Child Fatality Review 2020

Public Health
Prevent. Promote. Protect.

Butler County
General Health District

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DEDICATION

The loss of a child has a tragic impact on families, and our community as a whole. The Child Fatality Review serves to protect the lives of Butler County children and to help every child thrive into adulthood. The Child Fatality Review Board is a group of professionals within the county who honor the memory of each child lost by working to prevent future deaths of children. We dedicate this report, with deepest sympathy, to the children who have passed and to their families.

ACKNOWLEDGEMENTS

The committed individuals who serve on the Child Fatality Review (CFR) Board, working to better understand why children die and how to prevent future deaths, make this report possible. These Board members must do the hard task of reviewing every child death in the county, which can be challenging and uncomfortable. We thank our Board members for their dedication to improving the lives of Butler County children.

The CFR Board is governed by:

- Jennifer Bailer, Board Chairperson and Butler County General Health District Health Commissioner
- Tracy Bishop, Program Manager of Maternal and Infant Health, Butler County General Health District
- Dr. Lisa Mannix, Butler County Coroner
- Dr. Michelle Burch, Medical Director and Pediatrician
- Tina Combs, CFR coordinator

The Butler County CFR Board also represents members from diverse professions in the community. Members are made up of representatives from:

- Butler County General Health District
- City of Middletown Health Department
- City of Hamilton Health Department
- Butler County Children Services
- Cincinnati Children's Hospital
- Premier Health Partners, Atrium Medical Center
- Butler County Mental Health and Recovery Services Board
- The Office of Butler County Prosecutor

OHIO REVISED CODE

The Ohio General Assembly established the Ohio CFR program in 2000, to better understand why children are dying in the state of Ohio. The law mandates CFR Boards in each of Ohio's Counties review the deaths of all children younger than 18 years of age. According to Ohio Revised Code 307.623, the mission of the CFR is to reduce the incidence of preventable child deaths by doing all of the following:

A. Promoting cooperation, collaboration, and communication among all groups, professions, agencies or entities that serve families and children;

B. Maintaining a comprehensive database of all child deaths that occur in the county or region served by the child fatality review Board in order to develop an understanding of the causes and incidences of those deaths;

C. Recommending and developing plans for implementing local service and program changes and changes to the groups, professions, agencies, or entities that serve families and children that might prevent child deaths;

D. Advising the Department of Health of aggregate data, trends and patterns concerning child deaths.

INTRODUCTION

Butler County's CFR Board is composed of a multidisciplinary group of community leaders from agencies that have contact with a child; including the coroner's office, hospitals, child protective services, and public health.

The CFR Board reviews the deaths of children under the age of 18 who were residents of Butler County, identifies trends and gaps in community systems for system improvement, and make recommendations in policy and practice to prevent similar deaths from occurring in the future. The Butler County CFR not only makes recommendations, but tasks local agencies, who serve our children, with changing policies and practices within their agencies that would reduce the incidence of death and improve the health and wellness of Butler County's children.

The CFR serves to educate the public and community leaders about the cause and preventability of childhood deaths to spark changes in community systems that will prevent future deaths from occurring.

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EXECUTIVE SUMMARY

The Butler County CFR Board reviewed a total of 37 deaths for the year 2020. Summary statistics and recommendations for prevention are included in this report.

By demographics, 68% of the child deaths reviewed were infants (<1 year), 24% of the total deaths reviewed were Black; however, only 11% of the general child population in Butler County are Black. Male children accounted for 54% of all the total deaths reviewed.

The CFR Board ruled 35% of the total deaths as preventable. A child's death is considered preventable if the cause of death could have been avoided through primary prevention interventions before the onset of the disease. Of the preventable deaths by age group, infants less than 1 year of age had the highest preventability deaths, followed by children between the ages of 1 to 4 years. Children between the ages of 5 to 14 years had the lowest preventability deaths.

Of the total deaths reviewed, 65% were medical cause while 35% external cause. The CFR Board select the causes of death category that provides the most information about the circumstances of the death, with a focus on prevention. Majority of the medical cause deaths reviewed were infants younger than 1 year of age with prematurity as the leading risk factor. The leading risk factor for external deaths reviewed was vehicle accidents.

CFR Board report the manner of death as indicated on the death certificate. Manner of death is a classification of how an injury or disease leads to death. Sixty-five percent of the total deaths reviewed were natural causes followed by 30% accident causes. Natural deaths included prematurity, congenital anomalies or birth defects. The remaining manner of deaths reviewed were suicide and homicide with 3% each.

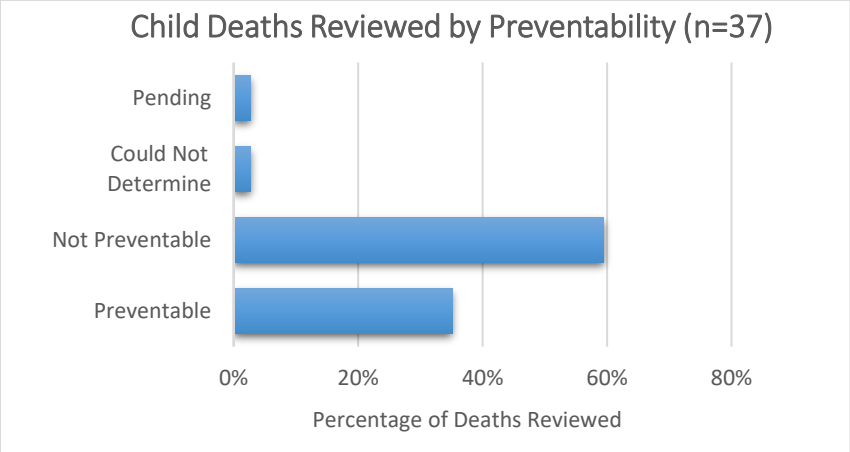
Based on the above outcomes, the CFR Board recommends prevention efforts to reduce child and infant deaths in Butler County should focus on:

- Increase public awareness on the importance of the use of seat belts in motor vehicles
- Routine screening at schools for mental health wellness
- Smoking cessation programs for pregnant women
- Safe sleep for infants
- Education on pool fencing and pool safety
- Community support system for pregnant women and new mothers
- Importance of doctor and patient relationship, guide to building trusting relationships with patients.

CHILD DEATH BY PREVENTION

The loss of any child is devastating to families and communities. It is especially tragic if the death of a child could have been prevented. The CFR Board, considering multiple factors decides if a death was preventable, unpreventable, or could not be determined during the review process. A child's death is considered preventable if the cause of death could have been avoided through primary prevention interventions, which was before the onset of diseases/injuries.

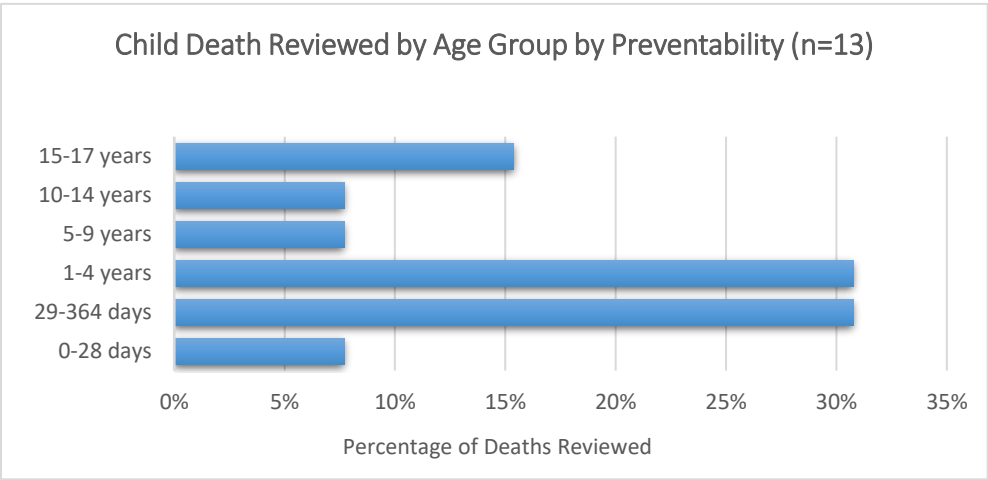
Of the total deaths reviewed, 35% were determined preventable, while 59% were not preventable. By identifying preventable deaths, the CFR makes recommendations to reduce the risk factors that are associated with child deaths.



PREVENTABLE CHILD DEATH REVIEWED BY AGE GROUP

According to the Center for Disease Prevention and Control (CDC), an average of 12,175 children between the age of 0 to 19 years die each year in the United States from unintentional injuries. Unintentional injuries are unplanned and typically preventable when proper safety precautions are followed.

As stated above, the CFR Board ruled 35% of the total deaths preventable. Of the preventable deaths by age group, infants less than 1 year of age had the highest preventability deaths with 39%, followed by children between the ages of 1 to 4 years with 31%. Children between the ages of 5 to 14 years had the lowest preventability deaths.



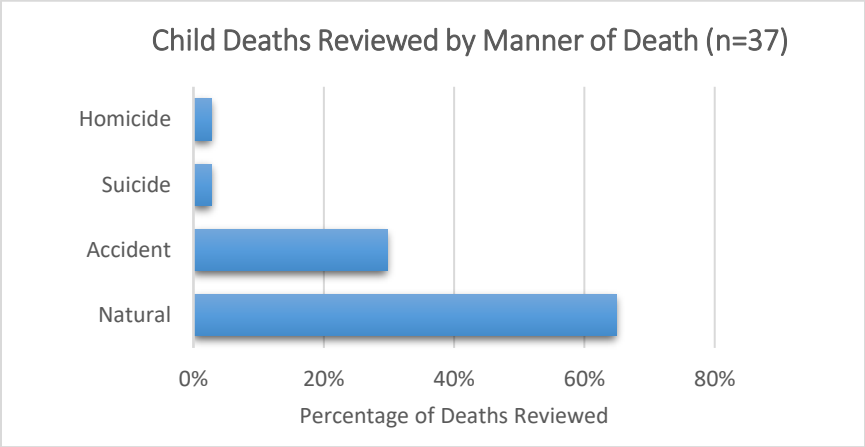
Infant mortality is an important health indicator of a community. In Butler County, there are many evidence-based prevention programs (e.g. home visiting, Centering, etc.) and interventions currently taking place to reduce the number of infant deaths. Infant mortality and prevention measures are highlighted in this report.

MANNER OF CHILD DEATH REVIEWED

For deaths being reviewed, CFR Boards report the manner of death as indicated on the death certificate. Manner of death is a classification of how an injury or disease leads to death. The manner of death categories on the Ohio death certificate are natural, accident, suicide, homicide, undetermined, pending, and unknown.

According to the Ohio Department of Health Child Fatality Review definitions, natural deaths are caused by natural disease process. Accident deaths are caused by unintentional injuries. Suicide deaths are self-inflicted injury with the intent to die. Homicide is the deliberate and unlawful killing of a person by another person. Undetermined is when the manner of death cannot be determined after a medical and legal investigation.

Of the total child deaths reviewed, 65% were natural causes. Natural deaths included prematurity, congenital anomalies or birth defects. Thirty percent were accidents that included Sudden Unexpected Infant Death (SUID). SUID is the sudden and unexpected death of a baby less than 1 year old in which the cause was not obvious before investigation. These deaths often happen during sleep or in the baby's sleep area (CDC). The remaining manner of deaths reviewed were suicide with 3% and homicide with 3%.

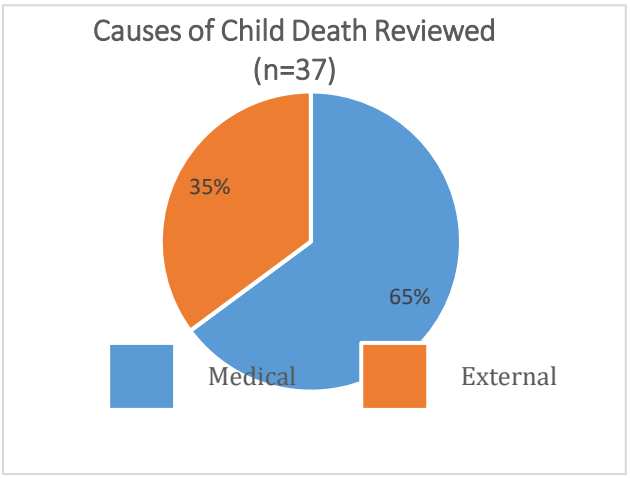


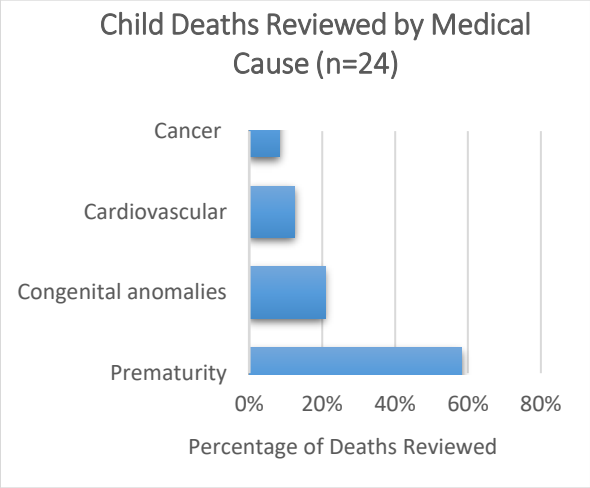
CAUSES OF CHILD DEATH REVEIWED

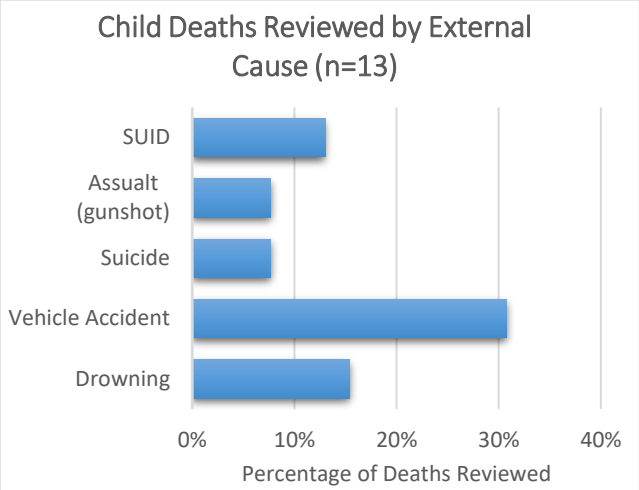
The CFR Board select the cause of death category that provides the most information about the circumstances of the death, with a focus on prevention. The causes of death categories in Ohio are medical or external causes.

Medical cause are deaths caused from a natural disease, prematurity or congenital defects. External cause are deaths caused by injuries, either intentional or resulting from acute exposure to forces that exceed a threshold of the body's tolerance according to the Ohio Department of Health Child Fatality definitions.

Of the total deaths reviewed, 65% were medical cause while 35% external cause. Most medical cause deaths were of infants younger than 1 year of age. Prematurity was the leading risk factor for all medical cause deaths reviewed with 58%, followed by congenital anomalies with 21%. The leading cause of external deaths reviewed was vehicle accidents with 31% followed by drowning with 15%. SUID accounted for 13% of all external cause deaths.



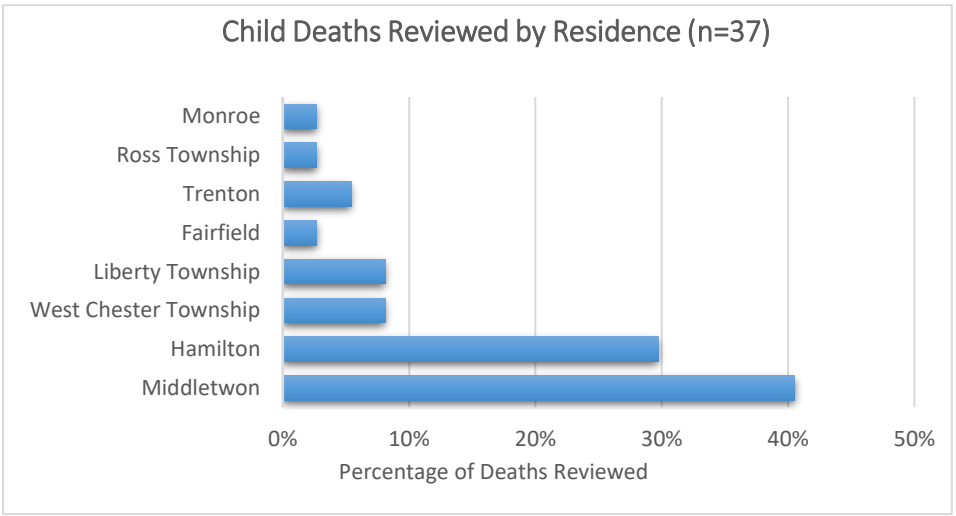




CHILD DEATH BY RESIDENCE

The place where one lives affect a wide range of health including the quality of life outcomes and risks. Studies have demonstrated poorer cities in the United States have higher mortality rates of preterm births, chronic diseases and limited healthcare access (CDC). Children born into poverty are more likely to experience a wide range of health problems including infant mortality.

Of all the child deaths reviewed, the City of Middletown had the highest mortality rate with 41%. According to the American Community Survey, 25% of Middletown residents live in poverty. The City of Hamilton had the second highest mortality rate with 30% of the total child deaths reviewed. Seventeen percent of Hamilton residents live in poverty.



CHILD DEATH BY DEMOGRAPHIC CHARACTERISTICS

Reviewing child deaths by demographic characteristics such as age, race, ethnicity, and sex allow for the identification of disparities that may exist.

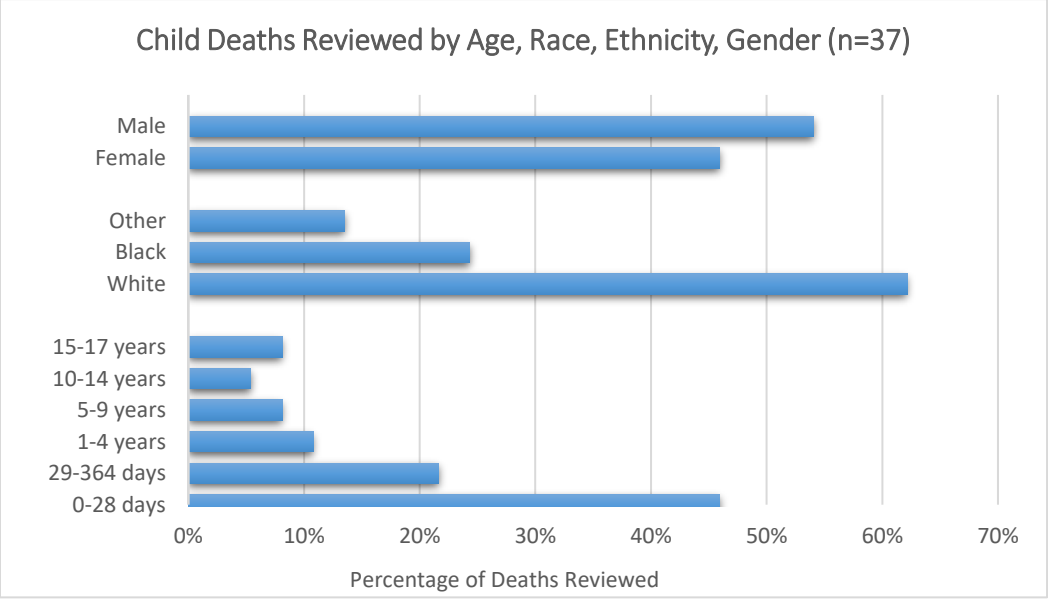
Of the total deaths reviewed,

- Sixty-eight percent were children less than 1 year of age. Prematurity and low birth weight were the leading cause of death for children less than 1 year of age.

- African American children accounted for 24% of the total deaths reviewed; however, the general population for African American children in Butler County is 11%.

- White children accounted for 62% of the total deaths reviewed. The general population for White children in Butler County is 79%.

- Male children accounted for 54% of the total deaths reviewed compared to 46% female. Studies have shown that male children have a higher mortality rate than female children.



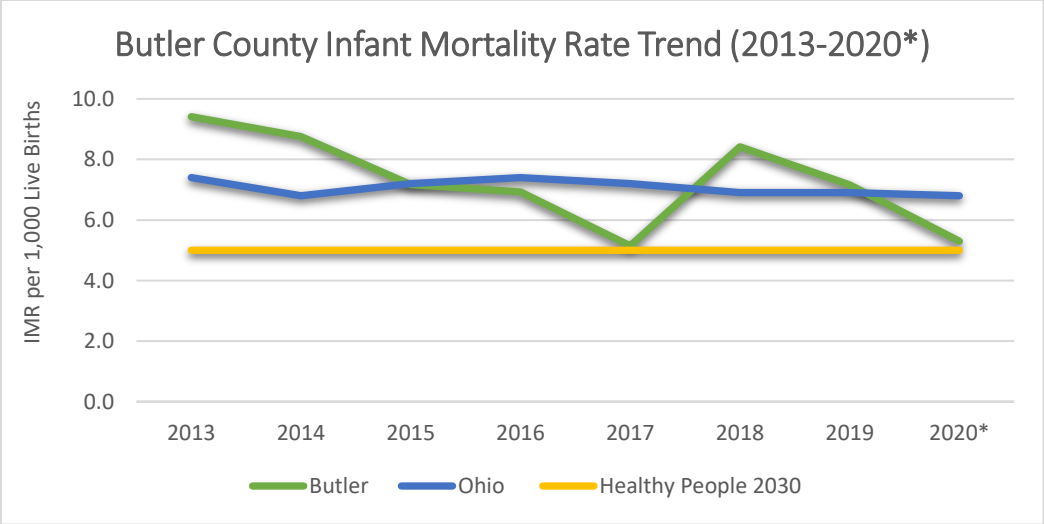
INFANT MORTALITY

Infant mortality is the death of an infant before their first birthday. Infant mortality is an important public health measure and an indicator of the overall health of a community.

Overall, Butler County's infant mortality rate has been decreasing since 2012. The infant mortality rate in Butler County, across all races, decreased from 7.2 deaths per 1,000 live births in 2019 to 5.3 deaths per 1,000 live births in 2020.

The Ohio infant mortality rate across all races was 6.9 per 1,000 live births in 2019. Healthy People 2030 is a federal plan that provides national objectives for improving the health of Americans. The goal of Healthy People 2030 is to reduce infant deaths to 5.0 per 1,000 live births. The Healthy People initiatives set measurable objectives every decade to address pressing public health issues.

The figure below shows the yearly infant mortality rate in Butler County and Ohio from 2013-2020 and the Healthy People 2030 Goal.



Data Source: Ohio Department of Health, Bureau of Vital Statistics birth, mortality and fetal deaths. Preliminary 2020 data was updated Dec. 9, 2020 and is subject to change. Data for 2020 represent quarterly 12-month moving averages.

INFANT DEATH BY DEMOGRAPHIC CHARACTERISTICS

Reviewing infant deaths by demographic characteristics such as age, race, ethnicity, and sex is a useful indicator for infant and maternal healthcare. According to the World Health Organization (WHO), the first 28 days of a baby's life are the most vulnerable time for a child's survival.

Neonatal mortality (deaths among live births during the first 28 days of life) are generally associated with the pregnancy and delivery periods. Neonatal death is often attributed to premature birth, low birth weight, birth defects or inadequate access to medical care during and after pregnancy (WHO).

Of the total infant deaths reviewed

Age:

- Neonatal babies (under the age of 28 days) accounted for 68% of all the infant deaths reviewed. The leading causes of neonatal death are premature birth, low birth weight, and congenital anomalies.

- Postneonatal babies (between the ages of 29-364 days) accounted for the remaining 32% of the infant deaths reviewed. The leading causes of postneonatal death are infectious disease, SUID and unintentional injuries.

Race:

Although infant mortality has decreased in Butler County, there is still a significant racial disparity among birth outcomes. Black infants were more than 1.7 times more likely to die than White infants and 1.3 times more likely than Hispanic infants in 2020.

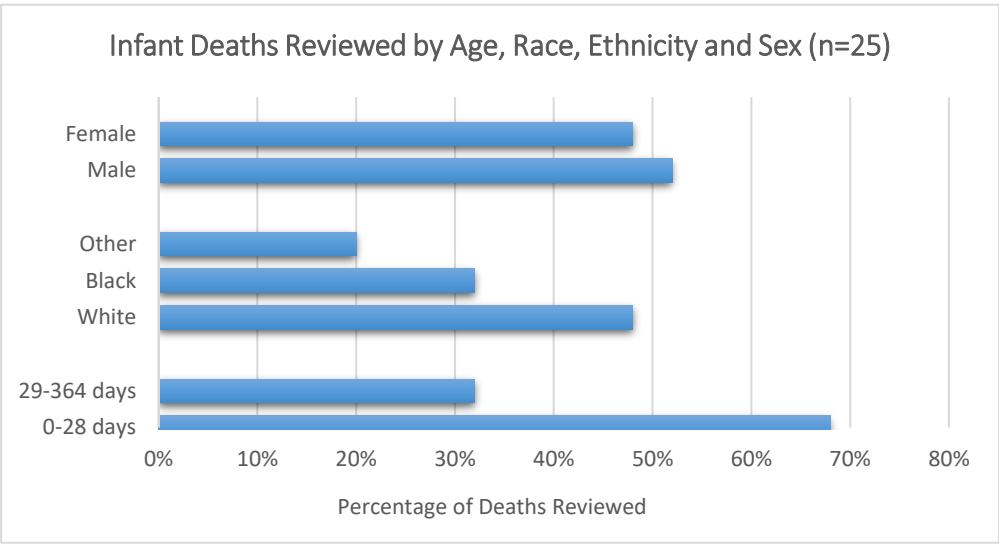
- As stated earlier, the general African American children population in Butler County is 11%, however, 32% of the infant deaths (<1 year) reviewed were Black.

- White babies accounted for 48% of the infant deaths reviewed. The general population of White children in Butler County is 79%.

Sex:

Studies show males children have higher infant mortality rate than female children. This has been explained by sex differences in genetic and biological makeup, with the male gender being more susceptible to prematurity, respiratory distress syndrome and intrauterine growth restriction.

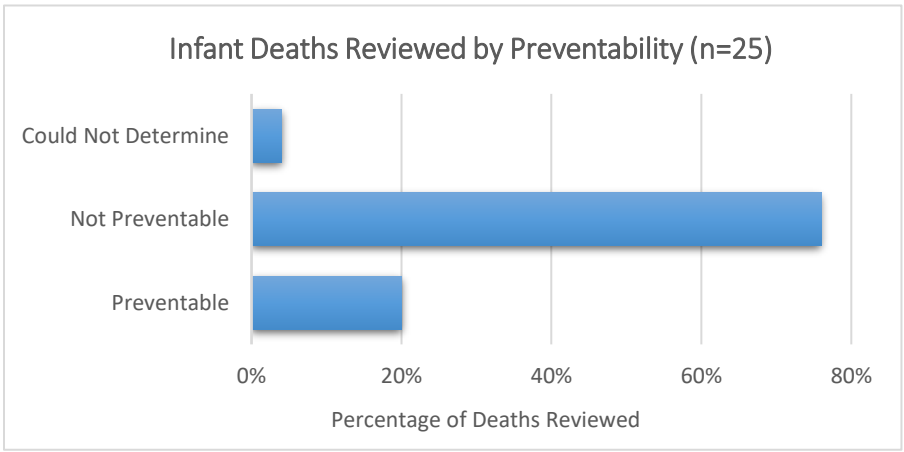
- Of all the infant deaths reviewed, male infants accounted for 52% compared to 48% female infants.



PREVENTABLE INFANT DEATH

As stated earlier, the CFR Board determines whether a death is preventable through careful review of many social and behavioral factors contributing to the death. By identifying preventable deaths, the Board makes recommendations to help communities reduce the risk factors that are associated with each death.

- Of all the infant deaths reviewed, 20% were found to be preventable by the Board.
- Seventy-six percent of the infant deaths reviewed were not preventable. Most of the infant deaths found not preventable were of natural causes.



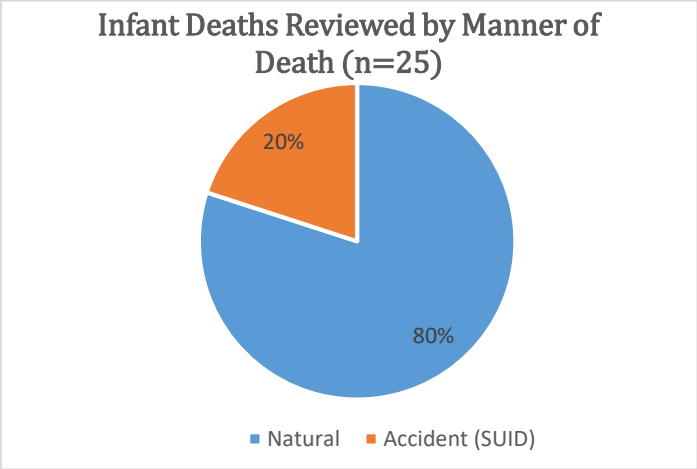
MANNER OF INFANT DEATH

As stated above, manner of death is the classification of how an injury or disease leads to death. There are five manners of death on the Ohio death certificate, which are natural, accident, homicide, suicide, and undetermined/pending. The county coroner determines the manner of death.

Of all the infant deaths reviewed,

- Natural deaths accounted for 80%. Natural deaths included prematurity, low birthweight and congenital anomalies.

- Accidental deaths accounted for the remaining 20% of all the infant deaths reviewed. All the accidental infant deaths reviewed were sleep-related deaths.



CAUSES OF INFANT DEATH

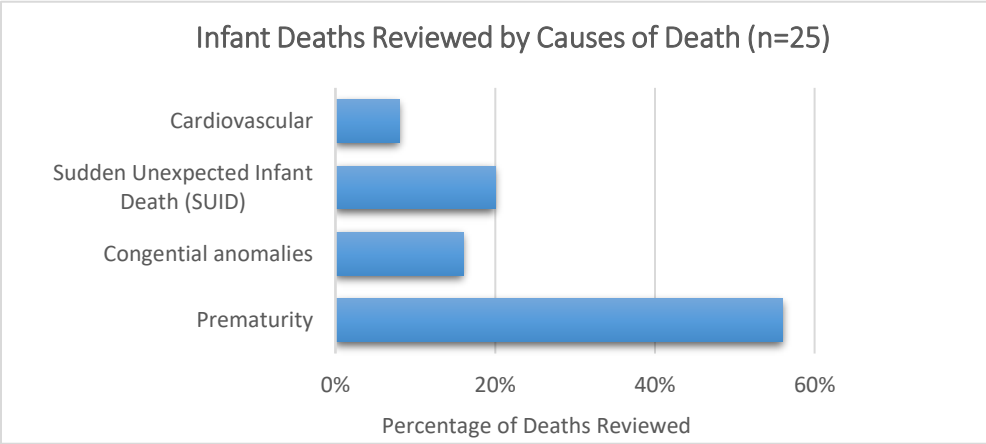
The CFR Board determines the causes of death with a focus on prevention. The cause of infant death selected by the Board may not match the death certificate. The cause of death categories in Ohio are medical or external causes.

Of the total infant deaths reviewed by causes,

- Prematurity was the leading cause of all infant deaths reviewed with 56%.

- Sudden Unexpected Infant Death (SUID) accounted for 20% of all the causes of infant deaths reviewed.

- Congenital anomalies accounted for 16% for all the causes of infant deaths, and cardiovascular diseases accounted for the remaining 8%.

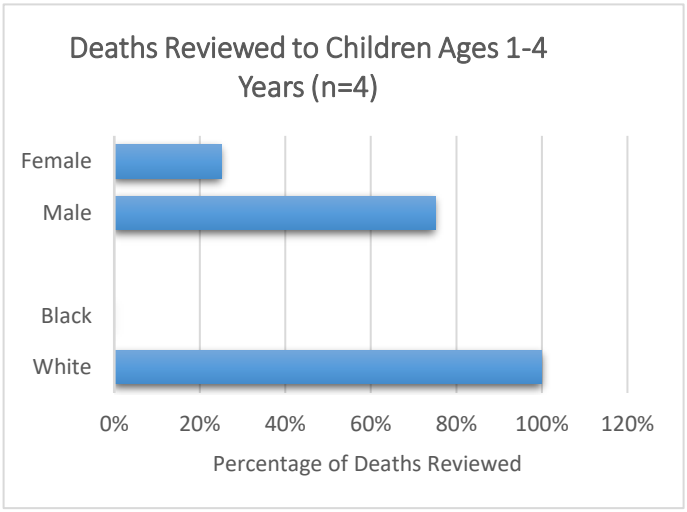


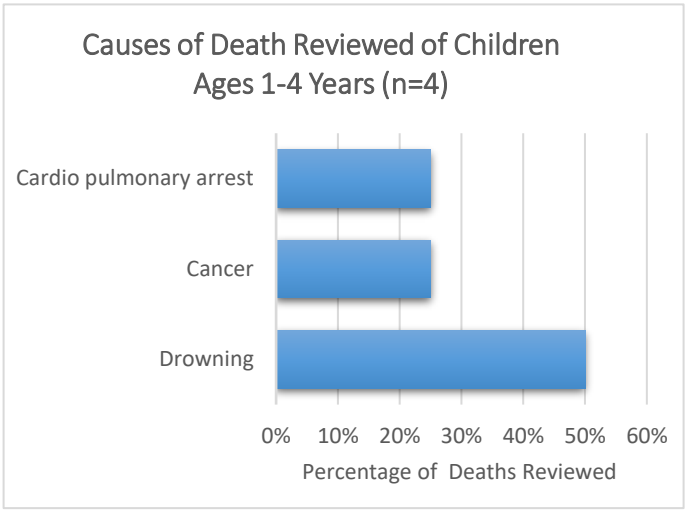
CHILD DEATH AGE 1-4 YEARS

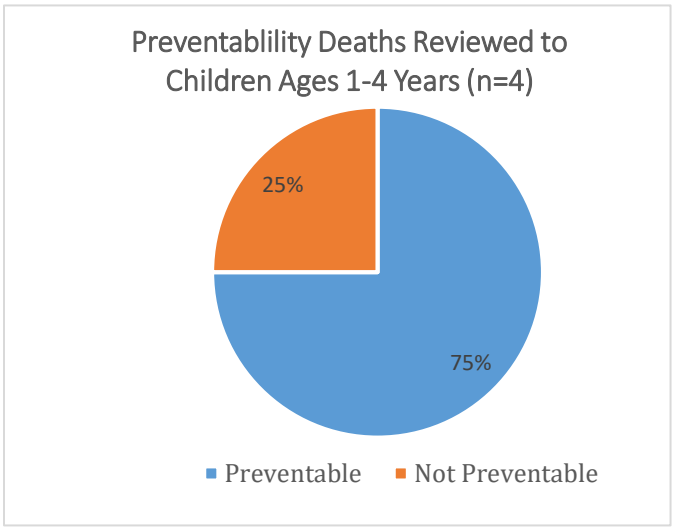
According to the National Center for Health Statistics, the leading causes of death for children ages 1 to 4 years are accidents, congenital anomalies, and cancer. The Center for Disease Control and Prevention (CDC) also list drowning as the leading cause of injurious deaths for children between the ages of 1 to 4 years of age.

CFR Findings:
The Board reviewed four deaths of children ages 1 to 4 years.

- By race, all four deaths reviewed of children ages 1 to 4 years were White.
- By sex, male children accounted for 75% of the deaths reviewed for ages 1-4 years compared to 25% female.
- Seventy-five percent of the child deaths reviewed for ages 1-4 years were found to be preventable. Preventability could not be determined in 25% of the reviewed deaths.
- Drowning was the leading cause of deaths reviewed for children ages 1-4 years with a 50% mortality rate.







CHILD DEATH AGE 5-9 YEARS

According to the National Center for Injury Prevention and Control, the leading causes of death for children ages 5 to 9 years nationally are motor vehicle injuries, cancer, and congenital anomalies.

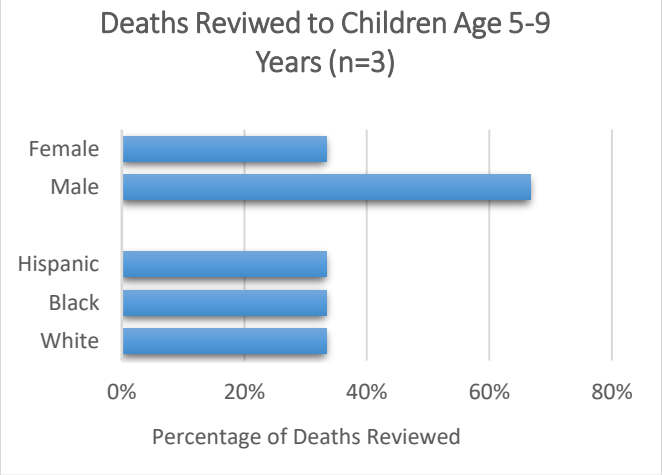
CFR Findings:
The Board reviewed three total deaths of children ages 5 to 9 years.

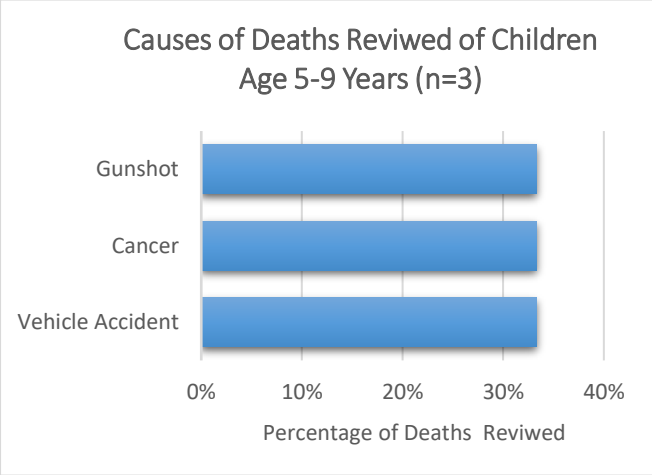
- By race, there was one Black, one White and one Hispanic child between the ages 5 to 9 years of the deaths reviewed.

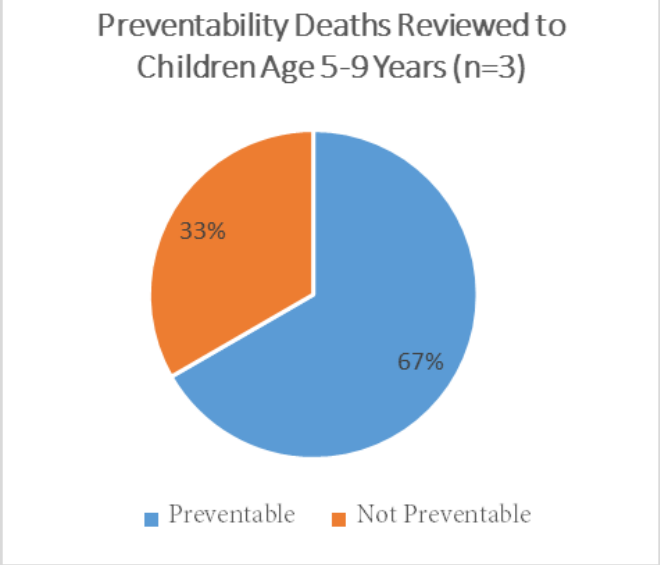
- By sex, male children accounted for 67% of the deaths reviewed compared to 25% female.

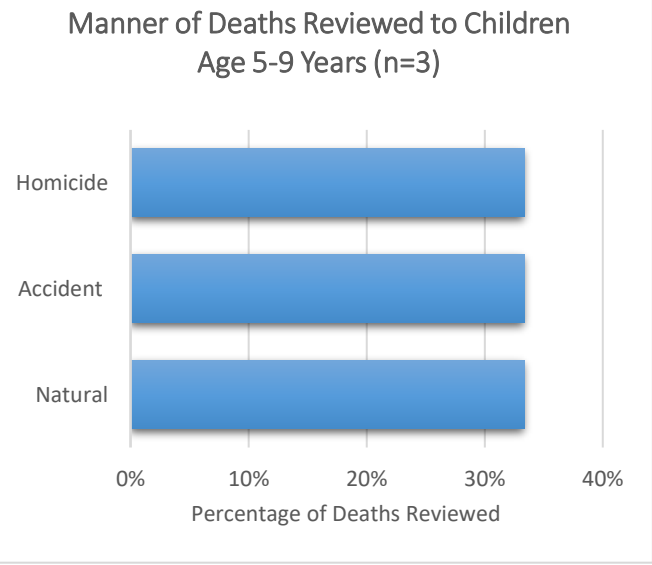
- Sixty-seven percent of child deaths ages 5-9 years were found to be preventable. Preventability could not be determined in 33% of the reviewed deaths.

- The manner of death of children ages 5-9 years, deaths reviewed were equally distributed with 33% of deaths caused by a natural manner, 33% accidental manner and 33% homicide.







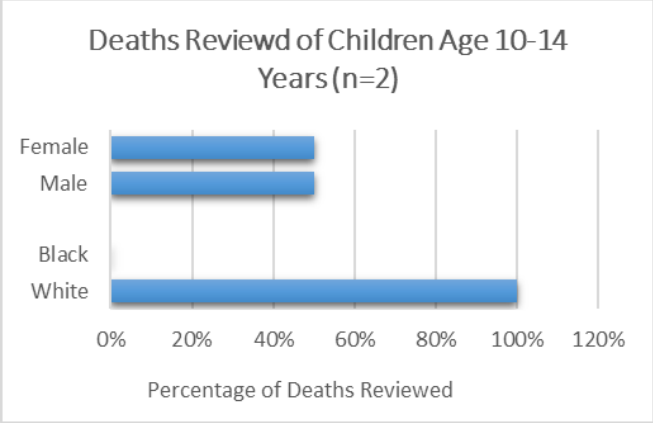


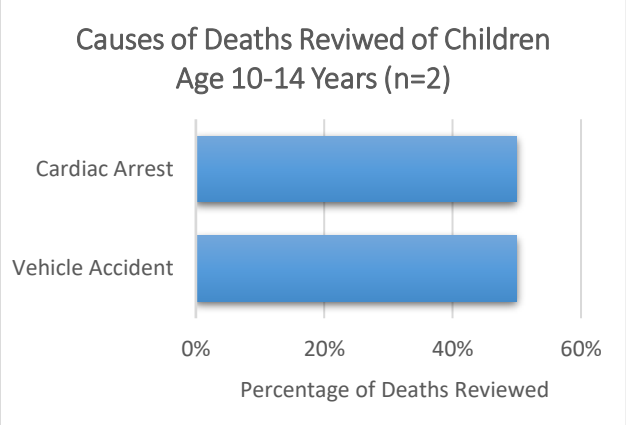
CHILD DEATH AGE 10-14 YEARS

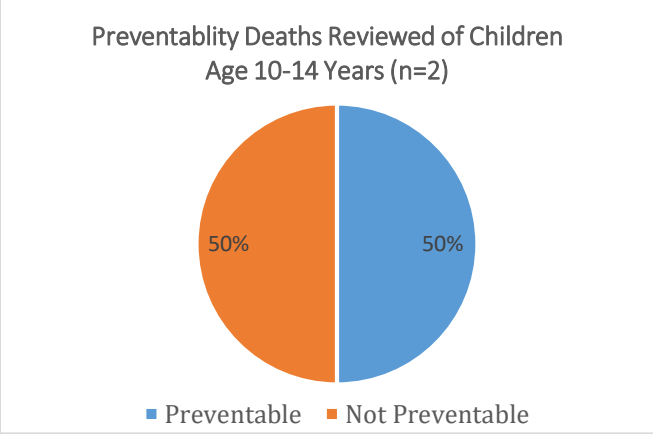
The leading causes of death for children ages 10 to 14 years are motor vehicle injuries, cancer, and congenital anomalies according to the National Center for Injury Prevention and Control.

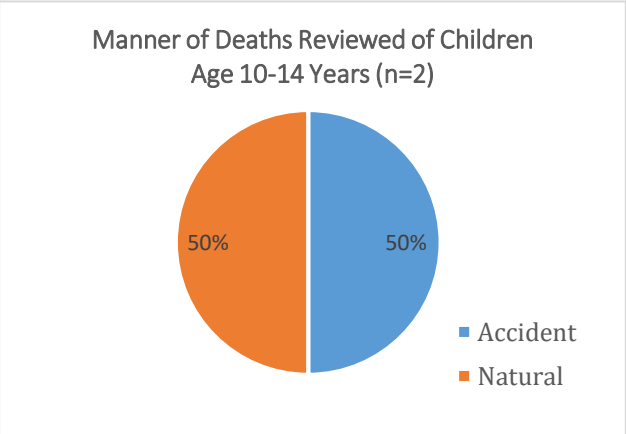
CFR Findings:
The Board reviewed two deaths of children ages 10 to 14 years.

- By race, the two deaths reviewed were of White children.
- By sex, male children accounted for 50% and female accounted for 50%.
- Fifty percent of the reviewed deaths of children age 10 to 14 years were found to be preventable. Preventability could not be determined in the other 50% of deaths reviewed.
- The causes of deaths reviewed were cardiac arrest and motor vehicle accident.







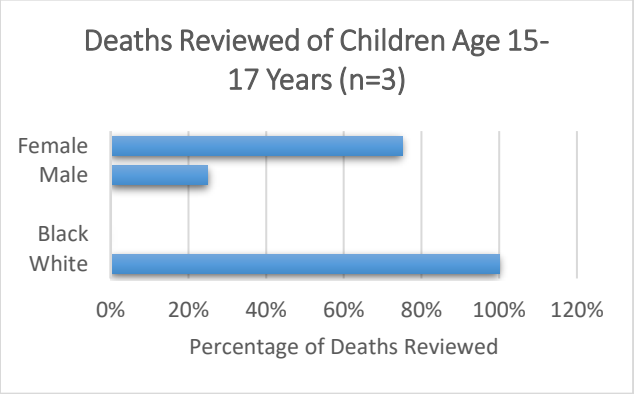


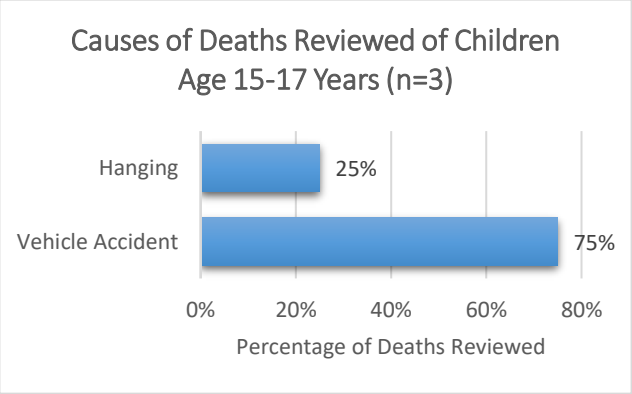
CHILDREN DEATH AGE 15-17 YEARS

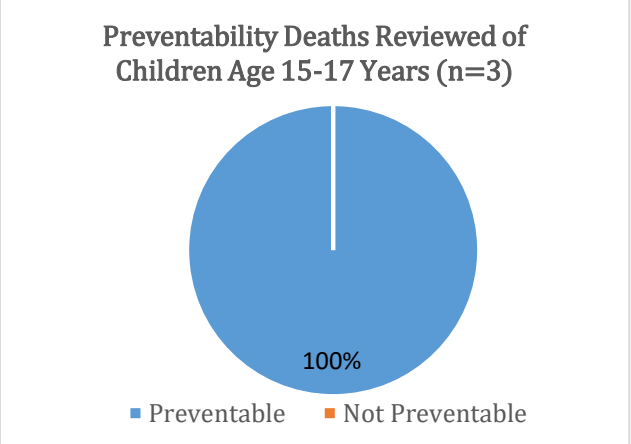
According to the National Center for Injury Prevention and Control, the leading causes of death for children ages 15 to 17 years are firearm injuries, motor vehicle injuries, and suffocation.

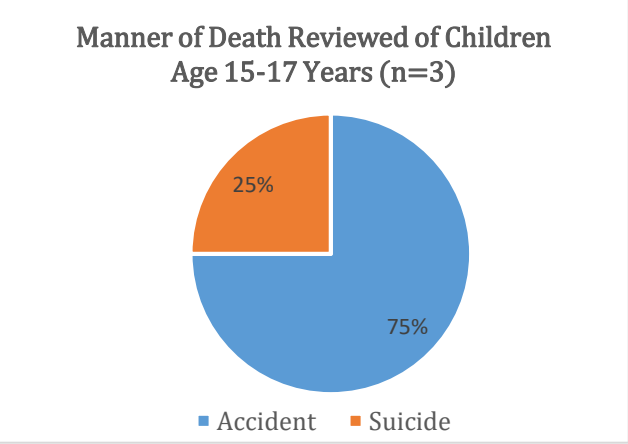
CFR Findings:
The Board reviewed three total deaths of children ages 15 to 17 years.

- By race, all the three deaths reviewed were of White children.
- By sex, female children accounted for 75% compared and male children accounted for 25% deaths reviewed of children ages 15 to 17 years.
- All three deaths of children ages 15 to 17 years were found to be preventable.
- The causes of deaths reviewed were motor vehicle accident and suicide.









RECOMMENDATIONS

The purpose of CFR is to reduce the incidence of preventable child deaths. The CFR Board make numerous recommendations for the prevention of child deaths in Butler County. The Board recommends increasing public awareness of the importance of medical care before and during pregnancy, safe sleep for infants and making healthy lifestyle choices. Based on all 2020 cases review, recommendations the Board suggested are as follows:

- Education on pool fencing and pool safety
- Awareness and education for parents to not to allow children to swim alone without supervision
- Education on the use of helmet and reflective gear for motorcyclist at night
- Education at schools on bike safety and road crossing guide
- Safety measures on highways
- Butler County biker community working on a campaign to "Look Out for Each Other"
- Education on the use of seat belts in motor vehicles
- Education for teens about the number of passengers allowed in their vehicles
- Education for parents not to allow children to bath alone or get into bath tub without adult supervision
- Counselling for teens with mental health and behavioral concerns
- Routine screening at schools for mental health wellness
- Community support system for pregnant women and new mothers
- Smoking cessation programs for pregnant women
- Education on the practices of safe sleep
- Importance of doctor and patient relationship, guide to building trusting relationships with patients
- Smoking cessation programs for marijuana users
- Education for parents on the danger of bed sharing with an infant, encourage safe sleep practices
- Education on marijuana use during and after pregnancy, risks and side effects
- Examination of post-delivery infections of mothers and infants

Public Health
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Butler County
General Health District

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