

Mississippi Child Death Review Panel 2014 Annual Report



MISSISSIPPI STATE DEPARTMENT OF HEALTH



Data Summary

Population-level Data

In 2013, there were 592 child deaths between 0 and 17 years. The leading causes of death were conditions originating in the perinatal period, followed by accident-related deaths.

In 2013, infant deaths accounted for the highest percentage (373 or 63%) of child deaths and the infant mortality rate of 9.7 deaths per 1,000 live births was the highest in the nation.

Child Death Review Data

There were 127 child death cases extensively reviewed by the CDRP in 2013.

Accidents were the leading cause of preventable deaths (72 cases or 57%).

Motor-vehicle accidents accounted for 25% of all non-natural deaths.

Forty-eight percent of all preventable deaths were among infants, followed by the age group of 15 to 17 years of age.

A majority 88 (69%) of the CDRP reviewed cases were male.

The 2014 annual report presents data related to child deaths that occurred in Mississippi during 2013.

Overview: The Child Death Review Process and Data

The Mississippi Child Death Report is produced annually to describe child deaths reviewed by the Child Death Review Panel (CDRP). The panel reviews child death cases that are attributed to non-natural causes such as accidents, injuries, homicide, suicide, sudden unexpected infant death (SUID), and undetermined causes. The purpose of the review process is to identify risk factors associated with preventable child deaths, share information, make recommendations, and educate the public about child safety.

In addition to information obtained by the review process, this report presents population-level data related to all-cause child deaths, natural and non-natural, from the Office of Vital Records at the Mississippi State Department of Health.

Table 1. Total Number of Deaths and Number of Reviewed Death Cases

Total number of child deaths in 2013	592
Number of deaths certificates provided for review	515
Number of child death cases selected for an extended CDRP review *	127

*Originally 128 child deaths were initially selected for review by the CDRP. However, one case was deemed to be due to natural causes, and therefore did not meet criteria for extensive review. A CDRP review was then completed on the 127 remaining deaths.

Leading Causes of Deaths: Population-level Data

There were 592 child deaths during 2013 in Mississippi and 373 of them were among infants. The number of child death cases that were deemed preventable and met the criteria for review were 127* (Table 1). Cases that meet criteria for review are all unexpected and/or unexplained child deaths from birth through 17 years of age.

Conditions originating in the perinatal period, that includes fetal and infant deaths under seven days of age, were the leading causes of death, accounting for 28% of all 592 child deaths. Accident-related deaths were the second leading group with 22% of all child deaths (Table 2).

Table 2. Causes for Deaths: All Child Deaths Including Infant Deaths, 2013

Causes for Death	Number	Percent
Conditions originating in the perinatal period	168	28%
Accidents	130	22%
Congenital malformations and deformations	91	15%
Heart diseases	21	4%
Homicide	18	3%
Malignant neoplasms	16	3%
Suicide	10	2%
Other	138	23%

Data Source: Office of Mississippi Vital Records

Reviewed Child Deaths: Manner of Death

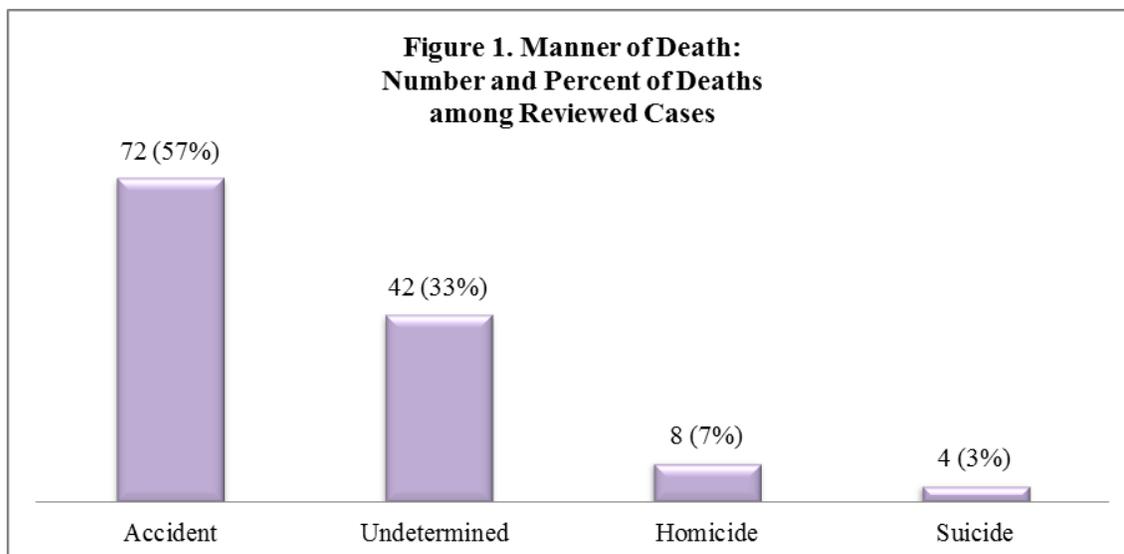
Manner of Death describes how the child died and explains how the cause of death arose. Deaths are categorized as natural and non-natural based on the manner of death. Natural deaths result from a disease process and non-natural deaths are attributed to injuries. Non-natural deaths are further classified into the following groups: accident, homicide, suicide, and undetermined (Table 3). 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).

Table 3. Reviewed Child Deaths: Manner of Death

Reviewed Cases by Manner of Deaths	Number of Deaths
Total	127
Accident	72
Homicide	8
Suicide	4
Undetermined	42
Pending	1

KEY FINDINGS

- *The majority of non-natural deaths were caused by accidents (72 cases or 57%).*
- *Homicide accounted for 7% (8 cases) and suicide for 3% (1 case) of the non-natural deaths.*
- *Thirty three percent (42 cases) of the non-natural deaths were categorized as undetermined (Figure 1).*



Note: This figure displays data for 126 reviewed death cases. The one pending case is not included in the figure.

Prevention Strategies

Non-natural causes of death are potentially preventable. The high percentage of accident-related child deaths indicates the need for continuous child safety educational campaigns, initiatives, and supportive legislation in Mississippi.

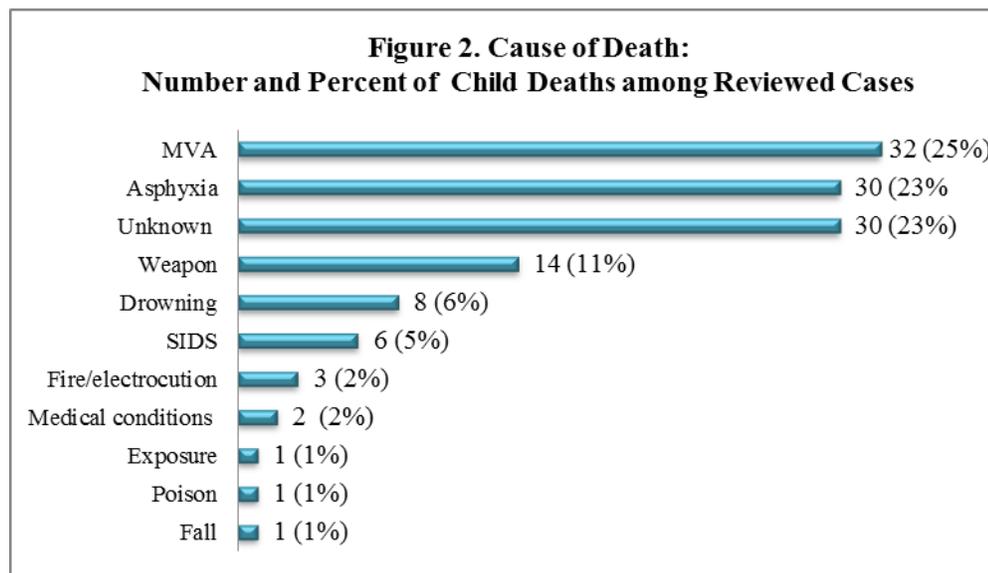
Reviewed Child Deaths: Cause of Death

Cause of Death is the reason of the 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). We used two data sources to examine causes of death in this report. Information related to all 2013 child death causes was provided by the Office of Vital Records based on the International Classification of Diseases, 10th revision, Clinical Modifications coded data. Data abstraction for the 127 panel-reviewed cases included death and birth certificates, autopsy reports, sudden unexplained infant death investigation (SUIDI) reporting forms, and on-scene case narratives.



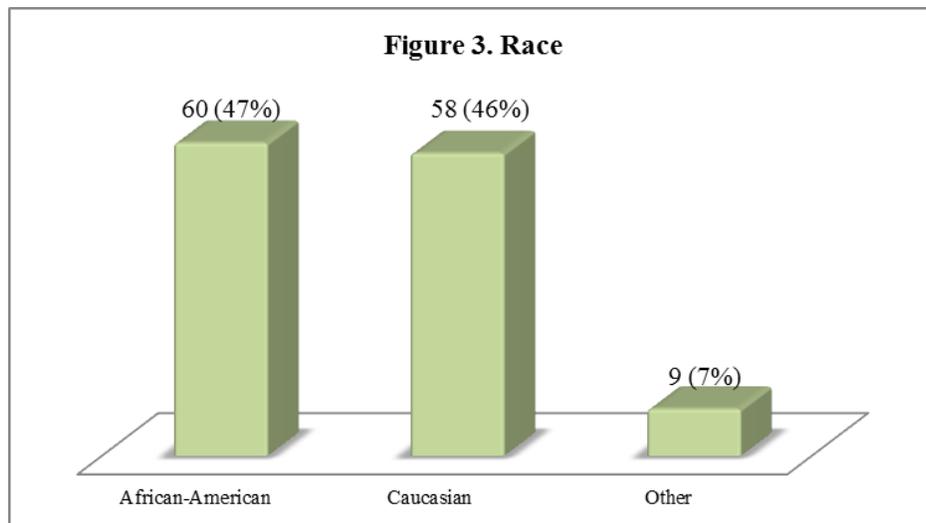
KEY FINDINGS

- *Of the reviewed cases, motor vehicle accidents (MVA) were the leading cause of death (32 cases or 25%) among children aged 0-17 years in 2013.*
- *Asphyxia, which is usually associated with infant deaths due to an unsafe sleeping environment, was the second leading cause of death (30 or 23%).*
- *The same number of deaths (30 or 23%) were classified by a medical examiner or coroner as undetermined or unknown (Figure 2). A majority of these cases are infant deaths also related to unsafe sleep practices.*



Note: All 128 cases originally selected for review are included in this figure.

Reviewed Child Deaths: Demographic Characteristics



KEY FINDINGS

- Among the 127 reviewed deaths, 60 (47%) were African-American and 58 (46%) were Caucasian (Figure 3).
- As depicted in figure 4, the majority of deaths (61 or 48%) occurred among infants, followed by children 15 to 17 years of age (25 or 20% of the deaths).
- A majority of the cases reviewed were male (88 or 69%). This discrepancy was particularly noted in infant deaths and the age group from 15 through 17 years of age. (Figure 5).

Figure 4. Age at Time of Death

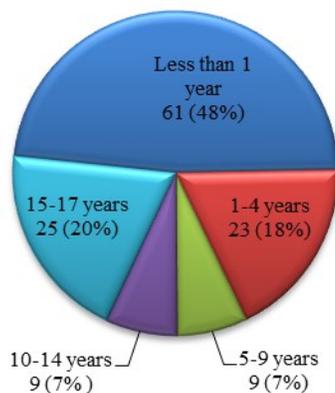
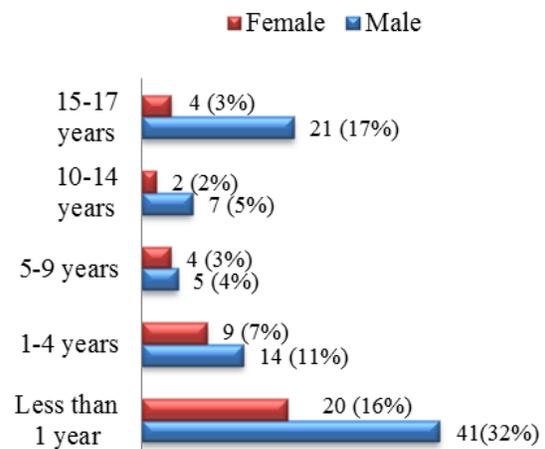
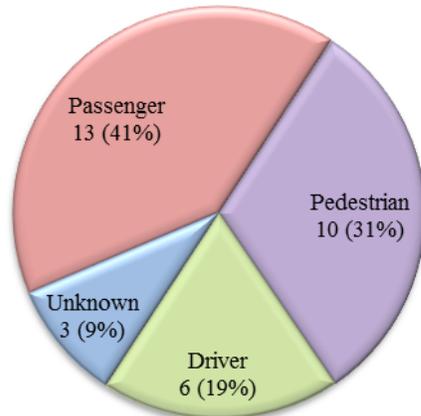


Figure 5. Age and Sex Distribution



Reviewed Child Deaths: Motor Vehicle Accidents

**Figure 6. Motor Vehicle Accidents:
Position of Child at Time of Death**



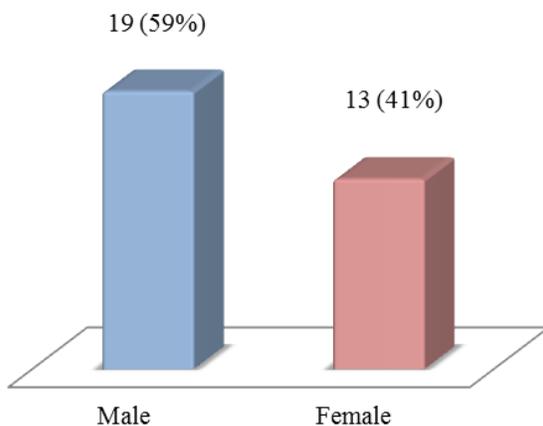
Prevention Strategies

- ◆ Seat belt use
- ◆ Attentive driving
- ◆ No alcohol or drug use before or during driving
- ◆ Graduated driving: Children should be carefully evaluated for adequacy in emotional readiness, experience, and driving skills.

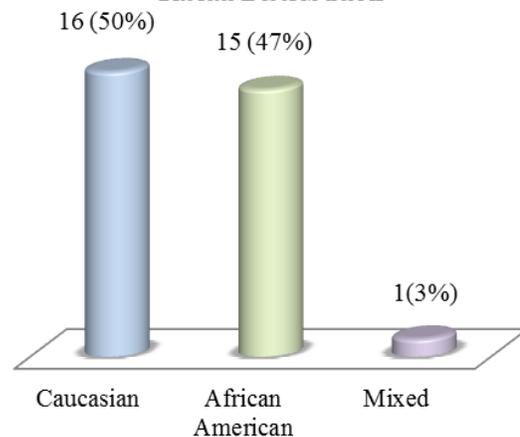
KEY FINDINGS

- Among the thirty-two motor vehicle accidental deaths, 13 (41%) children were passengers, 10 (31%) children were pedestrians, 6 (19%) children were drivers and 3 (9%) child vehicle deaths were undermined. There were no bikers among the reported deaths (Figure 6).
- More male (19 or 59%) than female child deaths (13 or 41%) were attributable to motor vehicle accidents (Figure 7).
- The deaths were almost equally distributed among African Americans and Caucasians (Figure 8).

**Figure 7. Motor Vehicle Accidents:
Sex Distribution**



**Figure 8. Motor Vehicle Accidents:
Racial Distribution**



Reviewed Child Deaths: Overview of Sleep-related Infant Deaths

Sleep-related Deaths: There were 48 sleep-related child deaths in 2013; 47 of these deaths occurred among infants. Among the 47 sleep-related infant deaths, there were 44 cases that were specifically documented as occurring in an unsafe sleeping environment. In other words, 35% of all 127 deaths reviewed were associated with unsafe sleeping practices.

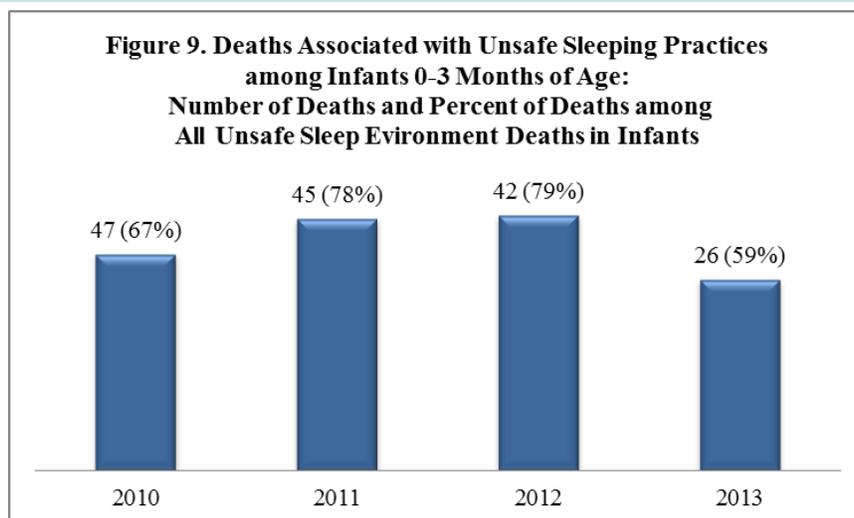
Asphyxia was the cause of death in 28 of the sleep-related deaths. This is an important finding since asphyxia deaths often occur as a result of suffocation, overlay, wedging, entrapment, or strangulation in an unsafe sleep

Table 4. Sleep-related Deaths

Sleep-related Deaths	48
Asphyxia	28
Undetermined	13
SIDS	6
Other	1

KEY FINDINGS

- *The findings from the 2013 child death review process demonstrates that over half (59%) of all infant sleep-related deaths occurred among infants between 0 and 3 months of age.*
- *As shown in figure 9, younger infants between the age of 0 and 3 months accounted for the majority of all infant sleep-related deaths from 2010 until 2013.*



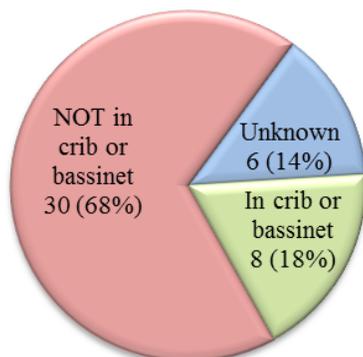
Prevention Strategies

Younger infants between the age of 0 and 3 months are at high risk for sleep-related deaths. Studies have shown that bed sharing is particularly dangerous for infants in this age group, while older infants (4 months to 364 days) are at higher risk for death when rolling into objects such as soft bedding, pillows, blankets, or stuffed animals in the sleep area. Parents should be aware of the age-specific risk factors for sleep-related deaths and avoid them.

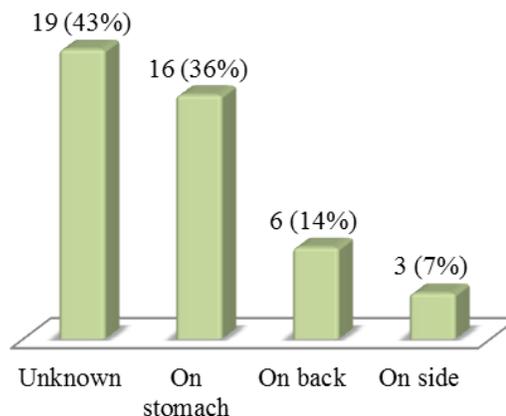
Source: Colvin J, Collie-Akers V, Schumm C, Moon R. Sleep Environment Risks for Younger and Older Infants. *Pediatrics*. 2014. 134 (2):e406-e412. Available at: <http://pediatrics.aappublications.org/content/134/2/e406.full>.

Reviewed Child Deaths: Sleep-related Infant Deaths (Continued)

**Figure 10. Sleep-related Deaths:
Sleeping Environment**



**Figure 11. Sleep-related Deaths:
Sleeping Position**



KEY FINDINGS

Of the 44 sleep-related infant deaths that occurred in an unsafe sleeping environment during 2013:

- 30 (68%) were NOT in a crib or bassinet (figure 10)
- 16 (36%) were unsafely sleeping on their stomach (figure 11)
- 26 (59%) were unsafely sleeping on the same surface next to another person or animal

These findings demonstrate that a high percentage of parents and child care givers did not follow recommendations for a safe sleep environment by the American Academy of Pediatrics (AAP).

SAFE SLEEP ENVIRONMENT AND PREVENTION OF SUDDEN UNEXPECTED INFANT DEATHS

RECOMMENDATIONS BY THE AMERICAN ACADEMIC OF PEDIATRICS (AAP)

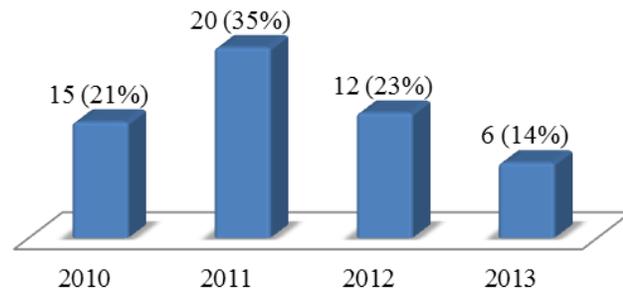
- Always place your baby on his or her back for every sleep time, at night and during naps.
- Always use a firm sleep surface. Car seats and other sitting devices are not recommended for routine sleep.
- The baby should sleep in the same room as the parents, but not in the same bed (room-sharing without 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>.

Compliance with Safe Sleep Environment Recommendations 2010-2013

In 2013, only 6 cases or 14% of the 44 sleep-related deaths were among infants known to be sleeping on their backs at the time of death. This finding demonstrates a lack of compliance with the recommendations for correct sleeping position compared to the previous years (Figure 12).

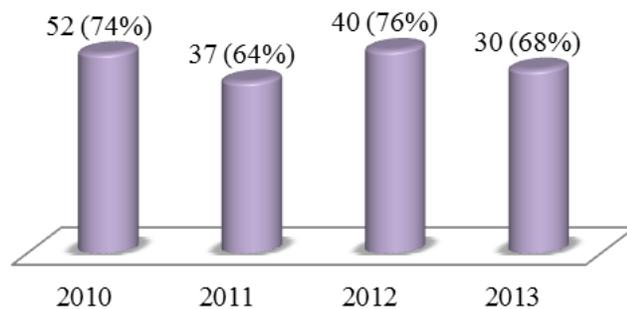
Figure 12. Number and Percent of Infants Found Asleep on Their Back



In 2013, the majority (68% or 30 cases) of the 44 sleep-related deaths were among infants who were not appropriately placed in a crib or bassinet at the time of death.

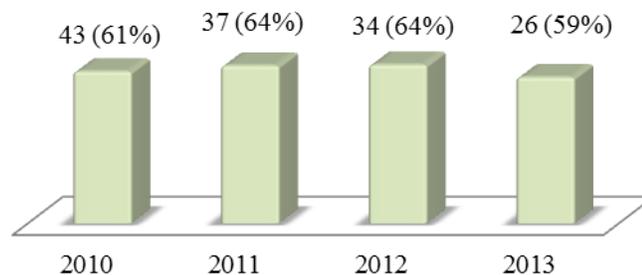
From years 2010 through 2013, there was a consistent lack of compliance with this recommendation (Figure 13).

Figure 13. Number and Percent of Infants NOT Found in Crib or Bassinet



An infant co-sleeping on the same sleep surface with another adult, child, or animal consistently remains a major risk factor from year to year for sleep-related deaths in infancy (Figure 14). Therefore, parents should avoid co-sleeping and teach their children good sleeping habits from an early age.

Figure 14. Number and Percent of Infants Found to Sleep on the Same Surface with Another Person





Key Areas of Child Death Prevention

- Unsafe sleeping environment
- Motor vehicle accidents
- Fire or electrocution-related deaths
- Drowning-related deaths
- Poisoning
- Homicide and violence
- Suicide
- Substance abuse

This report is dedicated to all Mississippi children who died in 2013 and to their grieving families.

We aimed to provide useful information regarding potentially preventable causes of death. While not all deaths are preventable, there are many measures that parents and the community can embrace to improve the safety of Mississippi's children and help save lives.

What steps can parents and child care givers take to help save the lives of Mississippi's children?

- *Infants should sleep alone, on their backs, and in a separate, safe sleeping environment for every sleep time, including naps*
- *Make sure that your children are safe and secure in the appropriate car seat; Teach your children how to cross the street safely*
- *Make sure your home is equipped with working fire safety equipment like smoke detectors; Do not allow children to play with fire starting materials*
- *Teach your children how to swim and supervise them around all standing water, including bathtubs*
- *Keep your children away from poisonous chemicals and substances, including medicine and household cleaners*
- *Do not leave weapons unattended and teach proper gun safety*
- *Observe your children's behavior and pay attention to mental states such as anxiety, depression, and withdrawal; Never ignore statements about suicide*
- *Talk to your children about the harm of alcohol and drug use*

This report was prepared by:

Manuela Staneva, MPH, Epidemiologist, Office of Health Data & Research, Office of Health Services
Leigh Campbell, MD, Medical Director, Child and Adolescent Health, Office of Health Services