

Mississippi Child Death Review Panel

**Annual Report of Child Deaths
in Mississippi
2016**

Mississippi State Department of Health

Mississippi Child Death Review Panel 2016 Annual Report

**The 2016 Annual Report Presents Data Related to Child
Deaths that Occurred in Mississippi during 2015**



*This report is dedicated to all children who died
in Mississippi during 2015 and to their grieving families*



MISSISSIPPI STATE DEPARTMENT OF HEALTH

INTRODUCTION

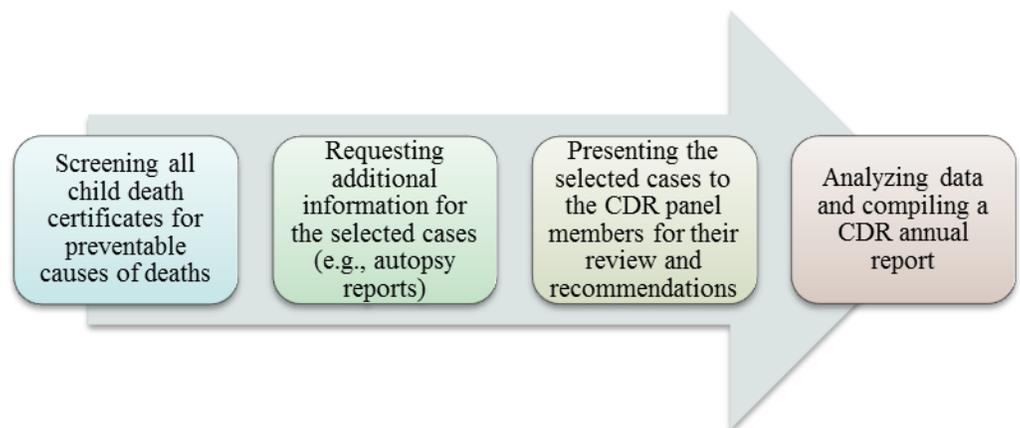
THE CHILD DEATH REVIEW PROCESS: PURPOSE AND DATA

KEY FINDINGS

- In 2015, there were 590 child deaths between 0 and 17 years of age.
- Among the 590 all-cause deaths, 220 (37%) cases were deemed preventable and extensively reviewed by the CDR panel.
- Accidents were the leading cause of preventable deaths, accounting for 139 (63%) cases. Motor-vehicle fatalities were responsible for 83 (38%) cases of all non-natural deaths.
- Compared to 2014, there were 29 more motor vehicle child deaths in 2015 - an increase of 54%.
- The number of suicides doubled from 8 to 16 cases from 2014 to 2015.
- Fatal head injuries accounted for 26% (58 case) of all reviewed deaths.

Overview: The Mississippi Child Death Review (CDR) report is produced annually to describe child deaths reviewed by the CDR panel. The panel reviews child death cases that are attributed to non-natural causes such as sudden unexpected infant deaths, accidents, injuries, homicide, suicide, or undetermined causes.

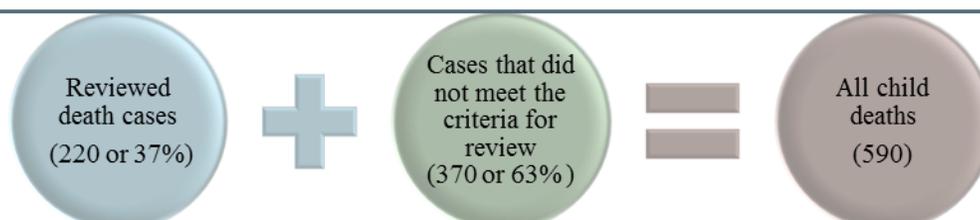
Objectives: The objectives of the review process are to identify risk factors associated with preventable child deaths, improve child death investigation, identify gaps in preventive measures, make recommendations for policy implementations, share information on patterns and trends of child deaths, and educate the public about child safety. Utilizing detailed child death surveillance data, the end goal of this collaborative work between different state agencies, experts, community organizations and state legislature is preventing future child deaths in Mississippi.



CDR Data: Allowing for an in-depth analysis of child death causes, the CDR data set is compiled from multiple sources of information. Data abstraction for the panel-reviewed cases includes death and birth certificates, autopsy reports, coroner's reports, sudden unexplained infant death investigation reporting forms, toxicology reports, clinical records, and on-scene case narratives.

Case Selection: The CDR data set includes all potentially preventable infant deaths (live births \geq 20 weeks of gestation and birth weight \geq 350 grams) and child deaths (between the age of 1 and 17 years of age) that occur in Mississippi.

All-Cause Mortality: In addition to CDR data, this report presents data on all-cause child mortality. The source of all-cause (preventable and non-preventable) child deaths is based on death certificate data coded by implementing the International Classification of Diseases, Tenth Revision (ICD -10).



ALL-CAUSE CHILD MORTALITY: OVERVIEW AND DEMOGRAPHICS

KEY FINDINGS

- Infant deaths accounted for the highest percentage (354 cases or 60%) of all 590 preventable and non-preventable child deaths during 2015 (Figure 1).
- Compared to Caucasian children, African American children were disproportionately affected and had a higher mortality rate of 101 versus 68 child deaths per 100,000 Mississippi children (Figure 2).
- Accidents, homicide and suicide, accounted for a total of 180 deaths - nearly one third of all deaths. These findings reveal that the group of preventable child deaths was the leading cause of child mortality in Mississippi during 2015 (Table 1).

Figure 1: All-Cause Child Mortality: Age Distribution, MS, 2015

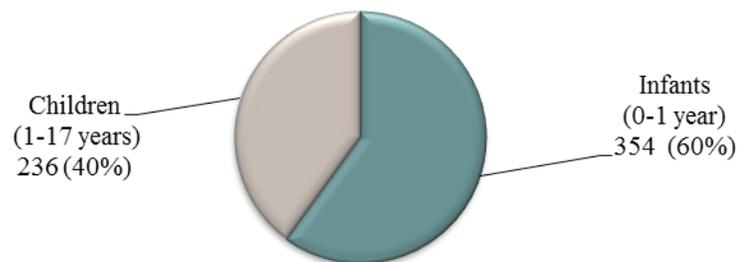
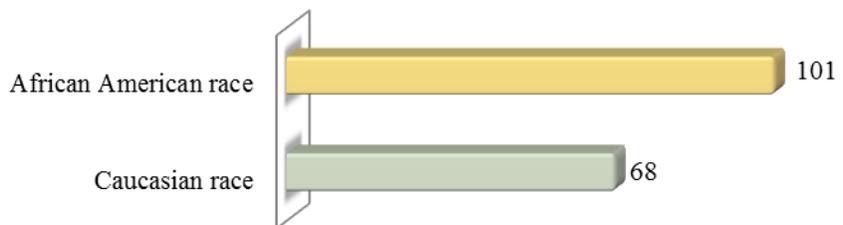


Figure 2. All-Cause Child Mortality: Racial Distribution Rate (Number of Deaths per 100,000 MS Children), MS, 2015



Note: Number of deaths: African Americans = 317, Caucasians = 258, all other racial groups = 15. The death rates for all other racial groups were excluded from this analysis and figure because the number of deaths for all other racial groups was small (less than 20 cases). Therefore, the calculated rates may be unreliable.

Table 1. All-Cause Child Mortality: All Child Deaths including Infant Deaths, MS, 2014 and 2015

Causes of Death	2014		2015	
	Number of Deaths	Percentage of Total Deaths	Number of Deaths	Percentage of Total Deaths
Accidents, homicide, and suicide	161	31%	180	30%
Conditions originating in the perinatal period	151	29%	163	28%
Congenital malformations and deformations	78	15%	71	12%
Other and unknown	133	25%	176	30%
Total	523	100%	590	100%

Data source: Office of Vital Records, Mississippi State Department of Health

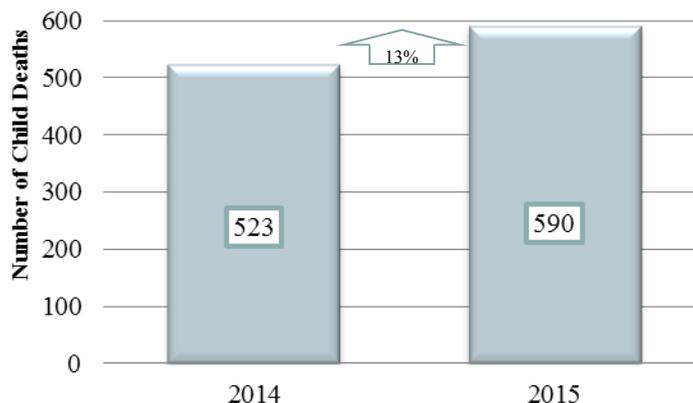
Note: The category of "other and unknown" includes all other causes of death as well as deaths due to unknown causes. The group "other" includes a large number of causes of death. To meaningfully summarize data, this table presents information related to the top three categories of deaths only. These top three categories, however, accounted for the vast majority of child deaths during 2014 and 2015.

ALL-CAUSE CHILD MORTALITY: PERCENTAGE CHANGE, 2014 AND 2015

The total number of all-cause child deaths increased by 13% from 523 deaths in 2014 to 590 deaths in 2015 (Figure 3).

In agreement with the increase in the numbers of child deaths, the death rate showed an upward movement of 13% between 2014 and 2015 from 72 deaths to 81 deaths per 100,000 Mississippi children (0 - 17 years of age).

Figure 3. All-Cause Child Mortality: Total Numbers, MS, 2014 and 2015



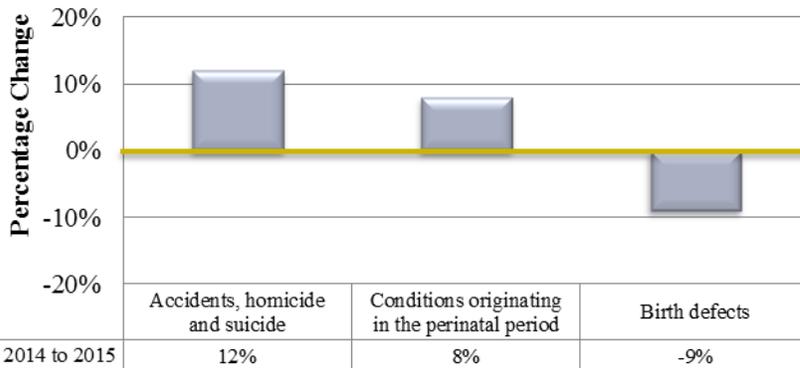
FINDINGS

While the number of deaths due to accidents, homicide and suicide increased by only 2% (3 cases) between 2013 and 2014, the number of these deaths surged by 12% (19 cases) from 2014 through 2015. The escalating number of non-natural child deaths in Mississippi underscores the importance of the CDR process for establishing the preventable causes of child deaths and proposing policy measures for their reduction.

Another worrisome finding is the increase of deaths related to conditions originating in the perinatal period (defined as the time before birth through the 28th day of life). Birth trauma, maternal health factors affecting the newborn, medical disorders associated with the length of gestation and fetal growth are among the conditions originating in the perinatal period. Compared to 2014, twelve more infant lives were lost in 2015 due to such conditions - an increase of 8% (Figure 4).

Providing regular prenatal care, addressing maternal morbidity, reducing harmful behaviors during pregnancy, and assuring access to good neonatal care for all newborns in Mississippi are preventive measures that can improve perinatal outcomes.

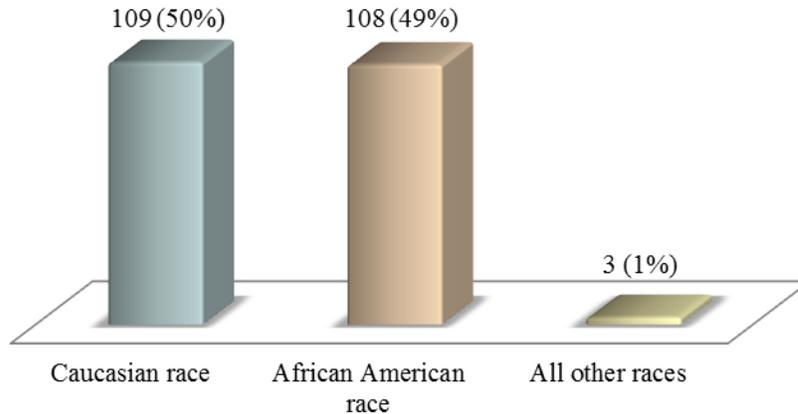
Figure 4. Top Causes of Child Mortality Percentage Change, MS, 2014 and 2015



■ Percentage change from 2014 to 2015

REVIEWED CHILD DEATHS: DEMOGRAPHIC CHARACTERISTICS

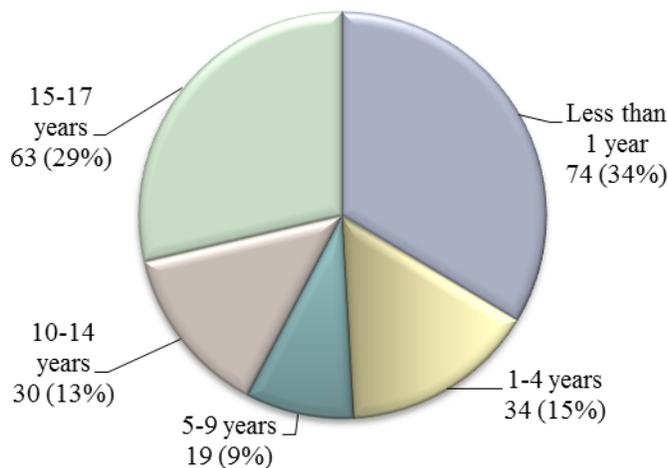
**Figure 5. Reviewed Child Deaths:
Racial Distribution, MS, 2015**



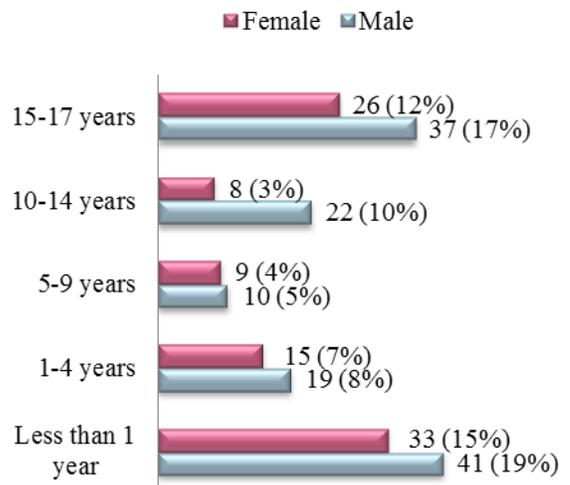
FINDINGS

- Among the 220 reviewed deaths, 109 (50%) were Caucasian and 108 (49%) were African American (Figure 5).
- As depicted in Figure 6, infants accounted for 34% (74 cases) of all reviewed deaths, followed by children in the age group of 15-17 years (63 cases or 29%).
- The majority of the cases reviewed were male (59% or 129 cases). This discrepancy was particularly noted among older children (Figure 7).

**Figure 6. Reviewed Child Deaths:
Age at Time of Death, MS, 2015**



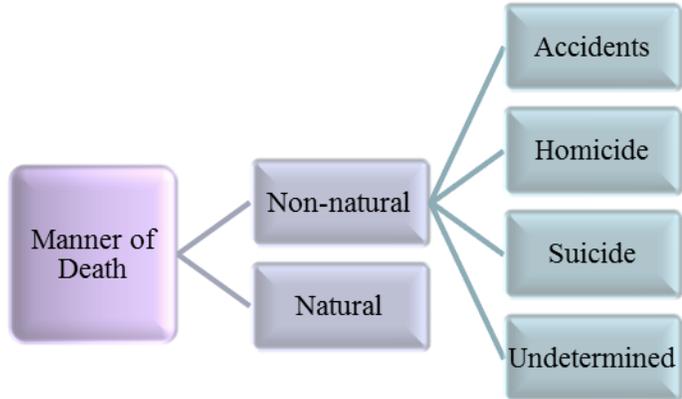
**Figure 7. Reviewed Child Deaths:
Age and Sex Distribution, MS, 2015**



REVIEWED CHILD DEATHS: MANNER OF DEATH

Manner of Death describes how the child died and explains how the cause of death arose. Deaths are categorized as natural and non-natural based on the manner of death. Natural deaths result from a disease process and non-natural deaths are attributed to injuries. Non-natural deaths are further classified into the following groups: accident, homicide, suicide, and undetermined.

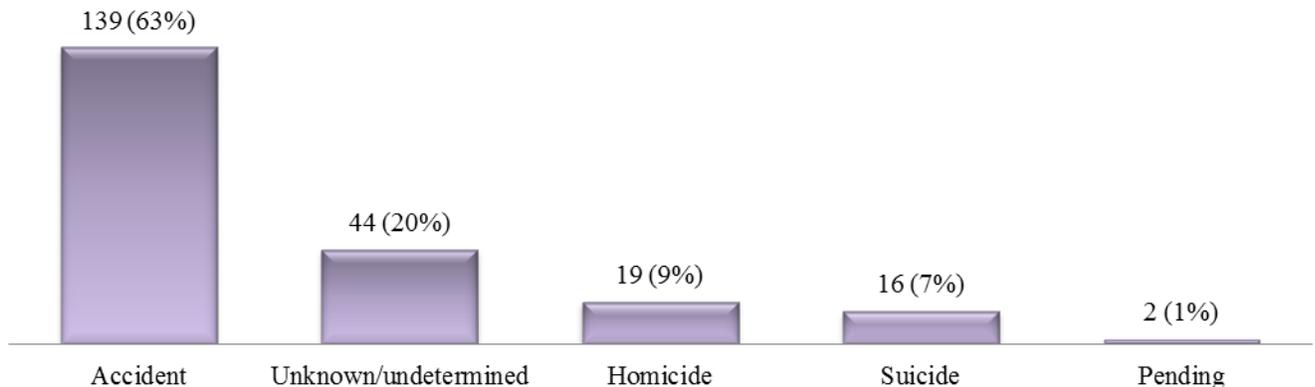
Note: While the cause of death may be known (e.g., gunshot-inflicted death), the manner of death may be still undetermined (e.g., accident, homicide, or suicide).



FINDINGS

- The majority of reviewed death cases were caused by accidents (139 cases or 63%).
- Homicide accounted for 9% (19 cases) and suicide for 7% (16 cases) of all reviewed deaths.
- One fifth (44 cases) of all reviewed child deaths were categorized as undetermined (Figure 8). The causes for such a high number of undetermined deaths by manner of death are not known.
- There were 3 deaths due to sudden infant death syndrome (SIDS). While SIDS cases are considered natural by manner of death, these deaths are still reviewed by the CDR panel. In this report, these deaths are included in the undetermined category by manner of death.

**Figure 8. Manner of Death:
Number and Percentage of Deaths among Reviewed Cases**



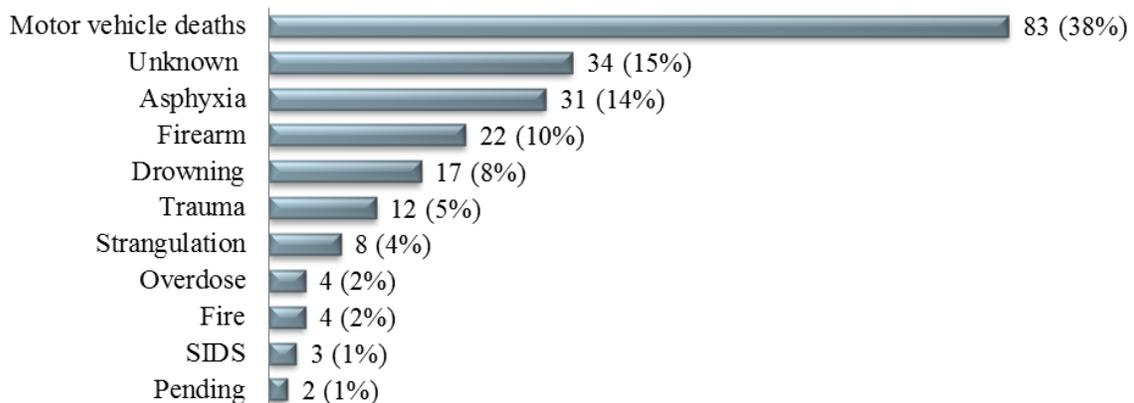
REVIEWED CHILD DEATHS: CAUSE OF DEATH

Cause of Death is the reason of a child death. The cause of death may be further classified as underlying (disease or injury that initiated the events resulting in death) or immediate (final disease or condition resulting in death).

FINDINGS

- *Of the reviewed cases, transportation-related deaths were the leading cause of death (83 cases or 38%) among children aged 0-17 years in 2015.*
- *Unknown cause of death was the second most frequently recorded category with 34 deaths (15%). While this finding warrants further investigation, our data do not allow to determine the reasons for the high number of unknown causes of child deaths.*
- *Asphyxia, which is usually associated with infant deaths due to an unsafe sleep environment and practices, was the third leading cause of death (31 or 14%).*
- *Firearm injuries (22 deaths or 10%) and drowning (17 cases or 8%) were the fourth and fifth leading causes of death, respectively.*

**Figure 9. Cause of Death:
Number and Percentage of Deaths among Reviewed Cases**



Note: Sudden unexpected infant deaths (SUID) are listed in Figure 9 as undetermined.

Alarming Findings

In comparison to 2014, the number of motor vehicle fatalities among children in Mississippi increased from 54 cases to 83 cases by 54 % in 2015. This surge in such deaths was most pronounced among children younger than 15 years of age. The number of motor vehicle fatalities among children younger than 15 years more than doubled from 20 cases in 2014 to 44 cases in 2015, a finding implicating adult driving as the main reason for this worrisome trend.

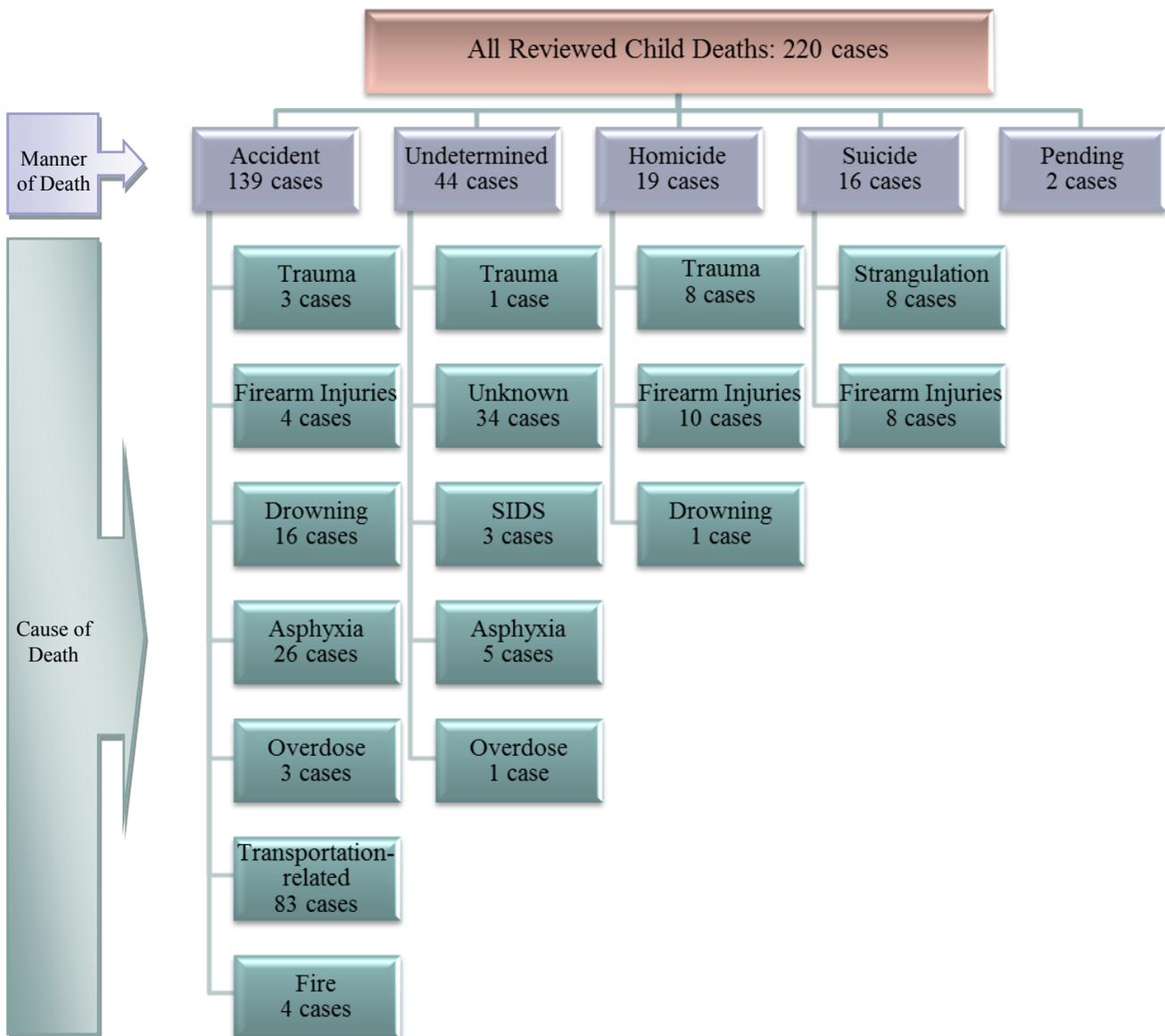
During the same period, an increase in transportation-related deaths has been reported across the nation. From 2014 to 2015, all age fatalities from motor vehicle crashes rose by 7.2% nationwide, the largest percentage increase in five decades. This alarming trend requires the urgent implementation of new state-level preventive initiatives against transportation-related child deaths in Mississippi.

Source: 2015 Motor Vehicle Crashes: Overview. Traffic Safety Facts. Research Note. US Department of Transportation and National Center for Statistics and Analyses. August, 2016. Accessed at: <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812318>.

REVIEWED CHILD DEATHS: MANNER AND CAUSE OF DEATH—SUMMARY

Child Death Review Panel Recommendations

Between 2014 and 2015, the number of reviewed child deaths with an undetermined manner increased by 175% from 16 cases to 44 cases. During the same period, the unknown causes of child deaths escalated from 13 cases to 34 cases by 162%. The reasons for such a sharp increase in the number of unexplained child deaths are unclear. Determining the exact nature and cause of death, however, can be a complex and difficult task. In addition, the reliability of mortality data collection can be impacted by several constraints such as insufficient resources, training, or time for performing thorough death investigations. Successful mortality prevention requires, however, an evidence-based research and thorough knowledge of the reasons for deaths. Therefore, the Child Death Review Panel recommends that all child deaths due to suspected non-medical causes are investigated in a systematic, methodical, and complete manner in Mississippi.



REVIEWED CHILD DEATHS: MOTOR VEHICLE ACCIDENTS

FINDINGS

- There were 83 motor vehicle-related fatalities in 2015. There was one infant death; the rest 82 deaths occurred in the age group between 1 and 17 years.
- Thirty-nine of the 83 motor vehicle-related deaths occurred among teenage drivers and passengers (15-17 years of age). In other words, this age group accounted for 47% of all transportation-related deaths (Figure 10).
- Interestingly, more female (46 cases or 55%) than male child deaths (37 cases or 45%) were attributable to motor vehicle crashes (Figure 11). This finding demonstrates a reversed trend compared to previous years.
- There were more motor vehicle-related deaths among Caucasians (51 cases or 62%) compared to African Americans (30 cases or 36%) (Figure 12).

Figure 10. Transportation-Related Deaths: Age Distribution, MS, 2015

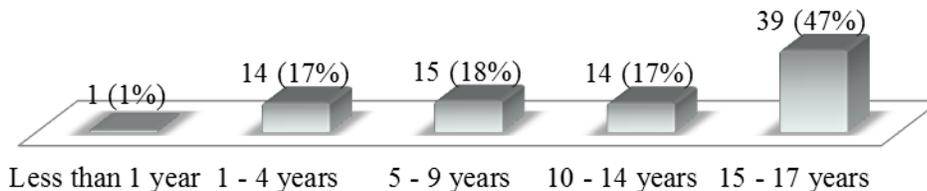


Figure 11. Transportation-Related Deaths: Sex Distribution, MS, 2015

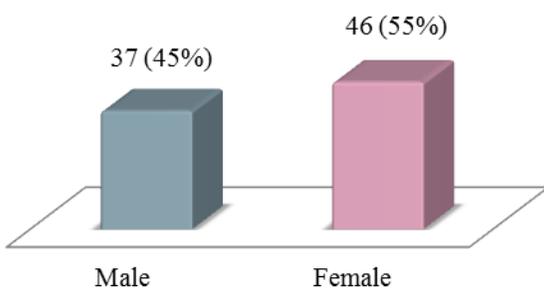
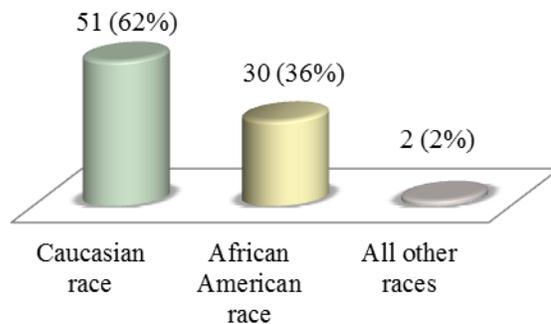


Figure 12. Transportation-Related Deaths: Racial Distribution



Public Health Prevention Strategies

- Seat belt use: parents should be good role models and always have their seat belts on
- Child seats: correct use of the appropriate car seat for each age group
- Attentive driving: no texting and driving
- No alcohol/drug use before or during driving
- Caution driving in neighborhoods and wearing reflective gear while walking at night in neighborhoods
- Graduated licensing: children should be carefully evaluated for adequacy in emotional readiness, experience, and driving skills by parents and authorities

REVIEWED CHILD DEATHS: MOTOR VEHICLE ACCIDENTS (CONTINUED)

FINDINGS

- Car accidents accounted for the majority of motor vehicle related child deaths (72 cases or 88%), but all-terrain vehicle (ATV) accidents claimed the lives of 9 children or 11% of all such deaths (Figure 13). The number of ATV-related child fatalities was the same in 2014, as compared to 2015.
- Among the 83 motor vehicle deaths, 49 (59%) children were passengers, 26 (32%) children were drivers, 6 (7%) children were pedestrians, one child was a biker (1%) and the position of one child remains unknown (Figure 14).
- Not using seat belts was confirmed in 39 cases (47%) of all MVA-related deaths and a seat belt or car seat was reported being used in 35% (29 cases) (Figure 15)

Figure 13. Type of Motor Vehicle Involved in Child Fatalities, MS, 2015

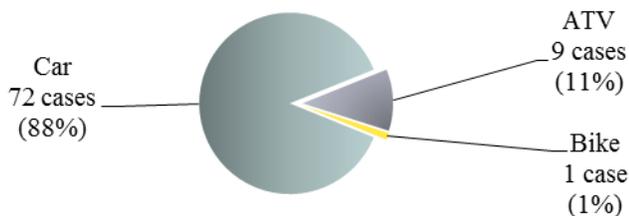


Figure 14. Motor Vehicle Fatalities: Position of Child at Time of Death, MS, 2015

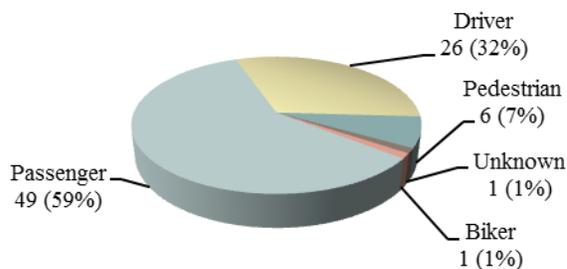


Figure 15. Motor Vehicle Fatalities: Use of Seat Belts or Car Seats, MS, 2015

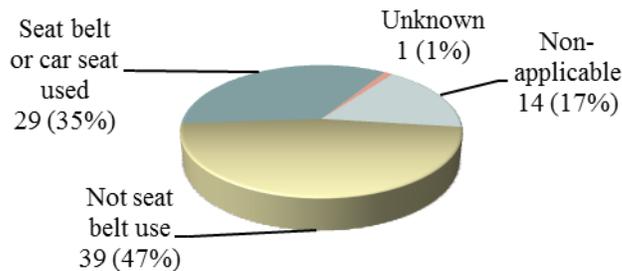


Table 2. Mississippi High School Youth Risk Behavior Survey, 2015, Motor-Vehicle Safety Questions

Behavioral Risk Factors	All	Female	Male
Percentage of students who never or rarely wore a seat belt	11.1%	8.2%	13.6%
Percentage of students who rode with a driver who had been drinking alcohol	24.3%	22.5%	25.9%
Percentage of students who drove when they had been drinking alcohol	7.2%	6.5%	7.8%

Risky Behaviors: According to the 2015 Mississippi Youth Risk Behavioral Survey, 11% of surveyed high school students never or rarely wore a seat belt and nearly one quarter rode with a driver who had been drinking alcohol (Table 2). Addressing these risk behaviors may decrease the number of child transportation fatalities.

Date Source: Centers for Disease Control and Prevention. The survey is conducted every two years and includes a representative sample of students from 9th through 12th grades. Available at: <https://nccd.cdc.gov/youthonline/app/Results.aspx?LID=MS>

REVIEWED CHILD DEATHS: MOTOR VEHICLE ACCIDENTS (CONTINUED)

Table 3. Graduated Driver Licensing, MS, 2016

Learner Stage			Intermediate Stage			Full Privilege Minimum age (Years/months)
Minimum age (Years/months)	Minimum duration (Months)	Required supervised driving hours (night)	Minimum age (Years/month)	Night time driving restrictions	Passenger restrictions	
15	12	None	16	Sunday - Thursday (10 p.m. - 6 a.m.) Friday - Saturday (11:30 p. m. - 6 a.m.)	None	16/6

Source: Governors Highway Safety Association. Available at: <http://www.ghsa.org/html/stateinfo/bystate/ms.html>

Table 3 presents characteristics of Mississippi’s Graduate Driver Licensing law. Table 4 displays some of the current best practices for graduated driver licensing according to the Insurance Institute of Highway Safety.

Available at <http://www.iihs.org/iihs/sr/statusreport/article>

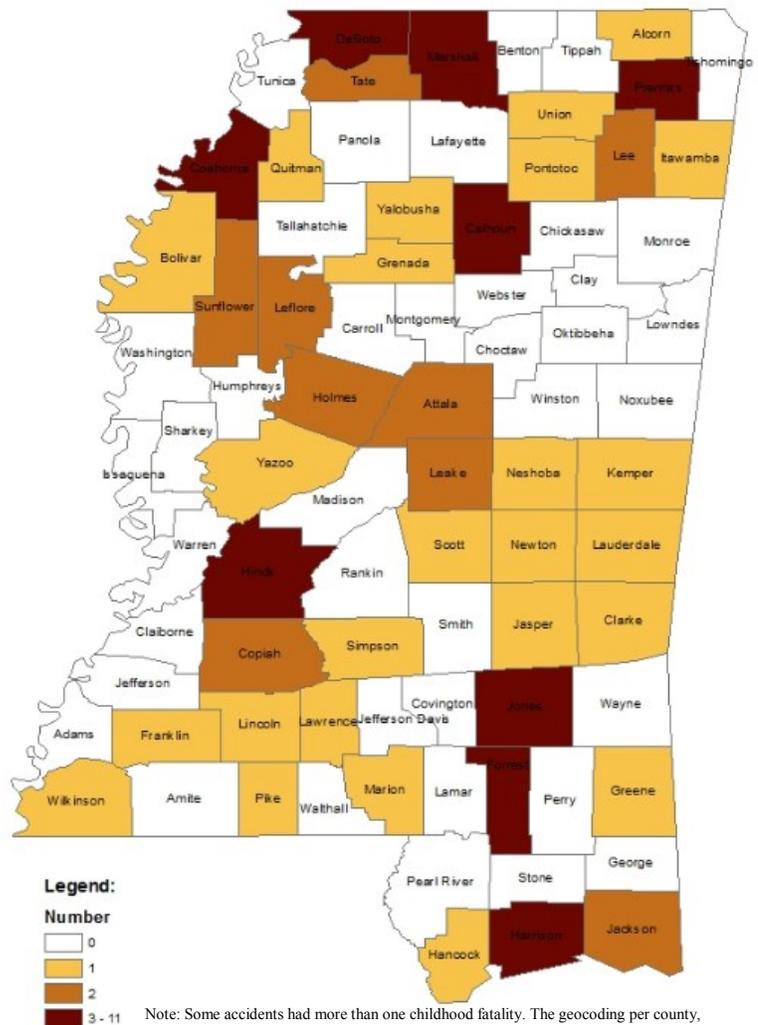
Table 4. Best Practices for Graduated Driving Licensing, US, 2016

Best Practice	Implemented in MS
Permit age at 16	No
70 supervised practice hours	No
Licensing age of 17	No
8 p.m. night driving restriction	No
No teen passengers	No

Child Death Review Panel Recommendations

- Enhancement and strengthening of Mississippi’s Graduated Driver Licensing law
- Adding a punishment to the current all-terrain vehicle law that provides a ban for driving on roads, but not a fine
- Introduction of community-based initiatives for increased safety education and training for ATV use, emphasizing the importance of helmet use
- More active enforcement of existing laws by law enforcement, including texting, seat belt, and car seat use
- Implementation of toxicology reports for all teen driver deaths
- Continuous strengthening of in-school driving/passenger/pedestrian safety education starting from an early age

Number of Fatal Childhood Accidents per County, MS, 2015

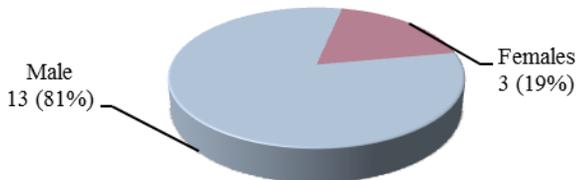


REVIEWED CHILD DEATHS: SUICIDE

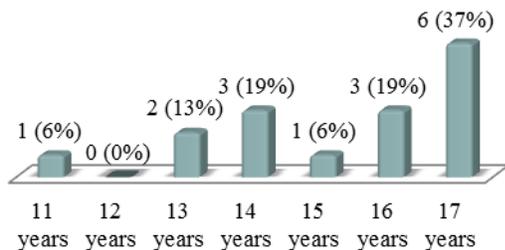
FINDINGS

- *In 2015, firearm injuries accounted for one half (8 cases) and hanging accounted for the other half (8 cases) of all 16 suicides.*
- *Suicidal deaths in 2015 occurred predominantly among male children (13 or 81%) (Figure 16). The youngest child was only 11 year old (Figure 17).*
- *The suicides were equally distributed among Caucasians and African Americans (Figure 18).*

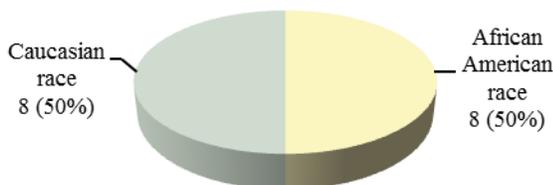
**Figure 16. Suicide:
Sex Distribution, MS, 2015**



**Figure 17. Suicide:
Age Distribution, MS, 2015**



**Figure 18. Suicide:
Race Distribution, MS, 2015**



Risky Behaviors: According to the 2015 Mississippi Youth Risk Behavioral Survey, 17% of surveyed high-school students seriously considered attempting suicide and 13% attempted suicide. These findings suggest that suicidal thoughts have a high prevalence among Mississippi’s youth. Our findings demonstrated that the number of child deaths due to suicides doubled from 2014 to 2015. Six of the sixteen children who committed suicide in 2015 had a history of depression or other mental health conditions, including two children with attention/deficit hyperactivity disorder.

PREVENTING SUICIDE: NOTES FOR PARENTS

- Watch for warning signs such as falling grades, anger, withdrawal, talking and writing about suicide, giving away possessions, changing sleeping and eating habits, and changes in physical appearance for the worse.
- Children may have parallel lives; your job is to protect your children even from themselves.
- Connect to your children emotionally; engage in their world.
- The friends of your children may know more about them than you do; make sure that you get to know your children’s friends.
- Tell your children not to keep a secret; if they know that a friend wants to commit suicide, they should tell you. Even if they lose a friend, they may save a life.
- Monitor your children’s social media and check their phones regularly.
- Talk to your children about the harm of drugs; drug abuse is a major risk factor for suicide.
- Watch out for depression and treat mental health issues seriously.

REVIEWED CHILD DEATHS: HOMICIDE

FINDINGS

- In 2015, there were 19 child deaths due to homicide. In comparison to 2014, the number of homicides was slightly higher (21 cases) in 2014. Firearm injuries accounted for 53% (10 cases), trauma for 42% (8 cases), and intentional drowning for 5% (1 case) of all homicides.
- As depicted in Figure 19, male deaths accounted for the overwhelming majority of homicides (13 or 68%).
- The age distribution was similar to the previous year with older kids being at a higher risk for homicide (Figure 20). Six of all 19 homicides occurred among the 17 year olds.
- Most of the homicide child deaths were among African Americans (15 or 71%) (Figure 21).

Figure 19. Homicide: Sex Distribution, MS, 2015

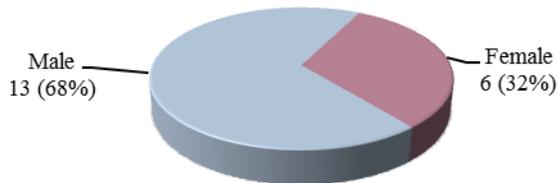


Figure 20. Homicide: Age Distribution, MS, 2015

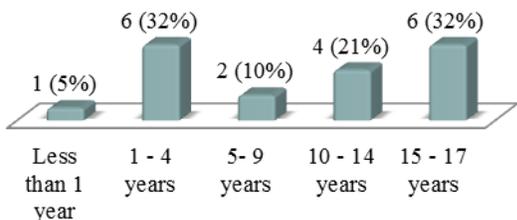
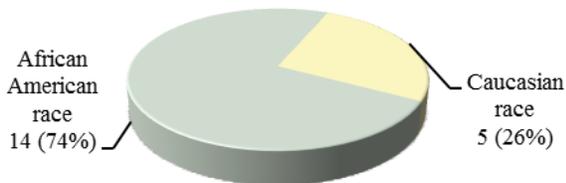


Figure 21. Homicide: Race Distribution, MS, 2015



Child Death Review Panel Recommendations

During 2015, there were 22 firearm-related child deaths (homicide, suicide, and accident) in Mississippi. Many of these deaths were incredibly violent. Some of these deaths were horrifying accidents. None of these deaths should have happened. The CDR panel members plead for supportive legislative measures aimed at reducing gun violence and increasing gun safety.

THE CULTURE OF GUN VIOLENCE: A PUBLIC HEALTH ISSUE

An American epidemic, the culture of gun violence is a growing and urgent public health concern. Successful preventive measures for reducing gun-related deaths include identifying the complex underlying causes of this problem and recommending appropriate and common sense solutions to address it.

Exposure to violent pop culture from early childhood, mental health issues, drug abuse, dysfunctional family relations, economic disparities, improper firearm storage, and the high prevalence of gun ownership are all risk factors for gun violence.

Providing adequate educational and economic opportunities in every community and changing the cultural attitude toward this harmful behavior are key protective measures for building a healthier, more prosperous, and less violent society.

Risky Behaviors: According to the 2015 Mississippi Youth Risk Behavioral Survey, 21% of high-school students carried a weapon and 5% carried a weapon at school (Table 5).

Behavioral Risk Factor	Total	Female	Male
Percentage of students who carried a weapon (a gun, knife, or club)	21.0%	10.0%	32.4%
Percentage of students who carried a gun	8.5%	2.7%	14.3%
Percentage of students who carried a weapon on school property	5.2%	2.8%	7.2%
Percentage of students who were threatened or injured with a weapon on school property	10.1%	8.0%	11.4%

REVIEWED CHILD DEATHS: POISONINGS

FINDINGS

In 2015, there were four child fatalities due to poisoning:

- ⇒ *A fifteen-year-old child died from a prescription opioid (hydrocodone) overdose*
- ⇒ *A fifteen-year-old child overdosed on methamphetamine*
- ⇒ *A fourteen-year-old child died after inhaling a household cleaning product*
- ⇒ *An infant died from Benadryl toxicity*

Child Death Review Panel Recommendations

During 2015, Mississippi had the fifth highest opioid prescription rate in the nation, 110.9 opioid prescriptions per 100 persons. The widespread over-prescription of opioids puts the pediatric population at risk for a range of drug-related illnesses such as drug abuse, accidental overdoses, and increase rates of neonatal abstinence syndrome.

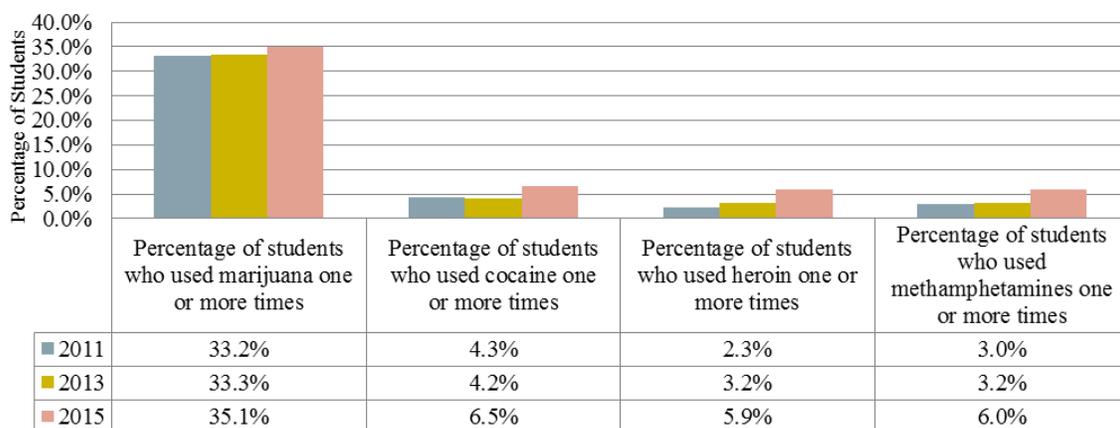
Illicit drug use is also on the rise: Data from Mississippi's Youth Risk Behavioral Survey demonstrated an increase in the use of marijuana, cocaine, heroin, and methamphetamine from 2011 through 2015 (Figure 22). This growing epidemic demands statewide preventive actions such as:

- Implementing evidence-based educational programs in all schools aimed at curtailing drug abuse
- Encouraging the judicious prescription of controlled substances to children and women of child-bearing age
- Increasing the number of sites in Mississippi for the safe disposal of unused medications

Source: U.S. State Prescribing Rates, 2015. Centers for Disease Control and Prevention. Available at <https://www.cdc.gov/drugoverdose/maps/rxstate2015.html>.

The public can search and locate sites for safe drug disposal on the Drug Enforcements Administration website at: <https://apps.deadiversion.usdoj.gov/pubdispsearch/spring/main?execution=e1s1>.

Figure 22. Selected Drug Use among High School Students
High School Youth Risk Behavior Survey
MS, 2011, 2013, and 2015



Date Source: Centers for Disease Control and Prevention. The survey is conducted every two years and includes a representative sample of students from 9th through 12th grades. These statistics were obtained on 9/12/2017 at <https://nccd.cdc.gov/youthonline/app/Results.aspx?LID=MS>

REVIEWED CHILD DEATHS: DROWNING, FIRE/ELECTROCUTION, AND POISONING***DROWNINGS***

In 2015, there were 17 deaths due to drowning:

- *Male (16 or 94%) and female (1 or 6%)*
- *Caucasian (8 or 47%) and African American (9 or 53%)*
- *Nine cases were among children between the age of 1 and 4 years of age.*

These deaths occurred in the following bodies of water:

- *Swimming pools: 6 deaths*
- *Lakes: 4 deaths*
- *Ponds: 3 deaths*
- *Ditches: 2 deaths*
- *Ocean: 1 death*
- *Bathtub: 1 death*

Child Death Review Panel Recommendations

- Statewide regulations on swimming pools and equipment
- Campaigns promoting water safety awareness, including utilizing of life jackets

Public Health Prevention Strategy: The state of Mississippi does not have a well-developed infrastructure of community swimming pools. Therefore, children have limited opportunities to learn how to swim. Community-based organizations need to advocate for the funding of community pools and introduce free swimming lessons for low-income children. The public health benefit of having access to community pools and knowing how to swim is twofold; children can exercise and learn a lifelong, lifesaving skill.

FIRE AND ELECTROCUTION DEATHS

In 2015, there were 4 deaths due to fire or electrocution:

- *Male (3 or 75%) and female (1 or 25%)*
- *Caucasian (1 or 25%) and African American (3 or 75%)*
- *All children were less than 6 year old.*
- *Deplorable living conditions and malfunctioning of the electrical system were reported for one case*
- *Potential child neglect was reported for two cases*

Public Health Prevention Strategy: Installing and maintaining smoke and carbon monoxide (CO) alarms can save lives. The newer devices have many improved features, including dual sensors for detecting fast burning, flaming fires, and smoldering fires. Parents and homeowners should try to equip their homes with the most up-to-date smoke detectors.

REVIEWED INFANT DEATHS: OVERVIEW

Figure 23. Infant Deaths: Racial Distribution, MS, 2015

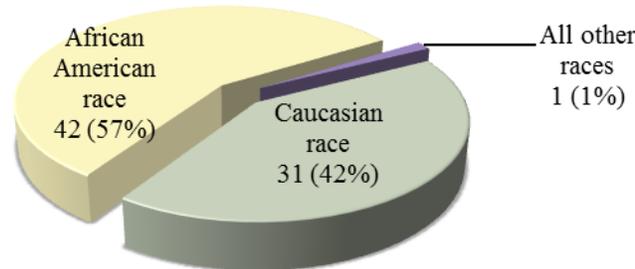


Figure 24. Infant Deaths: Manner of Death, MS, 2015

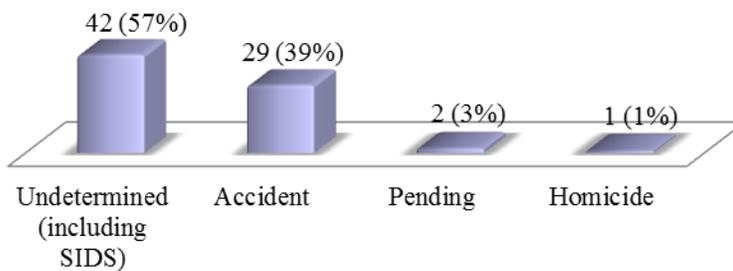
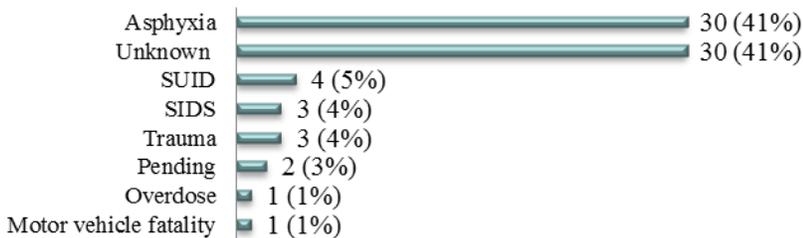


Figure 25. Infant Deaths: Cause of Death, MS, 2015



FINDINGS

- There were 74 infant deaths among the reviewed cases: 42 (57%) infant deaths were African American, 31 (42%) infant deaths were Caucasian, and 1 (1%) infant death occurred among other racial groups (Figure 23).
- By manner of death, the majority (42 or 57%) were undetermined, followed by accidents with 29 deaths (39%) (Figure 24).
- By cause of death 41% (30 cases) of all reviewed infant cases were due to asphyxia and 41% (30 cases) were due to unknown causes (Figure 25).
- There were three deaths categorized as Sudden Infant Death Syndrome (SIDS) and four deaths categorized as Sudden Unexpected Infant Deaths (SUIDs).

Sleep-related Deaths: There were 50 sleep-related infant deaths in 2015. In other words, 68% of all reviewed infant deaths were associated with unsafe sleeping environment or practices (Table 6).

Asphyxia was the cause of death in 30 of the 50 sleep-related deaths. This is an important finding since asphyxia deaths often occur as a result of suffocation, overlay, wedging, entrapment, or strangulation in an unsafe sleep environment.

Table 6. Sleep-related Deaths, MS, 2015

Causes	Number
Asphyxia	30
Undetermined	17
SUID	2
Pending	1
Total	50

REVIEWED CHILD DEATHS: RECOMMENDATIONS FOR SAFE SLEEP PRACTICES**Child Death Review Recommendations**

- Continue statewide education of parents and other caregivers about safe sleep, focusing on the hazards of bed sharing, sofa and chair sleeping.
- Incorporate universal safe sleep education in routine prenatal care, hospital delivery care, and pediatric infant visits.
- Continue efforts to decrease smoking around children, especially newborns and infants.
- Continue efforts to have coroners complete child death scene investigations for all unexpected infant and child deaths.

PUBLIC HEALTH PREVENTION STRATEGIES

- Twenty-first-century parents often depend on social media for information and guidance. Therefore, physicians and public health practitioners should approach parents accordingly using social media outlets to spread the message on creating a safe sleep environment for infants.
- Many parents are aware of the safe sleep environment recommendations, but they do not follow them because of fatigue. Sharing tips and techniques on how to train a baby to sleep alone should be a routine part of pediatric visits.
- Responsible parenthood is a skill that should be taught from early childhood both at home and at school. Classes, lesson plans, and other educational interventions should be delivered in these and other appropriate venues to reinforce the message about safe and responsible infant care.

SAFE SLEEP ENVIRONMENT AND PREVENTION OF SUDDEN UNEXPECTED INFANT DEATHS**RECOMMENDATIONS BY THE AMERICAN ACADEMY OF PEDIATRICS**

- Always place babies on their back for every sleep time, at night and during naps.
- Always use a firm sleep surface. Car seats and other sitting devices are not recommended for routine sleep.
- The baby should sleep in the same room as the parents, but not in the same bed (room-sharing without bed-sharing).
- Keep soft objects or loose bedding out of the crib. This includes pillows, blankets, and bumper pads. Wedges and positioners should NOT be used.
- Avoid covering the infant's head or overheating (e.g., blankets, hats, and excess clothing).
- Breastfeeding is recommended and is associated with a reduced risk of SIDS.
- Infants should be immunized. Evidence suggests that immunization reduces the risk of SIDS by 50 percent.
- Bumper pads should not be used in cribs. There is no evidence that bumper pads prevent injuries, and there is a potential and real risk of suffocation, strangulation or entrapment.

Available at: <https://www.aap.org/en-us/about-the-aap/aap-press-room/pages/aap-expands-guidelines-for-infant-sleep-safety-and-sids-risk-reduction.aspx>.

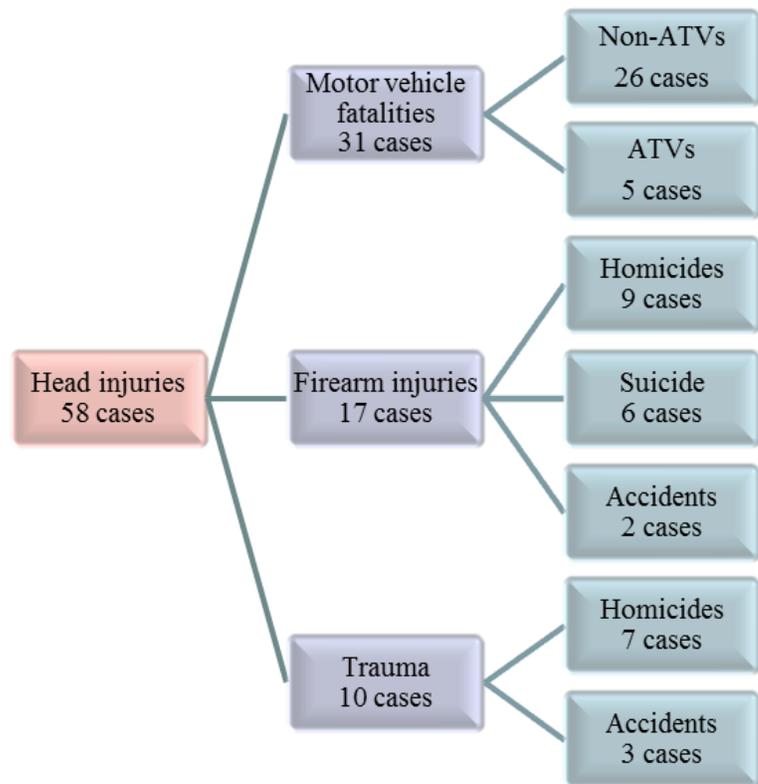
REVIEWED CHILD DEATHS: HEAD INJURIES

According to the Centers for Disease Control and Prevention more than 12,000 children between the ages of 0 and 19 die from unintentional head injuries annually. For this report, we reviewed all childhood fatalities that specifically involved a head injury or trauma. Cases with multiple blunt force traumas were excluded from this analysis.

Source: CDC Childhood Injury Report. Available at: https://www.cdc.gov/safechild/child_injury_data.html.

FINDINGS

- *There were a total of 58 cases of head injuries, representing 26% of all reviewed child death fatalities.*
- *Most cases of head injuries occurred among the motor vehicle deaths, followed by firearm fatalities, and trauma-related deaths.*
- *None of the five children who suffered fatal head injuries during ATV-related accidents were wearing a helmet.*



WORK IN THE COMMUNITY

During the November 2016 Health Fair in Ellisville, the Mississippi State Department of Health's Southern Regional Health Office organized several events devoted to child health protection, including a section dedicated to child transportation safety. This section used interactive games and simulations to teach children about the dangers of reckless driving practices such as speeding or drunk driving. Volunteers from the Health Department disseminated free helmets and educational information to all children at the fair. We would like to commend the Community Health Director at the Southern Regional Health Office, Paige Ward, for organizing this informative and engaging child health protection event.

CONCLUDING NOTES

This report aims to provide useful information regarding potentially preventable causes of death. While not all deaths are preventable, there are many measures that parents, child care givers, state agencies, local authorities, and the community can embrace to improve the safety of Mississippi's children and help save lives. Our findings demonstrate that the key areas of child death prevention are motor vehicle accidents, unsafe sleep environment and practices, homicide, suicide, drowning, poisoning, and fire.

Successful prevention, however, is only possible with supportive legislative measures, effective law enforcement, and adequate financial resources. Therefore, the CDR process is also geared toward identifying emerging child death trends, establishing priorities, and recommending achievable goals. Summarized below are the CDR panel's recommendations on the most urgently needed efforts to reduce preventable child deaths.

Transportation-related deaths	<ul style="list-style-type: none"> • Add a financial penalty for ATV riding on public roads and for not using helmets • Increase safety education and training for teenage drivers • For other preventive strategies, visit the Centers for Disease Control and Prevention's website: www.cdc.gov/motorvehiclesafety/seatbelts/states.html
Violence and suicide-related deaths	<ul style="list-style-type: none"> • Start statewide initiatives against violence, including gun-safety measures • Educate parents about the risk factors for suicide • Combat teenage drug abuse
Preventable infant deaths	<ul style="list-style-type: none"> • Perform epidemiological research on the causes of infant mortality in Mississippi • Offer educational outreach to coroners regarding the death investigation process • Improve infant mortality data collection and data sharing

CHILD HEALTH PROMOTION AND PROTECTION: PUBLIC HEALTH SUCCESSES

We would like to recognize the following organizations for their actions devoted to furthering child health promotion and protection.

- ⇒ In 2017, Mississippi lawmakers enacted a new seat belt law that requires the use of a seat belt for all automobile passengers.
- ⇒ The College of Osteopathic Medicine at William Carey University has introduced a Child Advocacy Study Training (CAST) Program to their curriculum, becoming the second medical school in the nation to offer this course. This elective trains future physicians to recognize and respond to cases of child maltreatment such as abuse and neglect.
- ⇒ During 2015, the Mississippi Prenatal Quality Collaborative launched the Golden Hour Project. A joint effort between eleven hospitals and the Mississippi State Department of Health, the project's goal is to improve the morbidity and mortality outcomes for high-risk premature infants born in Mississippi through the use of systematic evidence-based practices. In 2017, the Mississippi State Department of Health was selected as one of thirteen state organizations in the country to receive a CDC grant devoted to expanding its work on this initiative.

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