Alabama Child Death Review System

PROGRESS REPORT – 2019

ACDRS
ALABAMA CHILD DEATH REVIEW SYSTEM

ALABAMA PUBLIC HEALTH

DEATHS AMONG CHILDREN IN ALABAMA
ALABAMA CHILD DEATH REVIEW SYSTEM

Progress Report - 2019

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Introduction

In 1997, Alabama enacted legislation creating the Alabama Child Death Review System (ACDRS) to review and identify unexplained or unexpected child deaths in Alabama with the purpose of developing strategies to prevent such deaths from occurring. ACDRS worked with 42 Local Child Death Review Teams (LCDRTs), the State Child Death Review Team (SCDRT), and the Alabama Department of Public Health (ADPH) Central Office staff to collect, review, consolidate, and utilize information on more than 2,150 child deaths since 2010. ACDRS's structure relies upon the time and effort volunteered by our team members throughout the state for in-depth reviews and prevention recommendations that provide the insight needed to prevent these deaths from continuing to occur. ADPH Central Office staff are grateful for each individual and organization who make these efforts possible on behalf of Alabama's children.

In 2019, there were 778 infant and child deaths in the state of Alabama.[1] Every child death is a tragedy, especially for the family and friends of the children lost. However, each death also serves as a powerful warning that other children remain at risk. To better understand how and why children die, the state tasks ACDRS with the following responsibilities: maintain statistics on child mortality; identify deaths that may result from abuse, neglect, or other preventable cases; and from that information, develop and implement measures to help reduce the risk and incidence of future unexplained or unexpected child deaths in Alabama.

Child death reviews make a difference. Through death reviews, ACDRS has identified motor vehicle incidents; sleep-related deaths; and firearm, weapon, and assault-related deaths as the leading causes of death for 2019. This report highlights the leading manners and causes of death for Alabama's children, significant risk factors burdening children, recommendations created by SCDRT to reduce preventable child deaths, and statewide initiatives that have been established due to the child death review process. ACDRS seeks to honor the memory of children who have died in Alabama with this report. The hope is that these efforts will lead to a better understanding of how Alabama can be a safer, healthier place for children.

Three Tiers of the Alabama Child Death Review System

A. ADPH Central Office Staff

The State Child Death Review Office is situated within ADPH, Bureau of Prevention, Promotion, and Support for administrative and budgetary purposes. The ACDRS Central Office consists of four staff members: Branch Director, ACDRS Program Manager, Program Coordinator, and an Epidemiologist. ADPH Central Office staff is responsible for sending death certificates, providing technical assistance, and overseeing the data review process of LCDRTs. ADPH Central Office staff also assist with the development of prevention initiatives, public awareness campaigns, and special interest programs.

B. State Child Death Review Team

SCDRT is a multidisciplinary, multiagency review team, composed of 28 members which are listed below and the first 7 of whom are ex officio members:

- The Jefferson County coroner, medical examiner.
- The State Health Officer who serves as Chair.
- One member appointed by the Alabama Sheriff's Association.
- The Director of the Alabama Department of Forensic Sciences.

- The Commissioner of the Alabama Department of Human Resources.
- The Commissioner of the Alabama Department of Mental Health and Mental Retardation.
- The Director of the Alabama Department of Public Safety.
- One pediatrician with expertise in Sudden Infant Death Syndrome appointed by the Alabama Chapter, American Academy of Pediatrics.
- One health professional with expertise in child abuse and neglect appointed by ADPH.
- One family practice physician appointed by the Alabama Academy of Family Physicians.
- One pediatric pathologist appointed by the Alabama Department of Forensic Sciences.
- Eight private citizens appointed by the Governor.
- One member of the clergy appointed by the Governor.
- One representative of the Alabama Coroner's Association.
- One representative of the Alabama Network of Children's Advocacy Centers.
- One representative of the Alabama Sheriff's Association.
- One representative of the Alabama District Attorney's Association.
- One specialist in pediatric emergency medicine appointed by the Medical Association of the State of Alabama.
- One representative of the Alabama Association of Chiefs of Police.
- The Chair of the Senate Health Committee or his/her designee and the Chair of the House Health Committee or his/her designee.

SCDRT serves as an advisory board with quarterly meetings to:

- Identify factors which make a child at risk for injury or death.
- Collect and share information among State Team members and agencies which provide services to children and families or investigate child deaths.
- Suggest and recommend improving coordination of services and investigations to appropriate, participating agencies.
- Identify trends relevant to unexpected/unexplained child injury and death.
- Review reports from local child death teams and upon request of a local team, individual cases of child deaths.
- Provide training and written materials to local teams to assist them in carrying out their duties.
- Develop a protocol for child death investigations and revise the protocol as needed.
- Educate the public in Alabama regarding the incidence and causes of child injury and death and the public role in aiding in reducing the risk of such injuries and deaths.
- Provide the Governor and the Legislature with an annual, written report including but not limited to, SCDRT's findings and recommendations of each of its duties; and provide copies of such report to the public.

C. Local Child Death Review Teams

Currently, all 67 counties in Alabama are represented by one of 42 multidisciplinary LCDRTs based in each judicial circuit within Alabama. The district attorneys within these judicial circuits are responsible for appointing a local coordinator and/or overseeing the child death review process for their circuit. Each Alabama county is included in a LCDRT jurisdiction.

The following individuals are LCDRT members:

- The county health officer.
- The director of the county Department of Human Resources.
- The county district attorney.
- The medical examiner.
- The local coroner.
- One investigator with a local sheriff's department who is familiar with homicide investigation.
- One investigator with a local police department who is familiar with homicide investigation.
- One pediatrician, or if no pediatrician is available, a primary care physician appointed by the county medical society.
- One representative from a local child advocacy center if one exists.

The role of LCDRTs is to hold local review sessions that collect, review, consolidate, and report information regarding child death to the SCDRT and ADPH Central Office staff. The purpose of these reviews is to decrease the incidence of unexpected or unexplained child injury and death by providing a better understanding of the circumstances surrounding each one. LCDRTs accomplish this purpose by completing the following tasks:

- The identification of factors which make a child at risk of injury or death.
- The dissemination of information among the agencies which provide services to children and families, or which investigate child deaths or provide services.
- The improvement of local investigations of unexpected/unexplained child deaths by participating agencies.
- The improvement of existing services and systems and assisting in the establishment of additional services and systems to fill in gaps in the community.
- The identification of trends relevant to unexpected/unexplained child injury and death.
- The education of the local public regarding the incidence and causes of child injury and death, and the public role in aiding and reducing the risk of such injuries and deaths.

Reviews by LCDRTs are essential in formulating recommendations that will modify risk factors at both local and state levels. Furthermore, LCDRT reviews of child deaths occurring in 2019 are the foundation for this report.

National Fatality Review Case Reporting System (NFR–CRS)

LCDRTs and ADPH use NFR-CRS as a database and data collection methodology to capture information regarding the circumstances surrounding each reviewed child's death. This database serves as a case reporting tool that documents the often-complex conversations, discussions, and report reviews that happen during the death review process. NFR-CRS also documents many descriptive aspects of the death such as the child's demographics, investigative actions, services provided or needed, risk factors, and LCDRT recommendations on how to prevent future child deaths in Alabama.

Alabama Child Death Review System Funding

ACDRS funding originates in Alabama's portion of the National Tobacco Settlement (NTS), through the Children First Trust Fund (CFTF). The sum of the funding equals 1 percent of the total CFTF portion of NTS but is not to exceed $300,000.

The Alabama Medicaid Agency also provides some supplemental funding to ACDRS through a reimbursement agreement. These funds are used solely for education and outreach efforts.

Alabama Child Death Review System's Prevention Initiatives

ACDRS has reviewed nearly 5,000 child deaths since 2000. Due to these reviews, educational programs, and prevention initiatives such as the Teen Driver Safety Campaign, Alabama Sudden Unexpected Infant Death Investigation (SUIDI) Team, the Booster Seat Advocacy Program, and the Healthy Start: Never Ever Shake a Baby Program have been developed.

A. Sudden Unexpected Infant Death Investigation Trainings

To improve data quality and reduce sleep-related child deaths, ACDRS conducted Child Injury and Death Scene Re-enactment and Scene Reconstruction Training sessions. Each session provided investigative protocols for law enforcement, Emergency Medical Services (EMS), district attorneys, medical examiners, coroners, and child protective services. ADPH social workers and nurses were also in attendance. Participants learned the skills necessary to conduct investigations: how to conduct witness interviews, how to perform doll reenactment, and how to develop narrative reports for forensic pathologists that will provide the foundation for a more accurate determination of the cause of death and the person(s) responsible.

By the completion of the training, investigators were provided the necessary tools and knowledge to accurately complete SUIDI. Standardized reporting forms from CDC and SUIDI demonstration dolls were distributed to investigators as investigative tools. The provided training, materials, and tools were based on nationally established CDC curriculum and aligned with CDC guidelines. These trainings and tools should greatly improve infant death scene investigations, the accuracy of infant death diagnoses, and the overall usefulness of the information regarding infant deaths collected by ACDRS. Thorough and standardized investigations will assist ACDRS in obtaining better data. Better data will lead to improved and targeted prevention strategies statewide.

More information about safe sleep practices for children and other educational materials can be found on the ADPH website, alabamapublichealth.gov, by searching for Sudden Unexpected Infant Death (SUID) and Safe Sleep.

B. Teen Driver Safety

ACDRS and the Injury Prevention Branch of ADPH collaborated to create publications to raise awareness of the Graduated Driver's License (GDL) Law as well as information regarding the risks that teen drivers face. In addition, through a partnership with State Farm and Children's of Alabama, ADPH produced #UrKeys2Drv Teen Driving Summit which provides an interactive, educational experience for teen drivers. In 2017, 791 students participated in the teen driving summit from 60 schools. In 2018, 1,025 students participated from 52 schools and in 2019, 1,703 students participated from 79 schools. More about this topic, risk factors, and links to informational materials can be found on the ADPH website, alabamapublichealth.gov, by searching for teen driver safety.

C. Car and Booster Seat Clinics

ADPH has Child Passenger Safety Technicians certified through Safe Kids to educate caregivers on proper installation of their child's car seat. In addition to educating caregivers on proper installation, pregnant women and families receiving federal assistance are eligible to receive a car seat provided by ACDRS. In 2019, a total of 1,777 seats were provided to children of eligible families. More about this topic, information about state law, and links to informational materials can be found on the ADPH website, alabamapublichealth.gov, by searching for child restraints or car seats.

D. Healthy Start: Never Ever Shake a Baby

This prevention program targets one of the most serious forms of child abuse in children, Abusive Head Trauma (AHT). ADPH and ACDRS provide funding to The Family Center of Mobile to maintain a hospital-based prevention program at USA Health Children's and Women's Hospital. The program focuses on reducing the stress of a new baby on the family and teaching parents how to calm a crying infant using Dr. Harvey Karp's "5S" method. Nearly all babies are shaken because of uncontrollable crying and the parent's frustration at their inability to calm the child. The program is offered directly to the patient while they are in the hospital and the mother and other family members are encouraged to take the 30-minute class prior to leaving care. The class ends with the 8-minute video "Portrait of Promise" which details the devastating effects of AHT. Parents are asked to sign an affidavit stating they took the workshop and understand the dangers of shaking their child. They also promise to share the material provided with other caregivers for their new child. In 2019, 473 families were served by the program.

ACDRS continues to rely on SCDRT, LCDRTs, strategic partners, and the public to promote the program's mission. Although significant improvements have been made, ACDRS will continue to make strides that reduce child death through awareness, education, and prevention efforts.

2019 Recommendations to the Governor and Legislature

SCDRT recommends the following ongoing prevention strategies.

Statewide

- Use alternative channels such as social service agencies, houses of worship, and youth organizations to implement prevention education statewide.
- Improve media coverage on suicide prevention to encourage those who are vulnerable or at risk to seek help.
- Support annual suicide prevention education in schools to promote emotional well-being and connectedness among the entire school community.
- Encourage the safe storage of firearms by distributing gun locks as a safety precaution.
- Implement public education and awareness campaigns about the need for adult supervision around open bodies of water.
- Expand and mandate SUIDI training for EMS, law enforcement, coroners, and child protective services.
- Provide new parent education regarding newborn and infant safety recommendations such as safe sleep environments and car seat use/installation.
- Increase rural car seat distribution/education.
- Prevent co-sleeping through public education and awareness campaigns.

Build Partnerships to Serve Alabama's Children and Families

- Establish a partnership with Nurse-Family Partnership.
- Increase collaboration with the Alabama Suicide Prevention and Resources Coalition (ASPARC).

Educate, Enforce, and Improve Graduated Drivers License Policy

- Educate parents and law enforcement of GDL Law.
- Support further enhancement of the GDL by improving night driving restrictions for teen drivers (10 p.m.-5 a.m.).
- Include a questionnaire to determine knowledge of the GDL policy in the drivers' education exam.
- Implement a Statewide Teen Driver Safety Course for high school sophomores.

Cooperate and Collaborate for Legislative Action

- Improve ACDRS case review rates by considering alternative lead agencies for LCDRTs.
- Improve gun safety laws.

Improve Public and Private Funding for Children's Services

- Advocate for increased funding for children's services.
- Increase funding for mental health.
- Explore private funding as an avenue for additional support of ACDRS.

Create a Comprehensive Data System to Improve Prevention Initiatives

- Establish a standardized case management system for coroners and medical examiners.
- Increase collection and utilization of new sources of data.

Key Findings

In 2019, ACDRS reviews were completed for 232 child deaths or 77.6 percent of the deaths eligible for review. Cases that meet criteria for review are those involving deaths in Alabama of infants and children from live birth to less than 18 years of age whose deaths are considered unexpected or unexplained. Reviewed cases are categorized based on the manner and cause of death. Manner of death is classified based on the circumstances surrounding death. Cause of death refers to the primary underlying cause of a death which is the disease or injury/action initiating the sequence of events that led directly to death, or the circumstances of the accident or violence that produced the fatal injury. The five manner of death categories reviewed by ACDRS are accidents, homicides, suicides, undetermined manners, and pending/unknown manners of death.

Manner of Death Update for 2019

2019 Death Reviews showed:

- Accidents (unintentional injury deaths) accounted for 117 reviewed deaths.
- Homicides accounted for 31 reviewed deaths.
- Suicides accounted for 19 reviewed deaths.
- Undetermined manner accounted for 52 reviewed deaths.
- Pending or unknown manners accounted for 5 reviewed deaths.

Eight additional deaths were reviewed and determined to be natural deaths.

Cause of Death Update for 2019

The circumstantial information in the following bullets below are not mutually exclusive. A single death could involve a combination of any number of circumstances listed below.

Firearm, Weapon, and Assault-related Deaths

In 40 reviewed 2019 deaths, a firearm, weapon, or assault was involved:

- In 28 reviewed weapon and assault cases, the child's death involved firearms.
- In 20 reviewed deaths, handguns were involved.

Motor Vehicle Incidents

In 58 reviewed 2019 deaths, the child was involved in a fatal motor vehicle incident:

- In 31 reviewed motor vehicle deaths, the child was a passenger.
- In 21 reviewed motor vehicle deaths, the child was the driver of the motor vehicle.
- In 13 reviewed motor vehicle deaths, speeding contributed to the event that caused death.
- In 8 reviewed motor vehicle deaths, a shoulder seat belt was not used.

Sleep-related Death and Sudden Unexplained Infant Death

In 51 reviewed 2019 sleep-related deaths, the child was sleeping or in the sleep environment at the time of death, and for an additional 55 reviewed deaths, reviewers classified the incidents as SUID:

- In 43 reviewed sleep-related deaths and 41 SUIDs, the child was not sleeping on a recommended sleep surface (such as a crib or bassinet).
- In 25 reviewed sleep-related deaths and 16 SUIDs, the child was co-sleeping with an adult on the same sleep surface.

Additional External Causes of Death

Drowning

In 16 reviewed 2019 deaths, drowning was the cause of death:

- In 11 reviewed drownings, a pool was involved.
- In less than 5 reviewed drowning deaths, open water was involved.
- In 10 reviewed drowning deaths, death occurred when the child was taking part in recreational activities or swimming.

Suffocation

In 13 reviewed 2019 deaths, asphyxiation was the cause of death and 10 of those asphyxiations were sleep-related deaths due to various hazards in the sleep environment.

Fires

In 8 reviewed 2019 deaths, fires and fire-related injuries were the cause of death:

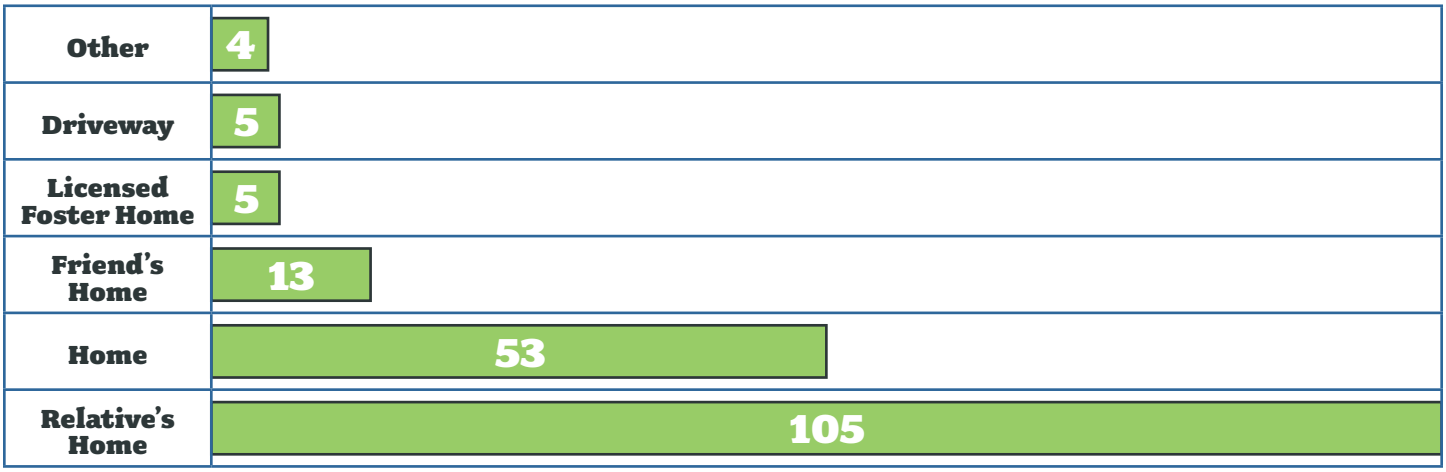
- In 5 reviewed deaths, the death resulted from smoke inhalation.
- The most frequent cause for the fatal fire was space heaters, with less than 5 incidents.

Poisoning or Overdose

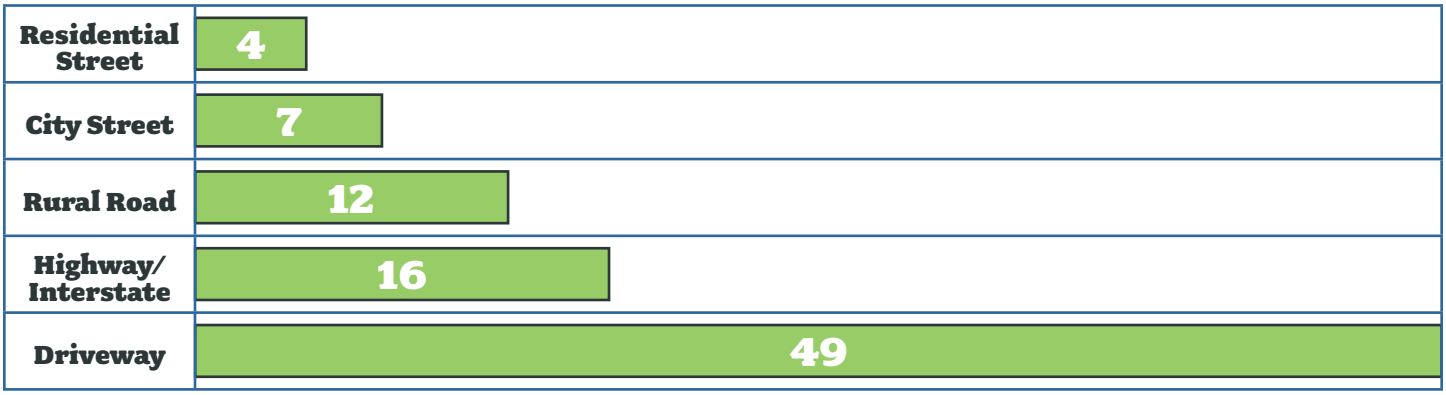
In less than 5 reviewed 2019 deaths, intentional or unintentional poisonings and overdoses were the cause of death. Fortunately, this cause of death is not prevalent in Alabama, although the low counts restrict most of the analysis available by ACDRS team members.

Location of Death

Location of Child's Death - 2019 Reviewed Deaths* (Non-Vehicle Related)



Location of Fatal Motor Vehicle Incidents Involving a Child Death - 2019 Reviewed Deaths*



*Locations are not mutually exclusive. For example, a driveway at the child's home would be marked both "Driveway" and "Home."

Review Process and Timeline

Review Process

The ACDRS Central Office receives copies of all Alabama death certificates issued for decedents under 18 years of age. ACDRS assesses each certificate to determine if it meets review criteria. Cases that meet the criteria are then assigned to the appropriate LCDRT on a case-by-case basis.

Upon reviewing individual cases, LCDRTs complete the appropriate data collection form and submit the information to the ACDRS Central Office. LCDRTs make recommendations to SCDRT and take appropriate actions within communities to prevent additional deaths.

The ACDRS Central Office collects and analyzes information submitted by LCDRTs to answer requests for specific data and generate reports.

SCDRT meets quarterly to review the statewide data, consider LCDRT recommendations and performance, and conduct general ACDRS business. SCRDT acts on ACDRS issues in the form of educational programs, informational publications, and other similar efforts.

Efforts to Increase Review Rates

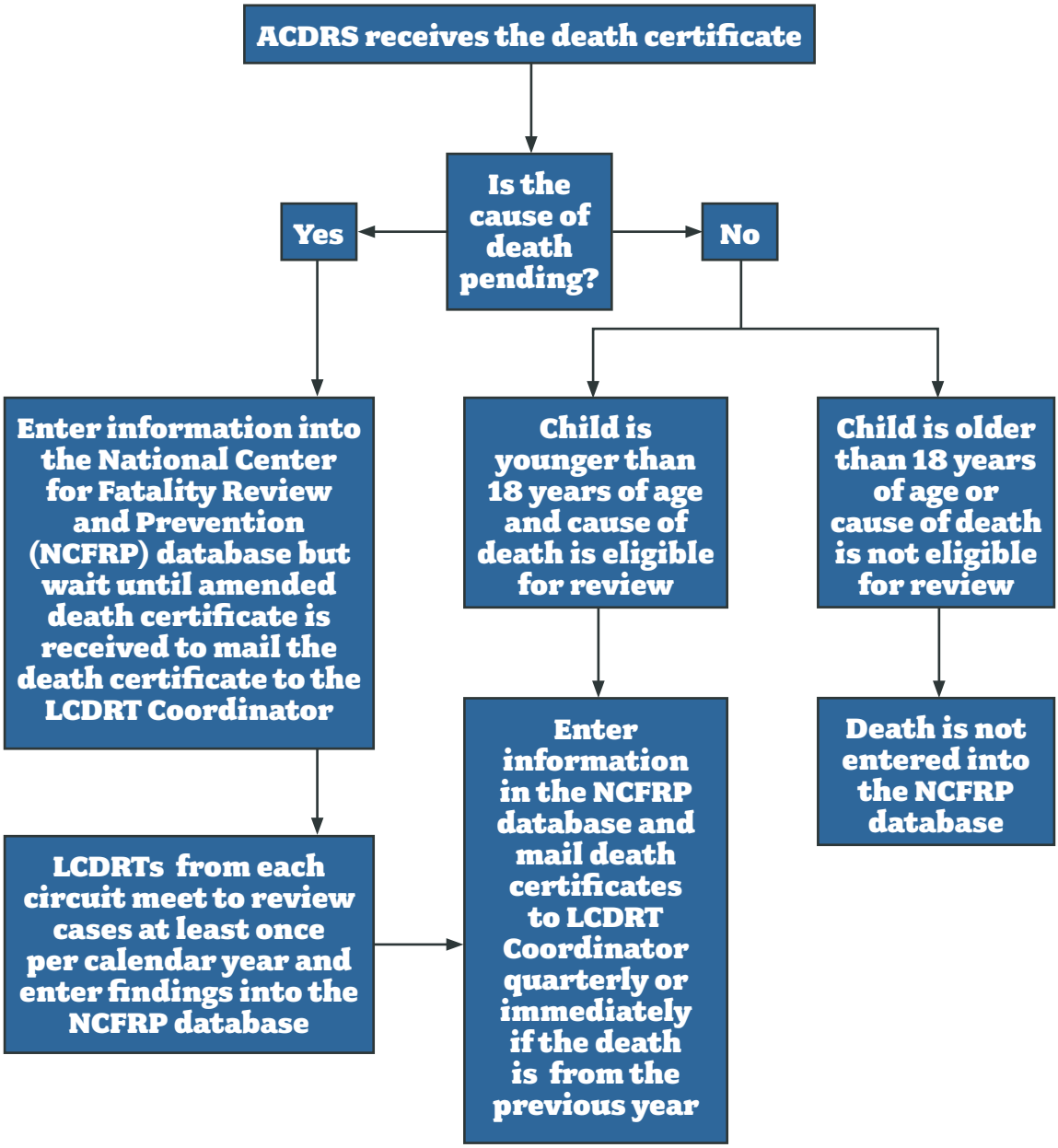
ACDRS Central Office staff:

- Maintain a constant flow of communication with local team coordinators.
- Attend local review team meetings and enter data when needed.
- Develop a tool that makes the review process more streamlined.
- Mail death certificates quarterly and encourage quarterly meetings.

Case Review Criteria

To be considered for ACDRS review, the case must meet the following criteria:

- The deceased must have died in Alabama.
- The deceased must have been born alive. ACDRS does not review fetal deaths.
- The deceased must be less than 18 years of age.
- The cause of death must be non-medical, unexpected, or unexplained.

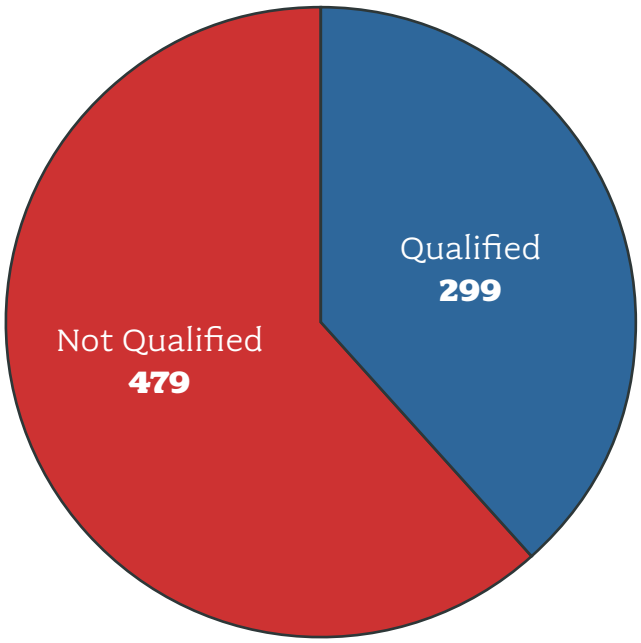

ACDRS receives the death certificate
Is the cause of death pending?
Yes
No
Enter information into the National Center for Fatality Review and Prevention (NCFRP) database but wait until amended death certificate is received to mail the death certificate to the LCDRT Coordinator
Child is younger than 18 years of age and cause of death is eligible for review
Child is older than 18 years of age or cause of death is not eligible for review
LCDRTs from each circuit meet to review cases at least once per calendar year and enter findings into the NCFRP database
Enter information in the NCFRP database and mail death certificates to LCDRT Coordinator quarterly or immediately if the death is from the previous year
Death is not entered into the NCFRP database

2019 Reviewed Child Deaths

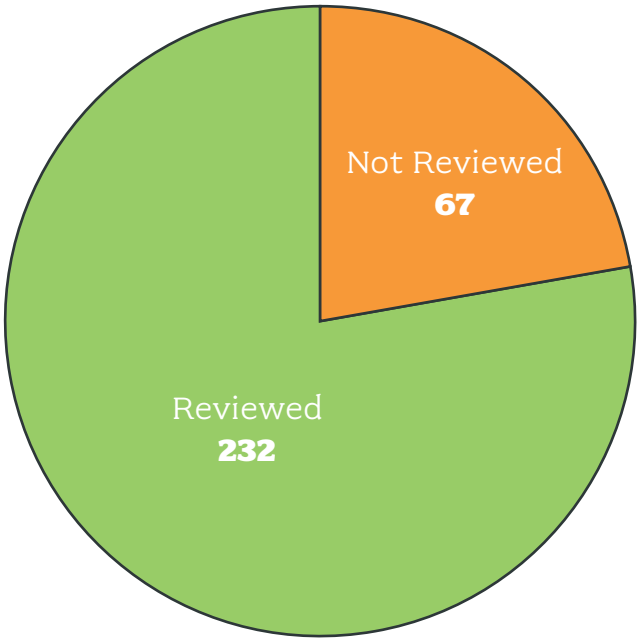
Local Child Death Review Team Success Rates:

There was a total of 778 child deaths in Alabama in 2019*, and 299 qualified for review under ACDRS guidelines. Of the qualified 2019 deaths, LCDRTs returned 232 completed reviews or 77.6 percent.

2019 Child Deaths Qualifying for Review



2019 Child Deaths Reviewed



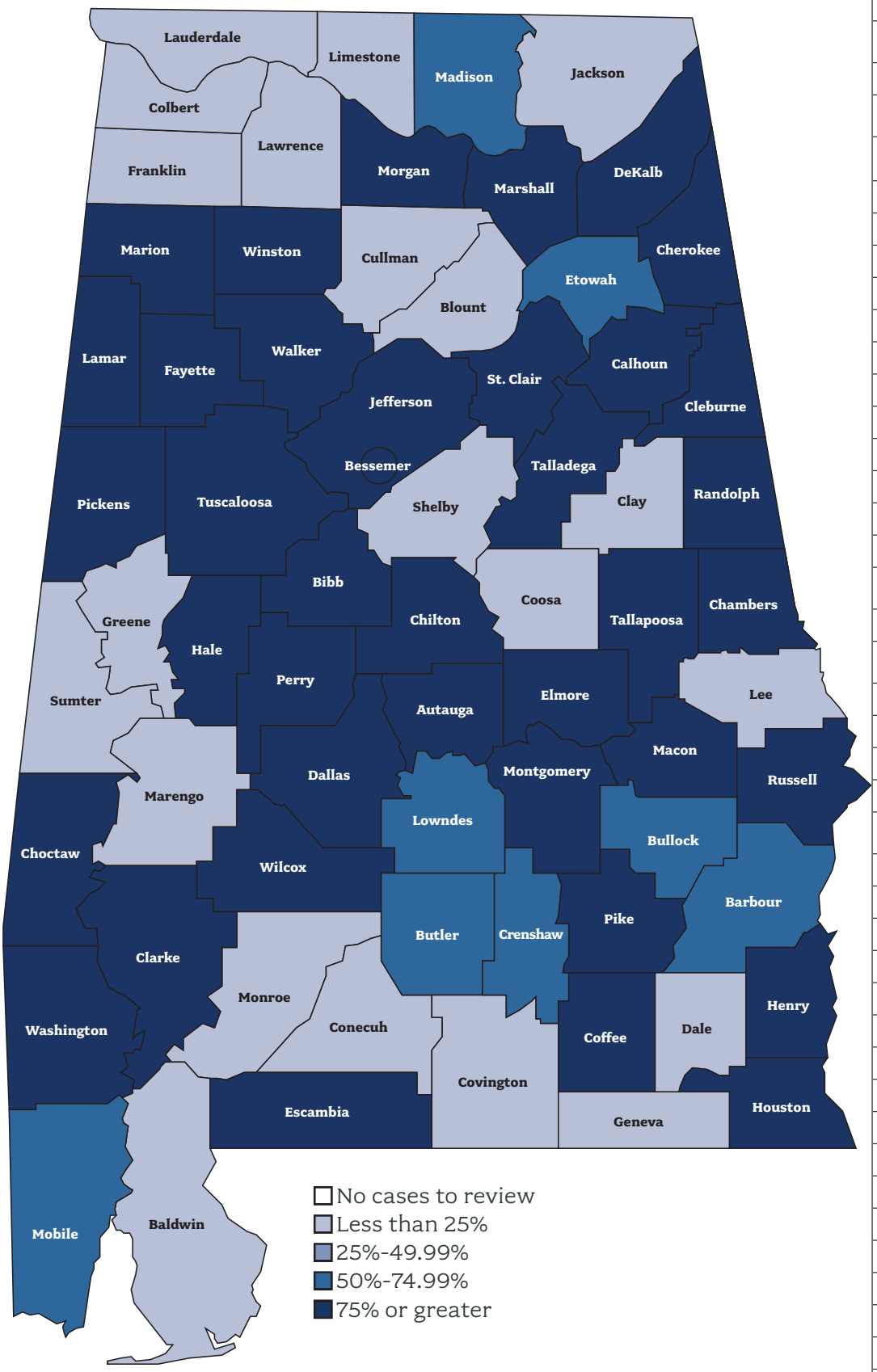
*CDC WONDER - https://wonder.cdc.gov/ucd-icd10

Local Child Death Review Team Recognition

The ACDRS goal is to have case completion rates of 100 percent for each LCDRT. The table below recognizes the outstanding efforts of several LCDRTs that achieved this goal. Unfortunately, pending death certificates often prevent LCDRTs from reaching 100 percent completion as the death is difficult to review without the official cause and manner.

Team	Team	2019
Team 1	Choctaw, Clarke, and Washington	100.00
Team 5	Chambers, Macon, Tallapoosa, and Randolph	100.00
Team 6	Tuscaloosa	100.00
Team 7	Calhoun and Cleburne	100.00
Team 8	Morgan	100.00
Team 9	Cherokee and DeKalb	100.00
Team 10B	Bessemer	100.00
Team 15	Montgomery	100.00
Team 19	Autauga, Chilton, and Elmore	100.00
Team 20	Henry and Houston	100.00
Team 21	Escambia	100.00
Team 24	Fayette, Lamar, and Pickens	100.00
Team 25	Marion and Winston	100.00
Team 26	Russell	100.00
Team 29	Talladega	100.00
Team 31	Colbert	100.00
Team 36	Lawrence	100.00
Team 37	Lee	100.00
Team 38	Jackson	100.00
Team 39	Limestone	100.00
Team 40	Clay and Coosa	100.00
Team 41	Blount	100.00

2019 Review Completion Rate by County



LCDRT Recognition	
Team 1	Choctaw, Clarke, and Washington
Team 2	Butler, Crenshaw, and Lowndes
Team 3	Barbour and Bullock
Team 4	Bibb, Dallas, Hale, Perry, and Wilcox
Team 5	Chambers, Macon, Tallapoosa, and Randolph
Team 6	Tuscaloosa
Team 7	Calhoun and Cleburne
Team 8	Morgan
Team 9	Cherokee and DeKalb
Team 10A	Jefferson
Team 10B	Bessemer
Team 11	Lauderdale
Team 12	Coffee, Pike
Team 13	Mobile
Team 14	Walker
Team 15	Montgomery
Team 16	Etowah
Team 17	Greene, Marengo, and Sumter
Team 18	Shelby
Team 19	Autauga, Chilton, and Elmore
Team 20	Henry and Houston
Team 21	Escambia
Team 22	Covington
Team 23	Madison
Team 24	Fayette, Lamar, and Pickens
Team 25	Marion and Winston
Team 26	Russell
Team 27	Marshall
Team 28	Baldwin
Team 29	Talladega
Team 30	St. Clair
Team 31	Colbert
Team 32	Cullman
Team 33	Dale and Geneva
Team 34	Franklin
Team 35	Conecuh and Monroe
Team 36	Lawrence
Team 37	Lee
Team 38	Jackson
Team 39	Limestone
Team 40	Clay and Coosa
Team 41	Blount

Alabama Child Death Trend Rates from 2010 to 2019

Trends in Rate of Death by Manner and Race

As the following graph(s) indicate, African American and Caucasian children suffer from a disproportionately higher rate of death depending on their manner of death. African American children suffer a much larger rate of death from homicide and Caucasian children suffer a higher rate of suicide. As for accidental manners of death, African American and Caucasian rates rose, followed by a similar downward trend. In 2019, the rate of death from accidental manners was higher for Caucasian children, a change from 2018 when African American children led. The concerning issue is that higher rates of death for African American children persist despite numbering less than half of the number of Caucasian children in Alabama for the 10 years included in the following graph.*

In the following graphs of race and manner of death, certain races and ethnicities were excluded from graphs due to extremely small counts of related deaths, which triggered internal suppression rules. This measure is in place to preserve the confidentiality of the data collected by ACDRS.

The rates depicted in the following graphs are calculations of the number of an affected population, such as child deaths, divided by the total amount of the child population in Alabama and then multiplied by 100,000 to normalize the calculation and allow easy comparisons between different races and ethnicities. The following calculation is used to determine rates.

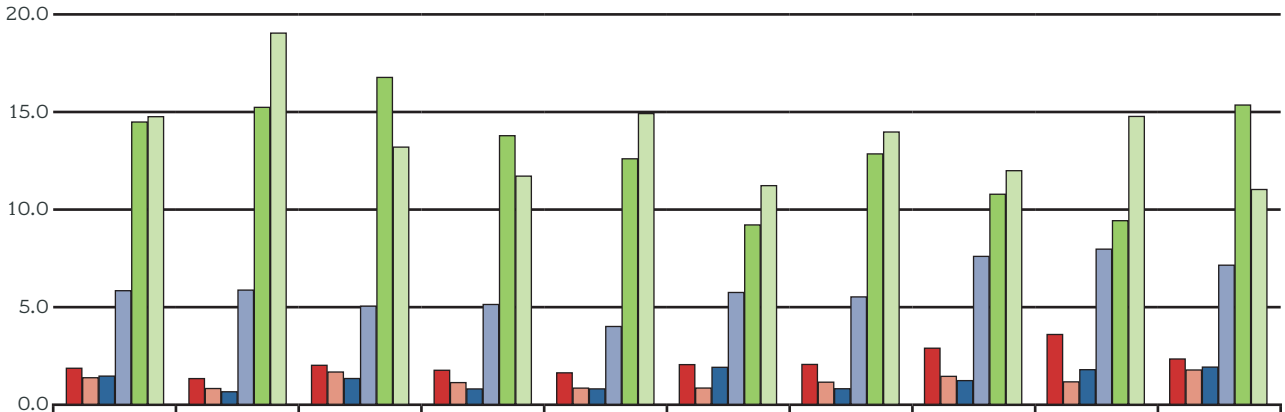
(# Child Deaths / Total # of Children in Alabama) × 100,000 = Rate

An example of a rate calculation for 2019:

(37 African American Accidental Deaths / 335,716 African American Children in Alabama*) × 100,000 = 11.0 African American Accidental Child Deaths per 100,000 in 2019.

*CDC WONDER - https://wonder.cdc.gov/ucd-icd10

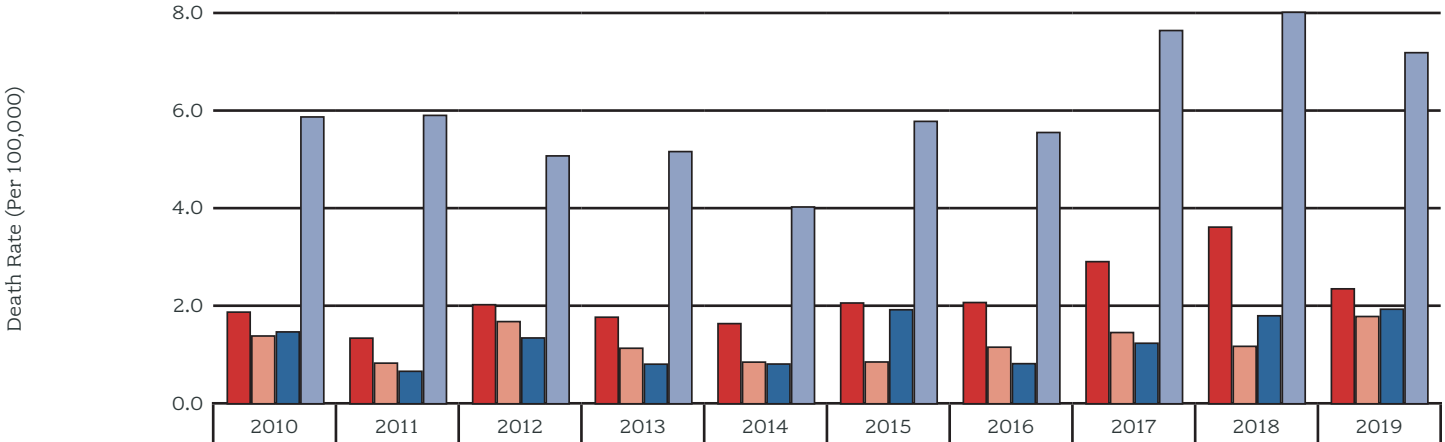
Rate of Death by Manner and Race - 2010 to 2019^



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
W Suicide Rate	1.9	1.35	2.0	1.8	1.6	2.1	2.1	2.9	3.6	2.3
B Suicide Rate	1.4	0.8	1.7	1.1	0.9	0.9	1.2	1.5	1.2	1.8
W Homicide Rate	1.5	0.7	1.4	0.8	0.8	1.9	0.8	1.2	1.8	1.9
B Homicide Rate	5.8	5.9	5.1	5.1	4.0	5.8	5.5	7.6	8.0	7.1
W Accident Rate	14.5	15.2	16.8	13.8	12.6	9.2	12.8	10.8	9.4	15.3
B Accident Rate	14.7	19.0	13.2	11.7	14.9	11.2	14.0	12.0	14.8	11.0

^CDC WONDER. Causes of death pulled from death certificates and are based on the following International Classification of Diseases (ICD-10) codes: accidental causes of death from V01 to X59, suicide causes of death from X60 to X84, and homicide causes of death from X85 to Y09.

Rate of Violent Death by Race - 2010 to 2019^



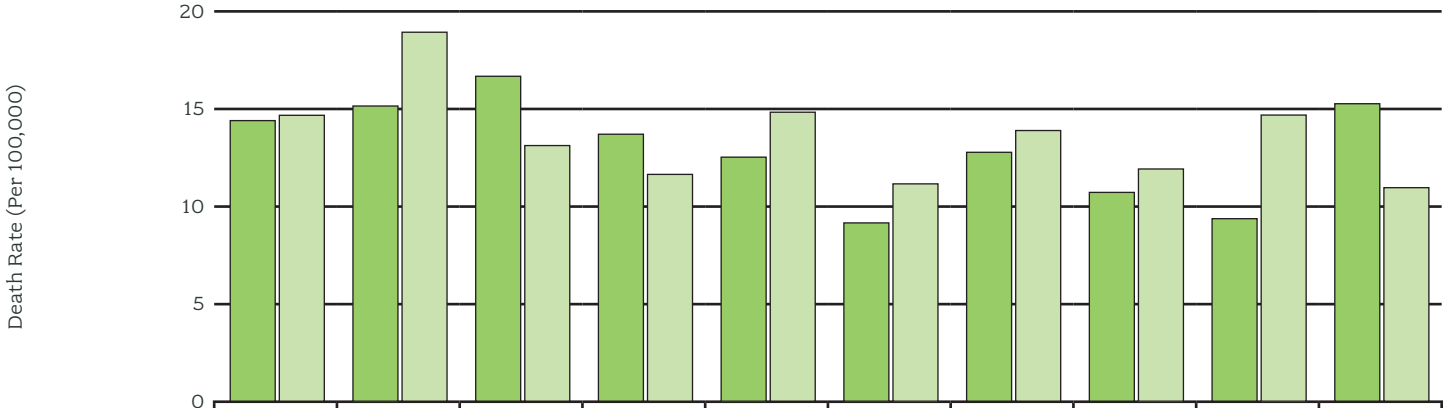
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
W Suicide Rate	1.9	1.3	2.0	1.8	1.6	2.1	2.1	2.9	3.6	2.3
B Suicide Rate	1.4	0.8	1.7	1.1	0.9	0.9	1.2	1.5	1.2	1.8
W Homicide Rate	1.5	0.7	1.4	0.8	0.8	1.9	0.8	1.2	1.8	1.9
B Homicide Rate	5.8	5.9	5.1	5.1	4.0	5.8	5.5	7.6	8.0	7.1

^CDC WONDER. Causes of death pulled from death certificates and are based on ICD-10 codes: accidental causes of death from V01 to X59, suicide causes of death from X60 to X84, and homicide causes of death from X85 to Y09.

As shown in the preceding graph and as stated above, African American children suffer a significantly larger rate of death from homicide and Caucasian children suffer a higher rate of suicide. African American children's rate of homicide is drastically higher than that of Caucasian children and is on an increasing trend for the period between 2014 and 2018, though there was a decrease in 2019. The same upward trend for homicides within the population of Caucasian children is also present, and the average rate of homicides for Caucasian children has been gradually increasing for the period between 2014 and 2019.

The rate of suicide for Caucasian children has also been increasing since 2014, as shown in the preceding graph. This upward trend among suicides is also seen in African American children, and the disparity between races with reference to suicide rates seems to be shrinking.

Rate of Accidental Death by Race - 2010 to 2019^



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
W Accident Rate	14.5	15.2	16.8	13.8	12.6	9.2	12.8	10.8	9.4	15.3
B Accident Rate	14.7	19.0	13.2	11.7	14.9	11.2	14.0	12.0	14.8	11.0

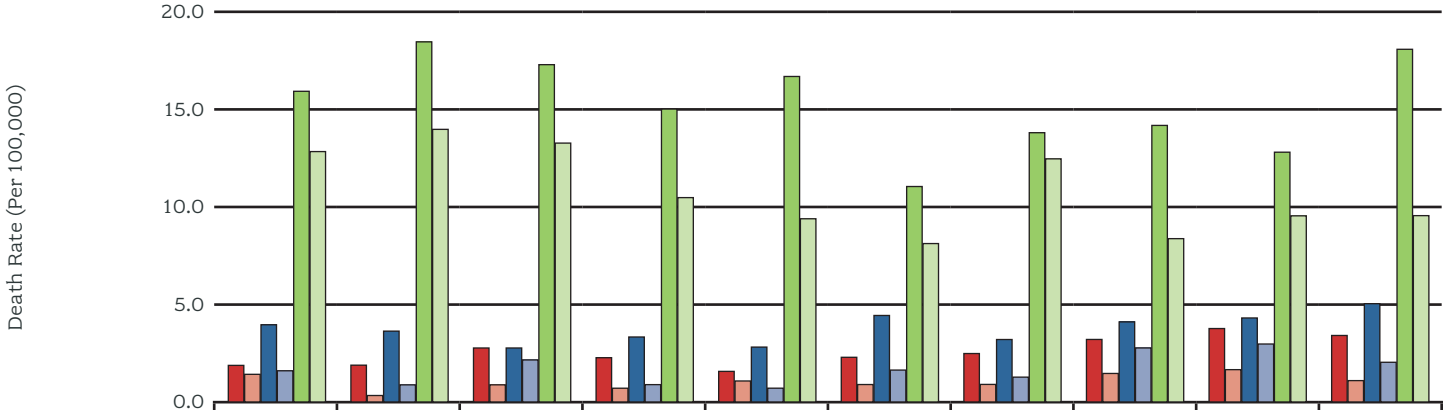
^CDC WONDER. Causes of death pulled from death certificates and are based on the ICD-10 codes: accidental causes of death from V01 to X59, suicide causes of death from X60 to X84, and homicide causes of death from X85 to Y09.

As the preceding graph indicates, African American and Caucasian children often suffered from differing rates of accidental death depending on the year. Consistently, accidental death rates among children have easily surpassed the rates of death for violent manners but have shown a general downward trend since 2010. Rates based on race fluctuate from year-to-year, and this can be seen in the change between 2018 and 2019, as the races listed switched leading positions with regards to rate of accidental death.

Trends in Rate of Death by Manner and Gender

Male children have historically had a higher rate of death for both accidental and violent manners than female children. This higher rate of death persists through all 10 years included in the three following graphs.

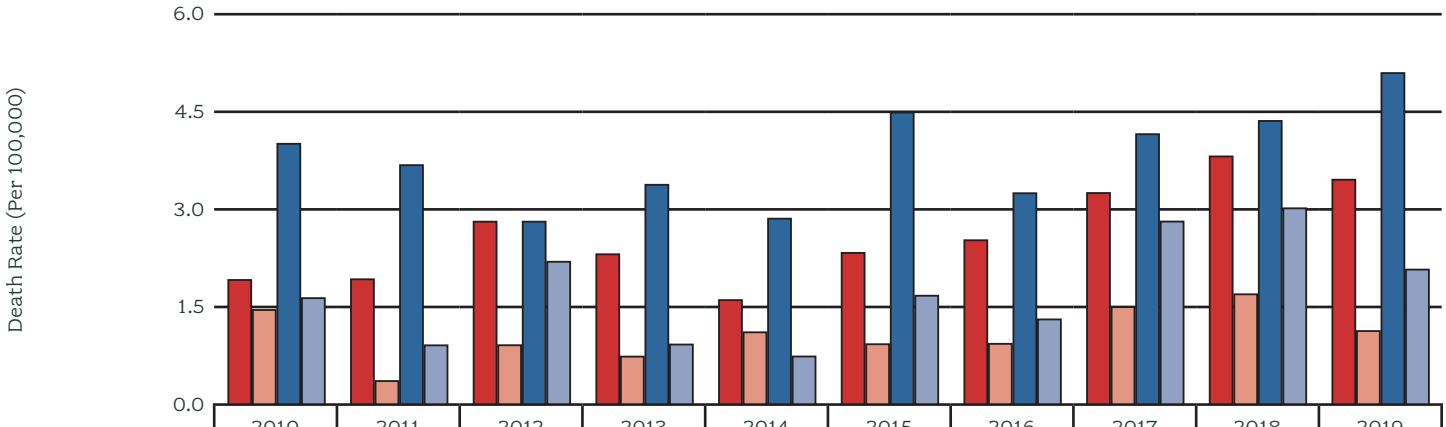
Rate of Death by Manner and Gender - 2010 to 2019^



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
M Suicide Rate	1.9	1.9	2.8	2.3	1.6	2.3	2.5	3.2	3.8	3.4
F Suicide Rate	1.4	0.4	0.9	0.7	1.1	0.9	0.9	1.5	1.7	1.1
M Homicide Rate	4.0	3.6	2.8	3.4	2.8	4.4	3.2	4.1	4.3	5.1
F Homicide Rate	1.6	0.9	2.2	0.9	0.7	1.7	1.3	2.8	3.0	2.1
M Accident Rate	15.9	18.4	17.3	15.0	16.7	11.0	13.8	14.2	12.8	18.0
F Accident Rate	12.8	14.0	13.3	10.5	9.4	8.1	12.4	8.4	9.5	9.5

^CDC WONDER. Causes of death pulled from death certificates and are based on the following ICD-10 codes: accidental causes of death from V01 to X59, suicide causes of death from X60 to X84, and homicide causes of death from X85 to Y09.

Rate of Violent Death by Gender - 2010 to 2019^

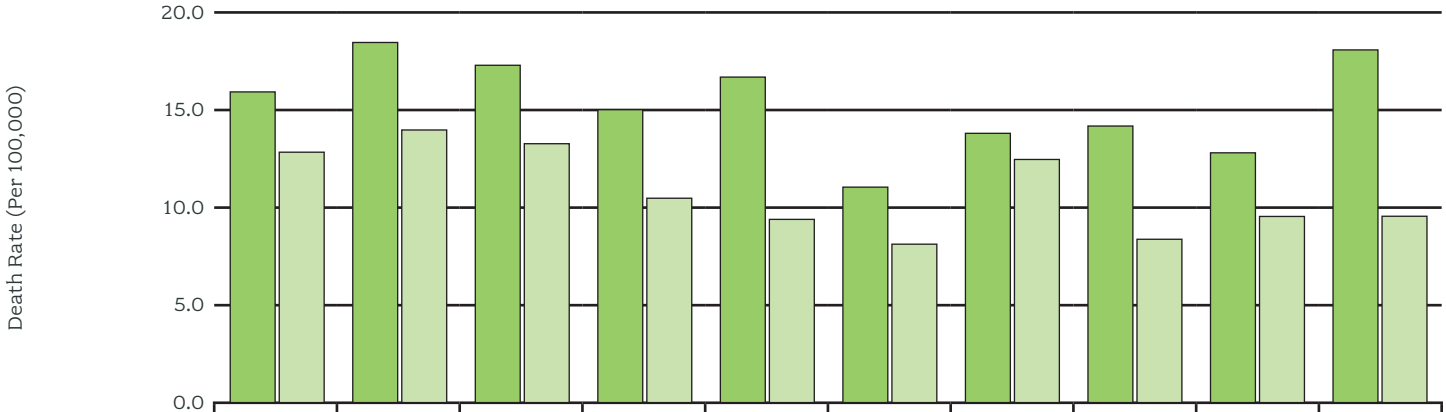


	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
M Suicide Rate	1.9	1.9	2.8	2.3	1.6	2.3	2.5	3.2	3.8	3.4
F Suicide Rate	1.4	0.4	0.9	0.7	1.1	0.9	0.9	1.5	1.7	1.1
M Homicide Rate	4.0	3.6	2.8	3.4	2.8	4.4	3.2	4.1	4.3	5.1
F Homicide Rate	1.6	0.9	2.2	0.9	0.7	1.7	1.3	2.8	3.0	2.1

^CDC WONDER. Causes of death pulled from death certificates and are based on the following ICD-10 codes: accidental causes of death from V01 to X59, suicide causes of death from X60 to X84, and homicide causes of death from X85 to Y09.

As stated above and shown in the preceding graph, male children suffer a much higher rate of death from homicide and suicide than female children. Prior to 2016, male children suffered from a much higher rate of homicide than suicide, nearly double. However, since 2014, male children's rate of suicide has increased and since 2016, has narrowed the difference from the rate for homicide. This upward trend in suicide rates among male children is also present among female children. However, female children's increase in rate of suicide is easily surpassed by their increase in their rate of homicide since 2014.

Rate of Accidental Death by Gender - 2010 to 2019^



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
M Accident Rate	15.9	18.4	17.3	15.0	16.7	11.0	13.8	14.2	12.8	18.0
F Accident Rate	12.8	14.0	13.3	10.5	9.4	8.1	12.4	8.4	9.5	9.5

^CDC WONDER. Causes of death pulled from death certificates and are based on the following ICD-10 codes: accidental causes of death from V01 to X59, suicide causes of death from X60 to X84, and homicide causes of death from X85 to Y09.

As seen in the preceding graph, male children have historically suffered from a higher rate of accidental death than female children. However, accidental deaths in both genders had been on a general downward trend between 2012 and 2015, prior to an upward trend in accidental deaths from 2016 onward. The large spike in male accidental deaths in 2019 is concerning.

Manner of Death Summary – 2019 Reviewed Deaths

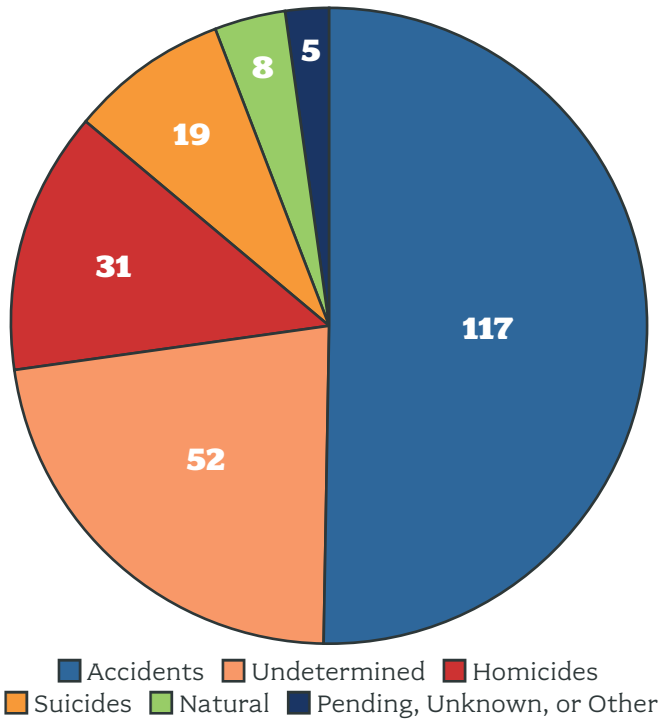
Manner of death is a determination of the broad classification of death and is typically made by a coroner, medical examiner, police, or other official. The distinction between manner and cause of death is that cause is a specific disease, injury, or other mechanism of death whereas manner is primarily a legal determination.

For the purposes of this report, manner of death refers to 1 of 6 general categories of death listed on the Alabama Death Certificate. The six categories are:

1. Pending Investigation: a death which is still under review by coroners or medical examiners.
2. Accident: a death resulting from a non-intentional injury.
3. Homicide: a death resulting from an intentional act committed by another person to cause fear, harm, or death.
4. Suicide: a death that results from an intentional, self-inflicted act committed to do self-harm or death.
5. Undetermined Circumstances (Undetermined): a death in which, after all available information has been considered, information pointing to one manner of death is no more compelling than one or more competing manners of death.
6. Natural Causes: death not due to external means (i.e., a death that occurred as the expected outcome of a disease, birth defect, or congenital anomaly). In other words, death resulting from natural or medical causes, such as illness or disease. Normally, ACDRS does not review such cases. However, reviewed cases in which the cause of death is initially classified as pending or unknown are commonly discovered upon review to have occurred by natural causes.

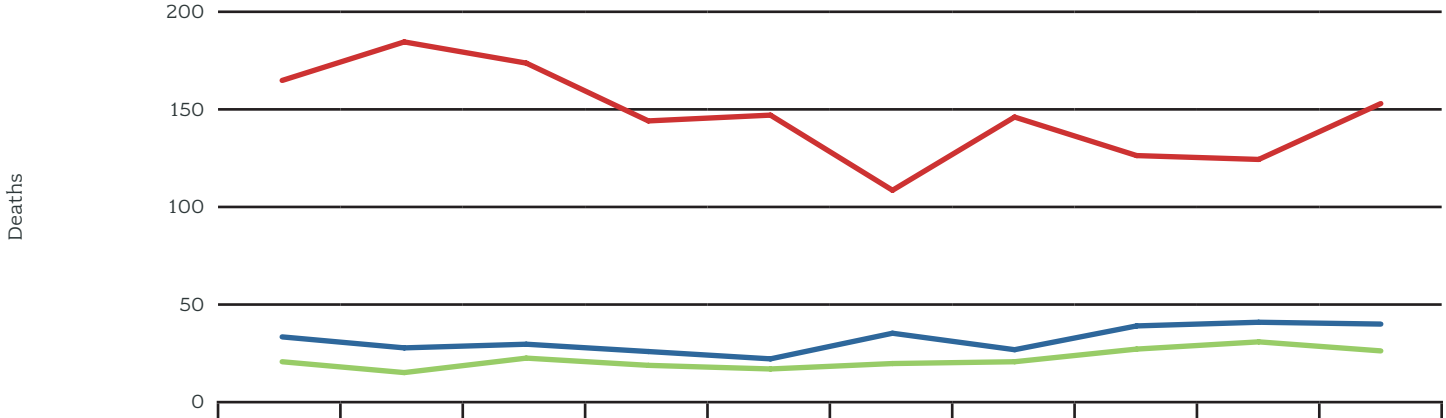
As information is collected for 2019, unclassified manners of death not currently marked as an official manner are included as "other" manner of death. This manner of death may contain natural deaths that are not generally qualifying for inclusion in ACDRS as they have not been classified or reviewed at the time of this report.

Reviewed Child Death by Manner - 2019



The following graph shows the trend of Alabama child deaths for the listed manners of death from 2010 to 2019.

Major Child Death Manners - 2010 to 2019^



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Suicide	19	13	21	17	15	18	19	26	30	25
Homicide	32	26	28	24	20	34	25	38	40	39
Accidental	163	183	172	142	145	106	144	124	122	151

^CDC WONDER. Causes of death pulled from death certificates and are based on the following ICD-10 codes: suicide causes of death from X60 to X84, homicide causes of death from X85 to Y09, and accidental causes of death from V01 to X59.

Cause of Death Summary - 2019 Reviewed Deaths

For the purposes of this report, the term cause of death refers to the disease, injury, or mechanism of action initiating the sequence of events that leads directly to death, or the circumstances of the accident or violence that produced the fatal injury.

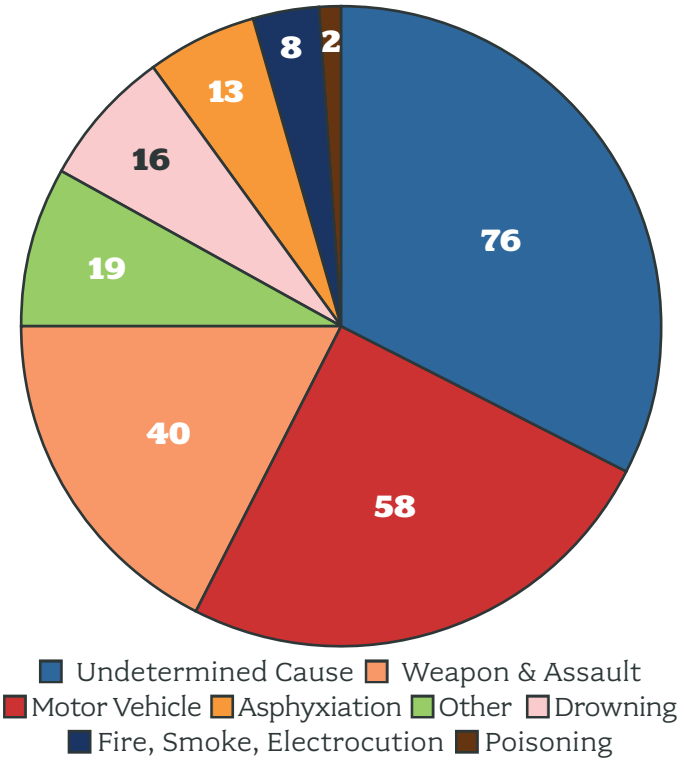
In 2019, the three most frequently reviewed known causes of death due to injury were:

1. Motor vehicle incidents (58 deaths).
2. Assault and weapon-related causes (40 deaths).
3. Drowning (16 deaths).

As undetermined causes of death are unable to be classified, they were not reported in the most frequent causes of death lists.

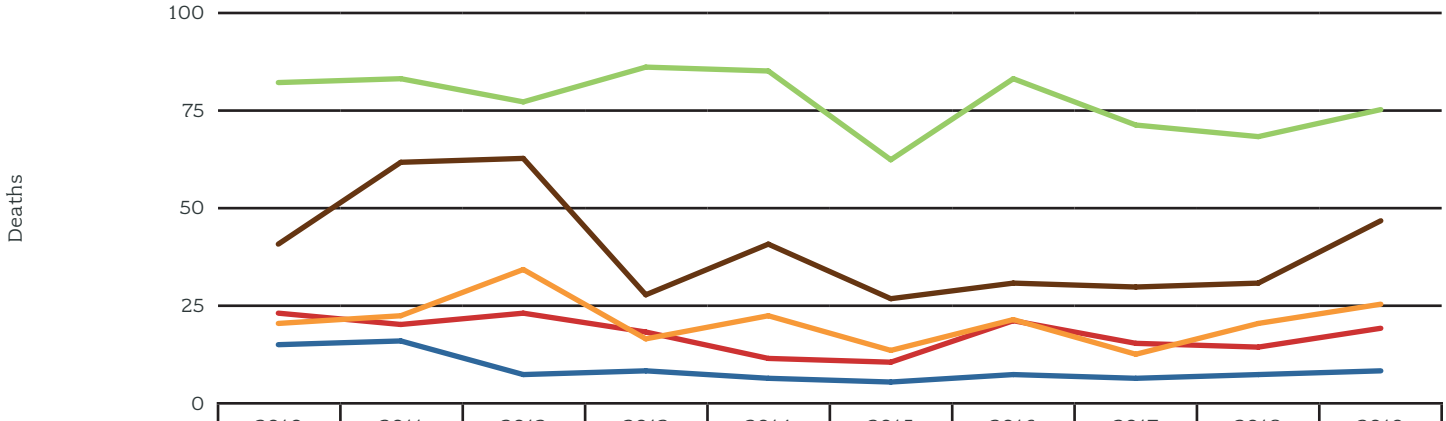
As undetermined causes of death are unable to be classified, they were not reported in the most frequent causes of death lists. Additionally, as 'Other Cause" is a combination of various causes of death, it was also excluded from the frequent causes of death list.

Reviewed Child Deaths by Cause - 2019



The following graph shows the trend of Alabama child deaths for the listed causes of death over the period from 2010 to 2019.

Major Causes of Accidental Child Death - 2010 to 2019^



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Vehicle	82	83	77	86	85	62	83	71	68	75
Drowning	21	23	35	17	23	14	22	13	21	26
Asphyxia	24	21	24	19	12	11	22	16	15	20
Fire/Smoke	16	17	8	9	7	6	8	7	8	9
Other Accidental	41	62	63	28	41	27	31	30	31	47

^CDC WONDER. Causes of death are based on the following ICD-10 codes: vehicle cause of death from V01 to V99, drowning causes of death from W65 to W74, asphyxia causes of death from W75 to W84, fire and smoke-related causes of death from X00 to X09, and other accidental causes from W00 to W64, W85 to W99, and X10 to X59.

*Death Certificate Data

Review of the Common Causes of Child Death in Alabama

A. Firearm, Weapon, and Assault Deaths

This category includes deaths due to weapon-related injuries, either accidentally or intentionally inflicted. Types of weapons include firearms, sharp or blunt instruments, a person's body part, and explosive devices among others. The use of the weapons in this category may be determined as self-injury; the result of violence, such as gang-related activity; the result of aggressive behavior, such as bullying or a heated argument; or accidental, as in cases of a child playing with the weapon or showing it to friends.

Based on information collected and reviewed for 2019, there were 40 deaths from weapon and assault-related incidents currently identified among children in Alabama.

Cause of death:

- In 28 reviewed weapon and assault cases, the child's death involved firearms and in 20 of these reviewed deaths, a handgun was involved:
  - In less than 5 reviewed deaths, a long gun, such as a shotgun, hunting rifle, or other rifle was involved.
  - In less than 5 reviewed deaths, a child was playing with the firearm when the death occurred.
  - In 7 reviewed deaths, the firearm was loaded when the child obtained possession of the weapon.
- In less than 5 reviewed deaths, a person's body part was the weapon involved.
- In less than 5 reviewed deaths, a rope was the weapon involved.

Firearm storage:

- In 9 reviewed deaths, the firearm used was not stored or was in an unsecured location such as under a mattress or pillow, in a glove compartment, or in an unlocked cabinet.
- In 7 reviewed deaths, the firearm was stored loaded.
- In 5 reviewed deaths, the firearm was stored in the same location as the ammunition for the firearm.

Owner of the firearm:

- In 5 reviewed deaths, the owner of the firearm was either the biological, adoptive, or stepparent of the child who died.
- In less than 5 reviewed deaths, the owner of the firearm was another relative of the child, such as a grandparent, uncle, or cousin.
- In less than 5 reviewed deaths, the owner of the firearm was either the child themselves, a sibling, a friend of the child, or a classmate of the child who died.

B. Homicides and Suicides

Homicide:

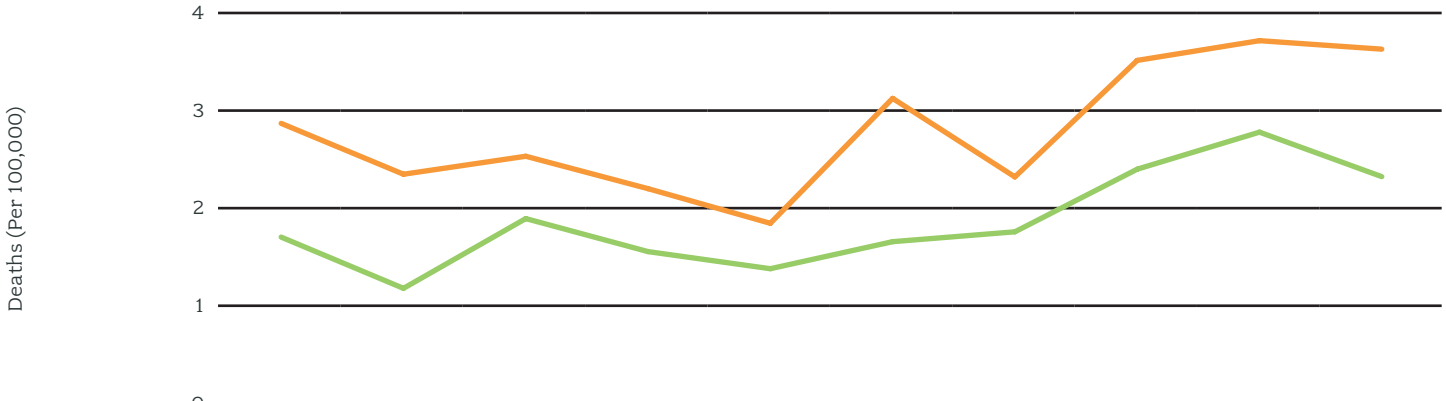
- There were 31 reviewed homicides and 23 of those deaths were the result of weapon or assault-related causes of death.
- The other 8 deaths were due to other causes of death, such as motor vehicle incidents, drowning, and fire-related events.

Suicide:

- There were 19 reviewed suicides and of these 12 were the result of weapon or assault-related causes of death while 7 were due to other causes of death.

As seen in the following graph, the homicide rate among children was on a gradual decline despite periodic spikes in rate until 2014, at which time rates began a relatively consistent climb. Additionally, suicide rates have also been on an upward trend since 2010. Hopefully, the decrease seen in rates from 2018 to 2019 is the start of a downward trend in both suicide and homicide rates.

Rate of Violent Death Among Children - 2010 to 2019^



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Rate - Suicide	1.7	1.2	1.9	1.5	1.4	1.6	1.7	2.4	2.8	2.3
Rate - Homicide	2.8	2.3	2.5	2.2	1.8	3.1	2.3	3.5	3.7	3.6

^Causes of death pulled from death certificates and are based on the following ICD-10 codes: suicide causes of death from X60 to X84, and homicide causes of death from X85 to Y09. Population counts gathered from CDC WONDER - https://wonder.cdc.gov/ucd-icd10.

C. Motor Vehicle-related Deaths

This category includes all deaths occurring to children who are drivers, passengers, pedestrians, or occupants of all forms of vehicles, including bicycles, motorcycles, all-terrain vehicles (ATVs), trains, etc. The manner of death is usually accidental but can also include suicides or homicides.

From information collected and reviewed for 2019, there were 58 deaths from motor vehicle-related incidents.

Child position in or around the vehicle:

- In 31 reviewed deaths, the child was a passenger.
- In 21 reviewed deaths, the child was the driver of the vehicle.
- In 5 reviewed deaths, the child was a pedestrian.

Circumstances contributing to the motor vehicle incident:

- In 13 reviewed deaths, speeding was reported as a contributing factor.
- In 9 reviewed deaths, drug or alcohol use was reported as a contributing factor.
- In 6 reviewed deaths, distracted driving was reported as a contributing factor.

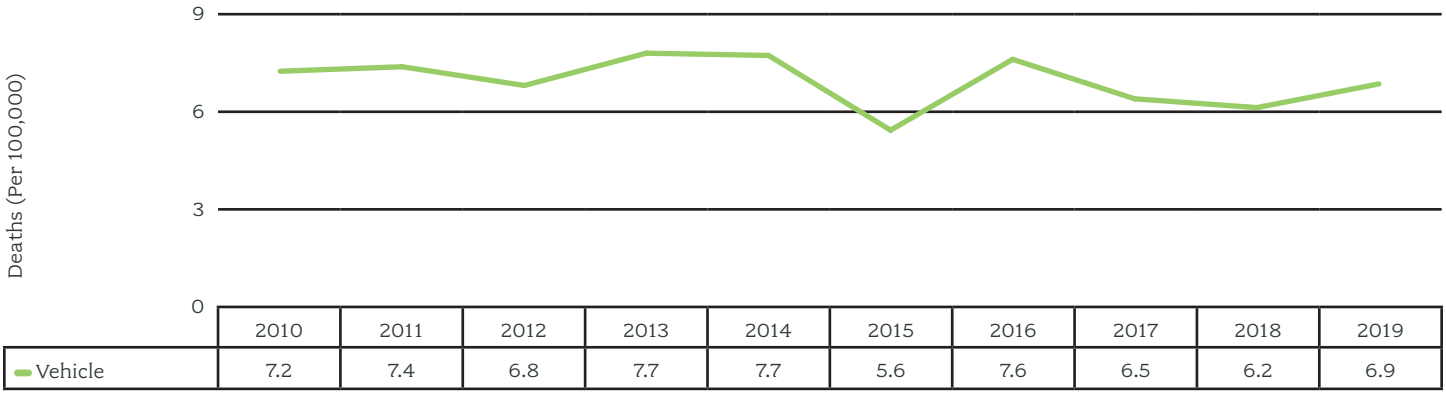
- In 9 reviewed deaths, reckless driving was reported as a contributing factor.
- In less than 5 reviewed deaths, the cause of the motor vehicle accident was a vehicle that ran a red light.

Seatbelt and other restraint use:

- In 6 reviewed deaths, a car seat or booster seat was available and used correctly at the time of the incident.
- In 8 reviewed deaths, a car seat or booster seat was needed but was not available at the time of the incident.
- In less than 5 reviewed deaths, a car seat or booster seat was available but was not installed or used correctly at the time of the incident.
- In 9 reviewed deaths, a shoulder belt was available and used correctly at the time of the incident.
- In 8 reviewed deaths, a shoulder belt was available but was not used at the time of the incident.

As seen in the next graph, the rate of child deaths from motor vehicle accidents has been on a slight downward trend since 2010.

Rate of Child Vehicle Accidents - 2010 to 2019^



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Vehicle	7.2	7.4	6.8	7.7	7.7	5.6	7.6	6.5	6.2	6.9

^Causes of death pulled from death certificates and are based on the following ICD-10 codes: vehicle-related causes of death from V01 to V89. Population counts gathered from CDC WONDER - https://wonder.cdc.gov/ucd-icd10.

D. Sudden Unexpected Infant Death and Sleep-related Deaths

Sleep-related and SUID are deaths that can be attributed to specific causes or factors in the sleep environment after investigation and are distinct from Sudden Infant Deaths (SIDs) which cannot be attributed to any established cause or contributing factor. These deaths typically occur in children under 12 months of age, just as SIDs, and are commonly classified as undetermined manners of death due to the difficulty of establishing convincing contexts of injury for such deaths. These deaths may be contributed to by improper sleep surfaces, co-sleeping, toys or other objects in the sleep environment, and various other hazards to the child's health.

From information collected and reviewed for 2019, there were 55 SUIDs and 51 sleep-related deaths identified among children in Alabama.

Sleep-related deaths and SUIDs are not mutually exclusive or mutually inclusive in the following counts and there is overlap. Many SUIDs are determined to have sleep-related connections without a specific cause of death. However, not all SUIDs are also sleep-related deaths and not all sleep-related deaths are also SUIDs. ACDRS believes that presenting the data in the following way will give a good representation of the burden that Alabama children bear regarding SUIDs and sleep-related deaths.

Cause of death – sleep-related:

- In 12 reviewed deaths, the cause of death was unintentional asphyxia.
- For the remaining 39 reviewed deaths, the cause of death was found to be related to the sleep environment, but a specific cause of death was unable to be determined conclusively.

Sleep-related Deaths - Sleep Surface:

- In 8 reviewed sleep-related deaths and 14 SUIDs, the child was sleeping on a recommended sleep surface (such as a crib or bassinet).
- In 43 reviewed sleep-related deaths and 41 SUIDs, the child was not sleeping on a recommended sleep surface (such as a crib or bassinet):
    - In 27 reviewed sleep-related deaths and 18 SUIDs, the child was sleeping on an adult bed.
    - In 6 reviewed sleep-related deaths and less than 5 SUIDs, the child was sleeping on a couch or in a chair.

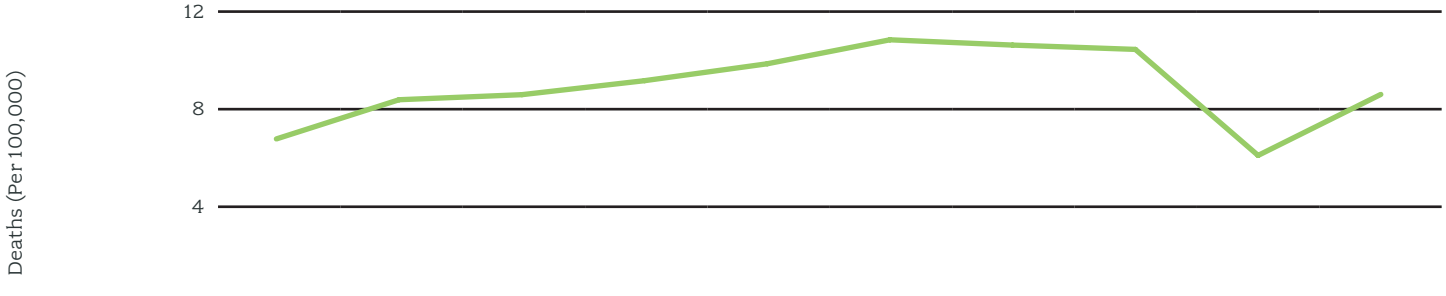
Sleep-related Deaths - Co-sleeping:

- In 25 reviewed sleep-related deaths and 16 SUIDs, the child was co-sleeping with an adult on the same sleep surface.
- In 8 reviewed sleep-related deaths and 6 SUIDs, the child was co-sleeping with another child on the same sleep surface.

As seen in the following graph, the rate of SIDs and SUIDs have been generally increasing for the period between 2010 and 2019. Part of this increase may be due to increasing knowledge regarding these types of child death and more accurate classification of deaths. As a result, deaths that previously would have been classified as undetermined manners of death, accidents, or other types of death, are now classified as SIDs or SUIDs under the current system.

ACDRS has strived to increase the proper use of SIDs and SUIDs classifications and has worked with coroners, medical examiners, law enforcement, and others within Alabama to educate people classifying death in this use. Only through the proper classification of these types of death can an accurate view of the burden that SIDs and SUIDs place on Alabama children be measured and addressed.

Rate of SIDS/SUID - 2010 to 2019^



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Rate of SIDS/SUID	6.9	8.4	8.6	9.2	9.8	10.8	10.6	10.4	6.2	8.6

^Causes of death pulled from death certificates and are based on the following ICD-10 codes: SIDS, SUID, and other ill-defined causes of death R95 and R99. Population counts gathered from CDC WONDER - https://wonder.cdc.gov/ucd-icd10.

Addendum

After the compilation of this report, there was a delay in publication that has allowed additional reviews to be held by LCDRTs. Therefore, as of 11/10/2021, LCDRTs completed a total of 259 reviews (86.6 percent) of qualifying child deaths in the state for the 2019 calendar year. In addition, Team 14 (Walker), Team 18 (Shelby), Team 28 (Baldwin) and Team 33 (Dale and Geneva) were able to reach 100 percent review completion during this delay and ACDRS would like to report their achievement in addition to the teams mentioned in the Team Recognition section of this report.

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Executive Director
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Lynn Beshear, Commissioner
Alabama Department of Mental Health

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Sheriff Bill Franklin
Alabama Sheriff's Association Appointee

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Christina Cochran, M.D.
Medical Association of the State of Alabama Appointee

Chief Jerry Taylor
Alabama Association of Chiefs of Police Appointee

Representative April Weaver
Chair
House Health Committee

Senator Jim McClendon
Chair
Senate Health Committee

LaBeatrix Tatum
Clergy
Governor Appointee

Jannah Bailey
Private Citizen
Governor Appointee

Michael A. Taylor, M.D.
Private Citizen
Governor Appointee

Chris Newlin
Private Citizen
Governor Appointee

Sallye Longshore
Private Citizen

Tim Davis
Private Citizen
Governor Appointee

Cindy Hines
Private Citizen
Governor Appointee

Bob Hinds
Private Citizen
Governor Appointee

Data Sources

Centers for Disease Control and Prevention (CDC) Wide-ranging online data for epidemiologic research (WONDER) - https://wonder.cdc.gov/ucd-icd10