Mississippi Child Death Review Panel
2019 Annual Report

A REVIEW OF 2017 INFANT AND CHILD MORTALITY

MISSISSIPPI STATE DEPARTMENT OF HEALTH

Submitted to:

Chairmen of the House Public Health and Human Services Committee

Senate Public Health and Welfare Committee

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Appointee, Speaker of the House of Representatives

Acknowledgements

This report reflects the hard work of the Mississippi Child Death Review Panel and those who respond directly to infant and child fatalities. Without the work of coroners, medical examiners, law enforcement, emergency medical services, physicians, social service agencies, and countless others, the Child Death Review Panel would not be able to review these deaths.

Table of Contents

Page Number

Foreword

Every child death is a significant event for Mississippi families. The toll that each loss takes on our communities is significant. There is no possible way to quantify the grief that each family and community bears with these losses and we acknowledge those families and the suffering they have endured with the deaths of these children, who are irreplaceable members of our society.

The Mississippi Child Death Review Panel is tasked with the challenging task of examining pediatric deaths from a range of preventable causes, by taking a close look at the details of each death and identifying those significant factors that played a role in these children's deaths. Based on the data gathered through our examinations the team then makes recommendations on where we can improve the health and safety of children in Mississippi.

This report is the result of a year long effort in the review of preventable child deaths in Mississippi in 2017. It is the product of numerous dedicated professionals representing agencies across the state and involves every county. Members of the Child Death Review Panel volunteer their time and effort to generate this report and the recommendations that are made with the single goal of reducing pediatric deaths in Mississippi. It is our hope that this report raises awareness of critical issues facing our children today and that the readers of this report would take action based on these recommendations to join us in protecting our most valuable resource, our children.

Owen B. Evans, MD, Co-Chair
Appointee, Speaker of the House of Representatives

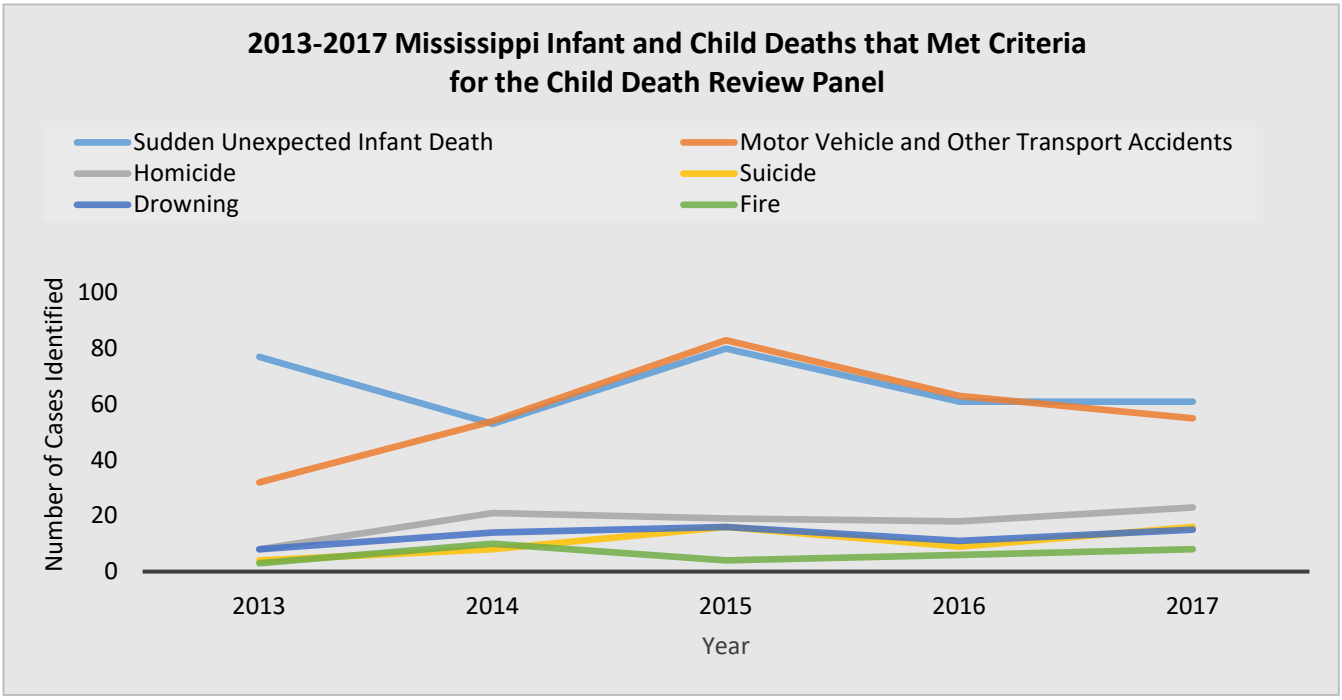
Kristen Adams, MD, Co-Chair
University of Mississippi Medical Center

Executive Summary

This report summarizes the infant and child deaths related to unintentional injuries or violence that occurred in 2017. These often sudden and unexpected deaths greatly impact the lives of families and community members. These deaths also impact Mississippi. By reviewing the circumstances and risk factors associated with the death, it provides a lens on how to better safeguard infants and children in the state from untimely deaths.

In 2017, there were 551 infant and child deaths. Of these deaths, 186 were due to injuries or violence related to accidents, homicides, suicides or considered undetermined. The majority were sudden unexpected infant deaths and motor vehicle/other transport accidents—the most preventable deaths accounting for 116 deaths, 61 and 55 respectively. Between 2015 and 2017, motor vehicle/other transport accident deaths decreased from 83 to 55 deaths. Sudden unexpected infant deaths remained the same for 2016 and 2017, a marked decrease from the 80 cases identified in 2015. Homicide, suicide, drowning, and fire deaths increased from 2016 to 2017. There were 23 homicides in 2017, the highest it has been in the last three years. Continued diligence in tracking the prevalence of these fatalities is necessary to see if prevention efforts are working, and if not, how to change direction.

This year the annual report contains case examples to provide a better understanding of the infant and child deaths reviewed. These examples are not based on real people, but instead highlight risk factors that have been noted during the review of 2017 infant and child deaths.



Child Death Review Panel Members

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Introduction

The Mississippi Child Death Review Panel (CDRP) was established by House Bill 560 becoming effective July 1, 2006. The intent of the legislation is to foster the reduction of infant and child mortality and morbidity in Mississippi and to improve the health status of infants and children. The review of these fatalities provide insight on factors that lead to the death, trends of behavior patterns, increases or decreases in the number of causes of death, and gaps in systems and policies that hinder the safety and wellbeing of Mississippi's children. Through the review process, the CDRP develops recommendations on how to most effectively direct state resources to decrease infant and child deaths in Mississippi.

Child Death Review Process

The CDRP reviews all child deaths from birth to under 18 years old due to unnatural causes. This excludes child deaths due to cancer, congenital anomalies, prematurity, and communicable diseases. Causes of death categorized as "undetermined/unknown" are also reviewed if natural causes cannot be ruled out. Most cases reviewed are residents of Mississippi; however, non-Mississippi residents are reviewed if the incident and/ or death occurred in Mississippi.

Child death cases are provided by the Mississippi State Department of Health Office of Vital Statistics by the calendar year. The cases are categorized by manner of death as accident, homicide, suicide, undetermined, pending investigation, or natural causes. Cases with cause of death indicated as injury, actions that lead directly to the death, or circumstances of an accident that produced the fatal injury are selected for review. These selected cases largely fall into the following causes of death: Sudden Unexplained Infant Death (SUID), Sudden Infant Death Syndrome (SIDS), motor vehicle accidents, homicides, suicides, fire-related, drowning, and other. The category of "other" includes incidents by which a small number of cases appeared in that calendar year.

Cases are prepared for panel review by gathering death investigation reports, SUIDI forms, autopsy reports, toxicology reports, police reports, and any other documents that can clearly demonstrate the sequence of events that led to the death. Each case is reviewed individually by a panel member who is responsible for presenting the case summary to the panel at large for further discussion. It is through this process that the panel develops recommendations to decrease the number of infant and child fatalities.

Lack of documentation is one of greatest hindrances to the efficiency of the CDRP. The CDRP depends on thoroughly completed, timely, and accurate reports to assess the circumstances that led to the child's death. Without this information, the CDRP is not able to fully execute its duties.

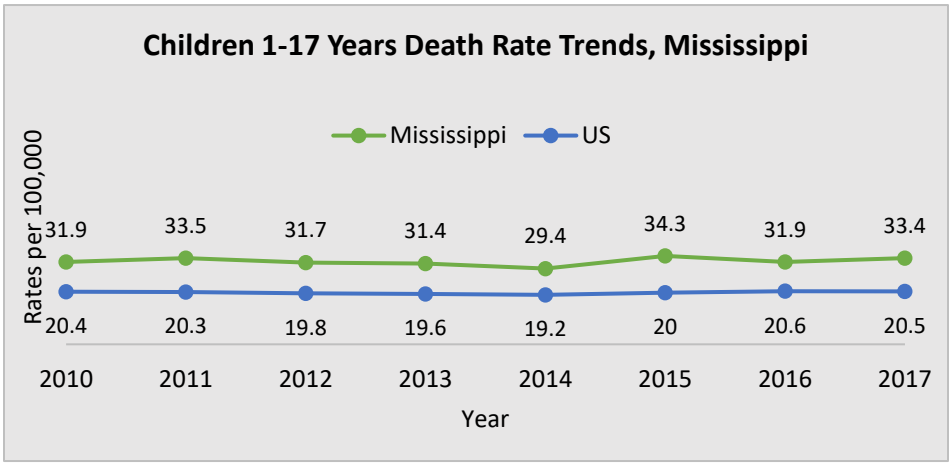
Purpose and Data Sources

This annual report provides an overview of the cases reviewed by CDRP and its recommendations. This report is compiled using Mississippi Vital Statistics and the National Fatality Review Case Reporting System. The National Fatality Review Case Reporting System assists the CDRP with tracking trends and risk behaviors in the cases reviewed.

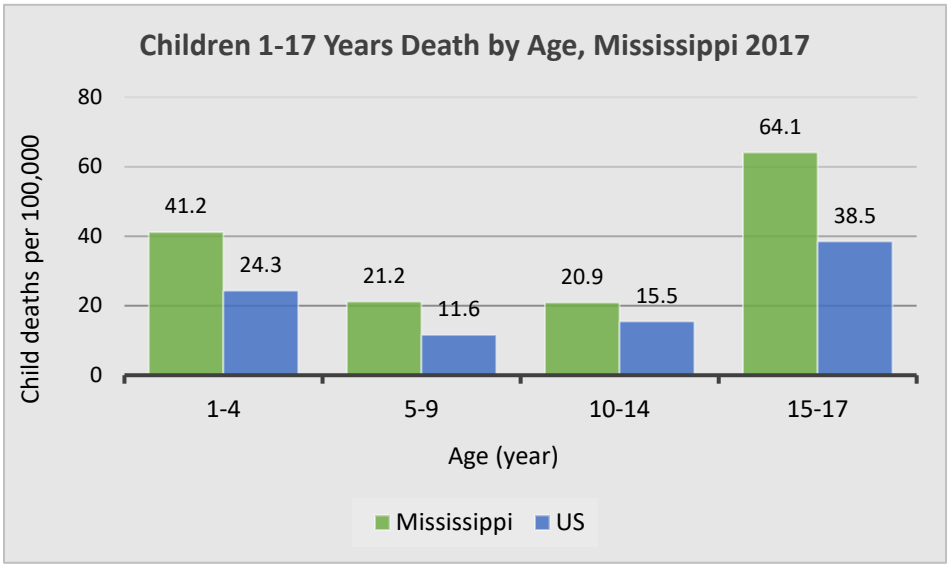
2017 Child and Infant Mortality

Child Mortality

In 2017, there were 551 child deaths that occurred from children under 18 years old, including 325 deaths among infants and 226 deaths among children 1 to under 18 years old. The overall child death rate has declined from 2010 to 2017 in both the US and Mississippi. However, the child death rate in Mississippi is still higher than the national average. In both Mississippi and the US, the child death rate is highest among children ages 15-17 years followed by those ages 1-4.

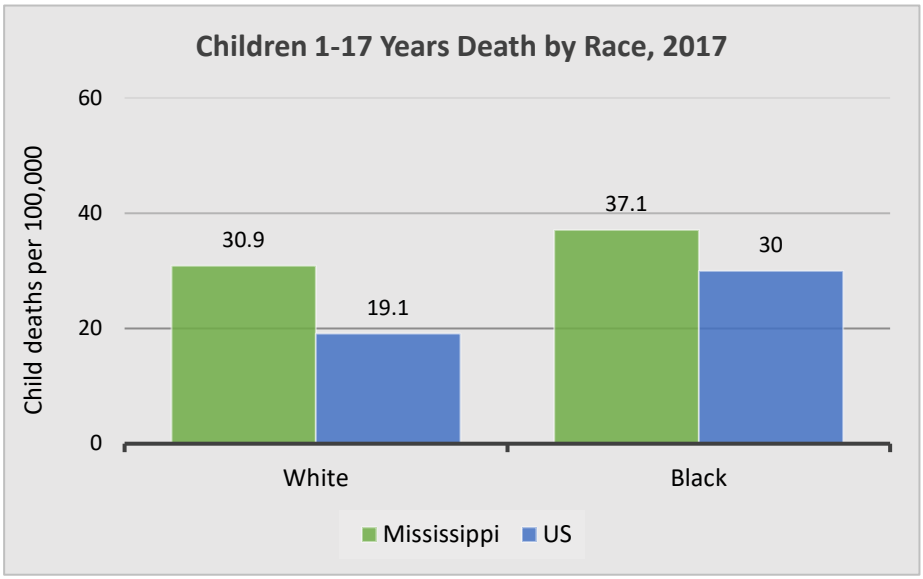


Data Sources: Mississippi Vital Statistics and CDC Wonder

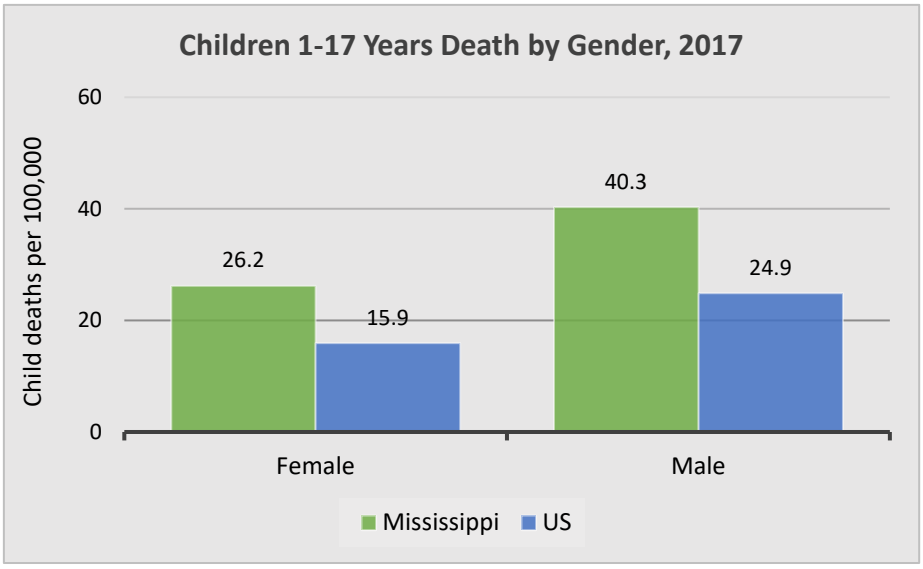


Data Sources: Mississippi Vital Statistics and CDC Wonder

Additionally, the child death rate is higher among Blacks compared to Whites in both the US and Mississippi. The child mortality rate among males is higher than females in both the US and Mississippi.



Data Sources: Mississippi Vital Statistics and CDC Wonder



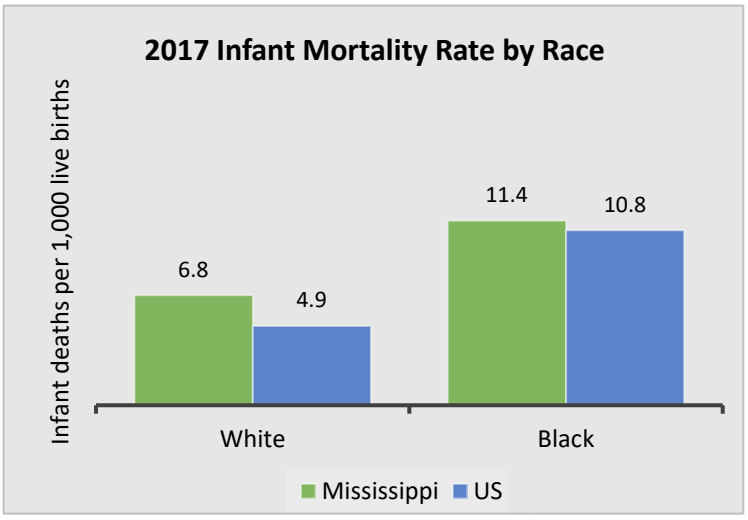
Data Sources: Mississippi Vital Statistics and CDC Wonder

Infant Mortality

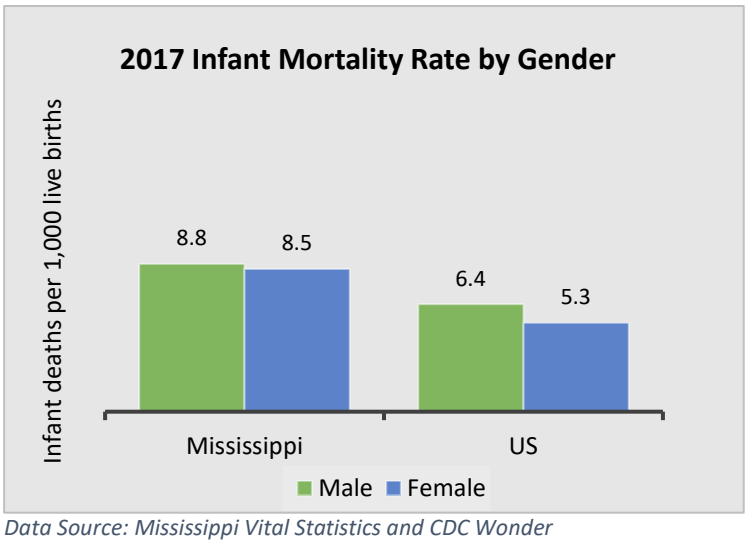
In 2017, there were 325 infant deaths that occurred from birth to 365 days of age. The overall infant mortality rate declined from 2008 to 2017 in both the US and Mississippi. However, the infant mortality rate in Mississippi is still higher than the national average.

Data Source: Mississippi Vital Statistics and CDC Wonder

The infant mortality rate among Blacks is almost twice compared to the Whites in both US and Mississippi. The infant mortality rate among males is slightly higher than females in both US and Mississippi.



Data Source: Mississippi Vital Statistics and CDC Wonder



Data Source: Mississippi Vital Statistics and CDC Wonder

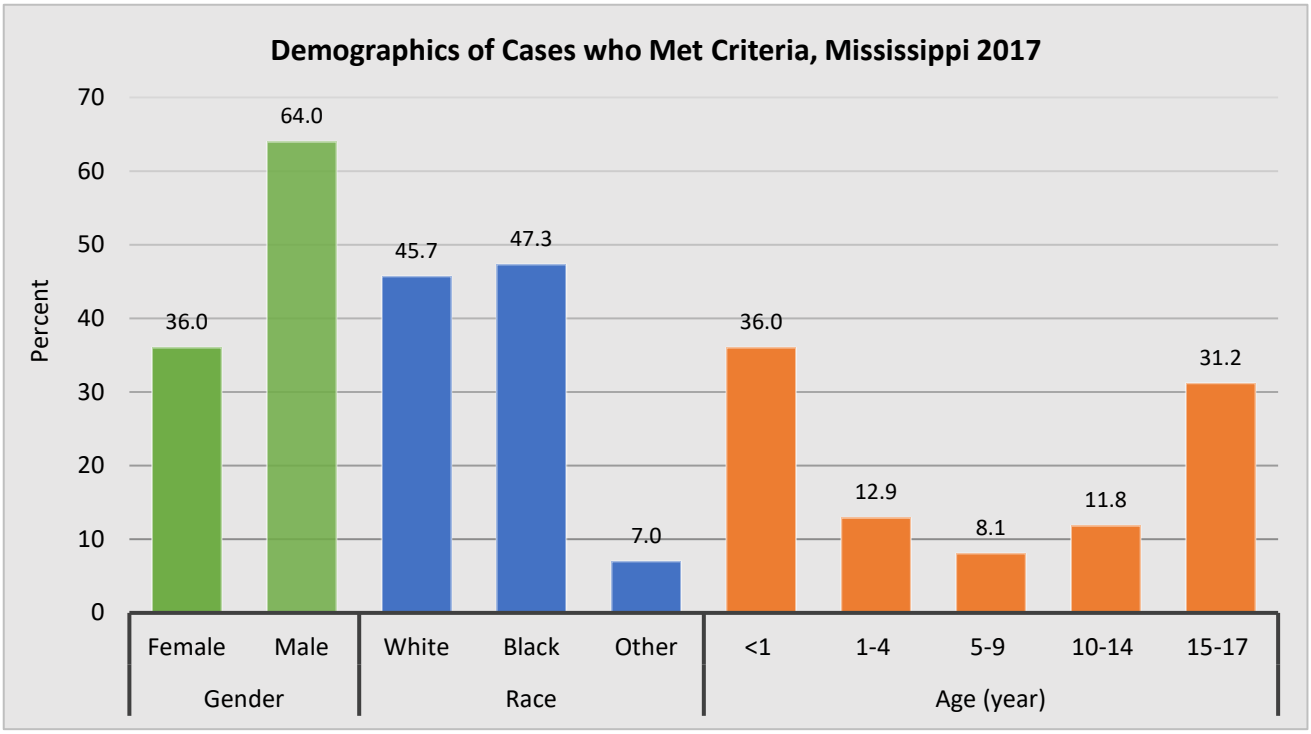
Reviewed Case Findings

Demographics

Overall, 186 deaths met the criteria for review by the CDRP. Of those, 67 (36.0%) were female and 119 (64.0%) were male; 85 (46.0%) were White, 88 (47.0%) Black, 13 (7.0%) were Other races; 67 (36.0%) were infant, 24 (13.0%) aged 1-4 years old, 15 (8.0%) aged 5-9 years, 22 (12.0%) aged 10-14 years, and 58 (31.0%) aged 15-17 years.

The Child Death Review Panel reviewed 153 of the 186 cases that met the criteria. Of those reviewed, 57 cases (37.0%) were female and 96 cases (63.0%) were male; there was an equal number of White and Black cases reviewed (71 cases each) both being 46.0%, and 11 cases (7.0%) were listed as 'Other' race. In addition, 64 (42.0%) were infant, 18 (12.0%) aged 1-4 years old, 11 (7.0%) aged 5-9 years, 16 (10.0%) aged 10-14 years, and 44 (29.0%) aged 15-17 years.

Infants accounted for 36.0% (67 cases) of all cases that met the criteria for review and 42.0% (64 cases) of all cases reviewed by the CDRP. Children aged 1-17 years accounted for 64.0% (119 cases) of all cases that met the criteria for review and 58.0% (89 cases) of all cases reviewed by the CDRP.

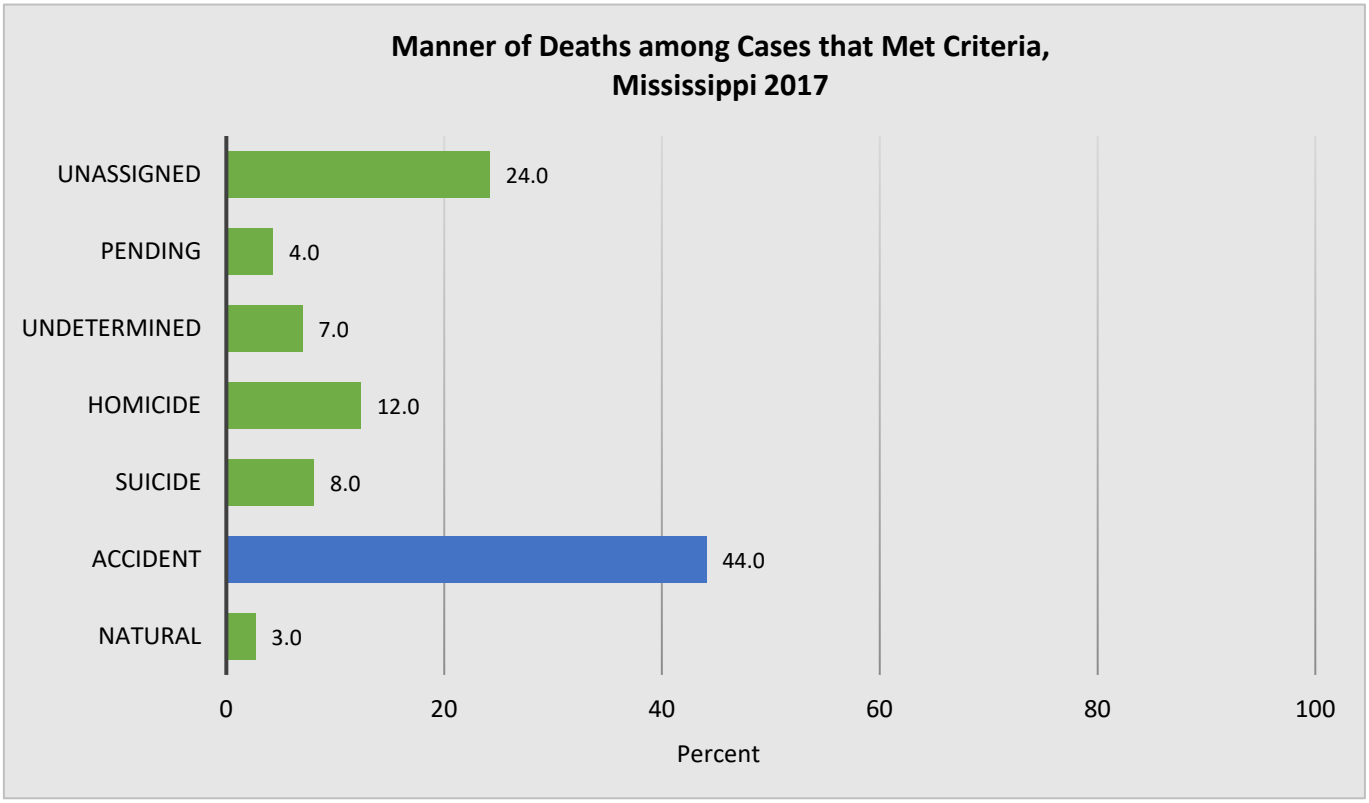


Data Source: Mississippi Vital Statistics

Manner and Cause of Death

By manner of death, of the 186 cases that met the criteria for review, 5 cases (3.0%) had natural death, the majority or 82 cases (44.0%) had accident related death, 15 cases (8.0%) suicide, and 23 cases (12.0%) homicide. The manner of death was undetermined for 13 cases (7.0%), 8 cases (4.0%) had pending manner of death, and 45 cases (24.0%) did not have a manner of death listed.

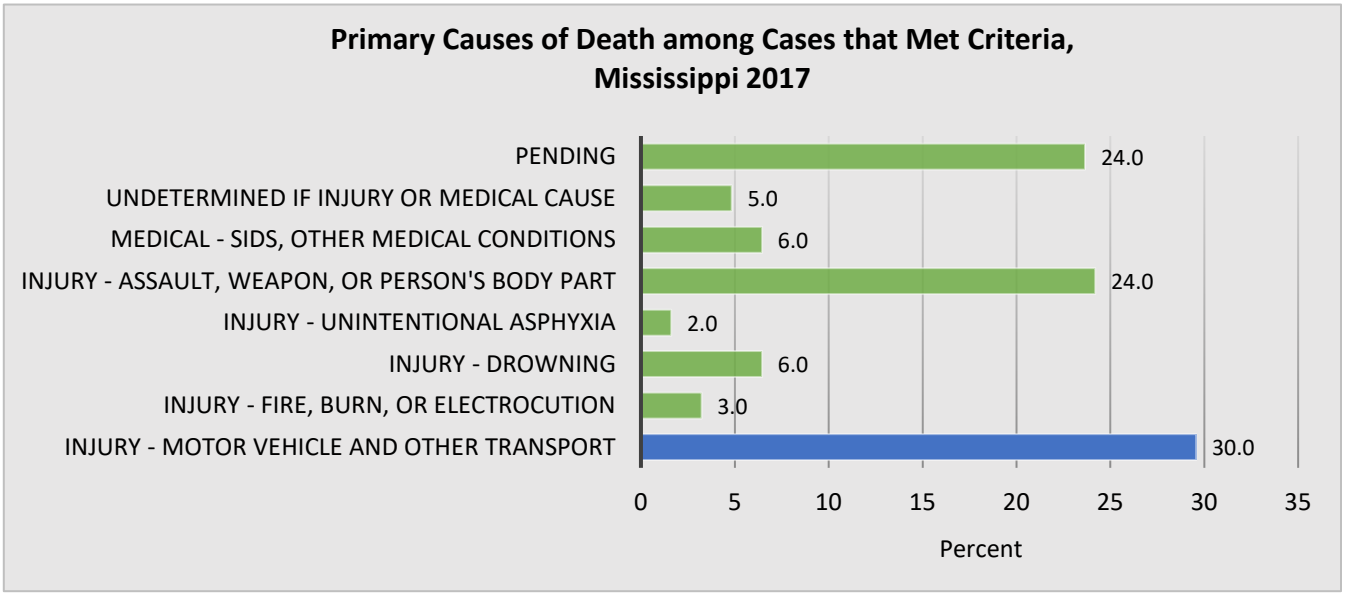
Of the 153 cases reviewed by the CDRP, the majority or 59 cases (39.0%) had accident related death, 12 cases (8.0%) suicide, and 21 cases (14.0%) homicide. The manner of death was undetermined for 12 cases (8.0%), 7 cases (5.0%) had pending manner of death, and 42 cases (27.0%) did not have a manner of death listed.



Data Source: Mississippi Vital Statistics

Of the 186 cases that met the criteria for review, 55 cases (30.0%) had MVA and other transport-related death selected as the primary cause of death, 6 fire-related cases (3.0%), 12 drowning cases (6.0%), 3 unintentional asphyxia (2.0%), 45 assault-related cases (24.0%), 12 cases (6.0%) SIDS or other medical conditions listed as its primary cause of death. Nine cases were undetermined if injury or medical cause and 44 cases had 'pending' listed as the primary cause of death. During the selection process, it was noted that 2 fire-related cases were pending cause of death, and 3 drowning cases had causes of death related to natural instead of direct injury of the accident as noted in the manner of death.

Of the 153 cases the CDRP reviewed, 36 cases (24.0%) were MVA and other transport-related death, 6 fire-related cases (4.0%), 9 drowning cases (6.0%), 3 unintentional asphyxia cases (2.0%), 36 assault-related cases (24.0%), and 11 (7.0%) SIDS or other medical cases. Ten cases were undetermined if injury or medical cause and 42 cases had 'pending' as the primary cause of death.

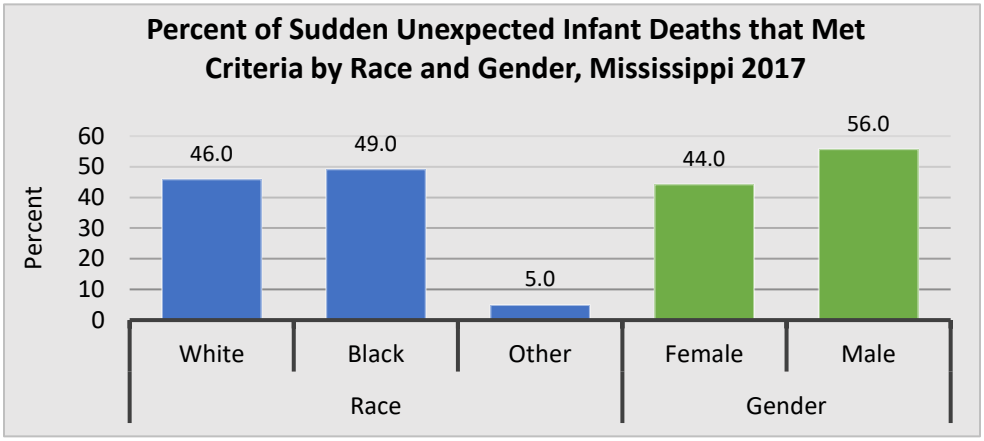


Data Source: Mississippi Vital Statistics

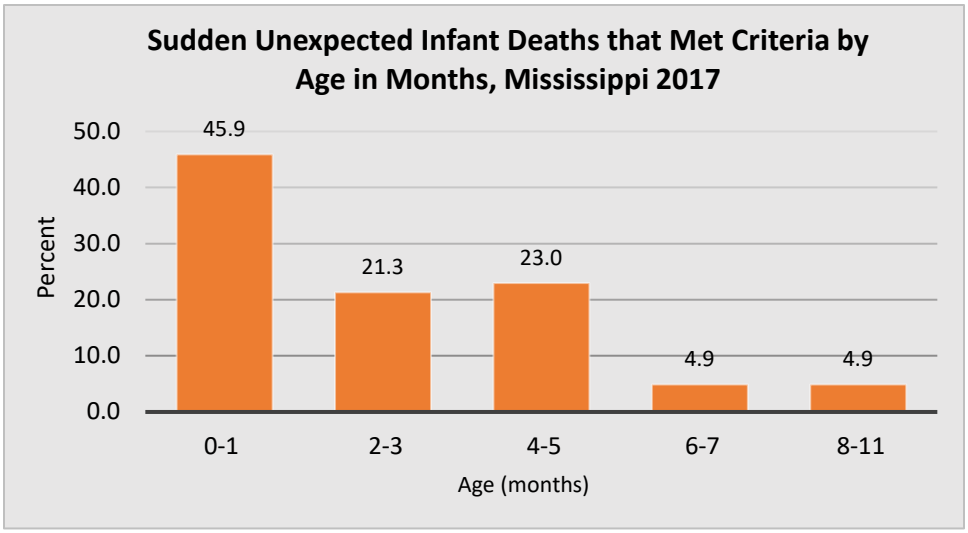
Infant Deaths: Sudden Unexpected Infant Death and Sudden Infant Death Syndrome

In 2017, there were 61 infant deaths that classified as sudden unexpected infant death (SUID). SUID is a term used to describe the sudden and unexpected death of an infant less than 1 year old in which the cause is not known before investigation. Sudden unexpected infant deaths often occur in the sleep environment or during sleep. Sudden unexpected infant deaths fall into three major causes of death: undetermined, Sudden Infant Death Syndrome (SIDS), or accidental suffocation or asphyxiation. Most of the infant deaths (63.9%or 39 cases) were pending manner and cause of death. Seven cases (11.5%) were classified as SIDS; 4 cases (6.6%) were ruled as accident and 11 cases (18.0%) were undetermined.

Of the 61 sudden unexpected infant death cases that met the criteria for review, 58 cases were reviewed by the CDRP. Of the cases reviewed, 28 cases (48.0%) were White, 28 cases (48.0%) were Black, and 2 cases (3.0%) reviewed listed 'Other' as their race. By age in months, 25 cases (43.0%) were 0-1 month, 13 cases (22.4%) were 2-3 months, 14 cases (24.0%) were 4-5 months, and 3 cases (4.9%) were 6-7 months and 8-11 months respectively. Twenty-six cases (45.0%) were female and 32 cases (55.0%) were male.

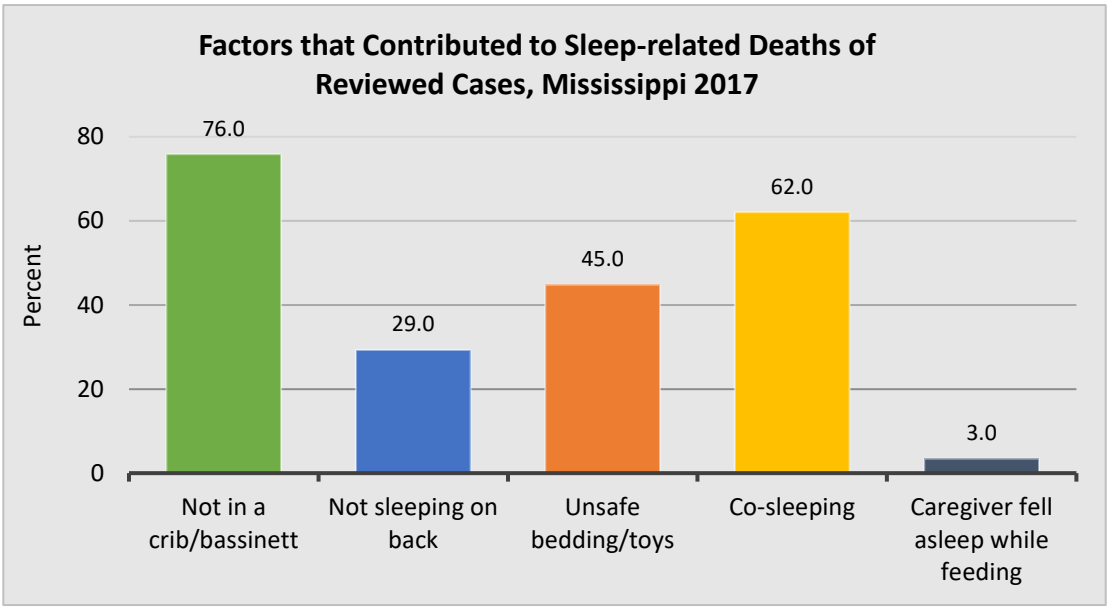


Data Source: Mississippi Vital Statistics



Data Source: Mississippi Vital Statistics

Of the 58 cases, 76.0% (44 cases) did not sleep in a crib, bassinette, side sleep, or baby box, 29.0% (17 cases) were not sleeping on their back, 45.0% (26 cases) had unsafe bedding or toys in the sleeping area, 62.0% (36 cases) were sleeping with other people (including sleeping with obese adults), and 3.0% (2 cases) had the caregiver/supervisor to fall asleep while feeding (including bottle and breast feeding). Unsafe sleep practices (infants not sleeping alone, on their back, or in a crib, bassinet, or pack n'play) continue to be a contributing factor of sudden unexpected infant deaths.



Data Source: National Center for Fatality Review Case Reporting System

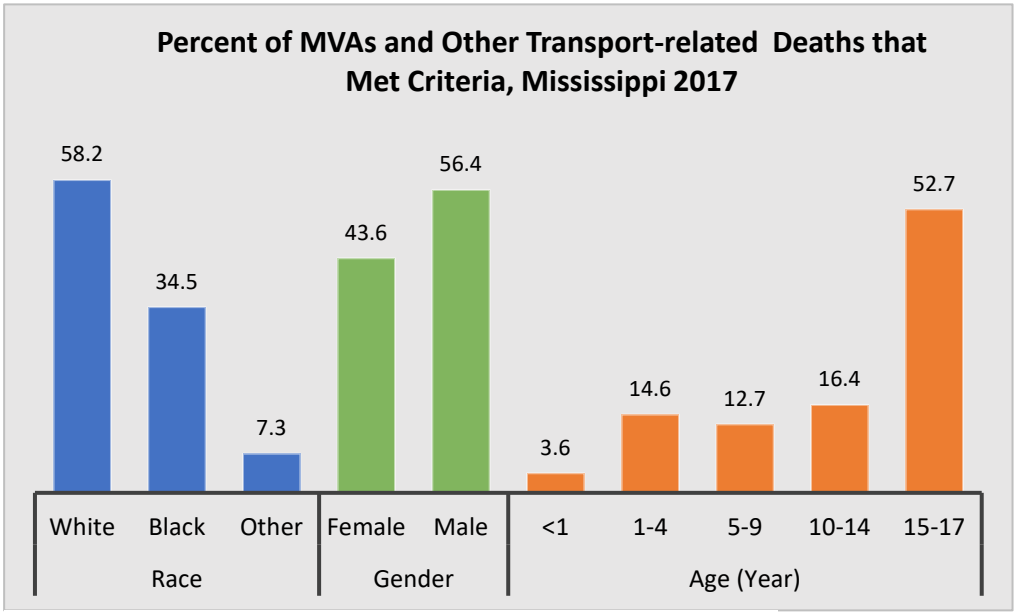
Case Example: Sudden Unexpected Infant Death

(1) Mother wakes up to baby crying. She feeds baby a bottle, but baby is still fussy. She takes baby to bed with her husband laying the baby face up between them. She wakes up to find baby not breathing and cold to touch.

(2) Parents leave baby with a family member to babysit. The family member lays the baby to sleep on its stomach in an adult bed with pillows around baby as a bumper, a blanket, and beside a sleeping child. Family member goes to check on baby to find the child has rolled over the pillows and the baby is wedged into the child's side.

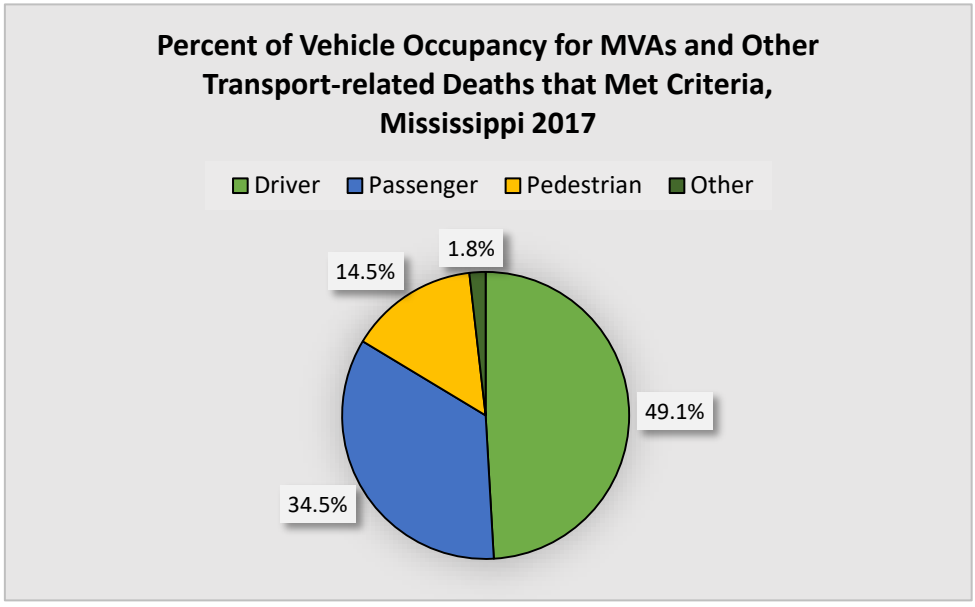
Motor Vehicle and Other Transport Accidents

There were 55 MVA and transport-related death in 2017 that met criteria for review. Of these 36 cases reviewed, 23 cases (63.9%) were White, 9 cases (25.0%) were Black, and 4 case (11.1%) were identified as Other race; 18 cases (50.0%) were female and 18 cases (50.0%) were male. Two cases (5.6%) were infant, 6 cases (16.7%) were aged 1-4 years, 3 cases (8.3%) were aged 5-9 years, and 7 cases (19.4%) were aged 10-14 years, and 18 cases (50.0%) were aged 15-17 years.



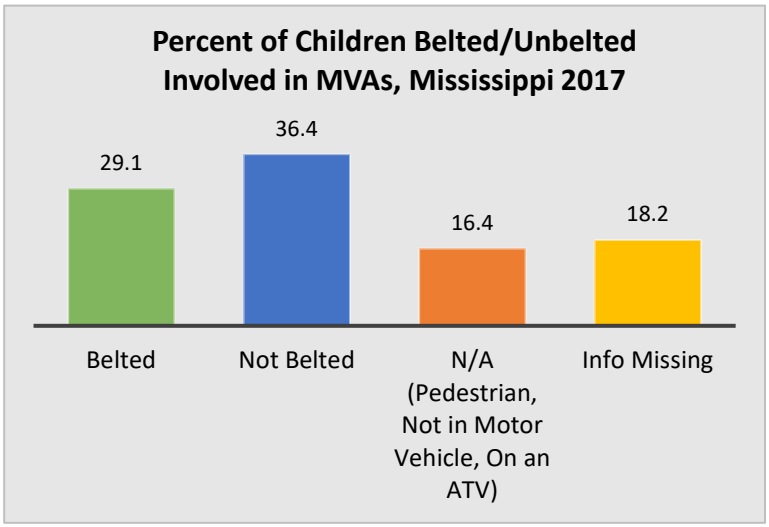
Data Source: Mississippi Vital Statistics

The majority of cases were positioned as drivers, followed by passenger, among those who met criteria for review and those reviewed by CDRP. Of the cases that met criteria, 27 cases (49.1%) were drivers in the MVA (including ATVs), 19 cases (34.5%) were passengers, and 8 cases (14.5%) were pedestrians.

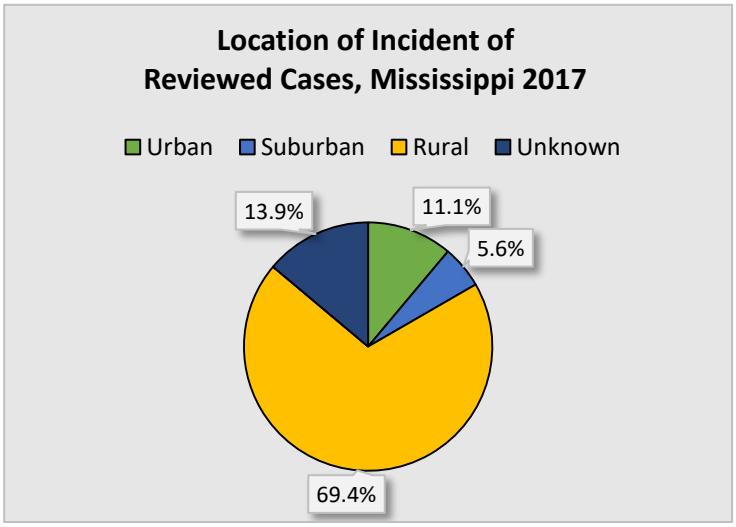


Data Source: Mississippi Vital Statistics

Of the 55 deaths, 16 cases (29.1%) were wearing seat belts in the MVA, 20 cases (36.4%) were not wearing seat belts, 9 cases (16.4%) were either a pedestrian, were not in a motor vehicle, or on an ATV, and 10 cases (18.2%) had this information missing from their case. Of the motor vehicle and other transportation related cases reviewed 25 cases (69.4%) occurred on rural roads while 4 cases (11.1%) happened in urban areas and 2 cases (5.6%) occurred in suburban areas. Five cases (14%) did not give specific detail on the accident location.



Data Source: Mississippi Department of Transportation



Data Source: National Center for Fatality Review Case Reporting System

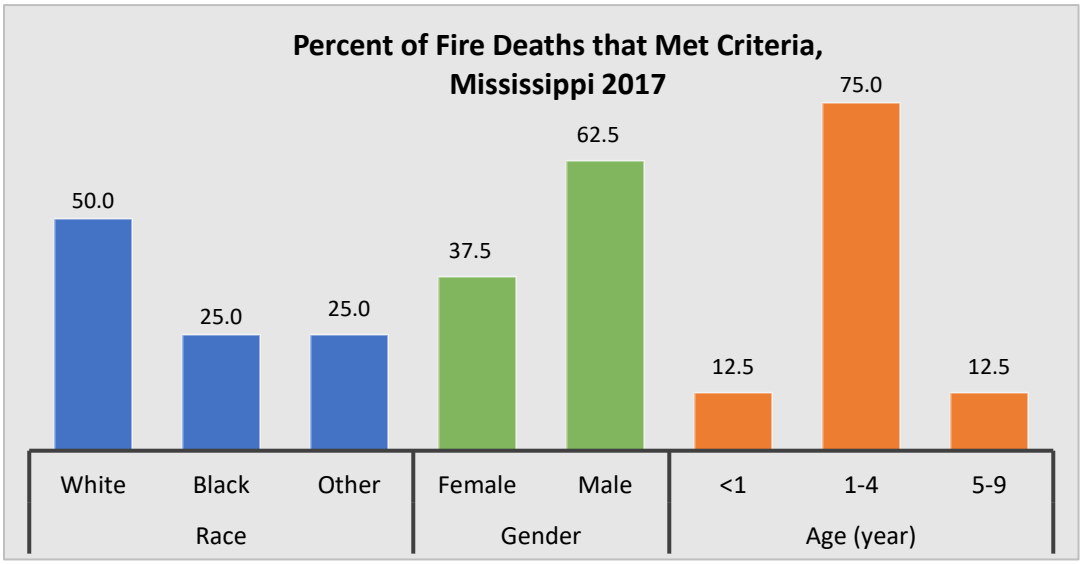
Case Examples: Motor Vehicle and Other Transport Accidents

(1) A teenager is driving home from school with two friends in a sedan. The driver loses control of the car and swerves off the road hitting a tree on the front passenger side. The driver is unrestrained and is ejected from the car. The back passenger is also unrestrained and is ejected from the passenger side. The front passenger has severe injuries from striking the tree.

(2) A group of friends are riding ATVs. While riding, they decide to have a race. During the race, one of the riders decides to jump ahead by speeding and making a sharp turn to cut in front of the other riders. Due to the speed the rider was driving the ATV, the turn caused the ATV to flip several times. The rider was not wearing a helmet and was instantly killed.

Fire, Burn, or Electrocution

There were 8 fire-related deaths in 2017 that met criteria for review; all were reviewed by the CDRP. Of those, 4 cases (50.0%) were White, 2 cases (25.0%) were Black, and 2 cases (25.0%) were identified as Other. Three cases (37.5%) were female and 5 cases (62.5%) were males All fire-related deaths occurred in the age group between <1 and 9 years. Seventy-five percent (6 cases) were aged 1-4 years, 25% (2 cases) were aged <1 and aged 5-9 years, one case respectively.



Data Source: Mississippi Vital Statistics

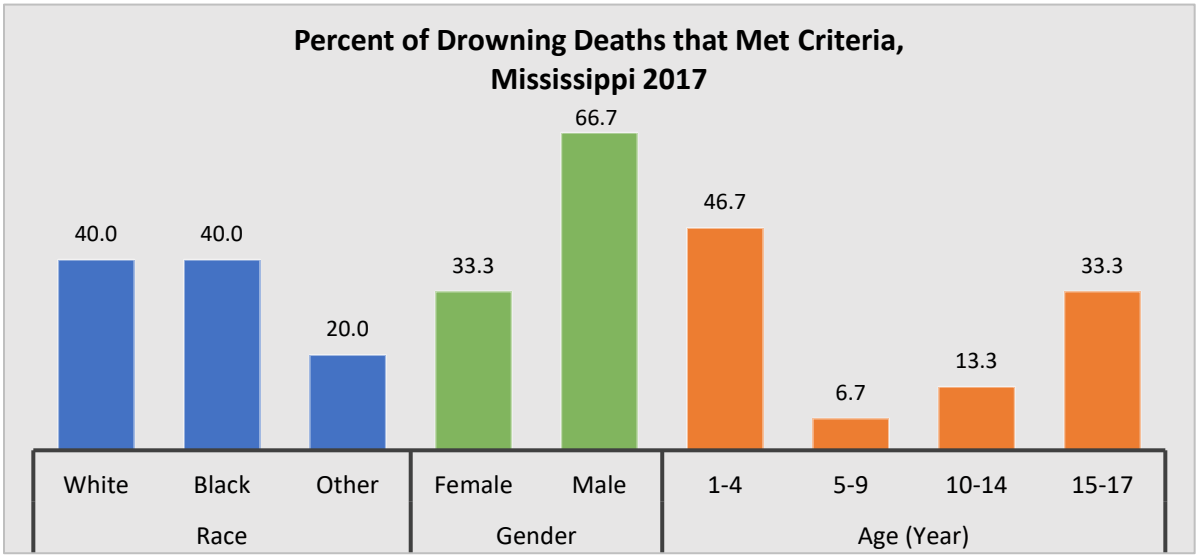
Of the fire cases reviewed, 4 cases (50.0%) involved a trailer or mobile home, 3 cases (38.0%) were in single homes, and 1 case (12.0%) was identified as Other. Smoke alarm presence were noted in only 3 cases (38.0%). Two cases (25.0%) included a child who was not supervised, and three cases (37.5%) noted the escape or rescue efforts worsened the fire or factors delayed the fire departments arrival.

Case Example: Fire

A family living in a mobile home is having issues with its heating and cooling unit. The family decides to buy two space heaters to warm the bedrooms. During the night, the space heater in the child's bedroom overheats, sparks, and catches on fire. The space heater is located at the bottom of the child's bed, and the fire spreads to it. The parents wake up to the smell of smoke and a child's cry. The fire has already spread throughout the bedroom and to the door. The parents exit the home and run to the child's bedroom window to break it. The parents try to coax the child to exit out the window, but the child does not come.

Drowning

There were 15 drowning-related deaths in 2017 that met criteria for review. Of these 12 cases were reviewed, 41.7% (5 cases) were Black,41.7% (5 cases) were White, and 16.7% (2 cases) were identified as Other. Seventy-five percent (9 cases) were male and 25.0% (3 cases) were female. Five cases (41.7%) were aged 1-4 years, 4 cases (33.3%) were aged 15-17 years, one case (8.3%) was aged 5-9 years, and 2 cases (16.7%) were aged 10-14 years.



Data Source: Mississippi Vital Statistics

Of the drowning cases reviewed, 58.3% (7 cases) were in a lake, river, pond, or creek, and 33.3% (4 cases) were in a pool, hot tub, or spa, and one case (8.3%) was in an unknow location. During the review it was only noted in 2 cases (16.7%), that the child could swim. One case (8.3%) noted use of alcohol or drugs prior to the incident, and one case was noted for lack of supervision.

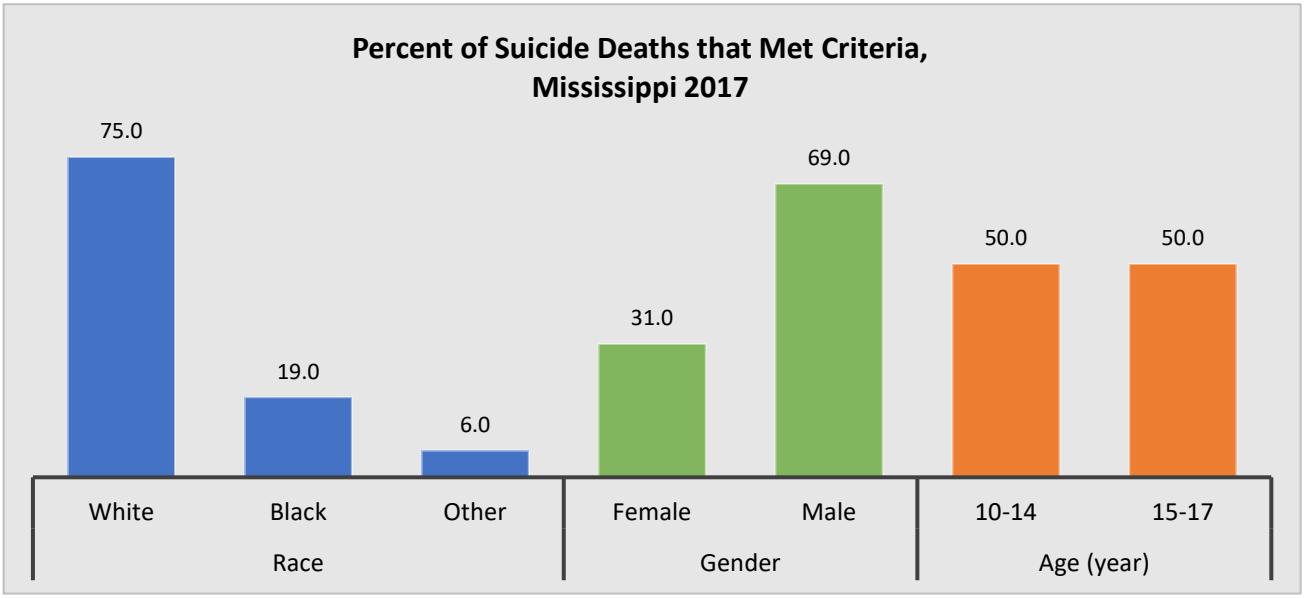
Case Examples: Drowning

(1) A mom and her three children are wrapping up an afternoon at the neighborhood pool. The mom and the oldest child finish picking up and calls for the other two children to head to the car. The one child comes. The mom asks where is the youngest, the child silently shrugs. The mom walks to the area the children were playing in and doesn't see the child. The mom nervously walks towards the pool and sees the child at the bottom.

(2) A group of teenagers, boys and girls, meet up at night to hangout and swim. As the teenagers start to leave, one friend is nowhere to be seen. The group begins to discuss who last saw the friend. It was learned the friend was challenged to a distance race, and it was assumed the friend had swam back to the shallower end. The friends call 911 and emergency services arrive. It takes two days for the body of the teenager to be retrieved.

Suicide, Homicide, and Firearm-related Deaths

There were 16 suicide deaths in 2017 that met criteria for review. Of the 13 cases the CDRP reviewed, 69.2% (9 cases) were White, 23.1% (3 cases) were Black, and one case (7.7%) was identified as Other. Ten cases (76.9 %) were male and 3 cases (23.1%) were female. Eight cases (61.5%) were aged 15-17 years and 5 cases (38.5%) were 10-14 years aged.



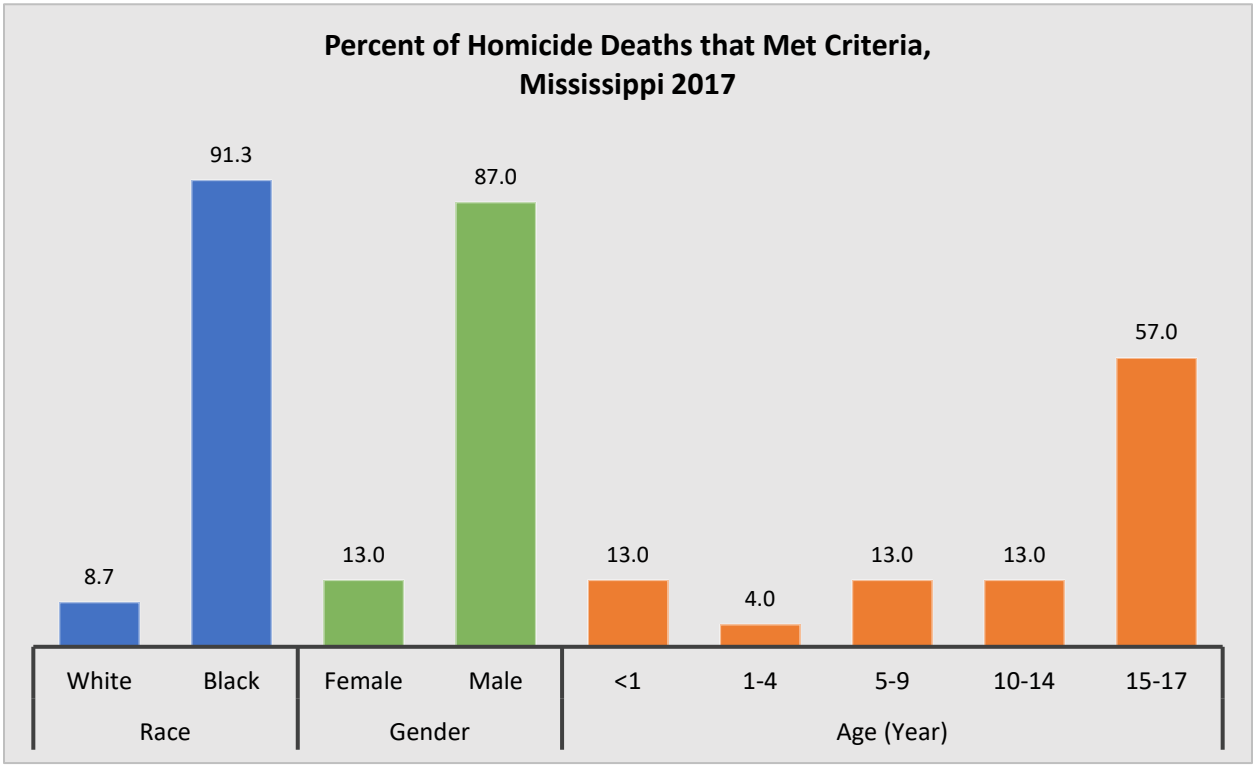
Data Source: Mississippi Vital Statistics

Of the suicide cases reviewed, 5 cases (38.5%) were completed unexpectedly. Two cases (15.4%) involved a child talking about suicide prior to the act, and 2 cases (15.4%) had left a note. Of the cases reviewed, an argument occurred prior to the act in six cases (46.2%). Three cases (23.1%) noted serious school problems with the child before the act was committed.

Case Example: Suicide

Pre-teen had recently been bullied at school which led to a fight and disciplinary action by the school. Upon returning to school, the bullying of the pre-teen continues. Pre-teen was found by sibling in a compromised position and nonresponsive. The sibling notified the parents and called 911. When emergency medical services arrive, the preteen is pronounced dead. When law enforcement arrives, the parents are questioned about the pre-teen's behavior over the last few weeks. The parents state that the child was well behaved overall, but the day before an argument happened over poor grades.

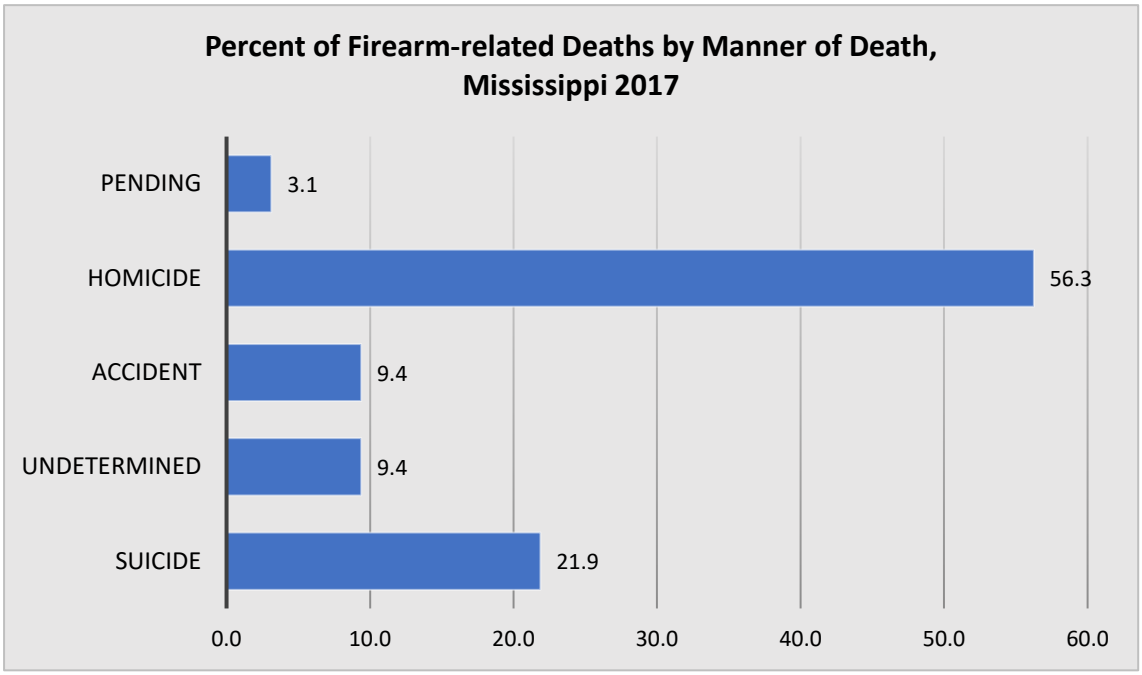
There were 23 homicide deaths in 2017 that met criteria for review. Of the 21 cases the CDRP reviewed, 2 cases (9.5%) were White, and 19 cases (90.5%) were Black, 3 cases (14.3%) female and 18 cases (85.7%) were male. There were 3 cases (14.3%) aged <1 year. The remainder occurred in the age group between 1 and 17 years. One case (4.8%) was aged 1-4 years, 3 cases (14.3%) were aged 5-9 years, 2 cases (9.5%) were aged 10-14 years, and 12 cases (57.1%) were aged 15-17 years.



Data Source: Mississippi Vital Statistics

Among suicide, homicide, accident, and undetermined manner of deaths, there were 32 cases that had a cause of death related to firearms. There were 3 cases (9.4%) with the manner of death ruled as accident, 3 cases (9.4%) with the manner of death being undetermined, 18 cases (56.3%) with the manner of death being homicide, and 7 cases (21.9%) with the manner of death being ruled as suicide. One case (3.1%) was pending the manner of death.

Of the 7 cases (21.9%) of accident, undetermined, and pending manner of death caused by firearm, all cases were male and Black. By age, 2 cases (28.6%) were aged 1-4 years, 2 cases (28.6%) were aged 5-9 years, and 3 cases (42.9%) were aged 15-17 years.



Data Source: Mississippi Vital Statistics

Case Example: Firearm-related Death

Two siblings are staying at a relative's home for the weekend. While playing hide and seek, the siblings find a gun in the relative's bedroom. The siblings begin playing with the gun. The gun goes off. The relative enters bedroom to find one sibling crying, and the other laying on floor in a pool of blood. The gun is on the ground next to the crying sibling.

Recommendations and Prevention Efforts

The Child Death Review Panel makes the following recommendations to the Chairmen of the House Public Health and Human Services Committee and the Senate Public Health and Welfare Committee.

State Leaders:

- Establish a deadline for Sudden Unexplained Infant Death Investigation (SUIDI) Form to be completed within 25 calendar days of death.
- Increase fines up to $50 for restraint violations of motor vehicle drivers and passengers with a portion of the money allocated to the trauma fund.
- Legislation that requires firearms to be traced through the Bureau of Alcohol, Tobacco, and Firearms and Explosives when a child has been injured or fatally injured by a firearm.
- Representative from the Department of Mental Health assigned to the Child Death Review Panel.
- Representative from the District Attorney's Office assigned to the Child Death Review Panel.

Healthcare System and Providers:

- Mass media campaigns discouraging co-sleeping and a realistic approach to helping put babies to sleep.
- Prenatal peer group support for expecting families.
- Increase awareness about the importance of preconception health.

School Administrators, Teachers, and Counselors:

- Incorporating a curriculum on risky behaviors for new drivers in high school health courses.

Local Leaders, Communities, and Families:

- More calls to the Child Protection Services hotline for infant and child fatalities from accidents, homicides, suicides, or any injury related deaths.
- Public service announcements on water safety, swimming safety, and other safety precautions for residential lakes, ponds, and pools.
- Public Service announcements on fire safety and the importance of smoke alarms in homes.