 31 of the 99 child homicides in 2022. Infants, defined as children under 1 year of age, accounted for 14 deaths within this subcategory. The remaining children were ages 1-17 years: 12 deaths among ages 1 to 4 years, 1 death among ages 5 to 9 years, 3 deaths among ages 10-14 years, and 1 death among ages 15 to 17 years.

A comprehensive review of the means of death for all age groups within this subcategory found blunt force trauma was assigned to 16 deaths, firearm/gun was assigned to 5 deaths, 6 with a means of other, asphyxia to 2 of the deaths, 1 environmental/exposure, and 1 toxin.

Homicide by Other

Other homicides, the second subcategory in which the parent or caregiver was not a suspect or perpetrator, comprised 68 of the 99 total 2022 child homicides that were finalized cases at the time of this report. Teenagers aged 15 to 17 years accounted for approximately 77% of this subcategory with a total of 52 deaths. Remaining cases by age category: under one year of age accounted for 4 deaths, ages 1 to 4 years accounted for 3 deaths, ages 5 to 9 years accounted for 1 death, and ages 10 to 14 years accounted for 9 deaths.

Natural Causes

81 child fatalities were determined to be natural in manner for 2022. Among these, 9 deaths were given a classification of Sudden Infant Death Syndrome (SIDS), while the remaining 72 deaths were attributed to other natural causes.

Circumstances

Previously, child fatalities classified as natural-SIDS have transitioned to being categorized as undetermined when circumstances involve potential unsafe sleep factors. This transition began around 2012, leading to a decrease in deaths classified as natural-SIDS and a significant increase in fatalities categorized as undetermined. In 2022, the causes of natural deaths included congenital health defects/diseases, complications of prematurity, and a variety of complications, infections, diseases, and illnesses.

Suicides

In 2022, suicide was the manner of death for 46 children. Most of these fatalities occurred among children aged 15 to 17 years, accounting for 29 cases, or approximately 63%. Additionally, there were 17 cases of suicide among children aged 5 to 15 years. Males accounted for 32 of the suicide deaths, while females accounted for 14.

Methods

The methods of suicide included 26 deaths from the use of a firearm/gun, 15 from an asphyxia event, 4 from poisoning/toxin, and 1 related to falls/jumps.

Undetermined

136 were certified as undetermined manner. Of those, 118 deaths were certified as unknown means. Of the undetermined manner, 116 children were under 1 year of age, 14 children were ages 1-4 years, 1 child was ages 5-9 years, 3 were ages 10-14 years, and 2 were ages 15-17 years.

Common Factors

As is the case for most infants with an undetermined manner, when a known risky or potentially unsafe sleeping situation is noted, the possibility of asphyxiation due to suffocation cannot be entirely excluded which leads to the certification of an unknown means of death. Additional information on infants in unsafe sleep environments at the time of death can be found in the “2022 Spotlight on Infant Death” report on the OCME website under N.C. Child Fatality Prevention Team (<https://www.ocme.dhhs.nc.gov/nccfpp/index.shtml>)

Age of Child at Time of Death

This section provides an overview of the leading cause of child fatalities within the ME System, categorized by age group, for the year 2022. It aims to assist in identifying the contributing factors of deaths within each age group. The age-specific categories allow us to better understand each age range's risks and challenges.

This analysis aims to initiate and encourage conversation to identify further critical areas where preventive measures can be targeted, inform policy decisions, and guide community and public health initiatives to reduce child mortality rates.

Infants (0 – 11 months)

Leading Cause of Death

In 2022, the leading cause of death among infants (ages 0 to 11 months) was undetermined manner – undetermined/unknown means, accounting for 52% of all infant deaths. A concern for the sleep environment was mentioned in most of the undetermined manner – undetermined/unknown means infant fatalities. Additional information on infants in unsafe sleep environments at the time of death can be found in the “2021 Spotlight on Infant Death” report on the OCME website under N.C. Child Fatality Prevention Team. (<https://www.ocme.dhhs.nc.gov/nccfpp/index.shtml>)

Ages 1-4 years

Leading Cause of Death

Among the 1 to 4-year age group, accident - drowning was the most common cause of death, with this combination of manner and means of death comprising of 13% of deaths in this age group.

Ages 5-9 years

Leading Cause of Death

For children aged 5 to 9 years, accident – motor vehicle was the leading cause of death, responsible for 26% of fatalities within this age group.

Ages 10-14 years

Leading Cause of Death

Suicide was the primary manner of death among the 10-to-14-year age group, making up 20% of deaths within this grouping. Means of death include firearm/gun and various asphyxia-related events.

Ages 15 to 17 years

Leading Cause of Death

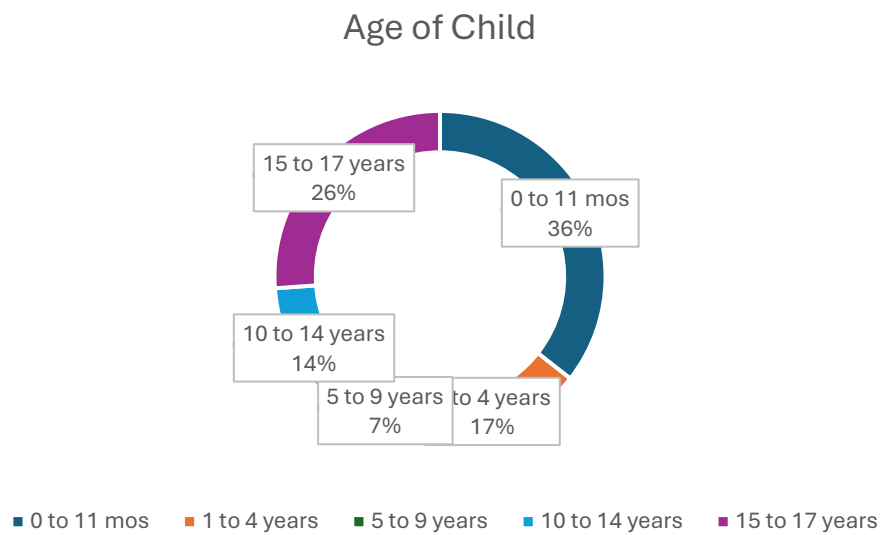
Among teenagers aged 15 to 17 years, homicide – firearm/gun was the leading cause, accounting for 32% of deaths in this age group.

Demographic Analysis

Age

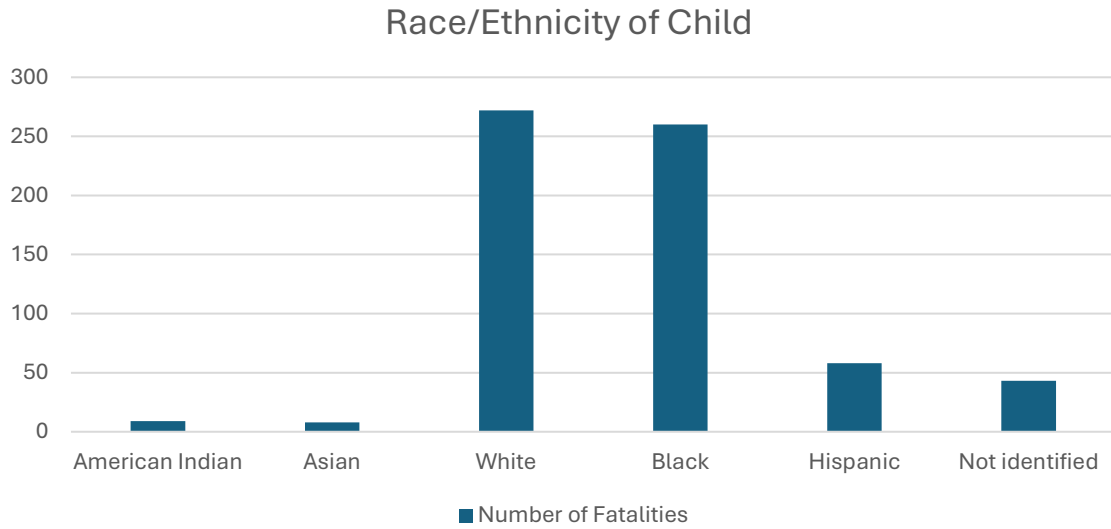
Children under the age of one year accounted for the largest percentage of fatalities, highlighting the vulnerability of infants and the importance of safe sleep education. Additional information on infants in unsafe sleep environments at the time of death can be found in the 2022 Spotlight on Infant Death Report on the OCME website under ‘N.C. Child Fatality Prevention Team’ (<https://www.ocme.dhhs.nc.gov/nccfpp/index.shtml>)

Figure 10. Age of Child at the Time of Fatality in 2022



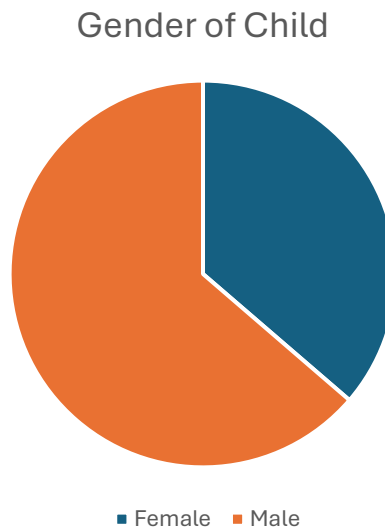
Race/Ethnicity

Figure 11. Race/Ethnicity of Child at the Time of Fatality in 2022



Gender

Figure 12. Gender of Child at the Time of Fatality in 2022



Summary Table

The following summary table provides an overview of the 591 finalized child fatalities within the ME System of the State of North Carolina categorized by manner, means, and the number of deaths for 2022. The small number of cases not included may have characteristics that differ from the majority summarized here. Due to pending cases, numbers are subject to change.

Table 2. Finalized Child Fatalities within ME System for Death Year 2022 – Ages 0 – 17 years

Manner	Means	Number of Fatalities
Accident (229)	Animals	1
	Asphyxia	38
	Blunt	34
	Drowning	26
	Electrocution	2
	Environmental/Exposure	8
	Fire/Burns	5
	Firearm/Gun	7
	Hanging	2
	Medical Treatment	2
	Motor Vehicle	62
	Other	4
	Poisoning/Toxin	33
Transportation, not MV	5	
Homicide (99)	Abuse or Neglect	3
	Asphyxia	2
	Blunt	18
	Environmental/Exposure	1
	Firearm/Gun	67
	Other	3
	Poisoning/Toxin	1
	Sharp	3
	Unknown	1
Natural (81)	Natural	72
	SIDS	9
Suicide (46)	Asphyxia	3
	Hanging	12
	Fall/Jump	1
	Firearm/Gun	26
	Poisoning/Toxin	4
Undetermined (136)	Abuse or Neglect	1
	Blunt	2
	Drowning	1
	Fire/Burns	4
	Firearm/Gun	1
	Medical Treatment	1
	Natural	1
	Poisoning/Toxin	3
	Unknown	118
	Other	4
Pending		32
Fetal		10