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# Ohio Child Fatality Review Sixteenth Annual Report



September, 2016





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# Ohio Child Fatality Review Sixteenth Annual Report

This report includes reviews of child deaths that occurred in 2015 and aggregate reviews for 2011-2015.

## MISSION

To reduce the incidence of preventable child deaths in Ohio

## SUBMITTED SEPTEMBER 30, 2016, to

John R. Kasich, Governor, State of Ohio  
Clifford A. Rosenberger, Speaker, Ohio House of Representatives  
Keith Faber, President, Ohio Senate  
Fred Strahorn, Minority Leader, Ohio House of Representatives  
Joe Schiavoni, 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







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## 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), Office of Health Improvement and Wellness; 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 Sixteenth 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 2011 to 2015. 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,*



Richard Hodges, MPA  
Director  
Ohio Department of Health



Kristen Rost  
Executive Director  
Ohio Children's Trust Fund





## EXECUTIVE SUMMARY AND KEY FINDINGS





## EXECUTIVE SUMMARY

The 2016 Child Fatality Review (CFR) Annual Report presents information from the reviews of deaths that occurred in 2015, as well as a summary of the data for deaths that occurred from 2011 through 2015.

Every child's death is a tragic loss for the family and community. Especially tragic is the 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 10-13, 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.



## 2011-2015 Key Findings

For the five-year period 2011-2015, reviews were completed for 7,117 child deaths, which is 95 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 (2,429) of deaths reviewed were to black children and 57 percent (4,076) were to boys of all races. Their representation in the general population is 17 percent for black children and 51 percent for 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 71 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 4 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-nine percent of reviewed sleep-related deaths were for infants between 29 days and 1 year of age.
- Co-sleeping was reported at time of death for 53 percent of reviews.
- Second-hand smoke exposure was reported for 32 percent of reviews.
- Infants were put to sleep on their back in 40 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 44 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).

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

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

- Congenital anomalies (12 percent) and drowning (11 percent) were the two leading causes of death (excluding categories indicated as 'other').
- Thirty-seven 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 (17 percent) and vehicular injuries (14 percent) were the two leading 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 (14 percent), asphyxia (13 percent), and vehicular injuries (13 percent) were the three leading causes of death (excluding categories indicated as 'other').
- Forty-one percent of deaths reviewed were deemed probably preventable.

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

- Vehicular (24 percent) and weapons (23 percent) injuries were the two leading causes of death.
- Fifty-eight percent of deaths reviewed were deemed probably preventable.

## Homicide Reviews

Four percent of the deaths reviewed were homicides.

- Sixty-three percent of homicide reviews were for males.
- Fifty-two percent of homicide reviews were for black children.
- Weapon use accounted for 82 percent of homicide reviews, most frequently through the use of a firearm (55 percent).
- Forty-four percent of homicide perpetrators were parents (biological, step or adoptive).

## Suicide Reviews

Four percent of the deaths reviewed were suicides.

- Eighty-five percent of suicide reviews were for white children.
- Sixty-seven percent of suicide reviews were for males.
- Most frequently, asphyxia (63 percent) was the cause of death.

## Accident Reviews

Fourteen percent of the deaths reviewed were accidents.

- Infants (32 percent) and children age 15-17 years (24 percent) had the highest incidence of accidents.
- Thirty-six 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 (79 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-one 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-eight percent of vehicular reviews were for children 15-17 years old.
  - Fourteen percent of bicycle, motorcycle, or ATV related deaths reported helmets were used properly.
- Twenty-one percent of external deaths reviewed were caused by weapon injuries.
  - Forty-eight percent of weapon reviews were for children 15-17 years old.
  - Seventy percent of weapon reviews were classified as homicide.
- Nine percent of the external deaths reviewed were caused by drowning.
  - Forty-two percent of drowning reviews occurred in open water.
- Five percent of external deaths reviewed were caused by fires, burns, or electrocutions.
  - Forty-six percent of reviews classified as fire had working smoking detectors.
- Four 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 (1,708) of all reviews conducted were deemed probably preventable by local CFR teams. As child age increases, the probability of a death being deemed preventable increases.

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



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## 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.

- Most counties are distributing safe sleep information widely through established programs that serve families. Many counties are using the media to spread risk reduction information to the entire community. **Fairfield** County posted safe sleep educational materials on the health department Web and Facebook pages. **Crawford** County WIC and Help Me Grow have expanded their promotion and distribution of educational information about safe sleep. **Sandusky** County posted billboards to spread awareness.
- In **Mercer** County, Mercer Health distributes safe sleep board books, supplied by the Kiwanis, and sleep sacks, supplied by the Hospital Volunteer Association Board.
- As part of the *Welcome Home Baby* program, **Athens** County provides home visits at two and four weeks after birth to remind mothers of the ABCs of safe sleep and the dangers of co-sleeping.
- The **Franklin** and **Lake** county vital statistics registrars include safe sleep educational materials with all birth certificates ordered from their offices.
- Several counties including **Cuyahoga, Franklin, Fulton, Lorain, Mahoning, Mercer, Montgomery, Sandusky, Stark** and **Union** are working directly with hospital staff to raise awareness about the importance of role modeling safe sleep practices when educating new parents.
- In addition to providing safe sleep education in health department clinics, **Clermont** County expanded its education efforts to local child care centers and pregnancy help centers.
- **Franklin** County has implemented Safe Sleep Ambassador trainings in which each person trained is then responsible for educating at least ten people.
- ODH has helped fund designated agencies across the state to be Cribs 4 Kids® providers. Agencies in **Allen, Butler, Clark, Cuyahoga, Franklin, Hamilton, Lorain, Lucas, Mahoning, Montgomery, Perry, Richland, Sandusky, Stark, Summit, Trumbull** and **Union** counties provide cribs to needy families who participate in a 90-minute class on safe sleep practices. Referring agency staff are trained to reinforce the safe sleep messages through their contact with the families.

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## 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.

- **Jefferson** County Child Protective Services is now implementing an in-home support program for cases after they have been closed as official cases.
- The **Cuyahoga** County Defending Childhood initiative aims to break the cycle of abuse that often persists from one generation to the next. The program works to prevent violence and to identify and treat children of all ages who have been exposed to violence in their homes, schools and communities.
- **Lucas** County maintains a Crying Baby Hotline at Mercy Hospital. The hotline allows caregivers to speak to a registered nurse whenever they are frustrated or concerned about a baby who won't stop crying. An assessment is done over the phone to screen for possible health issues. Callers are educated about comforting techniques to soothe their baby.

## 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.

- **Madison** County's Mental Health agency initiated programs at a local high school to address suicide prevention.
- The **Clark** County CFR board is collaborating with the Clark County Community Health Improvement Plan's Mental Health Task Force to focus on increasing the impact of mental health support to the student, child and adolescent population.
- CFR boards in **Clermont, Fulton, Lucas, Muskingum** and **Wood** counties worked directly with suicide task forces or coalitions to provide programs to increase awareness, identify youth at risk and provide support services.
- The Olweuss bullying prevention program continues to be expanded to more schools in **Clermont** County. The county increased the availability of mental health services in schools and continued efforts to increase awareness of the Crisis Prevention Hotline.
- **Lucas** County, in conjunction with Ohio State University Suicide Prevention, has launched the *RUOK?* mobile application, which connects users to suicide prevention information and local crisis lines.
- **Morrow** County is implementing a youth survey to collect data to support initiatives including suicide prevention and abuse prevention.



## 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 operates free car seat inspection stations, provides low-cost car seat distribution, provides specialized car seats to patients with special needs, develops education campaigns and designs seat belt promotion campaigns aimed at adolescents.
- **Clermont, Mercer, Perry** and **Vinton** counties distribute car seats and provide installation trainings.
- A teen driving rodeo is held annually in **Tuscarawas** County to promote teen driving safety.
- **Delaware** County has added the importance of not getting into a car being driven by a drunk driver to the Delaware County Prosecutor's school presentations.
- The CFR board in **Meigs** County has petitioned the County Engineer to enact a reduced speed and curve notification sign along a roadway on which a fatal motor vehicle accident occurred.
- **Highland** County distributes information on ATV, mower and personal vehicle safety.
- A partnership with local law enforcement and the high school in **Hocking** County focused on the use of incentives to promote seat belt use among students.

## 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.

- **Mahoning, Sandusky, Stark** and **Summit** counties have established fetal infant mortality review teams to more closely examine the causes of infant deaths due to prematurity and birth defects.
- The **Mercer** County Celina City Health Department is collaborating with Job and Family Services to coordinate care for pregnant women on Medicaid to impact prenatal care.
- All women who apply for prenatal benefits at **Hardin** County Job and Family Services are provided information about the importance of early prenatal care and if needed, referrals to local providers. Services are promoted on the health department website.
- **Montgomery** County is implementing *Centering Pregnancy* and *Progesterone Therapy* initiatives.
- The *Welcome Home Baby* program has been implemented in **Morrow** County to reduce infant mortality by conducting newborn home visits and sharing information and resources.
- **Ashland** County alerts the Amish Community at the Amish Health and Safety Day of the need for monthly prenatal care.
- Several counties, including **Carroll, Cuyahoga, Hancock, Lucas, Preble** and **Sandusky**, have implemented programs such as *Baby and Me – Tobacco Free* to encourage pregnant women to quit smoking and to remain smoke free after delivery.



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## 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.

- **Allen** County's Maternal-Infant Task Force disseminated information to obstetricians regarding best practice screening methods to identify patients to refer to treatment for substance abuse. In addition, one obstetric office is piloting the Screening, Brief Intervention, and Referral to Treatment (SBIRT) process.
- A **Belmont** County pediatrician is working on implementing policies in local birthing hospitals to have cord blood testing and extended stays for drug exposed babies.
- Strong Start Ohio supports a centering pregnancy program for mothers struggling with opiate addiction in **Summit** County.
- **Guernsey** County implemented Clean Start, a collaborative of the local obstetric practice, hospital, health department and social service agencies to identify drug addicted prenatal women and link them to services.
- **Ross** County is building community partnerships through law enforcement, healthcare and other entities to increase drug and smoking awareness in the county.

## General Health and Safety

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

- **Allen** and **Perry** counties both have programs to ensure babies are current on vaccinations to promote safety from communicable diseases.
- The Amish Health and Safety Day event in **Holmes** County included activities and presentations to educate the community about buggy, fire and hunting safety.
- The **Coshocton** County CFR is forming a committee to examine the issue of safe, affordable child care, twenty-four hours per day in the county.
- In partnership with the regional Red Cross, **Harrison** County distributes smoke detectors.
- **Ashland, Eric, Pickaway, Scioto** and **Tuscarawas** counties distribute information regarding water safety and drowning prevention.
- The Cleveland Division of Police donated gun locks to the local Help Me Grow program to distribute to families in **Cuyahoga** County. **Belmont** County is working on a collaboration with local private entities to distribute gun locks.



## 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.

- Data and findings from the CFR process in **Highland** County contributed to the development of joint protocols with the coroner, law enforcement, and hospice agencies for medication monitoring/collection and blood draws. The Highland District Hospital will connect mothers to Help Me Grow resources, track referrals and coordinate related efforts.
- The **Hamilton** County Child and Family Health Services Grant and the Community Action Team have joined together to form a larger maternal and child health consortium. CFR recommendations are brought to the consortium for action.
- The **Ross** County CFR is building community partnerships through law enforcement, healthcare and other entities to increase drug and smoking awareness in the county.
- The CFR process often reveals a lack of services for grieving families. The **Muskingum** County Coroner will notify the health department of all child deaths so outreach can occur with families, and health departments will establish relationships with bereavement counselors at the hospital to coordinate outreach.
- The **Richland** Youth and Family Council organized an Infant Mortality Conversation which led to the formation of four subgroups to focus on preventing sleep related deaths, preventing prematurity, preventing birth defects, and improving health system performance.
- **Morrow** County has developed a school district nurse coalition to discuss the impact of traumatic childhood events.



## REVIEWS FOR 2015 DEATHS





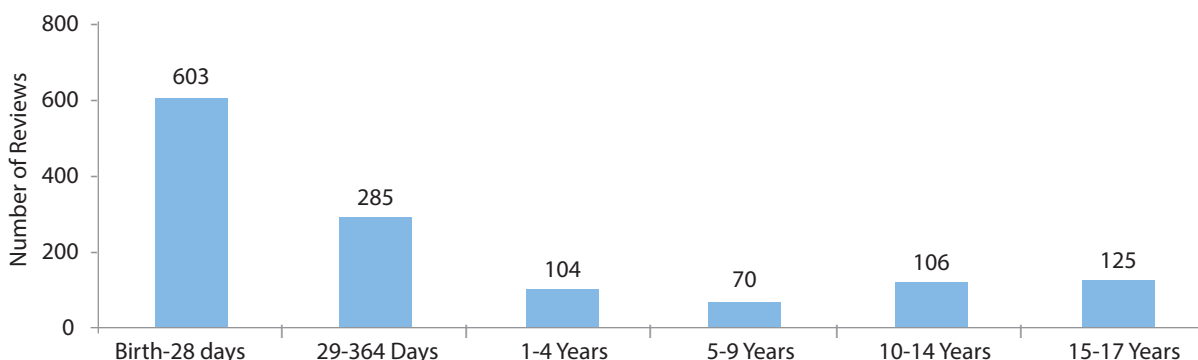
## SUMMARY OF REVIEWS

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, 1,293 completed reviews of 2015 deaths were reported, representing 89 percent of all child deaths (1,458) from the Ohio Bureau of Vital Statistics.

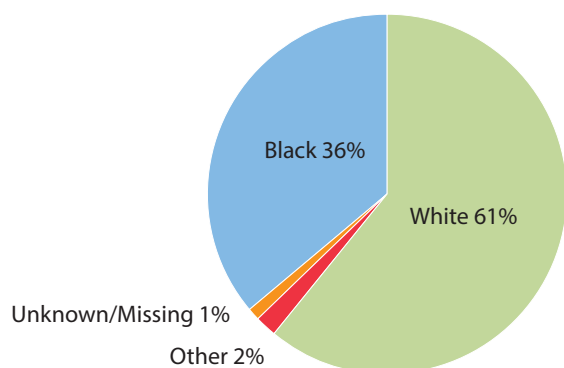
## REVIEWS BY DEMOGRAPHIC CHARACTERISTICS

Local CFR boards reviewed the deaths of 1,293 children who died in 2015. Sixty-nine percent (888) of the reviews were for children less than 1 year of age. Black children are overrepresented in child death reviews (36 percent) compared to their representation in the general Ohio child population<sup>1</sup> (17 percent). Males are also overrepresented in child death reviews, comprising 57 percent of reviews while they make up only 51 percent of the population.

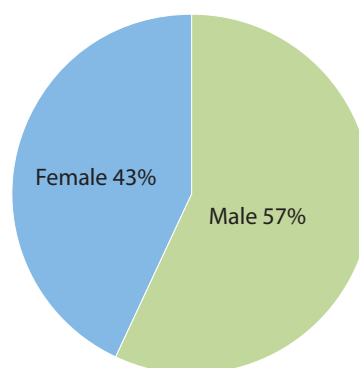
Reviews of Deaths by Age, 2015 (n=1,293)



Reviews of Deaths by Race, 2015 (n=1,293)



Reviews of Deaths by Gender, 2015 (n=1,293)



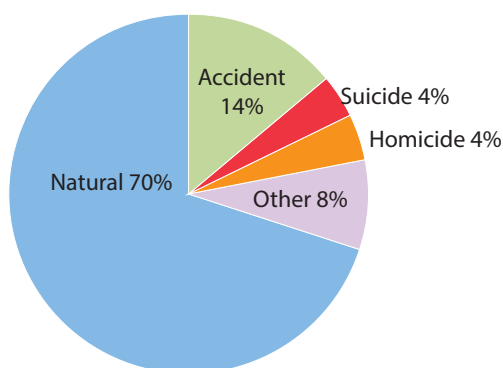


## REVIEWS BY MANNER OF DEATH

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 2015, the 1,293 reviews were classified as follows:

- Seventy percent (913) were natural deaths.
- Fourteen percent (182) were accidents.
- Eight percent (103) were of an undetermined or unknown manner or pending review (labeled 'other' in the chart below).
- Four percent (48) were homicides.
- Four percent (47) were suicides.

Reviews of Deaths by Manner, 2015 (n=1,293)

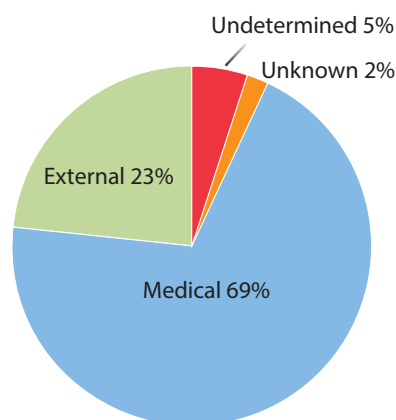


## REVIEWS BY CAUSE OF DEATH

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 2015, the 1,293 reviews were classified as follows:

- Sixty-nine percent (891) were due to medical causes.
- Twenty-three percent (301) were due to external causes.
- In five percent (78) of reviews, the cause of death could not be determined as either medical or external.
- Two percent (23) were unknown.

Reviews of Deaths by Cause, 2015 (n=1,293)





## 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.

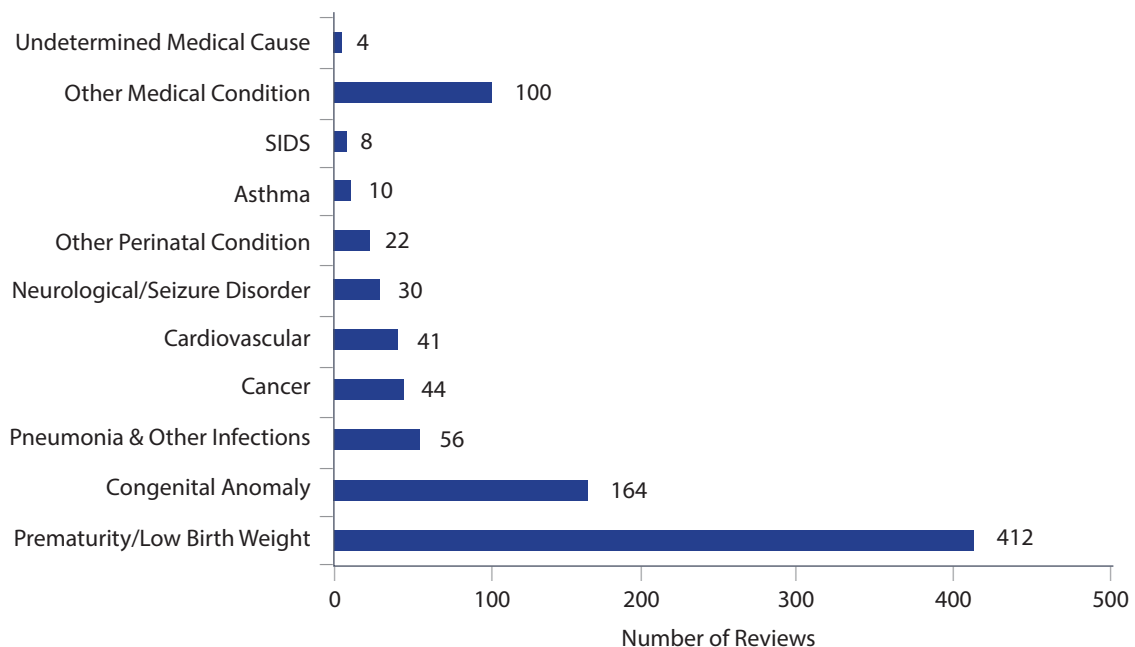
Many of these conditions are not believed to be preventable in the same way accidents are preventable. But with some illnesses such as asthma, infectious diseases and screenable genetic disorders, under certain circumstances, fatalities may be prevented. Many might be prevented through better counseling 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

Sixty-nine percent (891) of the 1,293 reviews for 2015 deaths were from medical causes.

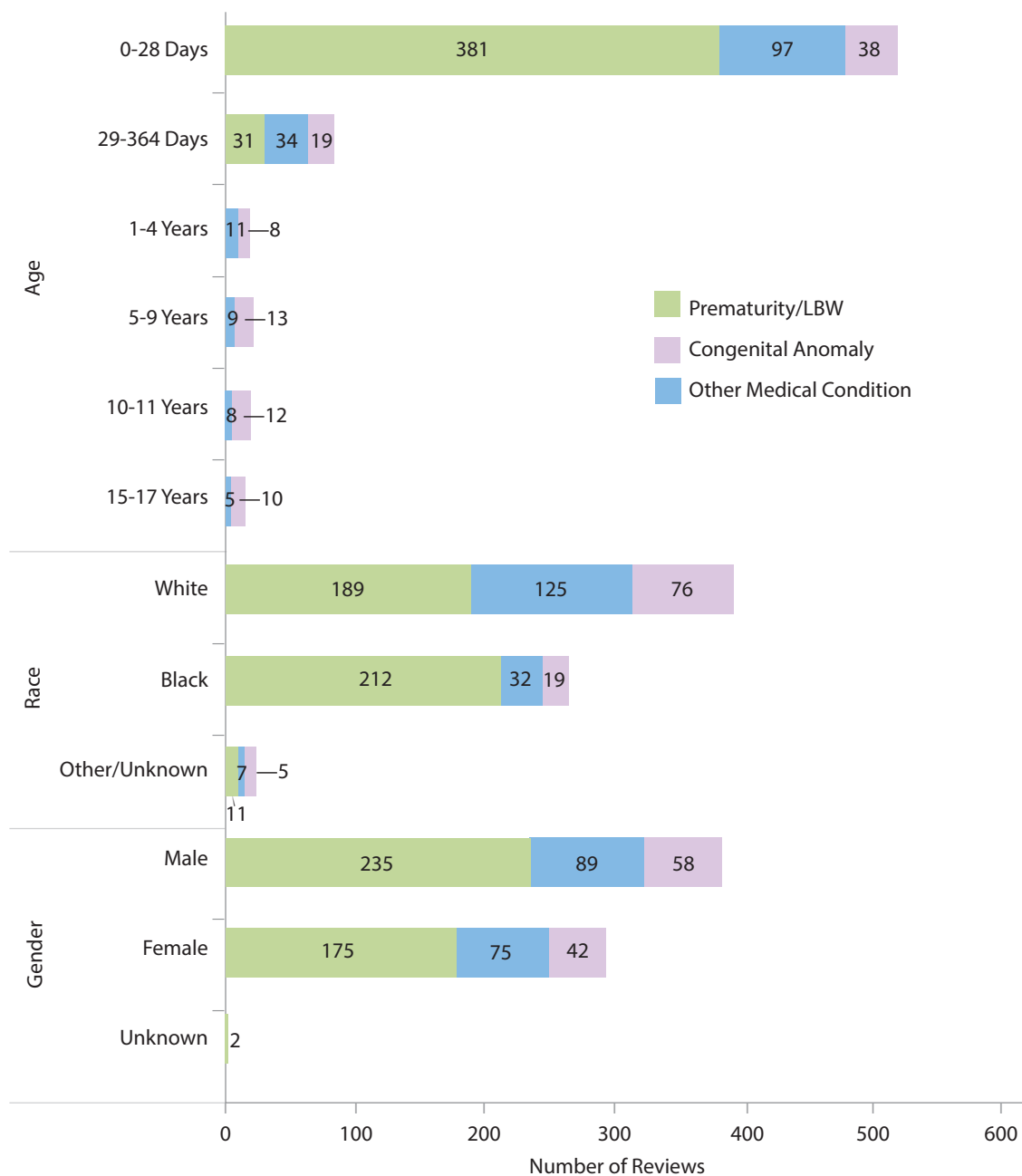
- The CFR data system provides a list of 15 medical conditions in addition to an 'Other' category for classifying deaths from medical causes more specifically. Prematurity/low birth weight, congenital anomalies, and other medical conditions were the three leading medical causes of death.
  - Forty-six percent (412) of the deaths from medical causes were due to prematurity/ low birth weight.
  - Eighteen percent (164) were due to congenital anomalies.
  - Eleven percent (100) were due to other medical conditions.
  - Six percent (56) were due to pneumonia and other infections.

Reviews of Deaths from Medical Causes, 2015 (n=891)



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.

Three Leading Medical Causes by Age, Race, Gender, 2015 (n=676)





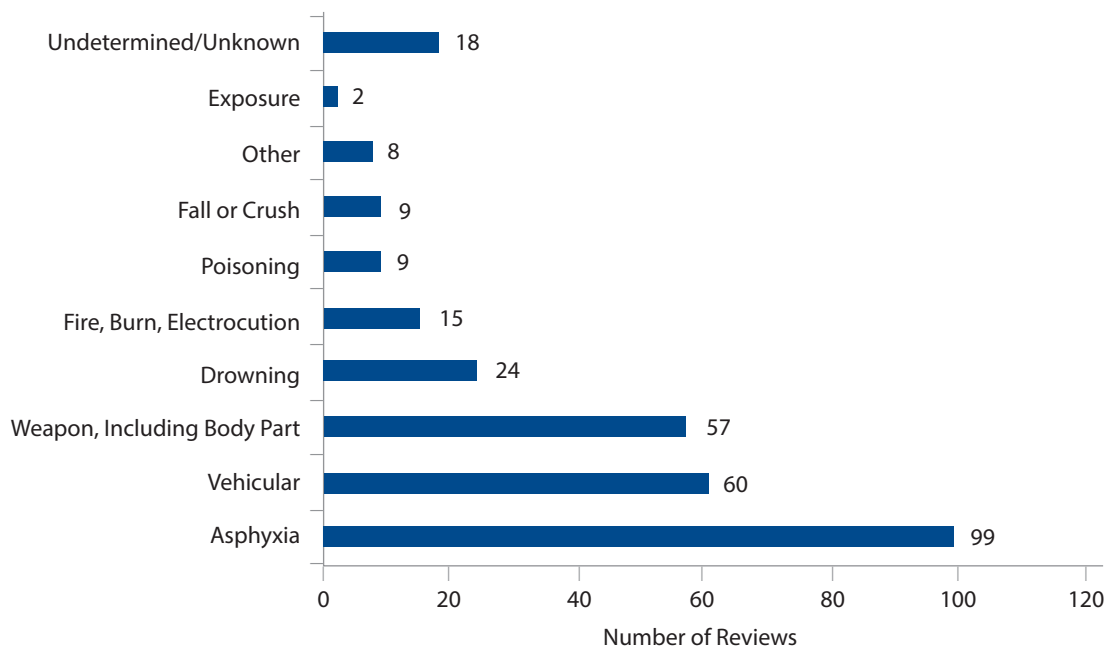
## DEATHS FROM EXTERNAL CAUSES

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.<sup>2</sup>

Twenty-three percent (301) of the 1,293 reviews for 2015 deaths were due to external causes. Asphyxia, vehicular injuries and weapons injuries were the three leading external causes for the 301 reviews.

- o Thirty-three percent (99) were due to asphyxia.
- o Twenty percent (60) were due to vehicular injuries.
- o Nineteen percent (57) were due to weapons injuries, including the use of body parts as weapons.

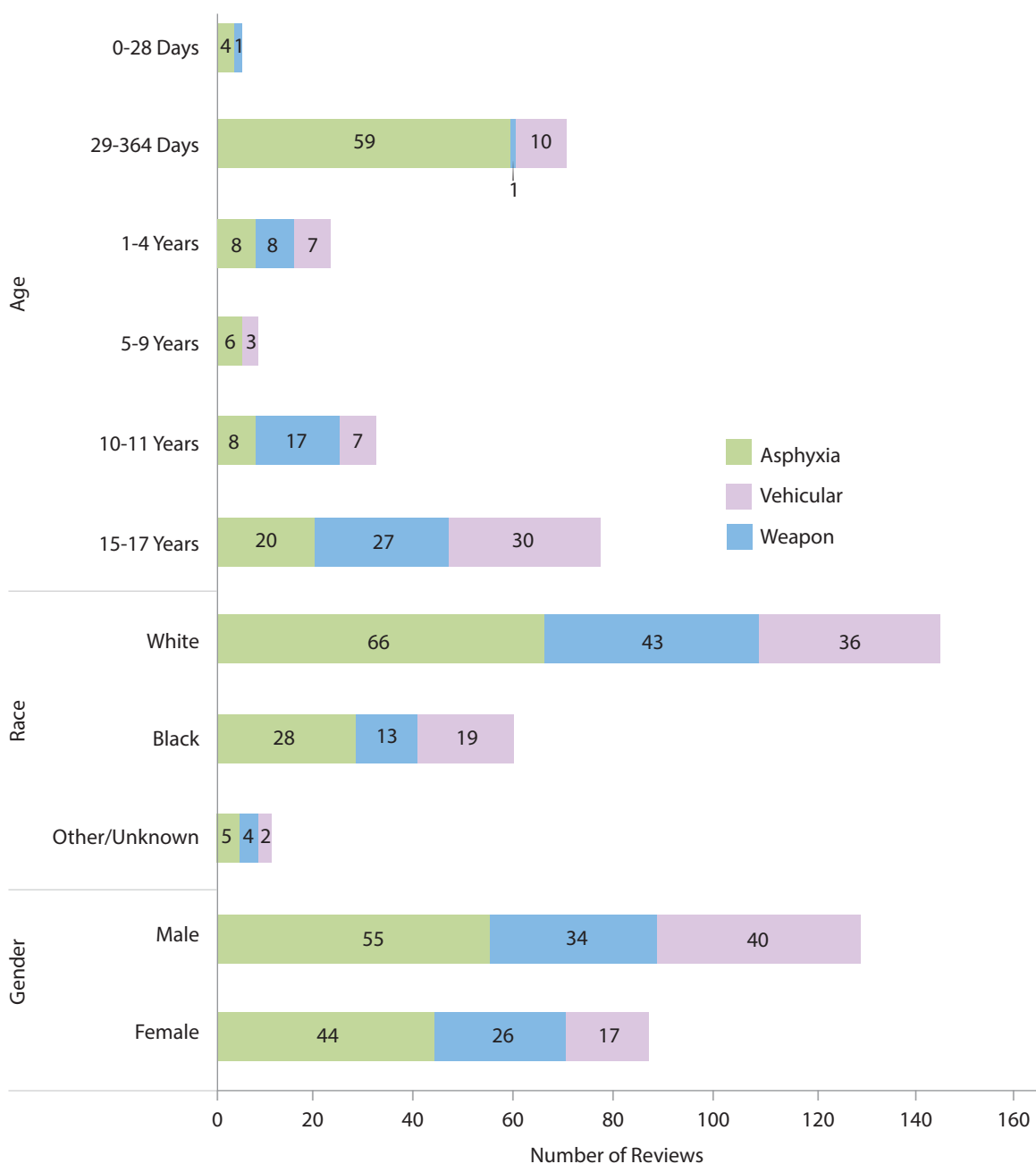
Reviews of Deaths from External Causes, 2015 (n=301)





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.

Three Leading External Causes by Age, Race, Gender, 2015 (n=216)





## REVIEWS OF 2011-2015 DEATHS



Data have been analyzed for a five-year period, 2011 through 2015; 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 7,117 reviews, which represent 95 percent of the 7,485 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 IV 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.

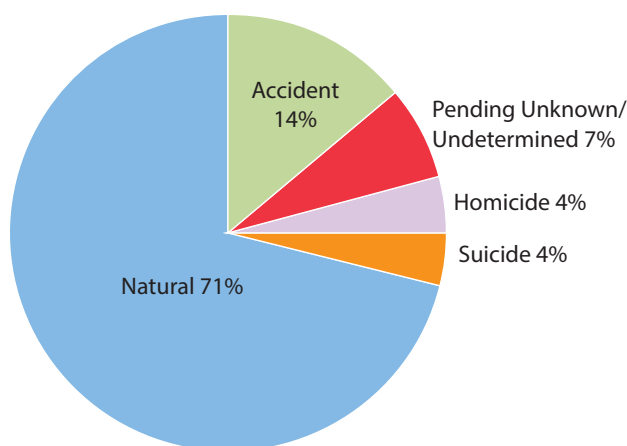
A horizontal bar chart with the x-axis labeled 'Number of Reviews' ranging from 0 to 7000. The y-axis lists categories grouped by Age, Race, Ethnicity, Gender, and County Type. Each bar is color-coded and labeled with its value.

Category	Sub-category	Number of Reviews
Age	0-28 Days	3,349
	29 Days-364 Days	1,476
	1-4 Years	699
	5-9 Years	375
	10-14 Years	515
	15-17 Years	703
Race	White	4,540
	Black	2,429
	Other/Unknown	148
Ethnicity	Non-Hispanic	6,483
	Hispanic	375
	Missing/Unknown	259
Gender	Male	4,075
	Female	3,042
County Type	Suburban	842
	Rural Non-Appalachian	822
	Rural Appalachian	1,122
	Metropolitan	4,331

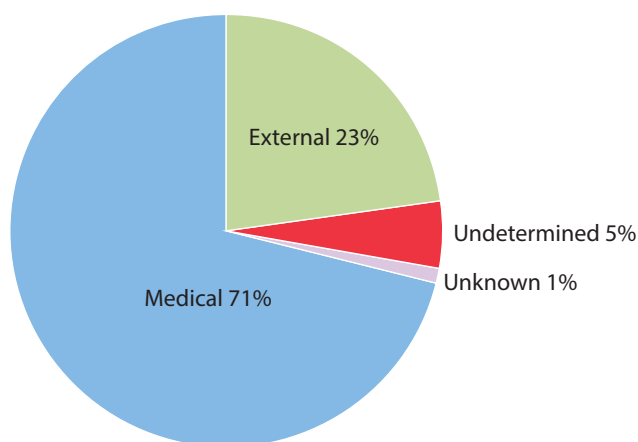


Reviews are classified by manner and cause of death. Within cause of death, external and medical causes are further specified by particular disease entities and the nature of the injury, respectively.

**Reviews of Deaths by Manner**  
2011-2015 (n=7,117)



**Reviews of Deaths by Cause**  
2011-2015 (n=7,117)



## 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.



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## 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.<sup>3</sup>

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.<sup>4</sup>

According to the Centers for Disease Control and Prevention (CDC), nationally about 1,580 children died from abuse and neglect in 2014.<sup>5</sup> 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

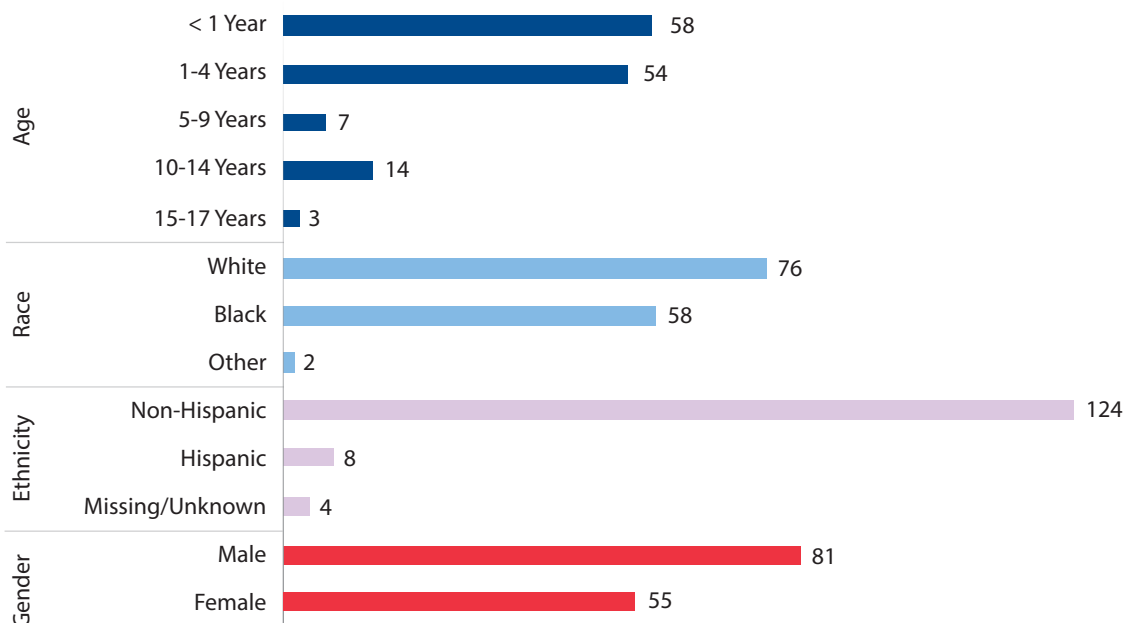
For the five-year period from 2011 through 2015, CFR boards reviewed 136 deaths from child abuse and neglect. These represent two percent of the 7,117 deaths reviewed.

- Sixty-five percent (88) of the 136 reviews indicated that physical abuse caused or contributed to the death, while 21 percent (28) reviews indicated that neglect caused or contributed to the death. Thirteen reviews indicated both abuse and neglect caused or contributed to the death.
- Eighty-two percent (112) of child abuse and neglect deaths occurred among children younger than 5 years old.
- A greater percentage of child abuse and neglect deaths occurred to black children (42 percent) relative to their representation in the general population (17 percent).



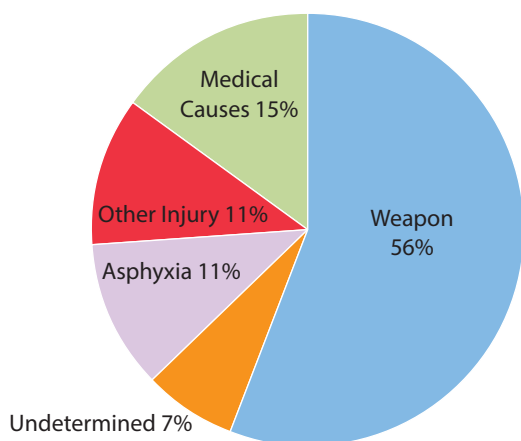


### Reviews of Child Abuse and Neglect Deaths by Age, Race, Ethnicity, Gender 2011-2015 (n=136)



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, 2011-2015 (n=136)



### Reviews of Child Abuse and Neglect Deaths by Person Causing Death, 2011-2015 (n=136)

Person	#	%
Biological/Step/Adoptive Parent	60	44%
Parent's Partner	24	18%
Other Relative	7	5%
Friend	3	2%
Babysitter/Child Care Worker	3	2%
Other	3	2%
Missing/Unknown	36	26%
<b>Total</b>	<b>136</b>	<b>100%</b>

## 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 health care 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

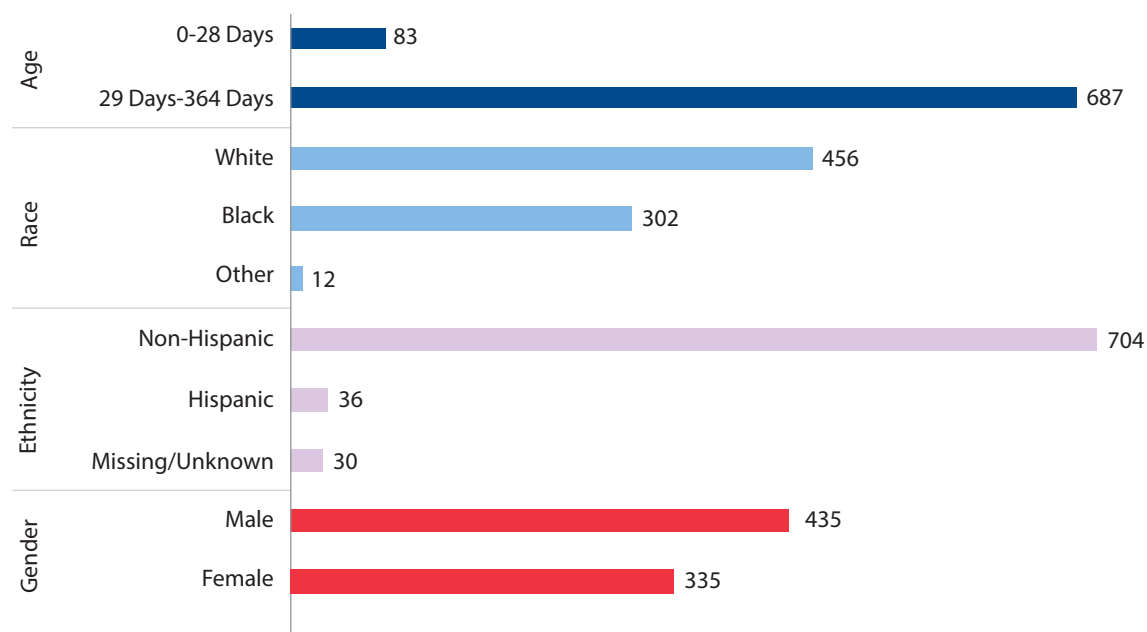
Since the beginning of the Ohio CFR program, local boards have been faced with a significant number of deaths of infants while sleeping. Some of these sudden unexpected infant deaths (SUIDs) are diagnosed as sudden infant death syndrome (SIDS), while others are diagnosed as accidental suffocation, positional 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 1 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.<sup>6</sup> 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.<sup>6</sup> An Infant Death Investigation training was hosted by the Franklin County CFR board in June, 2011 and ODH hosted three similar trainings in early 2014. 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

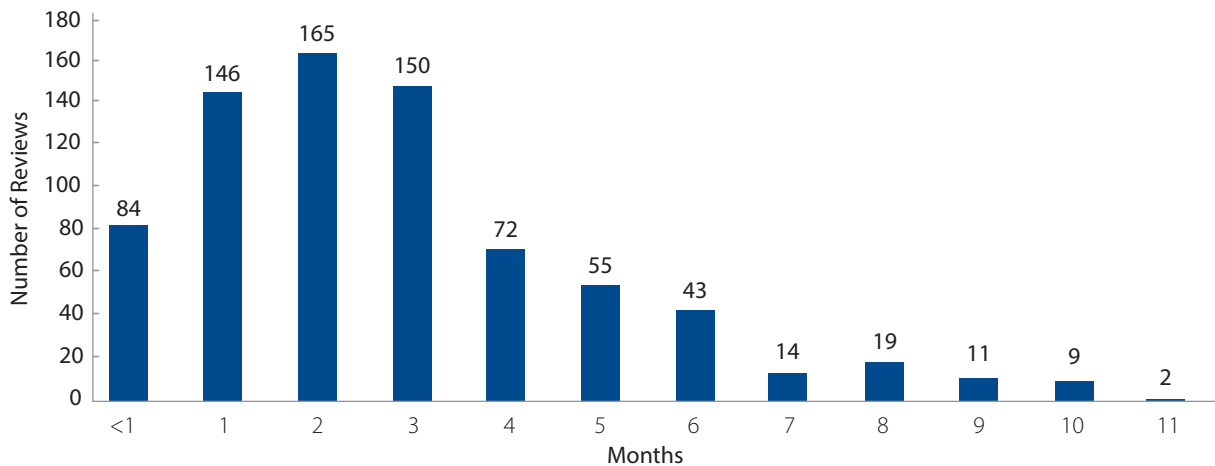
Over the five-year period 2011 through 2015, local boards reviewed 770 sleep-related deaths which accounts for 16 percent of the 4,825 infant death reviews.

#### Reviews of Sleep-Related Deaths by Age, Race, Ethnicity, Gender, 2011-2015 (n=770)



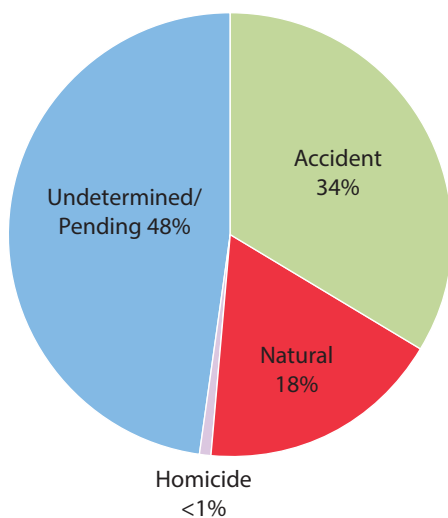
Sixty percent (461) of the 770 sleep-related deaths involved infants between one month and three months old. Sleep-related deaths become less common as infants age but still occur up to eleven months of age.

### Reviews of Sleep-Related Deaths by Age in Months, 2011-2015 (n=770)

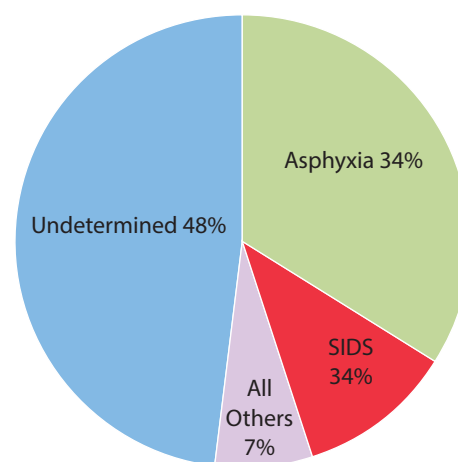


As discussed earlier in this section, determining the cause of death for infants in sleep situations is difficult, even when a complete investigation has occurred. Forty-eight percent of sleep-related deaths were diagnosed as an undetermined cause.

### Reviews of Sleep-Related Deaths by Manner, 2011-2015 (n=770)



### Reviews of Sleep-Related Deaths by Cause, 2011-2015 (n=770)

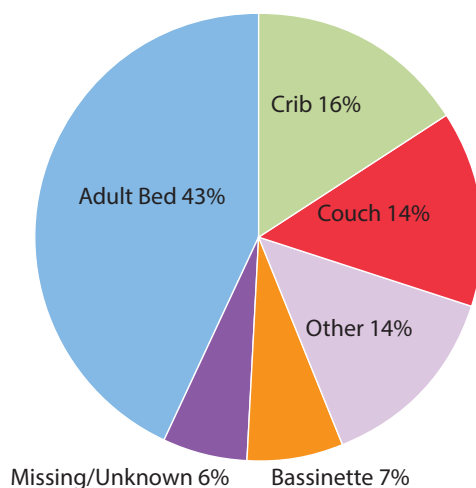




A number of unsafe sleep circumstances were commonly reported for sleep-related deaths:

- Bed-sharing was reported at the time of the death in 53 percent (406) of reviews. Among reviews indicating bed-sharing, infants most often shared a sleep surface with an adult (69 percent), an adult and another child (18 percent), or another child (6 percent).
- Of the 354 reviews that indicated bed-sharing with an adult or adult and child, 51 percent indicated the supervisor was impaired at the time of the incident with 95 percent impaired by sleep and 12 percent impaired by alcohol or drugs.
- Thirty-nine reviews (10 percent of those indicating bed-sharing) indicated an adult fell asleep while feeding the infant, with eighteen breastfeeding and 18 bottle-feeding.
- Infants were put to sleep on their back in only 40 percent of reviewed deaths, and found on their back in 28 percent of reviewed deaths.
- Second-hand smoke exposure was reported for 246 (32 percent) of the sleep-related deaths.

#### Reviews of Sleep-Related Deaths by Incident Location, 2011-2015 (n=770)



Passage of Am. Sub. SB 276 by the 130<sup>th</sup> 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.

### 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](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.



## Infant Safe Sleep Recommendations

In October 2011, 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 night time.
- 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 out of the crib.
- Pregnant women should receive regular prenatal care.
- Do not smoke during pregnancy. Avoid exposure to secondhand smoke.
- Avoid alcohol and illicit drug use during pregnancy and after birth.
- Breastfeeding is recommended.
- Offer a pacifier at sleep time after breastfeeding has been established.
- Avoid overheating.
- Avoid commercial devices marketed to reduce the risk of SIDS. None have been proven safe or effective.
- Encourage supervised "tummy time" when infant is awake to avoid flat spots on the back of the infant's head and to strengthen the upper torso and neck.
- All infants should be immunized in accordance with AAP and CDC recommendations.



## SUIDI Training

The Ohio Department of Health has hosted Sudden Unexplained Infant Death Investigation (SUIDI) Training sessions since 2011. Public servants from across the state are invited to attend and collect scene investigation kits for their agencies. Coroners, police officers, and staff from child services, public health, and other public agencies learn about the CDC's protocol and learn techniques and procedures from field experts, including using dolls to reenact infant deaths.



## 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.

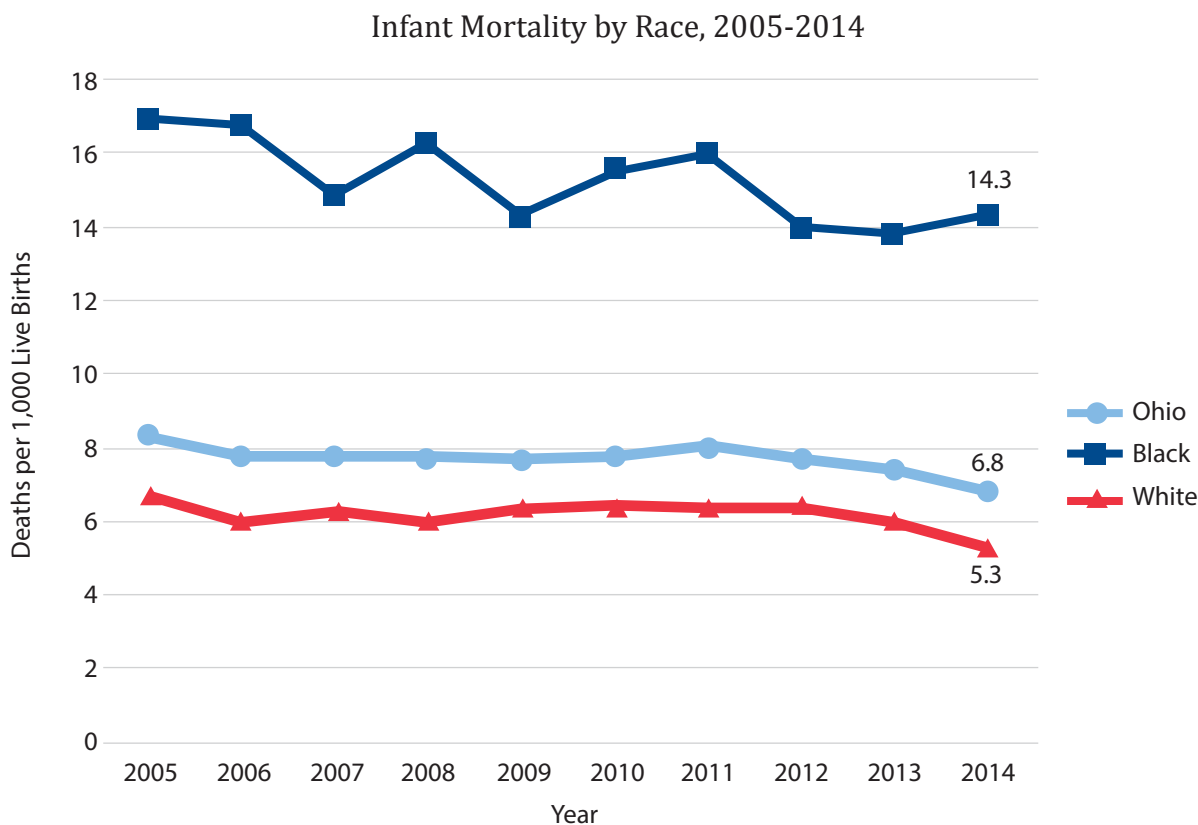
### *Infant Deaths*

#### 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 2014 was 5.82 infant deaths per 1,000 live births.<sup>7</sup>

Ohio's 2014 overall IM rate was 6.8; the black IM rate was 14.3; and the white IM rate was 5.3 deaths per 1,000 live births.<sup>8</sup>

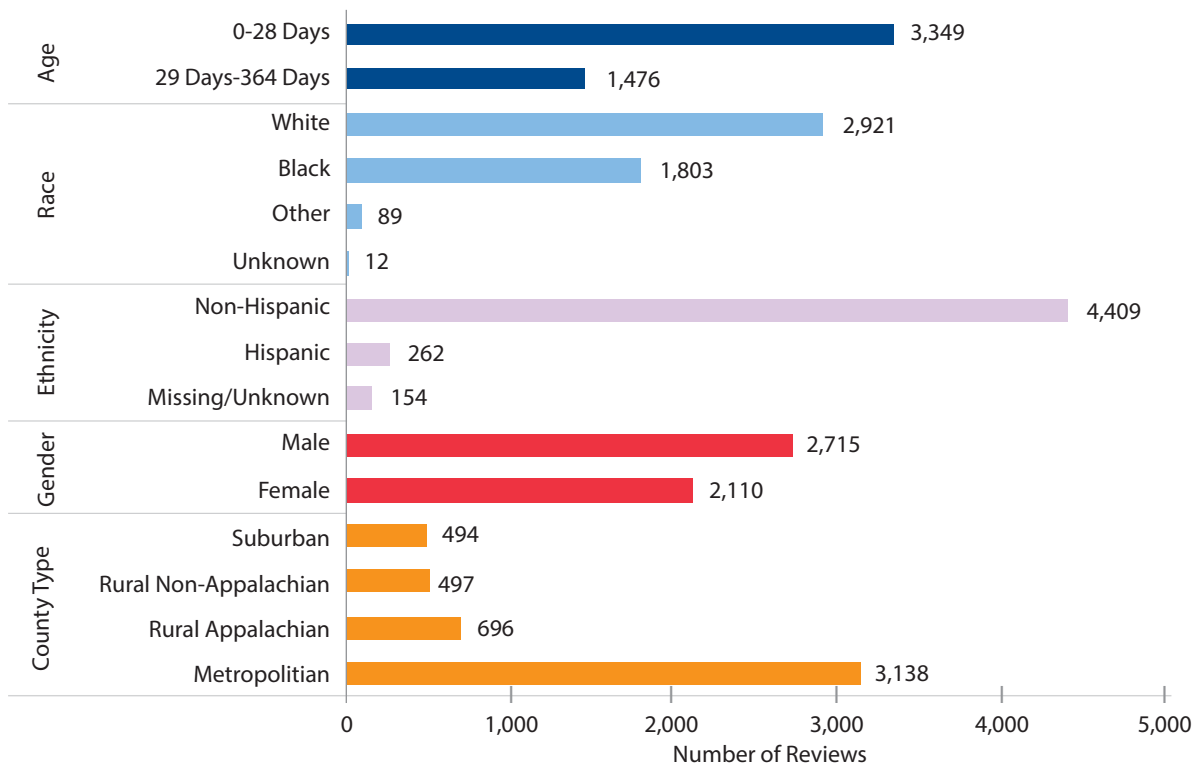
Though IM rate in Ohio declined from 8.0 in 2005 to 6.8 in 2014, Ohio's 2014 overall infant mortality rate still remains higher than the national average by 27 percent. In addition, the racial disparity continues to be substantial, with black infants dying at more than twice the rate of white infants. For these reasons, ODH has identified decreasing infant mortality as a top priority in its strategic plan.



## CFR Findings

Local child fatality review boards reviewed 4,825 infant deaths from 2011 through 2015. These represent 68 percent of all reviews.

### Reviews of Infant Deaths by Age, Race, Ethnicity, Gender, County Type, 2011-2015 (n=4,825)



The 4,825 reviews were classified by manner as follows:

- Eighty-three percent (4,010) were natural.
- Nine percent (432) were undetermined.
- Seven percent (315) were accidents.
- One percent (63) were homicides.
- Less than 1 percent (5) were pending or unknown.

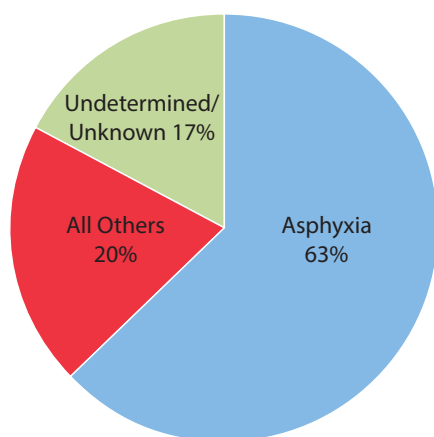
Reviews were also classified by cause:

- Eighty-three percent (3,989) were medical.
- Nine percent (455) were external.
- Seven percent (347) were undetermined.
- Less than 1 percent (34) were unknown.

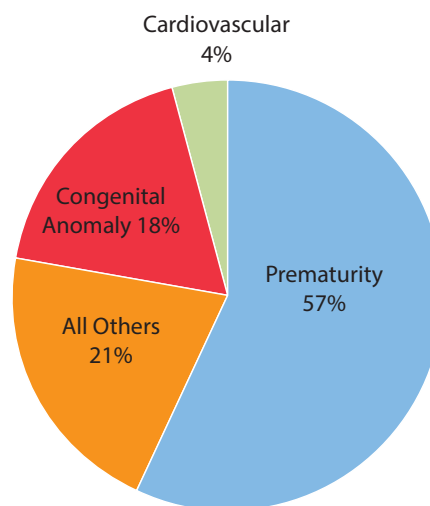


Asphyxia accounted for the majority (63 percent) of external causes of infant deaths. Other external causes includes drowning, weapons, fires, and others. Among medical causes, prematurity accounted for over half (57 percent) of infant deaths. Other medical causes include infections, cancer, neurological, and others.

Reviews of Infant Deaths by Medical Causes  
2011-2015 (n=455)



Reviews of Infant Deaths by Medical Causes  
2011-2015 (n=3,989)



The table below examines birth weight, gestation, and other factors related to infant deaths.

Birth History Factors for Infant Deaths, 2011-2015 (n=4,825)

Birth Weight	#	%
Very Low ( $\leq 1,499$ g)	2,266	47%
Low (1,500-2,499 g)	582	12%
Normal and Above ( $\geq 2,500$ g)	1,218	25%
Missing	93	2%
Unknown	666	14%
Gestation	#	%
$\leq 36$ Weeks	3,043	63%
37-42 Weeks	1,278	26%
Missing	83	2%
Unknown	421	9%
Other Circumstances	#	%
Multiple Birth	668	14%
No Prenatal Care	281	6%
Mother Had Medical Condition	1,748	36%
Mother Smoked during Pregnancy	1,070	22%
Mother Used Illicit Drugs during Pregnancy	207	4%

Note: Denominator used to calculate percentages includes missing and unknown data

## 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/odhprograms/cfhs/octpim/Ohio%20Equity%20Institute.aspx>.





## 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.<sup>9</sup>

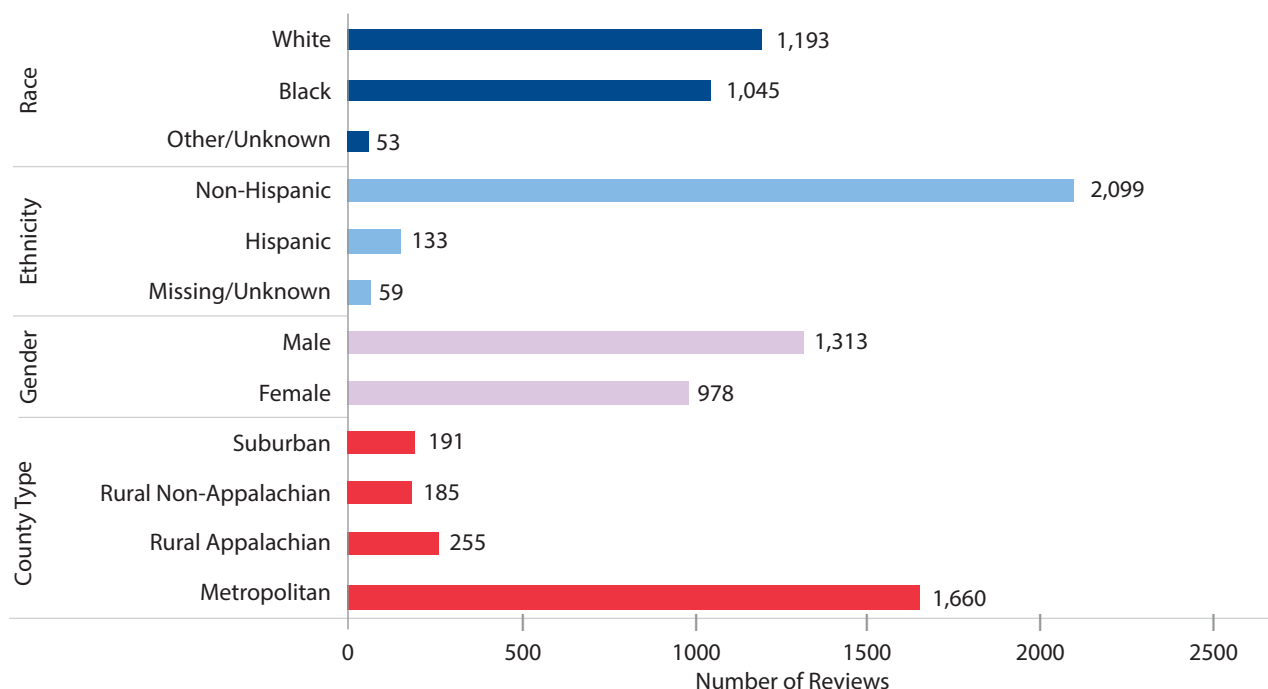
As the leading cause of death for Ohio's children, prematurity is a major contributor to Ohio's high IM rate. In response to the need to better understand the factors related to prematurity, this section has been added to the annual report.

### 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.

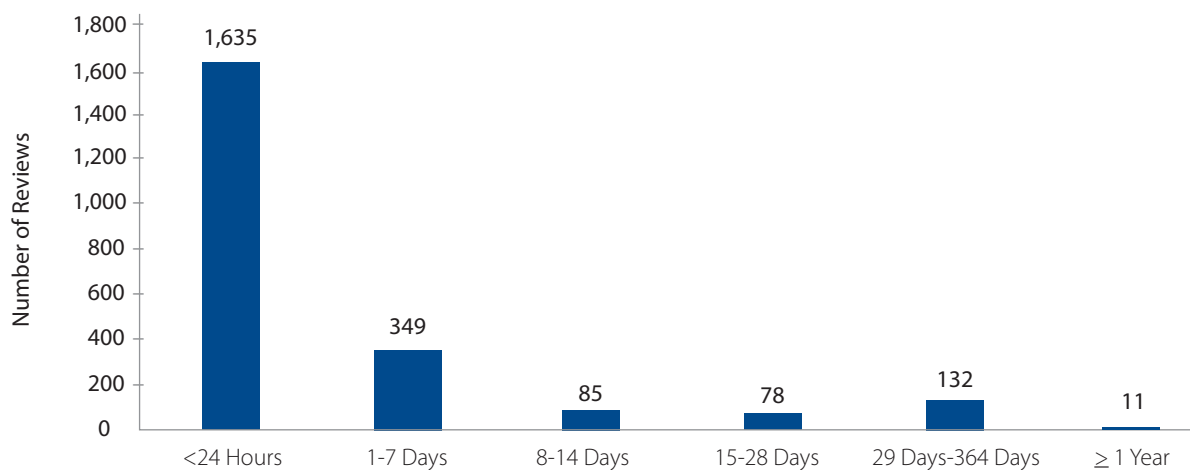
For the five-year period from 2011 through 2015, local CFR boards reviewed 2,291 infant deaths due to prematurity. These represent 32 percent of all deaths for all ages, and 47 percent of the reviews for infant deaths.

### Reviews of Premature Deaths by Race, Ethnicity, Gender, County Type, 2011-2015 (n=2,291)



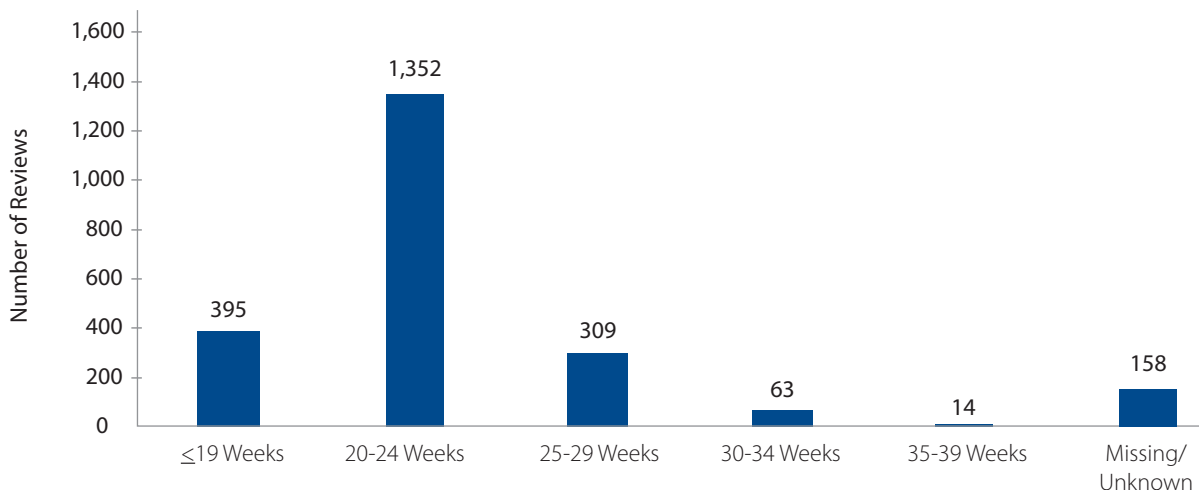
Ninety-four percent (2,147) of the prematurity deaths were neonatal deaths, occurring to infants from birth to 28 days of age. Seventy-one percent (1,635) of deaths occurred within the first 24 hours of life.

Reviews of Premature Deaths by Days Lived, 2011-2015 (n=2,290)



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 2,133 reviews where gestational age was known, 19 percent (395) of the deaths occurred before 20 weeks of gestation. An additional 63 percent (1,352) occurred between 20 and 24 weeks gestation.

Reviews of Premature Deaths by Gestational Age, 2011-2015 (n=2,291)





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 78 percent (1,778) weighing less than 1,000 grams. In 46 percent (1,059) 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, 2011-2015 (n=2,280)

Birth Weight	#	%
< 500 grams	1,163	51%
500-999 grams	615	27%
1,000-1,499 grams	88	4%
1,500-2,499 grams	49	2%
≥ 2,500 grams	7	0%
Missing/Unknown	358	16%
Maternal Age*	#	%
≤ 19 years	215	11%
20-24 years	551	28%
25-29 years	521	27%
30-34 years	419	21%
35-39 years	192	10%
≥ 40 years	58	3%
Other Circumstances	#	%
Multiple Birth	509	22%
No Prenatal Care	198	9%
Mother Had Medical Condition	1,059	46%
Mother Smoked during Pregnancy	419	18%

Denominator used to calculate percentages includes missing and unknown data.

\* Where primary caregiver identified as female biological parent and age available (n=1,956).

### 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

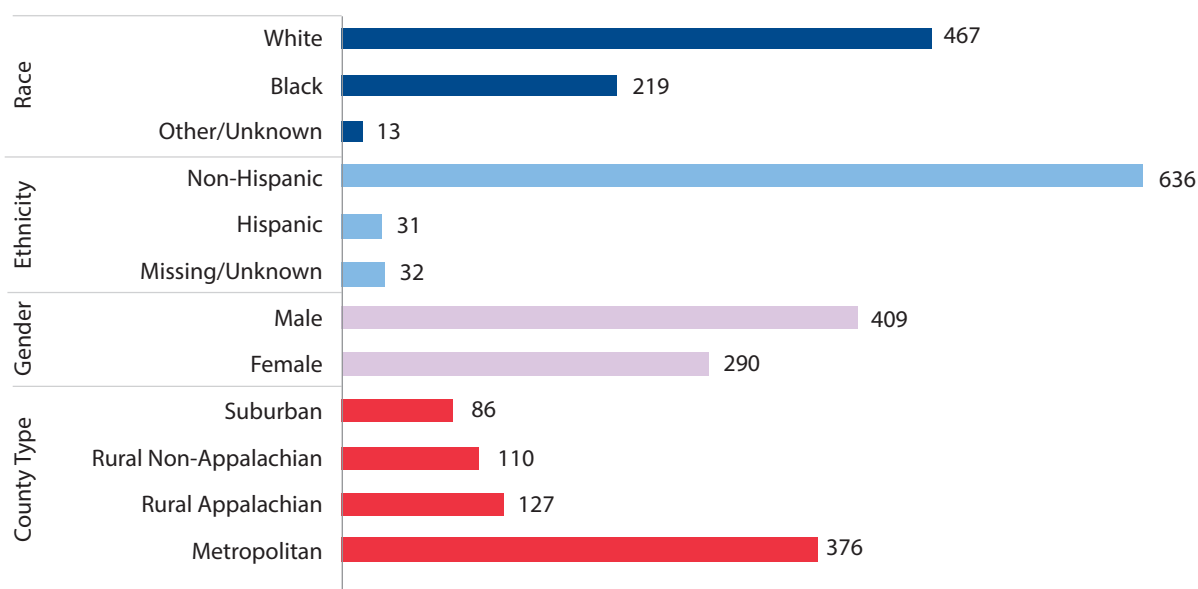
### Background

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.<sup>10</sup> 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.<sup>11</sup>

### CFR Findings

For the five-year period from 2011 through 2015, local CFR boards reviewed 699 deaths to children ages 1 to 4 years. These represent 10 percent of all 7,117 deaths reviewed.

#### Reviews of Deaths to 1-4 Year Olds by Race, Ethnicity, Gender, County Type, 2011-2015 (n=699)



The 699 reviews were classified by manner as follows:

- Fifty-three percent (369) were natural.
- Twenty-nine percent (205) were accidents.
- Eleven percent (77) were homicides.
- Seven percent (48) were undetermined.

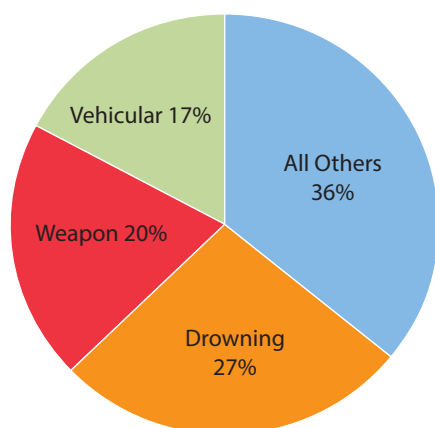
Reviews were also classified by cause:

- Fifty-four percent (376) were medical.
- Forty-two percent (292) were external.
- Four percent (31) were undetermined or unknown.

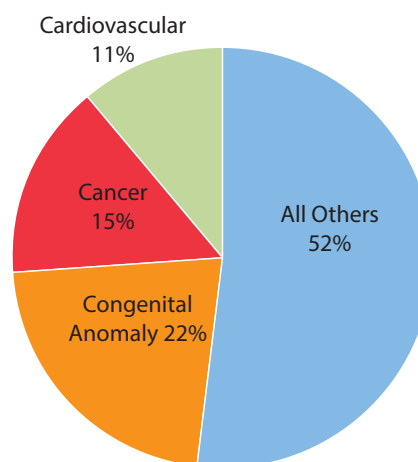


External and medical causes are more varied for 1 to 4 year olds with the largest proportion of each made up by the other category. Other external causes include: exposure, fall, fire, poisoning and asphyxia. Among other medical causes are flu, asthma, malnutrition, neurological, pneumonia, prematurity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

**Reviews of Deaths to 1-4 Year Olds  
by External Causes, 2011-2015 (n=292)**



**Reviews of Deaths to 1-4 Year Olds  
by Medical Causes, 2011-2015 (n=376)**



## 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.

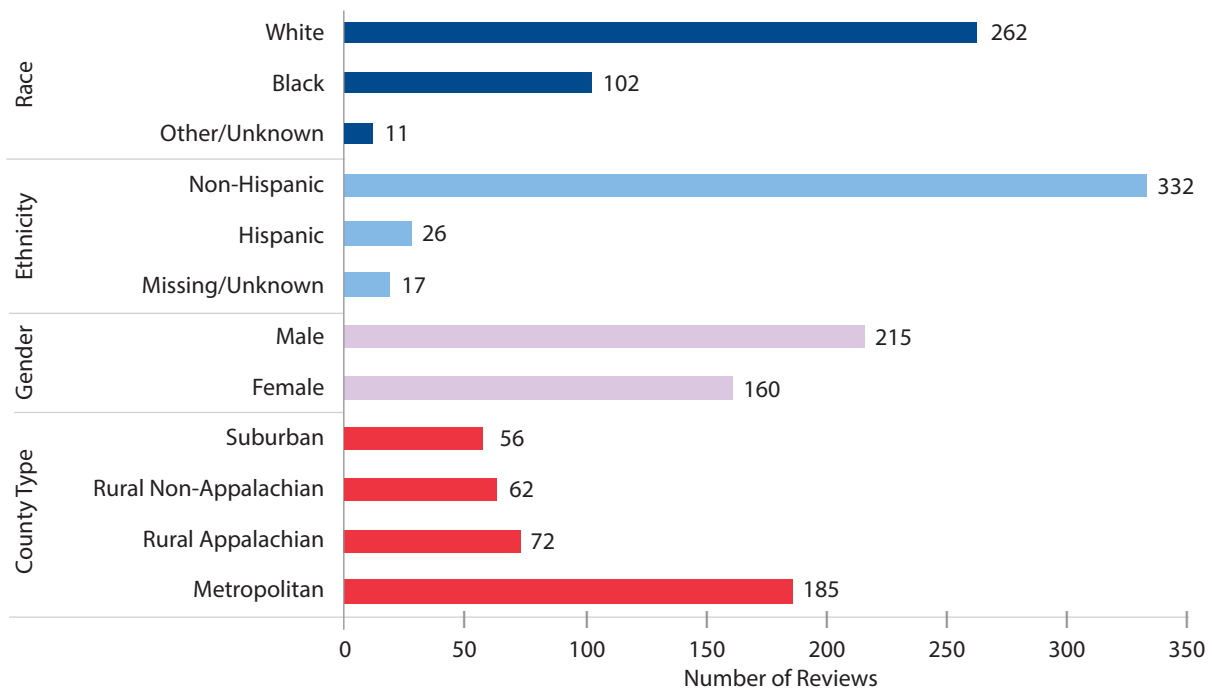
More information about the law and choosing the correct car seat or booster seat can be found at <http://www.healthy.ohio.gov/vipp/cps/Child%20Passenger%20Safety%20Law.aspx>.



## Background

## CFR Findings

Reviews of Deaths to 5-9 Year Olds by Race, Ethnicity, Gender,  
County Type, 2011-2015 (n=375)





The 375 reviews were classified by manner as follows:

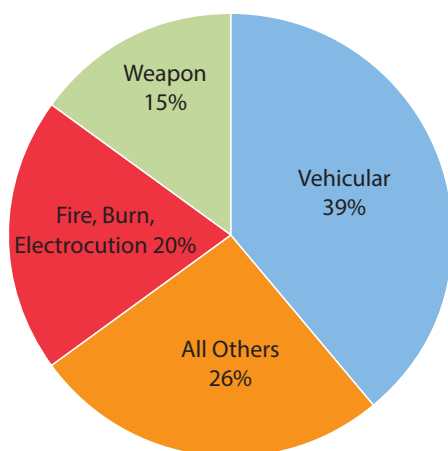
- Sixty-three percent (239) were natural.
- Twenty-eight percent (101) were accidents.
- Seven percent (25) were homicides.
- Less than 1 percent (1) were suicides.
- Two percent (8) were undetermined or unknown.

Reviews were also classified by cause:

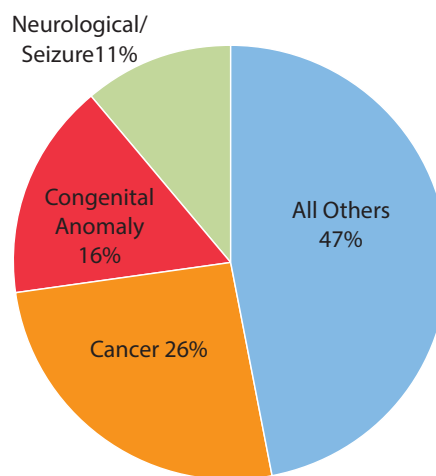
- Sixty-three percent (239) were medical.
- Thirty-five percent (133) were external.
- Less than 1 percent (3) were undetermined.

Vehicular injuries (39 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, 2011-2015 (n=133)**



**Reviews of Deaths to 5-9 Year Olds  
by Medical Causes, 2011-2015 (n=239)**







The 515 reviews were classified by manner as follows:

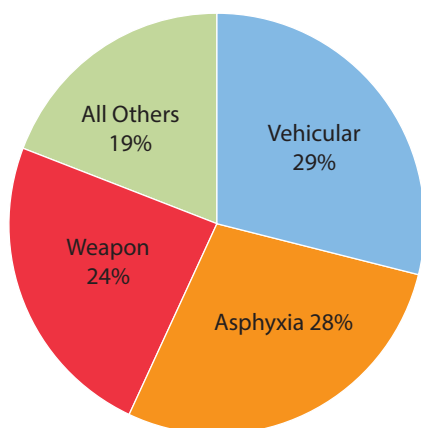
- Fifty-one percent (264) were natural.
- Twenty-two percent (114) were accidents.
- Sixteen percent (80) were suicides.
- Three percent (16) were undetermined or unknown.

Reviews were also classified by cause:

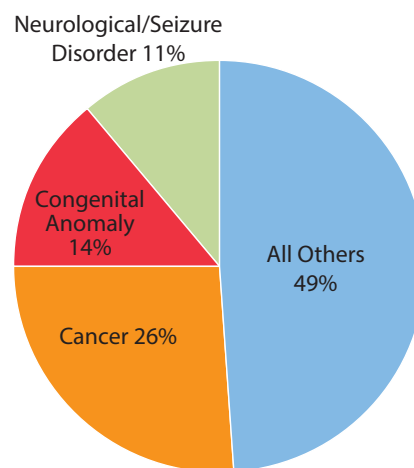
- Fifty-two percent (272) were medical.
- Forty-six percent (237) were external.
- One percent (6) were undetermined or unknown.

Vehicular injuries (29 percent) accounted for the largest external cause of death, followed by asphyxia (28 percent), weapon (24 percent) and all others (19 percent). Among medical causes of death all others (49 percent) accounted for the largest cause of death, followed by cancer (26 percent), congenital anomaly (14 percent) and neurological/seizure disorder (11 percent).

**Reviews of Deaths to 10-14 Year Olds  
by External Causes, 2011-2015 (n=237)**



**Reviews of Deaths to 10-14 Year Olds  
by Medical Causes, 2011-2015 (n=272)**



## Deaths to Children 15 to 17 Years Old

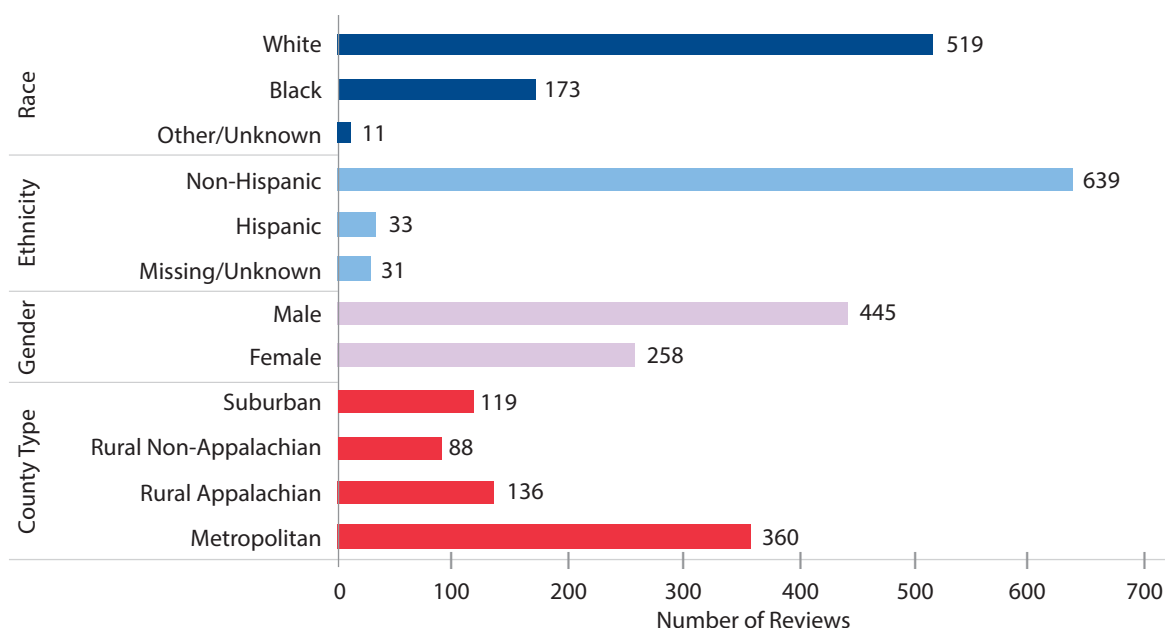
### Background

Known for challenging the limits, teenagers enjoy more independence from their family and develop strong relationships with peers.<sup>16</sup> 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<sup>17</sup>

### CFR Findings

For the five-year period from 2011 through 2015, local CFR boards reviewed 703 deaths of children ages 15 to 17 years. These represent 10 percent of all 7,117 deaths reviewed.

### Reviews of Deaths to 15-17 Year Olds by Race, Ethnicity, Gender, County Type, 2011-2015 (n=703)



The 703 reviews were classified by manner as follows:

- Twenty-six percent (186) were natural.
- Thirty-three percent (236) were accidents.
- Twenty-four percent (171) were suicides.
- Thirteen percent (98) were homicides.
- Two percent (12) were undetermined.

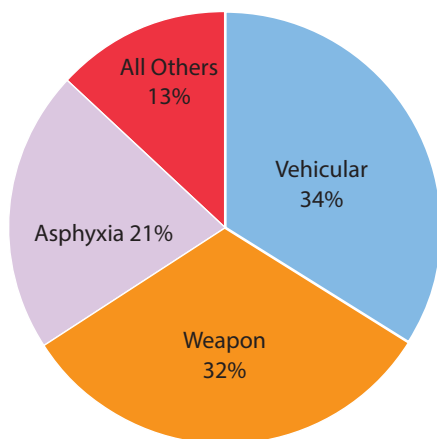
Reviews were also classified by cause:

- Twenty-six percent (186) were medical.
- Seventy-three percent (510) were external.
- One percent (6) were undetermined or unknown.

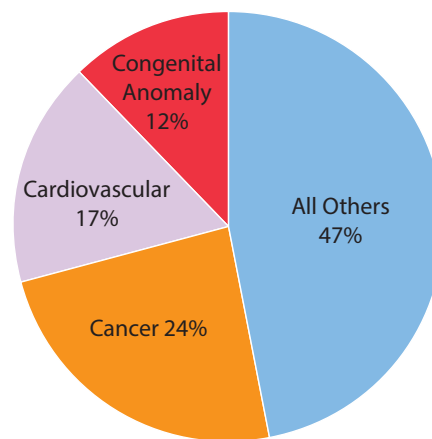


Vehicular injuries (34 percent) accounted for the largest external cause of death, followed by weapon (32 percent), asphyxia (21 percent) and all others (13 percent). Among medical causes of death all others (47 percent) accounted for the largest cause of death, followed by cancer (24 percent), cardiovascular (17 percent) and congenital anomaly (12 percent).

**Reviews of Deaths to 15-17 Year Olds  
by External Causes 2011-2015 (n=510)**



**Reviews of Deaths to 15-17 Year Olds  
by Medical Causes 2011-2015 (n=186)**



## 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>.

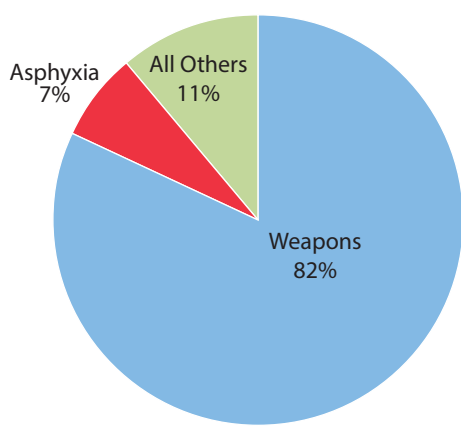






Reviews of homicides were classified by cause with 293 (97 percent) due to external causes, 8 (3 percent) due to medical causes and 2 (less than 1 percent) with an unknown or undetermined cause. Weapons are the leading external cause of death, accounting for 82 percent of deaths. Other external causes of death in homicides include poison, vehicular injuries and fires, among other causes. Parents, whether biological, step or adoptive, account for the largest proportion of deaths (44 percent).

**Reviews of Homicides by External Causes of Death, 2011-2015 (n=293)**

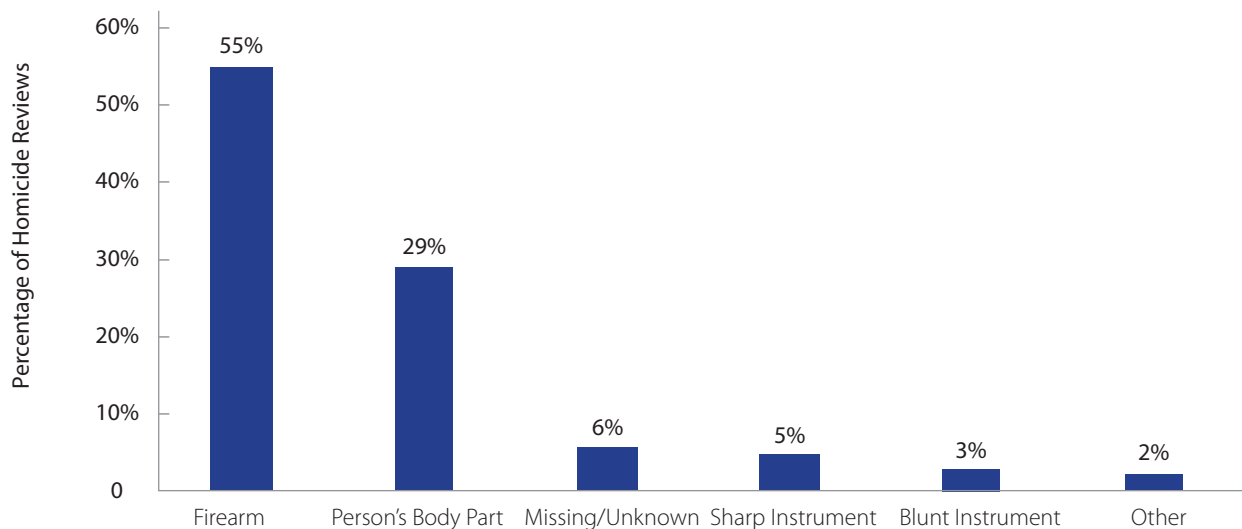


**Reviews of Homicides by Person Holding Weapon, 2011-2015 (n=239)**

Person	%
Biological/Step/Adoptive Parent	44%
Parent's Partner	18%
Other Relative	5%
Friend	2%
Babysitter/Child Care Worker	2%
Other	2%
Missing/Unknown	26%

The majority of homicides caused by a weapon were caused by a firearm (55 percent).

**Reviews of Homicides by Weapon Type, 2011-2015 (n=239)**



## Background

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.<sup>20</sup>

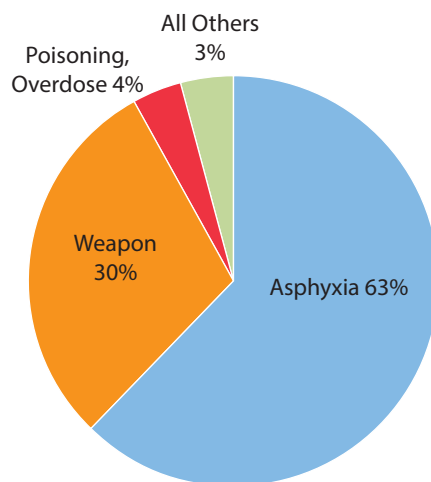
For the five-year period from 2011 through 2015, local CFR boards reviewed 252 deaths to children from suicide. These represent four percent of the total 7,117 reviews and 21 percent of all reviews for children ages 10 to 17.

Category	Sub-category	Number of Reviews
Age	5-9 Years	1
	10-14 Years	80
	15-17 Years	171
Race	White	214
	Black	31
	Other/Unknown	7
Ethnicity	Non-Hispanic	231
	Hispanic	11
	Missing/Unknown	10
Gender	Male	169
	Female	83
County Type	Suburban	50
	Rural Non-Appalachian	35
	Rural Appalachian	36
	Metropolitan	131



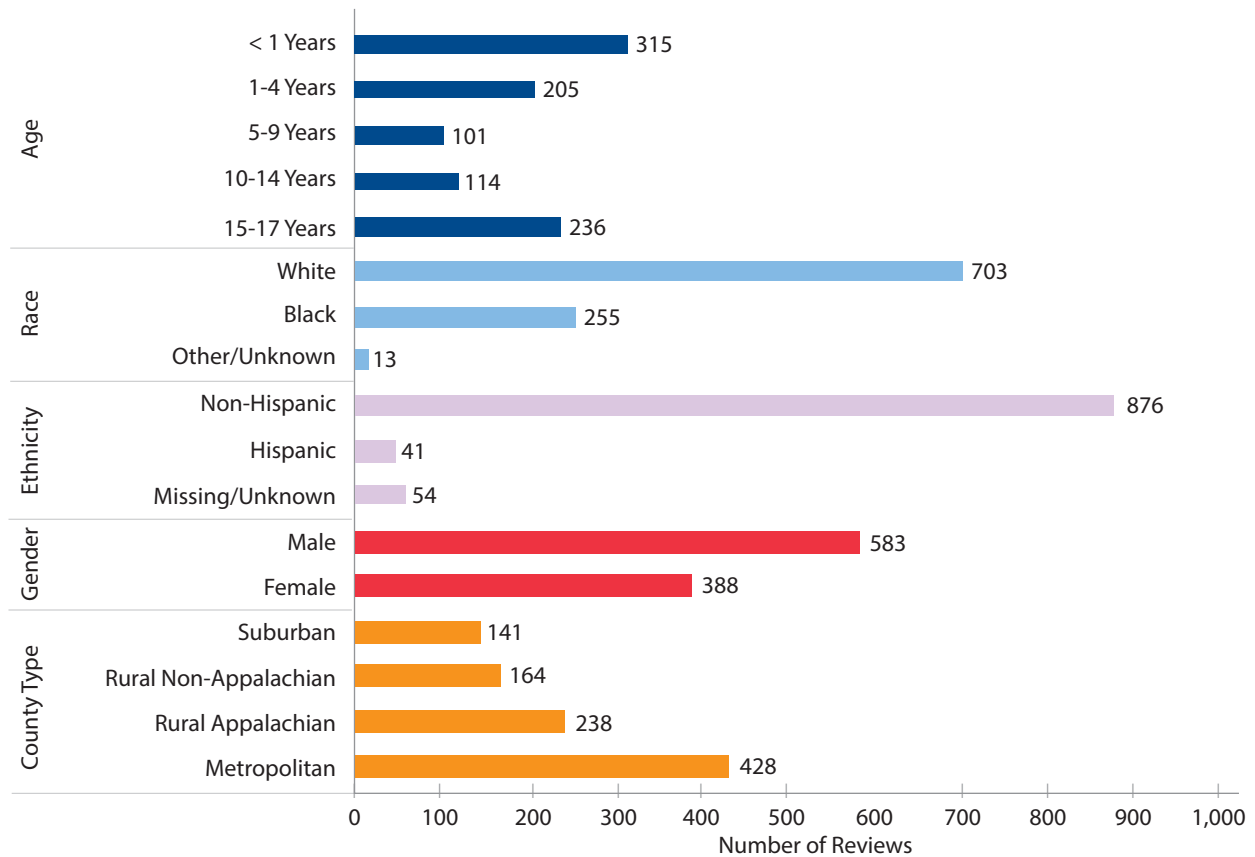
The chart below examines the external causes of death in the suicides reviewed. Gender differences were apparent when examining causes of death. Weapon was the cause of death for 36 percent of males and 18 percent of females. Poisoning was the cause of death for 8 percent of females, but only 2 percent of males. Asphyxia deaths were similar across gender (67 percent of females; 60 percent of males).

### Reviews of Suicides by External Causes of Death, 2011-2015 (n=250)



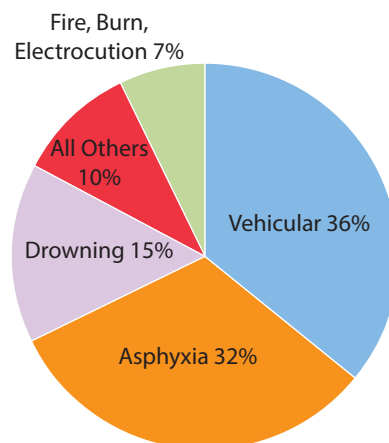
For the five-year period from 2011 through 2015, local CFR boards reviewed 971 deaths to children resulting from accidents. Accidents represent fourteen percent of the total reviews.

Reviews of Accidents by Age, Race, Ethnicity, Gender, County Type, 2011-2015 (n=971)



Of the 971 reviewed accident deaths, 948 (98 percent) were due to external causes.

Reviews of Accidents by External Causes of Death, 2011-2015 (n=948)





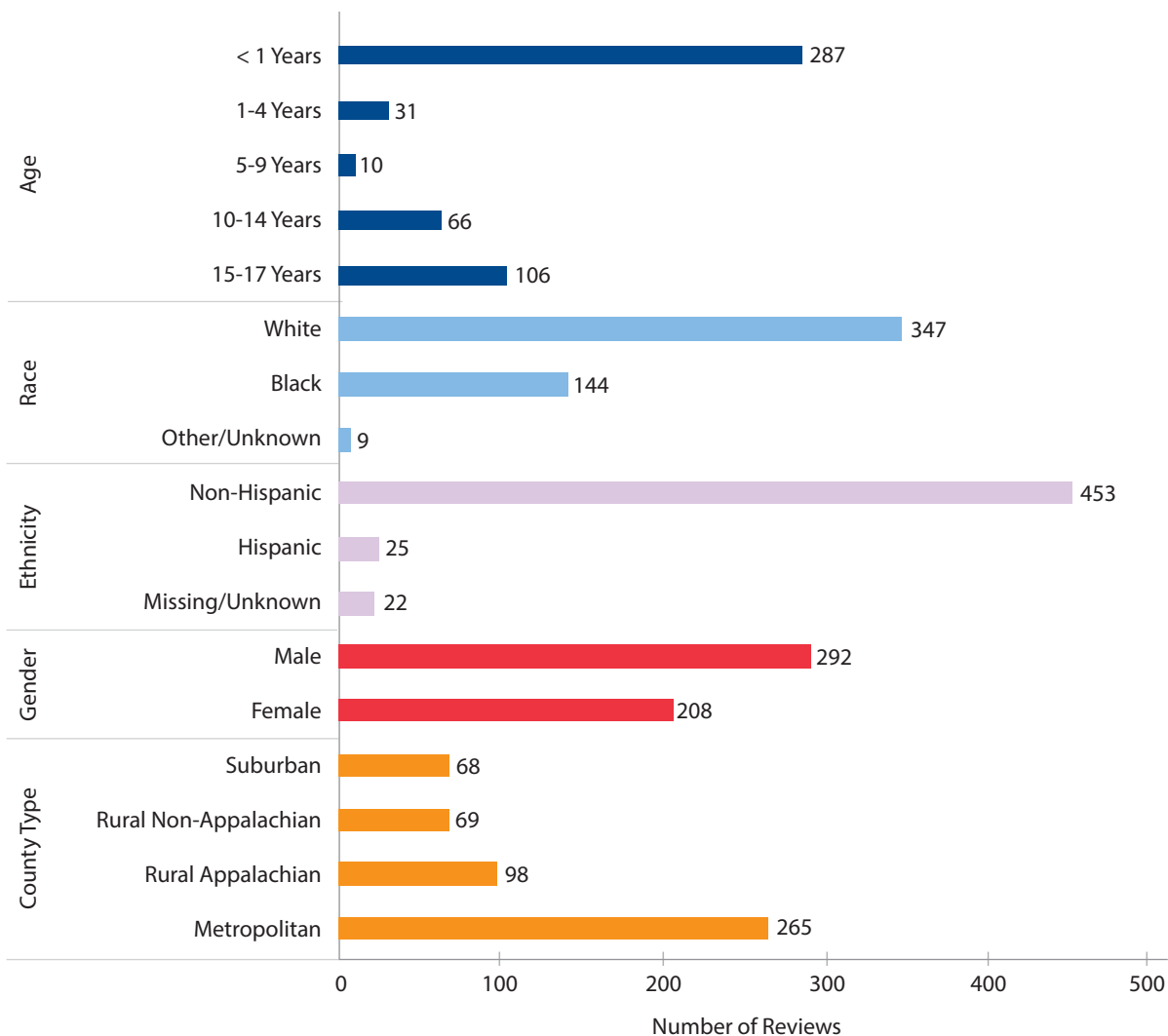
## REVIEWS BY CAUSE OF DEATH

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 2011 through 2015, local CFR boards reviewed 500 deaths to children caused by asphyxia. Over the five-year review period, asphyxia was the cause of death in 31 percent of deaths due to external causes reviewed. In addition, 51 percent of asphyxia deaths from 2011 through 2015 were sleep-related.

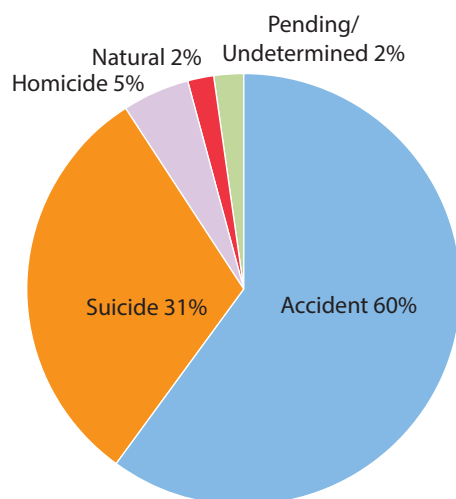
Reviews of Asphyxia Deaths by Age, Race, Ethnicity, Gender, County Type, 2011-2015 (n=500)



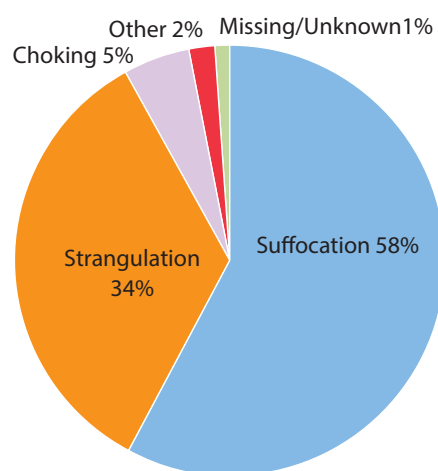


Asphyxia deaths are classified by manner and event in the charts below.

Reviews of Asphyxia Deaths  
by Manner, 2011-2015 (n=500)

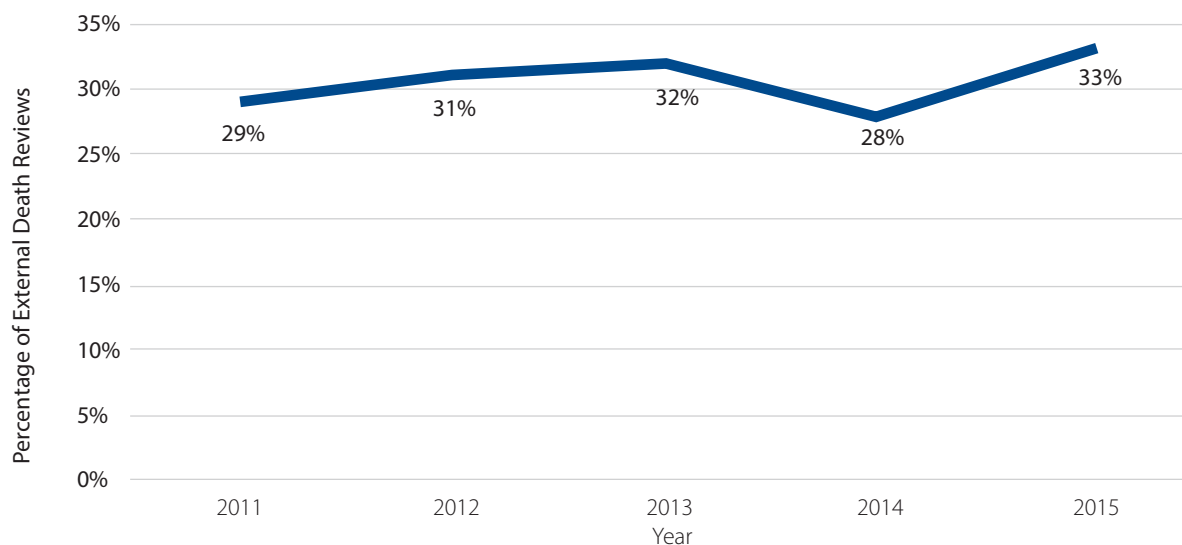


### Reviews of Asphyxia Deaths by Event, 2011-2015 (n=500)



Within the five-year review period, the proportion of deaths caused by asphyxia has changed slightly. In the most recent year, 2015, the increase in the proportion of deaths due to external causes attributed to asphyxia could be related to the more thorough investigation of infant deaths.

### Reviews of Asphyxia Deaths, 2011-2015 (n=500)

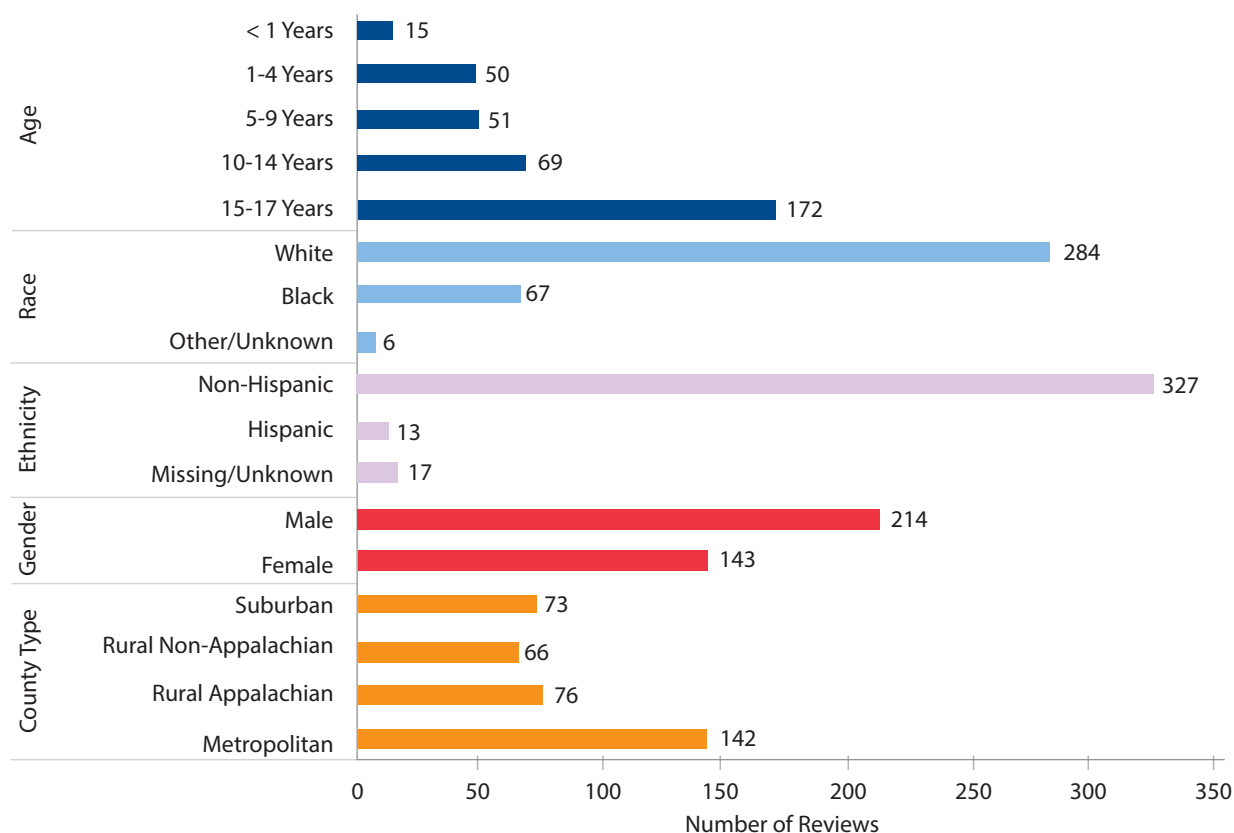




## Vehicular Injuries

For the five-year period from 2011 through 2015, local CFR boards reviewed 357 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.

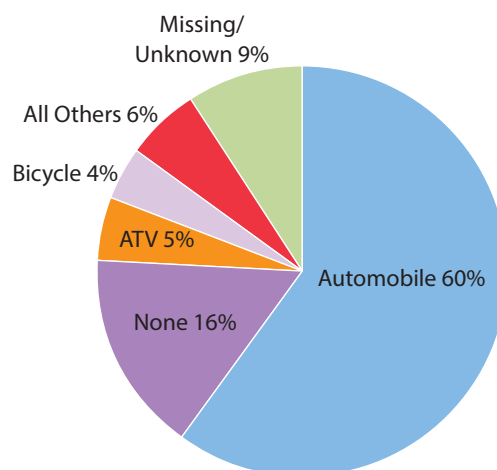
### Reviews of Vehicular Deaths by Age, Race, Ethnicity, Gender, County Type, 2011-2015 (n=357)



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

- The driver was impaired in 13 percent of reviews.
- Among the reviews involving automobiles, restraints were not used or used incorrectly in 39 percent of deaths.
- Among reviews involving bicycles, motorcycles and ATVs, helmets were used correctly in just 14 percent of deaths and were not present in 83 percent of deaths.

### Reviews of Vehicular Injury Deaths by Vehicle, 2011-2015 (n=357)



For the five-year period 2011 through 2015, local CFR boards reviewed 340 deaths to children caused by weapons. Weapons were the cause of death in 21 percent of deaths due to external causes reviewed. In 7 percent of weapons deaths reviewed, the weapon was being cleaned, played with or shown.

Category	Sub-category	Number of Reviews
Age	< 1 Years	43
	1-4 Years	59
	5-9 Years	20
	10-14 Years	56
	15-17 Years	162
Race	White	185
	Black	149
	Other/Unknown	6
Ethnicity	Non-Hispanic	315
	Hispanic	16
	Missing/Unknown	9
Gender	Male	241
	Female	99
County Type	Suburban	37
	Rural Non-Appalachian	39
	Rural Appalachian	57
	Metropolitan	207



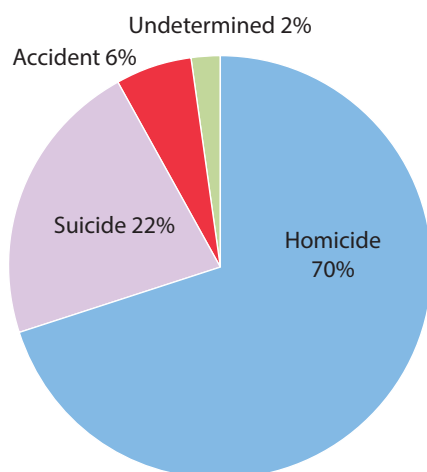
In 25 percent of weapons deaths reviewed, the person holding the weapon was the child. In 21 percent of weapons deaths, the person holding the weapon was unknown or missing.

### Reviews of Weapon Deaths by Person Holding Weapon, 2011-2015 (n=340)

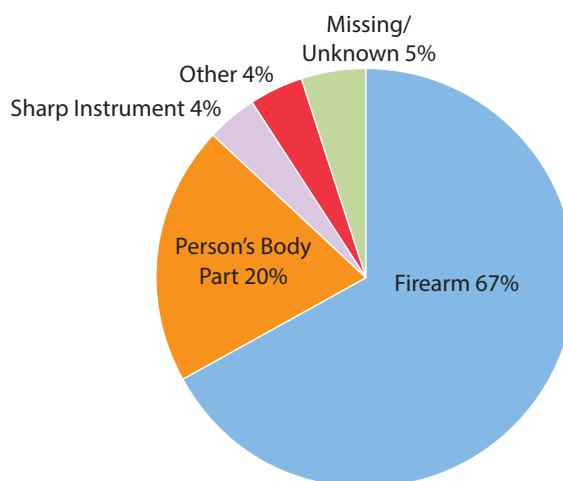
Person	#	%
Self	86	25%
Parent	48	14%
Parent's Partner	27	8%
Friend	22	6%
Other Relative	20	6%
Acquaintance	16	5%
Stranger	16	5%
Other	35	10%
Missing/Unknown	70	21%
Total	340	100%

Homicide (70 percent) accounted for the largest percentage of weapon deaths by manner, followed by suicide (22 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 (20 percent), missing/unknown (5 percent), sharp instrument (4 percent), and other (4 percent).

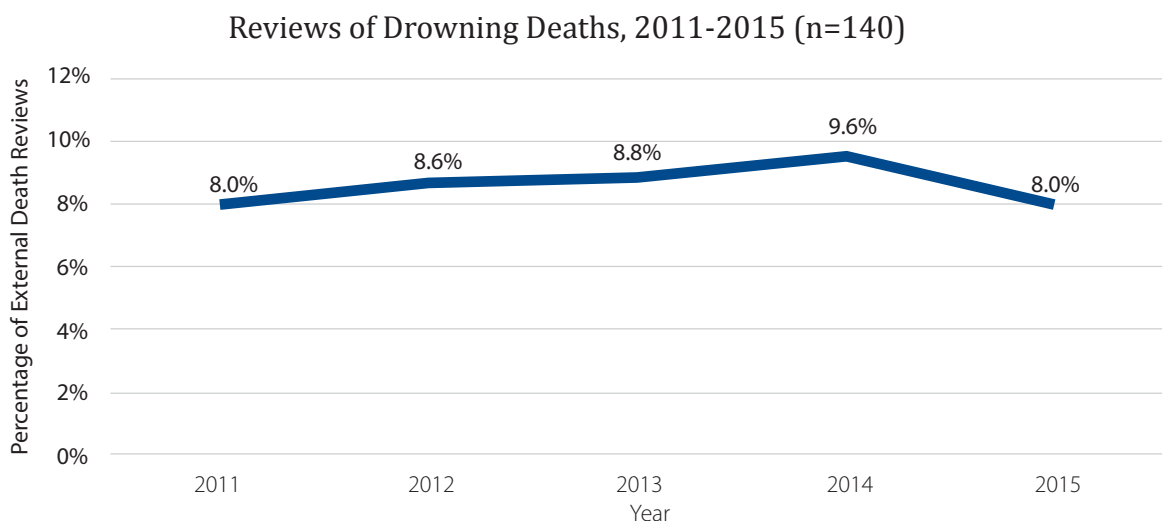
### Reviews of Weapon Deaths by Manner, 2011-2015 (n=340)



### Reviews of Weapon Deaths by Type, 2011-2015 (n=340)



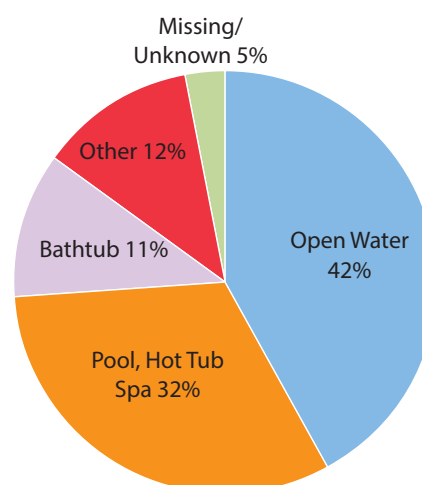
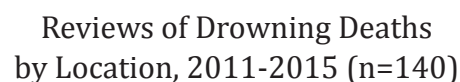
Over the five-year review period from 2011 through 2015, local CFR boards reviewed 140 deaths caused by drowning. Over the five-year period, drowning deaths accounted for 9 percent of deaths due to external causes reviewed. The chart below shows changes in the percent of external deaths drowning accounted for over the five-year period.



The largest proportion of drowning deaths reviewed occurred in open water, which includes ponds, lakes and rivers.

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

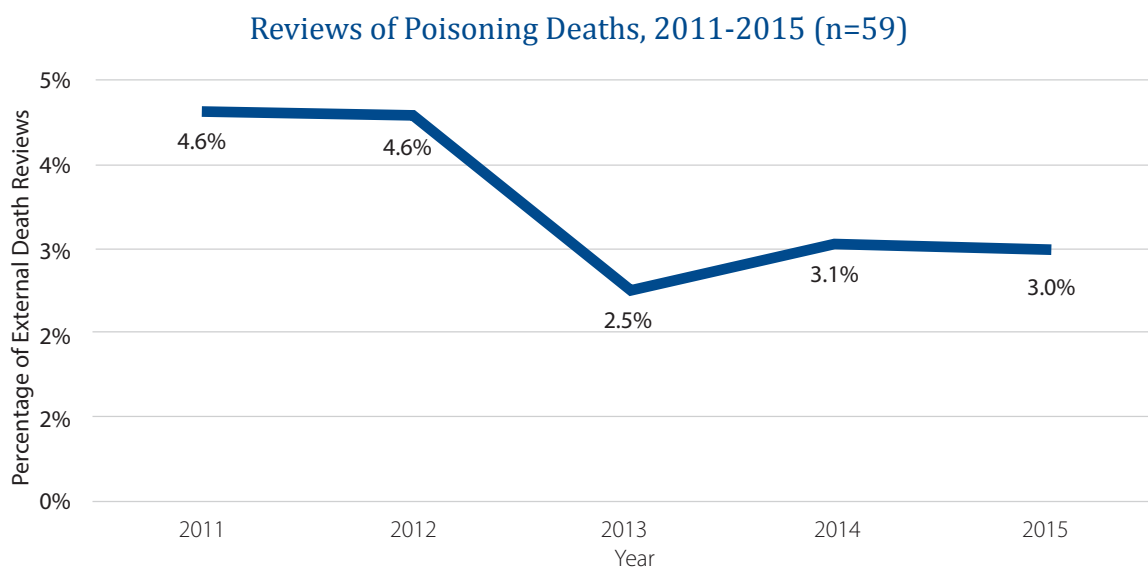
Among drowning deaths occurring in pools, hot tubs and spas, 87 percent were in privately owned locations.





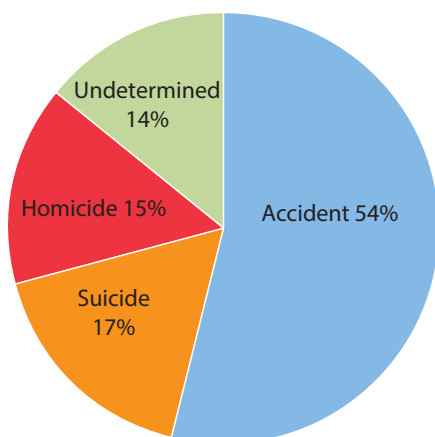
## Poisoning

Over the five-year review period from 2011 through 2015, local CFR boards reviewed 59 deaths caused by poison. Over the five-year period, poison deaths accounted for 4 percent of deaths due to external causes reviewed. The chart below shows changes in the percent of external deaths due to poisoning over the five-year period.

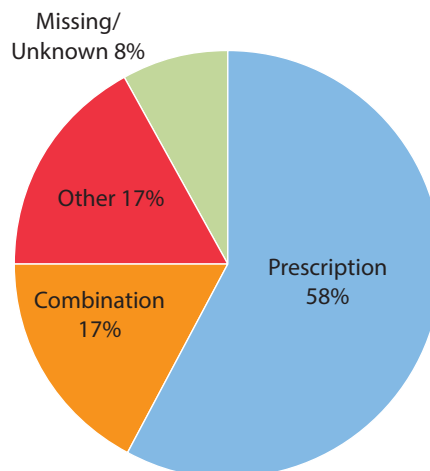


The majority of poisoning deaths were ruled an accident (54 percent). Prescription drugs caused 58 percent of poisoning deaths, and opiates accounted for 53 percent of prescription drug deaths. Other includes carbon monoxide poisoning, street drugs, and over-the-counter drugs. Combination indicates two or more types of drugs were the poisoning substance.

**Reviews of Poisoning Deaths  
by Manner, 2011-2015 (n=59)**



**Reviews of Poisoning Deaths  
by Substance, 2011-2015 (n=59)**



Over the five-year review period from 2011 through 2015, 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 46 percent of reviews. Over the five-year period, fire, burn and electrocution deaths accounted for 5 percent of deaths due to external causes reviewed. The chart below shows changes in the percent of external deaths fire, burn and electrocution accounted for over the five-year period.







## PREVENTABLE DEATHS

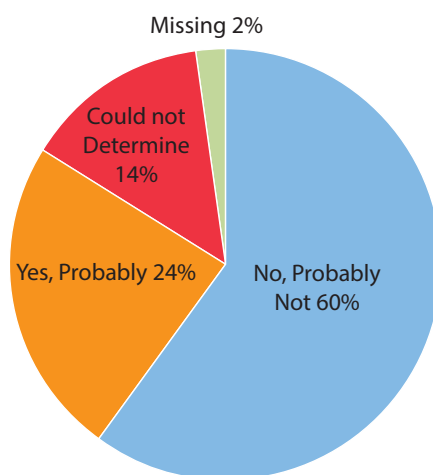
The mission of the Ohio CFR program is to reduce the incidence of preventable child deaths in Ohio. A child's death is considered preventable if the community or an individual could reasonably have changed the circumstances that led to the death.<sup>21</sup> The review process helps CFR boards focus 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 7,117 reviews for the five-year period from 2011 through 2015 that indicated preventability status, 24 percent (1,708) of the reviews indicated the death probably could have been prevented. Preventability differed by manner of death and by age group.

Reviews by Preventability, 2011-2015 (n=7,117)



Certain causes of death were ruled preventable in a vast majority of reviewed cases:

- One-hundred percent of reviewed diabetes deaths were ruled preventable.
- One-hundred percent of reviewed exposure deaths were ruled preventable.
- One-hundred percent of reviewed animal bite deaths were ruled preventable.
- Ninety-one percent of reviewed drowning deaths were ruled preventable.
- Eighty-eight percent of reviewed poisoning were ruled preventable.
- Eighty-six percent of reviewed vehicular deaths were ruled preventable.
- Eight-five percent of reviewed weapons deaths were ruled preventable.
- Seventy-nine percent of reviewed asphyxia deaths were ruled preventable.
- Seventy-two percent of reviewed fall deaths were ruled preventable.

Of the 7,117 reviews preventability varied by manner of death. The highest percentage of preventability was homicide (90 percent) and the second was accident (88 percent).

#### Preventability by Manner of Death, 2011-2015 (n=7,117)

Preventability	Natural	Accident	Suicide	Homicide	Pending/ Undetermined/ Unknown
Yes, Probably	3%	88%	60%	90%	47%
No, Probably Not	81%	4%	12%	3%	10%
Could not Determine	13%	5%	26%	6%	41%
Missing	3%	2%	2%	1%	2%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

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

#### Preventability by Age, 2011-2015 (n=7,117)

Preventability	0-28 Days	29 Days-364 Days	1-4 Years	5-9 Years	10-14 Years	15-17 Years
Yes, Probably	5%	37%	39%	30%	41%	58%
No, Probably Not	80%	42%	47%	56%	44%	26%
Could not Determine	12%	20%	12%	11%	12%	14%
Missing	3%	2%	2%	3%	2%	2%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Deaths were deemed preventable in 21 percent of metropolitan counties, 31 percent of Appalachian counties, 27 percent of rural non-Appalachian counties, and 25 percent of suburban counties.

#### Preventability by County Type, 2011-2015 (n=7,117)

Preventability	Metropolitan	Appalachian	Rural Non-Appalachian	Suburban
Yes, Probably	21%	31%	27%	25%
No, Probably Not	61%	56%	61%	57%
Could not Determine	16%	11%	9%	12%
Missing	2%	2%	3%	6%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>



## 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.

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## APPENDIX





## 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](http://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

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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 2015, 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 2015, 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.

The Ohio Revised Code allows CFR boards to review deaths in the year of death or the following year. To allow for this variation, previous annual reports have presented information from the reviews of deaths that occurred two years prior. The 2014 annual report featured 2012 deaths. Because of the increased demand for the most current data regarding child deaths, in December, 2013, ODH requested all boards develop a plan to review deaths in the year the death occurred. ODH requested that all 2013 and 2014 deaths be reviewed by April 1, 2015. In spite of significant challenges to comply with this request, 85 percent of the 2014 and 89 percent of 2015 deaths were reviewed and data entered into the data system by the deadline. This report presents information from the reviews of deaths that occurred in 2015, as well as aggregate data for the five-year period from 2011 through 2015.

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.





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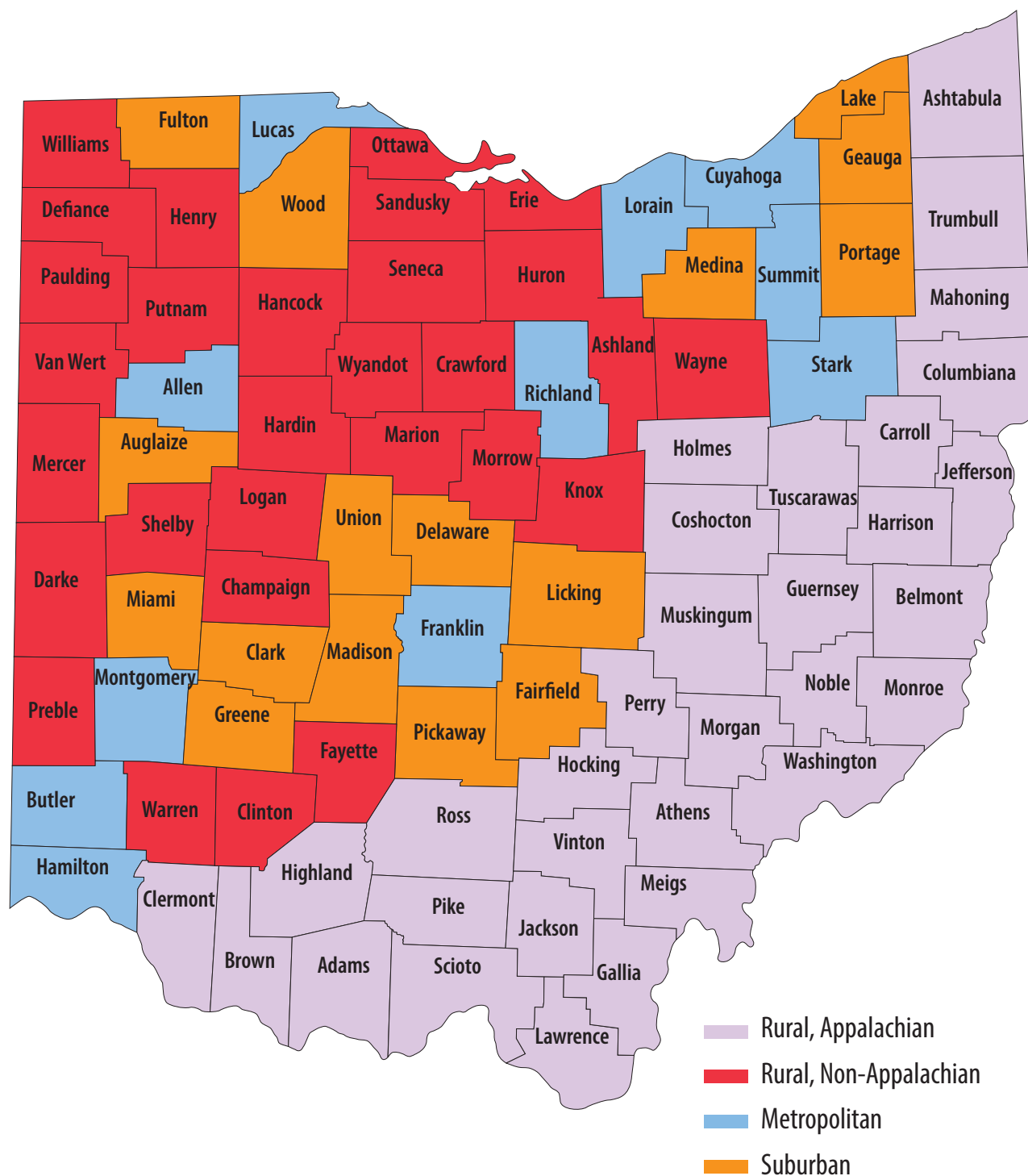
## APPENDIX III: ICD-10 CODES

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 IV: 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 V: REPORT TO THE GOVERNOR JULY 1, 2016-INFANT SAFE SLEEP

### Background

Every week in Ohio, 3 babies die in unsafe sleep environments. The Ohio Child Fatality Review Fifteenth Annual Report informs that from 2009 through 2013, 836 infants died while in a sleep environment. These 836 infant sleep-related deaths account for 16 percent of the 5,174 total reviews for infant deaths from 2009 through 2013, which is more than any single cause of death except prematurity. If the sleep-related deaths were prevented, the Ohio infant mortality rate for 2013 would have been reduced from 7.3 to 6.3 deaths per 1,000 live births.

### Summary of Requirements

The Ohio Infant Safe Sleep Law was enacted by Ohio Am Sub S. B 276 of the 130th General Assembly in May 2015. ORC 3701.66 establishes an infant safe sleep screening procedure for hospitals with a maternity license; however, Critical Access Hospitals are not required by law to screen. This law states that hospitals are required to screen new parents and caregivers prior to the infant's discharge home 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 hospital must assist the family in obtaining a safe crib at no charge. The Ohio Department of Health (ODH) developed a model screening form for hospitals to use to identify parents/caregivers that do not have a safe sleep environment before the infant is discharged from the hospital. The model screening form also included crib referral and demographic information that ODH would collect from the hospitals.

### Summary of Hospital Data

ODH continues to work toward a permanent data collection solution. ODH provided hospitals with a temporary data collection tool to begin collection of aggregate data. The temporary collection tool included the number of parent/caregivers screened, the number of crib referrals made, and aggregated data pertaining to demographic, income, and zip-code information of the caregivers who were referred for cribs during the time period from June 1, 2015 to December 31, 2015. Fifty hospitals responded to ODH with data to be compiled and examined. The results from these hospitals indicate that 34,878 caregivers of newborns were screened; and of those, 446 caregivers reported not having a safe sleeping crib for their infant at home. Thirty of the 50 hospitals identified between 1 and 100 caregivers at their facilities who did not have a safe sleep environment. For twenty of the hospitals that reported data, all of the caregivers screened (4,511 total caregivers) had access to a safe sleep environment and no referrals to cribs were needed.

Among the hospitals who reported, the following referrals were made:

- 92 referrals were made where the facility provided infant a safe crib using its own resources;
- 121 referrals were made where the facility provided infant a safe crib by collaborating with or obtaining assistance from another person or government entity;
- 49 referrals were made where the facility referred parent/guardian/other responsible for infant to person or government entity to obtain a safe crib; and
- 92 referrals were made where the facility referred parent/guardian/other person responsible for infant to a site designated by ODH to obtain a safe crib.\*

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Demographic, income, and zip code data was reported for less than one-third of the caregivers who were referred for a crib; therefore, the results are insufficient to describe these characteristics.

*\* While this represents the number of referrals hospitals made to ODH-supported Cribs for Kids sites in Ohio's Ohio Equity Institute cities and counties, ODH distributed an additional 7,738 cribs to families in need through the infant vitality cribs program.*

## Next Steps

ODH is streamlining the reporting process for hospitals by integrating the required information to be collected into the birth certificate reporting system. ODH will continue to use a temporary collection form that was developed for this report through 2016, and will work collaboratively with the Ohio Hospital Association to ensure all available data is included in future reports.

## 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 administration to improve the lives of our youngest Ohioans.



## APPENDIX VI: REFERENCES

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