Ohio Child Fatality Review Seventeenth Annual Report

September, 2017

Ohio Children's Trust Fund

Ohio Department of Health

Ohio Child Fatality Review
Seventeenth Annual Report

This report includes reviews of child deaths that occurred in 2016 and aggregate reviews for 2012-2016.

MISSION

To reduce the incidence of preventable child deaths in Ohio

SUBMITTED SEPTEMBER 30, 2017, to

John R. Kasich, Governor, State of Ohio
Clifford A. Rosenberger, Speaker, Ohio House of Representatives
Larry Obhof, President, Ohio Senate
Fred Strahorn, Minority Leader, Ohio House of Representatives
Kenny Yuko, Minority Leader, Ohio Senate
Ohio Child Fatality Review Boards
Ohio Family and Children First Councils

SUBMITTED BY

Ohio Department of Health
Ohio Children's Trust Fund

OHIO CHILDREN'S TRUST FUND

Ohio Department of Health

Table of Contents

Table of Contents

Dedication

Each child's death represents a tragic loss for the family, as well as the community. Child fatality review depends on committed professionals in every community throughout the State of Ohio. With a desire to protect and improve the lives of young Ohioans, they have committed themselves to gaining a better understanding of how and why children die. With deepest sympathy, we respectfully dedicate this report to the memory of these children and to their families.

Acknowledgments

This report is made possible by the support and dedication of more than 500 community leaders who serve on Child Fatality Review (CFR) boards throughout the State of Ohio. Acknowledging that the death of a child is a community problem, members of the CFR boards step outside zones of personal comfort to examine all of the circumstances that lead to child deaths. We thank them for having the courage to use their professional expertise to work toward preventing future child deaths.

We also extend our thanks to the Ohio Child Fatality Review Advisory Committee members. Their input and support in directing the development of CFR in Ohio has led to continued program improvements.

We acknowledge the contributions of other agencies in facilitating the CFR program including the Ohio Children's Trust Fund; the Ohio Department of Health (ODH; state and local vital statistics registrars; and the National Center for Fatality Review and Prevention (NCFRP).

The collaborative efforts of all of these individuals and their organizations ensure Ohio children can look forward to a safer, healthier future.

Letter From The Directors

Dear Friends of Ohio Children:

We respectfully present the Seventeenth Annual Ohio Child Fatality Review (CFR) report. Established by the Ohio General Assembly in July 2000, the CFR program examines the factors contributing to children's deaths in Ohio. It is our hope that this report will lead to a reduction in the incidence of untimely and preventable deaths of Ohio children through the use of this data to inform interventions.

This report contains comprehensive summary data pertaining to child deaths from the five-year period of 2012 to 2016. In addition, it outlines the work undertaken by local CFR boards and state agencies to decrease preventable child deaths.

The CFR process begins at the local level, where local boards consisting of professionals from public health, recovery services, children's services, law enforcement and health care review the circumstances surrounding every child death in their county. It is through their collective expertise and collaborative assessment that preventive solutions and initiatives are developed for use throughout the state.

It is incumbent upon all of us to work together to prevent untimely child deaths in Ohio by:

- *Assisting and supporting families to achieve healthy parenting practices through education and resources;*
- *Educating families, children, neighbors, organizations and communities about preventable child deaths;*
- *Empowering individuals to intervene in situations where violence and neglect harm children;*
- *Encouraging community and individual involvement in recognizing and preventing risk factors that contribute to child deaths; and*
- *Improving systems of care so all children receive optimal health care before and after birth and throughout their lives.*

We encourage you to utilize the information presented in this report and to share it with others who can influence changes to benefit children and eliminate preventable child deaths. We hope that you will collaborate with local child fatality review boards and make a commitment to create a safer and healthier Ohio for our children.

Sincerely,

Lance D. Himes, JD
Director
Ohio Department of Health

Kristen N. Rost
Executive Director
Ohio Children's Trust Fund

Executive Summary And Key Findings

Executive Summary

The 2017 Child Fatality Review (CFR) Annual Report presents information from the reviews of deaths that occurred in 2016, as well as a summary of the data for deaths that occurred from 2012 through 2016.

Every child's death is a tragic loss for the family and community. Especially tragic is a child death that could have been prevented. Through careful review of these deaths, we are better prepared to prevent future deaths.

The Ohio CFR program was established in 2000 by the Ohio General Assembly in response to the need to better understand why children die. The law mandates CFR boards in each of Ohio's counties (or regions) to review the deaths of all children younger than 18 years of age. Ohio's CFR boards are composed of multidisciplinary groups of community leaders. Their careful review process results in a thorough description of the factors related to child deaths.

CFR does make a difference. In addition to the prevention initiatives on pages 10-14, local and state initiatives impacted by the CFR process are highlighted throughout the report in text boxes. These collaborations, partnerships and activities are proof that communities are aware that knowledge of the facts about a child death is not sufficient to prevent future deaths. The knowledge must be put into action.

The mission of CFR is to reduce the incidence of preventable child deaths in Ohio. Through the process of local reviews, communities and the state acknowledge that the circumstances involved in most child deaths are too complex and multidimensional for responsibility to rest with a single individual or agency. The CFR process has raised the collective awareness of all participants and has led to a clearer understanding of agency responsibilities and possibilities for collaboration on all efforts addressing child health and safety. It is only through continued collaborative work that we can hope to protect the health and lives of our children.

2012-2016 Key Findings

For the five-year period 2012-2016, 6,952 reviews were completed for 7,516 child deaths, which is 93 percent of the child deaths reported by the Ohio Bureau of Vital Statistics. Deaths that were not reviewed include cases still under investigation or involved in prosecution, out of state deaths reported too late for thorough review, and late-year deaths for which death certificates had not yet been processed through vital statistics offices.

Black children and boys of all races died at disproportionately higher rates than white children and girls of all races for most causes of death. Thirty-four percent (2,379) of deaths reviewed were to black children and 57 percent (3,990) were to boys of all races. Ninety-one percent of reviews were for non-Hispanic children.

Reviewed cases are categorized by manner and by cause of death. Manner of death is a classification of deaths based on the circumstances surrounding a cause of death and how the cause came about. The five manner of death categories on the Ohio death certificate are natural, accident, homicide, suicide, or undetermined/ pending/ unknown.

- Natural deaths accounted for 72 percent of all deaths reviewed.
- Accidents (unintentional injuries) accounted for 14 percent of the deaths reviewed.
- Homicides accounted for 4 percent of the deaths reviewed.
- Suicides accounted for 3 percent of the deaths reviewed.
- Seven percent of the deaths reviewed were of an undetermined, pending, or unknown manner.

Sleep-related Reviews

Sixteen percent of the infant deaths reviewed were sleep-related.

- Eighty-eight percent of reviewed sleep-related deaths were for infants between 29 days and 1 year of age.
- Infant co-sleeping with others (which increases the risk of suffocation) was reported at time of death for 53 percent of reviews.
- Secondhand smoke exposure was reported for 35 percent of reviews.
- Infants were put to sleep on their back (a safe sleep practice) in only 44 percent of reviews.

Child Abuse and/or Neglect Reviews

Two percent of the deaths reviewed were related to child abuse and/or neglect.

- Eighty-two percent of child abuse/neglect reviews were for children younger than 5 years of age.
- In 41 percent of the reviews, the perpetrator was a parent (biological, step or adoptive).

Reviews by Age Group

Sixty-eight percent of the deaths reviewed were infants (birth-364 days old).

- Seventy percent of infant deaths reviewed were for infants 28 days or younger.
- Eighty-two percent of reviews were due to medical causes.
- Sixty-four percent were born at or before 36 weeks of gestation.
- Twenty-four percent of mothers smoked during pregnancy.
- Eighty-two percent of deaths reviewed were deemed probably not preventable by local CFR teams.

Ten percent of the deaths reviewed were children 1-4 years old.

- Congenital anomalies (23 percent) and cancer (16 percent) were the two leading medical causes of death (excluding categories indicated as 'other').
- Forty percent of deaths reviewed were deemed probably preventable by local CFR teams.

Five percent of the deaths reviewed were children 5-9 years old.

- Cancer (26 percent) and congenital anomalies (16 percent) were the two leading medical causes of death (excluding categories indicated as 'other').
- Thirty percent of deaths reviewed were deemed probably preventable by local CFR teams.

Seven percent of the deaths reviewed were children 10-14 years old.

- Cancer (26 percent), congenital anomalies (14 percent), and neurological/seizures (11 percent) were the three leading medical causes of death (excluding categories indicated as 'other').
- Forty-two percent of deaths reviewed were deemed probably preventable.

Ten percent of the deaths reviewed were children 15-17 years old.

- Vehicular (37 percent) and weapons (31 percent) injuries were the two leading external causes of death.
- Fifty-seven percent of deaths reviewed were deemed probably preventable.

Homicide Reviews

Four percent of the deaths reviewed were homicides.

- Sixty-six percent of homicide reviews were for males.
- Fifty percent of homicide reviews were for black children.
- Weapon use accounted for 80 percent of homicide reviews, most frequently through the use of a firearm (54 percent).
- Twenty-one percent of homicide perpetrators were parents (biological, step or adoptive).

Suicide Reviews

Three percent of the deaths reviewed were suicides.

- Eighty-one percent of suicide reviews were for white children.
- Sixty-five percent of suicide reviews were for males.
- Most frequently, asphyxia (60 percent) was the cause of death.

Accident Reviews

Fourteen percent of the deaths reviewed were accidents.

- Infants (31 percent) and children age 15-17 years (24 percent) had the highest incidence of accidents.
- Thirty-seven percent of accident reviews were due to vehicular causes.

Medical Causes

Seventy-one percent of the deaths reviewed were due to medical causes.

- Most deaths due to medical causes (82 percent) were to infants less than 1 year of age.
- The most frequent medical cause of death was prematurity (45 percent).

External Causes

Twenty-three percent of deaths reviewed were due to external causes.

- Thirty percent of the external deaths reviewed were caused by asphyxia.
  - Fifty-seven percent of asphyxia reviews were for infants.
- Twenty-two percent of the external deaths reviewed were caused by vehicular injuries.
  - Forty-nine percent of vehicular reviews were for children 15-17 years old.
  - Fifteen percent of bicycle, motorcycle, or ATV related deaths reported helmets were used properly.
- Twenty percent of external deaths reviewed were caused by weapon injuries.
  - Forty-six percent of weapon reviews were for children 15-17 years old.
  - Sixty-eight percent of weapon reviews were classified as homicide.
- Nine percent of the external deaths reviewed were caused by drowning.
  - Thirty-eight percent of drowning reviews occurred in open water.
- Five percent of external deaths reviewed were caused by fires, burns, or electrocutions.
  - Forty-four percent of reviews classified as fire had working smoking detectors.
- Three percent of external deaths reviewed were caused by poisoning.
  - Fifty-eight percent of poisoning reviews indicated prescription drugs as the substance.

Preventability

Twenty-four percent of all reviews conducted were deemed probably preventable by local CFR teams. As child age increases, the probability of a death being deemed preventable generally increases.

- Eighty-eight percent of accident reviews were deemed probably preventable.
- Ninety-one percent of homicide reviews were deemed probably preventable.

Limitations

Calculation of rates is not appropriate with Ohio's CFR data because not all child deaths are reviewed. Instead of rates, CFR statistics have been reported as a proportion of the total reviews. This makes analysis of trends over time difficult, as an increase in the proportion of one factor will result in a mathematical decrease in the proportion of other factors. Complex analysis is needed to determine if such changes in proportion represent true trends in the factors of child deaths.

For this report, cases with multiple races indicated were assigned to the race that represents the least proportion of the general child population of Ohio. For example, if a case indicated both black and Asian, the case was assigned to Asian, because the proportion of Asian children is less than the proportion of black children in Ohio.

The CFR case report tool and data system record Hispanic ethnicity as a variable separate from race. A child of any race may be of Hispanic ethnicity.

The ICD-10 codes used for classification of vital statistics data in this report were selected to most closely correspond with the causes of death indicated on the CFR Case Report Tool and may not match the codes used for some causes of death in other reports or data systems. The codes used for this report can be found in the appendices.

Since the inception of statewide data collection in 2001, Ohio CFR has used two different data systems, and the latest system has undergone improvements and revisions. Because of the differences in data elements and classifications, data in this annual report may not be comparable to data in previous reports. In-depth evaluation of contributing factors associated with child deaths is limited in some cases by small cell numbers and lack of access to relevant data.

Each year a number of child deaths occur out-of-state. The first step of the review process, identification of a child death, is difficult when the death occurs out-of-state. Death certificates are recorded in the state where the death occurs and a process is not in place to routinely notify the county of residence for a timely review. This is a particular problem in rural Appalachian counties such as Harrison and Meigs counties, as well as Lawrence County, where the majority of the child deaths occur outside Ohio. By contrast, less than 2 percent of deaths to children of the twelve metropolitan counties died out-of-state. The state coordinator continues to work with the Ohio Bureau of Vital Statistics to improve the timely notification of out-of-state deaths.

Prevention Initiatives

As stated within the 2000 law that established the Ohio Child Fatality Review (CFR), the mission of CFR is to prevent child deaths. Goals for local CFR boards include making recommendations and developing plans for implementing local service and program changes for prevention of future deaths. CFR boards must share their findings and recommendations and engage partners for action. Recommendations become initiatives only when resources, priorities and authority converge to make change happen. Again this year, more than half of the counties reported examples of successful implementation of CFR recommendations. A sample of prevention initiatives are listed below.

SIDS and Sleep-related Deaths

The largest number of initiatives reported deal with reducing the risk of sudden infant death syndrome (SIDS) and other sleep-related deaths. A variety of programs target minority families, grandparents, caregivers, health professionals and the whole community with risk reduction messages that include Back to Sleep, and the risks of inappropriate bedding and bed-sharing. Many of these initiatives are on-going, being incorporated into existing programs such as prenatal clinics, Help Me Grow (HMG) and Special Supplemental Food Program for Women, Infants and Children (WIC). Efforts to reach the whole community include the use of billboards, displays at fairs and festivals, social media, and distribution of educational materials at popular sites for families such as zoos, playgrounds and family restaurants. Agency policies are adapted to institutionalize practices that reinforce safe sleep behaviors.

- Columbus Public Health launched Safe Sleep Ambassador trainings in October 2015. In 2016, a total of 374 new ambassadors were trained. Each attendee signs a pledge to educate at least 10 additional people. Mayor Andrew Ginther noted in his State of the City address for 2017 that he wants 500 new Safe sleep ambassadors trained in 2017.
- Sandusky County continues with a safe sleep campaign. This year Sandusky County Health Department (SCHD) teamed up with members of the Sandusky County Maternal Health and Infant Mortality Coalition to promote a safe sleep photo contest. Residents submitted photos of their infant sleeping in a safe crib following the ABC's of safe sleep to SCHD face book page. The winning photo was displayed on two billboards in Sandusky County promoting the ABCs of safe sleep.
- Trumbull County began an initiative regarding safe sleep. The EMS and fire department will carry cards to give to families when they identify that there is not a safe place to lay the baby. This card gives the ABCs of "Safe Sleep Message" as well as contact information for free Pack n' Plays.

Child Abuse and Neglect

The CFR process can identify opportunities for improvement in programs and policies to prevent child abuse and neglect. Responsibility for prevention activities is shared among all the member agencies. The Ohio Children's Trust Fund (OCTF) helps fund community-based primary and secondary child abuse prevention programs using evidence-based curricula in many Ohio counties.

- The Division of Children and Family Services (DCFS) in Cuyahoga County uses Trauma Focused Cognitive Behavior Therapy to help children and families that have been impacted by abuse or violence in the home or community. As a screening agency for the Defending Childhood Initiative, DCFS utilizes a trauma screening to determine if a child or family could be best served through the program. The most common types of violence reported were sexual abuse and domestic violence.
- Billboard advertising and news media advertising were purchased in Hancock County to recognize Child Abuse Prevention Month.
- In Lucas County, infant caretakers have the resources of Mercy Hospitals' Crying Baby Hotline 24 hours a day, 7 days a week. Caretakers can speak to a registered nurse whenever they are frustrated or concerned about a baby that won't stop crying. An assessment is done over the phone to uncover any possible health issues for the crying. Callers are educated on comforting techniques to help soothe the baby. Support and encouragement is also provided to the callers.

Suicide

The need for youth suicide prevention is being addressed as a result of the CFR process. In many counties, CFR findings are shared with county suicide prevention coalitions and task forces to focus on awareness of suicide and develop strategies to reduce the factors that increase the risk of suicide, identify youth at risk and increase the availability of mental health services.

- Bullying Run: A Run Walk and Roll 5K against bullying was held in Sandusky County in October 2016. Residents of all ages were encouraged to attend.
- The CFR in Auglaize County is working with the Mental Health and Recovery Services Board to spread awareness about the "Let's Talk" program that encourages and educates parents to speak with their children on suicide prevention.
- In 2016, the Hamilton County Community Action Team (CAT) members selected a CFR recommendation of increasing suicide awareness to act upon. The CAT has brought together various mental health agencies and provided their information to each organization on CAT to share. The CAT also will assist agencies/organizations who are looking or in need of mental health training in connecting with the organizations who provide mental health first aid training for non-mental health professionals.

Vehicular Injuries

Vehicular crashes continue to be a leading cause of injury and death to children. Many local CFR boards were involved in efforts to pass Ohio's Distracted Driving Law, Booster Seat Law and Graduated Driver License Law. Boards are active in educating families about these laws. In addition to continued efforts in most counties to improve teen driver education and infant car seat programs, local CFR boards are addressing specific issues regarding vehicular deaths in their community.

- In Cuyahoga County, the Rainbow Injury Prevention Center teen traffic safety programs in high school include: "Science of Attention," which focuses on the dangers of distracted driving, "Drive to Stay Alive" and 'Click it or Ticket", which encourages safe driving and seat belt use. These programs reached more than 11,000 students.
- The Safe Community Coalition in Lorain County campaigned for safe teen driving and seat belt usage through their programming, especially the annual Buckle Up Bowl in local high schools where students promote safe driving habits.
- Clermont County Public Health agreed to be a distributor of car seats for the Ohio Department of Public Safety/ Ohio Department of Health (ODPS/ODH) Ohio Buckles Buckeyes Program.

Infant Deaths

Although only 13 percent of infant deaths were deemed preventable, CFR boards recognize the detrimental effects of unhealthy lifestyles and poor prenatal care on the lives of infants, and reported numerous initiatives related to infants. In response to needs identified through the reviews of infant deaths, many counties have launched collaborative efforts to reduce infant mortality. Typical partners include HMG, WIC, Child and Family Health Services projects, local physicians, schools and other health and social service providers.

- The Caring for Two Program in Allen County is a neighborhood outreach program that provides services to African-American women of childbearing age to reduce the African-American infant mortality rate and rate of low birth weight births in all of Allen County. This program provides education to mothers about healthy lifestyle decisions during pregnancy and how to raise a healthy children through education, outreach, home visits, and referrals. Also provided, is a male involvement program called Caring for Two. This involves a male community health worker providing resources to expecting fathers to help with completing their education, finding jobs, and easing the concerns about the pregnancy and beyond. This is the fourteenth year for this program.
- Sandusky County established the Welcome Home Program which provides a home visit from a registered nurse to all newborns in the county. During the home visit, the family is provided with education on infant care, safety, safe sleep and referrals to community agencies as needed. The Welcome Home Program also works with the Cribs for Kids program to ensure that every infant in the county has a safe crib.
- In regards to SIDS death, Kenton Hardin Health Department has a safe sleep educational booklet that is distributed to all agencies and local physicians. As part of the safe sleep environment activities include education on keeping a safe sleep environment and follow up to assure that the child is being provided with a safe sleep environment.

Substance Abuse

The misuse and abuse of prescription drugs and other substances harms youth and children, who suffer intentional or accidental overdose and prenatal exposure as well as inadequate care and supervision when adults use. Local CFR boards have joined with other community agencies to combat this epidemic and protect children.

- The Toledo-Lucas County Health Department is participating in the Baby & Me Tobacco Free Program. This research-based program helps pregnant women quit smoking and not resume smoking following the birth of their babies. The program accomplishes this goal through smoking cessation guidance and monitoring using a carbon monoxide breath test. In 2016, 36 pregnant women were enrolled in the program.
- In Seneca County, a program has been developed in a partnership with Adena Health Systems and CareSource to assist moms battling addiction during pregnancy, and to reduce the possibility of a baby being born addicted to opioids. The program provides treatment for the mother, counseling and support requirements. This program is supported by the Ohio Department of Medicaid and a grant from March of Dimes.
- A local hospital in Belmont County is in the process of starting a program to provide face-to-face follow-up for babies that are born with neonatal abstinence syndrome (NAS). The chief of pediatrics, who also serves on the CFR, is directing the project.

General Health and Safety

Countywide collaborations and partnerships produced many programs to increase the general health and safety of children.

- Clermont County Public Health received a grant from the Ohio Chapter of the American Academy of Pediatrics through their Put a Lid on It Program. Clermont County staff fitted and gave away 112 helmets. Each child had his or her head measured and helmet fitted and adjusted by staff. Staff also educated each family on the importance of wearing a bike helmet.
- In response to handgun deaths in Lucas County, the Toledoans United for Social Action hosted the Toledo Community Conversation on Gun Safety. Toledo Police Chief George Kral provided education and answered questions about gun safety. Also, with assistance from the Lucas County Prosecutor's Office, more than 400 gun locks were purchased. These locks are given out free at any Toledo police station.
- Safe Kids in Franklin County Ohio distributed 175 home safety kits to income eligible parents and caregivers through Columbus Public Health's home visiting programs. They also distributed 500 cabinet locks and latches, 50 baby safety gates, 60 television anti-tip straps and 30 bike helmets in Franklin County.
- Perry County has developed the Safe Baby Connection, a program that ensures babies ride safe, sleep safe and are safe from communicable diseases. The program provides car seat and safe sleep education and ensures that babies are current on vaccines.

Systems Improvements

One of the goals set by Ohio law for CFR is to promote cooperation, collaboration and communication among all groups that serve families and children. The CFR process continues to have a positive impact on participating agencies. Many boards report an increase in cooperation and understanding among participating agencies and some have developed written policies to facilitate communication. The review process stimulates discussion about existing services in communities, identifying gaps in services, access to service barriers, the need to maximize use of existing services and opportunities for increased collaboration.

- Preble County Public Health works with partner agencies including the homeless shelter, the domestic violence shelter and the Substance Abuse Partnership to assure marginalized residents can receive reproductive health care and prenatal care to improve birth outcomes.
- In Delaware County, The SAFE Coalition has received funding to provide training to law enforcement officers so they can recognize when they see a car seat that needs intervention.
- In Lake County, foster parents are provided safe sleep information when the fire department is inspecting the home.
- Perry County has partnered with Help Me Grow, WIC, Children's Services, Early Head Start, and local physicians to distribute safe sleep material.
- Mercer County has collaborated with The Ohio Department of Job and Family Services to stress prenatal care. Through this partnership, pregnant women receiving Medicaid are given prenatal care educational materials.

Review Of 2016 Deaths

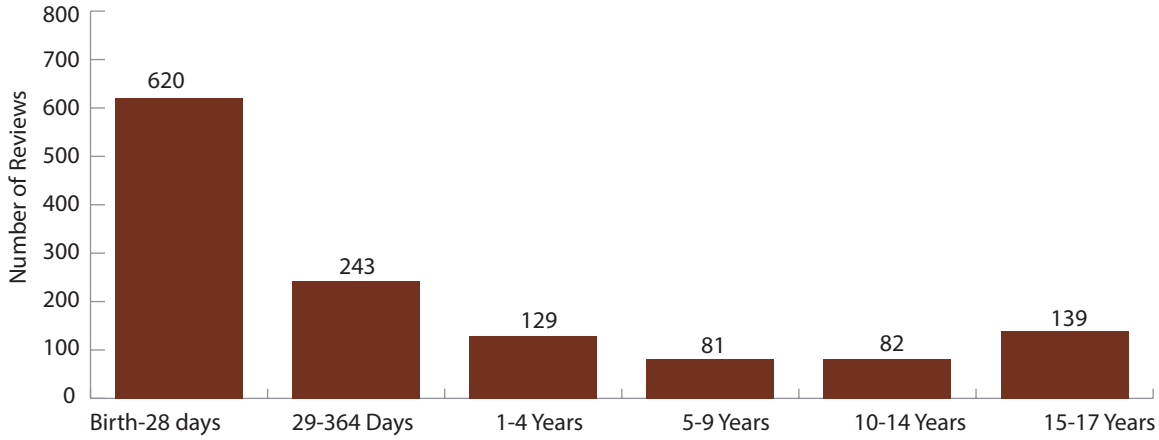
SUMMARY OF REVIEWS

Beginning in 2014, in response to a growing demand for more current data regarding child deaths, all local Child Fatality Review (CFR) boards began reviewing deaths in the year in which the death occurred. The transition to reporting within the same year has presented significant challenges for most local boards, including issues obtaining records in a timely manner. Even with these challenges, 1,294 completed reviews of 2016 deaths were reported, representing 85 percent of all child deaths (1,523) from the Ohio Bureau of Vital Statistics.

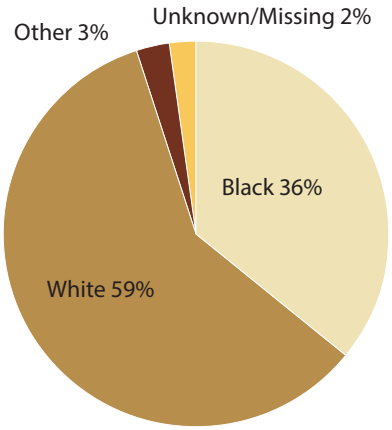
REVIEWS BY DEMOGRAPHIC CHARACTERISTICS

Local CFR boards reviewed the deaths of 1,294 children who died in 2016. Sixty-seven percent (863) of the reviews were for children less than one year of age. Black children are overrepresented in child death reviews (36 percent) compared to their representation in the general Ohio child population.[1] Males are also overrepresented in child death reviews, comprising 56 percent of reviews.

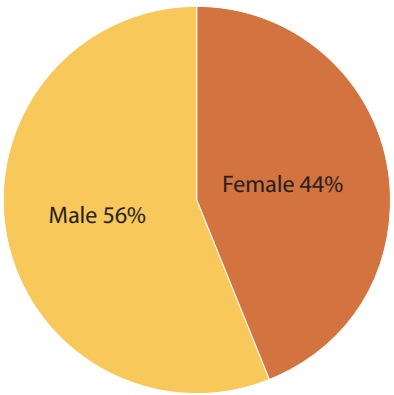
Reviews of Deaths by Age, 2016 (n=1,294)



Reviews of Deaths by Race, 2016 (n=1,294)



Reviews of Deaths by Gender, 2016 (n=1,294)



REVIEWS BY MANNER OF DEATH

Manner of death is a classification of deaths based on the circumstances surrounding a cause of death and how the cause came about. The five manner-of-death categories on the Ohio death certificate are natural, accident, homicide, suicide, and undetermined/ unknown/ pending. For deaths being reviewed, CFR boards report the manner of death as indicated on the death certificate. For deaths that occurred in 2016, the 1,294 reviews were classified as follows:

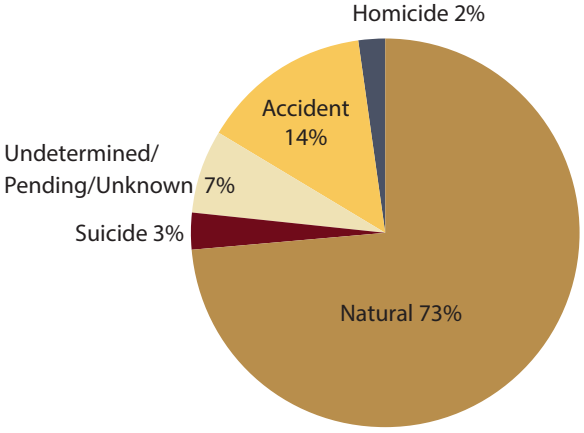
- Seventy-three percent (945) were natural deaths.
- Fourteen percent (181) were accidents.
- Seven percent (91) were of an undetermined or unknown manner or pending review (labeled 'other' in the chart below).
- Three percent (39) were suicides.
- Two percent (26) were homicides.

REVIEWS BY CAUSE OF DEATH

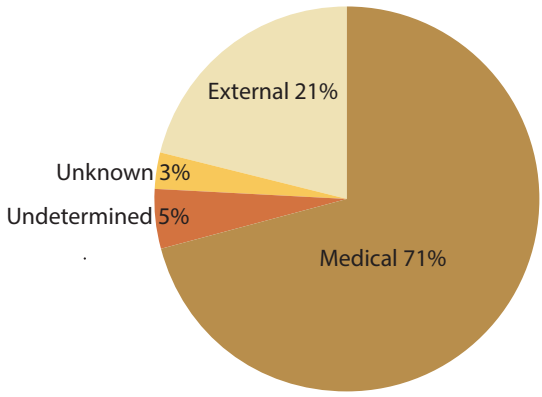
The CFR case report tool and data system implemented in 2005 classify causes of death by medical or external causes. Medical causes are further specified by particular disease entities. External causes are further specified by the nature of the injury. CFR boards select the cause of death category that allows the most information about the circumstances of the death to be recorded in the data system, with a focus on prevention. The cause of death category selected may not match the death certificate. In 2016, the 1,294 reviews were classified as follows:

- Seventy-one percent (917) were due to medical causes.
- Twenty-one percent (274) were due to external causes.
- In five percent (65) of reviews, the cause of death could not be determined as either medical or external.
- Three percent (39) were unknown.

Reviews of Deaths by Manner, 2016 (n=1,294)



Reviews of Deaths by Cause, 2016 (n=1,294)



DEATHS FROM MEDICAL CAUSES

Background

Deaths from medical causes are the result of a natural process such as disease, prematurity or congenital defect. A death due to a medical cause can result from one of many serious health conditions.

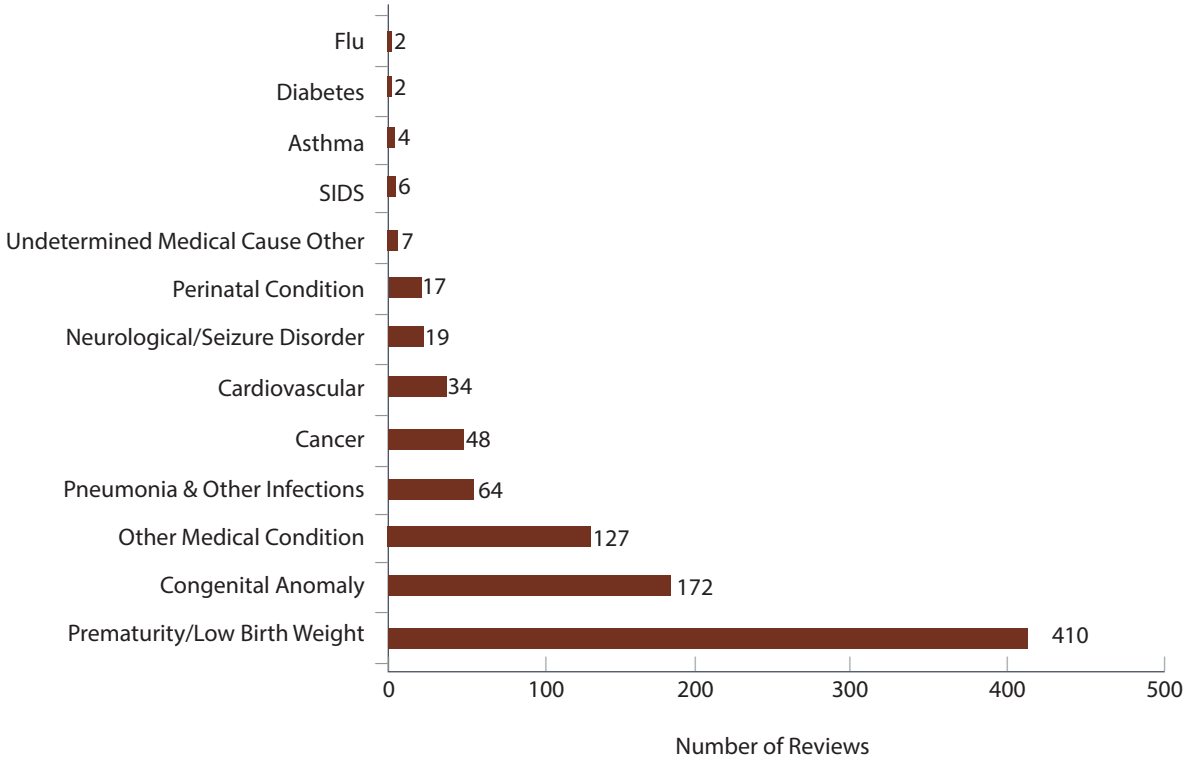
Many of these conditions are not believed to be preventable in the same way accidents are preventable. But with some illnesses such as asthma, infectious diseases and screenable genetic disorders, under certain circumstances, fatalities may be prevented. Many might be prevented through better counseling during preconception and pregnancy, earlier or more consistent prenatal care and smoking cessation counseling. While some conditions cannot be prevented, early detection and prompt, appropriate treatment can often prevent deaths.

CFR Findings

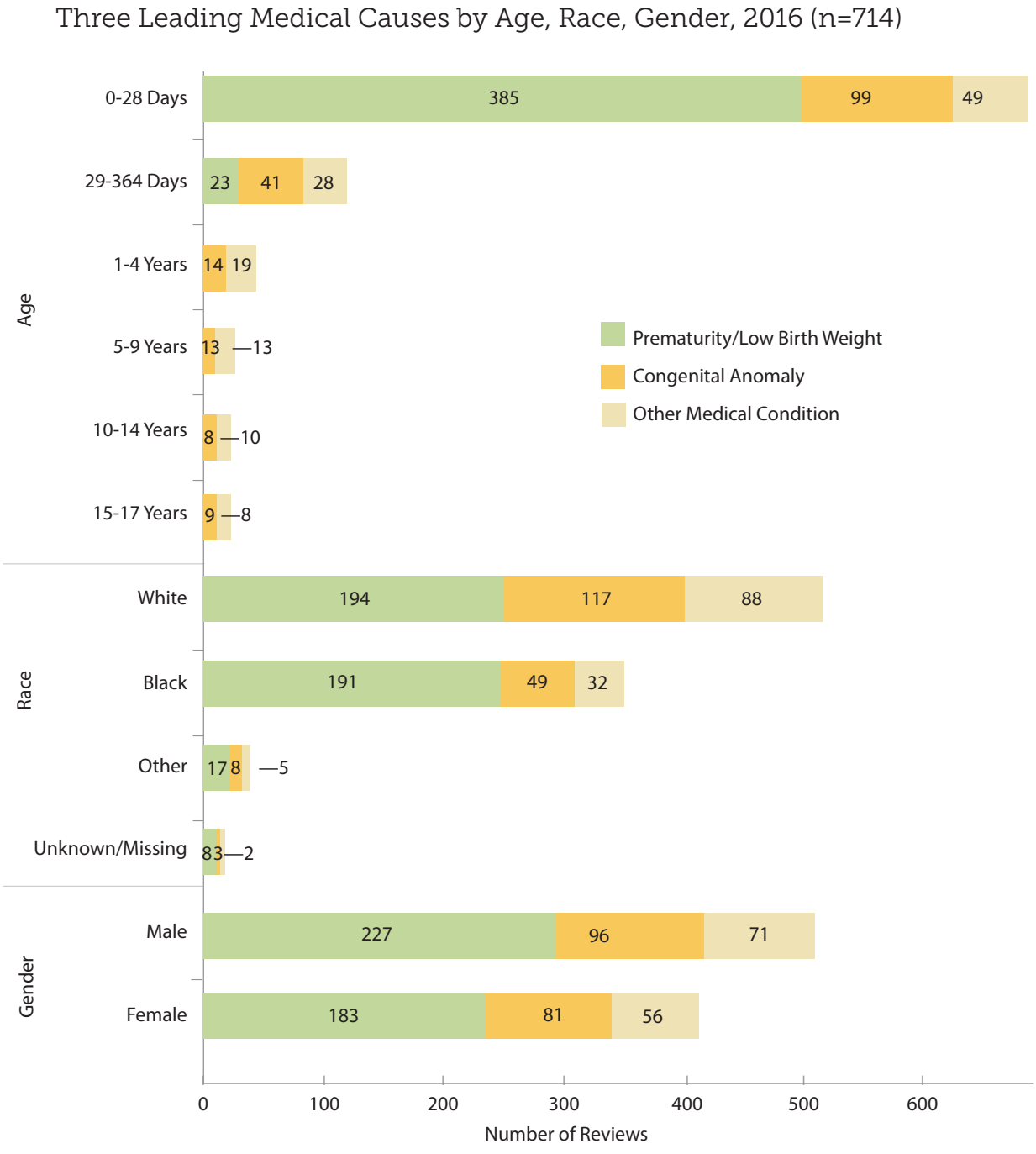
Seventy-one percent (917) of the 1,294 reviews for 2016 deaths were from medical causes.

- The CFR data system provides a list of 15 medical conditions in addition to an 'Other' category for classifying deaths from medical causes more specifically. Prematurity/low birth weight, congenital anomalies, and other medical conditions were the three leading medical causes of death.
  - Forty-five percent (410) of the deaths from medical causes were due to prematurity/ low birth weight.
  - Nineteen percent (177) were due to congenital anomalies.
  - Fourteen percent (127) were due to other medical conditions.
  - Seven percent (64) were due to pneumonia and other infections.

Reviews of Deaths from Medical Causes, 2016 (n=917)



The three leading medical causes of death, prematurity, congenital anomaly, and other medical condition, are presented in the chart below in more detail by age, race and gender.

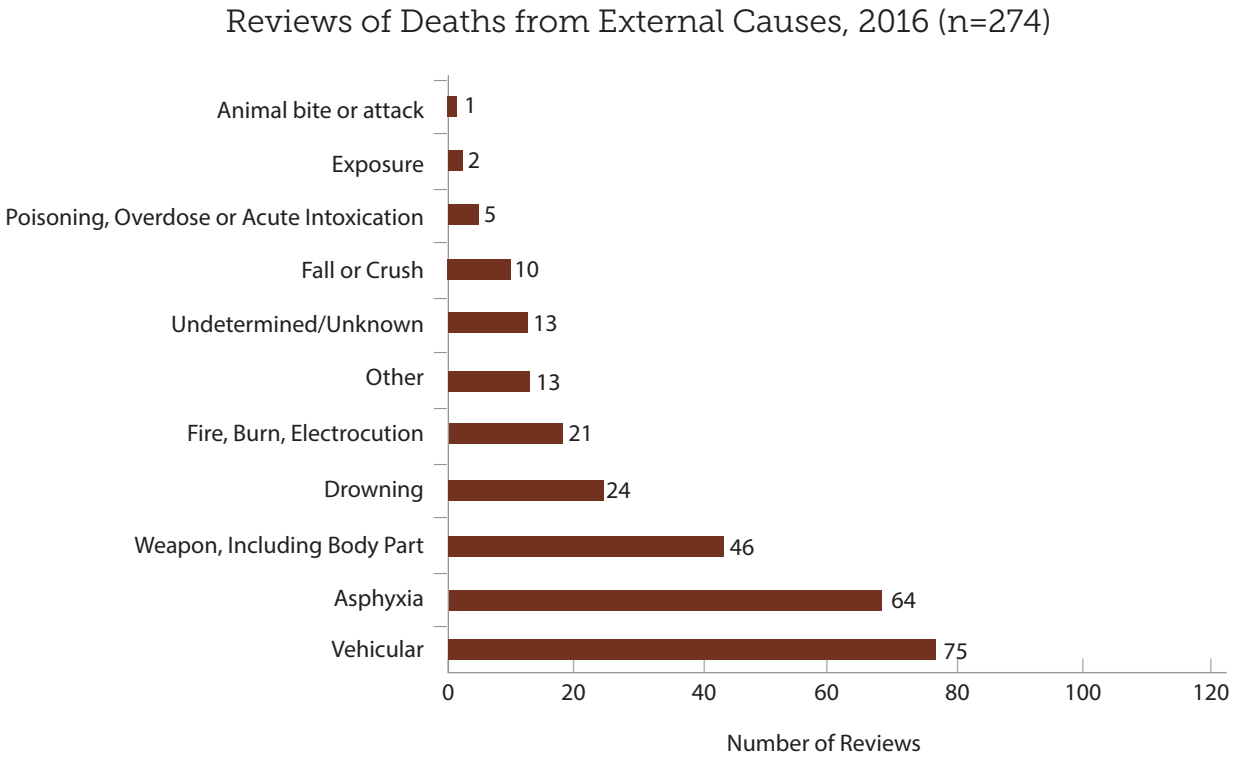


DEATHS FROM EXTERNAL CAUSES

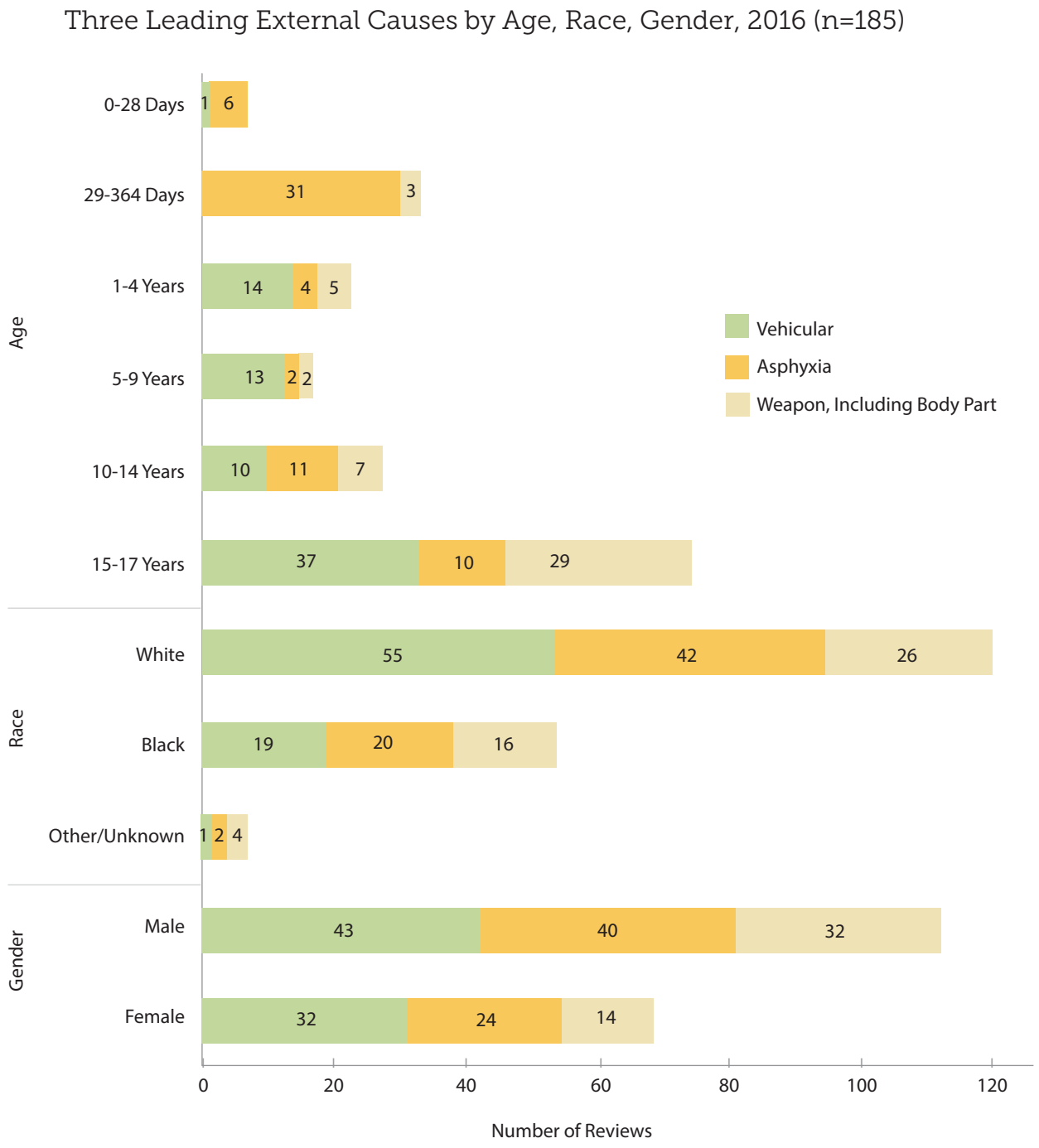
External causes of death are injuries, either unintentional or intentional, resulting from acute exposure to forces that exceed a threshold of the body's tolerance, or from the absence of such essentials as heat or oxygen.[2]

Twenty-one percent (274) of the 1,294 reviews for 2016 deaths were due to external causes. Asphyxia, vehicular injuries and weapons injuries were the three leading external causes for the 274 reviews.

- Twenty-seven percent (75) were due to vehicular injuries.
- Twenty-three percent (64) were due to asphyxia.
- Seventeen percent (46) were due to weapons injuries, including the use of body parts as weapons.



The three leading external causes of death, asphyxia, vehicular injury, and weapon injury, are presented in the chart below in more detail by age, race and gender.

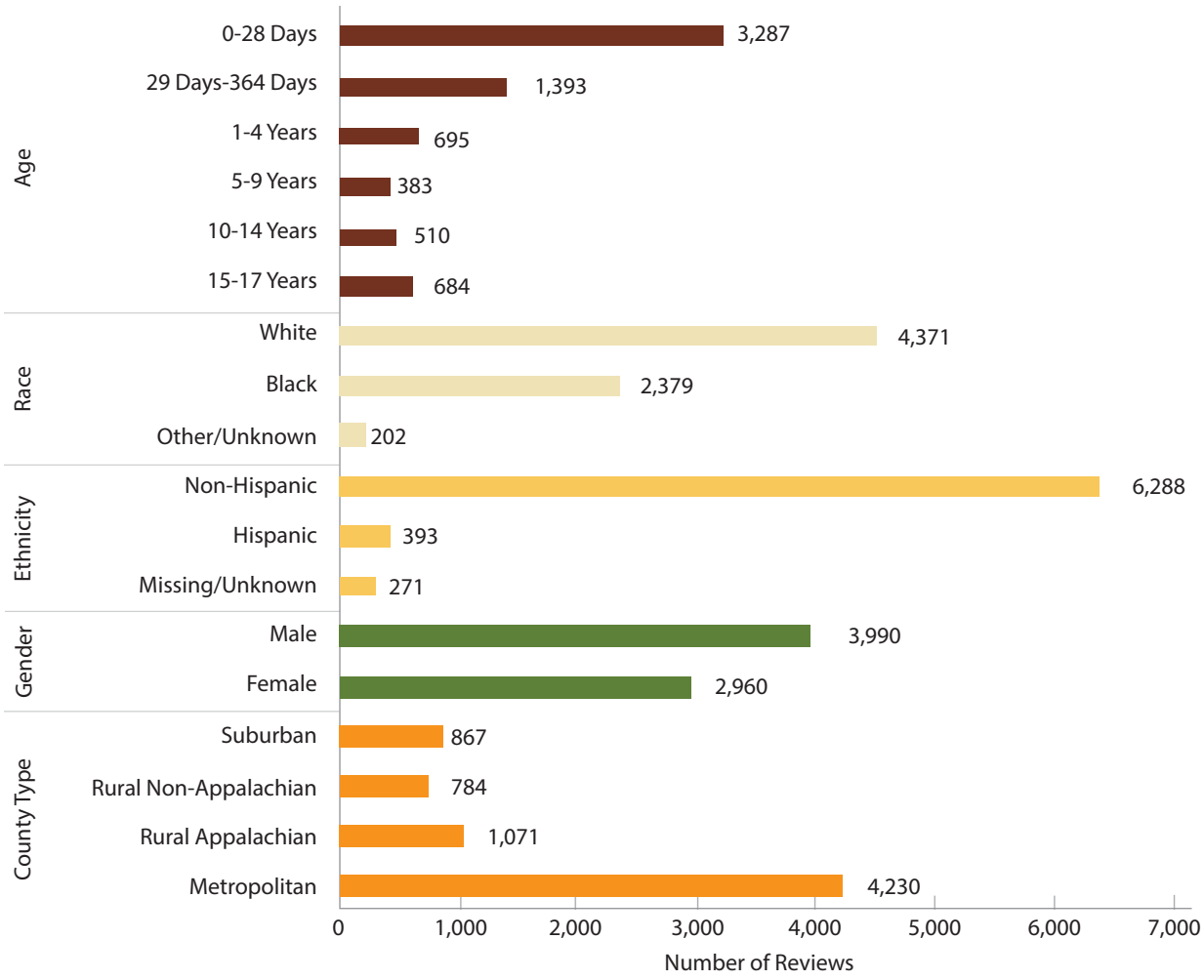


Reviews Of 2012-2016 Deaths

Summary Of Reviews

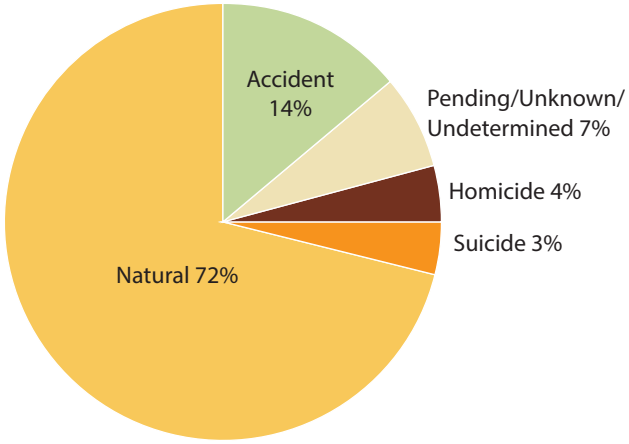
Data have been analyzed for a five-year period, 2012 through 2016; combining years provides enough data to gain more understanding of the factors related to child death. For the five-year period, Ohio CFR boards have completed 6,952 reviews, which represent 93 percent of the 7,516 child deaths reported by the Ohio Bureau of Vital Statistics. For the five-year period, the proportional distribution of reviews across many factors, including manner of death, age, race, and gender, has changed very little. Where differences exist between the years within the five- year period, trend charts are included. ODH categorizes Ohio's 88 counties into four county type designations (suburban, rural non-Appalachian, Appalachian, and metropolitan) based on similarities in terms of population and geography. The current county type designations originated with the Ohio Family Health Survey in 1998 and are based on the U.S. Code and U.S. Census information. See Appendix VI for a map of Ohio counties by county type. To analyze the CFR data by county type, the computer-assigned case number was used to determine the county of review. In nearly all cases, the county of review is the county of the child's residence.

Reviews of Deaths by Age, Race, Ethnicity, Gender, County Type, 2012-2016 (n=6,952)

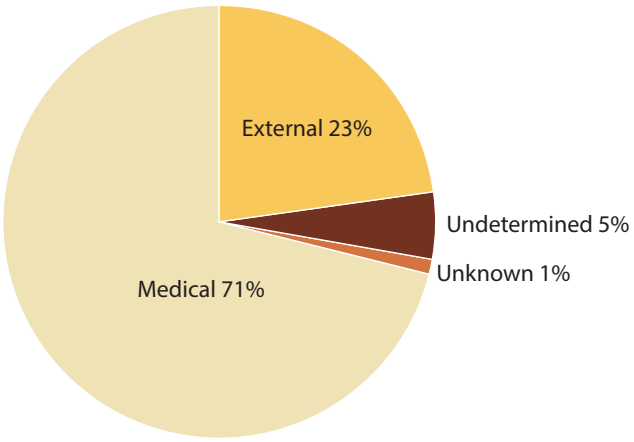


Reviews are classified by manner and cause of death. Within cause of death, external and medical causes are further specified by particular disease entities and the nature of the injury, respectively.

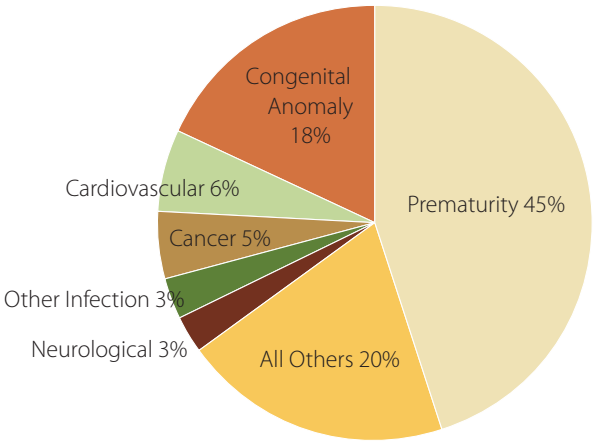
Reviews of Deaths by Manner, 2012-2016 (n=6,952)



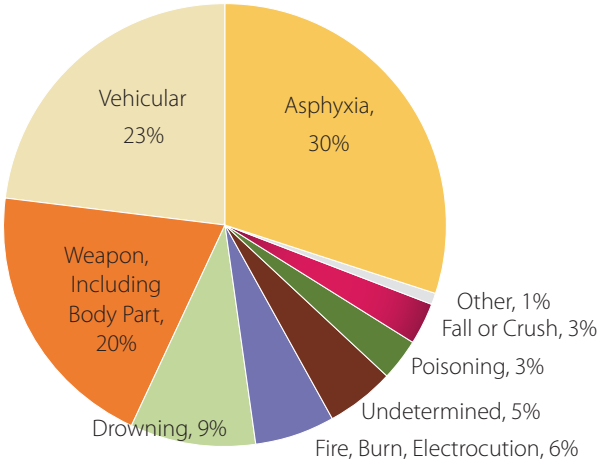
Reviews of Deaths by Cause, 2012 -2016 (n=6,952)



Reviews of Deaths by Medical Causes, 2012-2016 (n=4,915)



Reviews of Deaths by External Causes, 2012-2016 (n=1,576)



Reviews Of Special Categories Of Deaths

CHILD ABUSE AND NEGLECT, ALL AGES

Background

Child abuse and neglect is any act or failure to act on the part of a parent or caretaker that results in death, serious physical or emotional harm, sexual abuse or exploitation; or that presents an imminent risk of serious harm. Physical abuse includes punching, beating, shaking, kicking, biting, burning or otherwise harming a child and often is the result of excessive discipline or physical punishment that is inappropriate for the child's age. Head injuries and internal abdominal injuries are the most frequent causes of abuse fatalities. Neglect is the failure of parents or caregivers to provide for the basic needs of their children, including food, clothing, shelter, supervision and medical care. Deaths from neglect are attributed to malnutrition, failure to thrive, infections and accidents resulting from unsafe environments and lack of supervision.

Some deaths from child abuse and neglect are the result of long-term patterns of maltreatment, while many other deaths result from a single incident. According to Prevent Child Abuse America, there are several factors that put parents at greater risk of abusing a child: social isolation, difficulty dealing with anger and stress, financial hardship, alcohol or drug abuse, mental health issues, and apparent disinterest in caring for the health and safety of their child.[3]

Many child abuse and neglect deaths are coded on the official death certificate as other causes of death, particularly unintentional injuries or natural deaths. In a study of 51 deaths identified as child abuse and neglect by local Ohio Child Fatality Review (CFR) boards in 2003 and 2004, 31 different causes of death were recorded on the death certificates. The causes included both medical and external injuries, both intentional and unintentional.[4]

According to the Centers for Disease Control and Prevention (CDC), nationally about 1,670 children died from abuse and neglect in 2015.[5] This translates to nearly five children dying each day as a result of abuse or neglect. Best estimates are that any single source of child abuse fatality data, such as death certificates, exposes just the tip of the iceberg. The interagency, multidisciplinary approach of the CFR process may be the best way to recognize and assess the number and the circumstances of child maltreatment fatalities. Even the CFR process is likely to undercount child abuse fatalities due to delays in reviews caused by lengthy investigation and prosecution procedures.

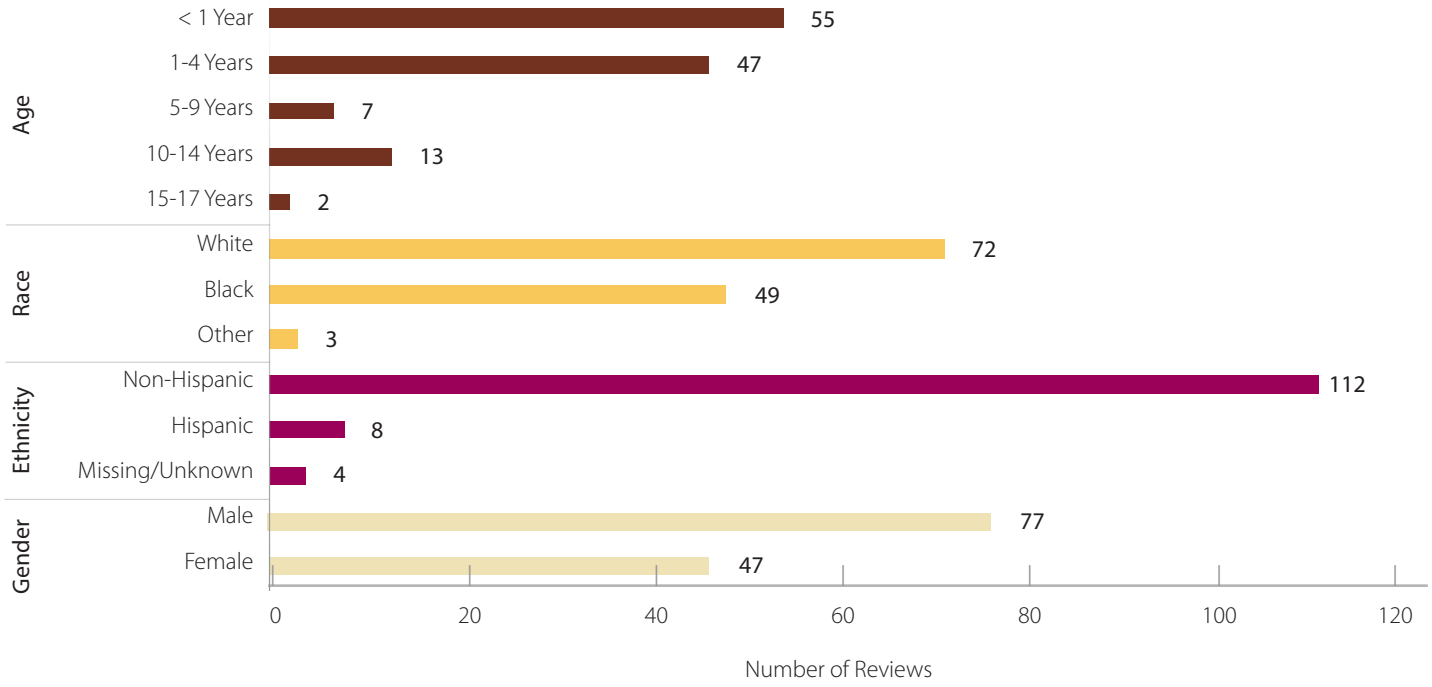
CFR Findings

For the five-year period from 2012 through 2016, CFR boards reviewed 124 deaths from child abuse and neglect. These represent two percent of the 6,952 deaths reviewed.

- Seventy-four percent (92) of the 124 reviews indicated that physical abuse caused or contributed to the death, while 31 percent (39) indicated that neglect caused or contributed to the death. Seven reviews indicated both abuse and neglect caused or contributed to the death.
- Eighty-two percent (102) of child abuse and neglect deaths occurred among children younger than 5 years old.
- Thirty-six percent (45) of the 124 child abuse and neglect deaths reviewed indicated the child had a prior history of child abuse and neglect.
- Twenty-two percent (27) of the 124 child abuse and neglect deaths had an open child protective services case at the time of the incident.
- Thirty-two percent (40) of the 124 reviews indicated the child's primary caregiver had a prior history as a perpetrator of abuse or neglect.

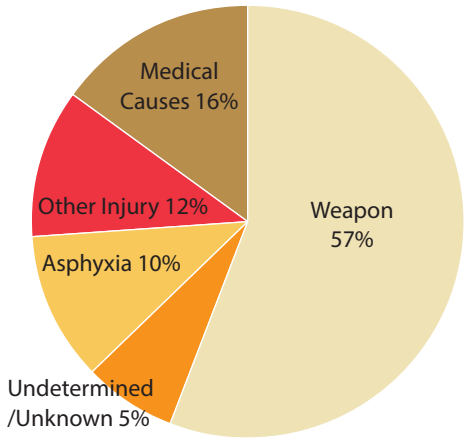
The 124 deaths identified as child abuse and neglect were the result of several kinds of injuries.

Reviews of Child Abuse and Neglect Deaths by Age, Race, Ethnicity, Gender, 2012-2016 (n=124)



The 136 deaths identified as child abuse and neglect were the result of several kinds of injuries. Parents, whether biological, step or adoptive parents, cause more deaths (44 percent) than any other group.

Reviews of Child Abuse and Neglect Deaths by Cause, 2012-2016 (n=124)



Reviews of Child Abuse and Neglect Deaths by Person Causing Death, 2012-2016 (n=124)

Person	#	%
Biological/Step/Adoptive Parent	51	41%
Parent's Partner	21	17%
Other Relative	3	2%
Friend	3	2%
Babysitter/Child Care Worker	1	1%
Other	1	1%
Missing/Unknown	44	35%
Total	**124**	**100%**

Ohio Children's Trust Fund

As Ohio's sole public funding source dedicated to child abuse and child neglect prevention, the Ohio Children's Trust Fund (OCTF) is in the forefront of prevention activities throughout the state. From establishing guidelines for evidence-based program development to accessing innovative prevention curricula; producing educational and public awareness materials; and impacting social service policy legislation, the OCTF provides expertise and resources for legislators, the media, state agencies, and the public. The mission of the OCTF is to prevent child abuse and child neglect through investing in strong communities, healthy families and safe children.

The OCTF was created in 1984 and is governed by a board of 15 members representing a broad public-private partnership. Current OCTF board members reflect a diversity of expertise, as well as geographic interest. The board consists of representatives from the following fields: social work; child abuse and neglect services; government relations and advocacy; the healthcare industry and the private sector; higher education; the legal community; the medical community; and mental health and nonprofit executive leadership. Eight members are appointed by the governor to represent the residents of Ohio, four members are legislative appointees, and three members are the directors of the Ohio departments of Health, Job and Family Services, and Mental Health and Addiction Services. The board supervises the policies and programs of the trust fund, and the Ohio Department of Job and Family Services serves as the administrative agent for procurement and budgeting purposes.

The OCTF is funded with fees collected at the local level on certified copies of birth certificates, death certificates, and divorce decrees and dissolutions. In addition, the trust fund is Ohio's lead agency on the U.S. Department of Health and Human Services' Community-Based Child Abuse Prevention grant, which funds community-based primary and secondary child abuse prevention programs. The OCTF also solicits and accepts gifts, donations and money from public and private sources and engages in public-private partnerships.

Trust fund revenues are invested in prevention programs at the local level through a regional model led by regional prevention councils throughout Ohio's 88 counties for primary and secondary prevention, through contracts with Ohio entities to fund child abuse and child neglect prevention programs that have statewide significance, and through other statewide discretionary projects identified by the board.

In October 2010, the OCTF became the provisional Ohio chapter of Prevent Child Abuse America. In February 2012, the trust fund achieved full charter status. The OCTF and Prevent Child Abuse America share a common mission. Through this collaboration, Ohio's statewide prevention efforts are aligned under one entity that is able to further these mutual goals.

As explained in the OCTF 2016-2021 strategic plan, the trust fund has become Ohio's leader and authority on child maltreatment prevention. The strategic plan provides more details regarding five strategic focus areas: increase awareness of the OCTF; increase family support, develop a unified systemic response to child abuse and neglect prevention; increase the promotion of child safety and health; and an established efficient and effective organizational structure. These strategic focus areas are designed to assist the OCTF in achieving its future vision: *The Ohio Children's Trust Fund is a well-known innovative hub (center of excellence) for best practices, research, and resources promoting children's health and safety. In addition, the OCTF activities support families and communities. The OCTF works collaboratively with state and local systems to facilitate efficient and effective work at the local level.*

Infant Sleep-Related Deaths

Background

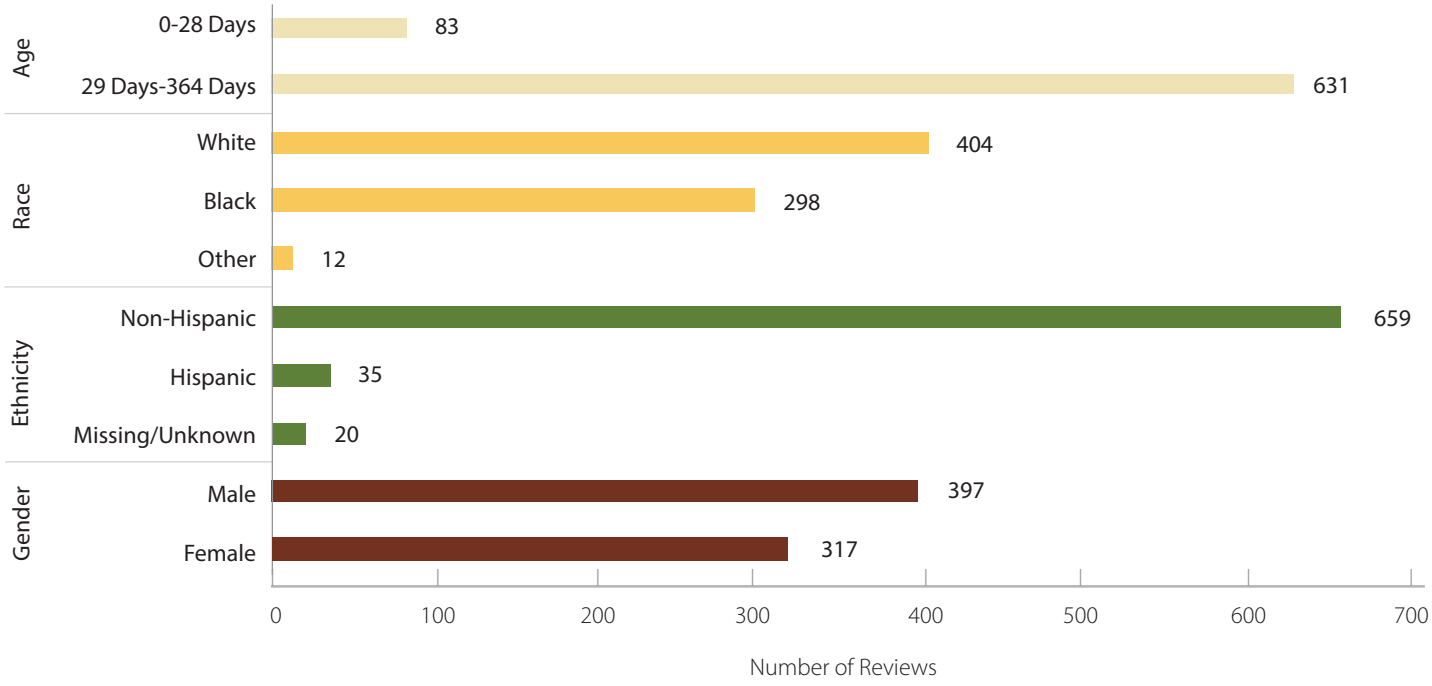
Since the beginning of the Ohio CFR program, local boards have been faced with a significant number of deaths of infants while sleeping. Some of these sudden unexpected infant deaths (SUIDs) are diagnosed as sudden infant death syndrome (SIDS), while others are diagnosed as accidental suffocation, positional asphyxia, overlay (the obstruction of breathing caused by the weight of a person or animal lying on the infant) or undetermined. SIDS is a subset of SUID and is a medical cause of death. It is the diagnosis given to the sudden death of an infant under one year of age that remains unexplained after the performance of a complete postmortem investigation, including an autopsy, an examination of the scene of death and review of the infant's health history.[6] The distinction between SIDS and other SUIDs is challenging. Many of the risk factors for SIDS and asphyxia are similar. Incomplete investigations, ambiguous findings and the presence of known risk factors for other causes of deaths result in many SUIDs being diagnosed as "undetermined cause" rather than SIDS.

The difficulty of obtaining consistent investigations and diagnoses of infant deaths led the CDC to launch an initiative to improve investigations and reporting.[6] An infant death investigation training was hosted by the Franklin County CFR board in June 2011 and ODH hosted three similar trainings in 2014 and 2016. Effective September 2014, Ohio coroners are required to complete a death scene investigation using the CDC protocol and form. The investigation form is to be shared with the local CFR board reviewing the death.

CFR Findings

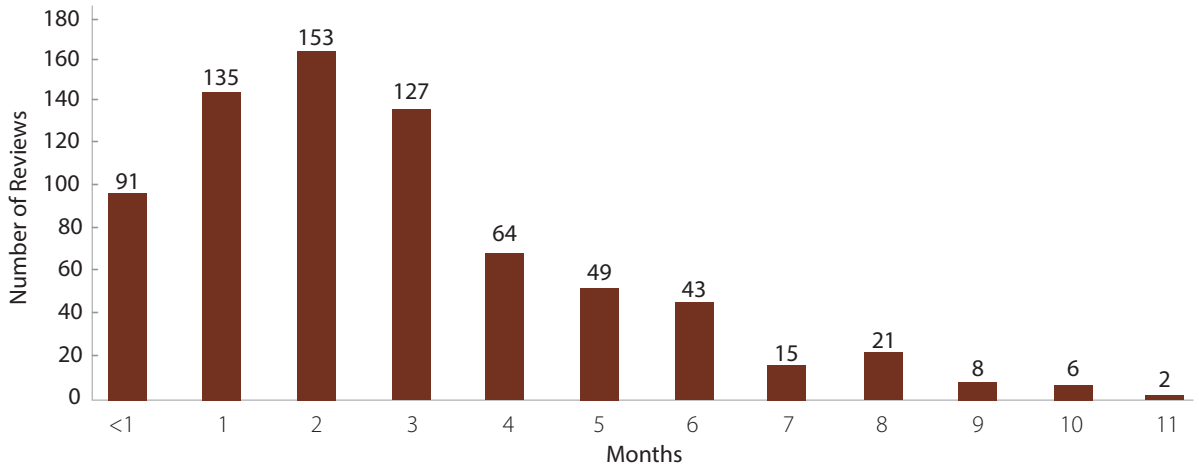
During the five-year period 2012 through 2016, local boards reviewed 714 sleep-related deaths which account for 15 percent of the 4,680 infant death reviews.

Reviews of Infant Sleep-Related Deaths by Age, Race, Ethnicity, Gender, 2012-2016 (n=714)



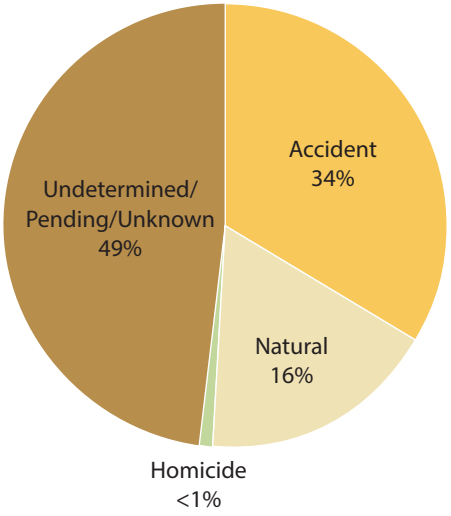
Fifty-eight percent (415) of the 714 sleep-related deaths involved infants between one month and three months old. Sleep-related deaths become less common as infants age but still occur up to eleven months of age.

Reviews of Infant Sleep-Related Deaths by Age in Months, 2012-2016 (n=714)

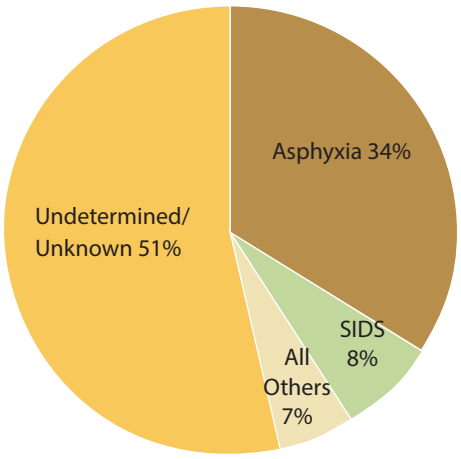


As discussed earlier in this section, determining the cause of death for infants in sleep situations is difficult, even when a complete investigation has occurred. Forty-nine percent of sleep-related deaths were diagnosed as an undetermined cause.

Reviews of Infant Sleep-Related Deaths by Manner, 2012-2016 (n=714)

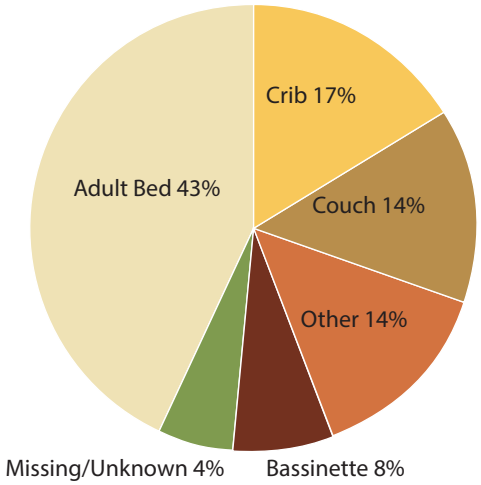


Reviews of Infant Sleep-Related Deaths by Cause, 2012-2016 (n=714)



Of the 175 infant sleep-related deaths in which a crib or bassinette was indicated as the incident location, seventy-four percent (120) reported object(s) found in the sleep space. Among the 120 reviews indicating objects in the crib or bassinette, the most commonly found objects were thin blankets (68 percent), comforters or quilts (34 percent), and pillows (24 percent).

Reviews of Infant Sleep-Related Deaths by Incident Location, 2012-2016 (n=714)



A number of unsafe sleep circumstances were commonly reported for sleep-related deaths:

- Bed-sharing was reported at the time of the death in 53 percent (378) of reviews. Among reviews indicating bed-sharing, infants most often shared a sleep surface with an adult only (70 percent), an adult and another child (16 percent), or another child only (6 percent).
- Of the 349 reviews that indicated bed-sharing with an adult or adult and child, 48 percent indicated the supervisor was impaired at the time of the incident with 92 percent impaired by sleep and 13 percent impaired by alcohol or drugs.
- Forty-two reviews (11 percent of those indicating bed-sharing) indicated an adult fell asleep while feeding the infant, with twenty-two bottle-feeding, seventeen breastfeeding, and three unknown.
- Infants were put to sleep on their back in only 44 percent of reviewed deaths, and found on their back in 30 percent of reviewed deaths.
- Secondhand smoke exposure was reported for 248 (35 percent) of the infant sleep-related deaths.

Passage of Am. Sub. SB 276 by the 130th General Assembly required the creation of an infant safe sleep education program. Please see Appendix V for the second annual report on the implementation of this new law.

Infant Safe Sleep Recommendations

In October 2016, the American Academy of Pediatrics (AAP) issued a policy statement expanding its 2005 recommendations for reducing the risk of SIDS and other sleep-related infant deaths. Many local CFR risk reduction activities are based on these recommendations. ODH continues to urge parents and caregivers to follow these recommendations as the most effective way to reduce the risk of infant death.

- Place infants for sleep wholly on the back for every sleep, nap time and bedtime.
- Use a firm sleep surface. A firm crib mattress is the recommended surface.
- Room-sharing without bed-sharing is recommended. The infant's crib should be in the parents' bedroom, close to the parents' bed.
- Keep soft objects and loose bedding away from the infant's sleep area.
- Pregnant women should obtain regular prenatal care.
- Avoid smoke exposure during pregnancy and after birth.
- Avoid alcohol and illicit drug use during pregnancy and after birth.
- Breastfeeding is recommended.
- Consider offering a pacifier at nap time and bedtime.
- Avoid overheating and head covering in infants.
- Avoid commercial devices that are inconsistent with safe sleep recommendations.
- Supervised, awake tummy time is recommended to facilitate development.
- Do not use home cardiorespiratory monitors as a strategy to reduce the risk of SIDS.
- All infants should be immunized in accordance with AAP and CDC recommendations.

ODH Infant Feeding and Infant Safe Sleep Policies

ODH is committed to promoting optimal health and safety for all Ohio infants and decreasing infant mortality. ODH recognizes its leadership role in establishing standards for policies and practices that promote healthy behaviors among its employees, programs, subgrantees and other state agencies for what ODH believes to be in the best interest of Ohio residents. Since 2012, the department adopted and began implementation of two policies regarding infant health: feeding and safe sleep. The purpose of the policies is to establish a consistent message across all department programs and activities regarding breastfeeding and safe sleep. The policies can be found at http://www.odh.ohio.gov/odhprograms/cfhs/cf_hlth/cfhs1.aspx. A training video about the policies is available on the OhioTRAIN at https://oh.train.org/DesktopShell.aspx. Local health departments and other state agencies are encouraged to adopt similar policies.

Congenital Anomalies, All Ages

Background

Congenital anomalies or birth defects are one of the leading causes of infant mortality in the United States and account for approximately 19 percent of infant deaths in Ohio. Nationally, birth defects are a major cause of morbidity and mortality throughout childhood. Approximately three percent of babies are born with a birth defect. In Ohio, this is approximately 4,500 babies each year. Some birth defects are life-threatening, in which case a baby may only live for a few months.

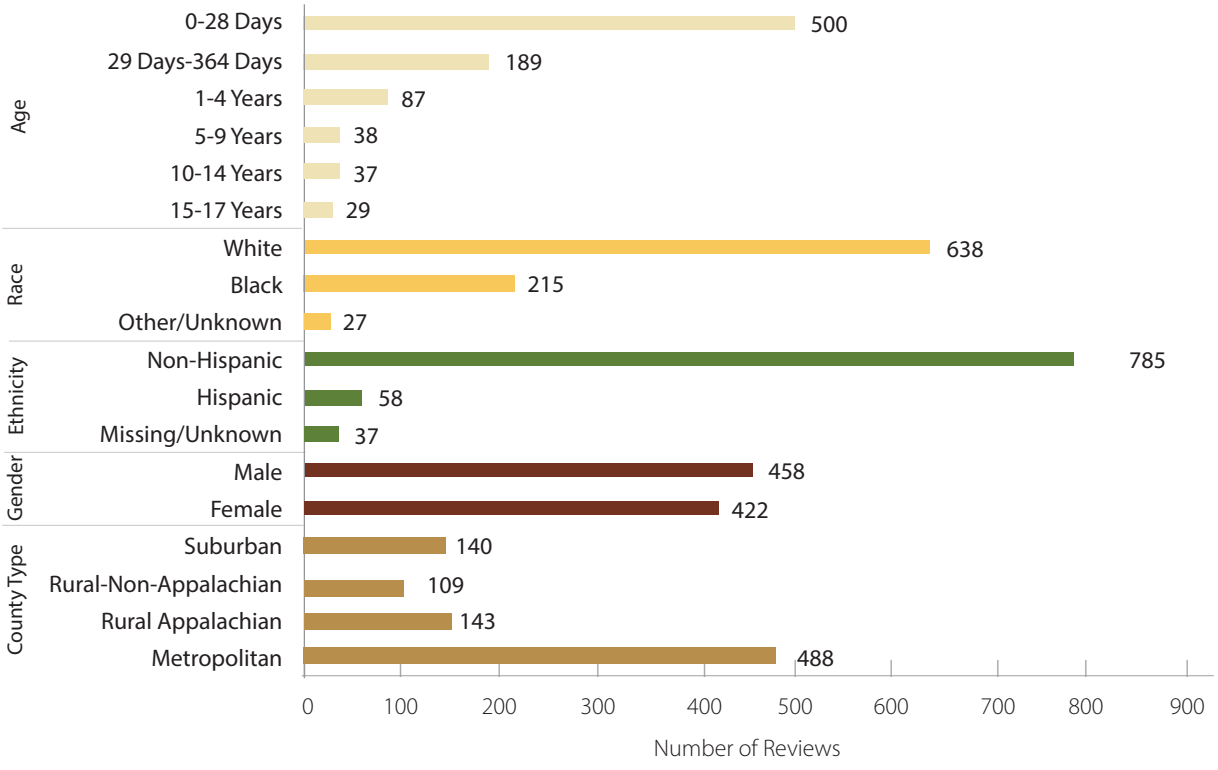
Most birth defects occur in the first three months of pregnancy as the baby's organs begin to develop, however some birth defects occur later in pregnancy as organs continue to grow. For many birth defects, the causes are unknown but thought to be multi-factorial, that is, a combination of genes, lifestyle behaviors and environmental factors.

Research from Ohio birth defects surveillance systems and the Ohio Child Fatality Review system contributes to identifying risk factors and prevention strategies. Risk factors for birth defects include smoking or drinking alcohol; certain medical conditions, such as obesity, or diabetes that is not controlled; certain prescription medications; family history of birth defects; and becoming pregnant after the age of 35 years.

CFR Findings

Among medical causes of death, congenital anomaly accounted for 18 percent of reviews.

Reviews of Congenital Anomaly Deaths by Age, Race, Ethnicity, Gender, County Type, 2012-2016 (n=880)



Reviews By Age Group

In response to recommendations from the Ohio CFR Advisory Committee to present the data and findings in ways that are meaningful and useful to program developers and policy makers, this report presents the findings by age groups. It is reasonable to assume that some risk and protective factors may vary by age group.

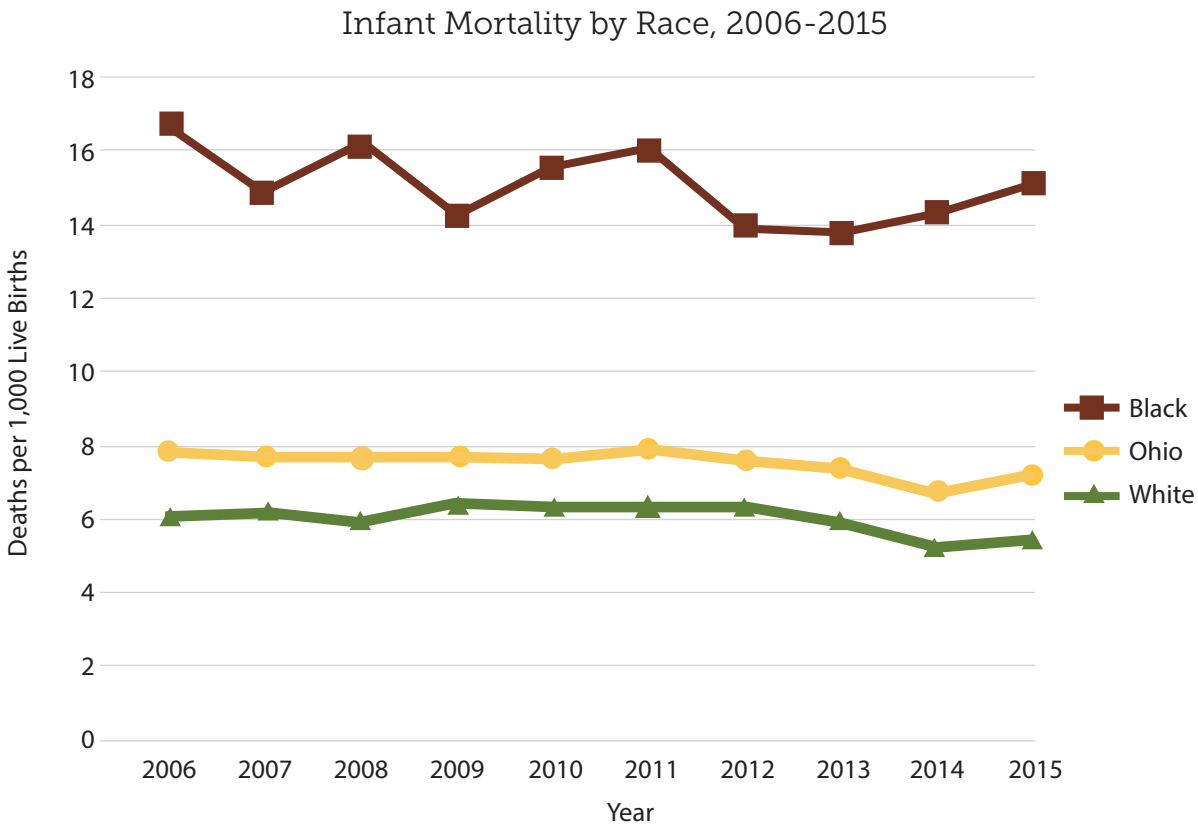
INFANT DEATHS

Background

Infant mortality (IM) is an important gauge of the health of a community because infants are uniquely vulnerable to the many factors that impact health, including socioeconomic disparities. The U.S. IM rate for 2015 was 5.89 infant deaths per 1,000 live births.[7]

Ohio's 2015 overall the IM rate was 7.2; the black IM rate was 15.1; and the white IM rate was 5.5 deaths per 1,000 live births.[8]

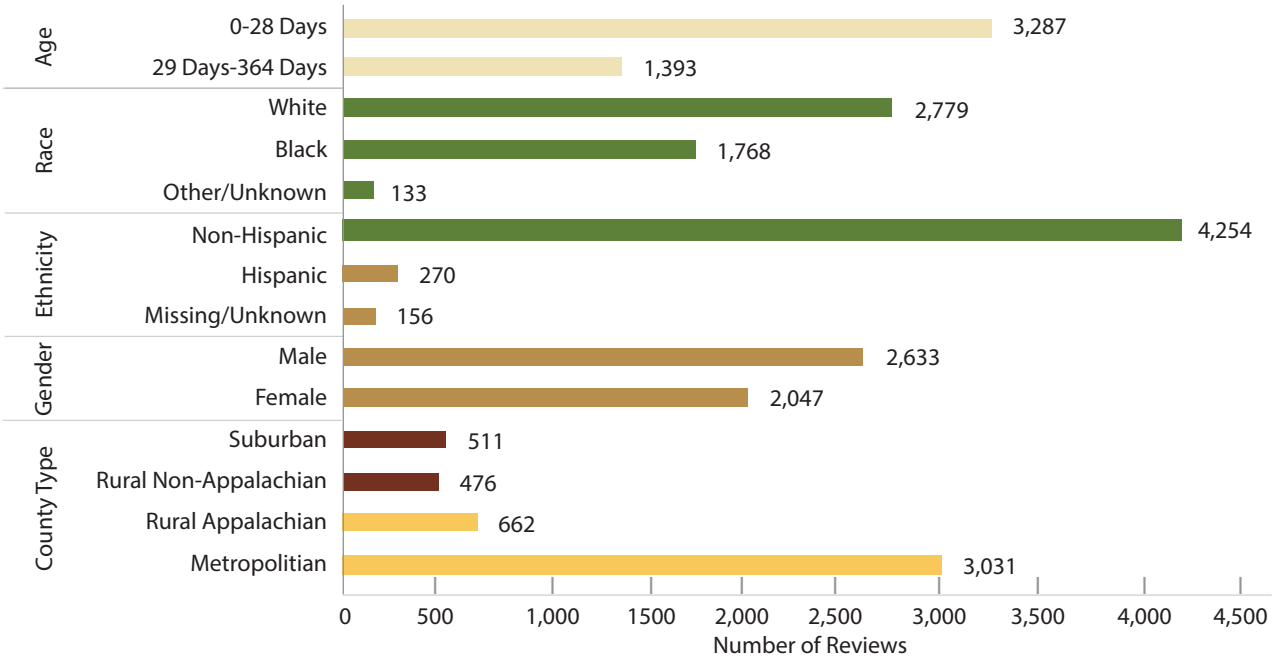
Though the IM rate in Ohio declined from 7.8 in 2006 to 7.2 in 2015, Ohio's 2015 overall infant mortality rate still remains higher than the national average. In addition, the racial disparity continues to be substantial, with black infants dying at more than twice the rate of white infants. For these reasons, ODH has identified decreasing infant mortality as a top priority in its state health improvement plan.



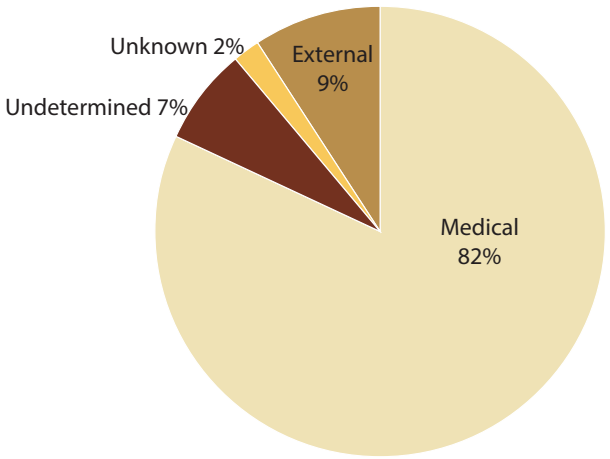
CFR Findings

Local child fatality review boards reviewed 4,680 infant deaths from 2012 through 2016 representing 67 percent of all reviews.

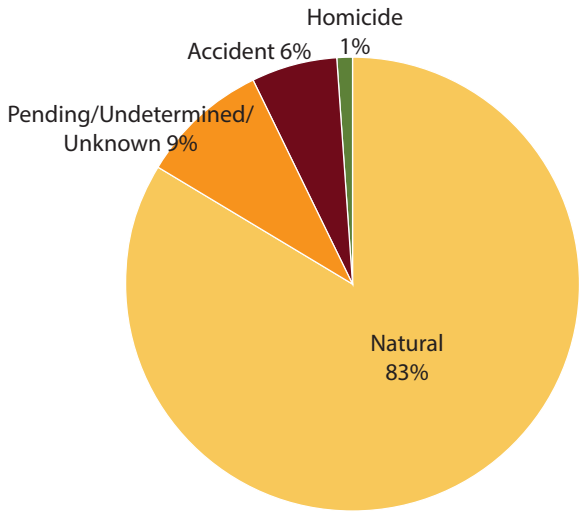
Reviews of Infant Deaths by Age, Race, Ethnicity, Gender, County Type, 2012-2016 (n=4,680)



Reviews of Infant Deaths by Causes, 2012-2016 (n=4,680)



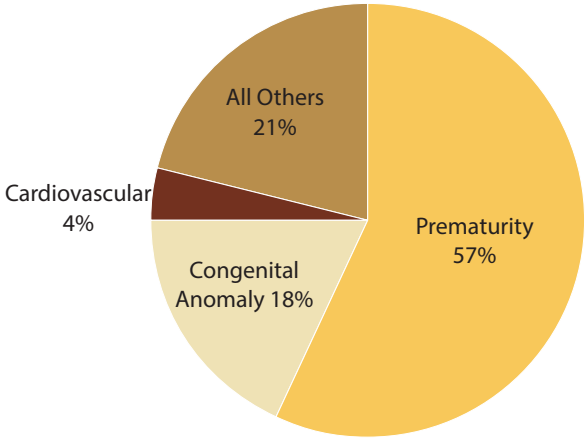
Reviews of Infant Deaths by Manner, 2012-2016 (n=4,680)



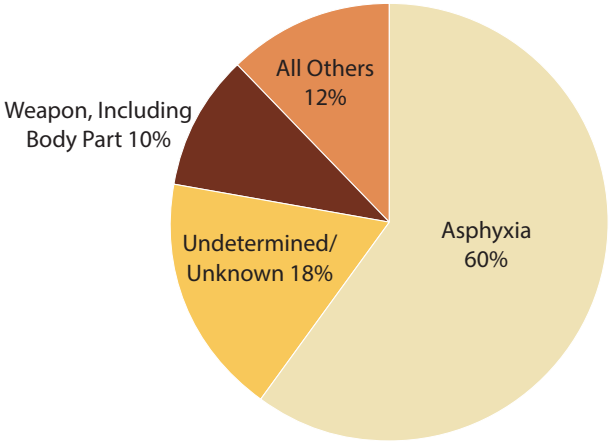
Prematurity is the leading cause of death in the reviews when examining external and medical causes together.

Reviews of Infant Deaths by Leading Causes of Death (External and Medical), 2012-2016	
Prematurity	2,198
Congenital Anomaly	689
Other Medical Condition	352
Asphyxia	264
Cardiovascular	163

Reviews of Infant Deaths by Medical Causes, 2012-2016 (n=3,831)



Reviews of Infant Death by External Causes, 2012-2016 (n=438)



Birth History Factors for Infant Deaths, 2012-2016 (n=4,680)

Birth Weight	#	%
Very Low (≤1,499 g)	2,275	49%
Low (1,500-2,499 g)	585	13%
Normal and Above (≥2,500 g)	1,216	26%
Missing	87	2%
Unknown	517	11%
Gestation	**#**	**%**
≤ 36 Weeks	3,017	64%
37-42 Weeks	1,270	27%
Missing	66	1%
Unknown	327	7%
Other Circumstances	**#**	**%**
Multiple Birth	628	13%
No Prenatal Care	291	6%
Mother Had Medical Condition	1,855	40%
Mother Smoked during Pregnancy	1,103	24%
Mother Used Illicit Drugs during Pregnancy	257	5%
Infant Born Exposed to Illicit Drugs	127	3%

Ohio Institute for Equity in Birth Outcomes

In 2012, ODH and CityMatCH started partnering with nine urban Ohio communities to improve overall birth outcomes and reduce the racial and ethnic disparities in infant mortality through the Ohio Institute for Equity in Birth Outcomes (OEI). OEI is a data-driven, high-visibility initiative designed to strengthen the scientific focus and evidence base for realizing equity in birth outcomes. During the initial three-year OEI initiative, the communities received training and support as they selected, implemented, and designed evaluation for two equity-focused local projects.

In the initial phase, local leaders organized OEI teams in urban areas determined by high infant mortality rates, significant racial disparities and local agency jurisdictions and roles. Two teams are county-based, two are city-based, and five are jointly based in both city and county. The following communities have committed to the OEI initiative:

- Butler County
- Canton (Stark County)
- Cincinnati
- Cleveland (Cuyahoga County)
- Columbus
- Dayton (Montgomery County)
- Summit County
- Toledo (Lucas County)
- Youngstown (Mahoning County)

OEI teams work together with experts in the fields of public health, epidemiology, birth outcomes, health inequities, and evaluation to receive training on race, racism, and inequities in birth outcomes in the U.S.; epidemiology of birth outcomes and racial disparities; evidence-based interventions for vulnerable populations; leadership; and evaluation. Using knowledge of strategies shown to improve birth outcome disparities and data-driven decisions specific to the target populations in each community, teams engage in two local equity projects aimed at reducing the disparity in birth outcomes. Teams receive technical assistance throughout the initiative.

June, 2016 marked the completion of year 3 for the OEI initiative. The initial 3 year project has been extended. ODH will continue to fund OEI through the MCH (Maternal and Child Health Grant) while teams will continue to evaluate their interventions, build community coalitions and address racism in their communities. OEI has a unique opportunity to serve as a template for other states seeking to make measureable reductions in birth outcome inequities.

For more information about OEI, go to
http://www.odh.ohio.gov/OEI.

Infant Deaths Due to Prematurity

Background

Prematurity is any birth prior to 37 weeks of gestation. Infants born even a few weeks early are at increased risk for severe health problems, lifelong disability and death. Prematurity is the leading cause of infant death nationally. According to the CDC, nearly a half million infants (one out of every nine births) are born prematurely each year in the United States and black women are 60 percent more likely to have a premature birth compared to white women.[9]

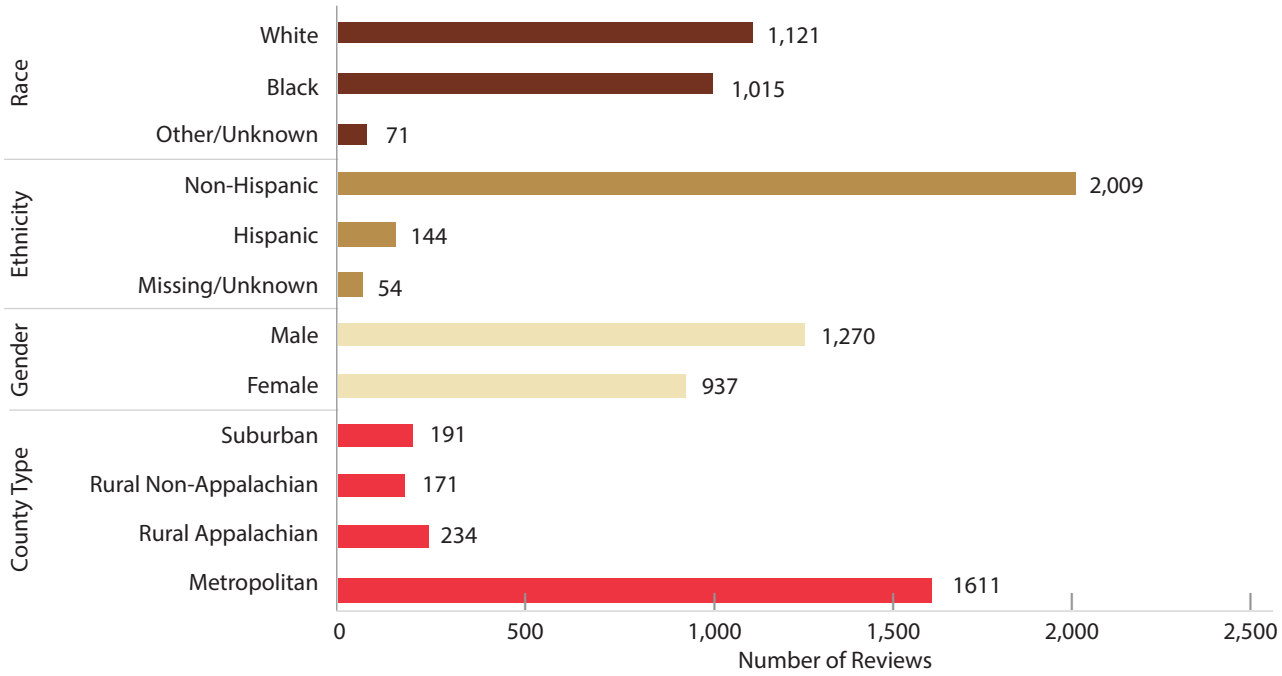
As the leading cause of death for Ohio's children, prematurity is a major contributor to Ohio's high IM rate. In response to the need to better understand the factors related to prematurity, this section has been added to the annual report.

CFR Findings

The CFR case report tool and data system capture information about prematurity as both a condition of birth and a cause of death. Gestational age at birth is noted for reviews of all infant deaths from all causes. Many infants born prematurely survive the immediate complications of their early birth, but die from some other cause. A separate variable is used to record the deaths directly attributed to prematurity. This chapter includes for analysis only those reviews where the death was attributed directly to the prematurity.

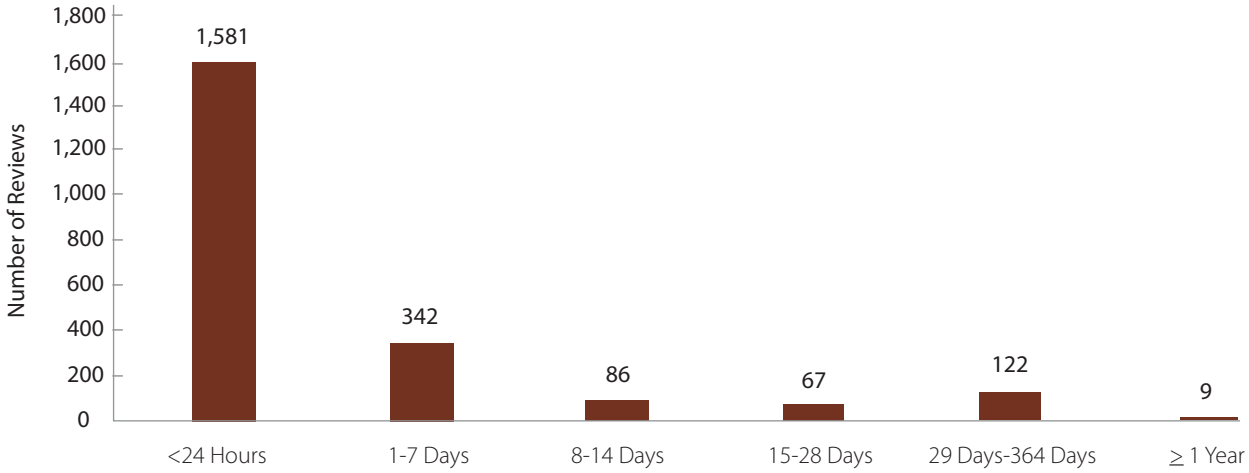
For the five-year period from 2012 through 2016, local CFR boards reviewed 2,207 infant deaths due to prematurity. These represent 32 percent of all deaths for all ages, and 47 percent of the reviews for infant deaths.

Reviews of Premature Deaths by Race, Ethnicity, Gender, County Type, 2012-2016 (n=2,207)



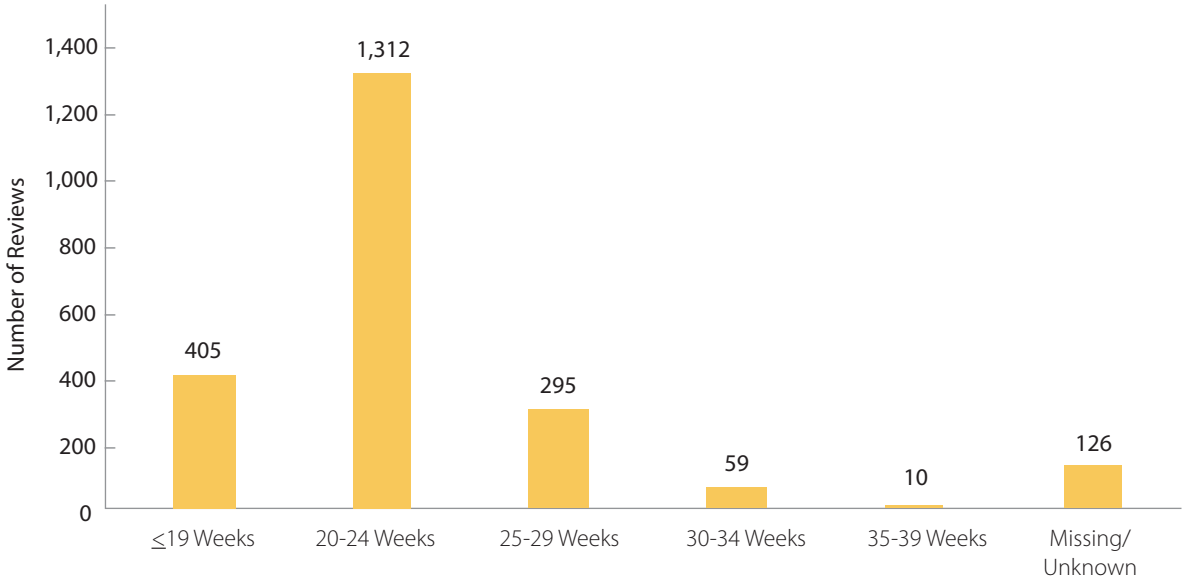
Ninety-four percent (2,076) of the prematurity deaths were neonatal deaths, occurring to infants from birth to 28 days of age. Seventy-two percent (1,581) of the deaths occurred within the first 24 hours of life.

Reviews of Premature Deaths by Days Lived, 2012-2016 (n=2,207)



CFR boards review all deaths for children born alive, regardless of gestational age. Many of the deaths due to prematurity occurred at gestational ages considered pre-viable, yet the child was born alive. Of the 2,081 reviews where gestational age was known, 18 percent (405) of the deaths occurred before 20 weeks of gestation. An additional 59 percent (1,312) occurred between 20 and 24 weeks gestation.

Reviews of Premature Deaths by Gestational Age, 2012-2016 (n=2,207)



In addition to being born too early, other birth history factors relate to premature infant deaths. Most infants who died of prematurity were very small at birth, with 81 percent (1,783) weighing less than 1,000 grams. In 50 percent of reviews the mother had a medical condition. Common medical conditions include premature rupture of membranes, preterm labor, and chorioamnionitis, a bacterial infection.

Birth History Factors for Infant Premature Deaths, 2012-2016 (n=2,207)

Birth Weight	#	%
< 500 grams	1,150	52%
500-999 grams	633	29%
1,000-1,499 grams	84	4%
1,500-2,499 grams	43	2%
≥ 2,500 grams	5	0%
Missing/Unknown	292	13%
Maternal Age*	**#**	**%**
≤ 19 years	217	11%
20-24 years	534	27%
25-29 years	547	28%
30-34 years	446	22%
35-39 years	189	10%
≥ 40 years	50	3%
Other Circumstances	**#**	**%**
Multiple Birth	460	21%
No Prenatal Care	220	10%
Mother Had Medical Condition	1,113	50%
Mother Smoked during Pregnancy	449	20%

Denominator used to calculate percentages includes missing and unknown data.
**Where primary caregiver identified as female biological parent and age available (n=1,983).*

OCTF Infant Mortality Prevention Initiatives

The Ohio Children's Trust Fund (OCTF) invests in numerous statewide prevention programs and initiatives including partnering with multiple organizations to develop prevention strategies that aim to reduce Ohio's alarmingly high rate of infant mortality, including:

- Two quality improvement projects relating to safe sleep and injury prevention for infants, birth to 12 months of age as well as an earned media campaign to raise awareness through statewide print and electronic news reports of safe sleep practices;
- The development and utilization of a safe sleep/infant mortality specific tool designed to aid clinicians in screening families for risk and providing education to families as to best practices. The tool is being utilized in pediatric primary care offices and in several community settings including faith-based organizations;
- The creation of a part II maintenance of certification self-assessment module that will provide essential education for healthcare providers on child abuse and neglect prevention; and
- Community-based prevention services that provide families with advice, guidance and other help from health, social service and child development professionals. These services provide communities with access to parent education and community education classes. Parents learn how to improve their family's health and provide better opportunities for their children.

Deaths to Children 1 to 4 Years Old

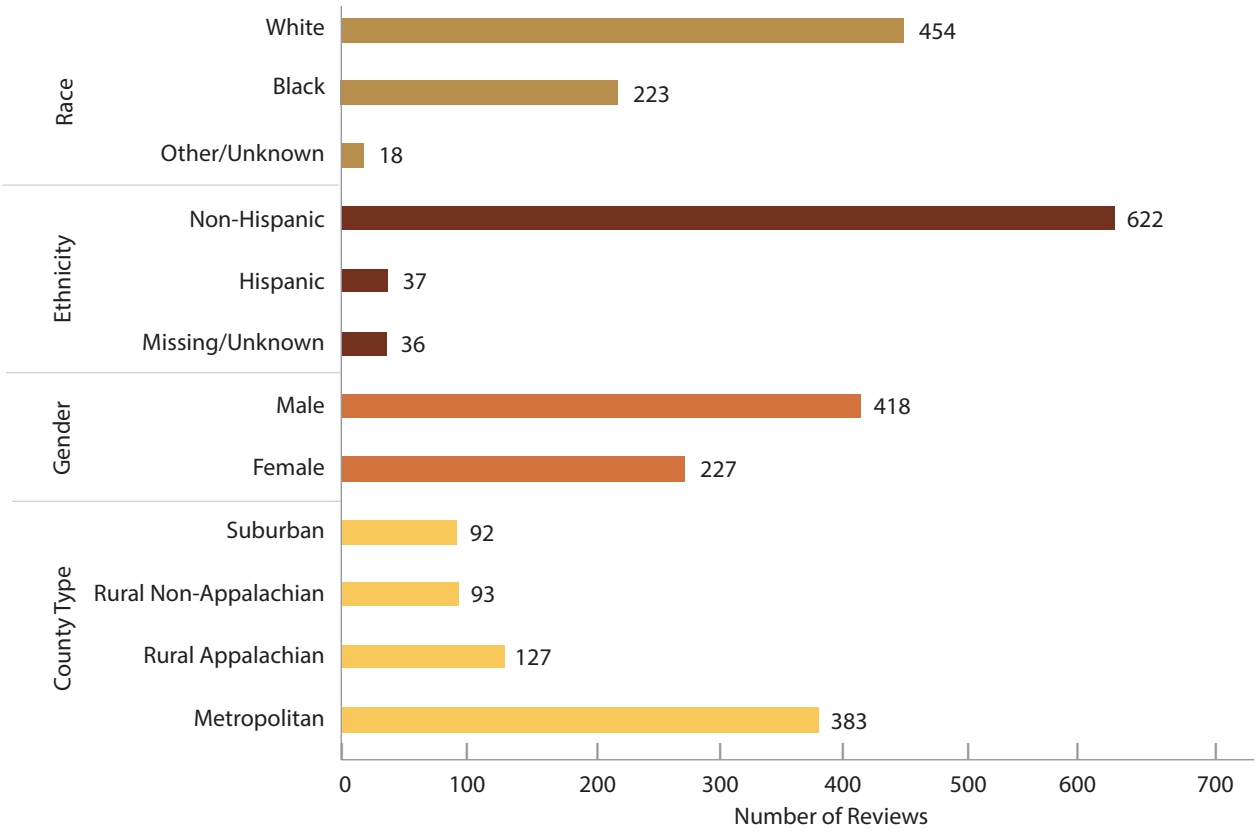
Background

No longer babies, toddlers and preschoolers experience increased mobility and more awareness of their surroundings, but lack the reasoning skills to protect themselves from many dangers.[10] According to the National Center for Health Statistics, the leading causes of death for 1 to 4 year olds are accidents, congenital anomalies and homicides. Nationally, the 2014 mortality rate for this age group was statistically less than in 2013, decreasing from 26 per 100,000 in 2013 to 24 per 100,000 people in 2014.[11]

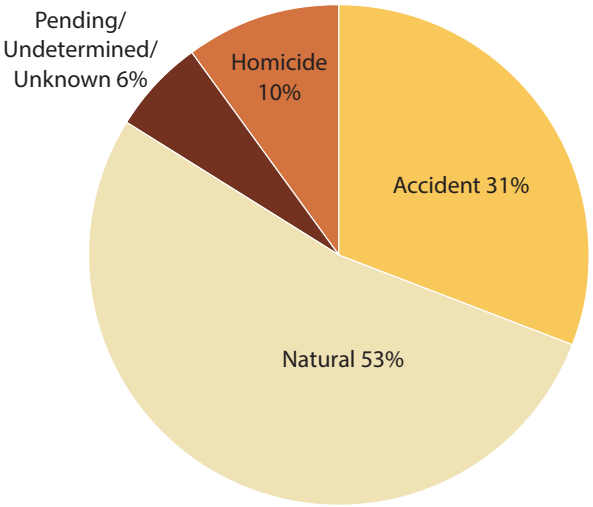
CFR Findings

For the five-year period from 2012 through 2016, local CFR boards reviewed 695 deaths to children ages 1 to 4 years. These represent 10 percent of all 6,952 deaths reviewed.

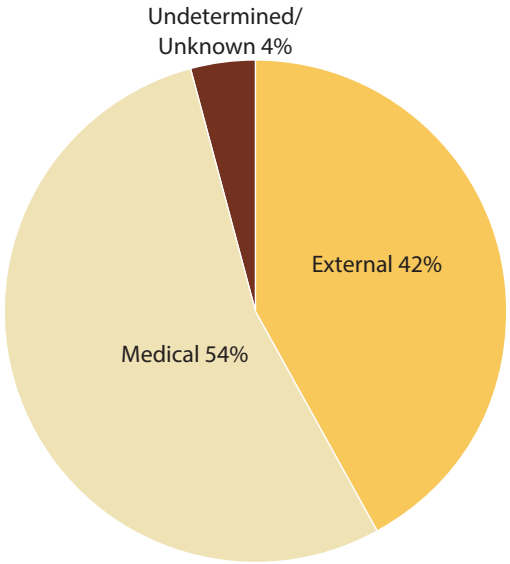
Reviews of Deaths to 1-4 Year Olds by Race, Ethnicity, Gender, County Type, 2012-2016 (n=695)



Reviews of Deaths to 1-4 Year Olds by Manner, 2012-2016 (n=695)



Reviews of Deaths to 1-4 Year Olds by Cause, 2012-2016 (n=695)



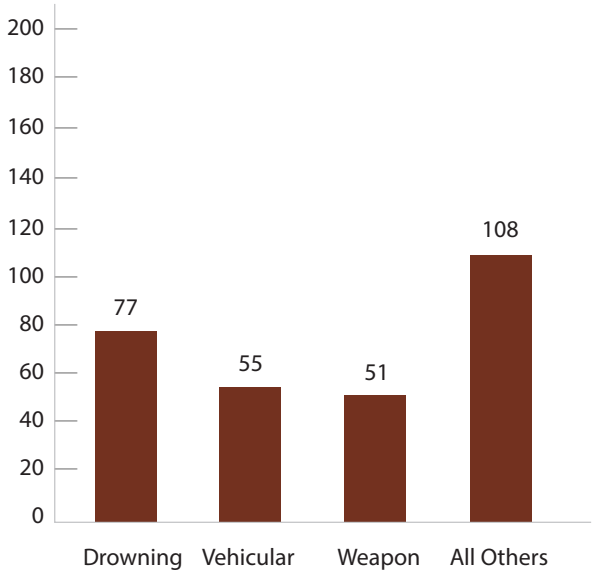
Ohio Injury Prevention Partnership

The Ohio Injury Prevention Partnership (OIPP) is a statewide group of professionals representing a broad range of agencies and organizations concerned with building Ohio's capacity to address the prevention of injury, particularly related to the group's identified priority areas. One of the subgroups of OIPP, the Child Injury Action Group (CIAG), works to develop and implement policies to decrease injuries and fatalities within their five priority areas: teen safe driving; child restraint law review and revision; sports-related traumatic brain injury; bicycle and wheeled sports helmets; and infant safe sleep. Ohio CFR data and findings have been used to inform the strategic plan for the CIAG.

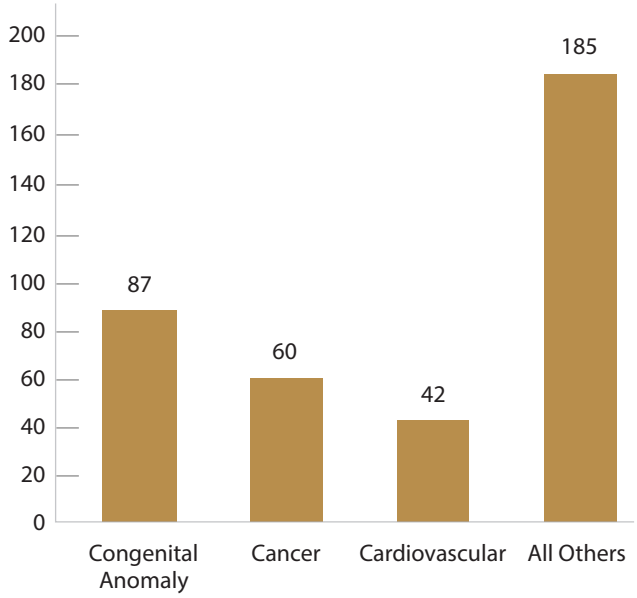
OHIO INJURY PREVENTION
PARTNERSHIP
Child Injury Action Group

External and medical causes are more varied for 1 to 4 year olds with the largest proportion of each made up by the other category. Other external causes include: exposure, fall, fire, poisoning, and asphyxia. Among other medical causes are flu, asthma, malnutrition, neurological, pneumonia, prematurity, and SIDS.

Reviews of Deaths to 1-4 Year Olds by External Causes, 2012-2016 (n=291)



Reviews of Deaths to 1-4 Year Olds by Medical Causes, 2012-2016 (n=374)



Ohio's Booster Seat Law

Ohio's Child Restraint Law requires children to use belt-positioning booster seats when they outgrow their child safety seats (usually at 4 years old and 40 pounds). The belt-positioning booster seats must be used until the child is 8 years old, unless the child is at least 4 feet, 9 inches tall. Booster seats raise the child so the shoulder and lap belt are correctly positioned across the strongest parts of the child's body, rather than riding up over the child's neck and stomach. By requiring the use of booster seats, the law will help prevent serious injuries and deaths to young children.

The current law requires the following:

- Children younger than 4 years old or less than 40 pounds must use a child safety seat.
- Children younger than 8 years old must use a booster seat until they are at least 4 feet, 9 inches tall.
- Children ages 8 to 15 must be restrained by the standard safety belts.

More information about the law and choosing the correct car seat or booster seat can be found at http://www.healthy.ohio.gov/vipp/cps/Child%20Passenger%20Safety%20Law.aspx.

Deaths to Children 5 to 9 Years Old

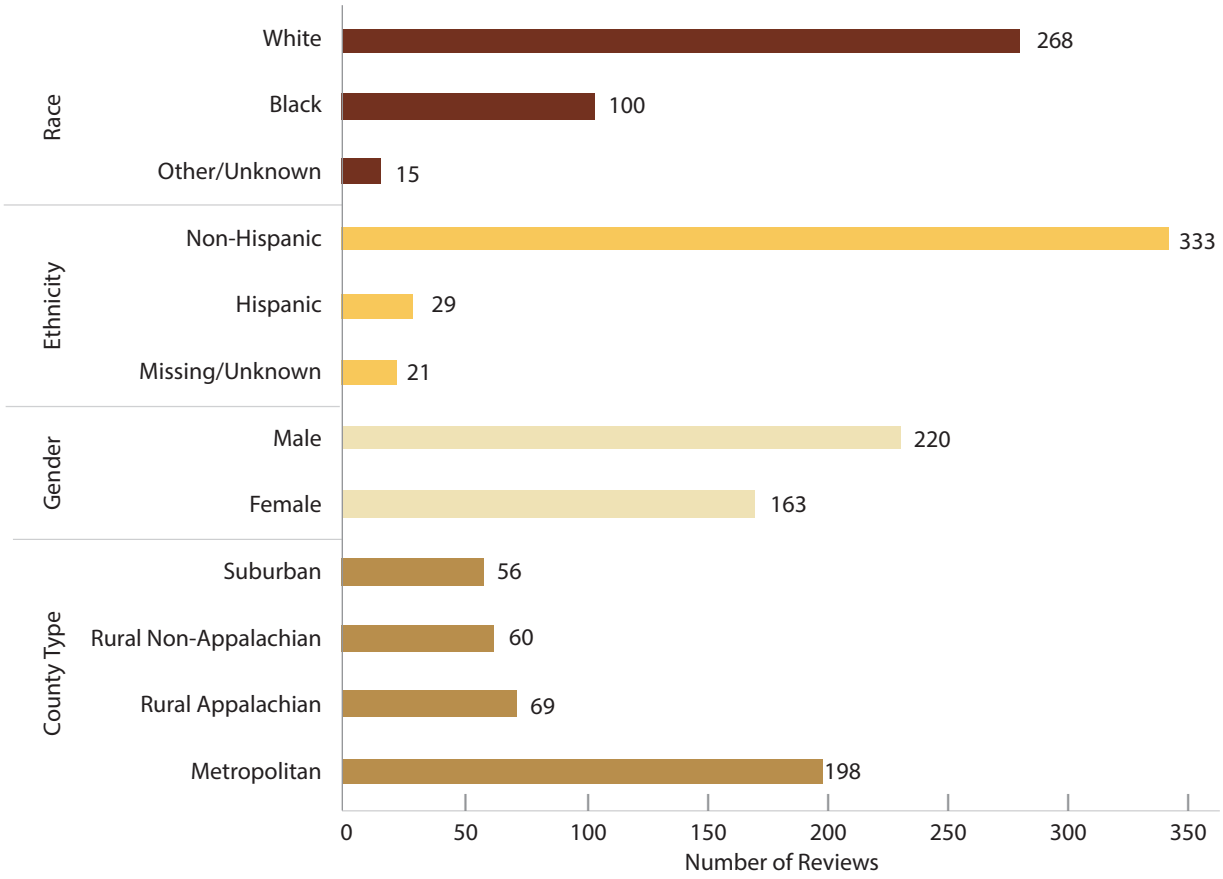
Background

Children ages 5 to 9 years continue to improve motor skills and have more regular contact with people outside of their family. They have a growing understanding of consequences and of right and wrong.[12] According to the National Center for Injury Prevention and Control, nationally the leading causes of death for 5 to 9 year olds are accidents, cancer and congenital anomalies.[13]

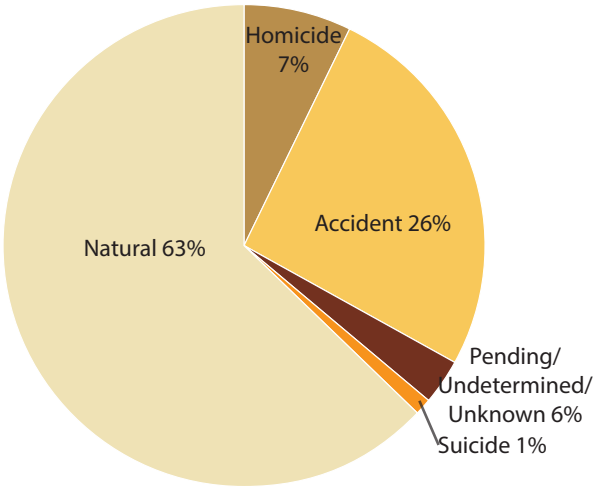
CFR Findings

For the five-year period from 2012 through 2016, local CFR boards reviewed 383 deaths to children ages 5 to 9 years. These represent 5 percent of all 6,952 deaths reviewed.

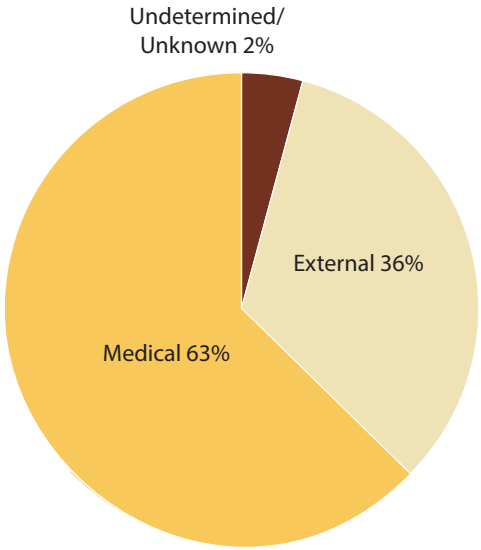
Reviews of Deaths to 5-9 Year Olds by Race, Ethnicity, Gender, County Type, 2012-2016 (n=383)



Reviews of Deaths to 5-9 Year Olds by Manner, 2012-2016 (n=383)

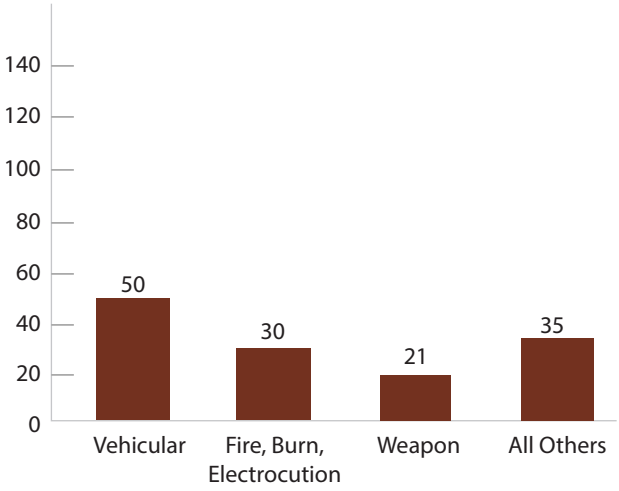


Reviews of Deaths to 5-9 Year Olds by Cause, 2012-2016 (n=383)

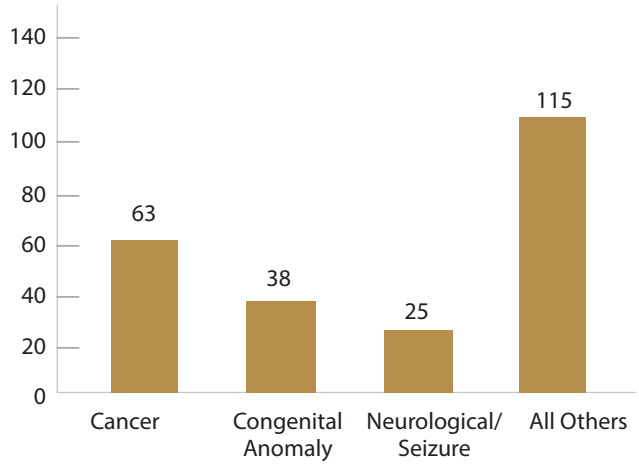


Vehicular injuries (37 percent) account for the largest proportion of deaths due to external causes. Other external causes of death included poisoning, asphyxia, drowning and falling. Among medical causes of death, cancer accounted for the single largest cause of death. Other medical causes of death included cardiovascular, pneumonia and malnutrition.

Reviews of Deaths to 5-9 Year Olds by External Causes, 2012-2016 (n=136)



Reviews of Deaths to 5-9 Year Olds by Medical Causes, 2012-2016 (n=241)



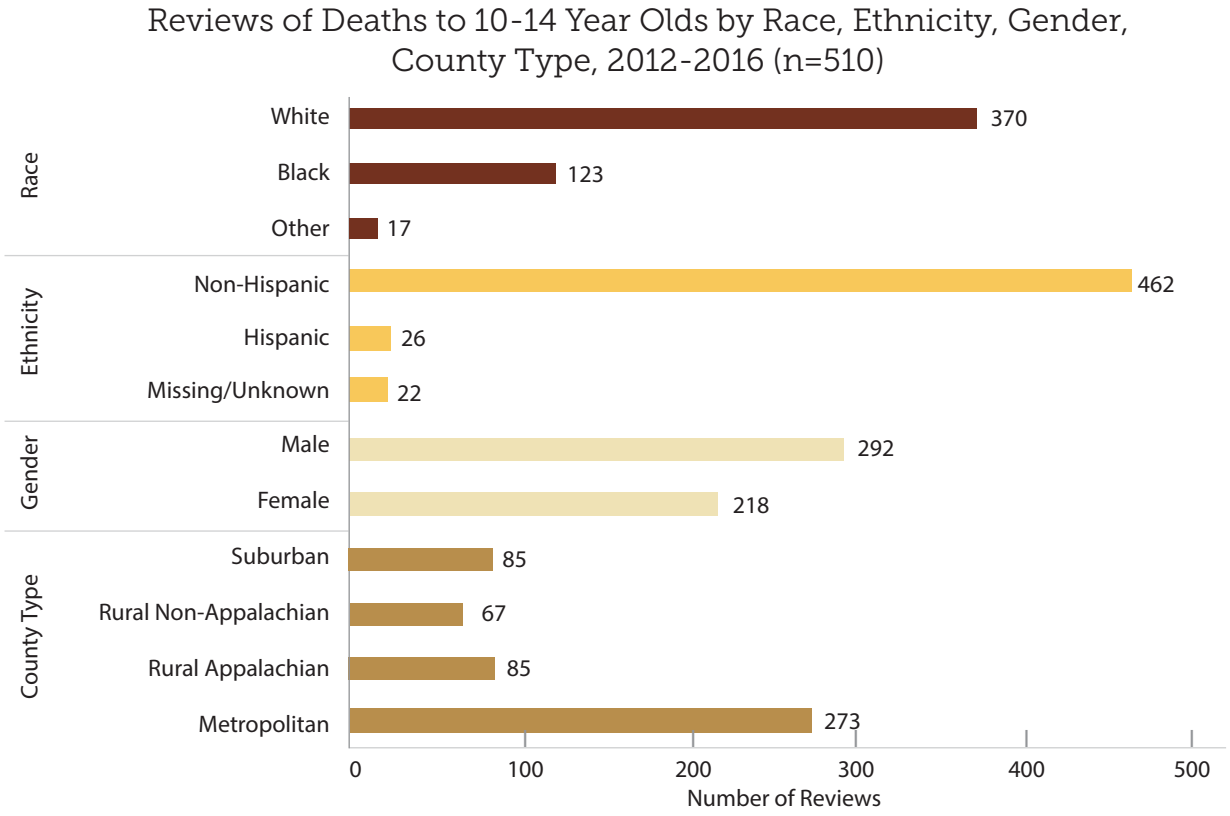
Deaths to Children 10 to 14 Years Old

Background

Children in early adolescence experience many physical, cognitive and social-emotional changes. As 10 to 14 year olds experience more independence, they also encounter strong peer pressure.[14] According to the National Center for Injury Prevention and Control, nationally the leading causes of death for 10 to 14 year olds are vehicular crashes, suicides and cancer.[15]

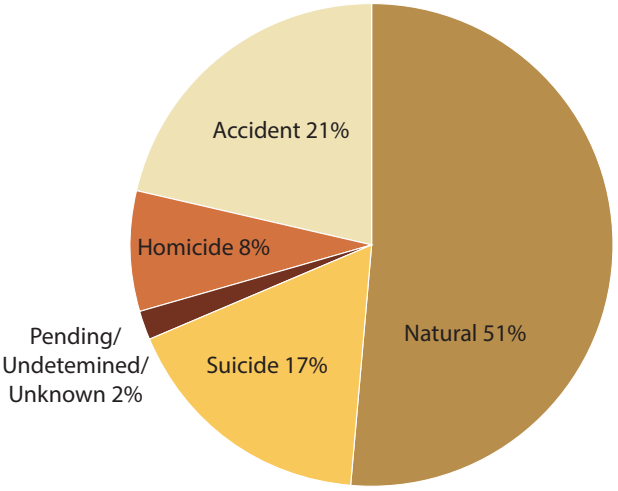
CFR Findings

For the five-year period from 2012 through 2016, local CFR boards reviewed 510 deaths to children ages 10 to 14 years. These represent 7 percent of all 6,952 deaths reviewed.

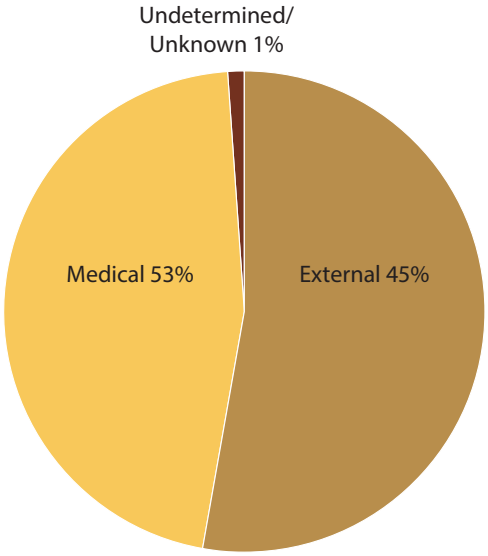


Fifty-one percent of reviews were classified as natural.

Reviews of Deaths to 10-14 Year Olds by External Causes, 2012-2016 (n=510)

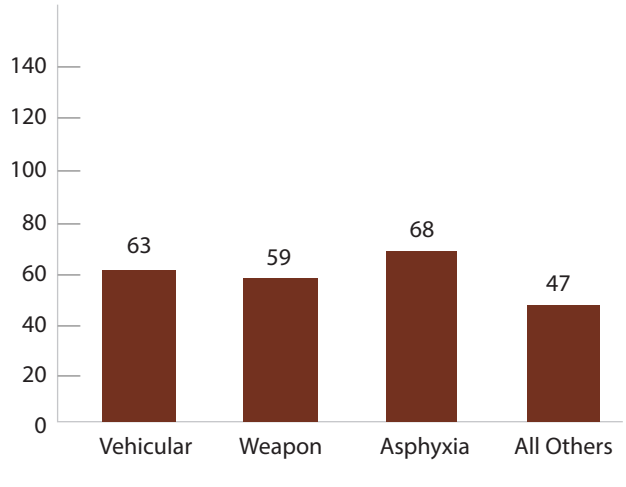


Reviews of Deaths to 10-14 Year Olds by Medical Causes, 2012-2016 (n=510)

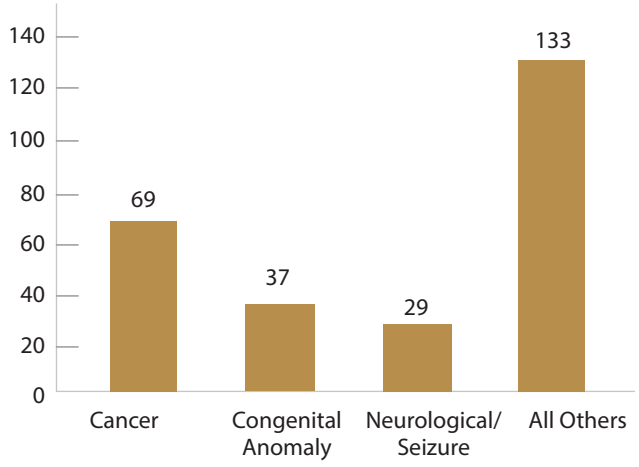


Asphyxia accounted for the largest external cause of death. Excluding all other causes, cancer accounted for the largest medical external cause of death.

Reviews of Deaths to 10-14 Year Olds by External Causes, 2012-2016 (n=237)



Reviews of Deaths to 10-14 Year Olds by Medical Causes, 2012-2016 (n=268)



Deaths to Children 15 to 17 Years Old

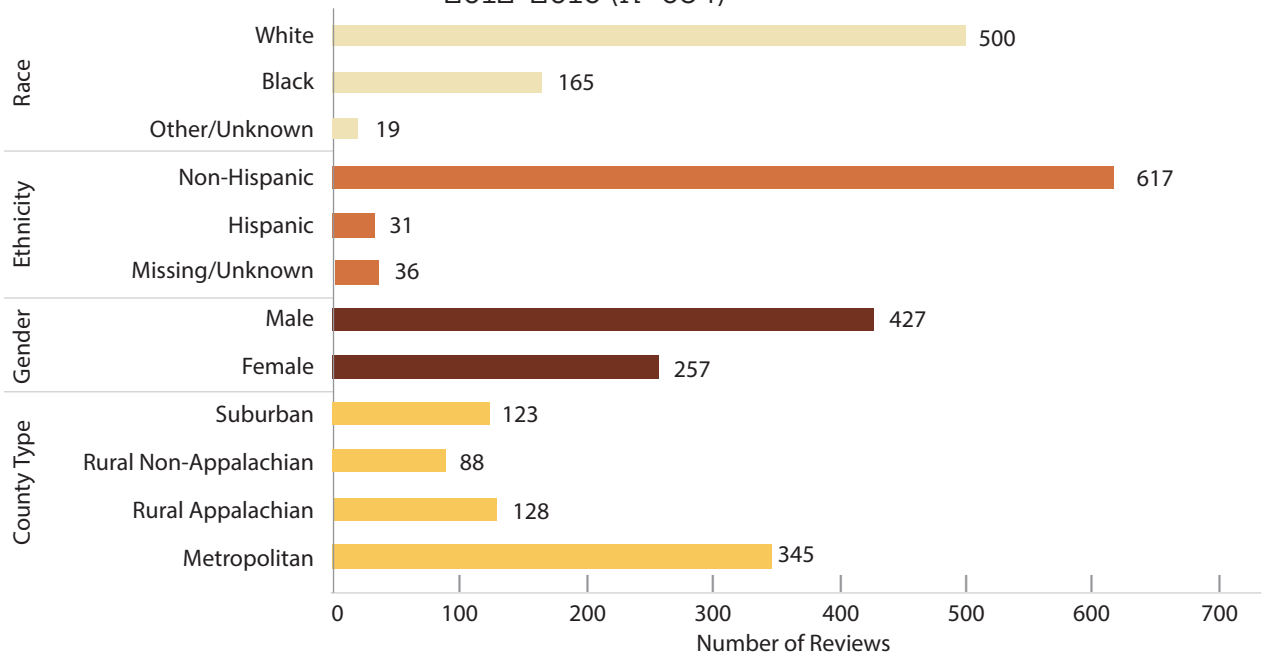
Background

Known for challenging the limits, teenagers enjoy more independence from their family and develop strong relationships with peers.[16] According to the National Center for Injury Prevention and Control, nationally the leading causes of death for 15 to 17 year olds are vehicular injuries, suicides and homicides.[17]

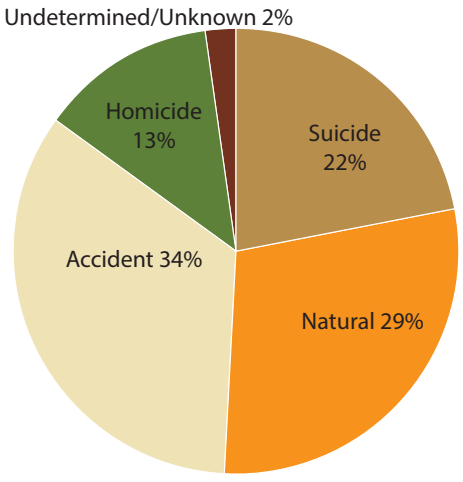
CFR Findings

For the five-year period from 2012 through 2016, local CFR boards reviewed 684 deaths of children ages 15 to 17 years. These represent 10 percent of all 6,952 deaths reviewed.

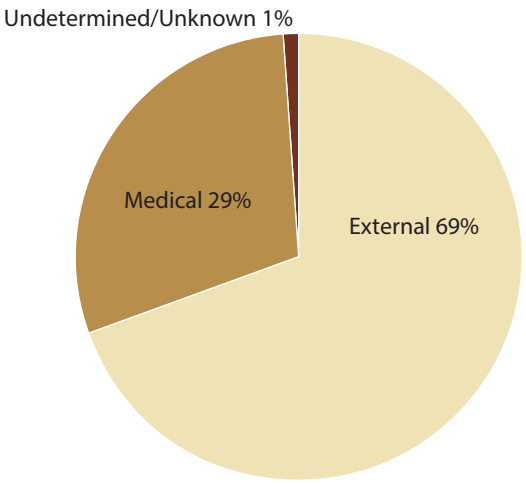
Reviews of Deaths to 15-17 Year Olds by Race, Ethnicity, Gender, County Type, 2012-2016 (n=684)



Reviews of Deaths to 15-17 Year Olds by Manner, 2012-2016 (n=684)

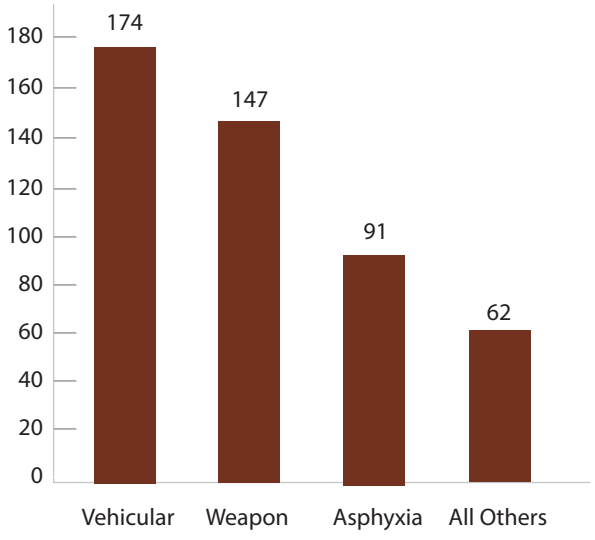


Reviews of Deaths to 15-17 Year Olds by Cause, 2012-2016 (n=684)

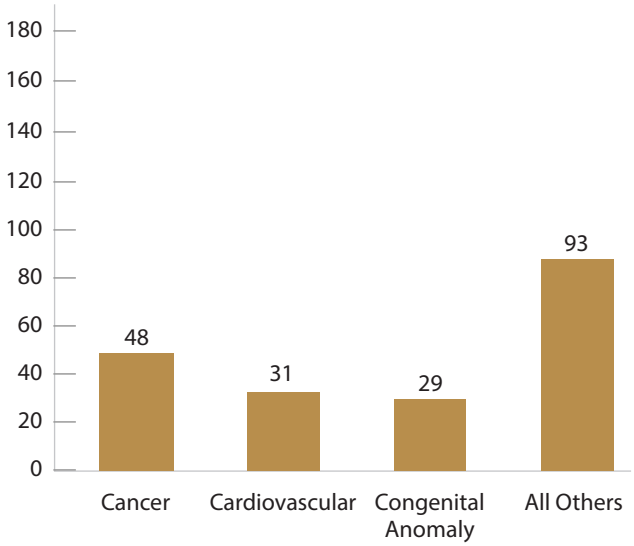


Vehicular injuries accounted for 37 percent of deaths due to external causes.

Reviews of Deaths to 15-17 Year Olds by External Causes, 2012-2016 (n=474)



Reviews of Deaths to 15-17 Year Olds by Medical Causes, 2012-2016 (n=201)



Ohio's Teen Driving Laws

Graduated licensing allows young drivers to improve their skills and driving habits while restricting driving under circumstances that increase the risk of crashes. The Ohio Graduated Driver License law (GDL) was enhanced in H.B. 53 of the 131st General Assembly, effective July, 2015. The new provisions change the way the GDL-related passenger restrictions and hours of operation restrictions are applied to probationary drivers as well as moving violations. Ohio's law now mandates that teens younger than 18 must hold an intermediate license for one year before they are allowed more than one non-family member passenger, unless they are accompanied by a parent or guardian. If under 18, teens may not drive between midnight and 6 a.m. without a parent or guardian, unless they have held a probationary license for at least one year. Probationary license holders may not drive between 1 a.m. and 5 a.m. unless accompanied by a parent or guardian. Some exemptions may apply. The GDL still maintains a young driver receives a minimum of 24 hours of classroom instruction and eight hours of behind-the-wheel instruction in driver training. In addition to this requirement, they must receive at least 50 hours of in-car practice (10 of these at night) with a parent or legal guardian.

The GDL prohibits teen drivers under the age of 18 from using any electronic wireless communication device. Complete information on Ohio's GDL can be found at http://bmv.ohio.gov/dl-gdl.aspx.

Reviews By Manner Of Death

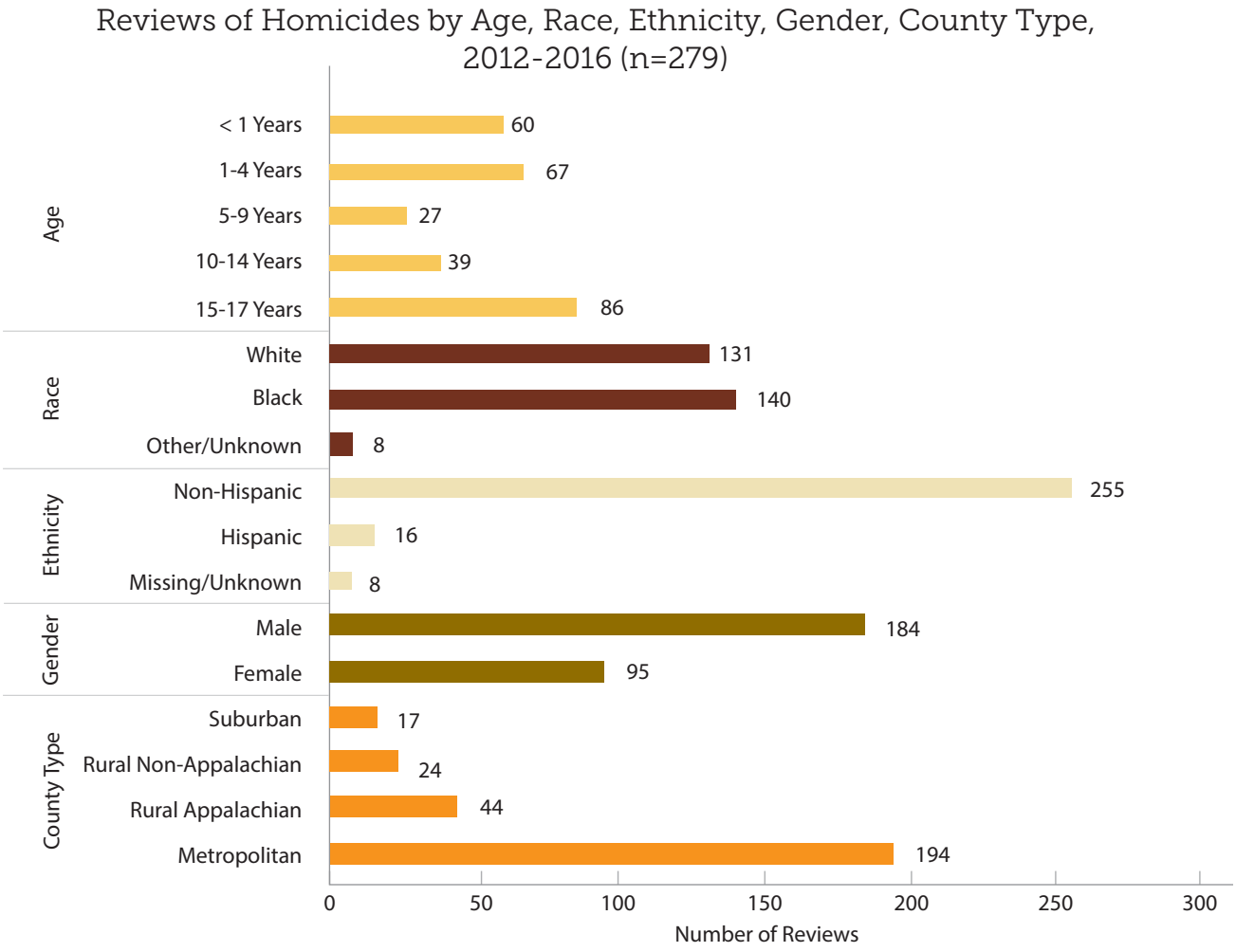
Homicides

Background

The CFR case report tool and data system capture information about homicide as a manner of death and as an act of commission, regardless of the cause of death. As homicide has unique risk factors and prevention strategies, homicide reviews from all causes of death have been combined for further analysis as a group.

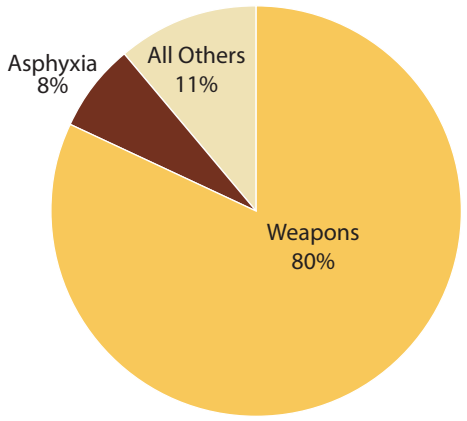
CFR Findings

For the five-year period from 2012 through 2016, local CFR boards reviewed 279 deaths to children resulting from homicide. Homicides represent four percent of the total reviews and thirteen percent of all reviews for children ages 15 to 17 years.



Reviews of homicides were classified by cause with 270 (97 percent) due to external causes. Weapons are the leading external cause of death, accounting for 80 percent of deaths. Other external causes of death in homicides include poison, vehicular injuries and fires, among other causes. Parents, whether biological or step, account for the largest proportion of deaths (21 percent).

Reviews of Homicides by External Causes of Death, 2012-2016 (n=270)

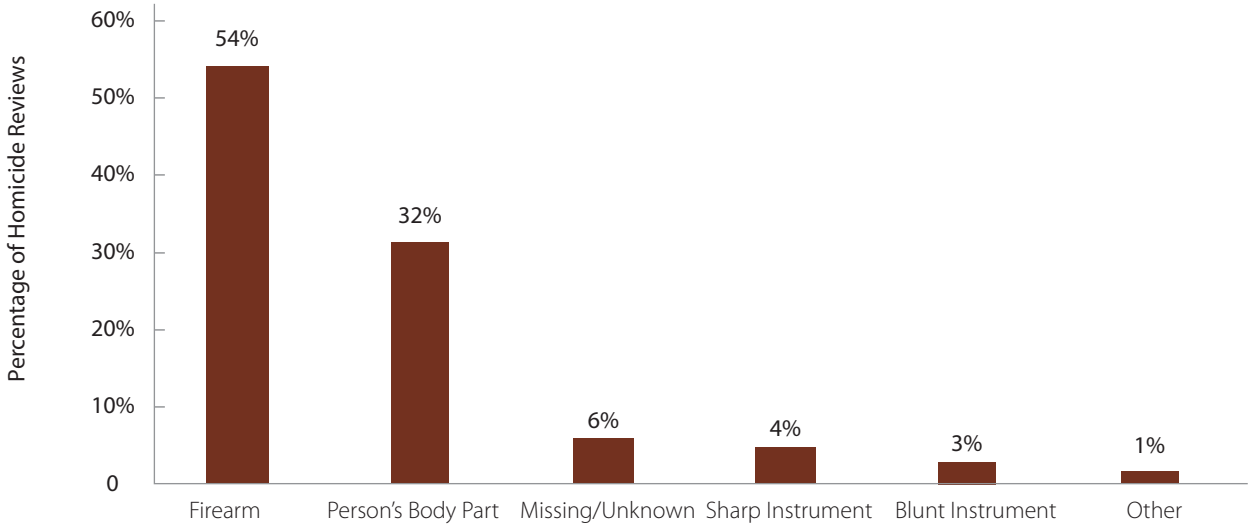


Reviews of Homicides by Person Handling Weapon, 2012-2016 (n=217)

Person	%
Biological/ Step Parent	21%
Mother's Partner	12%
All Other	10%
Friend	9%
Stranger	6%
Acquaintance	6%
Rival Gang	3%
Sibling	2%
Other Relative	2%
Child's Boyfriend/ Girlfriend	2%
Missing/ Unknown	26%

Over half of homicides caused by a weapon were caused by a firearm (54 percent).

Reviews of Homicides by Weapon Type, 2012-2016 (n=217)



Suicides

Background

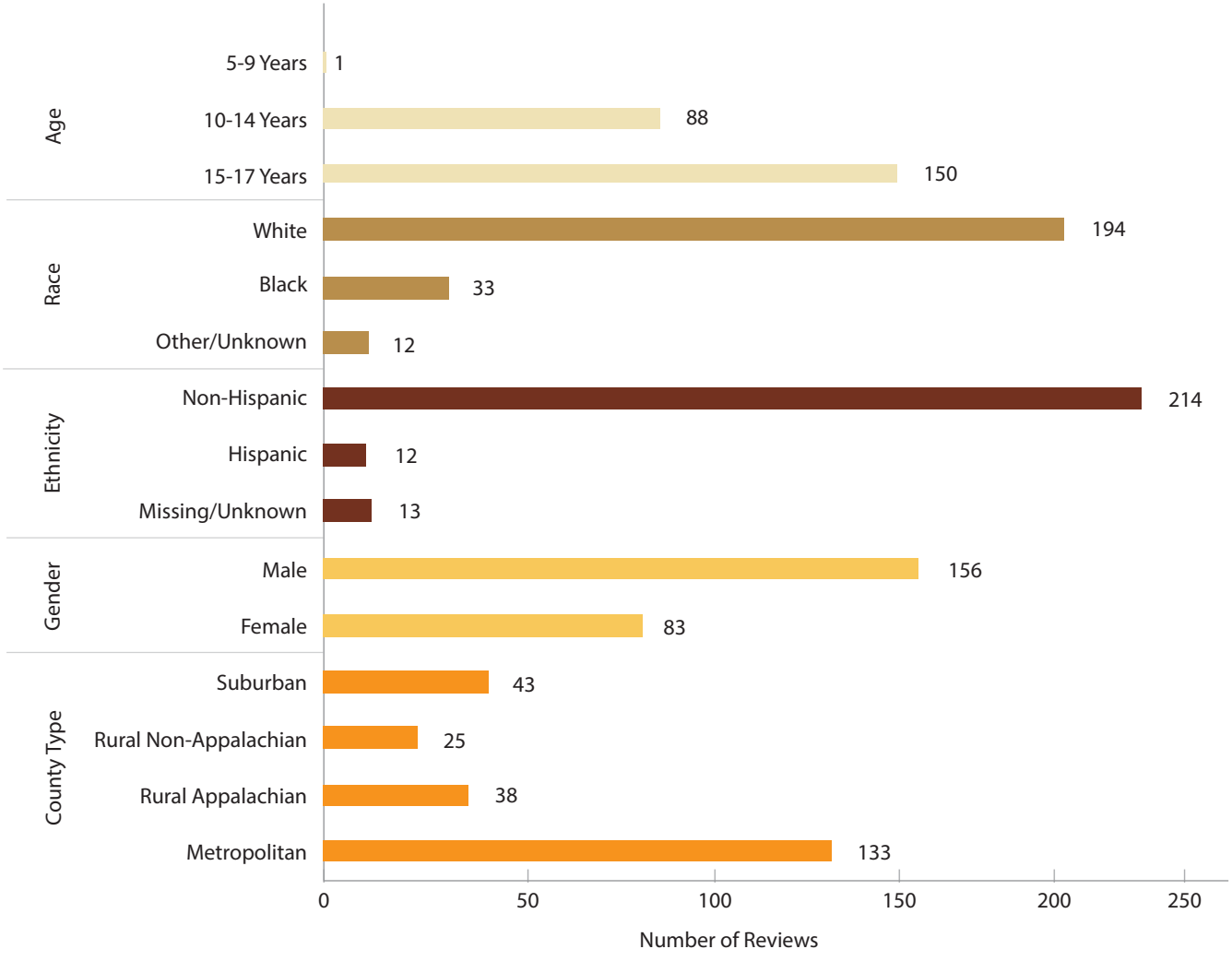
Suicide is death caused by self-directed injurious behavior with intent to die.[18] The CFR case report tool and data system capture information about suicide as a manner of death and as an act of commission, regardless of the cause of death. As suicide has unique risk factors and prevention strategies, suicide deaths from all causes have been combined for further analysis.

According to the National Center for Injury Prevention and Control, suicide accounted for 19 percent of the deaths for young people ages 10 to 17 years nationally in 2014.[19]

CFR Findings

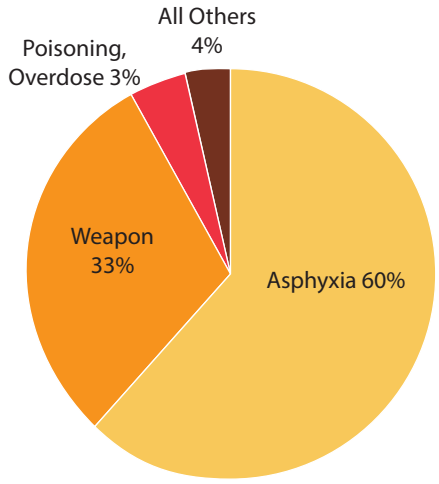
For the five-year period from 2012 through 2016, local CFR boards reviewed 239 deaths to children from suicide. These represent three percent of the total 6,952 reviews and 20 percent of all reviews for children ages 10 to 17.

Reviews of Suicides by Age, Race, Ethnicity, Gender, County Type, 2012-2016 (n=239)



The child talked about suicide in 25 percent of suicides reviewed, and prior suicide attempts were made in 15 percent of suicides reviewed. Twenty-six percent of reviews indicated the suicide was completely unexpected. The child had a history of substance abuse in eleven percent of the suicides reviewed. The chart below examines the external causes of death in the suicides reviewed. Gender differences were apparent when examining causes of death. Weapons were the cause of death for 39 percent of males and 20 percent of females. Poisoning was the cause of death for 7 percent of females, but only 1 percent of males. Asphyxia was the cause of death for 66 percent of females and 56 percent of males.

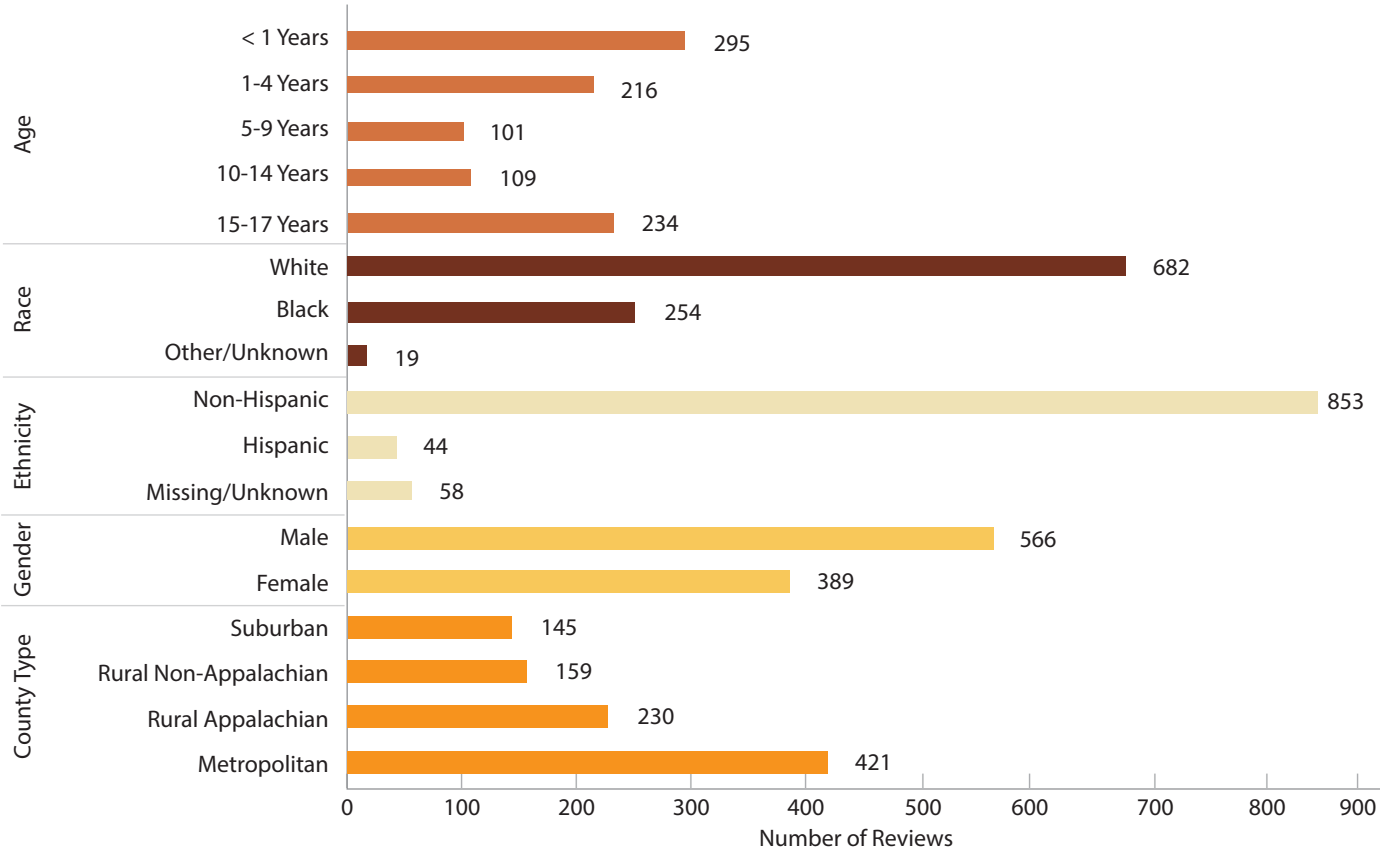
Reviews of Suicides by External Causes of Death, 2012-2016 (n=237)



Accidents

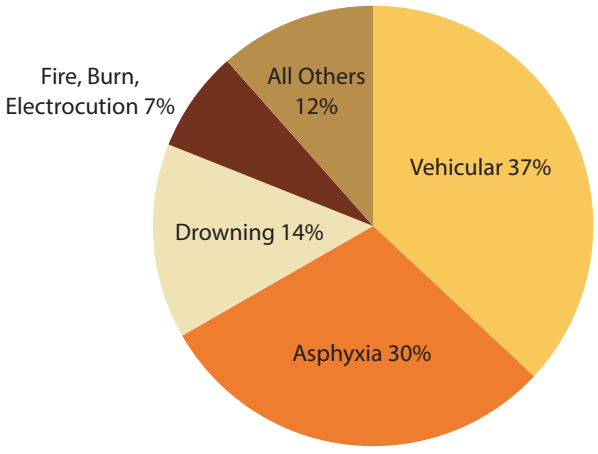
For the five-year period from 2012 through 2016, local CFR boards reviewed 955 deaths to children resulting from accidents. Accidents represent 14 percent of the total reviews.

Reviews of Accidents by Age, Race, Ethnicity, Gender, County Type, 2012-2016 (n=955)



Of the 955 reviewed accident deaths, 928 (97 percent) were due to external causes.

Reviews of Accidents by External Causes of Death, 2012-2016 (n=928)



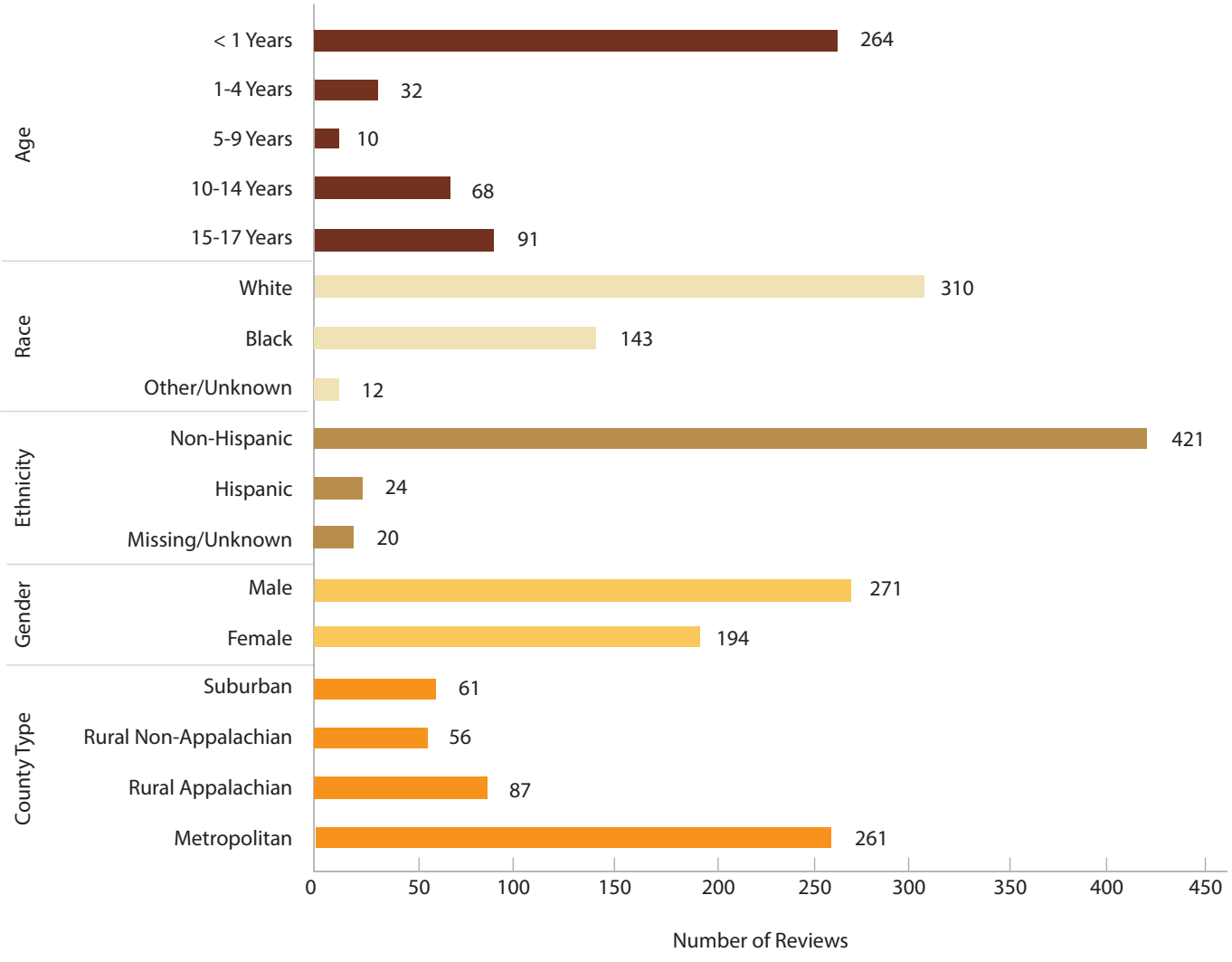
Reviews By Cause Of Death

In addition to grouping manners of death, regardless of cause, it is also important to group causes of death regardless of manner to better understand risk factors and prevention strategies. The following details the findings of reviews of deaths by the leading causes of death including asphyxia, vehicular injuries, weapon injuries, drowning, fire, burns, electrocution, and poisoning.

Asphyxia

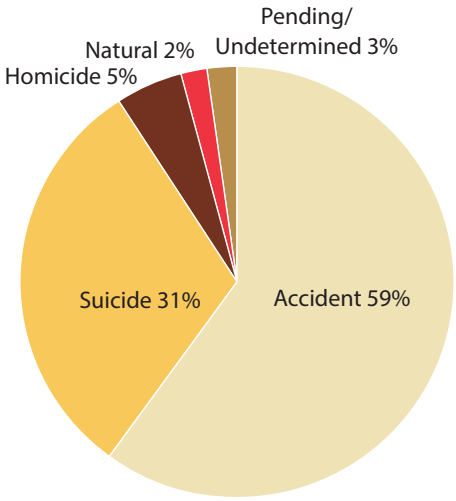
For the five-year period from 2012 through 2016, local CFR boards reviewed 465 deaths to children caused by asphyxia. During the five-year review period, asphyxia was the cause of death in 30 percent of deaths due to external causes reviewed.

Reviews of Asphyxia Deaths by Age, Race, Ethnicity, Gender, County Type, 2012-2016 (n=465)

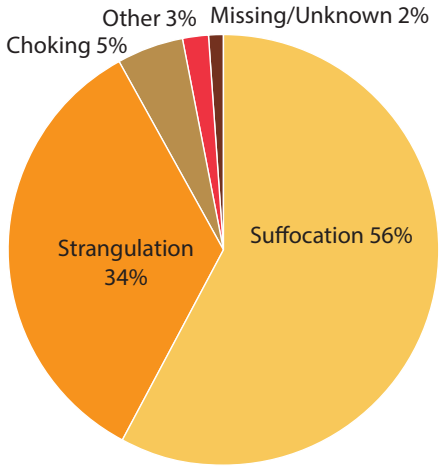


Fifty-five percent of asphyxia deaths from 2012 through 2016 were sleep-related.

Reviews of Asphyxia Deaths,
by Manner, 2012-2016 (n=465)



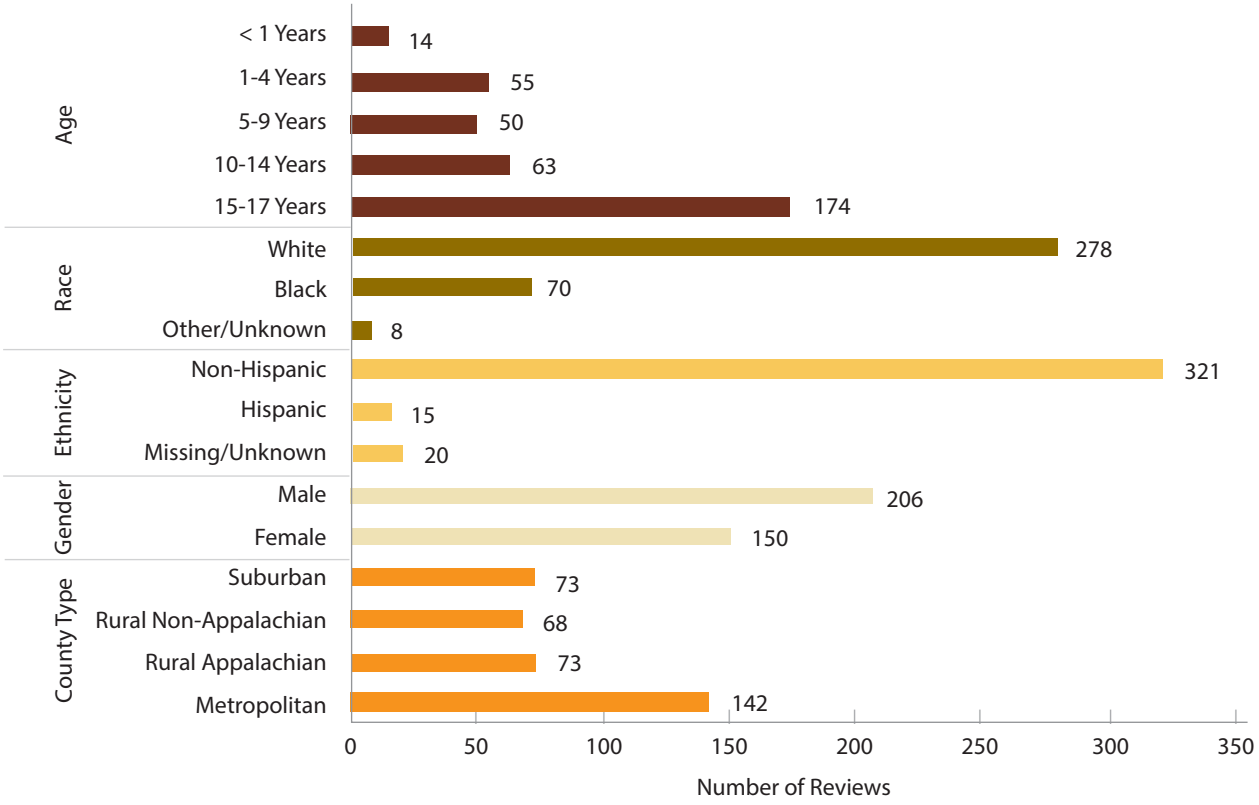
Reviews of Asphyxia Deaths by Event,
2012-2016 (n=465)



Vehicular Injuries

For the five-year period from 2012 through 2016, local CFR boards reviewed 356 deaths to children caused by vehicular injuries. Vehicular injuries were the cause of death in 22 percent of deaths due to external causes reviewed over the five-year period.

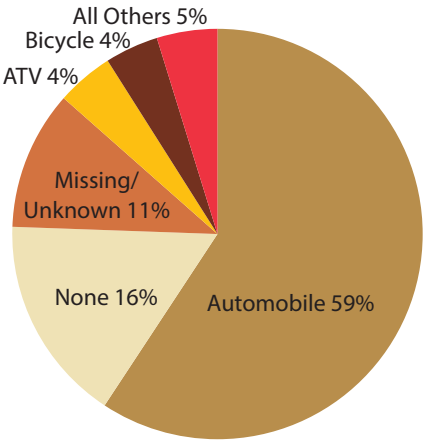
Reviews of Vehicular Deaths by Age, Race, Ethnicity, Gender, County Type, 2012-2016 (n=356)



A number of factors related to deaths caused by vehicular injuries were commonly reported.

- The driver was impaired in 12 percent of reviews.
- Among reviews involving automobiles, in which the use of restraints is known, restraints were not used or used incorrectly in 51 percent of deaths. Restraints are lap belt, shoulder belt, child seat, and booster seat.
- Among reviews involving bicycles, motorcycles and ATVs, in which the use of helmets is known, helmets were not present in 85 percent of deaths.

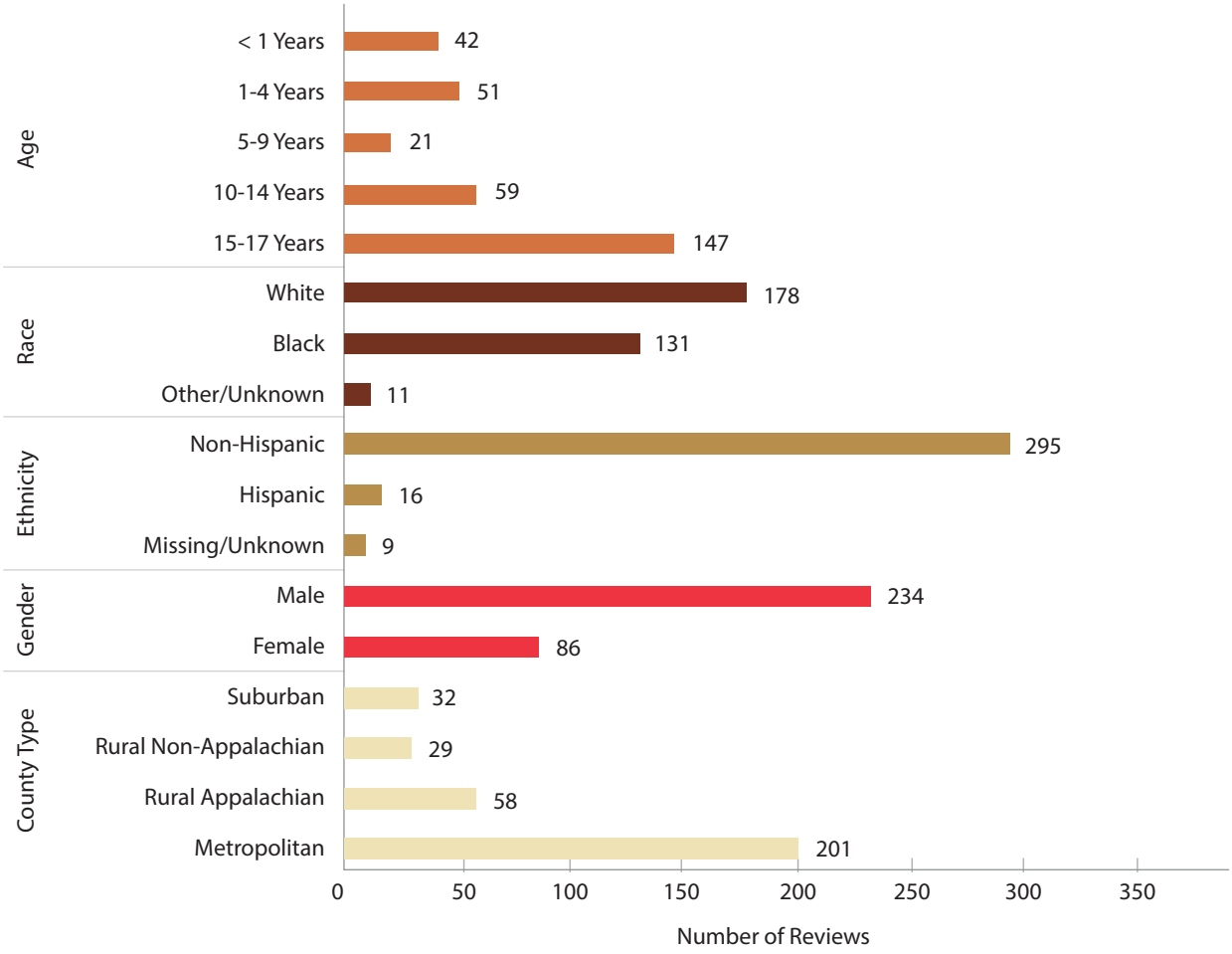
Reviews of Vehicular Injury Deaths by Vehicle Type, 2012-2016 (n=356)



Weapon Injuries

For the five-year period 2012 through 2016, local CFR boards reviewed 320 deaths to children caused by weapons. Weapons were the cause of death in 20 percent of deaths due to external causes reviewed. In 7 percent of weapons deaths reviewed, the weapon was being played with or shown.

Reviews of Weapon Deaths by Age, Race, Ethnicity, Gender, County Type, 2012-2016 (n=320)



In 28 percent of weapons deaths reviewed, the person holding the weapon was the child. In 20 percent of weapons deaths, the person holding the weapon was unknown or missing.

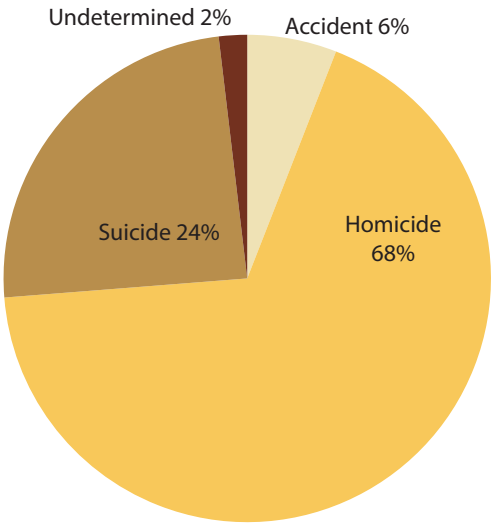
Reviews of Weapon Deaths by Person Holding Weapon, 2012-2016 (n=320)

Person	#	%
Self*	90	28%
Biological/Step Parent	45	14%
Mother's Partner	26	8%
Friend	22	7%
Acquaintance	15	5%
Other Relative	15	5%
Stranger	14	4%
Other	29	9%
Missing/Unknown	64	20%
Total	**320**	**100%**

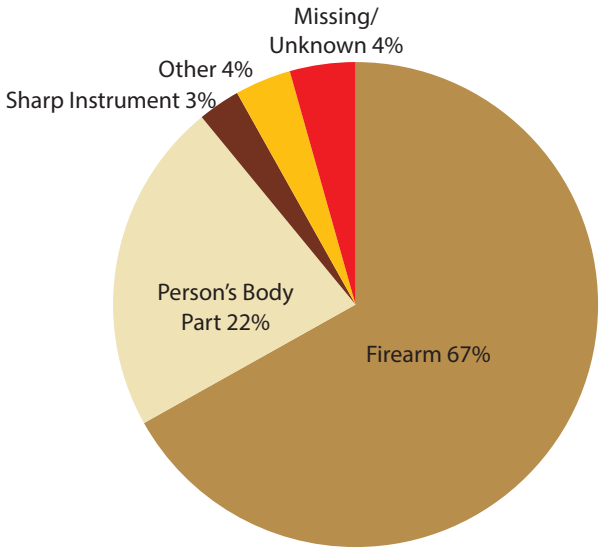
**Includes three cases in which the person holding the weapon was self and other person (friend, sibling, or other relative).*

Homicide (68 percent) accounted for the largest percentage of weapon deaths by manner, followed by suicide (24 percent), accident (6 percent), and undetermined (2 percent). Firearms (67 percent) accounted for the largest type of weapon deaths, followed by person's body part (22 percent), missing/unknown (4 percent), sharp instrument (3 percent), and other (4 percent).

Reviews of Weapon Deaths by Manner, 2012-2016 (n=320)



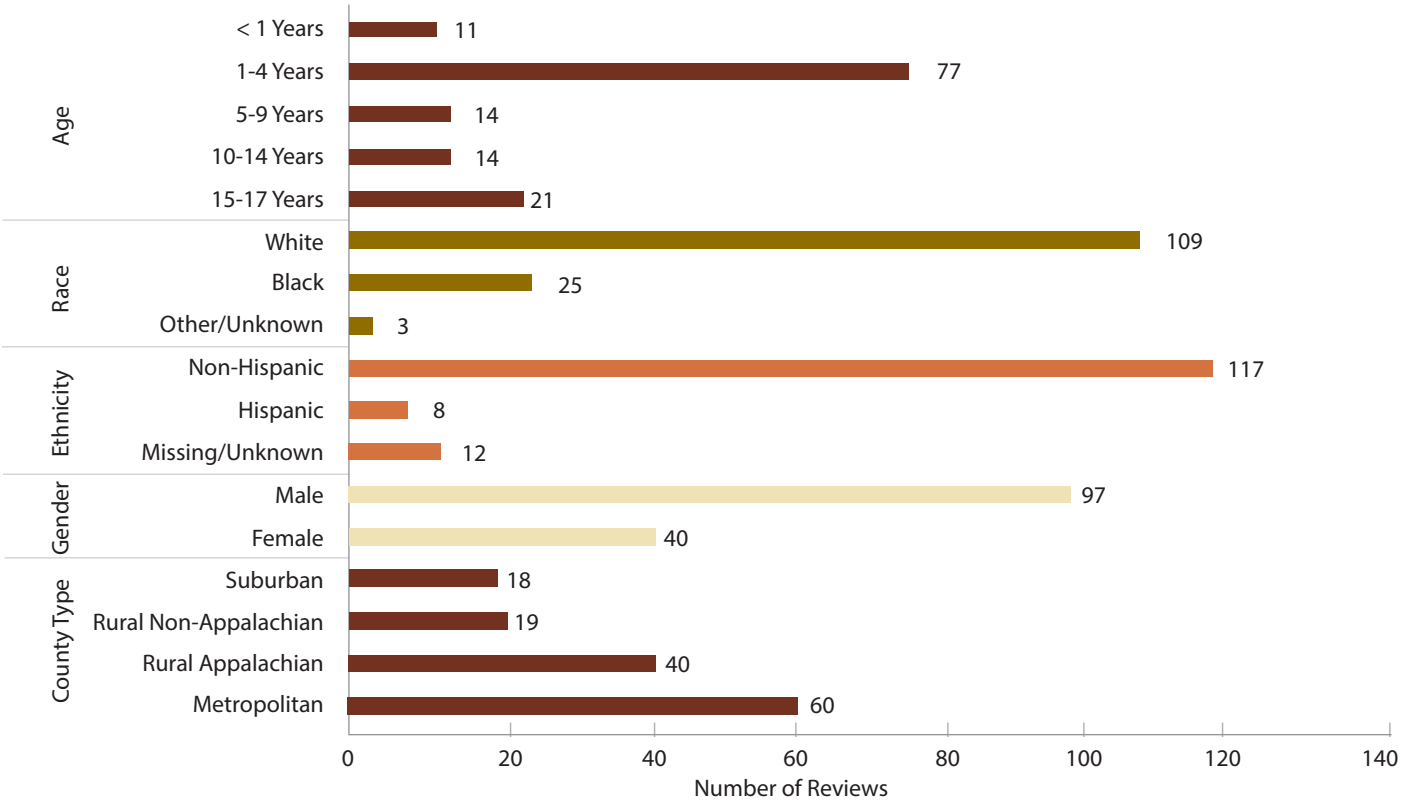
Reviews of Weapon Deaths by Type, 2012-2016 (n=320)



Drowning

During the five-year review period from 2012 through 2016, local CFR boards reviewed 137 deaths caused by drowning. During the five-year period, drowning deaths accounted for 9 percent of deaths due to external causes reviewed.

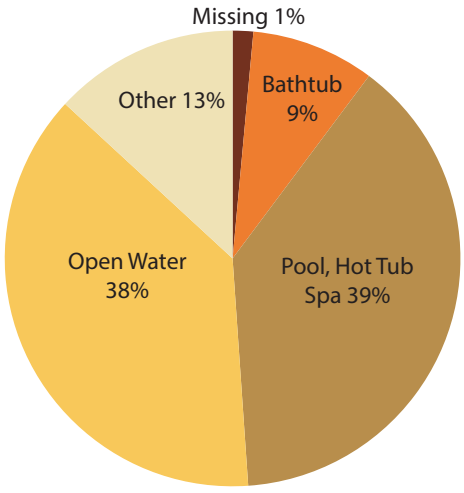
Reviews of Drowning Deaths by Age, Race, Ethnicity, Gender, County Type, 2012-2016 (n=137)



In 39 percent of reviews, children were reported to be playing before the drowning occurred.

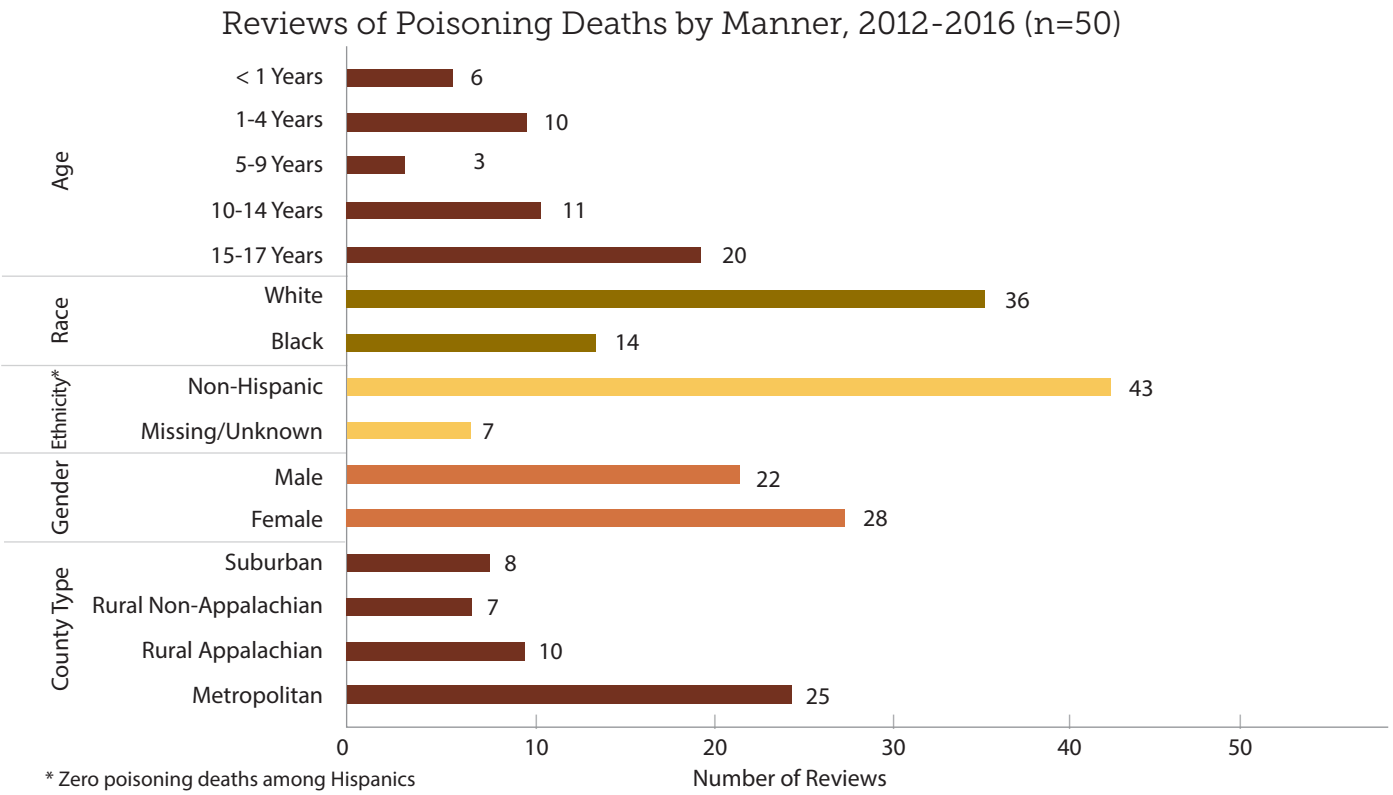
Among drowning deaths occurring in pools, hot tubs and spas, 85 percent were in privately owned locations.

Reviews of Drowning Deaths by Location, 2012-2016 (n=137)

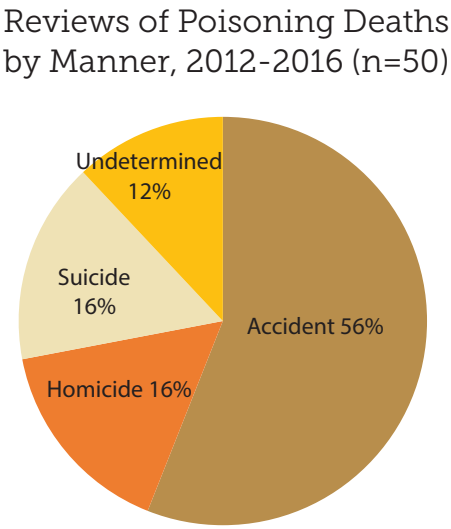


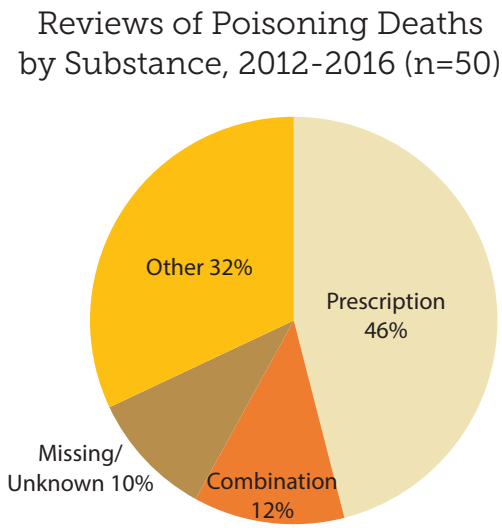
Poisoning

During the five-year review period from 2012 through 2016, local CFR boards reviewed 50 deaths caused by poison. During the five-year period, poison deaths accounted for 3 percent of deaths due to external causes reviewed.



Prescription drugs alone caused 46 percent of poisoning deaths, and opiates accounted for 52 percent of those deaths. Prescription drugs alone, or in combination with another substance, accounted for 58 percent of poisoning deaths, and opiates accounted for 45 percent of those deaths. Other includes carbon monoxide poisoning, street drugs, and over-the-counter drugs. Combination indicates two or more types of drugs were the poisoning substance.

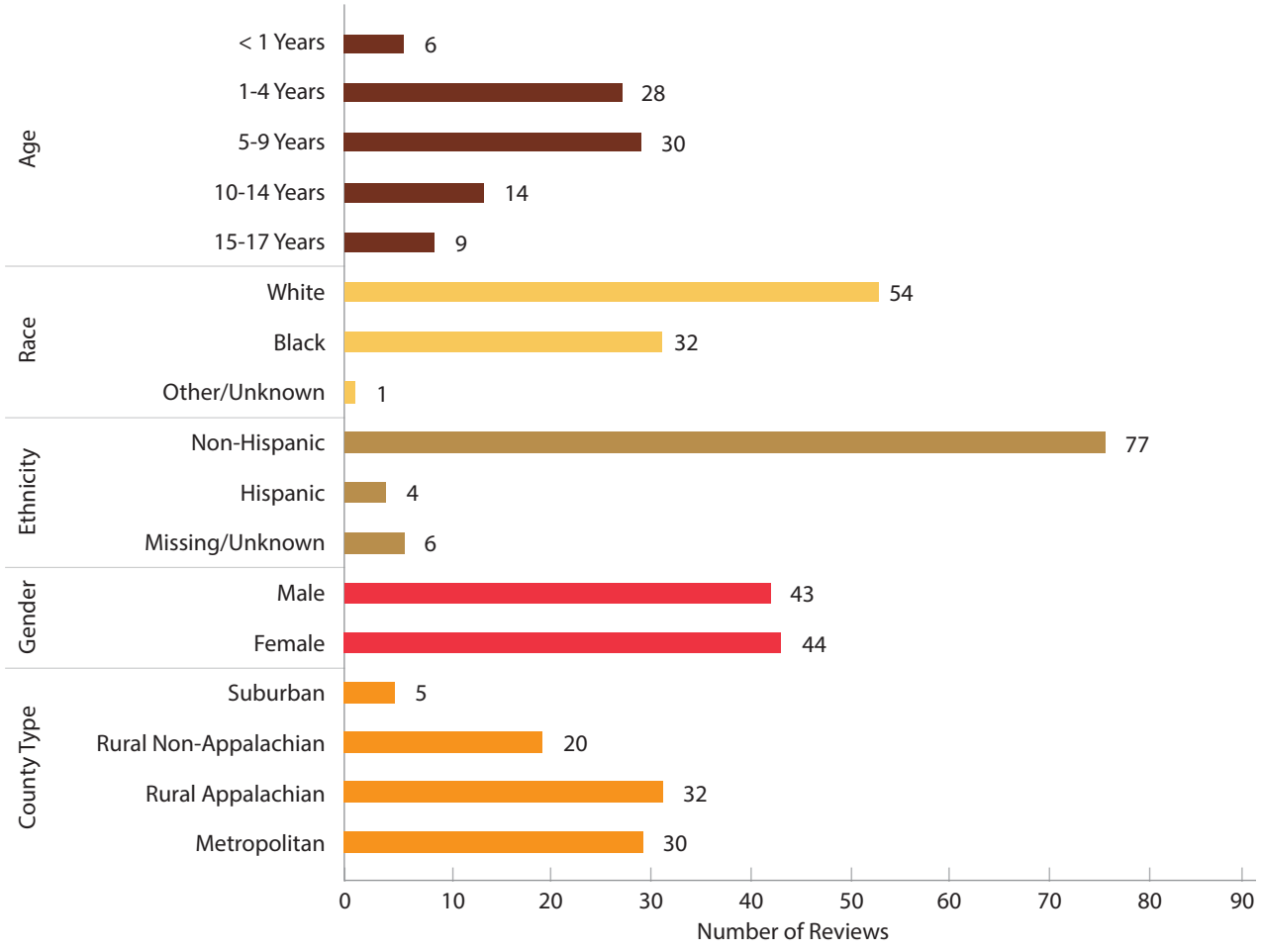




Fire, Burn, Electrocution

During the five-year review period from 2012 through 2016, local CFR boards reviewed 87 deaths caused by fire, burns and electrocution. Fires accounted for 91 percent of deaths in this category, with 80 percent of fire deaths due to smoke inhalation. Among reviews where a smoke detector was present, it was working in 44 percent of reviews. During the five-year period, fire, burn and electrocution deaths accounted for 5 percent of deaths due to external causes reviewed.

Reviews of Fire, Burn, and Electrocution Deaths by Age, Race, Ethnicity, Gender, County Type, 2012-2016 (n=87)



Preventability

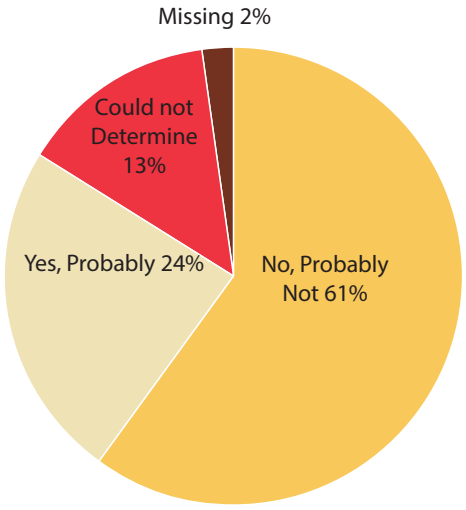
The mission of the Ohio CFR program is to reduce the incidence of preventable child deaths in Ohio. A child's death is considered preventable if the community or an individual could reasonably have changed the circumstances that led to the death. The review process helps CFR boards focus on a wide spectrum of factors that may have caused or contributed to the death or made the child more susceptible to harm. After these factors are identified the board must decide which, if any, of the factors could reasonably have been changed. Cases are then deemed "probably preventable" or "probably not preventable."

Even if a particular case is deemed "probably not preventable," the CFR process is valuable in identifying gaps in care, systemic service delivery issues or community environmental factors that contribute to less than optimal quality of life for vulnerable individuals. For this reason, many local boards make recommendations and initiate changes even when a particular death is not deemed preventable.

CFR Findings

Of the 6,952 reviews for the five-year period from 2012 through 2016 that indicated preventability status, 24 percent of the reviews indicated the death probably could have been prevented. Preventability differed by manner of death and by age group.

Reviews by Preventability, 2012-2016 (n=6,952)



Preventability varied by manner of death with the highest percentage of preventability for homicides (91 percent) and accidents (88 percent).

Preventability by Manner of Death, 2012-2016 (n=6,952)

Preventability	Natural	Accident	Suicide	Homicide	Undetermined/ Unknown
Yes, Probably	4%	88%	62%	91%	51%
No, Probably Not	83%	4%	10%	2%	9%
Could Not Determine	11%	6%	26%	5%	39%
Missing	2%	2%	3%	1%	1%

In general, deaths are more often ruled preventable as the child's age increases.

Preventability by Age, 2012-2016 (n=6,952)

Preventability	0-28	29 Days-364 Days	1-4 Years	5-9 Years	10-14 Years	15-17 Years
Yes, Probably	5%	38%	40%	30%	42%	57%
No, Probably Not	82%	41%	47%	57%	45%	28%
Could Not Determine	11%	19%	11%	12%	12%	13%
Missing	2%	2%	2%	1%	1%	2%

Deaths were deemed preventable in 22 percent of metropolitan counties, 31 percent of Appalachian counties, 26 percent of rural non-Appalachian counties, and 25 percent of suburban counties.

Preventability by County Type 2012-2016 (n=6,952)

Preventability	Metropolitan	Rural Appalachian	Rural Non- Appalachian	Suburban
Yes, Probably	22%	31%	26%	25%
No, Probably Not	62%	55%	61%	62%
Could Not Determine	14%	11%	11%	11%
Missing	2%	2%	2%	3%

Conclusion

The mission of CFR is the prevention of child deaths in Ohio. CFR treats each child's death as a tragic story, not a simple statistic. Individually, these deaths are often sudden, unexpected and shocking, for both the family and the community. Many deaths seem to happen "out of the blue," but as the facts about the circumstances of all the deaths are compiled and analyzed, certain risks to children become clear, including:

- Prematurity, which accounts for nearly half of all infant deaths.
- Unsafe sleep environments, which place healthy infants at risk of sudden death.
- Riding unrestrained in vehicles, which puts children at greater risk of death in the event of a crash.
- Racial disparity that results in black children dying from homicide at more than three times the expected rate.
- A history of maltreatment, substance abuse and criminal activity, which is common for youth who died of suicide, homicide or drug overdose.

While there is no way to predict most child deaths, we are able to identify some groups of children who are at increased risk of death. The analysis of the data leads to difficult questions: Which community systems are in position to identify children at risk? Are systems available and accessible to all? Were opportunities for interventions missed? Why were attempted interventions ineffective? How can these tragic deaths be prevented?

This report summarizes the process of local reviews by multi-disciplinary boards of community leaders, which results in data regarding the circumstances related to each death. It is intended to be a vehicle to share the findings with the wider community to engage others in concern about these and other risks. Partners are needed to develop recommendations and implement policies, programs and practices that can have a positive impact in reducing the risks and improving the lives of Ohio's children. We encourage you to use the information in this report and to share it with others who can influence changes to benefit children. We invite you to collaborate with local CFR boards to prevent child deaths in Ohio.

For more information on this report or the Child Fatality Review program, please contact:

Ohio Department of Health
Child Fatality Review Program
246 N. High St., 6th Floor
Columbus OH 43215
Phone: 614-728-0773
Fax: 614-564-2442
cfr@odh.ohio.gov

Appendices

Appendix I: Overview Of Ohio Child Fatality Review Program

Child deaths are often regarded as indicators of the health of a community. While mortality data provide us with an overall picture of child deaths by number and cause, it is from a careful study of each and every child's death that we can learn how best to respond to a death and how best to prevent future deaths.

Recognizing the need to better understand why children die, in July, 2000 then-Governor Bob Taft signed the bill mandating child fatality review (CFR) boards in each of Ohio's counties to review the deaths of children under 18 years of age. For the complete law and administrative rules pertaining to CFR, refer to the ODH website at www.odh.ohio.gov/odhprograms/cfhs/cfr/cfrrule.aspx. The mission of these local review boards, as described in the law, is to reduce the incidence of preventable child deaths. To accomplish this, it is expected that local review teams will:

- Promote cooperation, collaboration and communication among all groups that serve families and children.
- Maintain a database of all child deaths to develop an understanding of the causes and incidence of those deaths.
- Recommend and develop plans for implementing local service and program changes and advise ODH of data, trends and patterns found in child deaths.

While membership varies among local boards, the law requires that minimum membership include:

- County coroner or designee.
- Chief of police or sheriff or designee.
- Executive director of a public children service agency or designee.
- Public health official or designee.
- Executive director of a board of alcohol, drug addiction and mental health services or designee.
- Pediatrician or family practice physician.

Additional members are recommended and may include the county prosecutor, fire/emergency medical service representatives, school representatives, representatives from Ohio Family and Children First Councils, other child advocates and other child health and safety specialists. The health commissioner serves as board chairperson in many counties.

CFR boards must meet at least once a year to review all deaths of child residents of that county. The basic review process includes:

- The presentation of relevant information.
- The identification of contributing factors.
- The development of data-driven recommendations.

Local CFR board review meetings are not open meetings and all discussion and work products are confidential.

Each local CFR board provides data to ODH by recording information on a case report tool before entering it into a national Web-based data system. The report tool and data system were developed by the National Center for Fatality Review and Prevention (NCFRP) with a cooperative agreement from the federal Maternal and Child Health Bureau. The tool captures information about the factors related to the death and the often-complex conversations that happen during the review process in a format that can be analyzed on the local, state or national level. This report is based on the analysis of data from the NCFRP data system. ODH is responsible for providing technical assistance and annual training to the CFR boards. In 2016, ODH provided two new board chair/coordinator orientation sessions. Throughout the year, conference calls and NCFRP webinars provided additional training opportunities for Ohio's local boards.

ODH staff coordinate the data collection, assure the maintenance of a Web-based data system and analyze the data reported by the local boards. The annual state report is prepared and published jointly with the Ohio Children's Trust Fund. As the value of CFR has been promoted widely, ODH staff receive many requests for data reports on specific topics or for specific geographic regions. In 2016, ODH assisted several CFR boards to produce local CFR reports; responded to a media request; and prepared reports of infant deaths for Ohio Equity Institute counties.

To assist moving CFR forward in Ohio, an advisory committee was established in 2002. The purpose of the advisory committee is to review Ohio's child mortality data and CFR data to identify trends in child deaths; to provide expertise and consultation in analyzing and understanding the causes, trends and system responses to child deaths in Ohio; to make recommendations in law, policy and practice to prevent child deaths in Ohio; to support CFR and recommend improvements in protocols and procedures; and to review and provide input for the annual report.

By reporting the information by year of death, it is possible to compare CFR data with data from other sources such as vital statistics. In making such comparisons, it is important to use caution and acknowledge the unique origins and purposes for each source of data. CFR data included in this report are the outcome of thoughtful inquiry and discussion by a multi-disciplinary group of community leaders who consider all the circumstances surrounding the death of each child. They bring to the review table information from a variety of agencies, documents and areas of expertise. Their careful review process results in a thorough description of the factors related to child deaths.

Despite their best efforts, CFR boards are not able to review every child death. Some reviews must be delayed until all legal investigations and prosecutions are completed. Some deaths occur outside the county of residence or outside the state, resulting in long delays in notification to the CFR board. Due to these variables, it is usually impossible to find an exact number-for-number match between CFR data and data from other sources such as vital statistics. The unique role of CFR data is to provide a comprehensive depth of understanding to augment other, more one-dimensional data sources.

Appendix II: Description Of Fetal Infant Mortality Review (FIMR) Model And Process

Health throughout one's lifetime is influenced by the interplay of risk and protective factors, such as socioeconomic status, environmental exposures, health behaviors, stress, and nutrition. Deaths across the lifespan often have intertwined risk factors. Using the Life Course Framework and building on the successful model of Child Fatality Review, ODH initiated an additional review program in 2014 to fully understand the issues of fetal and infant mortality.

Fetal Infant Mortality Review (FIMR) is a multi-disciplinary, multi-agency, community based program that identifies local infant mortality issues through the review of fetal and infant deaths and develops recommendations and initiatives to reduce infant deaths.
The FIMR Process includes the following:

- Identification of cases based on the infant mortality issues of the community.
- Collection of appropriate records from medical, social service and other providers.
- Maternal interview.
- Abstraction of available records to produce a de-identified case summary.
- Presentation of de-identified case summary to review team.
- Development of data-driven recommendations.
- Implementation of recommendations to prevent future deaths.

The classic FIMR includes two components: a case review team (CRT) and a community action team (CAT).

- Case Review Team (CRT) – reviews case summaries and develops recommendations
  - Diversity and community involvement in the CRT is key.
  - CRT members should have influence and commitment to improvement of services.
  - Members should be those who provide services for families as well as community advocates. Recommended professionals include: representatives from local health department, OB/GYN, social services, SIDS community, Medicaid, WIC, minority advocacy, child care providers, drug treatment centers, and hospital administrators.
- Community Action Team (CAT) – reviews the recommendations presented by the CRT and develops a plan to implement these interventions
  - It is recommended that an existing community group serve as the CAT, rather than creating a new team.
  - Examples of possible CAT teams: Healthy Mothers/Healthy Babies program, Prenatal/Perinatal Regional Consortium, Community Advisory Board, mayor's or county commissioner's blue ribbon panel on infant mortality.
  - The CAT coordinates their plan with the CRT and shares their interventions.

Key roles for local FIMR programs include coordinator, abstractor, and interviewer. These positions can be all one person, or three different, coordinated staff members. Most of the FIMR budget is spent on salaries for these positions.

- Coordinator
  - Oversees the FIMR process including: selection of cases to review, monitoring case preparation, coordination of CRT and CAT teams, meetings and activities, preparation and summarization of data for local teams and ODH.
- Abstractor
  - Requests medical/social services records, enters appropriate information (including maternal interview) into the database system, and prepares case summary.
- Interviewer
  - Tracks, contacts, and engages the mother/family of the infant who died, conducts interview, and provides information to abstractor.

Similarities of FIMR and CFR:

- Both are local systems, with local control and determination.
- Both are public health focused.
- Both are prevention focused.
- Neither is a medical peer review system.
- Neither is investigative or prosecutorial.
- Neither is research.

Differences between FIMR and CFR:

- CFR is mandated by the Ohio Revised Code, FIMR is not.
- FIMR has two teams; a CRT and a CAT.
- Number and type of cases reviewed – FIMRs usually review a relevant sample of cases, which includes fetal deaths and infant deaths up to a year of age. CFR in Ohio reviews all child deaths from birth through age 17.
- Anonymity – FIMR is de-identified whereas CFR is confidential.
- Family Participation – FIMR includes a maternal/family interview.
- Community Participation – FIMR includes lay community members on the Case Review Team.
- Membership – FIMR teams usually include more OB/GYN, maternal-fetal medicine and neonatology representatives than CFR.

Ohio currently has the following nine FIMR teams:

- Butler
- Columbus
- Cuyahoga
- Hamilton
- Mahoning
- Montgomery
- Stark
- Summit
- Toledo-Lucas County

Appendix III: The Pregnancy Associated Mortality Review (PAMR)

The Pregnancy Associated Mortality Review (PAMR) was established in 2010 to identify and review all pregnancy associated deaths in Ohio, with the goal of developing effective interventions to reduce maternal mortality.

Ohio PAMR uses the following definitions of maternal death adopted by the Maternal Mortality Study Group of the American College of Obstetricians and Gynecologists (ACOG) and the Centers for Disease Control and Prevention (CDC):

- Pregnancy-associated death: The death of a woman while pregnant or anytime within one year of pregnancy regardless of cause.
- Pregnancy-related death: The death of a woman while pregnant or within one year of pregnancy from any cause related to or aggravated by the pregnancy or management, excluding accidental or incidental causes.

Each year, PAMR cases are identified by the Ohio Department of Health, Bureau of Vital Statistics, using ICD-10 obstetric cause of death codes and linkage to live birth or fetal death certificates. Deaths must meet the following criteria to be reviewed:

- The death must be pregnancy-associated.
- The decedent must be an Ohio resident.
- The death must have occurred in Ohio.

Once deaths are identified, records from various sources (e.g. hospitals, physician, emergency medical services, law enforcement agencies, coroners, mental health and addiction services) are requested and the PAMR coordinator abstracts the information to create a de-identified case summary. Reviews are held three to four times per year, at which time the case summary is reviewed by an external, volunteer committee of diverse health-related disciplines which include:

- Anesthesiology
- Maternal-Fetal Medicine
- Obstetrics/Gynecology
- Pediatrics
- Public Health
- Alcohol and Substance Abuse/Addiction Services
- Mental Health
- Social Work
- Domestic Violence
- Injury Prevention
- Epidemiology
- Risk Management

During each session, members review cases and determine:

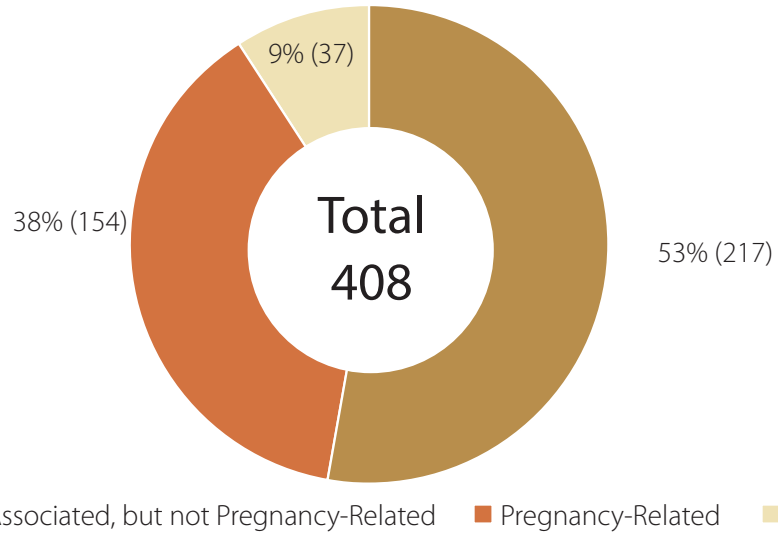
- If the death was pregnancy-related.
- If the team agrees with the cause and manner of death listed on death certificate.
- Risk factors, barriers, gaps, needs, and areas for improvement.
- The level of opportunity to alter outcome.
- Case recommendations and action steps.

To date, Ohio PAMR has reviewed 408 pregnancy-related and pregnancy-associated deaths (2008-2014). Outcomes resulting from the review process include:

- Partnership with maternity licensure to develop system for reporting maternal deaths
- Development of a data dissemination plan
  - Development of an Ohio PAMR website, housed at ODH
  - Production of an Ohio PAMR Factsheet
  - Production of an Ohio Severe Maternal Morbidity Factsheet
- Maternal Mortality Module in Ohio's Public Health Information Data Warehouse
- Review team training webinar
- Simulation Training for Obstetric Emergencies for healthcare providers
  - On-site training, five sites
  - Train the Trainer, three sessions—65 nurse educators and managers have taken the training to date
- National, regional, state and local presentations
- Partnership with CDC in developing a national database for maternal deaths. Ohio served as a beta testing site
- Participation in the CDC Maternal Mortality/Pregnancy Checkbox pilot project
- Member, Every Mother Initiative, Cohort 1—Association of Maternal & Child Health Programs (AMCHP)

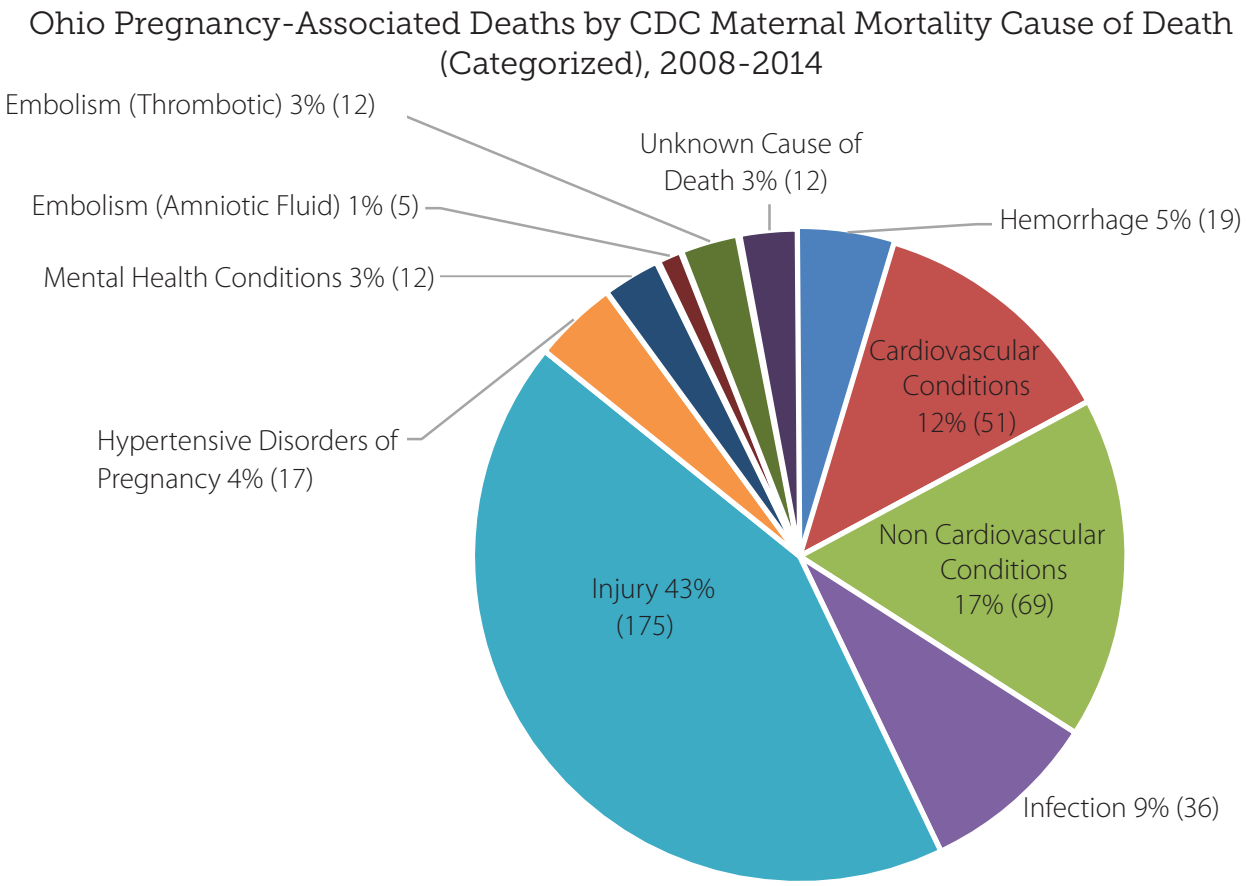
Of the 408 Ohio pregnancy-associated death reviews from 2008 through 2014, 53 percent were pregnancy-associated, but not pregnancy-related, 38 percent were pregnancy-related, and 9 percent were unknown.

Ohio Pregnancy-Associated and Pregnancy-Related Death Reviews, 2008-2014



The leading cause of death of the 408 pregnancy-associated death reviews was injury (43 percent), of which 64 percent were unintentional, 33 percent were intentional, and 3 percent were unknown. The most common manners of death, among injury deaths, were accident (65 percent), homicide (23 percent), and suicide (8 percent).

The second leading cause of death was non-cardiovascular conditions (17 percent), followed by cardiovascular conditions (12 percent).



Appendix IV: 2016 Local Child Fatality Review Board Chairs

Adams
Dr. William E. Hablitzel, MD
Adams County Health Department
937-544-5547
whablitzel@adamscountyhealth.org

Allen
Kathy Luhn
Allen County Public Health
419-228-4457
kluhn@allenhealthdept.org

Ashland
Sarah Goodwill Humphrey
Ashland Health Department
419-282-4226
shumphrey@ashlandhealth.com

Ashtabula
Raymond J. Saporito
Ashtabula County Health Department
440-576-6010
rsaporito@ashtabulacountyhealth.com

Athens
James R. Gaskell, MD
Athens City-County Health Department
740-592-4431
jamesgaskell2000@yahoo.com

Auglaize
Oliver Fisher
Auglaize County Health Department
419-738-3410
ofisher@auglaizehealth.org

Belmont
Linda Mehl
Belmont County Health Department
740-695-1202
lmehl@belmontcountyhealth.org

Brown
H.L. Vermillion
Brown County General Health District
937-378-6892
hvermillion@browncountyhealth.org

Butler
Jennifer Bailer
Butler County Health Department
513-863-1770
bailerj@butlercountyohio.org

Carroll
Amy Cambell
Carroll County Health Department
330-627-4866
acampbell@carroll-lhd.org

Champaign
Stacey A. Thomas
Champaign Health District
937-484-1619
gjones@champaignhd.com

Clark
Charles Patterson
Clark County Combined Health District
937-390-5600
cpatterson@ccchd.com

Clermont
Julianne Nesbit
Clermont County Public Health
513-732-7499
jnesbit@clermontcountyohio.gov

Clinton
Pamela Walker-Bauer
Clinton County Health Department
937-382-3829
pbauer@clincohd.com

Columbiana
Wesley J. Vins
Columbiana County Health Department
330-424-0272
wvins@columbiana-health.org

Coshocton
Rebecca J. Beiter
Cochocton County General Health District
740-295-7307
beckybeiter@coshoctoncounty.net

Crawford
Kate Siefert
Crawford County Public Health
419-562-5871
kate.siefert@crawfordhealth.org

Cuyahoga
Jackie Lambert
Cuyahoga County Juvenile Court
216-443-5493
jlambert@cuyahogacounty.us

Darke
Terrence L. Holman, DVM
Darke County Health Department
937-548-4196
terrence.holman@darkecountyhealth.org

Defiance
Kimberly J. Moss
Defiance County General Health District
419-784-3818
healthcommish@defiance-county.com

Delaware
Lissie Krull
Delaware General Health District
740-203-2018
lkrull@delawarehealth.org

Erie
Peter T. Schade
Erie County Health Department
419-626-5623
pschade@ecghd.org

Fairfield
Gwen Shafer
Fairfield Department of Health
740-652-2827
gshafer@fairfieldcountyohio.gov

Fayette
Robert G. Vanzant, DVM
Fayette County Health District
740-335-5910
drvanzant@aol.com

Franklin
Karen Gray-Medina
Columbus Public Health
614-645-1667
kareng@columbus.gov

Fulton
Kimberly Cupp
Fulton County Health Department
419-337-0915
kcupp@fultoncountyoh.com

Gallia
Melissa Conkle
Gallia County Health Department
740-441-2960
melissa.conkle@galliacohealth.org

Geauga
Robert Weisdack
Geauga County Health District
440-279-1903
bweisdack@geaugacountyhealth.org

Greene
Melissa Branum
Green County Combined Health District
937-374-5630
mbranum@gcph.info

Guernsey
Angela Gray
Cambridge-Guernsey County Health Department
740-439-3577
agray@guernseycountyhd.org

Hamilton
Thomas Boeshart
Hamilton County Public Health
513-946-7980
thomas.boeshart@hamilton-co.org

Hancock
Karim Baroudi
Hancock Public Health
419-424-7080
kbaroudi@hancockpublichealth.com

Hardin
Kalyan Das, MD
Kenton-Hardin Health Department
419-673-6230
khhd@co.hardin.oh.us

Harrison
Teresa Koniski
Harrison County General Health District
740-942-2616
tkoniski@harrisoncountyohio.org

Henry
Julie Lauf
Henry County Health Department
419-599-5545
jlauf@henrycohd.org

Highland
Jared Warner
Highland County Health Department
937-393-1941
jwarner@highlandcountyhealth.org

Hocking
Emily Norris
Hocking County Health District
740-385-3030
enorrishchd@gmail.com

Holmes
D.J. McFadden, MD
Holmes County Health District
330-674-8444
Dr.mcfadden@pomerenehospital.org

Huron
Tim Hollinger
Huron County General Health District
419-668-1652
thollinger@huroncohealth.com

Jackson
Kevin Aston
Jackson County Health Department
740-286-5094
kaston@jchd.us

Jefferson
Frank J. Petrola, MD
Jefferson County General Health District
740-283-8530
frank@jchealth.com

Knox
Julie Miller
Knox County Health Department
740-392-2200
jemiller@knoxhealth.com

Lake
Kathy Milo
Lake County General Health District
440-350-2443
kmilo@lcghd.org

Lawrence
Dr. Kurt Hofmann, DO
Lawrence County Health Department
740-532-3962
khofmann@lawcohd.org

Licking
R. Joe Ebel
Licking County Health Department
740-349-6477
jebel@lickingcohealth.org

Logan
Boyd C. Hoddinott, MD
Logan County Health District
937-592-9040
bhoddinott@co.logan.oh.us

Lorain
Dave Covell
Lorain County General Health District
440-322-6367
dcovell@loraincountyhealth.com

Lucas
David Grossman, MD
Toledo-Lucas County Health Department
419-213-4018
grossmad@co.lucas.oh.us

Madison
Chris Cook
Madison County-London City Health District
740-852-3065
ccook@madisonpublichealth.org

Mahoning
Patricia Sweeney
District Board of Health, Mahoning County
330-270-2855
psweeney@mahoninghealth.org

Marion
Thomas Quade
Marion Public Health
740-692-9185
tquade@marionpublichealth.org

Medina
Krista Wasowski
Medina County Health Department
330-723-9511
kwasowski@medinahealth.org

Meigs
Marc Barr
Meigs County Health Department
740-992-6626
marc.barr@meigs-health.com

Mercer
Amy Poor
Mercer County - Celina City Health Department
419-586-3251
apoor@mccchd.org

Miami
Dennis Propes
Miami County Health District
937-573-3505
dpropes@miamicountyhealth.net

Monroe
Linda Dick
Monroe County Health Department
740-472-1677
linda.dick@monroecountyohio.com

Montgomery
Jeffery A. Cooper
Public Health - Dayton and Montgomery County
937-224-8090
jacooper@phdmc.org

Morgan
Richard D. Clark, MD
Morgan County Health Department
740-962-4572
richard.clark.mchd@gmail.com

Morrow
Pamela Butler
Morrow County Health Department
419-947-1545
pamela.butler@morrowcountyhealth.org

Muskingum
Carol Howdyshell
Zanesville Muskingum County Health Department
740-454-9741
carolh@zmchd.org

Noble
Shawn E. Ray
Noble County Health Department
740-732-4958
shawn.ray@noblecohd.org

Ottawa
Nancy C. Osborn
Ottawa County Health Department
419-734-6800
nosborn@cros.net

Paulding
Joseph M. Kuhn
Paulding County Health Department
419-399-3921
pchd@pcohhd.com

Perry
Angela DeRolph
Perry County Health Department
740-342-5179
aderolphpchd@gmail.com

Pickaway
Elaine Miller
Pickaway County General Health District
740-477-9667
emiller@pchd.org

Pike
Matthew Brewster
Pike County General Health District
740-947-7221
mbrewster@pike-health.org

Portage
Joseph Diorio
Portage County Health Department
330-296-9919
jdiorio@portageco.com

Preble
Mark Vosler, DO
Preble County Health District
937-472-0087
pcdh@preblecountyhealth.org

Putnam
Kim Rieman
Putnam County General Health District
419-523-5608
Kim.rieman@putnamhealth.com

Richland
Tina Picman
Mansfield/Richland County Health Department
419-774-4570
tpciman@richlandhealth.org

Ross
Donald Berling, MD
Ross County Health District
740-779-9652
dberling@rosscountyhealth.com

Sandusky
Bethany Brown
Sandusky County Health Department
419-334-6379
bbrown@sanduskycohd.org

Scioto
Michael Martin, MD
Scioto County Health Department
740-355-8358
michael.martin@sciotocounty.net

Seneca
Beth Schweitzer
Seneca County Health Department
419-447-3691
bschweitzer@senecahealthdept.org

Shelby
Steven Tostrick
Sidney-Shelby County Health Department
937-498-7249
steven.tostrick@shelbycountyhealthdept.org

Stark
Kirkland Norris
Stark County Health Department
330-493-9904
norrisk@starkhealth.org

Summit
Dawn Glenny
Greenleaf Family Center
330-376-9494
gdawn@greenleafctr.org

Trumbull
Frank Migliozzi
Trumbull County Combined Health District
330-675-7805
hemiglio@co.trumbull.oh.us

Tuscarawas
Katie Seward
Tuscarawas County Health Department
330-343-5555
sewardkatie@gmail.com

Union
Susie Knox
Union County Health Department
937-642-2059
susie.knox@uchd.net

VanWert
Paul A. Kalogerou, MD
Van Wert County Health Department
419-238-0808
pkalogerou@vanwertcountyhealth.org

Vinton
Susan Crapes, MD
Vinton County Health District
740-596-5233
scrapes@vintonohhealth.org

Warren
Duane Stansbury
Warren County Combined Health District
513-695-1566
dstansbury@wcchd.com

Washington
Richard Wittberg
Washington County Health Department
740-374-2782
rwittberg@wcchd.com

Wayne
Nicholas Cascarelli
Wayne County Combined General Health District
330-264-9590
ncascarelli@wayne-Health.org

Williams
James Watkins
Williams County Health Department
419-485-3141
jim.watkins@williamscountyhealth.org

Wood
Benjamin Batey
Wood County Health Department
419-354-2311
bbatey@co.wood.oh.us

Wyandot
Rachel Niederkohr
Wyandot County General Health District
419-294-3852
rniederkohr@co.wyandot.oh.us

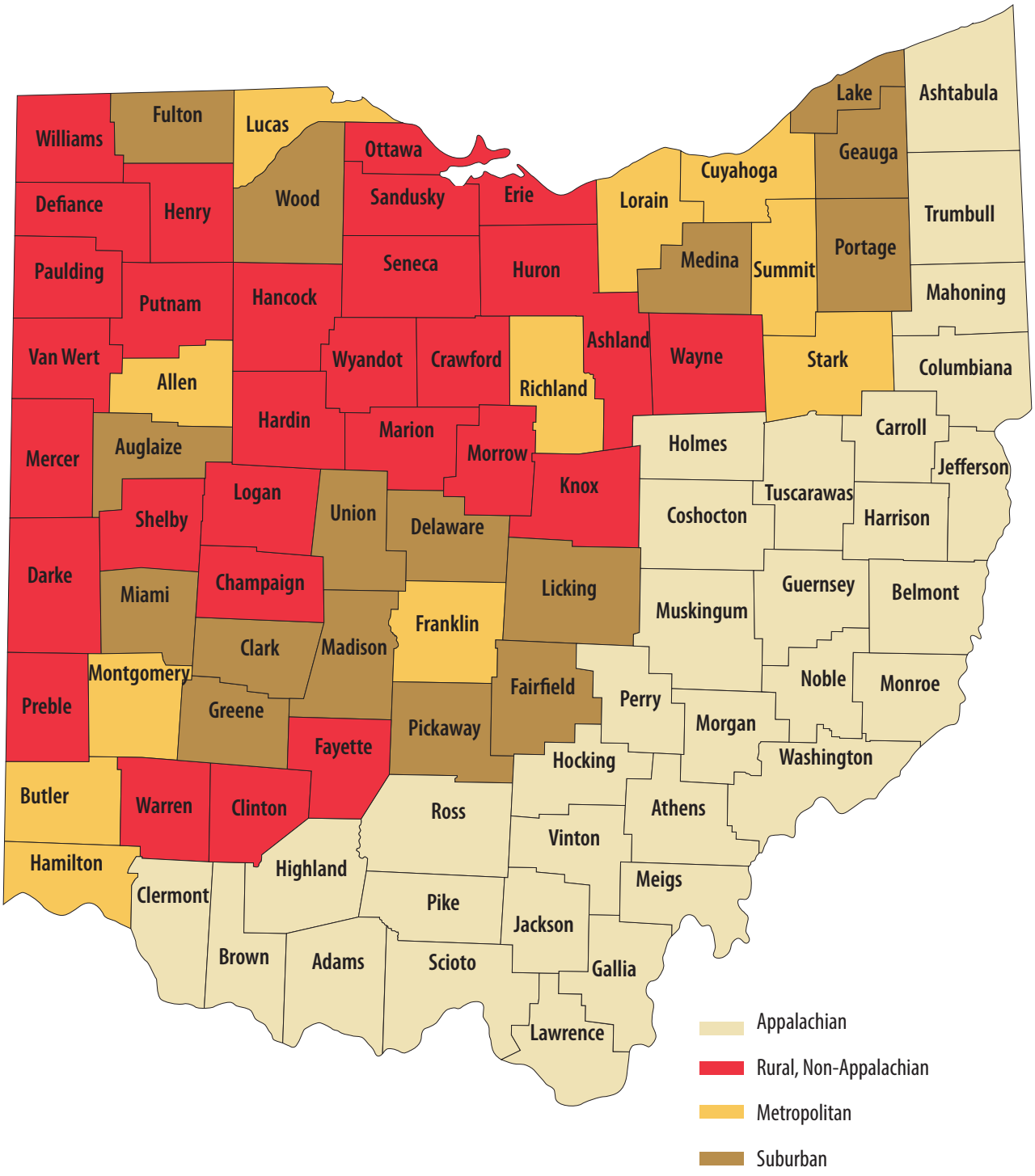
Appendix V: ICD-10 Codes

For this report, ICD-10 codes used for classification of vital statistics data were selected to most closely correspond with the causes of death indicated on the CFR case report tool. Therefore, the ICD-10 codes used for this report may not match the codes used for other reports or data systems.

Cause of Death	ICD-10 Codes
Animal Bite or Attack	W53-W59, X20-27, X29
Asphyxia	W75-W84, X47, X66, X67, X70, X88, X91, Y17, Y20
Child Abuse and Neglect	Y06-Y07
Drowning	W65-W74, X71, X92, Y21
Environmental Exposure	W92, W93, W99, X30, X31, X32
Fall and Crush	W00-W19, W23, X80, Y01, Y02, Y30, Y31
Fire, Burn, Electrocution	X00-X09, X33, X76, X77, X97, X98, Y26, Y27, W85, W86, W87
Medical Causes (Excluding SIDS)	A000-B999, C000-D489, D500-D899, E000-E909, F000-F999, G000-G999, H000-H599, H600-H959, I000-I999, J000-J999, K000-K939, L000-L999, M000-M999, N000-N999, O000-O999, P000-P969, Q000-Q999, R000-R949
Other Causes (Residual)	All other codes not otherwise listed
Poisoning	X40-X49, X60-X65, X68, X69, X85, X87, X89, X90, Y10-Y16, Y18, Y19
Sudden Infant Death Syndrome	R95
Suicide	X60-X84
Vehicular	V01-V99, X81, X82, Y03, Y32
Weapon, Including Body Part	W26, W32-W34, X72-75, X78, X79, X93-96, X99, Y00, Y04, Y05, Y08, Y09, Y22-25, Y28-Y29, Y35.0, Y35.3

Appendix VI: Ohio County Type Designations

Ohio's 88 counties have been categorized into four county types: Appalachian; rural non-Appalachian; metropolitan; and suburban. In 2008, Ashtabula, Trumbull and Mahoning were added to the Appalachian counties and are reflected as such in this report.



Appendix VII: Report To The Governor July 1, 2017 On Infant Safe Sleep

Background

Every week in Ohio, three babies die in unsafe sleep environments. The Ohio Child Fatality Review 16th Annual Report notes that from 2011 through 2015, 770 infants died while in a sleep environment, accounting for 16 percent of the 4,825 infant death reviews. Sleep-related deaths were the leading cause of death between one month and one year of age. If all sleep-related deaths were prevented, the Ohio infant mortality rate for 2015 would have been reduced from 7.2 to 6.1 deaths per 1,000 live births. If the sleep-related deaths of black infants were prevented, the black infant mortality rate for 2015 would have been reduced from 15.1 to 12.5 deaths per 1,000 live births.

Summary of Requirements

The Ohio Infant Safe Sleep Law was enacted by Am. Sub. S. B. 276 of the 130th Ohio General Assembly in May 2015. ORC 3701.67 requires birthing centers and hospitals, excluding critical access hospitals, to screen new parents and caregivers prior to discharge to determine if the infant has a safe sleep environment at their residence. If the infant is determined not to have a safe sleep environment, the facility must assist the family in obtaining a safe crib at no charge.

The Ohio Department of Health (ODH) developed a model screening form for facilities to use to identify parents and caregivers who do not have a safe sleep environment for infants. Beginning on January 1, 2017, a new tab was launched within the state's Integrated Perinatal Health Information System (IPHIS) to capture infant safe sleep screening data. ODH conducted six regional trainings between November and December 2016 in Akron, Athens, Cincinnati, Cleveland, Columbus, and Toledo on the topic of infant safe sleep and entering safe sleep screening data into the new IPHIS tab. Facilities with IPHIS access are expected to report safe sleep screening data in IPHIS going forward. This data, along with demographic data, is extracted by ODH to monitor the need for safe sleep environments and appropriate action taken by facilities to connect families in need with a safe crib. Facilities without access to IPHIS will continue to submit an annual report to ODH that indicates aggregate safe sleep screening and accompanying demographic data for the year.

Summary of Hospital Data

In 2016, 77 facilities provided ODH with data. The results indicate that 93,573 caregivers of newborns were screened; of them, 92,106 reported having a safe sleeping crib for their infant at home, and 1,467 reported not having a safe sleeping crib for their infant at home. Fifty-three of the 77 facilities identified between one and 784 caregivers at their facilities who did not have a safe sleep environment. For 24 of the facilities that reported data, all of the caregivers screened (13,145 total) had access to a safe sleep environment and no referrals to cribs were needed.

Among facilities that reported data:

- Facilities provided 116 safe cribs using its own resources;
- Facilities provided 370 safe cribs by collaborating with or obtaining assistance from another person or government entity;
- Facilities made 90 referrals of a parent/guardian/other responsible person to a person or government entity to obtain a safe crib; and
- Facilities made 191 referrals of a parent/guardian/other responsible person to a site designated by ODH to obtain a safe crib.

During the transition to IPHIS in 2016, there was a discrepancy in the data reported by facilities regarding families needing cribs and the provision of resources or referrals provided to those families. Additionally, insufficient demographic, income, and zip code data were reported for caregivers who were referred for cribs; therefore, the results are insufficient to describe these characteristics. With the transition to reporting safe sleep screening through IPHIS, ODH is now extracting and monitoring data on a quarterly basis and following up with facilities that submit incomplete data. It is anticipated that with these changes in data reporting and monitoring, future discrepancies in the data will be minimized.

Next Steps

In completing a safe sleep screening, facilities must indicate whether a crib or referral was provided for families in need, including whether the facility made referrals to an ODH designated site. ODH funds a network of Cribs for Kids® (CFK) partners to provide free Graco Pack 'N Plays to families who would otherwise be unable to afford safe cribs for their infants. At the time this report was written, 44 ODH-funded partners are implementing CFK programs in 59 Ohio counties. This includes 15 infant vitality partners that are implementing programs in infant mortality hot spots; these partners are charged with ensuring that at least 25 percent of the cribs distributed in those areas are delivered through home visiting programs. Additionally, the Ohio Commission on Fatherhoods' New Beginnings for New Fathers Program also provides CFK Pack 'N Plays in Clark, Cuyahoga, Franklin, Hamilton, and Montgomery counties. ODH is considering developing an online referral portal for CFK partners to enter and track data while reducing duplication.

Furthermore, Sub. S. B. 332 of the 131st Ohio General Assembly requires ODH to provide annual training classes at no cost to individuals who provide safe sleep education to parents and infant caregivers who reside in the infant mortality hot spots. ODH is in the process of developing the training, which will be made available to enrollees by June 30, 2018.

In 2016, ODH modified the part-time safe sleep coordinator position to a full-time position; the position is dedicated to aligning the work with the safe sleep requirements outlined in Sub. S. B. 332 of the 131st Ohio General Assembly. Part of this work includes providing facilities with safe sleep resources and updates through partnerships with the Ohio Hospital Association and the Ohio Injury Prevention Partnership Child Injury Action Group Safe Sleep Subcommittee. The coordinator developed and facilitated the regional IPHIS trainings in 2016, provides technical assistance to facilities, monitors safe sleep data, and follows up with facilities that submit incomplete data. The safe sleep coordinator also oversees the sleep-related deliverables that ODH funds through the Maternal and Child Health Program. This includes defining the program requirements, funding structure, and reporting and monitoring requirements for subgrantees coordinating ODH-funded CFK programs.

Conclusion

ODH anticipates the full implementation of this law will result in a decrease in preventable sleep-related deaths, which is a significant contributor to infant mortality in Ohio. We look forward to continuing collaborations with partners, stakeholders, the legislature and the state enterprise to reduce infant mortality in Ohio.

Appendix VIII: References

1. Program Manual for Child Death Review. Ed. Covington T, Foster V, Rich S. The National Center for Child Death Review, 2005.

2. U.S. Department of Health and Human Services. Strengthening Families and Communities: Resource Guide, 2009. Available at https://www.childwelfare.gov/pubpdfs/2009guide.pdf.

3. Ohio Department of Health. *Ohio Child Fatality Review Seventh Annual Report. September 2007*. Available at http://www.odh.ohio.gov/~/media/ODH/ASSETS/Files/cfhs/child%20fatality%20review/ohiochildfatalityreviewannualreport2007-1.ashx.

4. Centers for Disease Control and Prevention. Division of Violence Prevention, Child Maltreatment Prevention. Available at http://www.cdc.gov/ViolencePrevention/childmaltreatment/.

5. Willinger M, James LS, Catz C. Defining the sudden infant death syndrome (SIDS): Deliberations of an expert panel, convened by the National Institute of Child Health and Human Development. *Pediatric Pathology*. 1991; 11:677-684.

6. National Center for Health Statistics. *Deaths: Final Data for 2014*. Available at http://www.cdc.gov/nchs/data/nvsr/nvsr65/nvsr65_04.pdf.

7. Ohio Department of Health. *2014 Ohio Infant Mortality Data: General Findings*. Available at http://www.odh.ohio.gov/~/media/ODH/ASSETS/Files/cfhs/Infant%20Mortality/2014%20Ohio%20Infant%20Mortality%20Report%20Final.pdf.

8. Centers for Disease Control and Prevention. National Prematurity Awareness Month page. Available at http://www.cdc.gov/features/prematurebirth/.

9. National Center on Birth Defects and Developmental Disabilities. *Child Development*. Available at http://www.cdc.gov/ncbddd/childdevelopment/facts.html.

10. National Center for Health Statistics. *Deaths: Final Data for 2014*. Available at http://www.cdc.gov/nchs/data/nvsr/nvsr65/nvsr65_04.pdf.

11. National Center on Birth Defects and Developmental Disabilities. *Child Development*. Available at http://www.cdc.gov/ncbddd/childdevelopment/facts.html.

12. National Center for Injury Prevention and Control: Data & Statistics (WISQARS™). Leading Causes of Death Charts 2014. Available at http://www.cdc.gov/injury/wisqars/leadingcauses.html.

13. National Center on Birth Defects and Developmental Disabilities. *Child Development*. Available at http://www.cdc.gov/ncbddd/childdevelopment/facts.html.

14. National Center for Injury Prevention and Control: Data & Statistics (WISQARS™). Leading Causes of Death Charts 2014. Available at http://www.cdc.gov/injury/wisqars/leadingcauses.html.

15. National Center on Birth Defects and Developmental Disabilities. *Child Development*. Available at http://www.cdc.gov/ncbddd/childdevelopment/facts.html.

16. National Center for Injury Prevention and Control: Data & Statistics (WISQARS™). Leading Causes of Death Charts 2014. Available at http://www.cdc.gov/injury/wisqars/leadingcauses.html.

17. National Center for Injury Prevention and Control. WISQARS Fatal Injury Reports, 1999 – 2014 page. Available at http://www.cdc.gov/injury/wisqars/fatal.html.

18. National Center for Injury Prevention and Control: Data & Statistics (WISQARS™). Leading Causes of Death Charts 2014. Available at http://www.cdc.gov/injury/wisqars/leadingcauses.html.

19. Program Manual for Child Death Review. Ed. Covington T, Foster V, Rich S. The National Center for Child Death Review, 2005.

OHIO CHILDREN'S TRUST FUND

Ohio Department of Health