

Warren County Child Fatality Report

2001-2023

**Warren County
Health District**



Public Health

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Limitations

As a child fatality review* is constructed, there are limitations that present themselves.

First, the number of total child deaths in Warren County is relatively small over an eleven-year time period. With a smaller sample size like this, the data is more susceptible to having a lower statistical significance. Because of this, only certain child fatality data for the county is presented.

Another large limitation that presented itself during the construction of this report was missing information, unknown information, or information that was not able to be obtained. Also, certain information may not be available at the time the data was collected. This information was not included in the analysis, which is the reason why certain percentages do not add up to 100%.

Lastly, deaths can be classified as “undetermined,” in which they were not able to be classified fully into one of the other manners of death. Therefore, these deaths were not able to be analyzed to the degree of the other deaths and were not included in the report. Deaths can also be classified as “pending,” which means that their manner of deaths was not identified at the time the data was collected and these deaths were also not included in the report.

A glossary is included at the end to define the terms mentioned in this report.

Introduction

Child fatalities* plague our world today. The loss of a child is the most heartbreaking thing that can happen to a family. In order to reduce the number of child deaths to as low as possible, a review of child fatalities must be done. This review helps to increase understanding of how children are dying and why, as well as gives an indication of where to focus efforts in order to prevent child deaths in the future.

In 2022, the United States experienced 34,088 child deaths, and during that time there was a child population of 72,822,113, which resulted in a child fatality rate* of 4.7 child deaths per 10,000 children⁴. In 2022, Ohio experienced 1,546 child deaths out of a child population of 2,562,600, resulting in a child fatality rate of 6.0 child deaths per 10,000 children⁴. Investigation into child fatalities in Warren County can help bring attention to preventable deaths and help lower child deaths in the county in the future.

Child Demographics of Warren County

In 2022, there were 249,778 residents in Warren County, with 58,699 of them being children, making children nineteen percent (19%) of the population in the county⁶. Anyone under the age of eighteen is considered a child* and is accounted for in this population. Males account for fifty-two percent (52%), and females thirty-four percent (34%), of the population⁴.

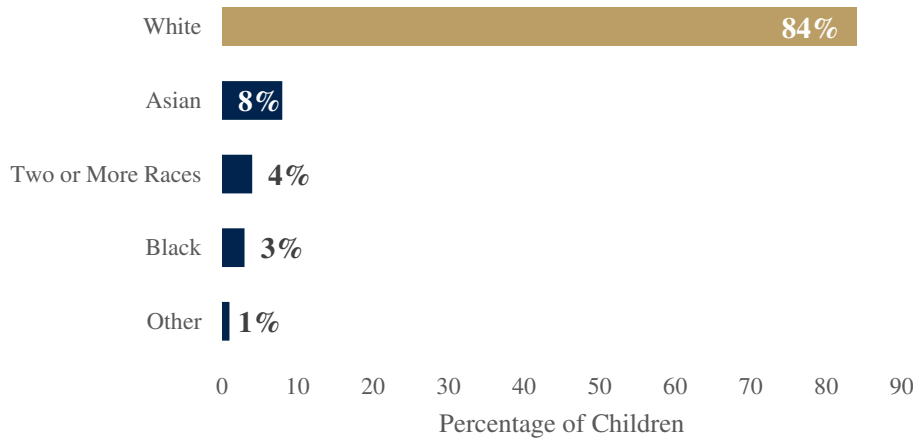
Percentage of Individuals in Warren County, 2022

Children	19%
Adults	81%

Percentage of Children in Warren County by Sex, 2022

Male	52%
Female	34%

The Percentage of White Children in Warren County is Significantly Higher than Other Races.



Based on the population of children, eighty-four percent (84%) of the children were White⁶. Asian children made up eight percent (8%) of the Warren County children population, while Black children made up three percent (3%)⁶. One percent (1%) of the child population consisted of other races, which includes American Indian, Hawaiian, or Pacific Islander⁶. The remaining four percent (4%) of the child population included children of two or more races⁶.

Percentage of Children in Warren County by Age, 2022

Under 5 years old	23%
5-9 years old	28%
10-14 years old	30%
15-17 years old	19%

In 2022, the child population of Warren County was relatively evenly distributed from birth to seventeen years old. The largest percentage of children was ages ten to fourteen years old, with them representing thirty percent (30%) of the population⁶. Close behind, children ages five to nine accounted for twenty-eight percent (28%) of the population⁶. Children less than five years old represent twenty-three percent (23%) of the child population in Warren County, while children ages fifteen to seventeen years old are the smallest group, measuring at nineteen percent (19%) of the population⁶.

*Term defined in glossary

Warren County Child Fatality Data from 2001-2023

The Number of Child Deaths in Warren County from 2001-2023



Since 2001, there have been 460 child deaths in Warren County. There was an average of twenty deaths annually; in 2009, Warren County experienced the greatest number of child deaths at thirty-four, while in 2003, there were only five child deaths, which was the lowest over the time period. In 2004 and 2009, there were visible increases in child deaths; this increase was most likely associated with an increase in natural manners of death. The likely medical conditions that are associated with the increase are: cancer,

congenital anomaly, prematurity, and other medical conditions,

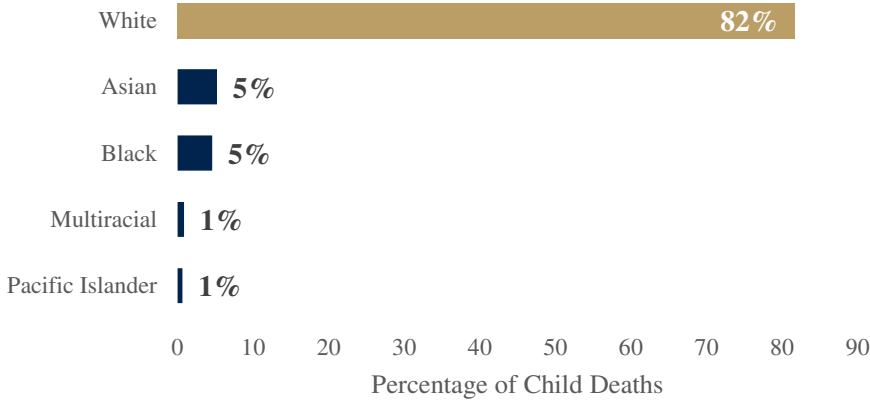
Percentage of Child Deaths in Warren County by Sex, 2001-2023

Male	57%
Female	41%

**This does not equal 100 because it does not include the 8 deaths that were labeled "Unknown" when it came to sex.*

When looking into different populations of Warren County’s child fatalities, there was a higher percentage of male child deaths than female child deaths. Of the child fatalities in the county, fifty-seven percent (57%) were male, while forty-one (41%) percent were female.

White Children Experienced a Higher Percentage of Child Deaths than Children of Other Races.



**This does not equal 100% because there were deaths labeled “Unknown” and “No response” when it came to race.*

When comparing child deaths in Warren County by age, a large proportion of the deaths were in children less than one year old. These children under one year of age are considered infants. Out of all the child fatalities in Warren County, sixty-one percent (61%) of them were infant deaths. The rest of the age distribution was a little more evenly spread, with ten percent (10%) of deaths in children ages one to four years old, six percent (6%) in ages five to nine years old, eight percent (8%) in ages ten to fourteen years old, and fourteen percent (14%) in ages fifteen to seventeen years old.

With the child population of Warren County being eighty-four percent (84%) White, it is expected to see a higher percentage of White children who have died. When reviewing the race distribution of the child deaths in the county, this is seen with eighty-two percent (82%) of the child deaths being White children. Asian children are the next largest racial group in Warren County, and Asian children are the next highest percentage of deaths at five percent (5%). Black children were five percent (5%) of fatalities, while Pacific Islander children and American Indian children were one percent (1%) of child fatalities.

Percentage of Child Deaths in Warren County by Age, 2001-2023

< 1 year old	61%
1-4 years old	10%
5-9 years old	6%
10-14 years old	8%
15-17 years old	14%

*Term defined in glossary

Child Fatality Rate (per 10,000 Children) in Warren County from 2010-2022



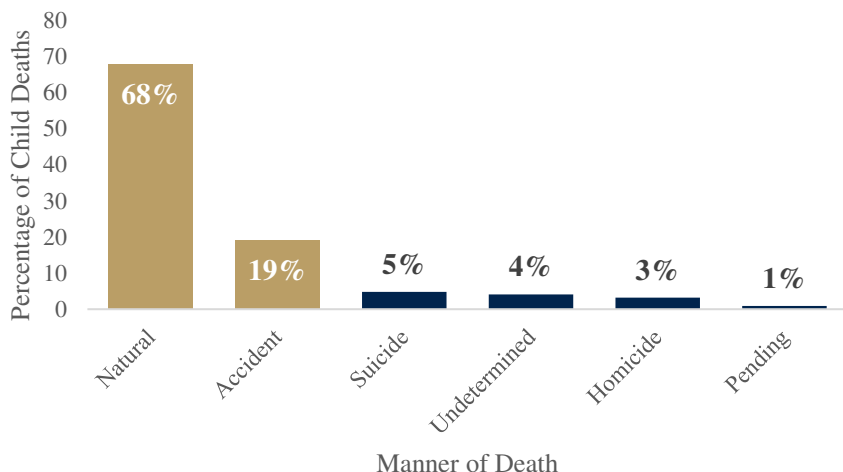
The child fatality rate is an important value because it helps quantify the rate of survival for children. A child fatality rate is the number of child deaths, which is anyone under eighteen years old, divided by the total number of people in the population under eighteen years old. From 2010-2022, there was an average child fatality rate of 3.4 per every 10,000 individuals. This means that per every 10,000 children in Warren County, 3.4 die each year. The child fatality rate was the lowest in 2014, with a rate of 1.7 per 10,000 children. In 2011, the child fatality

rate was the highest over the eleven-year time span, at 5.0 deaths per 10,000 children. It is notable that in 2022, Warren County had a child fatality rate of 2.6 child deaths per 10,000 children, while Ohio had a child fatality rate of 6.0 child deaths per 10,000 children and the United States had a rate of 4.7 child deaths per 10,000 children⁴.

Manner of Death

The manner of death* is defined as the way death has occurred. There are five classifications of manner of death which are natural, accidental, suicide, homicide, and undetermined. A natural death* is a death that occurs naturally, which is typically when a disease or medical condition progresses to death². An accidental death* is a death that has not occurred naturally and is a result of an unintentional incident. Accidental deaths are the third leading cause of death in the United States⁴. A suicide* is a death in which there was an intention of death by oneself². Suicide is the eleventh leading cause of death in the United States⁴. On the other hand, a homicide* is a death in which one directly causes another to die². A death classified as undetermined* can be the result of there being little information to draw a conclusion on the manner of death, or there could be information that overlaps or conflicts with the other manners of death². Aside from the five manners of death, a death may also be labeled as pending*, which happens when the manner of death has not been determined at the time the data was collected because it needs further investigation to confirm the manner of death.

Over Half of Child Deaths were Due to Natural Causes, With Accidental Deaths Being the Next Highest.



In Warren County, sixty-eight percent (68%) of child deaths, occurred naturally. The largest percentage of child deaths was in an accidental manner, at nineteen percent (19%) of child deaths. Suicide and homicide account for eight percent (8%) of the child deaths in the county, at five percent (5%) and three percent (3%), respectively. Deaths that were classified as undetermined when it comes to manner of death make up four percent (4%) of child deaths, while the remaining one percent (1%) of the deaths in the county were still pending when the data was pulled.

**Deaths labeled unknown for manner of death were not included*

When child deaths are reviewed, they are also reviewed for preventability. Preventable deaths are deaths caused by factors that could have been avoided. For example, greater child supervision, using a car seat or seat belt, receiving care during pregnancy, and having infants sleep on their backs are actions that can be taken to lower the possibility of a child’s death. There are three options when it comes to preventability. The child fatality review team classifies deaths in regard to preventability as “no, probably not,” “yes, probably,” or “could not determine,” meaning the death was unable to be identified whether it could be prevented or not. The preventability varies over the manner of death, with natural deaths being the lowest preventable deaths at one percent (1%). Homicides and accidental deaths also have the highest percentage of preventability at ninety-two percent (92%) and eighty-three percent (83%), respectively.

Preventability by Each Manner of Death

Manner of Death	Preventability Category	Percentage
Natural	No, Probably Not	90%
	Yes, Probably	1%
	Could Not Determine	9%
Accident	No, Probably Not	1%
	Yes, Probably	83%
	Could Not Determine	15%
Suicide	No, Probably Not	0%
	Yes, Probably	52%
	Could Not Determine	48%
Homicide	No, Probably Not	0%
	Yes, Probably	92%
	Could Not Determine	8%
Undetermined	No, Probably Not	0%
	Yes, Probably	50%
	Could Not Determine	50%

Cause of Death

Cause of death*, as defined by the World Health Organization, is a “disease or injury that initiated the train of morbid events leading directly to death, or the circumstances of the accident or violence which produced the fatal injury.”³ Within the cause of death, two subcategories can be used for classification, which are external and medical. External deaths* are deaths caused by non-medical conditions, while medical deaths* are caused by medical conditions. Examples of external and medical causes of death are listed below:

*Term defined in glossary

External Causes of Death	Medical Causes of Death	
-Asphyxia	-Asthma	-Other infections
-Bodily force or weapon	-Cancer	-Other medical conditions
-Drowning	-Cardiovascular conditions	-Other perinatal conditions
-Fall or crush	-Congenital anomalies	-Prematurity
-Fire, burn, electrocution	-Influenza	-Pneumonia
-Motor vehicle	-Malnutrition, dehydration	-Sudden infant death syndrome
-Poison	-Neurological conditions, seizures	

Percentage of External and Medical Child Deaths

External	26%
Medical	63%

**Does not equal 100% because there were responses that were “Unknown,” “Undetermined,” and “No response” that were not included.*

An external death is a death caused by an unnatural manner, which could be intentional harm or an unintentional accidental injury that results in death. A medical death, on the other hand, is a death resulting naturally from the progression of a disease or other medical condition. Within the Warren County child death population, there were twenty-six percent (26%) external deaths and sixty-three percent (63%) medical deaths. The remaining eleven percent (11%) was either undetermined, unknown, or no response.

Preventability of Medical and External Child Deaths

External	No, Probably Not	1%
	Yes, Probably	82%
	Could Not Determine	17%
Medical	No Probably Not	89%
	Yes, Probably	1%
	Could Not Determine	10%

Preventability for the cause of death mirrors the data for the manner of death. Medical deaths have a low percentage of preventability because those are typically considered natural deaths. On the other hand, external deaths have a high percentage of preventability because they are more likely accidental deaths, suicides, and homicides.

*Term defined in glossary

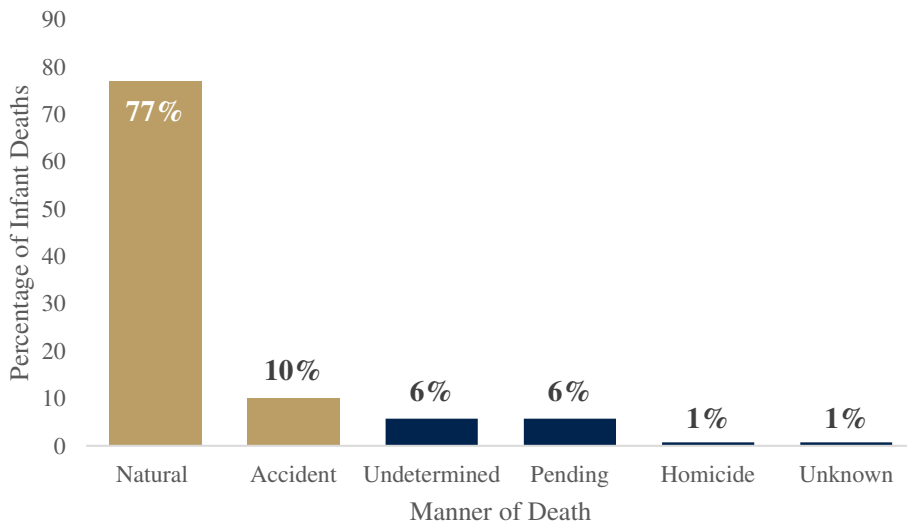
Infant Deaths

An infant* is defined as any child less than one-year-old. There was a total of 279 infant deaths from 2001-2023. The number of infant deaths fluctuated over the years, with the death number reaching a peak of twenty-three deaths in 2009 and a low of two deaths in 2003.

Number of Infant Deaths from 2001-2023



Infant Deaths are Mostly Caused by Natural or Accidental Measures.



To understand more about how the county is losing these infants, the manner of death needs to be investigated. In this case, suicide is not included because infants should not be able to have this manner of death. Of the infant deaths in Warren County, seventy-seven percent (77%) were natural. The remaining twenty-three percent (23%) was made up of ten percent (10%) accidents and six percent (6%) undetermined. One percent (1%) of the cases were deemed unknown, while six percent (6%) were still pending further investigation at the time the data was retrieved.

Percentage of Infant Deaths due to Prematurity or Low Birth Weight

Premature Deaths (< 37 weeks gestation)	36%
Low Birth Weight Deaths (< 2,500 grams or 5.5 pounds)	32%

of the infant deaths in the county were due to low birth weight*, which is where the infant is born weighing less than 2,500 grams or 5.5 pounds. An infant with a normal birth weight* would weigh in at or more than 2,500 grams or 5.5 lbs.

Notably, thirty-six percent (36%) of these infant deaths were due to prematurity*, where the infant was born before thirty-seven weeks of gestation. An infant born after thirty-seven weeks of pregnancy is considered a normal birth*. Another thirty-two percent (32%)

*Term defined in glossary

With infant deaths accounting for over half of the child deaths in the county, parents must take measures that can help prevent infant deaths. To help prevent infant deaths, mothers need to receive prenatal care. It is also important that parents get their infants the proper vaccinations and screenings in an effort to prevent death. A safe sleeping environment is another way for parents to keep their infant safe. Lastly, parents need to receive education on how to take care of their infant and keep them safe and healthy.

Medical Deaths

A medical death is a death that results from a medical condition that naturally progressed in the body until death. Death that resulted from certain medical conditions would be classified as a medical death and those medical conditions are listed below:

- Asthma
- Cancer
- Cardiovascular conditions
- Congenital Anomalies
- Influenza
- Malnutrition, dehydration
- Neurological conditions, seizures
- Other infections
- Other medical conditions
- Other perinatal conditions
- Pneumonia
- Prematurity
- Sudden Infant Death Syndrome

Warren County Child Deaths due to a Medical Condition



The number of medical deaths in Warren County from 2001-2023 was 290. This made up sixty-three percent (63%) of total deaths in the county during those years. The number of medical deaths each year varied, with the largest number of deaths being in 2009 with twenty-four. Death data from the year 2020 has fourteen deaths where the cause of death is unknown, which could be attributed to there being no medical deaths recorded in 2020.

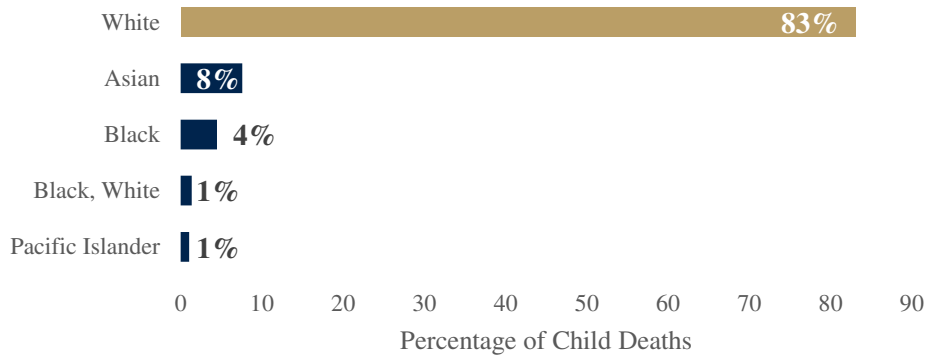
When looking into gender for the medical deaths in Warren County, there is a higher percentage of male child fatalities at fifty-seven percent (57%), while forty-three percent (43%) of medical child deaths were female.

Percentage of Medical Child Deaths by Sex

Male	57%
Female	43%

*Term defined in glossary

White Children Experienced a Higher Percentage of Medical Deaths Compared to Other Races.



**This does not equal 100% because there were deaths labeled “Unknown” and “No response” when it came to race.*

The racial demographic of Warren County’s child fatalities presents a majority of White individuals, at eighty-three percent (83%). Asian children and Black children make up eight percent (8%) and four percent (4%) of the child fatalities, respectively. The remaining two percent (2%) includes Pacific Islanders and individuals who are Black and White.

Percentage of Child Deaths due to a Medical Condition by Age

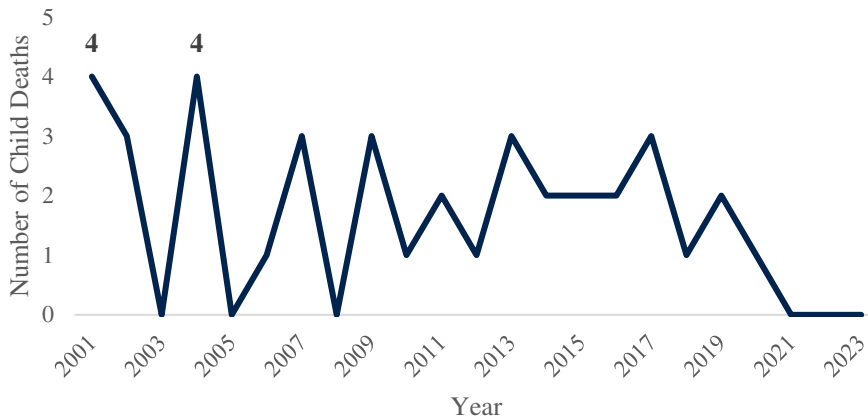
Age	Percentage
< 1 year old	71%
1-4 years old	9%
5-9 years old	7%
10-14 years old	8%
15-17 years old	5%

The age demographic in the child fatality population has predominantly infant deaths, who are those less than one year of age, at seventy-one percent (71%). The remaining child fatalities due to a medical condition are spread relatively evenly across the age groups.

Medical deaths are not always preventable, however, with proper access to screenings, medications, and education on the importance of care and risk factors that can cause disease, they can be a little more manageable.

Motor Vehicle Deaths

Number of Child Deaths due to a Motor Vehicle Crash



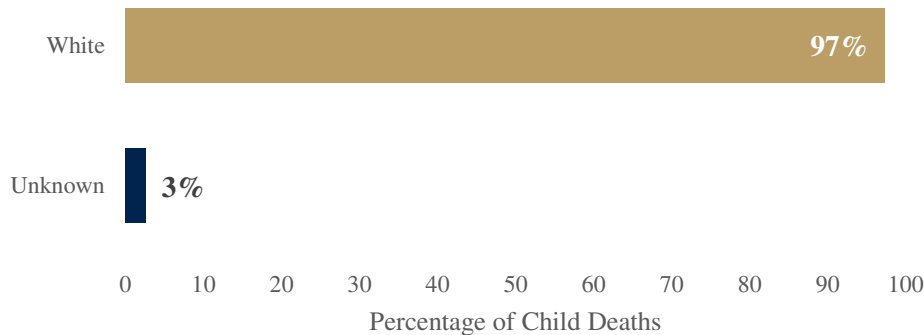
In Warren County from 2001 through 2023, there were thirty-eight motor vehicle-related deaths. This averages out to a little under two deaths per year. The maximum amount of child deaths due to a motor vehicle crash was four and this occurred in both 2001 and 2004.

When analyzing gender within the motor vehicle crash fatality child population, there was an equal representation of males and females at fifty percent (50%).

Percentage of Child Deaths due to a Motor Vehicle Crash by Sex

Male	50%
Female	50%

White Children Experienced a Higher Percentage of Motor Vehicle Crash Deaths Compared to Children of Other Races.



White individuals accounted for ninety-seven percent (97%) of child deaths due to motor vehicle crashes. The remaining three percent (3%) of individuals were unable to be identified their race.

*Term defined in glossary

The age distribution of child deaths that resulted from a motor vehicle crash had a high percentage of individuals between fifteen and seventeen years old at sixty-one percent (61%). A trend was seen that with a decrease in age, there is a decrease in the percentage of child fatalities. Ages ten to fourteen years old have twenty-one percent (21%) of the child fatalities, while ages five to nine years old have five percent (5%) and ages one to four years old have three percent (3%). This trend is expected, as children are legally allowed to drive at sixteen in Ohio.

Percentage of Child Deaths due to a Motor Vehicle Crash by Age

< 1 year old	3%
1-4 years old	5%
5-9 years old	8%
10-14 years old	21%
15-17 years old	61%

**Does not equal 100% because there were responses that were "Unknown" that were not included.*

Percent of Motor Vehicle Child Deaths by Position of the Child

Driver	34%
Passenger	32%
Pedestrian	24%
Bicycle	5%
Unknown	5%

Child deaths due to a motor vehicle crash varied by the location of the child. In thirty-four percent (34%) of the deaths the child was the driver of the vehicle and thirty-two percent (32%) of deaths, the child was the passenger. Death when the child was a pedestrian makes up twenty-four percent (24%) of the motor

vehicle deaths and five percent (5%) of the deaths were children on a bicycle. The remaining five percent (5%) of deaths were unable to classify the child's position.

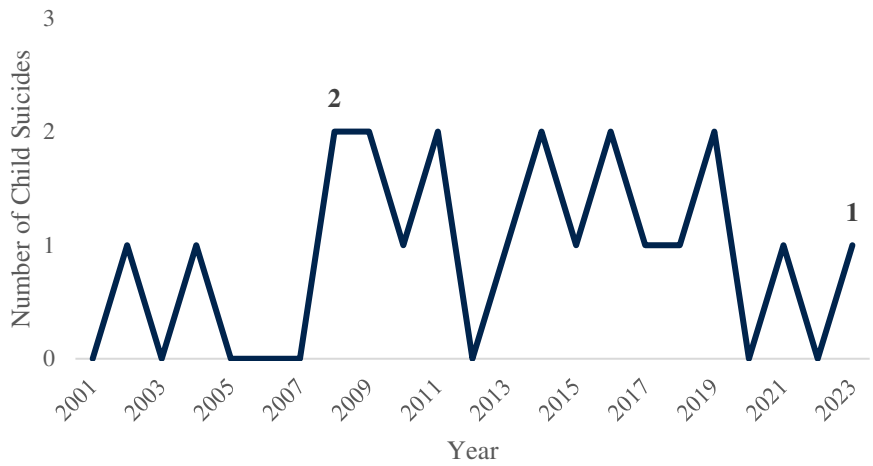
To reduce child motor vehicle deaths, it is important to be educated on how to prevent these deaths as much as possible. The Ohio Department of Health has a program called Safe Communities, which works to reduce injuries that can be caused by motor vehicles and save lives that are threatened by motor vehicle crashes¹⁰. The goal of this program is to increase the use of seat belts and awareness of safe driving¹⁰. The Warren County Health District offers a car seat program that provides safety seats and booster seats to low-income families who would not be able to afford them otherwise¹. The goal of this program is to increase the availability of safety seats for those in need¹. Through the use of these programs and increased education and awareness of the community, the number of child motor vehicle deaths will hopefully decrease.

*Term defined in glossary

Suicides

A suicide is a death that results from self-inflicted harm that was intentional². Suicides are the eleventh leading cause of death in the United States⁴. Of all the child deaths in Warren County from 2001 through 2023, there were twenty-one suicides. From 2001 through 2023, there was an average of one suicide per year. The largest number of suicides each year was two, which was seen in multiple years. There were also multiple years with no child suicides in Warren County.

Number of Child Suicides from 2001-2023



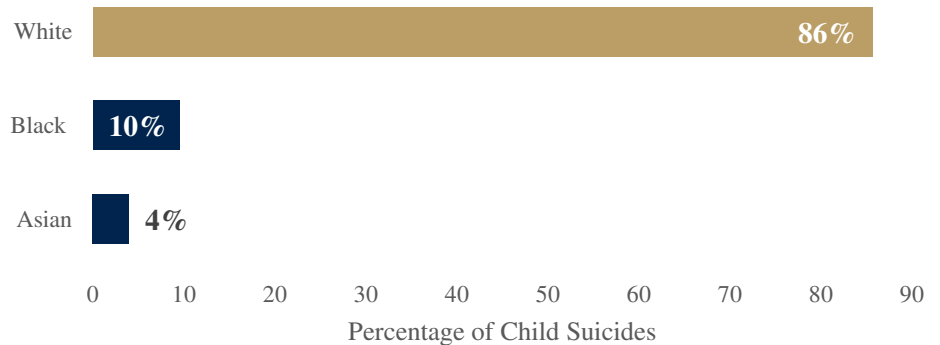
Percentage of Child Suicides by Sex

Sex	Percentage
Male	81%
Female	19%

There was a much higher male rate of child suicides presented, with them making up eighty-one percent (81%) of the child suicides. Females, on the other hand, made up a much smaller proportion of about nineteen percent (19%) of child suicides.

Child suicides were distributed among three races, which were White, Black, and Asian. The White population accounted for eighty-six percent (86%) of the fatalities, while Blacks and Asians made up ten percent (10%) and four percent (4%), respectively.

White Children are the Highest Percentage of Child Suicides When Compared to Children of Other Races.



When it comes to age, only ages ranging from ten to seventeen years old presented with child deaths due to suicide. Fourteen percent (14%) of child suicides were made up of children ages ten to fourteen years old and the remaining eighty-six percent (86%) was made up by ages fifteen to seventeen years old.

Percentage of Child Suicides by Age

Age Group	Percentage
< 1 year old	0%
1-4 years old	0%
5-9 years old	0%
10-14 years old	14%
15-17 years old	86%

*Term defined in glossary

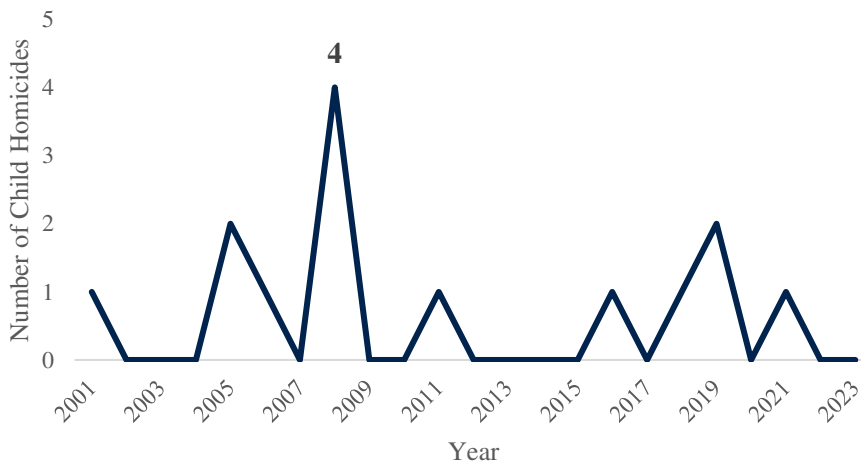
The cause of death of the suicides varied. Thirty-eight percent (38%) of deaths were caused by the use of bodily force or weapon and another thirty-eight percent (38%) of deaths were caused by asphyxia. Motor vehicle crashes accounted for five percent (5%) of the child deaths in the county. Any other cause of death was classified as “Other” and this category made up fourteen percent (14%) of child suicides.

Bodily Force/Weapon	38%
Motor Vehicle	5%
Other	14%
Asphyxia	38%

Suicides are striking a large part of our older child population. The Mental Health Recovery Board serves Warren County and Clinton County and works to serve those who struggle with mental health or substance abuse⁹. There is also a non-profit organization in Lebanon, Ohio called Safe on Main. This program serves survivors of sexual assault, domestic abuse, and human trafficking, as well as aims to increase prevention education in the community¹¹. These two programs work to impact those struggling with mental health, substance abuse, or trauma, which are typically driving factors of suicide. To prevent child suicide, these programs need to be easily accessible.

Homicides

Number of Child Homicides from 2001-2023



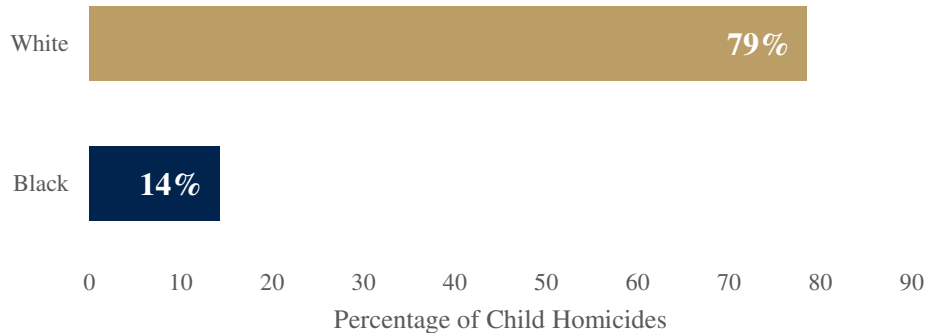
A homicide is a death that results from harm from another individual². There were fourteen child homicides in Warren County from 2001 through 2023. This averages out to under one child homicide a year. The largest number of child homicides that was seen in Warren County was in 2008 when there were four child homicides.

There was an equal representation of males and females in the child homicide population, at fifty percent (50%) for each.

Male	50%
Female	50%

*Term defined in glossary

White Children Represent a Higher Percentage of Child Homicides than Black Children.



There were two races making up the child homicide population in Warren County, which were White and Black. The White population made up the majority at seventy-nine percent (79%), while the Black population made up the remaining fourteen percent (14%).

**This does not equal 100% because there were deaths labeled “No response” when it came to race and were not included.*

Percentage of Child Homicides by Age

< 1 year old	14%
1-4 years old	50%
5-9 years old	7%
10-14 years old	7%
15-17 years old	14%

**Does not equal 100% because there were responses that were “Unknown” that were not included*

Fifty percent (50%) of the child homicides were ages one to four years old. Children less than one-year-old and children fifteen to seventeen years old each made up fourteen percent (14%), while children five to nine years old and children ten to fourteen years old each made up seven percent (7%).

Percentage of Child Homicides by Cause of Death

Bodily Force/Weapon	50%
Drowning	7%
Fire	29%
Motor Vehicle	7%
Other	7%

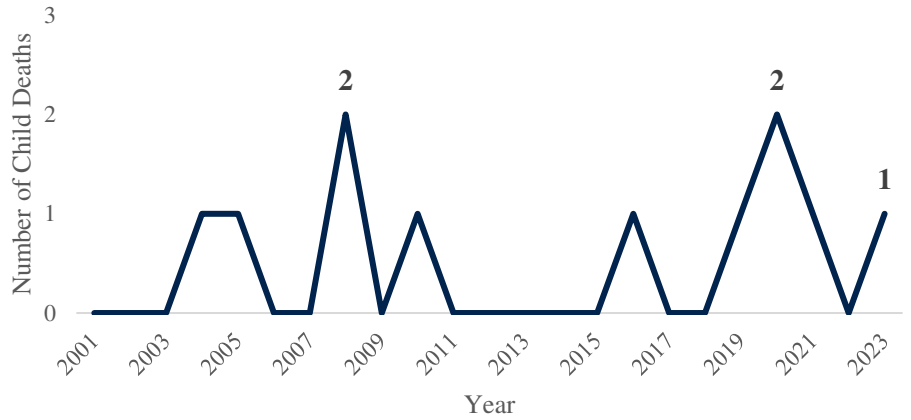
Data regarding the cause of death regarding the homicides was also able to be analyzed. It was found that fifty percent (50%) of the child homicides were caused by a bodily force or weapon, twenty-nine percent (29%) were caused by fire, while drowning, motor vehicle, and other causes of death each made up seven percent (7%).

Ninety-two percent (92%) of child homicides in the county from 2001-2023 were preventable. The Mental Health Recovery Board serves those struggling with mental health or substance abuse⁹. Access to this program can potentially lower child homicides, as it addresses some driving factors of homicide. Crime prevention programs may also contribute to the community effort to lower child homicides.

Drowning

A drowning death* refers to a death suffocation being submerged in a liquid. From 2001 through 2023, Warren County had eleven total deaths due to drowning. On average, there was less than one drowning a year in Warren County from 2001 through 2023. There were only two years where there was a high of two deaths, which were 2008 and 2020. The remaining years varied from zero to one drowning death.

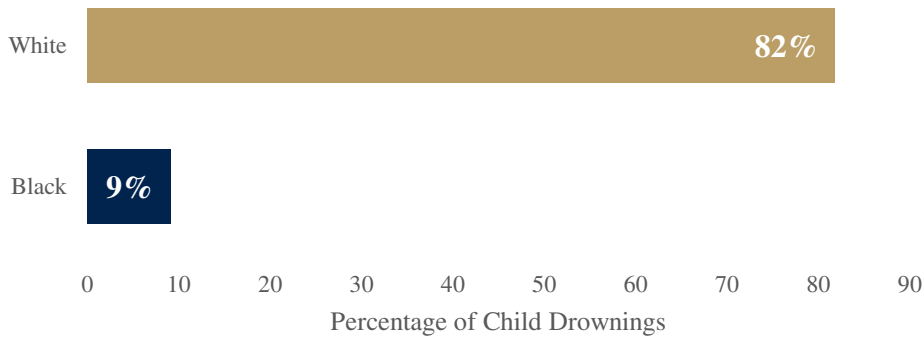
Number of Child Deaths due to Drowning from 2001-2023



Males accounted for a larger percentage of drownings, at sixty-four percent (64%) of deaths, and females at thirty-six percent (36%) of deaths in the county.

Percentage of Child Deaths due to Drowning by Sex	
Male	64%
Female	36%

White Children Experienced a Higher Percentage of Child Drownings Compared to Black Children.



Eighty-two percent (82%) of the deaths in Warren County due to drowning were White children and nine percent (9%) were Black children. The remaining nine percent (9%) of the children’s demographic information was categorized as “Unknown,” meaning they were not able to be identified by race or their race was not recorded at the time of death.

**This does not equal 100% because there were deaths labeled “Unknown” when it came to race and was not included.*

*Term defined in glossary

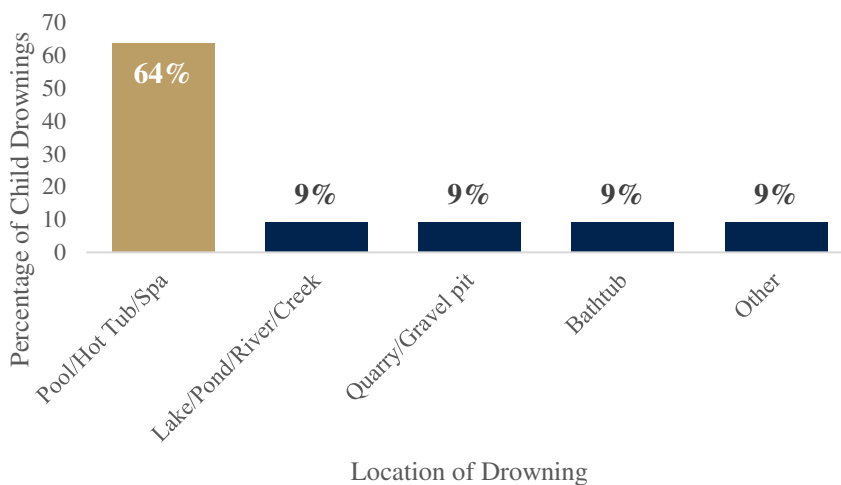
Percentage of Child Deaths due to Drowning by Age

< 1 year old	9%
1-4 years old	64%
5-9 years old	0%
10-14 years old	9%
15-17 years old	18%

The age distribution for the child fatalities due to drowning was highest in the one-to-four-year age category, with sixty-four percent (64%) of children who died from drowning being that age. The next highest age group when it comes to drowning deaths was ages fifteen to seventeen years old, with this group making up eighteen percent (18%) of child drowning deaths in the county. The remaining eighteen percent (18%) of drowning deaths were evenly split between children less than one-year-old and children ten to fourteen years old, with each of these age groups being nine percent (9%) of drowning deaths in the county.

Child drownings can happen in any place with water, but they typically happen in everyday places, like pools, bathtubs, or ponds. In Warren County, the most deaths, sixty-four percent (64%), occurred in a pool or hot tub. The remaining deaths occurred in either a small body of water like a lake or river, a bathtub, a quarry, or some other location, with each of these locations making up nine percent (9%) of the deaths.

Most Child Drownings Occur in a Pool or Hot Tub.



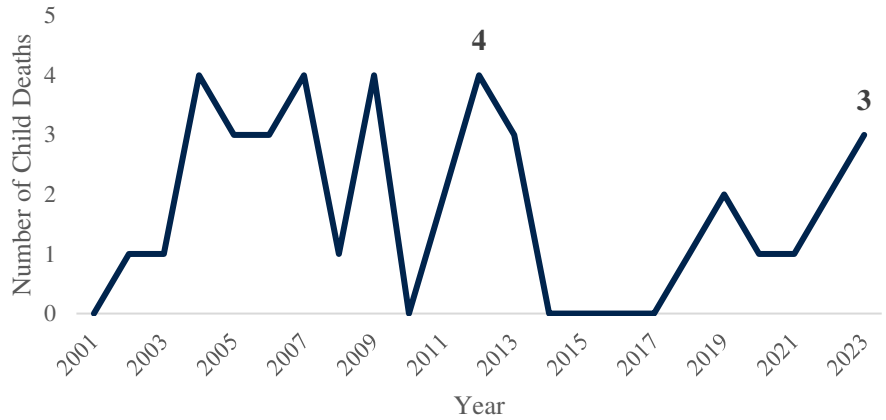
Efforts should be focused on how to prevent drowning deaths. Different ways to do this include enrolling children in swim lessons, building fences around pools, having children wear life jackets when they are in or around water, increasing supervision of the child, and providing access to water safety education.

*Term defined in glossary

Sleep-Related Deaths

Sleep-related deaths* are deaths that occur while a child is sleeping. These types of deaths can be due to various reasons like suffocation, strangulation, entrapment, or sudden unexpected infant death¹². On average, there were a little less than two sleep-related deaths a year in Warren County from 2001 through 2023. The most deaths in a year were four, which occurred in 2004, 2007, 2009, and 2012.

Number of Sleep Related Child Deaths from 2001-2023



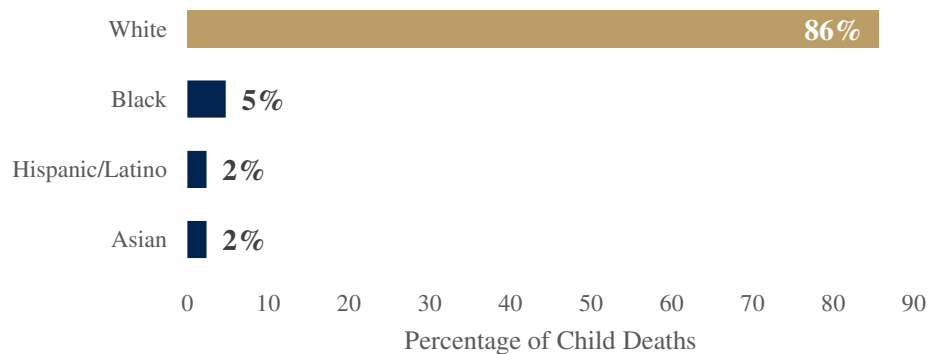
Percentage of Sleep Related Child Deaths by Sex

Male	56%
Female	44%

The population of child sleep-related deaths was fifty-six percent (56%) males and forty-four percent (44%) females.

Race and ethnicity varied with White children making up a larger percentage of the child deaths at eighty-six percent (86%). Black children make up five percent (5%), while Asian children and Hispanic children each make up two percent (2%). The remaining five percent (5%) of the children were labeled “Unknown,” meaning their race was unable to be identified.

White Children Account for a Higher Percentage of Sleep Related Child Deaths Compared to Other Races.



**This does not equal 100 because there were deaths labeled “Unknown” and “No response” when it came to race.*

*Term defined in glossary

Percentage of Sleep Related Child Deaths by Age

0-1 month old	27%
2-3 months old	29%
4-5 months old	17%
6-7 months old	15%
8-11 months old	7%
1-4 years old	5%

Although any child can die in their sleep, there is a higher rate of sleep-related deaths in infants, which are children less than one year old. Suffocation is more likely to occur when an infant sleep on their stomach or sleep with toys or pillows since they cannot reposition themselves if they get stuck in a position where they cannot breathe. In Warren County, infants make up ninety-five percent (95%) of the sleep-related deaths, with the remaining five percent (5%) of children being ages one to four years old. The highest percentage of deaths was in children two to three months old at twenty-nine percent (29%) and children zero to one-month-old were the next closest at twenty-seven percent (27%). After three months of age, the percentage of sleep-related deaths decreased as age increased, with four to five months being seventeen percent (17%) of child deaths, six to seven months being fifteen percent (15%) of child deaths, eight to eleven months being seven percent (7%) of child deaths, and one to four years being five percent (5%) of child deaths.

Percent of Sleep Related Child Deaths by Cause

Sudden Infant Death Syndrome	10%
Asphyxia	63%
All Other Causes	27%

In Warren County ten percent (10%) of the cases were related to sudden infant death syndrome*, which is the sudden death of an infant, typically while they are sleeping, where a cause of death cannot be identified. Sixty-three percent (63%) of the child deaths were related to asphyxia, which is the suffocation of a child and twenty-seven percent (27%) were related to other causes, which could be related to strangulation or entrapment.

Sleep-related child deaths can be due to various factors. Factors like if children sleep in a crib, sleep on their back, sleep with other people, have toys or blankets in their bed or have poor supervision while they sleep can impact their likelihood of dying in their sleep. In Warren County, there was a large relationship seen between sleep-related deaths and the child not sleeping in a crib or bassinet, with this being seventy-three percent (73%) of the cases. Forty-nine percent (49%) of the sleep-related deaths occurred when the child was sleeping with other people and thirty-seven percent (37%) occurred when the child was not sleeping on their back. Twenty-two percent (22%) of the cases were related to soft bedding or toys with the child

Percent of Sleep Related Child Deaths by Factors Involved

Not in crib or bassinet	73%
Not sleeping on back	37%
Soft bedding/toys in sleep environment	22%
Sleeping with other people	49%
Obese adult sleeping with child	2%
Adult was alcohol impaired	2%
Adult was drug impaired	2%
Caregiver/supervisor fell asleep while bottle feeding	2%
Caregiver/supervisor fell asleep while breast feeding	2%

*Term defined in glossary

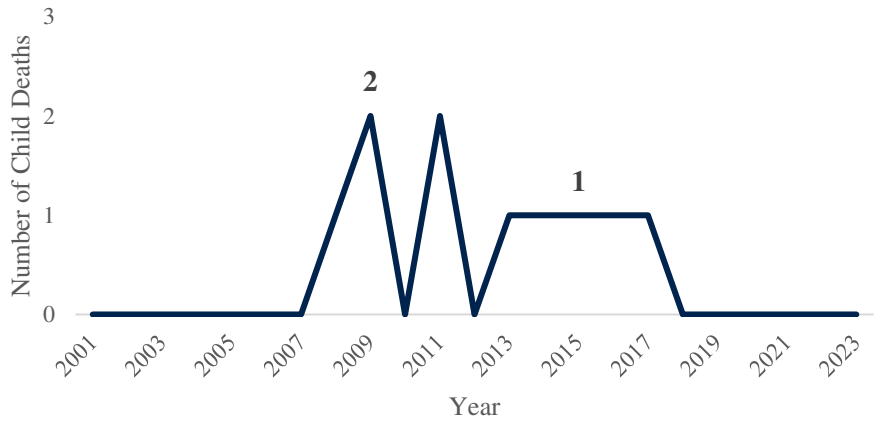
while sleeping. The remaining cases were due to an obese adult sleeping with the child or poor supervision of the child.

Many educational resources provide information on how to prevent sleep-related child deaths. The Ohio Department of Health has a great page on its website that provides sleep tips for parents with an infant⁷. The Ohio Department of Health and the Warren County Health District has a Cribs for Kids program, that provides a free crib and sleep education for those who need it^{7,8}. Having a crib is vital to reducing sleep-related deaths since a child not sleeping in a crib accounted for seventy-three percent (73%) of the sleep-related child deaths.

Non-Sleep Related Asphyxia

There was a total of nine non-sleep-related asphyxia*, also known as suffocation, deaths in Warren County from 2001 through 2023. On average there was less than one death per year. The most deaths seen in a year was two and this occurred only in 2009 and 2011.

Number of Child Deaths due to Asphyxia from 2001-2023



Percentage of Child Deaths due to Asphyxia by Sex

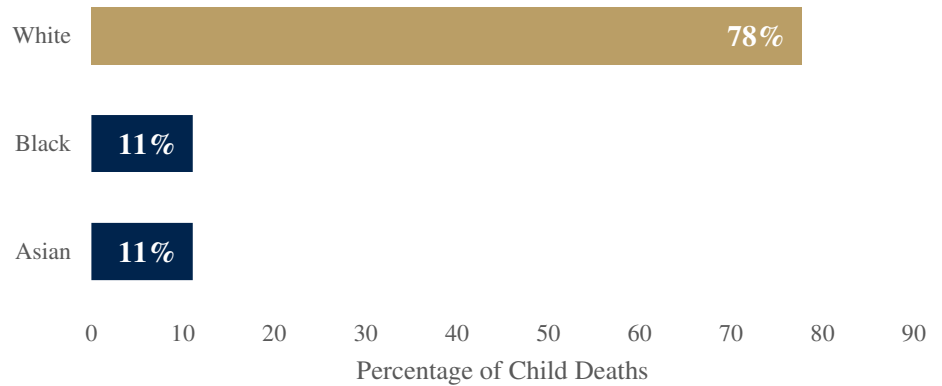
Male	33%
Female	67%

These child deaths impacted more female children, with them being sixty-seven percent (67%) of the deaths and males being thirty-three percent (33%) of the deaths.

*Term defined in glossary

The percentage of child deaths due to asphyxia were mostly White children, with them making up seventy-eight percent (78%) of the deaths. Black children and Asian children each made up eleven percent (11%) of the deaths in the county.

More White Children Die due to Asphyxia Compared to Children of Other Races.



Percentage of Child Deaths due to Asphyxia by Age

< 1 year old	11%
1-4 years old	0%
5-9 years old	0%
10-14 years old	11%
15-17 years old	78%

The majority of these deaths occurred in children ages fifteen to seventeen years old, with them being seventy-eight percent (78%) of deaths. Eleven percent (11%) of child fatalities due to non-sleep-related asphyxia occurred in children less than one and children between ages ten and fourteen years old.

Percentage of Child Deaths due to Asphyxia by Type

Suffocation	11%
Strangulation	89%

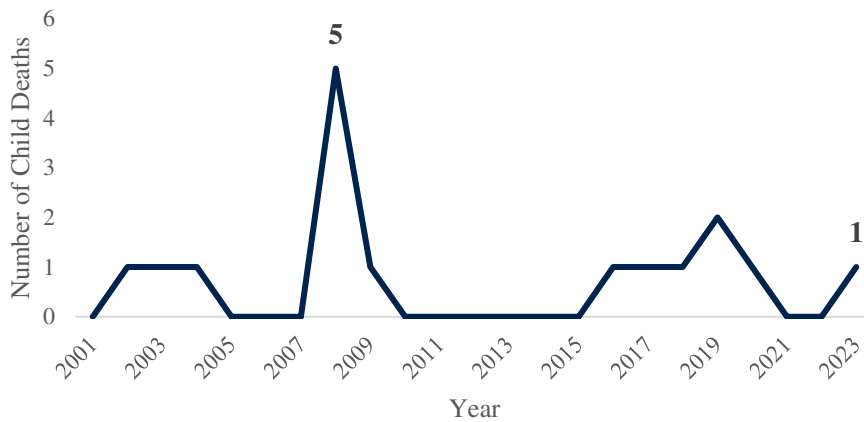
It is also important to note that eighty-nine percent (89%) of these deaths were through strangulation and eleven percent (11%) were through suffocation.

To prevent non-sleep-related asphyxia deaths in children, parents or guardians should keep small items out of reach of their child and should learn the Heimlich maneuver in case a child begins to choke on a small object. It is also important that every parent can call 911, in case of emergency.

*Term defined in glossary

Other Child Deaths

Number of Child Deaths due to Other Causes from 2001-2023



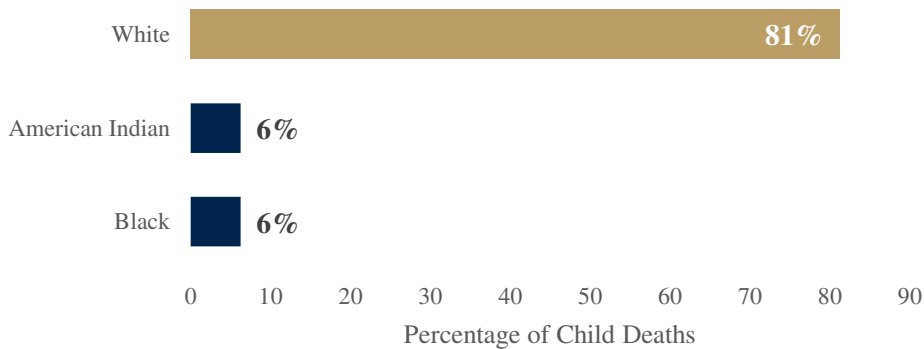
Other child deaths are defined as any death due to fire, poisoning, a fall or crush, or exposure to hazards. Sixteen child deaths in Warren County were related to other measures from 2001 through 2023. These measures included fire, poisoning, fall or crush, and exposure to hazards. On average, there were less than one death a year related to these causes, with a high of five deaths in 2008.

Males represented sixty-nine percent (69%) of these deaths, while females represented thirty-five percent (35%) of the deaths.

Age of Child Deaths due to Other Causes by Sex

Male	69%
Female	31%

White Children Experienced the Highest Percentage of Child Deaths due to Other Causes Compared to Children of Other Races.



When analyzed by race, eighty-two percent (82%) of the deaths were White children. The remaining child deaths were made up of Black children and American Indian children. Both of these races represented six percent (6%) of the population. The race of the remaining six percent (6%) was unable to be identified for race.

**This does not equal 100 because there were deaths labeled "Unknown" and "No response" when it came to race.*

Percentage of Child Deaths due to Other Causes by Age

< 1 year old	13%
1-4 years old	31%
5-9 years old	13%
10-14 years old	12%
15-17 years old	31%

The age distribution was spread through ages zero to seventeen years old. Children age one to four and age fifteen to seventeen each represented thirty-one percent (31%) of the population. On the other hand, children less than one year, children five to nine years old, and children ten to fourteen years old, each accounted for thirteen percent (13%) of the other child deaths population.

To reduce poison deaths, there is the Cincinnati Drug and Poison Information Center that provides a twenty-four-hour hotline, which can be called to get information needed regarding substances and poison⁵. This center also provides prevention materials that can be used for drug and poison education⁵. To reduce deaths by fire, parents should have up-to-date smoke detectors and fire extinguishers. Lastly, to reduce child deaths, parental supervision and education is key.

Conclusion

Child death is a tragedy that affects everywhere in the nation. It is important to bring attention to these deaths and use this information to lower the number of child deaths and prevent them in the future. This is done by identifying child deaths and the reasonings behind them. By looking at the ways different races, genders, and ages were affected by death and different causes of death, an area of focus for child death prevention can be determined.

In Warren County, the child fatality rate is lower than the rate for Ohio and the United States and has been trending downward since 2017, but it is still important to work to a lower rate of child deaths. In 2022, Warren County had a child fatality rate of 2.6 child deaths per 10,000 children. In 2022, Ohio had a child fatality rate of 6.0 deaths per 10,000 individuals, while the United States had a rate of 4.7 deaths per 10,000 children.

In 2023, there were twenty-one child deaths in the county. This is the largest number in the past five years. It is important to note this number and keep an eye out within the next couple of years to see if there is an upward or downward trend in the number of child deaths. Of the child death population, White children and infants were largely impacted. With further investigation into different causes of death, White children remained the highest percentage of the deaths. Infant deaths, on the other hand, represented over half of the child deaths in the county. It would be beneficial to focus efforts towards reducing child deaths in these two groups.

The purpose of the child fatality review is to identify what groups are being affected and what puts them at risk to create a plan that works to lower child fatality in Warren County. There must be a joint effort across different professions to make changes that will benefit the children of Warren County. It is the goal that this review will benefit the community in the long run.

*Term defined in glossary

Glossary

Accidental death: A death that is the result of an unintentional incident (or accident)

Asphyxia: Suffocation

Cause of death: a disease, injury, or incident that start a chain of events that lead to death

Child: An individual less than eighteen years old

Child fatality: The death of an individual less than eighteen years old

Child fatality rate: The number of child deaths in a year by the number of children in the population

Child fatality review: A report that helps determine why children are dying

Drowning: A death that results from suffocation while submerged in a liquid

External cause of death: A death caused by a non-medical condition

Homicide: A death caused by the direct infliction of someone else

Infant: A child less than one year old

Low birth weight: A weight of less than 2,500 or 5.5 pounds at birth

Manner of death: The way death occurred (natural, accidental, suicide, homicide, undetermined)

Medical cause of death: A death caused by a medical condition

Natural death: A death that occurs naturally (typically when a disease or medical condition progresses to death)

Normal birth: A birth that occurs after thirty-seven weeks of pregnancy

Normal birth weight: A weight of or greater than 2,500 grams or 5.5 pounds at birth

Pending: A temporary label for a death that needs further investigation to determine the cause of death, a label for when a manner of death has not been determined at the time death data was retrieved

Premature birth: A birth that occurs before thirty-seven weeks of pregnancy

Sleep-related death: A death that occurs while a child is sleeping

Sudden infant death syndrome (SIDS): The sudden death of an infant that occurs typically while they are sleeping and a cause of death cannot be identified

Suicide: A death intentionally caused by oneself

Undetermined death: A death in which there is not enough information to confirm another manner of death

References

1. *Car seat safety*. Warren County Health District - Ohio. <https://warrenchd.com/healthcare/community-health-education/car-seat-safety>
2. *Cause & manner of death*. Cause & Manner of Death | Snohomish County, WA - Official Website. <https://snohomishcountywa.gov/806/Cause-Manner-of-Death#:~:text=The%20classifications%20are%20natural%2C%20accident,determined%20by%20the%20medical%20examiner.>
3. Centers for Disease Control and Prevention. (2022, August 12). *Health, United States, 2020-2021, Cause of death*. Centers for Disease Control and Prevention. <https://www.cdc.gov/nchs/hus/sources-definitions/cause-of-death.htm>
4. Centers for Disease Control and Prevention. *CDC WONDER*. Centers for Disease Control and Prevention. <https://wonder.cdc.gov/>
5. *Drug and Poison Information Center*. Cincinnati Children's. <https://www.cincinnatichildrens.org/service/d/dpic>
6. *Explore Census Data*. United States Census Bureau. <https://data.census.gov/all?q=warren+county+children>
7. *Infant Safe Sleep*. Ohio Department of Health. <https://odh.ohio.gov/know-our-programs/maternal-infant-wellness/safe-sleep>
8. *Infant safe sleep*. Warren County Health District - Ohio. <https://warrenchd.com/healthcare/community-health-education/safe-sleep>
9. *Mental Health Recovery Board - Who We Are*. Mental Health Recovery Board. <https://www.mhrbwcc.org/>
10. *Ohio Safe Communities*. Ohio Traffic Safety Office. <https://otso.ohio.gov/programs/ohio-safe-communities>
11. *SAFE on Main - About Us*. SAFE on Main. (2024, April 4). <https://safeonmain.org/about/#mission>
12. U.S. Department of Health and Human Services. *What are other sleep-related infant deaths?*. Eunice Kennedy Shriver National Institute of Child Health and Human Development. <https://safetosleep.nichd.nih.gov/about/other-sleep-related-deaths#:~:text=Other%20sleep%2Drelated%20infant%20deaths%20are%20deaths%20linked%20to%20how,around%20baby's%20neck%20or%20head.>