

**LOUISIANA
CHILD DEATH REVIEW
REPORT**

2013-2015

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

Report prepared by:

Lydia Plante, M.S.P.H., Mortality Surveillance Epidemiologist, LPH-OPH Bureau of Family Health

Editors:

Amy Zapata, M.P.H., Director, LDH-OPH Bureau of Family Health (BFH)
Dr. Parham Jaber, M.D. Assistant State Health Officer, LDH-OPH
Lyn Kieltyka, Ph.D., M.P.H., MCH Epidemiologist, LDH-OPH, BFH
Jane Herwehe, M.P.H., Data Action Team Lead, LDH-OPH, BFH
Karis Schoellmann, M.P.H., Communication Innovation and Action Lead, LDH-OPH, BFH
Rebecca Majdoch, M.P.H., Communication Innovation and Action Specialist, LDH-OPH, BFH
Chloe Lake, M.P.H., Communication Innovation and Action Coordinator, LDH-OPH, BFH
Robin Gruenfeld, M.P.H., State Maternal and Child Health Coordinator, LDH-OPH, BFH
Rosaria Trichilo, M.P.H., Louisiana Pregnancy Assessment Monitoring System Coordinator, LDH-OPH, BFH

Acknowledgements:

This report was made possible by the contributions of the Bureau of Family Health Regional Maternal and Child Health Coordinators: Rosa Bustamante-Forest, Christine Cornell, Martha Hennegan, Lisa Norman, Linda Pickett, Sara Dickerson, Shelley Ryan-Gray, and Nicole Soudelier. Joan Borstell and Devin George provided the vital records data presented. The work of the parish coroners, forensic pathologists, death scene investigators, law enforcement personnel, first responders, State and local Child Death Review Panel members, hospital administrators, health care providers, social service agencies and all others who have assisted in the process of gathering data and providing care and bereavement assistance to families affected by the loss of a child has been invaluable in creating meaningful death reviews and prevention recommendations. Finally, substantial information on risk factor prevalence would not be available without the Louisiana Pregnancy Risk Assessment Monitoring System (PRAMS) team; Rosaria Trichilo, Ursula Vance, Shirley Washington, and Ana Dal Corso.

Table of Contents

Executive Summary.....	3
Data Sources and Methodology.....	4
Regional Map of Louisiana.....	5
Infant Mortality in Louisiana	6
Infant Mortality: All Causes (Birth to 365 days).....	7
Infant Mortality: Fatal Injury (Birth to 365 days).....	8
Perinatal Mortality.....	9
Neonatal Mortality.....	10
Post-neonatal Mortality.....	11
Infant Mortality: Driving Factors and Recommendations for Prevention	12
Infant Mortality (Birth to 365 days).....	13
Preconception Health and Family Planning.....	14
Prenatal Care and Maternal Stress.....	15
Sudden Unexpected Infant Death (SUID).....	16
Child Mortality in Louisiana	17
Overall Child Mortality, Ages 1 to 14 years.....	18
Child Mortality: Fatal Injuries, Ages 1 to 14 years.....	19
Child Mortality: Ages 1-4	20
Child Injury Mortality, Ages 1 to 4 years.....	21
Child Mortality: Ages 5-9	22
Child Injury Mortality, Ages 5 to 9 years.....	23
Child Mortality: Ages 10-14	24
Child Injury Mortality, Ages 10 to 14 years.....	25
Child Mortality: Driving Factors and Recommendations for Prevention	26
Child Mortality (Ages 1 to 14 years).....	27
Child Motor Vehicle Crash (MVC) Deaths.....	28
Violent Deaths in Children.....	29
Child Drowning Deaths.....	30
Racial Disparities	31
Racial Disparities in Mortality: Overview.....	32
Racial Disparities in Mortality.....	33
Appendix	34
Child Death Review Overview.....	35
Death Review Algorithm.....	36
2017 State Child Death Review Members.....	37
2017 Regional Maternal and Child Health Coordinators.....	38
Acronyms and Definitions.....	39
Cause of Death Explanations.....	40
References.....	41

Executive Summary

Child Death Review, 2013 – 2015

Mission Statement

The mission of the Louisiana Child Death Review is to better understand how and why children die unexpectedly in Louisiana in order to reduce future injury and deaths. This is accomplished through comprehensive, multidisciplinary systems reviews of the circumstances contributing to the deaths.

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 R.S. 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 and Maternal and Child Health Block Grant and the Centers for Disease Control and Prevention Sudden Unexpected Infant Death Grant.

Summation of Data and Statistics

Every year in Louisiana, an average of 64,000 infants are born alive. Of these infants, approximately 520 die before their first birthday, and another 220 children do not survive to their 15th birthday.

From 2013-2015, 2,223 children died, and 693 of those deaths were due to injury. This is an **average of 741 Louisiana infants and children dying each year.**

Louisiana has the highest rate of childhood death for children ages 1 through 14 in the U.S., as well as the highest rate of childhood death in children ages 1 to 4 specifically. Louisiana has the third highest rate of infant mortality in the U.S., and the third highest rate of child mortality between ages 10 through 14 in the U.S.

The CDR program focuses on relatively preventable and unexpected deaths. **In Louisiana, about 50% of childhood deaths are due to injury and are potentially preventable.** In infants ages 0 to 1, the leading cause of unexpected death is Sudden Unexpected Infant Death. 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 2013-2015 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. A new feature this year is the focus on 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 factors and recommendations for infant mortality.

Data Sources and Methodology

Data Methods

Data from the Louisiana Department of Health-OPH Vital Records and Statistics were used to categorize cause 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 for the Louisiana Office of Vital Records were used to provide age, race, gender, date of death, and parish of residence. Louisiana-specific mortality epidemiological data is from the Louisiana Office of State Registrar and Vital Records. Data were analyzed using Statistical Analysis System (SAS) 9.2.

Louisiana Child Death Review Case Reporting System

The National Center for Fatality Review and Prevention hosts data collected by Louisiana's Child Death Review.

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.

National Data

National level data are from the National Vital Statistics System database, CDC WONDER. Louisiana rankings are based on national data and rates may not match exactly.

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

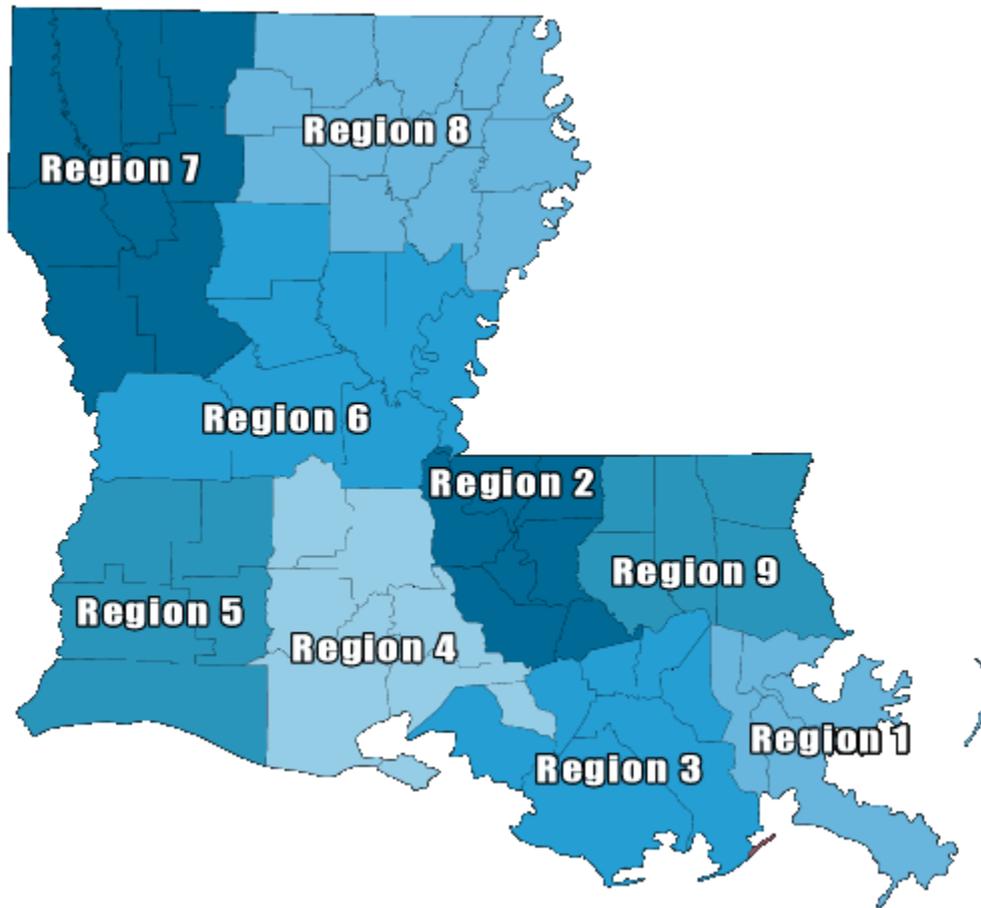
Many key indicators are presented at the regional level, and therefore have smaller counts. Rates based on counts less than 20 are considered unstable and should be interpreted with caution, taking into consideration that these numbers, percentages or rates may change drastically in the future. Additionally, 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. Furthermore, 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

2013-2015 Data

Infant Mortality: All Causes

Birth to 365 days

Every year in Louisiana, an average of **518** infants die before they reach their first birthday.¹



United States vs. Louisiana

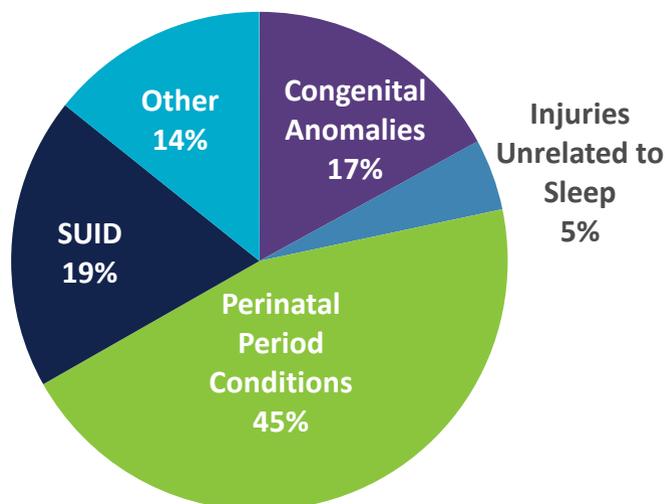
The Louisiana infant mortality rate from 2013-2015 is 8.1 deaths per 1,000 live births. The U.S. infant mortality rate during the same period was 5.9 deaths per 1,000 live births. **140** fewer babies would die each year if Louisiana had the same infant mortality rate as the U.S.

Louisiana Rate ¹	U.S. Rate ²	HP2020 Goal ³			LA Ranking ²					
8.1	5.9	6.0			3 rd highest in the U.S.					
Infant Deaths by Region (2013-2015) ¹		1	2	3	4	5	6	7	8	9
Average Annual Infant Deaths Counts		82	104	44	63	28	28	73	41	55
Infant Mortality Rate, per 1,000 live births		7.0	11.2	8.0	7.1	6.9	6.3	9.6	8.5	7.4

Causes of Infant Death

Each year, an average of...¹

- **234** infants die from conditions originating in the perinatal period
- **98** infants die from Sudden Unexpected Infant Death (SUID)
- **88** infants die from congenital anomalies
- **24** infants die from injuries not related to sleep environments
- **74** infants die from other medical reasons



Key Points

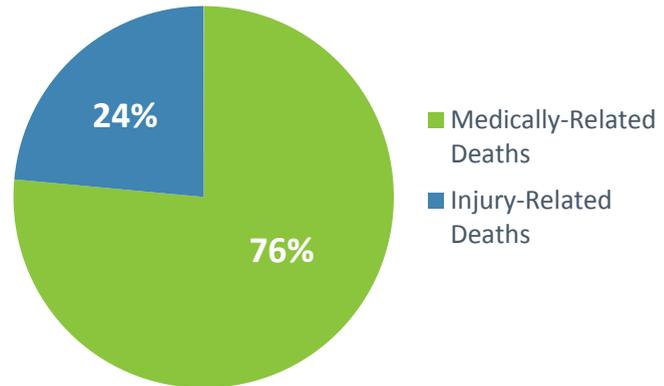
- Louisiana has the third highest rate of infant mortality in the country.
- 45% of these deaths are due to perinatal period conditions, which often relate to women's health at the time of conception. Therefore, improving maternal health before and after conception is an integral part of preventing infant mortality.
- Conditions from the perinatal period, such as low birthweight and premature birth, are known risk factors for the second most common cause of death in Louisiana – Sudden Unexpected Infant Death.

Infant Mortality: Fatal Injury

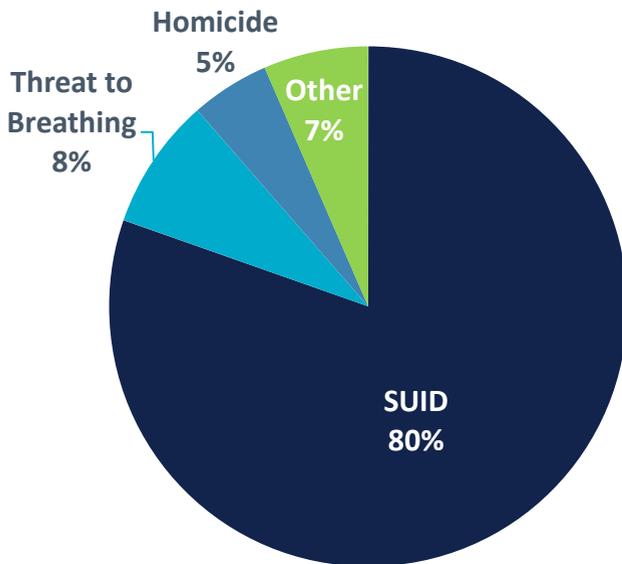
Birth to 365 days

Every year in Louisiana, an average of **122** 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** infants die from Sudden Unexpected Infant Death (SUID)
- **10** die from other threats to breathing
- **6** die from homicide
- **8** die from another type of accidental injury

Key Points

- SUIDs are by far the most common cause of injury-related infant deaths.
- Risk factors for SUID include co-sleeping, tummy sleeping, bed-sharing, and sleeping with loose bedding or objects.
- In Louisiana, most SUID deaths occur when the infant is 2 to 3 months old. Those deaths involve sleeping in something other than a crib or bassinette (78%), sleeping with loose bedding or toys (75%), and/or sleeping with an adult (63%), among other risk factors.⁴

Perinatal Mortality

Fetal deaths and infant deaths up to 7 days

Every year in Louisiana, an average of **552** infants die during the perinatal period.¹

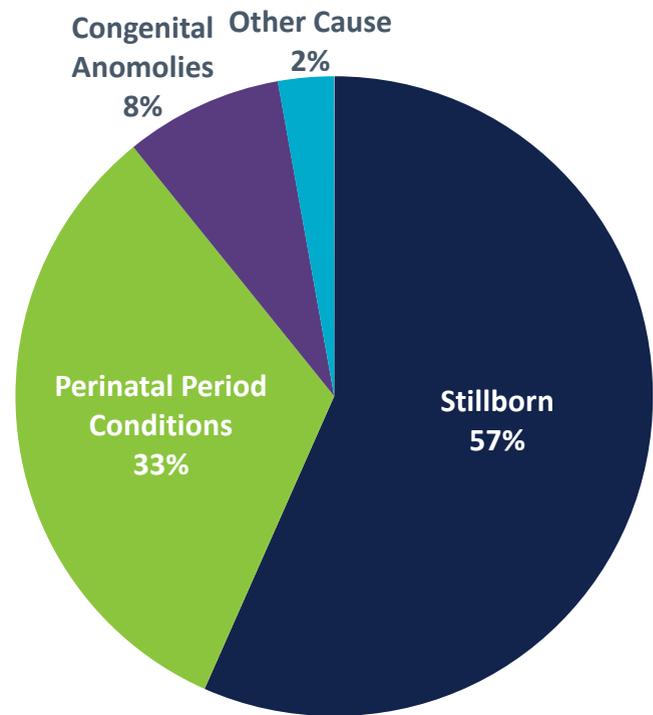


In Louisiana, most infants who do not reach their first birthday die during the perinatal period. This period includes fetal deaths and infants who die up to 7 days post birth. The majority of these deaths are stillbirths, which have a variety of causes. The Louisiana perinatal mortality rate from 2013 to 2015 was **8.7** deaths per 1,000 live births and fetal deaths.

Causes of Death During the Perinatal Period

Each year, an average of...¹

- **313** infants are stillborn
- **182** infants die from conditions originating from the perinatal period
- **45** infants die from congenital anomalies
- **12** infants die from another cause



Key Points

- Maternal health is strongly tied to fetal and infant health. This includes preconception health, as well as health during and after pregnancy. An important part of reducing infant mortality is helping women achieve optimal health throughout their lives.

Neonatal Mortality

Infant deaths between 0 and 28 days

Every year in Louisiana, an average of **302** infants die during the neonatal period.¹



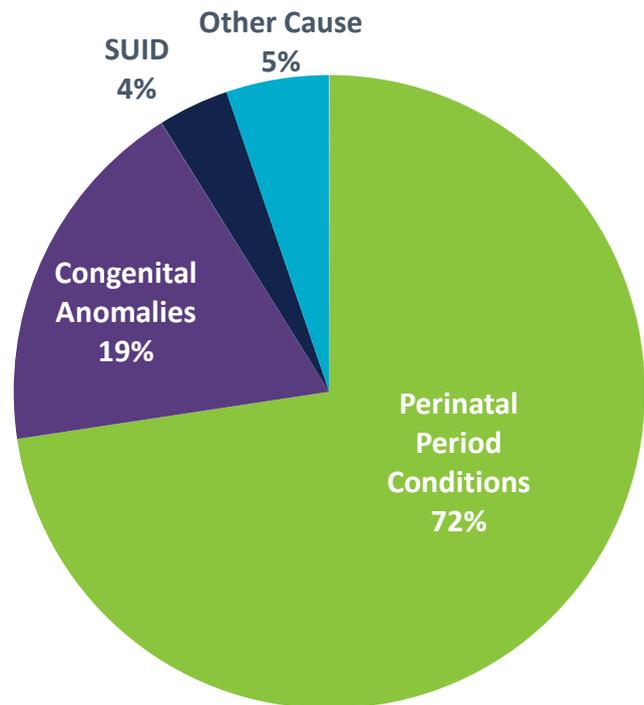
In Louisiana, the neonatal period (between 0 and 28 days after birth) is the second highest period of death during infancy. The Louisiana neonatal mortality rate from 2013 to 2015 was 4.7 deaths per 1,000 live births.

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

Causes of Death During the Neonatal Period

Each year, an average of...¹

- **219** infants die from conditions originating from the perinatal period
- **56** infants die from congenital anomalies
- **11** infants die from Sudden Unexpected Infant Death (SUID)
- **16** infants die from another cause



Key Points

- Maternal health is strongly tied to fetal and infant health. This includes preconception health, as well as health during and after pregnancy. An important part of reducing infant mortality is helping women achieve optimal health throughout their lives.

Post-neonatal Mortality

Infant deaths between 28 and 365 days

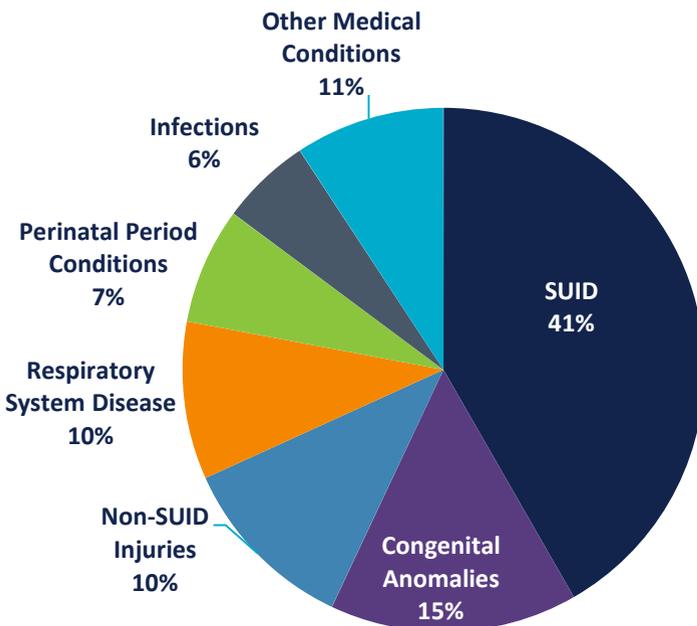
Every year in Louisiana, an average of **214** infants die during the post-neonatal period.¹

In Louisiana from 2013 to 2015, the highest rates of infant mortality are during the perinatal and neonatal periods. While the post-neonatal period has the lowest infant mortality rate, the **causes of death are more preventable in this period**. For example, 42% of deaths during the post-neonatal period are due to Sudden Unexpected Infant Death, which could be prevented through safe sleep practices and managing risk factors.

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

Causes of Death During the Post-neonatal Period

52% of deaths during the post-neonatal period are injury-related, which includes both SUID and injury.



Each year, an average of...¹

- **87** infants die from Sudden Unexpected Infant Death (SUID)
- **32** infants die from a congenital anomaly
- **23** infants die from injury unrelated to SUID
- **20** infants die from respiratory diseases
- **15** infants die from conditions related to the perinatal period
- **12** infants die from infections
- **25** infants die from another cause

Key Points

- During the post-neonatal period, infants are much more likely to die from SUID than of conditions related to the perinatal period, which is also the top category of death during the perinatal and neonatal periods.
- SUID is considered largely preventable through reduction in risk factors. Some of these risk factors (unsafe sleeping conditions, low birth weight, prematurity, maternal smoking) trace back to maternal health. Therefore, improving maternal health is also an important part of preventing 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 from the perinatal period and Sudden Unexpected Infant Death (SUID). Many of these types of deaths can be prevented. Conditions from the perinatal period often stem from poor preconception maternal health or healthcare. Poor preconception health includes chronic conditions such as hypertension or depression, as well as infections and previous poor birth outcomes. Poor preconception maternal healthcare includes a lack of access to preventive care and primary care visits, as well as a lack of access to family planning services.

Poor birth outcomes such as low birth weight and prematurity are risk factors in Sudden Unexpected Infant Death. Improving women's health is a key factor in reducing SUID. Practicing safe sleep habits for infants is also key in reducing infant mortality.

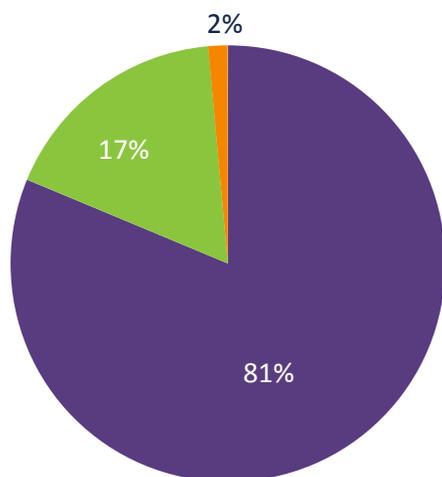
Given the role of maternal health and access to healthcare, this year's report includes more detailed information from the 2013 Louisiana Pregnancy Risk Assessment Monitoring System (PRAMS). Louisiana PRAMS is a nationwide survey conducted jointly between the Centers for Disease Control and Prevention and state public health departments. Louisiana has participated in PRAMS since 1997. PRAMS surveys new mothers who have given birth sometime in the past 2-6 months. PRAMS assesses mothers' experiences regarding their health and last pregnancy. PRAMS collects substantial risk factor information from the population of women who delivered and PRAMS data has been used in the following three pages on infant mortality risk factors prevalence and prevention. Data from Louisiana's Child Death Reviews, hosted by the National Center for Fatality Review and Prevention were also used in the following pages to identify risk factor prevalence in Louisiana deaths.

More information on Louisiana PRAMS can be found at partnersforhealthybabies.org.

Almost 20% of mothers in Louisiana do not receive first trimester prenatal care. **Early care is a key part of adequate care and can help reduce infant mortality.**⁵

Adequacy of Prenatal Care in Louisiana

Nearly 1 in 5 Louisiana Mothers Do Not Receive Prenatal Care in First Trimester⁵



- First trimester
- Second or third trimester
- No prenatal care

Nearly 1 in 5 Women Receive Inadequate* Prenatal Care⁵

LA Mothers Response	
Less than Adequate	14%
Intermediate	7%
Adequate	38%
Intensive	41%

*Inadequate prenatal care includes “less than adequate” and “intermediate” responses

Reasons for Not Receiving Prenatal Care as Early as Wanted

The most common reasons women reported for not receiving first trimester prenatal care included: ⁵

- 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 2013 data. Louisiana Medicaid expansion occurred July 1, 2016.

Recommendation

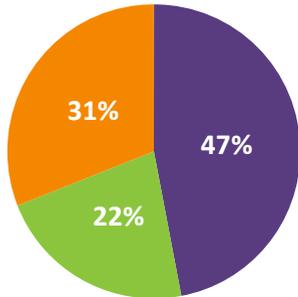
- Improve maternal health through access to early and adequate prenatal care.

Preconception Health and Family Planning

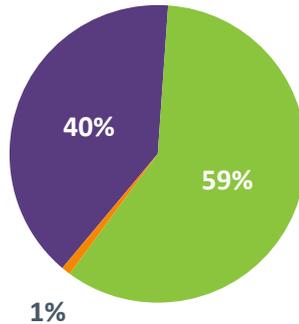
Fetal and infant health is strongly influenced by **maternal health**. Helping women achieve **optimal health throughout their lives** is key to reducing infant mortality.

Maternal Health Insurance Coverage

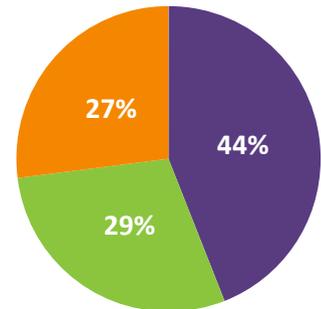
Insurance Prior to Pregnancy⁵



Prenatal Insurance⁵



Insurance Post-Pregnancy⁵

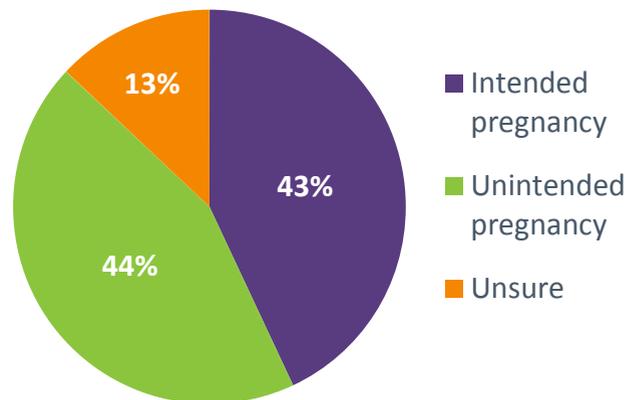


■ Private ■ Medicaid ■ None

Pregnancy Intention

Only 43% of Mothers Intended to Become Pregnant⁵

Unplanned pregnancies inhibit women's opportunities to improve their health prior to becoming pregnant. Improving access to family planning can decrease poor birth outcomes and infant mortality rates.



■ Intended pregnancy
■ Unintended pregnancy
■ Unsure

Maternal Health Indicators Prior to Pregnancy

Prior to their most recent pregnancy...⁵

- 54% of mothers were overweight or obese*
- 10% 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 through access to family planning and preconception care.

Sudden Unexpected Infant Death (SUID)

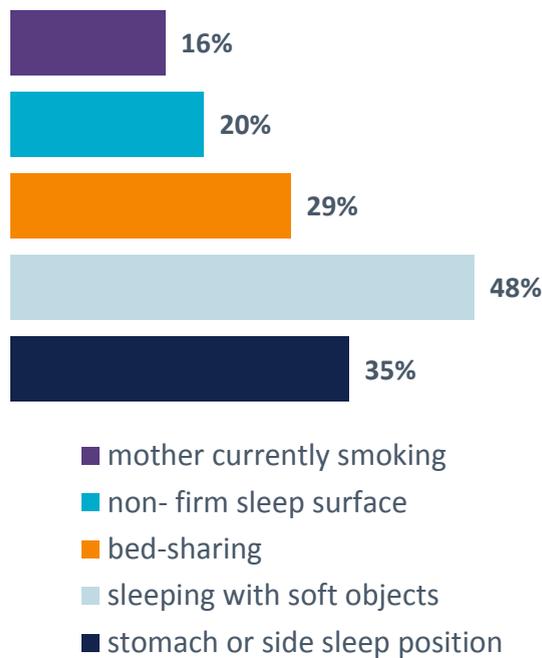


70% of sleep-related deaths occur by 3 months of age.⁴

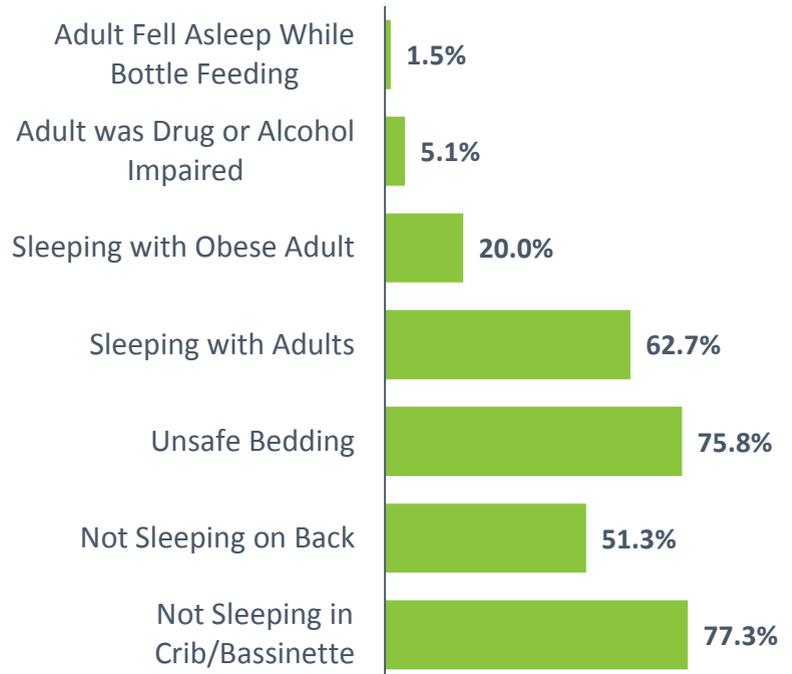
SUID Risk Factors in Louisiana

1 in 5 babies in Louisiana are exposed to **3 or more risk factors for SUID**. The American Academy of Pediatrics (AAP) cites bed-sharing as the greatest risk factor for sleep-related infant deaths. **29%** of new mothers report sometimes to always **bed-sharing** with their baby.⁵

Infant Sleep Environment Risk Factors⁵



Risk Factors Present in Louisiana SUIDs⁴



Recommendations

- Place a baby to sleep on his or her back – not on his or her tummy or side.
- Adults, other children, and/or pets should not share a sleep surface with a baby.
- Do not place babies to sleep on soft surfaces such as adult beds, waterbeds, sofas, or quilts.
- 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.
- No comforters, pillows, loose blankets, quilts, toys, wedges, or positioners in the sleep area.
- Do not overheat the baby. Dress the baby in light clothing and keep the room at a comfortable temperature for a lightly-clothed adult.
- Do not smoke around infants or allow them to sleep where tobacco smoke is present.

Child Mortality in Louisiana

2013-2015 Data

Overall Child Mortality

1 to 14 years

Every year in Louisiana, an average of **223** children between 1 and 14 years old die.¹



United States vs. Louisiana

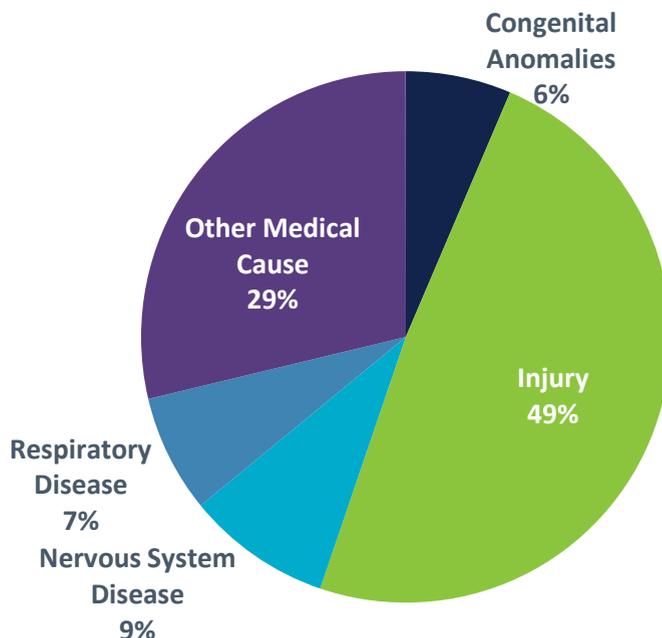
The Louisiana child mortality rate from 2013 to 2015 in ages 1 and 14 was 25.6 deaths per 100,000 children. The U.S. rate was 16.3 per 100,000 children over the same time period. If Louisiana had the same mortality rate as the U.S., **81** fewer children would die a year.

Louisiana Rate ¹	U.S. Rate ²		LA Ranking ²							
25.6	16.3		Highest in the U.S.							
Child Deaths by Region (2013-2015) ¹	1	2	3	4	5	6	7	8	9	
Average Annual Child Deaths	35	32	18	28	18	17	28	27	19	
Child Mortality Rate	23.2	25.6	23.1*	23.1	32.0*	27.6*	27.4	40.9	17.6*	

Causes of Child Mortality

Each year, an average of...¹

- **109** children die due to injury
- **20** die due to diseases of the nervous system
- **16** die due to diseases of the respiratory system
- **14** die due to congenital anomalies
- **64** die due to another medical condition



Key Points

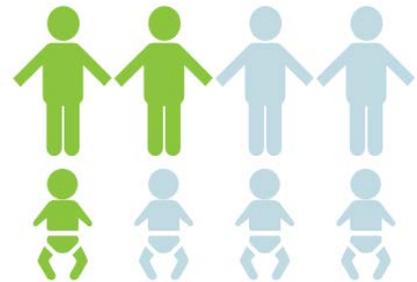
- The majority of childhood deaths during ages 1 to 14 are due to an injury, and are considered preventable.
- 51% of childhood deaths are due to a medical cause. The most common medical causes are diseases of the nervous system, diseases of the respiratory system, and deaths related to congenital abnormalities.

Child Mortality: Fatal Injuries

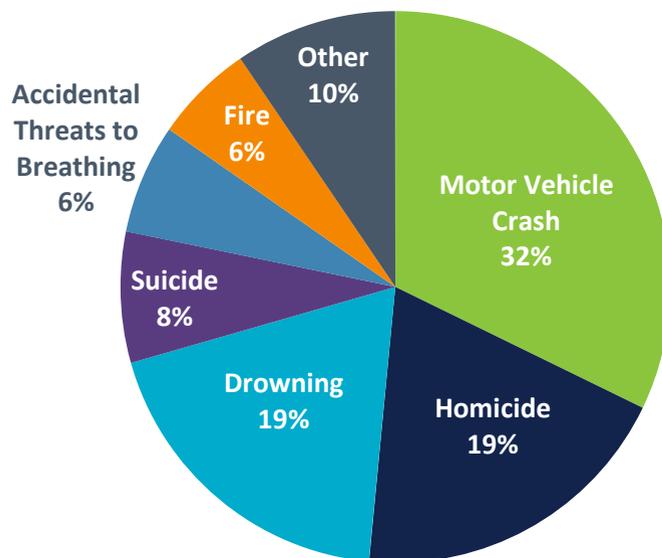
1 to 14 years

Every year in Louisiana, an average of **109** children die from injury. The majority of injury deaths are from 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 (**24%**).



Causes of Fatal Injury



Each year, an average of...¹

- 35 children die in a motor vehicle crash
- 21 die from drowning
- 21 die from homicide
- 8 die from suicide
- 7 die from threats to breathing
- 6 die from exposure to fire
- 11 die from another accidental cause

Key Points

- The majority of deaths in children ages 1 to 14 occur due to injury, and are considered preventable.
- Of these, the most common causes of death are motor vehicle crashes, homicide, and drowning.
- With proper interventions, many of these deaths are preventable.

Child Mortality: Ages 1-4

2013-2015 Data

Child Injury Mortality

Ages 1 – 4 years

Every year in Louisiana, an average of **109** children between ages 1 and 4 die. **54** die from injury.¹

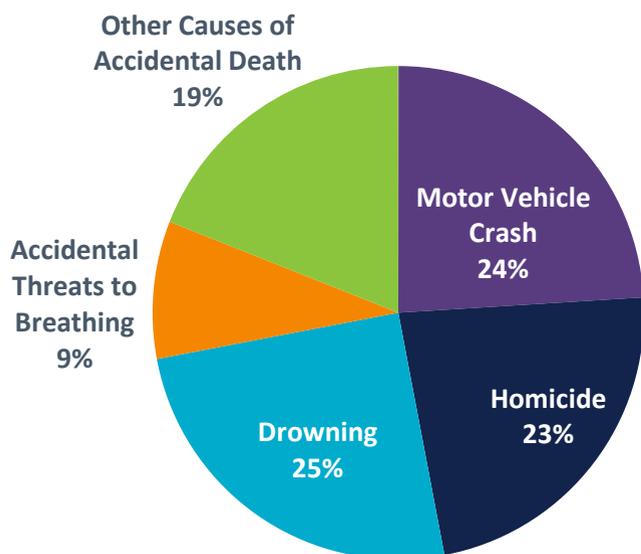


The Louisiana mortality rate in 2013 to 2015 for children ages 1 to 4 was 43.5 deaths per 100,000 children. The U.S. rate was 24.8 per 100,000 children over the same time period. If Louisiana had the same mortality rate as the U.S. **47** fewer children would die a year.

Louisiana Rate ¹	U.S. Rate ²	HP2020 Goal ³	LA Ranking ²
43.5	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

- **14** drown
- **13** children ages 1 to 4 die in a motor vehicle crash
- **12** die from homicide
- **10** die from other accidental injury
- **5** will die from an accidental threat to breathing

Key Points

- This age group has the highest disparity in death between Louisiana and the national rate, and therefore, the most room for improvement.

Child Mortality: Ages 5-9

2013-2015 Data

Child Injury Mortality

Ages 5 – 9 years

Every year in Louisiana, an average of **50** children between ages 5 and 9 die. **21** die from an injury.¹



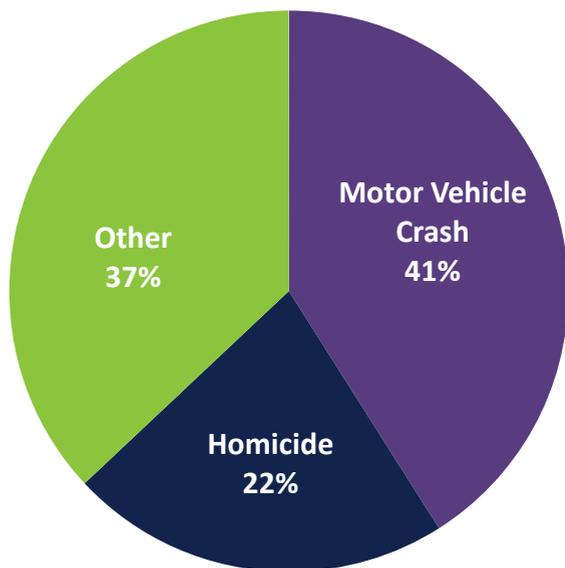
United States
vs. Louisiana

The Louisiana mortality rate from 2013 to 2015 for children ages 5 to 9 was 16.0 deaths per 100,000 children. The U.S. rate was 11.7 deaths per 100,000 children over the same time period. If Louisiana had the same mortality rate as the U.S., **13** fewer children die a year.

Louisiana Rate ¹	U.S. Rate ²	HP2020 Goal ³	LA Ranking ²
16.0	11.2	12.4	8 th highest in the U.S.

Causes of Fatal Injury

Every year, 42% of deaths in 5-9 year olds are injury-related



Each year, an average of...¹

- 9 die in a motor vehicle crash
- 5 are murdered
- 7 die from other injury-related causes

Key Points

- Among deaths due to injury, motor vehicle crashes are the most common cause of premature death in children ages 5 to 9.
- The primary risk factors in motor vehicle crash deaths in this age group are being passengers (52%) as opposed to pedestrians, and not having proper safety gear (shoulder belts, lap belts, etc.) or using the safety gear improperly (26%).⁴
- In 5 to 9 year olds, 60% of weapons-related injury deaths (intentional or unintentional) were from firearms.⁴

Child Mortality: Ages 10-14

2013-2015 Data

Child Injury Mortality

Ages 10 – 14 years

Every year in Louisiana, an average of **64** children between ages 10 and 14 die. **34** die from an injury.¹

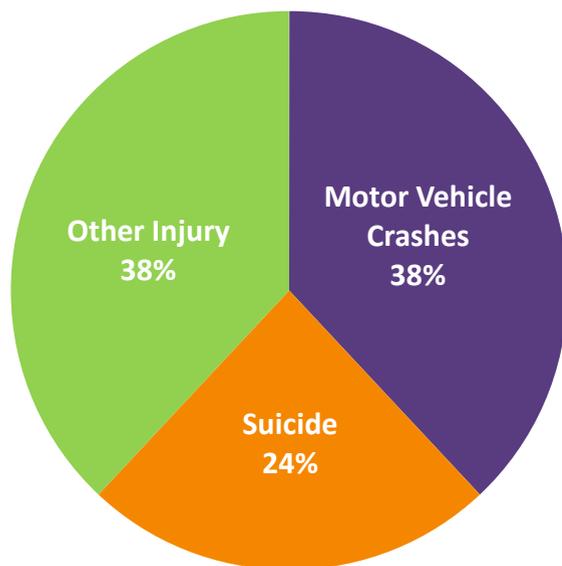


The Louisiana mortality rate from 2013 to 2015 for children between the ages of 10 and 14 was 20.8 deaths per 100,000 children. The U.S. rate was 14.2 deaths per 100,000 children over the same time. If Louisiana had the same mortality rate as the U.S. **20** fewer children would die a year.

Louisiana Rate ¹	U.S. Rate ²	HP2020 Goal ³	LA Ranking ²
20.8	14.2	14.8	3 rd 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

- **13** die in a motor vehicle crash
- **8** die from suicide
- **13** die from other injuries, including homicide

Key Points

- Among injury-related deaths, motor vehicle crashes are the most common cause of premature death in children ages 10 to 14.
- The primary risk factors in motor vehicle crash deaths in this age group are being passengers (56%) as opposed to pedestrians, and not having proper restraints (shoulder belts, lap belts, etc.) or using the safety gear improperly.⁴
- In 10 to 14 year olds, 75% of weapons-related injury deaths (intentional or unintentional) are from firearms.⁴

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 the contributing risks and recommendations for prevention of the leading causes of child mortality.

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 ATV, boat, and aircraft incidents. Drowning and homicide are the second and third top causes of child death in Louisiana, respectively.

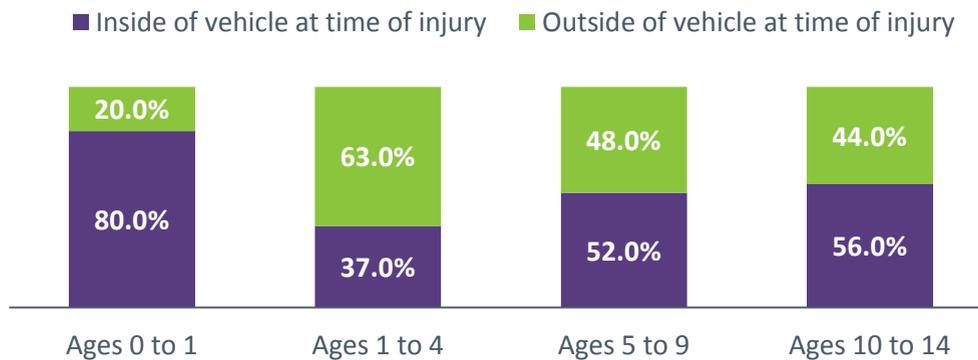
Regional and State Child Death Reviews include the abstraction of data into the National Center for Fatality Review and Prevention's Child Death Review database. Data in this database were used in the following pages to identify risk factor prevalence in Louisiana deaths. These included risk factors pertaining to motor vehicle crashes, drowning, and violent death.

Child Motor Vehicle Crash (MVC) Deaths

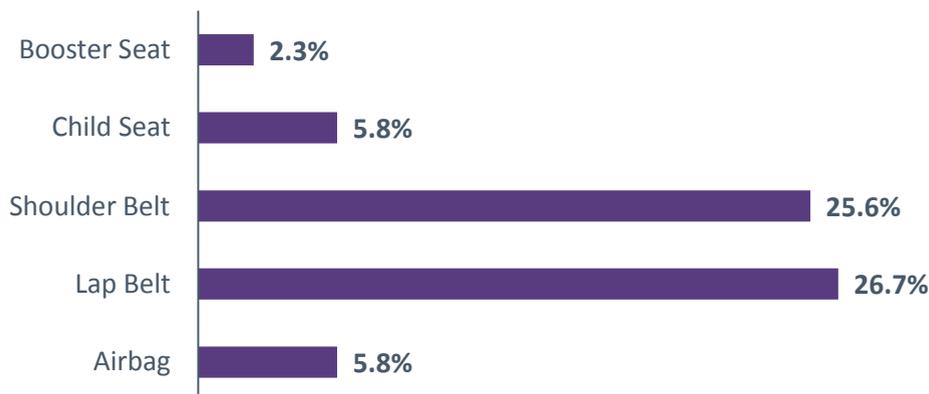
Risk Factors & Recommendations

As relates to Louisiana MVCs, infants and children ages 5 -14 years are more likely to die as **car passengers**. 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, **over 25%** were not using lap belts, and **over 25%** were not using shoulder belts.⁵

Recommendations

- Utilize effective evidence-based approaches in the promotion of restraint use and prevention of motor vehicle crashes.
- Create and enforce policies and legislation consistent with best practices in child passenger restraint as relates to size-appropriate restraints and seating position, such as rear-facing, front seat, back seat.
- Require the use of booster seats once children outgrow forward-facing seats, until the child is 57 inches tall.
- 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.
- Strictly enforce zero-tolerance policies around drinking and driving.
- Implement a three stage Graduated Drivers' Licensing Program, as recommended by CDC, NHTSA & AAMVA.

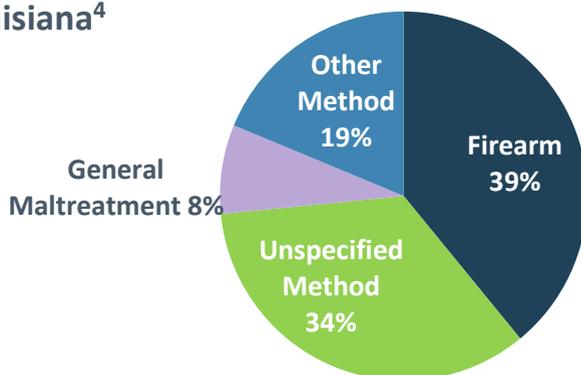
Violent Deaths in Children

Risk Factors & Recommendations

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

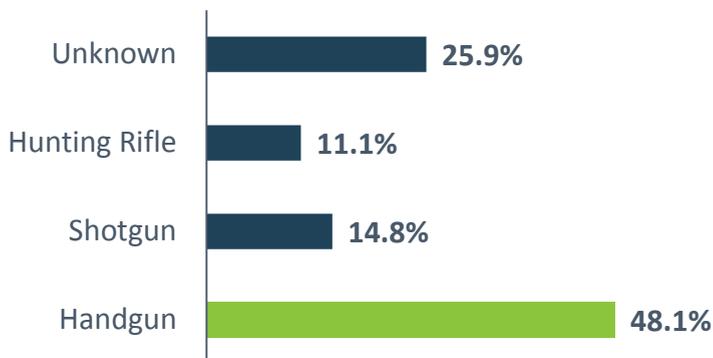
Ages 1-14 in Louisiana⁴



Deaths due to Firearms

Firearms were the most frequently used weapon (54%) in weapons-related deaths (including accidents, homicide, and suicide)⁴

- The most common type of firearm used is a **handgun**.⁴
- The most frequently known owner of the firearm was a **parent or other relative of the deceased** (33%).⁴



Recommendations

- 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 prevent access.
- As recommended by the American Academy of Pediatrics, pediatricians should include routine questions about the presence of firearms in households with children, and how firearms are stored.
- Ensure novice hunters receive hunter training that covers safe gun handling and how to prevent accidental discharge of firearms.
- Research Child Access Prevention laws enacted by other states for efficacy and explore feasibility of implementing them in Louisiana.
- Promote evidence-based interventions tied to resilience and social and emotional learning to assist children with positive behaviors and relationship building to prevent the use of violence.
- 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).

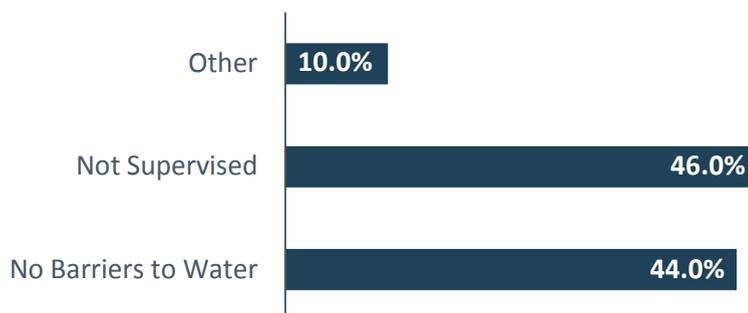
Child Drowning Deaths

Risk Factors & Recommendations

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

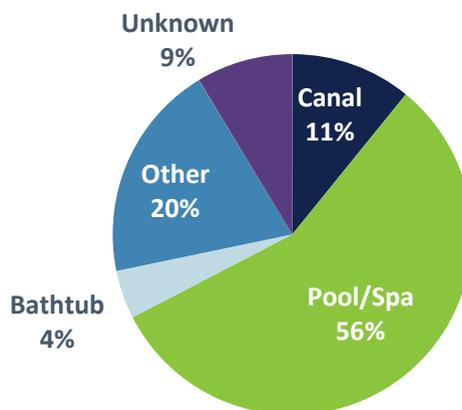
Top Risk Factors for Drowning in Louisiana⁴

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



Drowning Location⁴

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



Recommendations

- 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.
- 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 specific weight of child. Product will have the USCG imprint on the product.
- 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, 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.
- Learn more at poolsafely.gov

Racial Disparities

Infant and Child Mortality 2013-2015 Data

Racial Disparities in Mortality

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

Racial disparities in mortality are evidenced throughout Louisiana and the United States. In Louisiana, over two black infants will die for each white infant that dies, and almost two black children will die unexpectedly for every white child that dies unexpectedly.

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

Injury-related fatalities are higher among groups of lower socioeconomic status. Families experiencing poverty are more likely to live in communities characterized by a lack of resources or less safe conditions. Lower income may require families with limited resources to prioritize basic needs such as housing, food, and transportation over safety equipment, which may be cost prohibitive. Child passenger safety seats and bicycle helmets can be expensive if the community does not have access to sources for 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. Infrastructure in economically disadvantaged neighborhoods can contribute to unsafe conditions. 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. Access to quality trauma care also impacts injury outcomes.

Addressing structural and socioeconomic inequalities within communities will help reduce child fatalities.

Racial Disparities in Mortality

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

Every year in Louisiana, an average of **2 black[†]** infants or children die for every **1 of their white[†] peers.¹**



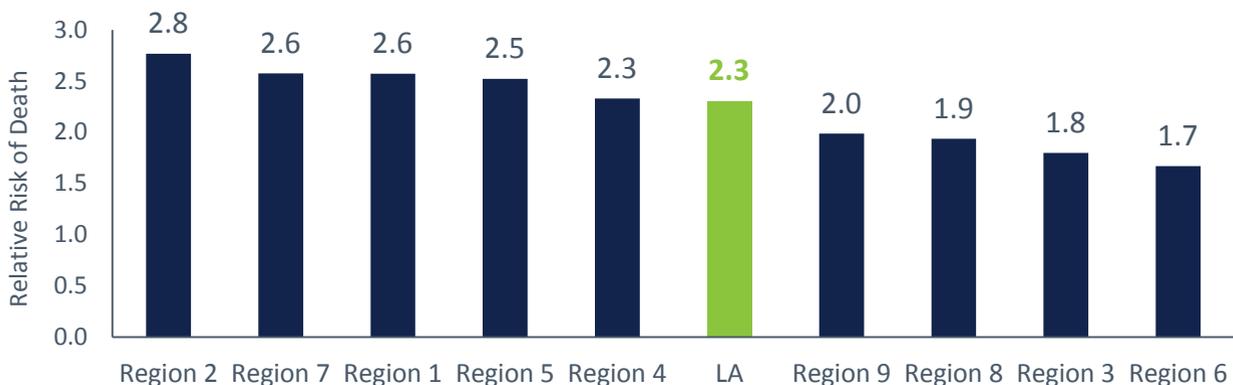
The Louisiana disparity in infant deaths from 2013 to 2015 between black[†] infants and white[†] infants was 2.3 deaths per 1,000 births. The disparity in child deaths, ages 1 to 14 during the same time period between black[†] children and white[†] children was 1.7 per 100,000 children.

Age Group	Louisiana Disparity ^{1†}
Infants, birth to 1 year	2.3 black [†] infants die for every white [†] infant
Children, 1 to 14 years	1.7 black [†] children die for every white [†] child

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 is not distributed equally between races.
- Baton Rouge area (Region 2) has the highest racial disparity in infant death, with black[†] infants 2.8 times more likely to die than white[†] infants.

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 the weight of legislation, that are better addressed by the state panel. The state team is also consulted whenever there are clusters of cases in multiple regions throughout the state.

What types of deaths are reviewed?

Deaths of children between ages 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, suicide, child abuse or neglect, unknown causes, and SUID.

Does anyone review other types of deaths?

There are two other mortality review systems currently used by Louisiana's Bureau of Family Health. These are the Pregnancy Associated Mortality Review (PAMR) and the Fetal Infant Mortality Review (FIMR). Mothers who die during or within one year of pregnancy are eligible for case review through PAMR. Infants who die but are not eligible for CDR 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 Louisiana 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 assigned 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 is designed to find ways to prevent future similar deaths using these data.

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

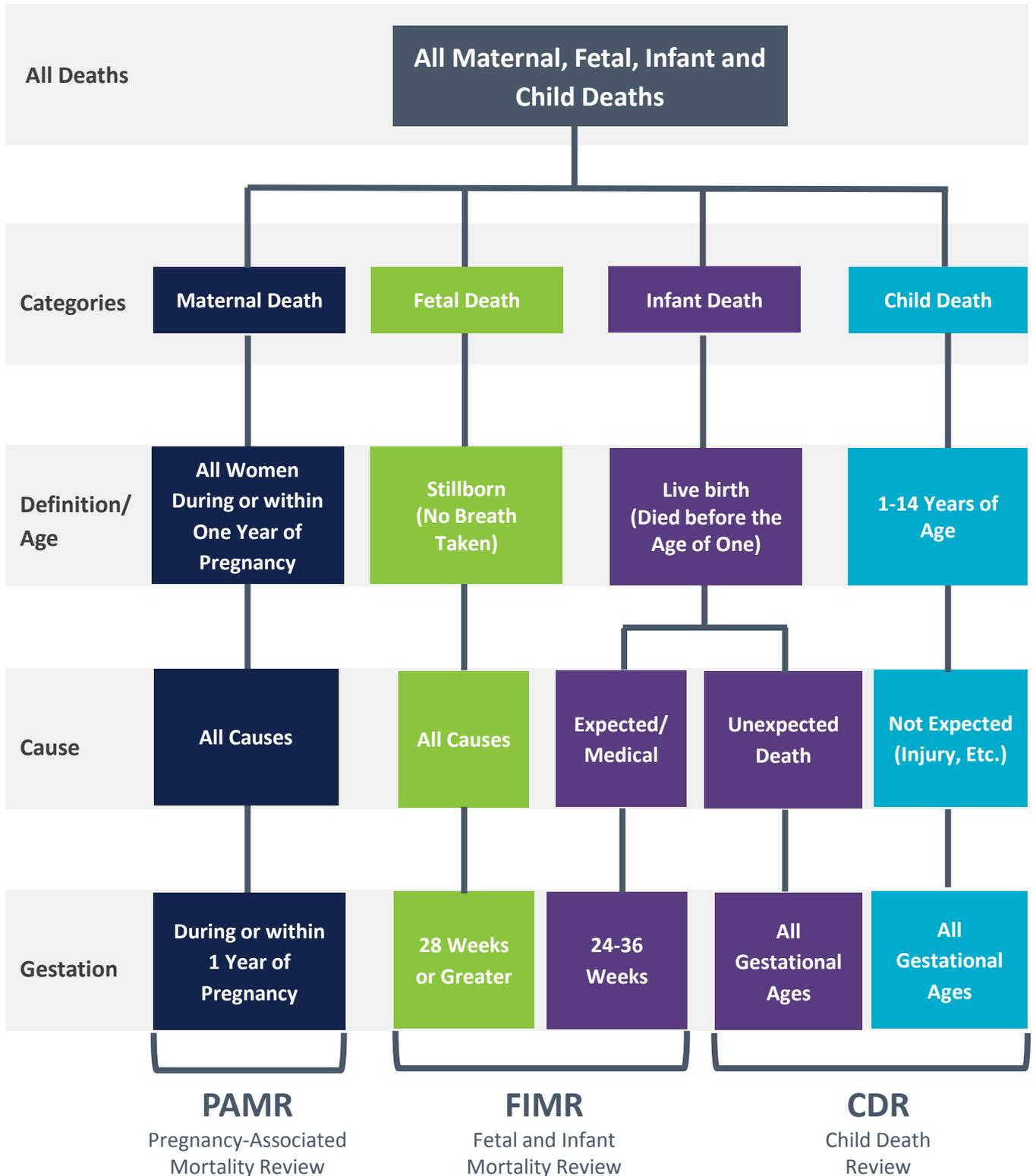
Regional MCH Coordinators are registered nurses charged with, among other duties, coordinating CDR meetings in each of their public health regions. All unexpected deaths of children under 15 years of age are reviewed by CDR teams. In Louisiana, Regional MCH Coordinators use information gathered from 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 (CAAT). Community action teams are comprised of multidisciplinary stakeholders and 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	Lt. 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
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
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	Position Open
Region 3	Nicole Soudelier, B.S.N., R.N.
Region 4	Christine Cornell, B.S.N., R.N.
Region 5	Linda Pickett, R.N.
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 CDRs do not have permanent members.

Acronyms and Definitions

Acronym	Definition
ASSB	Accidental Suffocation and Strangulation in Bed
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
SUID	Sudden Unexpected Infant 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 to infants under 7 days of age
Neonatal death	Deaths to infants under 28 days of age
Post-neonatal death	Deaths to infants that occur between 28 days and 365 days after birth
Infant death	Deaths to 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, Downs syndrome, Edward syndrome, Patau syndrome, other congenital malformations and deformations and other chromosomal abnormalities not elsewhere classified.
Conditions originating in the perinatal period	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)	This category includes deaths among infants less than one year of age that occur suddenly, unexpectedly and for which the causes of death are not immediately obvious prior to investigation.

References

1. Louisiana Department of Health-Office of Public Health, Vital Records and Statistics, 2013-2015
2. Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 1999-2014 on CDC WONDER Online Database, released 2015. Data are from the Multiple Cause of Death Files, 1999-2014, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. Accessed at <http://wonder.cdc.gov/ucd-icd10.html> on April, 2017
3. Healthy People, US Department of Health and Human Services. Maternal, Infant and Child Health. www.healthypeople.gov/2020/topicsobjectives2020. Updated April 14, 2016. Accessed April, 2017
4. Louisiana Department of Health and Hospitals-Office of Public Health, Bureau of Family Health. Child Death Review Reporting System. Accessed April, 2017.
5. Louisiana Pregnancy Risk Assessment Monitoring System, Louisiana Department of Health-Office of Public Health, Bureau of Family Health. Louisiana PRAMS Surveillance Report 2013. <http://ldh.la.gov/assets/oph/Center-PHCH/Center-PH/maternal/LouisianaPRAMS/2013PRAMSReport.pdf>. Accessed June 2017.
6. ICD10 Data. 2015 ICD-10-CM Codes. www.icd10data.com/ICD10CM/Codes. Accessed April, 2017.

Other sources:

Partners for Healthy Babies: PartnersForHealthyBabies.org

For Additional Information:

Please contact the Bureau of Family Health at 504-568-3504 or Lydia Plante at Lydia.Plante@la.gov.

Cooperative Data Agreement

This project was supported in part by the Health Resources and Services Administration (HRSA) Title V MCH Block Grant award and the Sudden Unexpected Infant Death Cooperative Endeavor Agreement of the Centers for Disease Control and Prevention (CDC) of the U.S. Department of Health and Human Services (HHS). This information or content and conclusions are those of the author and should not be construed as the official position or policy of, nor should any endorsements be inferred by HRSA, the CDC, HHS or the U.S. Government.