

LOUISIANA CHILD DEATH REVIEW

2014-2016

**Annual
Report**

Submitted To:

Governor, State of Louisiana
Health and Welfare Committee, Louisiana Senate
Health and Welfare Committee, Louisiana House of Representatives
Louisiana Child Death Review Panels

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Executive Summary

Child Death Review, 2014 – 2016

Mission Statement

The mission of the Louisiana Child Death Review is to understand how and why children die unexpectedly in Louisiana in order to reduce future injury and deaths. This is accomplished through comprehensive, multidisciplinary review of the circumstances that contributed to each death.

Background

The Louisiana Department of Health (LDH), Office of Public Health (OPH), Bureau of Family Health (BFH), coordinates the Child Death Review (CDR) Program. CDRs are mandated for unexpected deaths of children under 15 years of age, per Louisiana Revised Statute 40:2019. State and local panels meet to review child deaths, identify risk factors, and provide recommendations for preventive action. The Louisiana Child Death Review (CDR) program is funded through the Federal Title V Maternal and Child Health Block grant and the Centers for Disease Control and Prevention Sudden Unexpected Infant Death Case Registry grant.

Summation of Data and Statistics

Every year in Louisiana, an average of 64,000 infants are born alive. Of these infants, approximately 504 die before their first birthday, and another 232 children do not survive to their 15th birthday. From 2014-2016, **2,208 children died, and 717 of those deaths were due to injury.** This is an **average of 736 Louisiana infants and children who die each year.**

In 2014-2016, Louisiana had the **highest rate of mortality for children ages 1 – 14 in the U.S.**, as well as the **highest rate of mortality in children ages 1 – 4.** For the same time period, Louisiana had the **fourth highest rate of infant mortality** in the U.S., and the **third highest rate of child mortality between ages 5 – 9** in the U.S.

The CDR program focuses on relatively preventable and unexpected deaths. **About one third of infant and childhood deaths in Louisiana are due to injury and are potentially preventable.** In infants ages 0 to 1, most unexpected deaths occur in the sleep environment and are classified as Sudden Unexpected Infant Deaths (SUIDs). SUID is a term used to describe any sudden and unexpected death, whether explained or unexplained (including Sudden Infant Death Syndrome [SIDS], Accidental Suffocation or Strangulation in Bed [ASSB] and deaths coded as ill-defined), occurring during infancy. Motor vehicle crashes (including victims both inside and outside the vehicle), drowning, and homicide are the leading causes of death for children ages 1 to 14.

About This Report

To achieve sufficient sample size for statistical reporting, the 2014-2016 Louisiana CDR Report reflects infant and child mortality over a three year period. Multi-year state and regional rates are provided as well as annual averages of deaths and the leading causes of child death. Annual averages are provided to help estimate the magnitude of the issue in a one-year timeframe. When available, U.S. rates, Louisiana rates, Louisiana rankings among the United States, and Healthy People (HP) Goals are provided for comparison.

The sections of the report are organized by age groups, risk factors for leading causes of death and prevention recommendations. The report highlights preventable injury fatalities, and additional data pages are included to provide context on contributing factors. In addition to Vital Records and Child Death Case Reporting System data, Louisiana Pregnancy Risk Assessment Monitoring System (Louisiana PRAMS) data have been used to augment the risk factor findings and recommendations for infant mortality.

Data Sources and Methodology

Data Methods

Data from the Louisiana Department of Health's Office of State Registrar and Vital Records were used to categorize causes of death. The Bureau of Family Health adheres to the International Classification of Diseases (ICD-10) guidelines for determination of cause of death. In addition to furnishing cause of death, death certificates were used to provide age, race, gender, date of death, and parish of residence. Data were analyzed using Statistical Analysis System (SAS) 9.2 software.

Louisiana Child Death Review Case Reporting System

Data related to Louisiana's Child Death Review is maintained in the National Center for Fatality Review and Prevention's National Fatality Review Case Reporting System.

Louisiana Pregnancy Risk Assessment Monitoring System

The Louisiana Pregnancy Risk Assessment Monitoring System is a survey cooperatively managed by the Centers for Disease Control and Prevention and the Louisiana Department of Health's Bureau of Family Health.

National Data

National level data are from the National Vital Statistics System database, CDC WONDER. Louisiana rankings are based on national data, and national rates may vary slightly from state rates due to timing of reporting.

Healthy People 2020

Healthy People objectives are selected by a multi-disciplinary team of experts with the intention of identifying national health priorities. Every 10 years, goals are selected with the objective of meeting the targets by the end of the decade. All Healthy People objectives have standardized indicators with known numerators and denominators.

Data Limitations

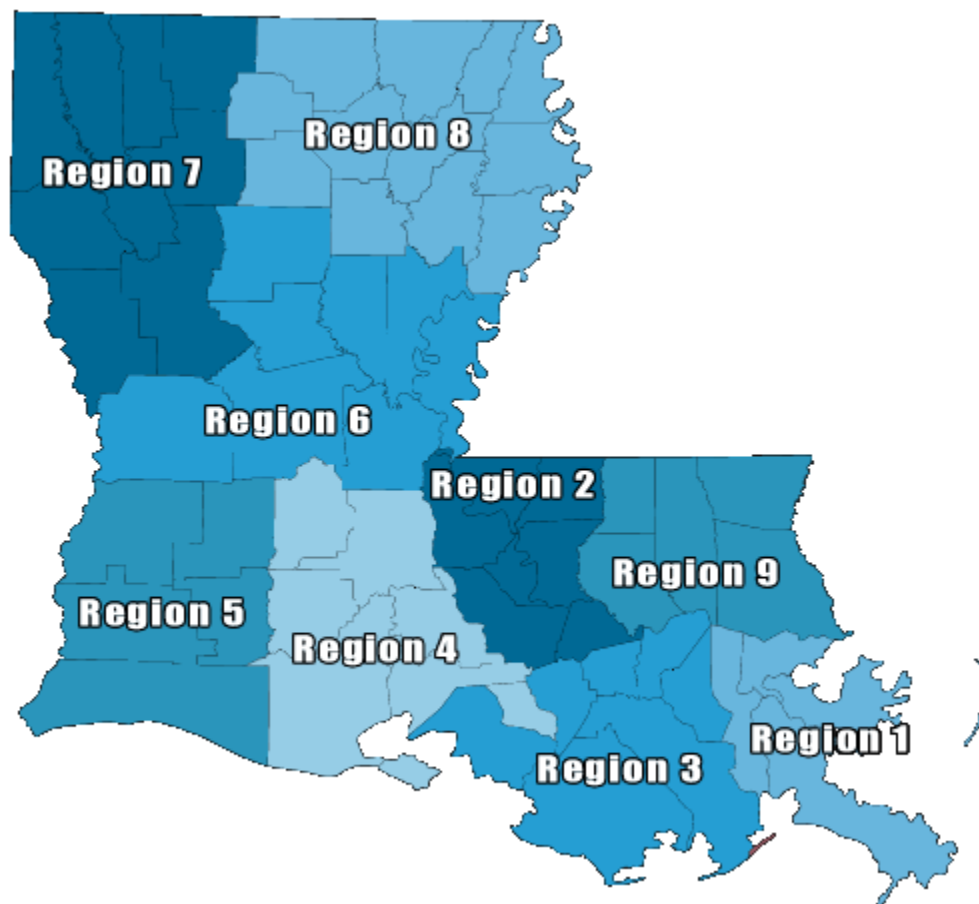
Many key indicators are presented at the regional level, and therefore have smaller counts. Rates based on counts less than 20 are considered unstable and should be interpreted with caution, taking into consideration that these numbers, percentages or rates may change in the future with the addition or loss of a small number of cases. Additionally, counts of fewer than 5 are not reported to preserve confidentiality. Any cause of death category with counts fewer than 5 were collapsed into an "other" category. Unstable rates are noted with an asterisk. Trends based on unstable rates are not represented in this report. For example, Hispanic counts were not examined independently as white[†] and black[†] counts were, due to smaller counts.

Data Footnotes

*Rates based on counts less than 20 are unstable and may vary widely from future reports.

† black indicates non-Hispanic black, and white indicates non-Hispanic white.

Regional Map of Louisiana



Region	Area	Parishes within Region
1	New Orleans	Jefferson, Orleans, Plaquemines, St. Bernard
2	Baton Rouge	Ascension, East Baton Rouge, East Feliciana, Iberville, Pointe Coupee, West Baton Rouge, West Feliciana
3	Houma	Assumption, Lafourche, St. Charles, St. James, St. John the Baptist, St. Mary, Terrebonne
4	Lafayette	Acadia, Evangeline, Iberia, Lafayette, St. Landry, St. Martin, Vermillion
5	Lake Charles	Allen, Beauregard, Calcasieu, Cameron, Jefferson Davis
6	Alexandria	Avoyelles, Catahoula, Concordia, Grant, La Salle, Rapides, Vernon, Winn
7	Shreveport	Bienville, Bossier, Caddo, Claiborne, DeSoto, Natchitoches, Red River, Sabine, Webster
8	Monroe	Caldwell, East Carroll, Franklin, Jackson, Lincoln, Madison, Morehouse, Ouachita, Richland, Tensas, Union, West Carroll
9	Hammond/Slidell	Livingston, St. Helena, St. Tammany, Tangipahoa, Washington

Infant Mortality in Louisiana

2014-2016 Data

Infant Mortality: All Causes

Birth to 1 year

Every year in Louisiana, an average of **504** infants die before they reach their first birthday.¹



United States vs. Louisiana

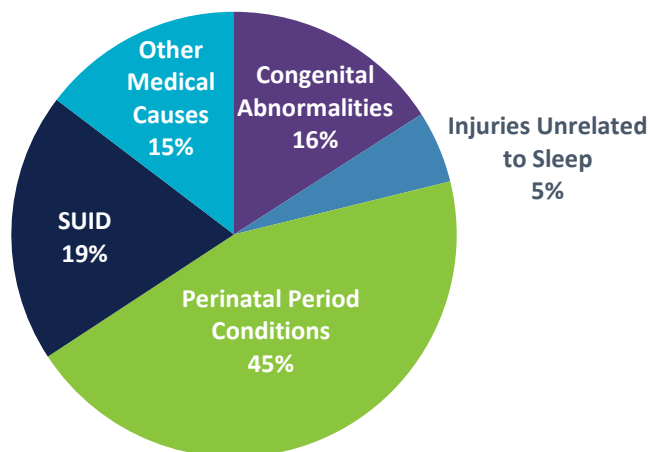
The Louisiana infant mortality rate from 2014-2016 is 7.9 deaths per 1,000 live births. The U.S. infant mortality rate during the same period was 5.9 deaths per 1,000 live births. **128 fewer** babies would die each year if Louisiana had the same infant mortality rate as the U.S.

Louisiana Rate ¹	U.S. Rate ²	HP2020 Goal ³			LA Ranking ²					
7.9	5.9	6.0			4th highest in the U.S.					
Infant Deaths by Region (2014-2016) ¹		1	2	3	4	5	6	7	8	9
Average annual infant deaths counts		76	100	42	55	28	28	71	47	58
Infant mortality rate per 1,000 live births		6.4	10.8	7.6	6.3	6.6	6.3	9.5	9.6	7.6

Causes of Infant Death

Each year, an average of...¹

- **223** infants die from conditions originating in the perinatal period
- **98** infant deaths are classified as Sudden Unexpected Infant Deaths (SUID), which primarily occur in the sleep environment
- **80** infants die from congenital anomalies
- **76** infants die from other medical causes
- **27** infants die from injuries not related to sleep environments



Key Points

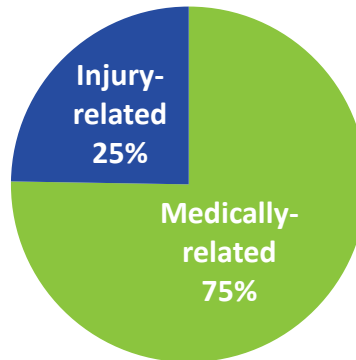
- Louisiana has the fourth highest infant mortality rate in the country.
- Conditions originating in the perinatal period conditions are closely related to maternal health before conception. 45% of infant deaths are due to these conditions. Improving maternal health before and after conception is an integral part of preventing infant mortality.
- Maternal health is closely linked to low birthweight and premature birth, both of which are risk factors for the second most common category of death in Louisiana: SUID. SUID refers to any sudden and unexpected death occurring during infancy, whether explained or unexplained (including Sudden Infant Death Syndrome [SIDS], Accidental Suffocation or Strangulation in Bed [ASSB], and ill-defined deaths).

Infant Mortality: Fatal Injury

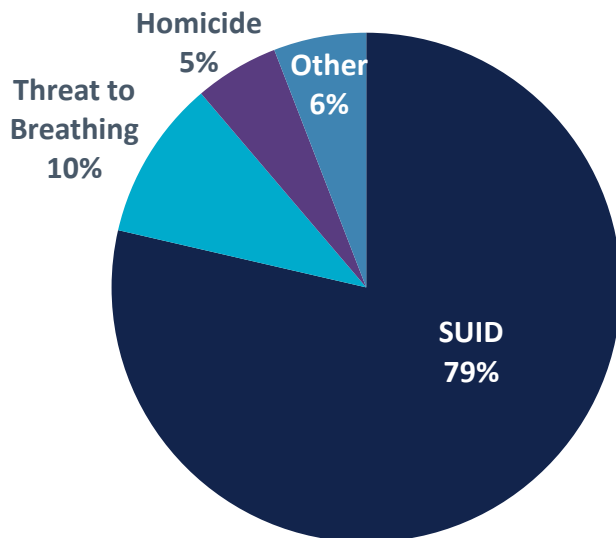
Birth to 1 year

Every year in Louisiana, an average of **125** infants die from an injury before they reach their first birthday.¹

Nearly 1 in 4 infant deaths are injury-related¹



Causes of Fatal Injury



Each year, an average of...¹

- **98** infant deaths are classified as Sudden Unexpected Infant Deaths (SUID)
- **13** infants die from other threats to breathing
- **7** infants die from another type of accidental injury, including drowning, motor vehicle crashes, and other accidental causes
- **7** infants die from homicide

Key Points

- SUID is a term used to describe any sudden and unexpected death, whether explained or unexplained (including Sudden Infant Death Syndrome [SIDS], Accidental Suffocation or Strangulation in Bed [ASSB] and ill-defined deaths), occurring during infancy. A significant majority of injury-related infant deaths were classified as SUIDs and were related to the sleep environment.
- Risk factors for SUID include stomach- or side-sleeping position; bed-sharing or sharing a sleep space with adults, other children or pets; sleeping with loose bedding or soft objects; and cigarette smoke in the home.
- In Louisiana, most SUID deaths occur when the infant is 2 to 3 months old. Those deaths involve infants sleeping with loose bedding or toys (85%), sleeping in something other than a crib or bassinette (76%), and/or sleeping with other people (62%), among other risk factors.⁴

Perinatal Mortality

Fetal deaths and infant deaths up to 7 days

Every year in Louisiana, an average of **581** fetal and infant deaths occur during the perinatal period.¹

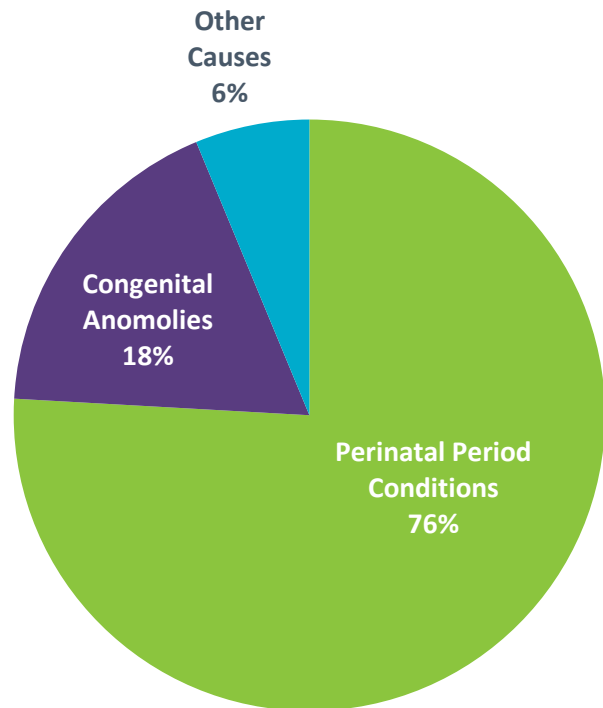


Mortality during the perinatal period includes fetal deaths and infants who die up to 7 days post birth. The majority of these deaths are stillbirths (61%), which have a variety of causes. The Louisiana perinatal mortality rate from 2014 to 2016 was **9.0 deaths per 1,000 live births and fetal deaths**.

Causes of Infant Death During the Perinatal Period

Each year, an average of...¹

- **170** infants die from conditions originating in the perinatal period
- **40** infants die from congenital anomalies
- **14** infants die from another cause, including injury, causes that fall within the Sudden Unexpected Infant Death (SUID) category, or other causes



Key Points

- Two thirds of deaths that occur during the perinatal period are stillbirths, also known as fetal death. There are various causes for stillbirths, though not all are known – this is in part because autopsies are infrequently performed.
- Nationally, the most common known causes of stillbirths include infections, birth defects and pregnancy complications, such as preeclampsia.⁵
- Maternal health is strongly tied to fetal and infant health. Helping women achieve optimal health through stress reduction and access to quality healthcare before, between, and during pregnancy is key to reducing fetal and infant mortality.

Neonatal Mortality

Infant deaths between 0 and 28 days

Every year in Louisiana, an average of **288** infants die during the neonatal period.¹



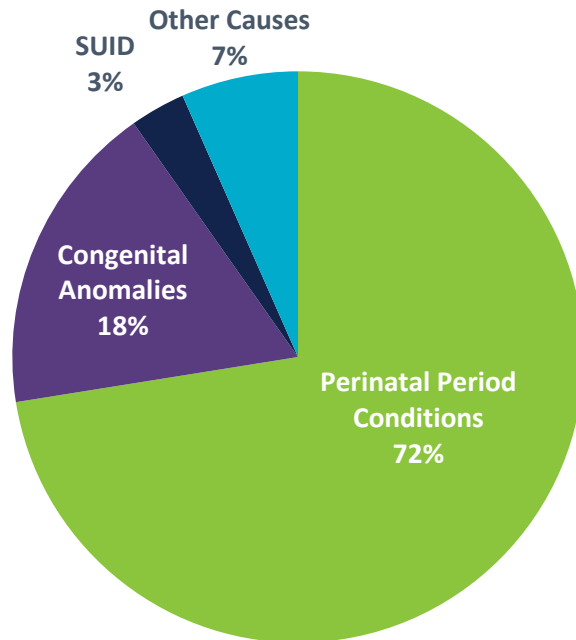
In Louisiana, the neonatal period (between 0 and 28 days after birth) is the highest period of infant death (deaths that occur between birth and 1 year of age). The Louisiana neonatal mortality rate from 2014 to 2016 was **4.5 deaths per 1,000 live births**.

Louisiana Rate ¹	U.S. Rate ²	HP2020 Goal ³	LA Ranking ²
4.5	Unavailable	4.1	Unavailable

Causes of Death During the Neonatal Period

Each year, an average of...¹

- **208** infants die from conditions originating in the perinatal period
- **51** infants die from congenital anomalies
- **20** infants die from another cause, including injury and other
- **9** infant deaths are classified as Sudden Unexpected Infant Deaths (SUID)



Key Points

- Conditions originating in the perinatal period – including infections, disorders related to length of gestational age and fetal growth, conditions limiting the baby’s ability to receive adequate oxygen, complications related to pregnancy, labor and delivery, hemorrhage and hematological disorders of the newborn, and others – often stem from poor maternal health prior to conception.
- High stress, inadequate healthcare throughout the life span and during pregnancy, and unmanaged chronic disease negatively affect maternal health in Louisiana, leading to higher rates of adverse birth outcomes.

Post-neonatal Mortality

Infant deaths between 28 and 365 days

Every year in Louisiana, an average of **215** infants die during the post-neonatal period.¹

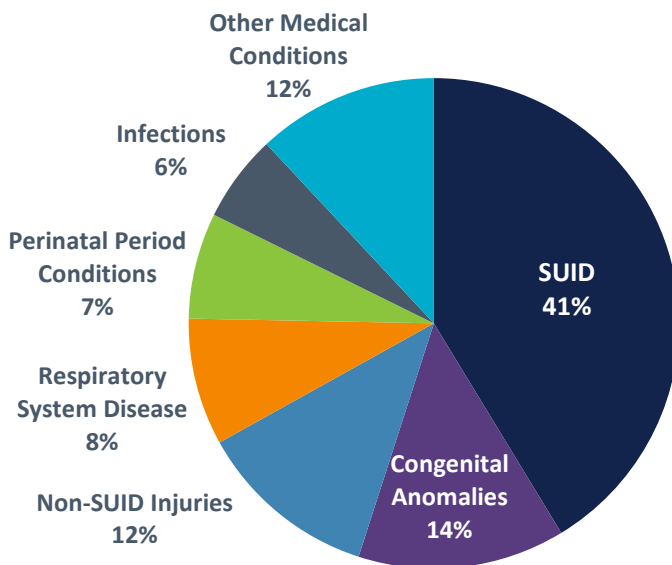


From 2014 to 2016 in Louisiana, the post-neonatal period had the lowest infant mortality rate. However, the **causes of death common to this period are more preventable**. For example, 41% of deaths during the post-neonatal period are classified as Sudden Unexpected Infant Deaths (SUID), many of which could be prevented through safe sleep practices.

Louisiana Rate ¹	U.S. Rate	HP2020 Goal ³	LA Ranking
3.4	Unavailable	2.0	Unavailable

Causes of Death During the Post-neonatal Period

53% of deaths during the post-neonatal period are injury-related (this includes SUIDs).



Each year, an average of...¹

- **89** infant deaths are classified as SUIDs
- **29** infants die from a congenital anomaly
- **26** infants die from injury unrelated to SUID
- **26** infants die from another medical condition
- **18** infants die from respiratory diseases
- **15** infants die from conditions related to the perinatal period
- **12** infants die from infections

Key Points

- During the post-neonatal period, 2 out of 5 infant deaths were classified as SUIDs. SUID refers to any sudden and unexpected death occurring during infancy, whether explained or unexplained (including Sudden Infant Death Syndrome [SIDS], Accidental Suffocation or Strangulation in Bed [ASSB], and ill-defined deaths).
- SUID is considered largely preventable by reducing risk factors. Some of these risk factors (low birth weight, prematurity, maternal smoking) trace back to maternal health, while others are behavioral or environmental factors (e.g. bed-sharing, infants sleeping on unsafe surfaces, use of soft bedding or blankets, stomach or side sleeping position, smoking in the home).
- Improving maternal health is an important part of preventing SUID, as is supporting families and caregivers in their efforts to increase protective factors and decrease risk factors for SUID.

Infant Mortality in Louisiana

**Driving factors behind the
leading causes of infant deaths and
recommendations for prevention**

Infant Mortality (Birth to 365 Days)

Driving Factors and Recommendations for Prevention

The next three pages highlight contributing risk factors and recommendations for prevention of infant mortality related to maternal health and SUID. The top causes of infant mortality include conditions originating in the perinatal period and causes associated with Sudden Unexpected Infant Death (SUID). Many of these deaths can be prevented.

Conditions from the perinatal period are related to maternal health status. Chronic stress and inadequate healthcare, coupled with conditions such as hypertension, diabetes, depression, or infections, can lead to adverse birth outcomes such as low birth weight and preterm birth. Inadequate preconception healthcare includes a lack of access to quality preventive care and primary care visits, as well as a lack of access to family planning and reproductive health services.

Causes of death associated with SUID include Accidental Strangulation and Suffocation in Bed (ASSB) and Sudden Infant Death Syndrome (SIDS). Adverse birth outcomes such as low birth weight and prematurity are risk factors for SUID, as are unsafe sleep practices.

Risk Factors for SUID include:⁶

- Infant sleeping on stomach or side
- Infant sharing a sleeping surface or bed-sharing with sleeping adult(s), children, or pets
- Infant sleeping on a couch, armchair, or sofa
- Soft objects, loose bedding, cords, wires, etc. in or near the sleeping area
- Impaired caregiver
- Smoking during pregnancy
- Drinking or using drugs during pregnancy
- Preterm birth
- Low birth weight

Protective Factors for SUID include:⁶

- Infant laid down to sleep on back
- Room-sharing with a caregiver
- Firm sleeping surface, with no objects (toys, pillow, blankets, bumpers)
- Smoke-free home
- Room at a comfortable temperature and infant is not overdressed
- Pacifier at nap time and bedtime after breastfeeding is established
- Regular prenatal care and well-baby check ups
- Infant kept up to date on immunizations
- Breastfeeding

Improving maternal health is an important part of preventing SUID, as is supporting families and caregivers in their efforts to increase protective factors and decrease risk factors for SUID.

Given the importance of maternal health and access to healthcare, this report includes information from the 2015 Louisiana Pregnancy Risk Assessment Monitoring System (PRAMS). Louisiana PRAMS is a survey cooperatively managed by the Centers for Disease Control and Prevention and the Louisiana Department of Health's Bureau of Family Health. Louisiana PRAMS surveys new mothers who gave birth in the past 2-6 months, and assesses mothers' experiences related to their health and most recent pregnancy. The survey collects substantial quantitative and qualitative data on risk factors for infant mortality. Data highlights are included on the following pages, and Louisiana PRAMS data are used to inform infant mortality prevention recommendations. Data from Louisiana's Child Death Reviews, warehoused on the National Fatality Review Case Reporting System, are used in the following pages to determine the prevalence of known risk factors in Louisiana deaths.

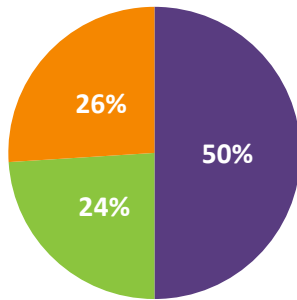
More information on Louisiana PRAMS can be found at PartnersforFamilyHealth.org/PRAMS. Additional Louisiana PRAMS data and reports can be found at PartnersforFamilyHealth.org/data-center.

Preconception Health and Family Planning

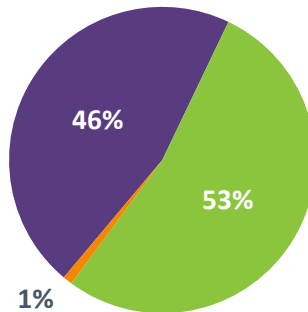
Infant health is strongly influenced by **maternal health**. Helping women achieve **optimal health throughout their lives** is key to reducing infant mortality.

Maternal Health Insurance Coverage (2015)⁷

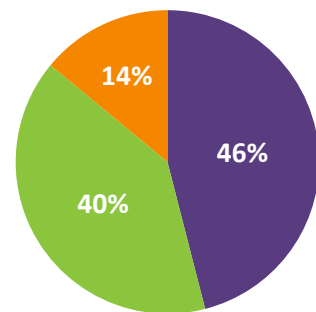
Insurance Prior to Pregnancy



Prenatal Insurance



Insurance Post-Pregnancy

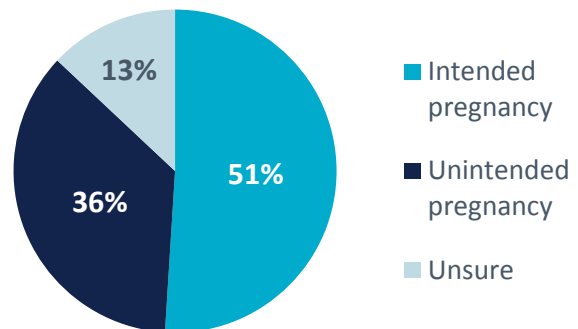


■ Private ■ Medicaid ■ None

Pregnancy Intention (2015)

51% of Mothers Intended to Become Pregnant⁷

Unplanned pregnancies limit women's opportunities to improve their health prior to becoming pregnant. Improving access to family planning services can lead to an increased rate of intended pregnancies, which may be associated with fewer adverse birth outcomes.



Maternal Health Indicators Prior to Pregnancy (2015)

Prior to their most recent pregnancy...⁷

- 54% of mothers were overweight or obese*
- 11% of mothers had depression
- 7% of mothers had high blood pressure
- 3% of mothers had diabetes

* Weight criteria based on national Body Mass Index (BMI) categories and calculated from self-reported height and weight on PRAMS Survey

Recommendation

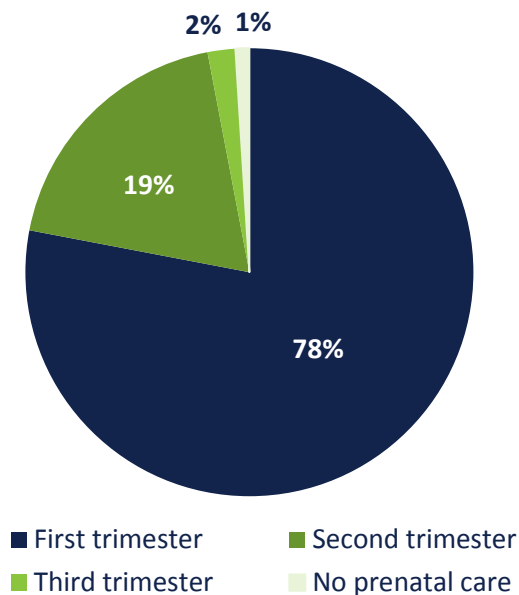
- Improve maternal health by increasing access to family planning services and quality primary care before and between pregnancies.

In 2015, over 20% of mothers in Louisiana did not receive prenatal care during the first trimester. **Early care is a key part of adequate care and can help reduce infant mortality.**⁷

Adequacy of Prenatal Care in Louisiana (2015)

Adequate prenatal care is defined as having received 80% or more of the recommended prenatal visits for gestational age based on standards set by the American Congress of Obstetricians and Gynecologists.⁷

About **1 in 5 Louisiana Mothers Do Not Receive Prenatal Care in First Trimester**⁷



1 in 4 Louisiana Women Receive Less than Adequate* Prenatal Care⁷

Inadequate <50% of recommended visits	20%
Intermediate 50-79% of recommended visits	6%
Adequate 80 – 109% of recommended visits	23%
Adequate Plus 110% or more of recommended visits	51%

*Less than adequate prenatal care includes “inadequate” and “intermediate” responses.

Reasons for Not Receiving Early Prenatal Care (2015)

The most common reasons women reported for not receiving first trimester prenatal care included:⁷

- Couldn't get an appointment when I wanted
- Didn't know I was pregnant
- Didn't have Medicaid or LaMoms card**
- I didn't have enough money or insurance to pay for my visits**

**Based on 2015 data. Louisiana Medicaid expansion occurred July 1, 2016.

Recommendation

- Improve maternal health through access to early and adequate prenatal care.

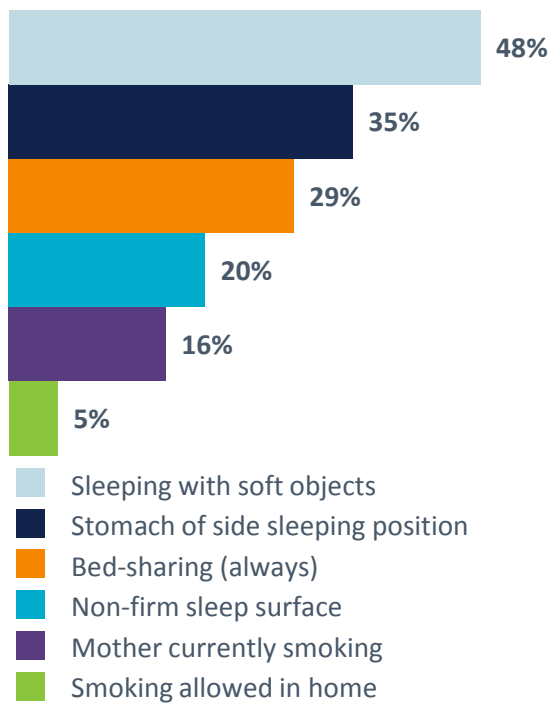
Sudden Unexpected Infant Death (SUID)

From 2014-2016, **72%** of sleep-related deaths in Louisiana occurred by **3 months of age**.⁴

SUID Risk Factors in Louisiana

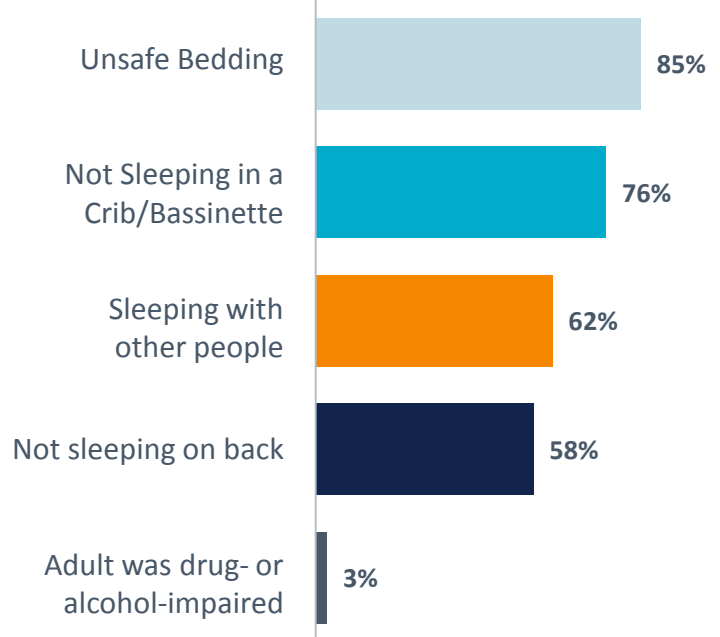
In 2015, **1 in 5 babies** in Louisiana were exposed to **3 or more risk factors for SUID**.⁷ The American Academy of Pediatrics (AAP) cites bed-sharing as the greatest risk factor for sleep-related infant deaths. In 2015, **44%** of Louisiana mothers said they **sometimes, often, or always bed-share** with their baby.⁷

Infant Sleep Environment Risk Factors (2015)⁷



Risk Factors Present in Louisiana SUIDs (2014-2016)⁴

Multiple risk factors per death may be present



Recommendations

- Caregivers should place babies to sleep on their backs, not their stomachs or sides.
- Adults, other children, and/or pets should not share a sleep surface with a baby.
- Babies should not be placed to sleep on soft surfaces such as adult beds, sofas, quilts, or waterbeds
- Caregivers should use a safety-approved pack n' play or crib with a firm mattress that fits snugly and is covered only by a tight-fitting bed sheet.
- There should be no comforters, pillows, loose blankets, quilts, stuffed toys, wedges, or positioners in the infant sleep area.
- Overheating increases the risk of SUID. To prevent overheating, babies should be dressed in light clothing. Rooms where babies sleep should be kept at a temperature that is comfortable for a lightly-clothed adult.
- Caregivers should not smoke around babies, and babies should sleep only in smoke-free spaces.

Child Mortality in Louisiana

2014-2016 Data

Overall Child Mortality

1 to 14 years

Every year in Louisiana, an average of **232** children between 1 and 14 years old die.¹



United States vs. Louisiana

The Louisiana mortality rate from 2014 to 2016 for children ages 1 and 14 was 26.8 deaths per 100,000 children. The U.S. rate was 16.4 per 100,000 children over the same time period. If Louisiana had the same mortality rate as the U.S., **90 fewer** children would die per year.

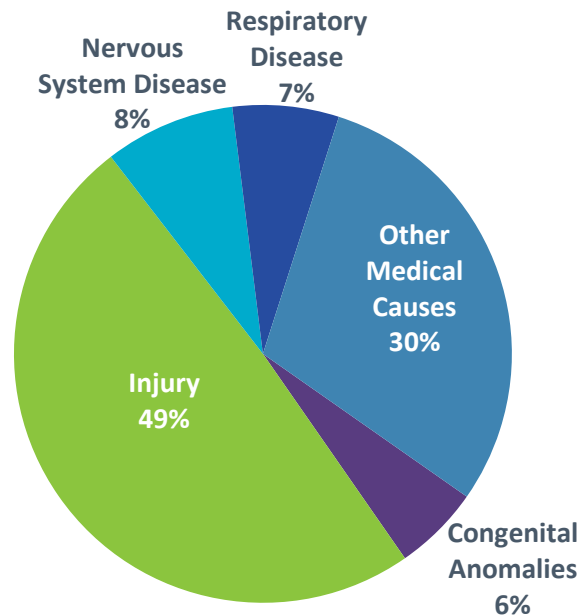
Louisiana Rate ¹	U.S. Rate ²		LA Ranking ²						
26.8	16.4		Highest in the U.S.						
Child Deaths by Region (2014-2016) ¹	1	2	3	4	5	6	7	8	9
Average Annual Child Deaths	41	32	18	26	18	18	31	24	22
Child Mortality Rate	27.3	26.2	23.7*	22.0	31.4*	31.4*	30.5	36.6	19.6

*Rates based on counts less than 20 are unstable and may vary widely from future reports.

Causes of Child Mortality

Each year, an average of...¹

- **114** children die due to injury
- **69** children die due to another medical cause
- **20** children die due to diseases of the nervous system
- **16** children die due to diseases of the respiratory system
- **13** children die due to congenital anomalies



Key Points

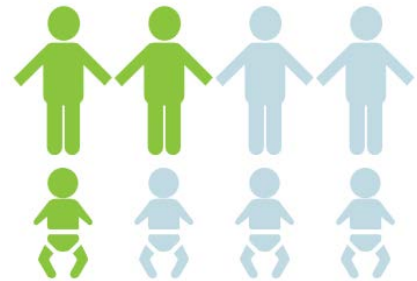
- About half (49%) of childhood deaths during ages 1 to 14 are due to an injury. Most of these deaths are considered preventable.
- The other half (51%) of childhood deaths are due to a medical cause. The most common medical causes are diseases of the nervous system, diseases of the respiratory system, and deaths related to congenital abnormalities.

Child Mortality: Fatal Injuries

1 to 14 years

Every year in Louisiana, an average of **114** children die from injury. The majority of injury deaths are due to motor vehicle crashes, drowning, and homicide.¹

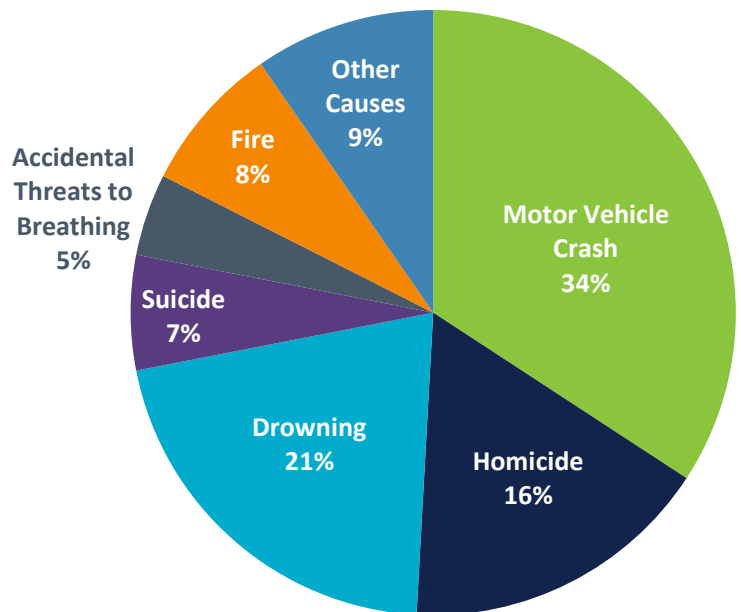
About half of child deaths are a result of injury. Injury makes up a larger percentage of deaths in childhood (49%) than in infancy (25%).



Causes of Fatal Injury

Each year, an average of...¹

- 39 children die in a motor vehicle crash
- 24 children die from drowning
- 19 children die from homicide
- 11 children die from another accidental cause, including falls and other accidents
- 9 children die from exposure to fire
- 7 children die from suicide
- 5 children die from threats to breathing



Key Points

- About half (49%) of childhood deaths during ages 1 to 14 are due to an injury. Most of these deaths are considered preventable.
- Motor vehicle crashes, homicide, and drowning are the most common causes of injury-related deaths.

Child Mortality: Ages 1-4

2014-2016 Data

Child Injury Mortality

Ages 1 – 4 years

Every year in Louisiana, an average of **112** children between ages 1 and 4 die. **56** die from injury.¹



From 2014 to 2016, the Louisiana mortality rate for children ages 1 to 4 was 45.3 deaths per 100,000 children. The U.S. rate was 24.8 per 100,000 children over the same time period. If Louisiana had the same mortality rate as the U.S. **51 fewer** children in this age group would die per year.

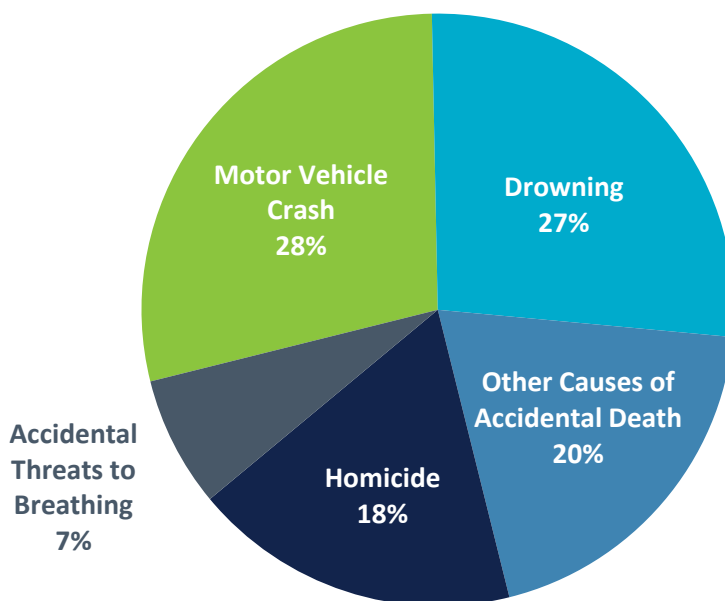
Louisiana Rate ¹	U.S. Rate ²	HP2020 Goal ³	LA Ranking ²
45.3	24.8	26.5	Highest in the U.S.

Causes of Fatal Injury

Every year, 50% of overall deaths in 1-4 year olds are injury-related

Each year, an average of...¹

- **16** children die in a motor vehicle crash
- **15** children drown
- **11** children die from other accidental deaths, including falls, blunt force trauma, fire, and other
- **10** die from homicide
- **4** die from an accidental threat to breathing



Key Points

- This age group has the highest disparity between the Louisiana and U.S. child mortality rate and therefore, the greatest opportunity for improvement.
- Creating safe environments for children where they live, learn and play is important to reducing child fatalities. Safe environments require a variety of physical and behavioral supports, including but not limited to: size-appropriate child passenger safety restraints in vehicles, barriers around bodies of water and fall hazards, smoke alarms inside homes, safe firearm storage, and attentive supervision by caregivers.

Child Mortality: Ages 5-9

2014-2016 Data

Child Injury Mortality

Ages 5 – 9 years

Every year in Louisiana, an average of **57** children between ages 5 and 9 die. **25** die from an injury.¹



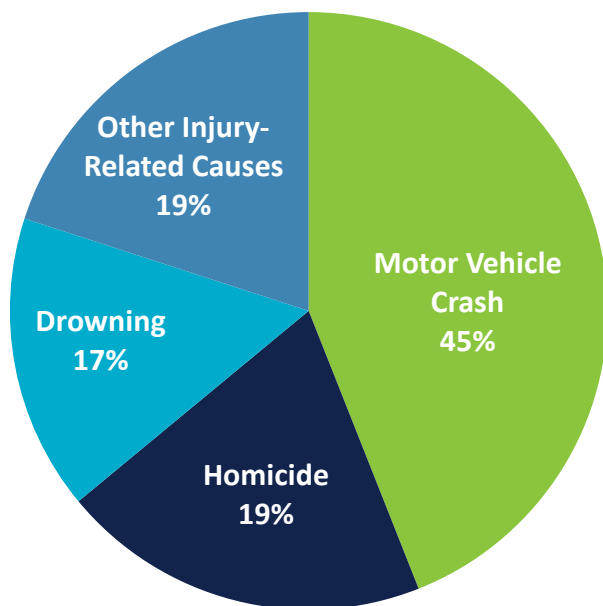
United States vs. Louisiana

The Louisiana mortality rate from 2014 to 2016 for children ages 5 to 9 was 18.3 deaths per 100,000 children. The U.S. rate was 11.8 deaths per 100,000 children over the same time period. If Louisiana had the same mortality rate as the U.S., **20 fewer** children in this age group would die per year.

Louisiana Rate ¹	U.S. Rate ²	HP2020 Goal ³	LA Ranking ²
18.3	11.8	12.4	3 rd highest in the U.S.

Causes of Fatal Injury

Every year, 44% of deaths in 5-9 year olds are injury-related



Each year, an average of...¹

- **11** children die in a motor vehicle crash
- **5** children die due to homicide
- **5** children die from other injury-related causes, including threats to breathing, falls, blunt force trauma, fire, and other
- **4** children drown

Key Points

- Motor vehicle crashes are the most common cause of death due to injury in children ages 5 to 9.
- The primary risk factors in motor vehicle crash deaths in this age group are:
 - Being vehicle passengers (55%), as opposed to pedestrians
 - Not having proper safety gear (shoulder belts, lap belts, etc.) or using the safety gear improperly⁴
- In 5 to 9 year olds, 64% of weapons-related injury deaths (including intentional and unintentional) were due to firearms.⁴

Child Mortality: Ages 10-14

2014-2016 Data

Child Injury Mortality

Ages 10 – 14 years

Every year in Louisiana, an average of **62** children between ages 10 and 14 die. **33** die from an injury.¹

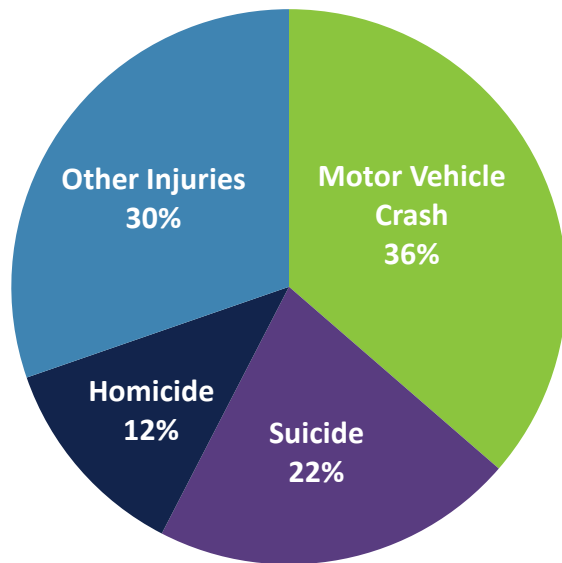


The Louisiana mortality rate from 2014 to 2016 for children between the ages of 10 and 14 was 20.4 deaths per 100,000 children. The U.S. rate was 14.4 deaths per 100,000 children over the same time. If Louisiana had the same mortality rate as the U.S., **18 fewer** children in this age group would die per year.

Louisiana Rate ¹	U.S. Rate ²	HP2020 Goal ³	LA Ranking ²
20.4	14.4	14.8	7th highest in the U.S.

Causes of Fatal Injury

53% of deaths in 10-14 year olds are injury-related



Each year, an average of...¹

- **12** children die in motor vehicle crashes
- **10** children die from other injuries, including threats to breathing, drowning, falls, blunt force trauma, fire, or other
- **7** children die from suicide
- **4** children die from homicide

Key Points

- Motor vehicle crashes are the most common cause of death due to injury in children ages 10 to 14.
- The primary risk factors in motor vehicle crash deaths in this age group are:
 - Being passengers (87%), as opposed to pedestrians
 - Not having proper restraints (shoulder belts, lap belts, etc.) or using the safety gear improperly.⁴
- In 10 to 14 year olds, 68% of weapons-related injury deaths (intentional or unintentional) were due to firearms.⁴
- Suicides exceed homicides in this age group. This demonstrates a need for suicide prevention programs in schools and increased focus on children’s mental and emotional health.

Child Mortality in Louisiana

Driving factors behind the
leading causes of child deaths and
recommendations for prevention

Child Mortality (Ages 1 to 14 years)

Driving Factors and Recommendations for Prevention

The next three pages highlight risk factors for the leading causes of child mortality, as well as recommendations for increasing protective factors and preventing deaths.

Motor vehicle crashes (MVC) are the top cause of child death in Louisiana. These are predominantly crashes involving motor vehicles, but include all transport-related deaths, such as All Terrain Vehicle (ATV), boat, and aircraft incidents. Drowning and homicide are the second and third top causes of child death in Louisiana, respectively.

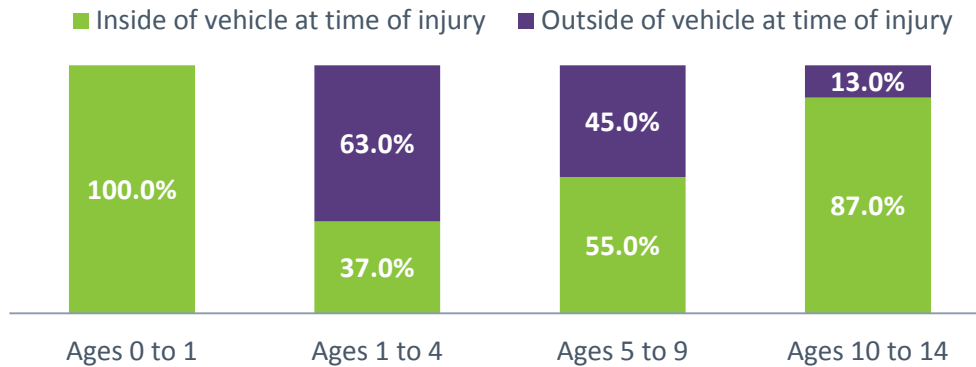
Regional and State Child Death Reviews include the abstraction of data into the National Fatality Review Case Reporting System database. Data from this database were used in the following pages to identify risk factor prevalence in Louisiana deaths, including those pertaining to motor vehicle crashes, drowning, and violent deaths.

Child Motor Vehicle Crash (MVC) Deaths

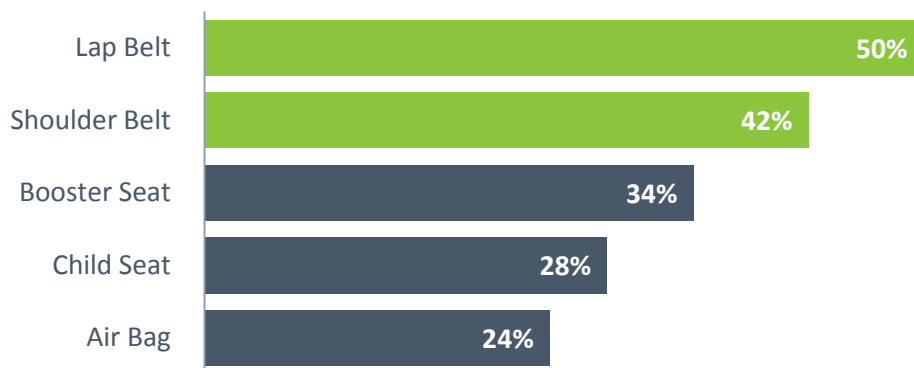
Risk Factors & Recommendations, 2014-2016 data

Infants and children ages 5 -14 years are more likely to die as **car passengers** in MVCs. Children ages 1-4 years are more likely to die outside of the vehicle as **pedestrians or at play**.⁴

Location of Victim at time of MVC, by Age Group⁴



Safety Features Missing or Improperly Used in Louisiana Child MVC Deaths⁴



Of children who died while riding inside the vehicle at the time of the crash, **50%** were not using lap belts, and **over 40%** were not using shoulder belts.⁴

Recommendations

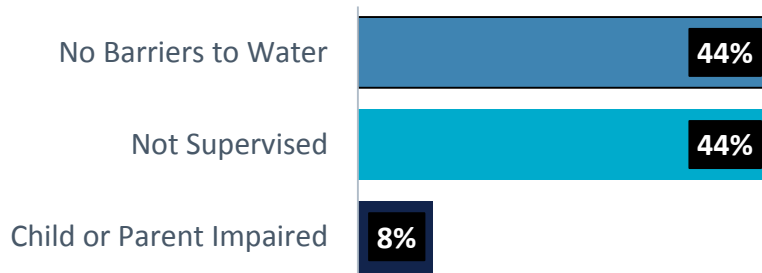
- Use effective evidence-based approaches to prevent motor vehicle crashes and promote the use of seat belts and child passenger restraints.⁸
- Create and enforce policies and legislation consistent with best practices in child passenger restraints. Best practices include both the type of safety seat and seating position based on the child's age and size.⁸
- Require the use of booster seats once children outgrow forward-facing seats, until the child is 57 inches tall.⁸
- Conduct environmental assessments of areas where children gather (parks, schools, libraries, etc.) for unsafe conditions such as poor visibility, a lack of cross-walks or stop signs, high speed, or poorly coordinated traffic.⁹
- Strictly enforce policies around improper restraint and drinking and driving.⁸
- Implement a three stage Graduated Drivers' Licensing Program, as recommended by national safety experts.⁸

Child Drowning Deaths

Risk Factors & Recommendations, 2014-2016 data

Drowning is the **second most common cause** of unexpected death in children in Louisiana.¹

Top Risk Factors for Drowning in Louisiana⁴



- Most children who drowned did not have **barriers preventing access to water** or **adequate supervision**.⁴
- Most drowning deaths occur among children who are white¹, male, and between the ages of 1 and 4 years.

Drowning Location

Of children who died by drowning in Louisiana, more than half drowned in a **pool, hot tub, or spa**.⁴



Recommendations

Based on shared recommendations from the Centers for Disease Control and Prevention¹⁰, Safe Kids Worldwide¹¹ and Children's Safety Network.¹²

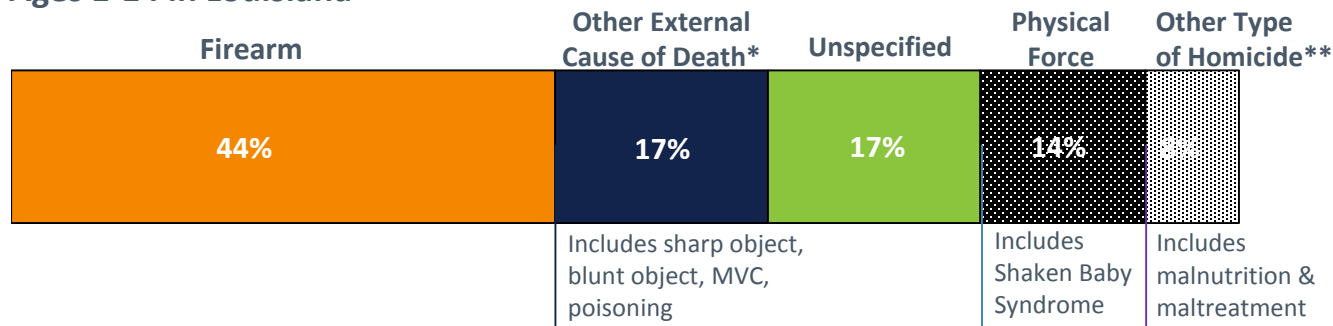
- Create free or affordable swim lessons and water safety options for children and adults. Swim lessons do not replace constant supervision of children around water.
- Provide supervision (with 2 designated water watchers) for all children at all times when in or around water.
- Never use a bath seat as a substitute for supervision of infants in a bathtub.
- Swim close to lifeguards and always watch children even in the presence of lifeguards.
- Children should only swim in designated swimming areas.
- Ensure quick access to call 911 if needed. Maintain atrial defibrillators and rescue equipment around pools, and CPR and First Aid certification for pool supervisors.
- Only use flotation devices that have been approved by the US Coast Guard for the specific weight of the child using the device. Product will have the USCG imprint on it.
- Secure pool and spa ladders, and install updated safety-compliant drains and pipes. Maintain clear visibility of pool surface and floor.
- Limit toddlers' access to water sources such as pools, bathtubs, ponds, fountains, buckets, and storm drains.
- Promote the use of devices such as barriers, gates, door alarms, covers, and pool alarms.
- Increase regulations and code enforcement for barriers around pools, spas, and ponds.
- Share drowning prevention health education resources from poolsafely.gov with families and caregivers.

Violent Deaths in Children

Risk Factors & Recommendations, 2014-2016 data

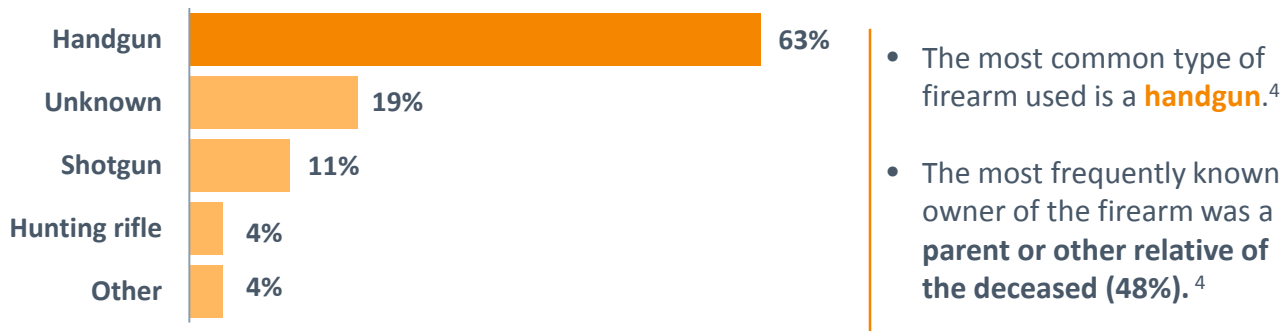
Firearms are the leading method of child homicide, as well as the leading cause of all weapons-related deaths in children ages 1 to 14 years.⁴

Homicide Methods Ages 1-14 in Louisiana⁴



Deaths due to Firearms

Firearms were the most frequently used weapon (63%) in weapons-related deaths (including accidents, homicide, and suicide)⁴



Recommendations

Based on shared recommendations from Children’s Safety Network¹³ and the American Academy of Pediatrics.¹⁴

- Prevent children’s access to firearms and ammunition in the primary home and relatives’ homes. Locking up firearms and storing ammunition separately are effective ways to do this.
- Pediatricians should include routine questions about the presence of firearms and how they are stored in households with children.
- Ensure novice hunters receive training that covers safe firearm handling and preventing accidental discharge.
- Research Child Access Prevention laws enacted by other states for efficacy and explore feasibility of implementing similar recommendations.
- Promote evidence-based interventions tied to resilience and social and emotional learning to teach children positive behaviors and relationship-building skills, in order to prevent the use of violence against themselves or others.
- Learn more about recognizing signs of suicide and how to connect persons to resources such as ASIST or safeTALK programs of Living Works (livingworks.net and info@livingworks.net).

Racial Disparities

Infant and Child Mortality 2014-2016 Data

Racial Disparities in Mortality

Infants ages 0 to 1 year, and children ages 1 to 14 years

Racial disparities in mortality are complex and multifactorial. Infant and child mortality is influenced by a wide range of social, economic, and physical determinants. Inequity within these factors, such as socioeconomic status, access to preventive healthcare and family planning services, community well-being, etc. increases racial disparities in infant mortality.

Racial disparities in mortality are evidenced throughout Louisiana and the United States. In Louisiana, black[†] infants are more than twice as likely to die as white infants[†], while black[†] children are almost twice as likely to die as white children.[†]

Low socioeconomic status is correlated with injury-related child fatality. Families experiencing poverty are more likely to live in economically disadvantaged communities characterized by a lack of resources and infrastructure contributing to unsafe conditions. Examples include:

- Families with lower incomes and limited resources may need to prioritize basic needs such as housing, food, and transportation over safety equipment. Child passenger safety seats and bicycle helmets can be expensive if communities do not have access to sources of free or low cost items.
- Older vehicles are equipped with fewer safety features than newer ones.
- Economically disadvantaged neighborhoods may not have municipal swimming pools or access to free or low cost water safety and swim lessons.
- Dilapidated buildings, open drainage canals, limited mitigation of imminent hazards, poorly lit and poorly designed roadways with limited enforcement of road safety rules, and high rates of violent crime put children at risk.
- Limited access to quality trauma care can result in worse injury outcomes.

Addressing structural and socioeconomic inequalities such as the ones listed above at a community and institutional level will help reduce child fatalities.

[†] black indicates non-Hispanic black, and white indicates non-Hispanic white.

Racial Disparities in Mortality

Infants ages 0 to 1 year, and children ages 1 to 14 years

Black[†] infants and children are at an increased risk of dying, as compared to their white[†] peers.¹



In Louisiana from 2014 to 2016, black[†] infants were **2.4 times as likely to die** as white[†] infants. During the same time period, black[†] children were **1.9 times as likely** to die as white[†] children.

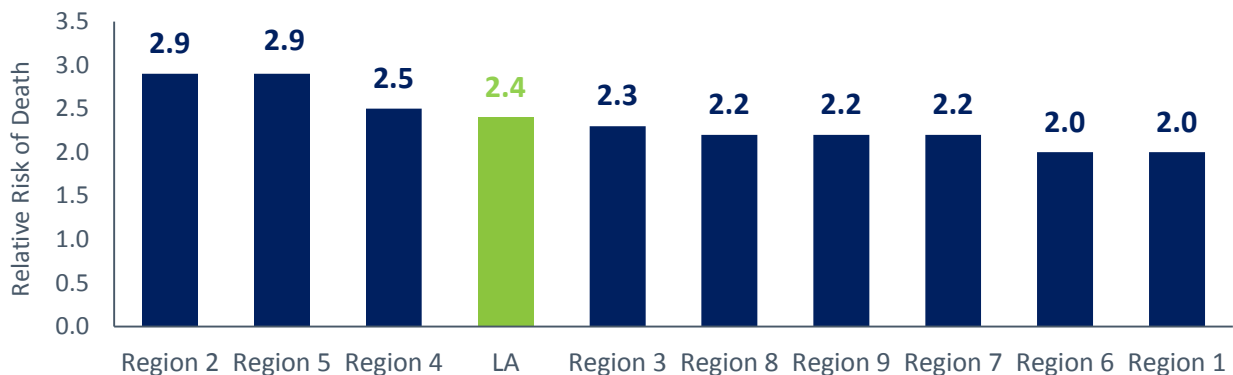
Mortality Rate		
Age Group	Black [†]	White [†]
Infants, birth to 1 year	12.2 deaths per 1,000 live births	5.2 deaths per 1,000 live births
Children, 1 to 14 years	35.7 deaths per 100,000 children	18.7 deaths per 100,000 children

† black indicates non-Hispanic black, and white indicates non-Hispanic white.

Relative Risk of Infant Death for black[†] vs. white[†] Infants

Relative risk is the probability of an event occurring in one group and not another

Racial Disparities in Infant Deaths Exist Throughout Louisiana¹



Key Points

- Infant and child mortality affects some racial groups more than others.
- Regions 2 and 5 - the capitol area and southwest Louisiana, respectively – have the greatest racial disparity in birth outcomes. In these regions, black[†] infants are 2.9 times as likely as white[†] infants to die.

Moving Data to Action

**What the Office of Public Health,
Bureau of Family Health and its partners
are doing to prevent fatalities and
promote the health
of Louisiana families**

Moving Data to Action

The Office of Public Health (OPH), Bureau of Family Health (BFH) facilitates quarterly meetings of the State Child Death Review (CDR) Panel to review data on the leading causes of child fatalities, select priorities for the upcoming year, discuss recommendations generated by local level review panels, and identify opportunities for preventive action. The following efforts were coordinated by the OPH, BFH and partner organizations, in line with State and local CDR recommendations for preventing fatalities and promoting the health of Louisiana families.

Improving Birth Outcomes



Supporting Families

- Worked directly with pregnant women and families through the Bureau of Family Health's Maternal, Infant, and Early Childhood Home Visiting (MIECHV) program. In this program, registered nurses or parent educators work side-by-side with clients to help them have healthier pregnancies, including assisting clients with accessing early prenatal care and keeping up with appointments throughout pregnancy. After the baby is born, nurses or parent educators continue to support the parent(s) and promote healthy child development in the early years of the child's life. Participating families have had fewer pregnancy and birth problems and fewer emergency room visits.



Improving Systems

- Provided affordable comprehensive reproductive health services to men and women across the state through the Bureau of Family Health's Reproductive Health Program. The following services contribute to improved birth outcomes:
 - Screening and treatment for Sexually Transmitted Infections (STIs)
 - Screening for chronic health conditions
 - Family planning counseling and a full range of contraceptive options to empower women to plan their pregnancies and achieve healthy birth spacing.
- Worked to produce targeted improvements in maternal health during pregnancy through the facilitation of the Louisiana Perinatal Quality Collaborative (LaPQC). LaPQC is a statewide network of perinatal care providers, public health professionals and patient and community advocates who work to advance equity and improve outcomes for women, families, and newborns in Louisiana through evidence-based practices and the use of improvement science. LaPQC's current focus is the *Reducing Maternal Morbidity Initiative*. The goal of the initiative is to achieve a 20% reduction in severe maternal morbidity among women who experience hemorrhage and severe hypertension/preeclampsia in LaPQC participating facilities in 12 months.

General Injury Prevention



Improving Systems

- Established topic-specific regional taskforces and workgroups across the state through Community Action and Advisory Teams. Topics include: Infant Safe Sleep, Child Passenger Safety, Father Involvement, Advocacy and Public Safety, and Child Death Prevention.

Moving Data to Action

The following efforts were coordinated by OPH, BFH and partner organizations, in line with State and local CDR recommendations for preventing fatalities and promoting the health of Louisiana families.

Sudden Unexpected Infant Death (SUID) Prevention



Supporting Families

- Maintained Give Your Baby Space, a statewide campaign that teaches caregivers the safest ways for babies to sleep. Safe sleep information and resources for families, providers, and community partners can be found at GiveYourBabySpace.org.
- Worked with hospitals, Parish Health Units, community-based organizations and home visiting offices to set up physical displays in clinics and offices to model safe sleep environments.
- Partnered with the YMCA to offer a Spanish-language seminar on infant safe sleep to Latino families.



Improving Systems

- Established regional taskforces and State CDR workgroup on Safe Sleep Promotion.
- Trained healthcare and child welfare professionals on how to educate caregivers and families on safe sleep and promote safe sleep practices.
- Collaborated with the University of Louisiana Lafayette to explore the use of simulation to improve nursing students' knowledge and retention of infant safe sleep practices and test a modified training for use in hospital settings. The team is currently developing a plan to expand the project with the Safe Sleep Subcommittee of the State Child Death Review Panel.
- Evaluated the feasibility and desirability of implementing a "baby box" program as a means to promote safe sleep in response to House Concurrent Resolution 58 of the 2017 Legislative Session. The Bureau of Family Health and partners reported their findings to the House and Senate Committees on Health and Welfare, and included comprehensive, evidence-based recommendations for the most effective strategies Louisiana can use to promote safe and reduce infant mortality.

Child Passenger Safety and Motor Vehicle Crash Prevention



Supporting Families

- Collaborated with Regional Transportation Safety Coalitions and their partners to train car seat safety technicians, establish car safety check stations, promote free car seats and assist caregivers with correct installation.
- Coordinated with emergency department providers and emergency medical personnel on two large Louisiana Department of Wildlife and Fisheries events (the Louisiana State Archery Tournament and the National Hunting and Fishing Day festival) to promote ATV safety.
- Coordinated with Vantage/Affinity Health Groups to create Public Service Announcement (PSA) promoting car seat and seatbelt usage.



Improving Systems

- Partnered with Louisiana State University Highway Safety Research Group to participate in data integration, linkage, and specialized analyses.
- Provided data on child injury and best practice recommendations for improvements in child passenger safety (seating location, booster seat use) and Graduated Driver's Licensing legislation to the Louisiana Highway Safety Commission, the Strategic Highway Safety Plan and other professional partners.

Moving Data to Action

The following efforts were coordinated by OPH, BFH and partner organizations, in line with State and local CDR recommendations for preventing fatalities and promoting the health of Louisiana families.

Drowning Prevention



Supporting Families

- Coordinated with partners to distribute PoolSafely materials (water safety and drowning prevention education) to parents and caregivers.
- Partnered with the YMCA to provide a Spanish-language water safety class for Latino families.
- Collaborated with Safe Kids Coalition to host a water safety event.



Improving Systems

- Established State CDR workgroup on drowning prevention.
- Created drowning and water safety infographics to share drowning data and prevention recommendations with partners across the state.
- Coordinated with the State YMCA Alliance and the Governor's Office on the YMCA's Safety Around Water Initiative.
- Applied for a drowning prevention grant which would allow the Bureau of Family Health and partners to coordinate trainings on pool safety requirements, provide public education around water safety and drowning prevention, and better support local prevention initiatives.

Violence Prevention



Supporting Families

- Worked directly with parents through the Bureau of Family Health's Maternal, Infant, and Early Childhood Home Visiting (MIECHV) program to support positive parent child interactions, emotional health, and nurturing familial relationships.



Improving Systems

- In 2017, began to gather critical data on homicide, suicide and unintentional firearm fatalities using the National Violent Death Reporting System (NVDRS). NVDRS helps state and local officials understand the circumstances contributing to violent deaths by linking data from medical examiner, coroner, law enforcement, toxicology, and vital statistics records.
- Created recommendations for how law enforcement can improve and track the status of child death investigations, and increase recognition and reporting of child abuse and neglect.
- Organized mandated reporting seminars designed to prevent fatalities related to child abuse for the Louisiana Emergency Response Network, Louisiana Emergency Room Nurses Association, Department of Children and Family Services, Emergency Medical Services, law enforcement, teachers, social workers, and childcare providers.
- Provided cross-cutting trainings on shared risk and protective factors for violence via programs such as the Adverse Childhood Experiences (ACEs) Educator program.
- Worked with local and regional suicide prevention taskforces to promote preventative training opportunities and create a Suicide Prevention Plan and Crisis Intervention Quick Resource Guide.

Appendix

Child Death Review Overview

A quick guide to the Child Death Review process

What is the purpose of the Child Death Review (CDR)?

The Louisiana Department of Health (LDH), Office of Public Health (OPH), Bureau of Family Health (BFH), coordinates the Child Death Review (CDR) Program. Per R.S. 40:2019, CDRs are mandated for deaths of children under 15 years of age. State and local panels meet to review child deaths, identify risk factors, and provide recommendations to help reduce the occurrence of child mortality in the future. Review panels are made up of multidisciplinary groups of professionals. These groups are also called case review teams.

What is the difference between the state and local CDR programs?

The state case review team reviews cases when there are issues that cannot be resolved at the local level or that require policy initiatives, that are better addressed by the state panel. The state team is also consulted whenever there are clusters of similar cases in multiple regions throughout the state.

What types of deaths are reviewed?

Deaths of children between 0 and 14 years of age who die unexpectedly in Louisiana are eligible for case review, regardless of resident status. Commonly reviewed cases include deaths attributable to unintended injuries, homicide (including those due to child abuse and neglect), suicide, SUID, and unknown causes.

Does anyone review other types of deaths?

There are two other mortality review systems currently used by the Bureau of Family Health. These are the Pregnancy Associated Mortality Review (PAMR) and the Fetal Infant Mortality Review (FIMR). Cases in which mothers die during or within one year of pregnancy are reviewed through PAMR. Cases involving infant deaths that do not meet CDR criteria may be reviewed through the FIMR system. These cases include infants who died of medical causes between birth and their first birthday. Finally, deaths due to child abuse and neglect are also reviewed by the Department of Children and Family Services (DCFS).

How are deaths identified?

The Office of State Registrar and Vital Records provides data on newly registered deaths to the Bureau of Family Health's mortality surveillance team each month. Regional Maternal and Child Health (MCH) Coordinators use these data to identify deaths in their respective regions.

What happens after a death is identified?

The Regional MCH Coordinators obtain case information from medical records, autopsies, death scene investigations, and first responder reports. This information is entered into a secure database and used for surveillance at the state level, and to create case summaries which are presented for review at regional CDR meetings. The review process uses data to create recommendations to prevent similar deaths in the future.

Who decides what deaths will be presented at the CDR meetings?

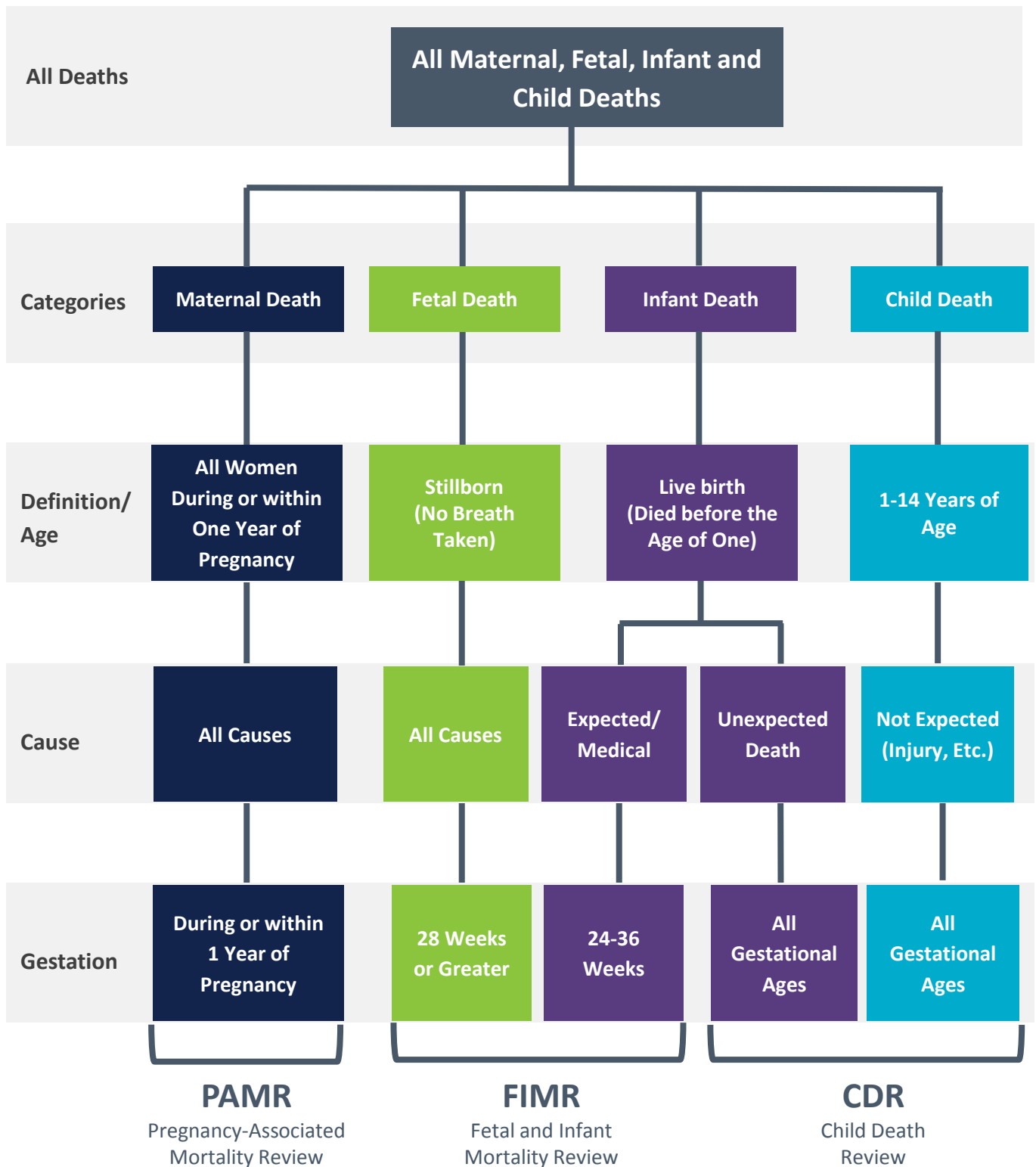
Regional MCH Coordinators are registered nurses charged with, among other duties, coordinating CDR meetings in each of their public health regions. All unexpected deaths of children under 15 years of age are reviewed by CDR teams. In Louisiana, Regional MCH Coordinators use information gathered from case abstraction to determine which cases meet CDR criteria. Criteria are based on age at death, residency status, and cause of death. Please see page 36 for Death Review Algorithm.

How are the recommendations from the CDR meetings used?

Recommendations from the CDR meetings are referred to regional Community Action and Advisory Teams (CAATs). Community action teams are comprised of multidisciplinary stakeholders who develop action plans based on the recommendations generated from the CDR meetings.

Death Review Algorithm

Case review determination



2017 State Child Death Review Members

Position	Current Incumbent
State Health Officer, or designee	Parham Jaber, M.D.
Secretary of the Louisiana Department of Health, or designee	Amy Zapata
Secretary of the Department of Children and Family Services, or designee	Mona Michelli
Superintendent of the Office of the State Police, or designee	Lieutenant Dave Kolb
State Registrar of the Office of Vital Records, or designee	Devin George
Attorney General, or their designee	Emily Andrews
Member of the Senate, appointed by the President of the Senate	Honorable Yvonne Dorsey-Colomb
Member of the House of Representatives, appointed by the Speaker of the House of Representatives	Honorable Scott Simon
Commissioner of the Department of Insurance, or designee	Korey Harvey
Representative of the Louisiana Partnership for Children and Families	Sandra Adams
Executive Director of the Highway Safety Commission, or the Department of Public Safety and Corrections	Katara Williams, Ph.D.
District Attorney, appointed by the Louisiana District Attorneys Association	Joseph Waitz Jr.
Sheriff appointed by the Louisiana Sheriffs Association	Lauren Meher
State Fire Marshal, or designee	Cynthia Gonthier Naquin
Assistant Secretary of Behavioral Health, or designee	Danita LeBlanc
Police Chief, appointed by the Louisiana Association of Chiefs of Police	Chief Timothy Lentz / Chief Frank Edwards
Forensic Pathologist, certified by the American Board of Pathology and licensed to practice medicine in the state, and appointed by the chairman of the Louisiana State Child Death Review Panel subject to Senate confirmation	Michael Cramer, M.D.
Pathologist experienced in pediatrics, appointed by the Louisiana Pathology Society	Deborah Cavalier, M.D.
Coroner, appointed by the president of the Louisiana Coroner's Association	Yancy Guerin / James Groody
Health professional with expertise in Sudden Infant Death Syndrome	Laurel Kitto
Pediatrician with experience in diagnosing and treating child abuse & neglect	Laura Clayton Kleinpeter, M.D.
State Superintendent of Education, or designee	Janice Zube
Director of the Bureau of Emergency Medical Services, or designee	Rose Johnson
Four citizens from the state at large who represent different geographic areas of the state	Pam Cart Dawn Vick, M.D. Ashlyn Melton Shana Toole

2017 Regional Maternal and Child Health Coordinators

Region	Coordinator
Region 1	Rosa Bustamante-Forest, A.P.R.N., M.P.H.
Region 2	Kelly Bankston, B.S.N., R.N.
Region 3	Nicole Soudelier, B.S.N., R.N.
Region 4	Christine Cornell, B.S.N., R.N.
Region 5	Bridget Redlich-Cole, R.N, CIC
Region 6	Lisa Norman, R.N.
Region 7	Shelley Ryan-Gray, B.N., R.N.
Region 8	Sara Dickerson, R.N.
Region 9	Martha Hennegan, R.N.
Statewide	Robin Gruenfeld, M.P.H.

Note: With the exception of the Regional Maternal and Child Health Coordinators, local CDR membership is voluntary and not every local CDR meeting will include the same members.

Acronyms and Definitions

Acronym	Definition
ASSB	Accidental Suffocation and Strangulation in Bed (ICD 10 code W75)
BFH	Bureau of Family Health
CDR	Child Death Review
CMDCA	Congenital malformation, deformation and chromosomal abnormality
LDH	Louisiana Department of Health
FIMR	Fetal and Infant Mortality Review
ICD	International Classification of Diseases
MCH	Maternal and Child health
MVC	Motor Vehicle Crash
OPH	Office of Public Health
PAMR	Pregnancy-Associated Mortality Review
PRAMS	Pregnancy Risk Assessment Monitoring System
SIDS	Sudden Infant Death Syndrome (ICD 10 code R95)
SUID	Sudden Unexpected Infant Death (ICD 10 codes W75, R95, and R99*)

*R99 refers to unknown causes of death

Term	Definition
Low birth weight	Less than 2,500 grams at delivery (5.5 lbs.)
Fetal death	Stillborn with gestation greater than 20 weeks or birth weight greater than 350 grams
Perinatal death	Fetal deaths plus deaths of infants under 7 days of age
Neonatal death	Deaths of infants under 28 days of age
Post-neonatal death	Deaths of infants that occur between 28 days and 365 days after birth
Infant death	Deaths of infants under 1 year of age

Cause of Death Explanations⁶

Cause of Death	Explanation
Congenital malformations, deformations and chromosomal abnormalities (CMDCA)	Referred to as “Congenital Anomalies” throughout Report for ease of reading. This category includes anencephaly and similar malformations, congenital hydrocephalus, spina bifida, other congenital malformations of the nervous system, congenital malformations of the heart, other congenital malformations of the circulatory system, congenital malformations of genitourinary system, congenital malformations and deformations of musculoskeletal system, limbs and integument, Down syndrome, Edward syndrome, Patau syndrome, other congenital malformations and deformations and other chromosomal abnormalities not elsewhere classified.
Conditions originating in the perinatal period	Also referred to as “Perinatal Period Conditions” throughout report for ease of reading. This category includes disorders related to the length of gestational age and fetal growth, effects from maternal factors and complications, infections specific to the perinatal period, hemorrhage and hematological disorders and other perinatal conditions.
Diseases of the nervous system	This category includes inflammatory diseases of the central nervous system, systemic atrophies primarily affecting the central nervous system, degenerative diseases of the nervous system and cerebral palsy and other paralytic syndromes.
Diseases of the circulatory system	This category includes rheumatic fever; hypertensive diseases; ischemic heart disease; pulmonary heart disease and diseases of pulmonary circulation; cerebrovascular diseases; diseases of arteries, arterioles and capillaries; and diseases of veins, lymphatic vessels and lymph nodes.
Diseases of the respiratory system	This category includes respiratory infections, influenza, pneumonia, lung diseases due to external agents and diseases of the pleura.
External causes of mortality (injuries)	This category includes deaths from injuries (unintentional and intentional) and causes not related to a medical condition, including motor vehicle accidents, other and unspecified transport accidents, cuts, falls, accidental discharge of firearms, homicide, suicide, drowning and submersion, accidental suffocation and strangulation in bed and other suffocation and strangulation.
Infectious and parasitic diseases	This category includes transmissible diseases, including intestinal infectious diseases, tuberculosis, zoonotic bacterial diseases, spirochetal diseases, rickettsioses and viral diseases.
Sudden infant death syndrome (SIDS)	This category includes deaths among infants less than one year of age that occur suddenly and for which the causes of death are not able to be determined even after a full investigation and autopsy.
Sudden unexpected infant death (SUID)	SUID is a term used to describe any sudden and unexpected death, whether explained or unexplained (including Sudden Infant Death Syndrome [SIDS], Accidental Suffocation or Strangulation in Bed [ASSB], and ill-defined deaths), occurring during infancy.

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Other Sources:

Bureau of Family Health website, Partners for Family Health: PartnersForFamilyHealth.org

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Cooperative Data Agreement

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