LOUISIANA CHILD DEATH REVIEW REPORT 2009-2011

Key findings and recommendations from 2009-2011 Louisiana Vital Statistics death data and state and local death reviews

Annual Legislative Report

Submitted To:

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

Report prepared by:

Denver Dinsick, MPH, Mortality Surveillance Epidemiologist, DHH-OPH Bureau of Family Health

Editors:

Takeisha C. Davis, MD, MPH, DHH-OPH Medical Director and Director of the Center for Community and Preventive Health
Amy Zapata, MPH, Director, DHH-OPH Bureau of Family Health
Lyn Kieltyka, PhD, MPH, State MCH Epidemiologist, DHH-OPH Bureau of Family Health
Jane Herwehe, MPH, Data Action Team Lead, DHH-OPH Bureau of Family Health
Melissa McNeil, MPH, MCH Epidemiologist, DHH-OPH Bureau of Family Health
Karis Schoellmann, MPH, Communication Innovation & Action Lead, DHH-OPH Bureau of Family Health
Rebecca Majdoch, MPH, Communication Innovation & Action Specialist, DHH-OPH Bureau of Family Health

Acknowledgements:

This report was made possible by the contributions of the Bureau of Family Health Maternal and Child Health Regional Coordinators: Amy Pyles, Annelle Tanner, Christine Cornell, Kelly Bankston, Linda Pickett, Lisa Norman, Marty Hennegan, Melissa Morton, Nancy Roach, Nicole Soudelier, Patrice Sims, and Samantha Crawford. The support of Alexa Erck, former Mortality Surveillance Epidemiologist at the Bureau of Family Health, was integral in strengthening the mortality surveillance program within the Bureau of Family Health. Devin George and Joan Borstell provided the vital records data presented. Finally, 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 bereavement assistance to families affected by the loss of a child has been invaluable in creating meaningful death reviews and prevention recommendations.

Table of Contents

List of Figure and Tables

List of Figures

List of Tables

Regional Map of Louisiana

Breakdown of parishes by region

Figure 1. Louisiana Department of Health and Hospitals Administrative Regions[11]

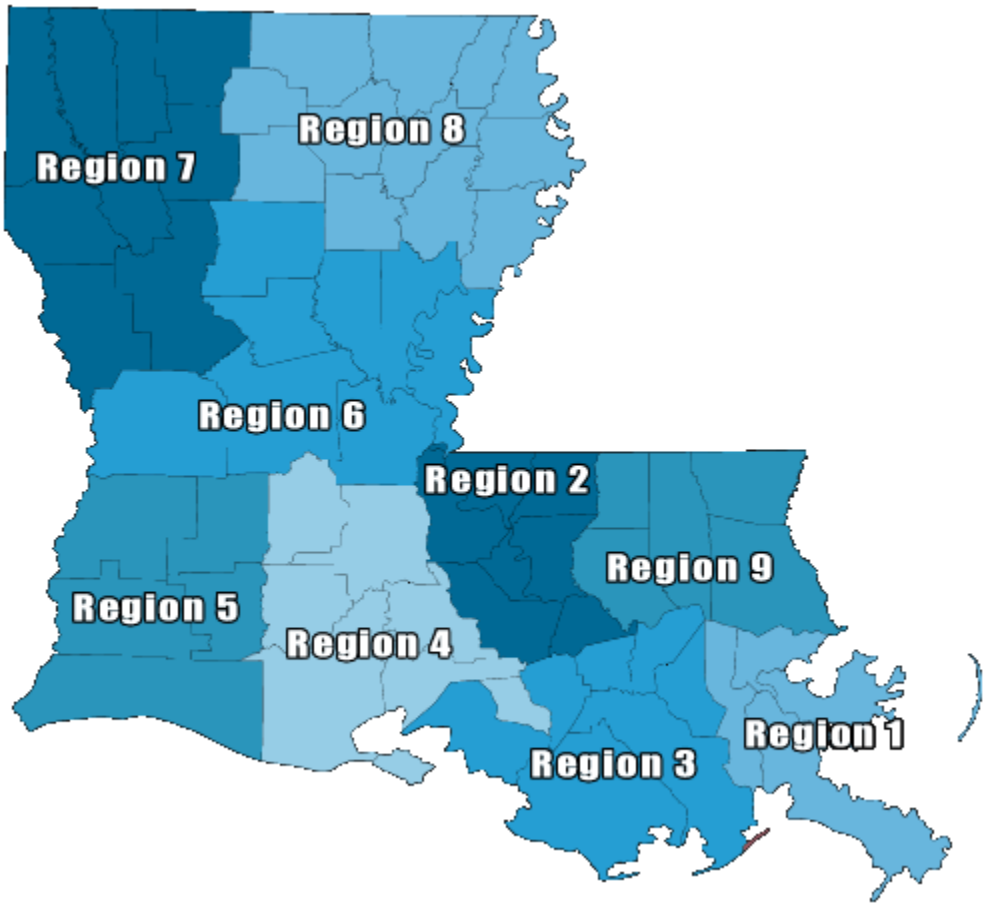


Table 1. Louisiana Department of Health and Hospitals Administrative Regions

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

Cause of Death Explanations

Cause of Death	Explanation[5]*
Congenital malformations, deformations and chromosomal abnormalities (CMDCA)	This category includes ancephaly 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	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.
Neoplasm	This category includes tumors and abnormal growths of body tissue. Neoplasms can be malignant (cancerous) or benign (noncancerous).
Sudden Infant Death Syndrome (SIDS)	This category includes deaths among infants less than one year of age that occur suddenly and unexpectedly, and whose cause of death are not immediately obvious prior to investigation.[2]
Sudden Unexpected Infant Death (SUID)	This category includes ill-defined and unknown causes of mortality, SIDS, and accidental suffocation and strangulation in bed.

*Explanations do not provide comprehensive lists

Acronyms and Definitions

Acronym	Definition
ASSB	Accidental Suffocation and Strangulation in Bed
ATV	All-Terrain Vehicle
BFH	Bureau of Family Health
CDR	Child Death Review
CDRP	Child Death Review Panel
CMDCA	Congenital Malformation, Deformation and Chromosomal Abnormality
DHH	Department of Health and Hospitals
FIMR	Fetal and Infant Mortality Review
GA/LBW	Gestational Age and Low Birth Weight
ICD	International Classification of Diseases
MCH	Maternal and Child Health
MVA	Motor Vehicle Accident
OPH	Office of Public Health
PAMR	Pregnancy-Associated Mortality Review
SIDS	Sudden Infant Death Syndrome
SUID	Sudden Unexpected Infant Death

Term	Definition
Low birth weight	Less than 2500 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
Postneonatal death	Deaths to infants that occur between 28 days and 365 days after birth
Infant death	Deaths to infants under 1 year of age

Child Death Review Overview

A quick guide to the Child Death Review process

What is the purpose?
The Department of Health and Hospitals (DHH) 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 among children aged 0 to 14 years. 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. The review panels are made up of multidisciplinary groups of professionals. These groups are called case review teams.

What is the difference between the State and local CDRP?
The state panel reviews cases when there are issues that cannot be resolved at the local level, issues that require the weight of CDR legislation, issues that are better addressed by the individuals on the state panel, or when there are clusters of cases in multiple regions throughout the state.

What types of deaths are reviewed?
Deaths of children under 14 who die in Louisiana unexpectedly are eligible for case review, regardless of resident status. Commonly reviewed cases include deaths attributable to unintended injuries, homicide, suicide, neglect or abuse, unknown causes, and sudden unexpected infant death (SUID).

Does anyone review other types of deaths?
Mothers who die during pregnancy or within one year of pregnancy are eligible for case review through a separate review process called Pregnancy-Associated Mortality Review (PAMR). There is also a review process for infants who are not eligible for CDR. Stillborn babies delivered at or after 28 weeks gestation and infants under the age of one who die expectedly (due to medical causes) and were delivered at 24-36 weeks gestation are eligible for review through Fetal and Infant Mortality Review (FIMR). Please see Figure 2 on page 9 for more details. Infants who do not fall under one of these categories are not reviewed.

How are deaths identified?
Louisiana Vital Records provides data on newly identified deaths each month. Maternal and child health (MCH) regional coordinators and abstractors throughout Louisiana use this information to identify deaths.

What happens after a death is identified?
The MCH regional coordinators and abstractors 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 at CDR meetings.

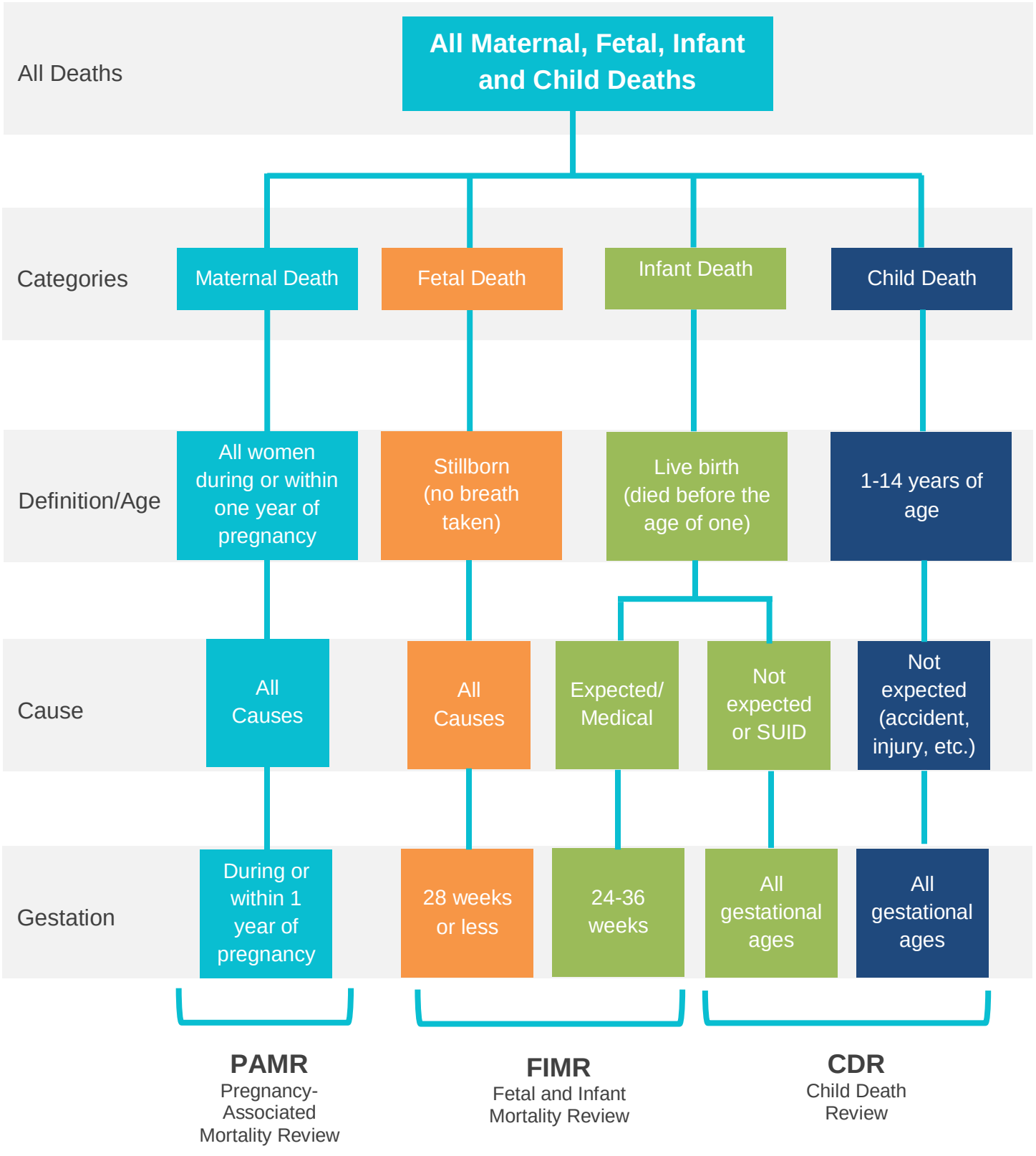
Who decides what deaths will be presented at the CDRP meetings?
The MCH regional coordinators use information gathered from the case abstraction process to determine which cases will be presented. MCH regional coordinators are registered nurses charged with coordinating CDRPs in each public health region. All sudden unexpected infant deaths (SUIDs) and unexpected deaths to children aged 14 years old and under are reviewed at the local level.

How are the recommendations from the CDR meetings used?
Recommendations from the CDRPs are referred to regional community action teams. Community action teams are comprised of multidisciplinary stakeholders and develop action plans based on the recommendations generated from the CDRPs.

Death Review Algorithm

Case review determination

Figure 2. Louisiana Death Review Algorithm



Key Findings

Neonatal Deaths (Infants Aged Less Than 28 Days)

Conditions originating in the perinatal period (see page 6 for criteria) were the leading causes of death in this age group, accounting for nearly three quarters of the deaths. In Louisiana, black[ł] infants were 2.2 times as likely as white[ł] infants and 4.1 times as likely as Hispanic infants to die before reaching 28 days old ($p<.05$). There was a 21.1% reduction in neonatal deaths among black[ł] infants and a 26.1% reduction among all races from 2002-2011 ($p<.05$). The reduction in white[ł] infants was not statistically significant.

Postneonatal Deaths (Infants Aged 28 to 364 Days)

SUID was the leading cause of postneonatal death. There was not a significant reduction in the postneonatal mortality rate from 2002-2011. During 2009-2011 in Louisiana, black[ł] infants between 28 and 364 days old were 1.9 times as likely as white[ł] infants and 3.2 times as likely as Hispanic infants to die during the postneonatal period ($p<.05$). Males were 1.3 times as likely as females in this age group to die ($p<.05$).

Infant Deaths (Aged Less Than One Year)

From 2009-2011 in Louisiana, black[ł] infants were 2.05 times as likely as white[ł] infants and 3.7 times as likely as Hispanic infants to die during their first year of life ($p<.05$). The decrease in infant mortality that occurred during 2002-2011 among white[ł] infants was not statistically significant. However, there was a 16.9% decrease in the mortality rate among black[ł] infants and a 20.1% decrease in the mortality rate among all races during the same time period ($p<.05$).

Child Deaths (Aged 1-4 Years)

Injuries were the leading cause of death among children aged 1-4 years in Louisiana during 2009-2011. Of injury deaths, motor vehicle accidents (MVA) were the leading cause. Overall, black[ł] children aged 1-4 years were 2.1 times as likely to die as white[ł] children and 3.9 times as likely to die as Hispanic children in the same age group ($p<.05$). There was not a statistically significant reduction in mortality among children aged 1-4 years in Louisiana during 2002-2011.

Child Deaths (Aged 5-9 Years)

Injuries were the leading cause of death among children aged 5-9 years in Louisiana during 2009-2011. Of injury deaths, MVAs were the leading cause. Overall, black[ł] children aged 5-9 years were 1.7 times as likely to die compared to white[ł] children in the same age group ($p<.05$). There was a 43.3% reduction in deaths among black[ł] children from 2002-2011 ($p<.05$). The decrease in deaths from 2002-2011 among white[ł] children in this age group was not statistically significant.

Adolescent Deaths (Aged 10-14 Years)

Injuries were the leading cause of death among adolescents aged 10-14 years in Louisiana. Among fatal injuries, MVAs accounted for the largest proportion of deaths at 21.3%. Black[ł] adolescents were 1.6 times as likely to die from an injury as white[ł] adolescents in Louisiana during 2009-2011 ($p<.05$). Though black[ł] adolescents had higher mortality rates compared to white[ł] and Hispanic adolescents, the overall difference at the state level was not statistically significant. Males aged 10-14 years in Louisiana were 1.5 times as likely to die as their female counterparts ($p<.05$). There was a 45.1% reduction in deaths among black[ł] adolescents from 2002-2011 ($p<.05$) but there was not a significant reduction in white[ł] adolescent deaths.

ł Black indicates non-Hispanic black and white indicates non-Hispanic white

Louisiana Report Card

Comparison of Healthy People 2020, United States, and Louisiana indicators

Table 2. National and State Comparison of Healthy People 2020 Objectives

Indicator	2020 Targets	U.S.	LA
Infant Deaths (rate per 1,000 live births)			
Neonatal mortality rate	4.7[5]	4.1[3†]	**4.6[3†]**
Postneonatal mortality rate	3.5[5]	2.2[3†]	**3.5[3†]**
Infant mortality rate	8.2[5]	6.4[3†]	**8.3[3†]**
SUID mortality rate	0.84[5]	1.0[3†]	**1.6[3†]**
Child Deaths (rate per 100,000 population)			
Child mortality rate, ages 1-4	25.7[5]	27.0[†]	**38.8[11†]**
Child mortality rate, ages 5-9	12.3[5]	12.0[11†]	**14.1[11†]**
Adolescent Deaths (rate per 100,000 population)			
Adolescent mortality rate, ages 10-14	15.2[5]	14.7[11†]	**26.8[11†]**
Injury and Violence Prevention			
Percent of deaths due to external causes among children less than 17 years old reviewed by a child fatality review team	90.0%[5]	Unavailable	**14.9%[7, 8**]**
Unintentional suffocation mortality rate among infants, 0-12 months	20.3 per 100,000 population[5]	22.8 per 100,000 population[3†]	**44.6 per 100,000 population[3†]**

Above, Louisiana and US data are compared with U.S. Department of Health and Human Services' Healthy People 2020 targets. These evidence-based objectives were selected by a team of experts at Healthy People with the intention of identifying national health priorities. Every 10 years, objectives are selected with a goal of meeting the targets by the end of the decade.

Infant Deaths

Infants Less Than One Year Old

Figure 3. Trend in Infant Mortality by Race/Ethnicity, Louisiana, 2002-2011[3]
NOTE: In order to include US data, data are limited to 2010

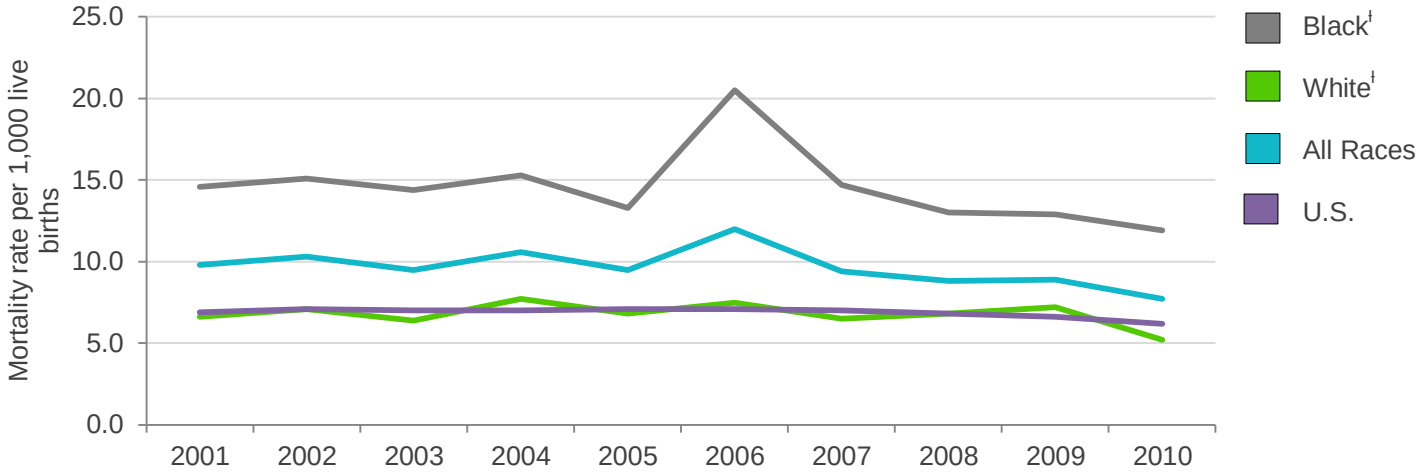
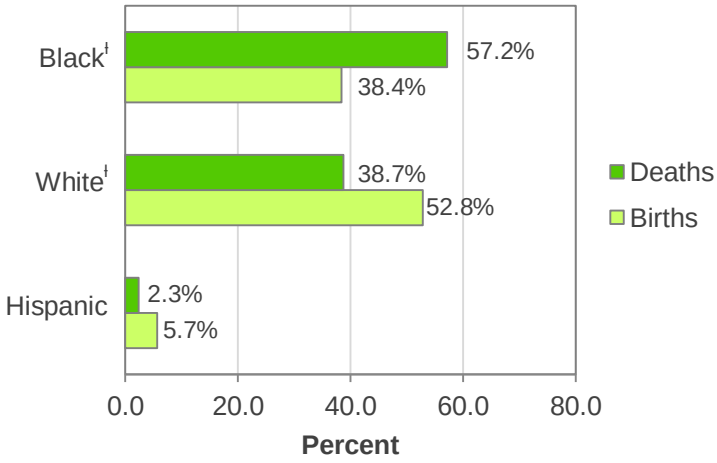


Table 3. Infant Mortality Rate per 1,000 Live Births by Region and Race/Ethnicity, 2009-2011[7]

Region	Black†	White†	Hispanic	All
LA	12.2	6.0	3.4	8.2
1	10.3	4.9	2.8*	7.0
2	13.2	5.7	5.8*	9.5
3	10.1	6.6	--	7.6
4	11.6	4.9	--	7.2
5	13.0	6.0	--	7.7
6	10.2	6.0	--	6.9
7	16.1	6.5	--	10.8
8	11.7	7.7	--	9.5
9	12.3	6.7	--	7.6

Figure 4. Proportion of Live Births and Deaths by Race/Ethnicity, Louisiana, 2009-2011[7]



Key Findings

From 2009-2011 in Louisiana, mortality rates for black† infants were higher in all regions when compared to white† infants and Hispanics. Black† infants were 2.1 times as likely as white† infants and 3.7 times as likely as Hispanic infants to die during their first year of life (p<.05). The decrease in infant mortality that occurred from 2002-2011 among white† infants was not statistically significant. However, there was a 16.9% decrease in the mortality rate among black† infants and a 20.1% decrease in the mortality rate among all races during the same time period (p<.05).

*Rates based on counts less than 20 are unstable and may vary widely from future reports
--Rates based on counts <5 are suppressed to maintain confidentiality
† Black indicates non-Hispanic black and white indicates non-Hispanic white

Causes of Infant Death

Infants Less Than One Year Old

Figure 5. Proportion of Infant Deaths by Cause, Louisiana, 2009-2011[7]

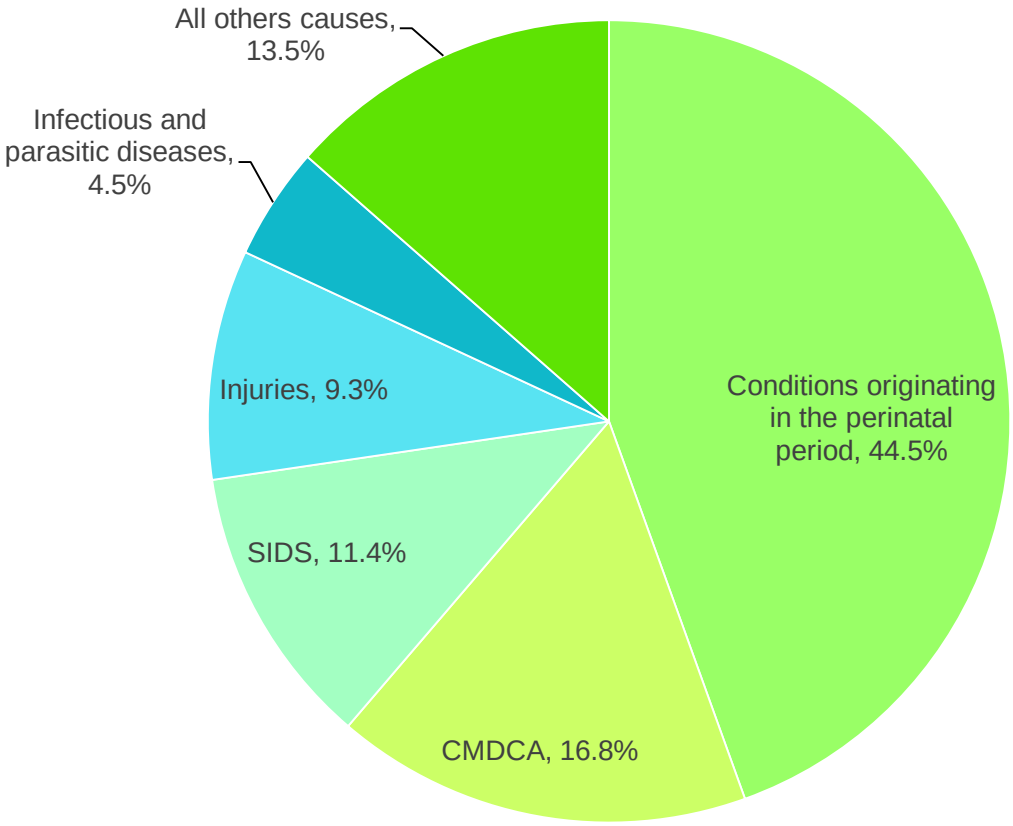


Table 4. Leading Causes of Infant Death, Louisiana, 2009-2011[7]

Rank	Cause of Death	Number	Rate
1	Conditions originating in the perinatal period	687	3.6 per 1,000 Live Births
2	CMDCA	259	1.4 per 1,000 Live Births
3	SIDS	176	0.9 per 1,000 Live Births
4	Injuries	143	0.8 per 1,000 Live Births
5	Infectious and parasitic diseases	70	0.4 per 1,000 Live Births

Key Findings

Conditions originating in the perinatal period (see page 6 for criteria) were the leading causes of death among infants aged less than one year, accounting for 44.5%, of infant deaths in Louisiana from 2009-2011. Within that category, disorders arising from preterm birth or malnutrition were the largest contributing factors followed by factors associated with complications of labor, pregnancy, or delivery.

*Rates based on counts less than 20 are unstable and may vary widely from future reports
--Rates based on counts <5 are suppressed to maintain confidentiality
ǂ Black indicates non-Hispanic black and white indicates non-Hispanic white

Neonatal Deaths

Infants Less Than 28 Days Old

Figure 6. Trend in Neonatal Mortality Rate by Race/Ethnicity, Louisiana, 2002-2011[7]

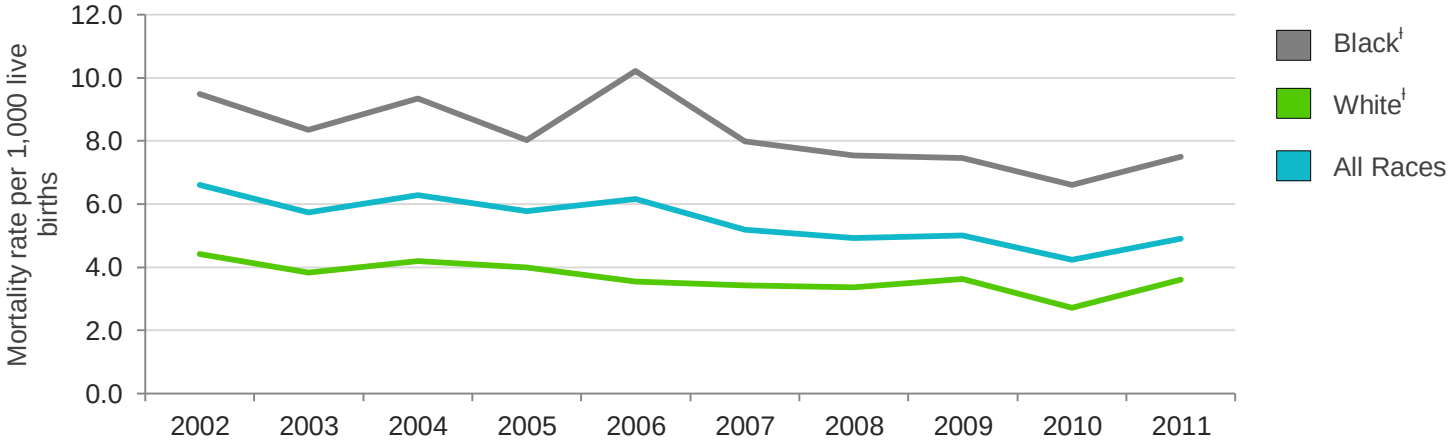
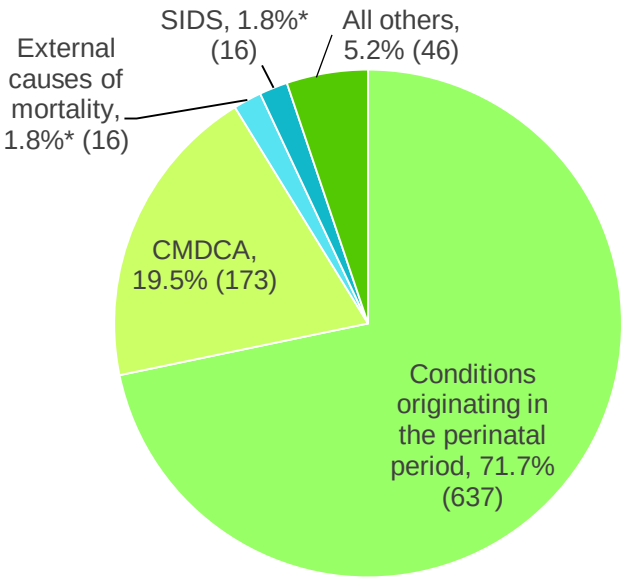


Table 5. Neonatal Mortality Rate per 1,000 Live Births by Region and Race/Ethnicity, 2009-2011[7]

	Black†	White†	Hispanic	All Races
Louisiana	7.2	3.3	1.8*	4.7
Region 1	5.8	2.8	1.2*	3.9
Region 2	8.7	3.8	--	6.3
Region 3	5.7	3.4	--	4.1
Region 4	5.9	2.5	--	3.7
Region 5	7.0	3.1	0.0	4.1
Region 6	4.7*	3.4	--	3.6
Region 7	10.2	3.7	--	6.6
Region 8	5.9	3.5	--	4.6
Region 9	8.8	4.0	--	4.8

Figure 7. Proportion and Frequency of Neonatal Deaths by Cause, Louisiana, 2009-2011[7]



From 2009-2011 in Louisiana, 55.6% of neonatal deaths were of boys.[7]

Key Findings

Conditions originating in the perinatal period (see page 6 for criteria) were the leading causes of death in this age group, accounting for nearly three quarters of the deaths. In Louisiana, black† infants were 2.2 times as likely as white† infants and 4.1 times as likely as Hispanic infants to die before reaching 28 days old ($p<.05$). There was a 21.1% reduction in neonatal deaths among black† infants and a 26.1% reduction among all infants from 2002-2011 ($p<.05$). The reduction in white† infants was not statistically significant.

*Rates based on counts less than 20 are unstable and may vary widely from future reports
--Rates based on counts <5 are suppressed to maintain confidentiality
† Black indicates non-Hispanic black and white indicates non-Hispanic white

Postneonatal Deaths

Infants between 28 and 364 Days Old

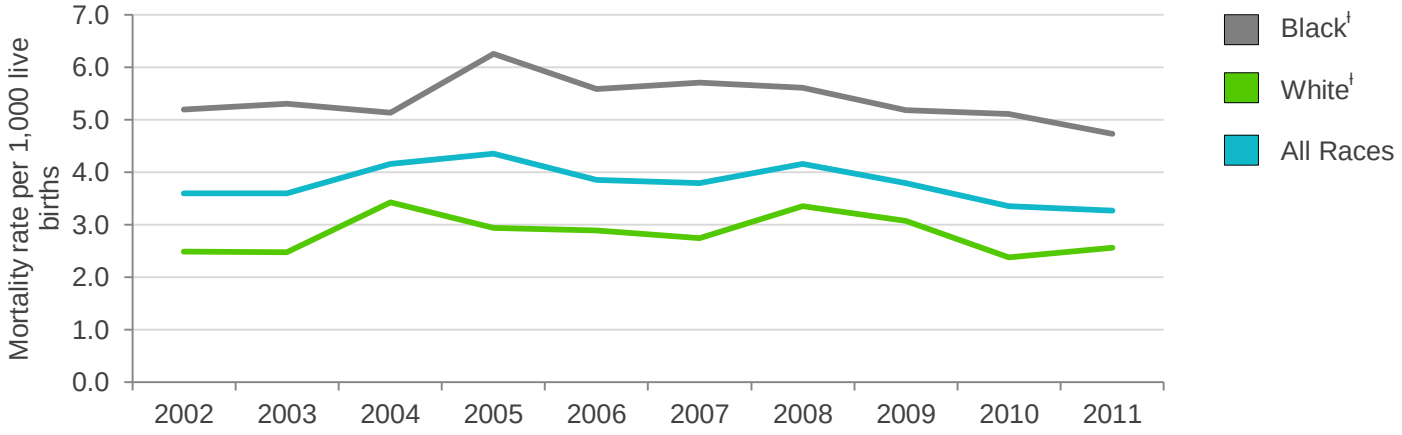
Table 6. Postneonatal Mortality Rate per 1,000 Live Births by Region and Race/Ethnicity, 2009-2011[7]

	Black[ǂ]	White[ǂ]	Hispanic	All Races
Louisiana	5.0	2.7	1.6*	3.5
Region 1	4.5	2.1	1.6*	3.1
Region 2	4.5	1.9	--	3.2
Region 3	4.4	3.2	--	3.5
Region 4	5.7	2.5	--	3.5
Region 5	6.0*	3.0	--	3.6
Region 6	5.5	2.6	0.0	3.3
Region 7	5.9	2.8	0.0	4.1
Region 8	5.8	4.2	--	4.9
Region 9	3.6*	2.7	--	2.7

Table 7. Leading Causes of Postneonatal Death, Louisiana, 2009-2011[7]

Rank	Cause of Death	Number	Rate (per 1,000 live births)
1	SIDS	160	0.8
2	Injuries	127	0.7
3	CMDCA	86	0.5
4	Infectious and parasitic diseases	61	0.3
5	Diseases of the respiratory system	55	0.3

Figure 8. Trend in Postneonatal Mortality Rate by Race/Ethnicity, Louisiana, 2002-2011[7]



Key Findings

SIDS was the leading cause of postneonatal death. From 2009-2011 in Louisiana, black[ǂ] infants between 28 and 364 days old were 1.9 times as likely as white[ǂ] infants and 3.2 times as likely as Hispanic infants to die during the postneonatal period ($p<.05$). Males were 1.3 times as likely as females in this age group to die ($p<.05$), and 58.4% of postneonatal deaths were to males. There was not a significant reduction in the postneonatal mortality rate from 2002-2011.

*Rates based on counts less than 20 are unstable and may vary widely from future reports
--Rates based on counts <5 are suppressed to maintain confidentiality
ǂ Black indicates non-Hispanic black and white indicates non-Hispanic white

Sudden Unexpected Infant Deaths

Infants Less Than One Year Old

Figure 9. Trend in SUID Rate by Cause of Death, Louisiana, 2002-2011[7]

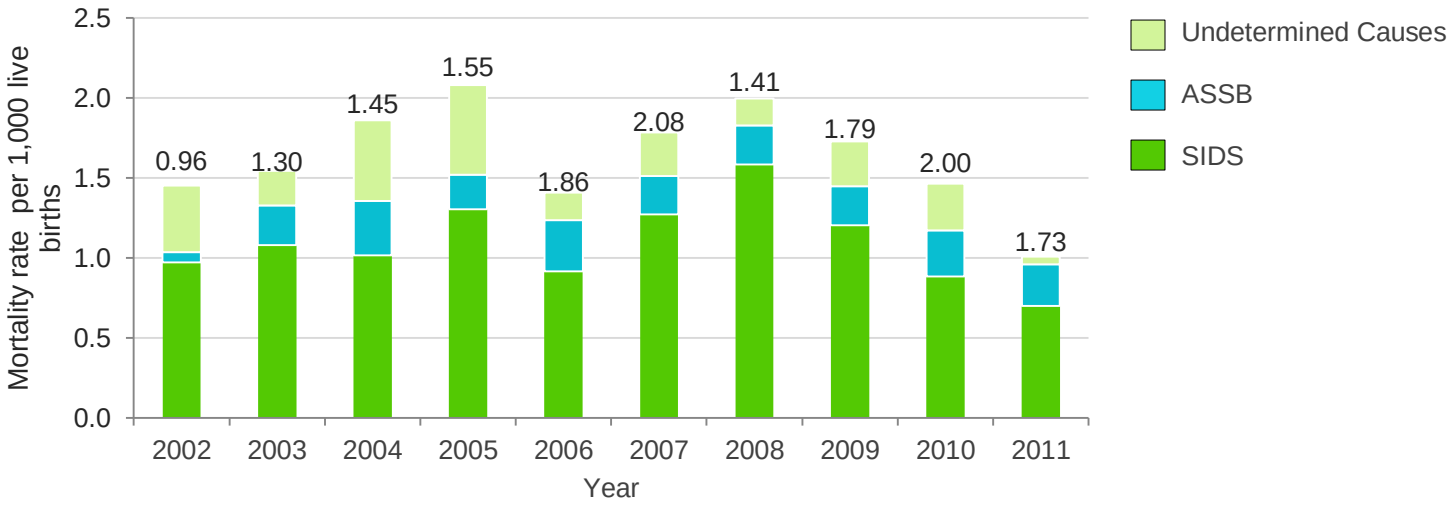


Table 8. SUID Rate per 1,000 Live Births by Region, Louisiana, 2009-2011[7]

	Location	Rate
	Louisiana	1.4
Region 1	New Orleans	1.4
Region 2	Baton Rouge	1.2
Region 3	Houma	1.3
Region 4	Lafayette	1.4
Region 5	Lake Charles	2.4
Region 6	Alexandria	1.1*
Region 7	Shreveport	1.6
Region 8	Monroe	1.7
Region 9	Hammond/Slidell	1.1

Table 9. Breakdown of SUID** by Cause of Death, Louisiana, 2009-2011[7]

Cause of Death	Number	Rate (per 1,000 live births)
SIDS	176	0.9
ASSB	50	0.3
Undetermined	39	0.2

Key Findings

Of causes of death categorized under SUID, SIDS was the leading cause of death. Region 5 had the highest SUID rate in the state during 2009-2011, which was 1.7 times that of the rate in Louisiana ($p<.05$). There was a 30.6% decrease in the SUID rate from 2002-2011 ($p<.05$). Please note that SUID rates are not available by race due to small counts.

*Rates based on counts less than 20 are unstable and may vary widely from future reports
**SUID includes SIDS, ASSB, and undetermined deaths
ǂ Black indicates non-Hispanic black and white indicates non-Hispanic white

Child Deaths

Children Aged 1 to 4 Years

Figure 10. Trend in Child Mortality by Race/Ethnicity, Aged 1-4 Years, Louisiana, 2002-2011** [3]
NOTE: In order to include US data, data are limited to 2010

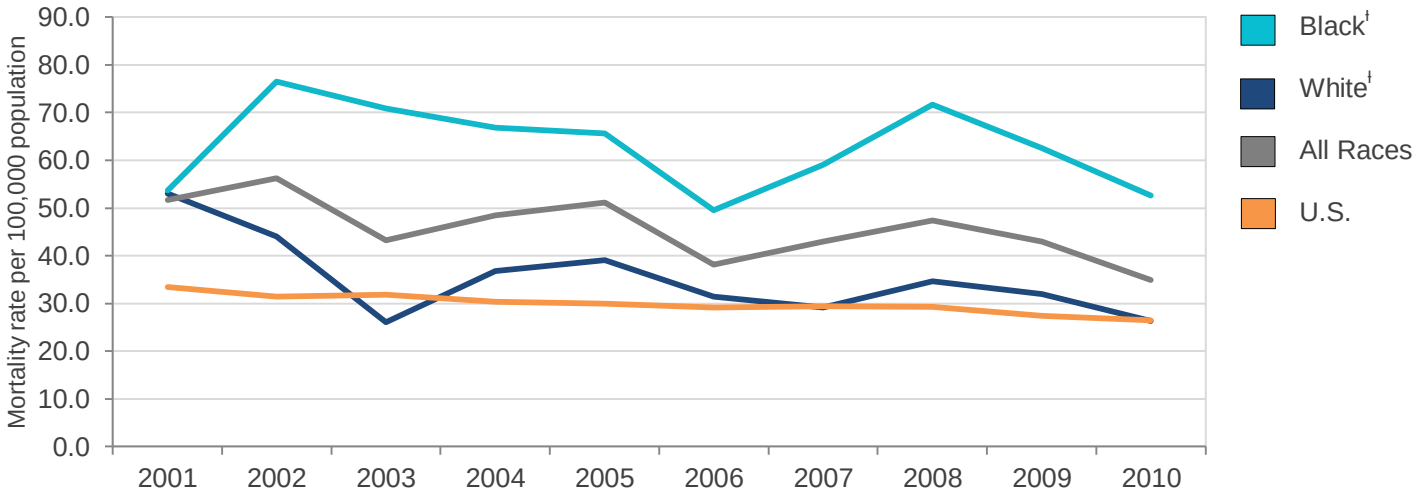


Table 10. Child Mortality Rate per 100,000 Population by Region and Race/Ethnicity, Aged 1-4 Years, Louisiana, 2009-2011[7, 10]

	Black†	White†	Hispanic	All Races
Louisiana	59.4	28.0	15.3*	37.6
Region 1	55.5	20.4*	0.0	32.8
Region 2	53.1	24.0*	--	38.2
Region 3	32.9*	24.0*	0.0	23.4*
Region 4	86.4	26.5*	0.0	45.4
Region 5	56.4*	39.9*	--	42.4
Region 6	37.2*	31.7*	--	31.9*
Region 7	85.7	35.5*	--	55.0
Region 8	34.2*	16.9*	0.0	23.5*
Region 9	70.3*	33.0	--	38.8

Table 11. Leading Causes of Child Death, Aged 1-4 Years, Louisiana, 2009-2011[7, 10]

Rank	Cause of Death	Number	Rate (per 100,000 population)
1	Injuries	143	18.8
2	CMDCA	25	3.3
3	Diseases of the Respiratory System	22	2.9
4	Diseases of the Circulatory System	18	2.4*
5	Diseases of the Nervous System	17	2.2*

Key Findings

Injuries were the leading cause of death among children aged 1-4 years in Louisiana during 2009-2011. Of injury deaths, motor vehicle accidents (MVA) were the leading cause. Mortality rates for black† children were higher in every region compared to white† and Hispanic children. Overall, black† children aged 1-4 years were 2.1 times as likely to die as white† children and 3.9 times as likely to die as Hispanic children in the same age group ($p<.05$). There was not a statistically significant reduction in mortality among children aged 1-4 years in Louisiana from 2002-2011.

*Rates based on counts less than 20 are unstable and may vary widely from future reports
--Rates based on counts <5 are suppressed to maintain confidentiality
† Black indicates non-Hispanic black and white indicates non-Hispanic white

Child Deaths

Children Aged 5 to 9 Years

Figure 11. Trend in Child Mortality by Race/Ethnicity, Aged 5-9 Years, Louisiana, 2002-2011[3]

NOTE: In order to include US data, data are limited to 2010

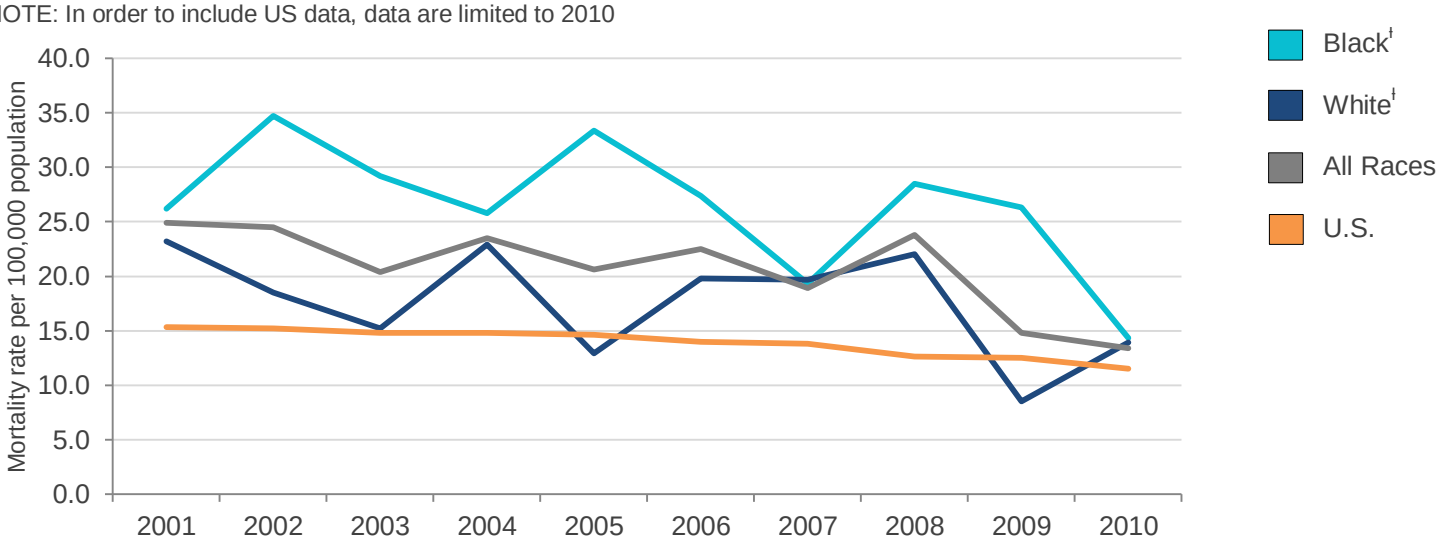


Table 12. Child Mortality Rate per 100,000 Population by Region and Race/Ethnicity, Aged 5-9 Years, Louisiana, 2009-2011[7, 10]

	Black†	White†	Hispanic	All Races
Louisiana	20.5	12.1	--	14.6
Region 1	24.7	--	--	16.7
Region 2	14.2*	--	0.0	9.9*
Region 3	--	--	0.0	7.1*
Region 4	12.0*	11.9*	--	11.9*
Region 5	33.2*	19.8*	0.0	21.4*
Region 6	--	17.9*	0.0	15.4*
Region 7	22.7*	24.5*	0.0	22.5
Region 8	25.5*	--	0.0	12.4*
Region 9	29.8*	13.3*	0.0	15.5*

Table 13. Leading Causes of Child Death, Aged 5-9 Years, Louisiana, 2009-2011** [7, 10]

Rank	Cause of Death	Number	Rate (per 100,000 population)
1	Injuries	60	6.5
2	Neoplasm	22	2.4
3	Diseases of the Nervous System	16	1.7*
4	CMDCA	11	1.2*
5	Diseases of the Respiratory System	7	0.8*

Key Findings

Injuries, of which MVA was the primary contributor, were the leading cause of death among children aged 5-9 years in Louisiana during 2009-2011. In regions where the mortality rate was reportable by race, the mortality rate for black† children was higher in every region except Region 7. Overall, black† children aged 5-9 years were 1.7 times as likely to die compared to white† children in the same age group ($p<.05$). There was a 43.3% reduction in deaths among black† children from 2002-2011 ($p<.05$). The decrease in deaths from 2002-2011 among white† children in this age group was not statistically significant.

*Rates based on counts less than 20 are unstable and may vary widely from future reports
--Rates based on counts <5 are suppressed to maintain confidentiality
† Black indicates non-Hispanic black and white indicates non-Hispanic white

Child Deaths due to Injury

Children Aged 1 to 9 Years

Figure 12: Proportion of Intentional and Unintentional Injuries among Children, Aged 1-9 Years, Louisiana, 2009-2011[7, 10]

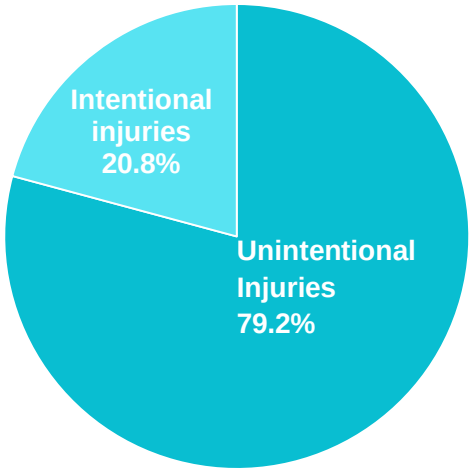


Figure 13: Trend in Injuries among Children, Aged 1-9 Years, All Races, Louisiana, 2002-2011[7, 10]

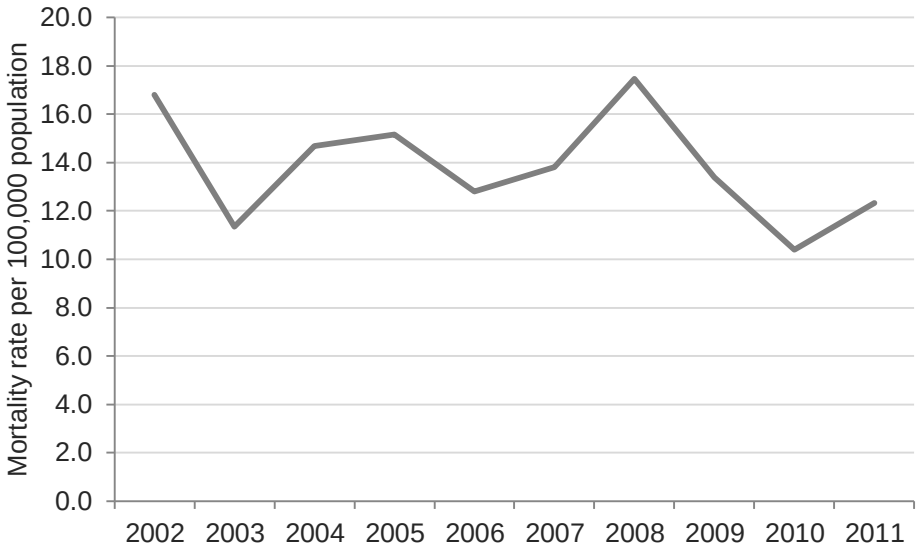


Table 14. Leading Causes of Fatal Injury among Children, Aged 1-9 Years, Louisiana, 2009-2011[7, 10]

Rank	Cause of Death	Number	Rate (per 100,000 population)	Intent
1	MVA	65	3.9	Unintentional
2	Accidental drowning and submersion	40	2.4	Unintentional
3	Homicide	18	2.0	Intentional

Despite being preventable, injuries were the leading cause of death among children aged 1-4 and 5-9 years.[7]

Key Findings

Unintentional injuries accounted for more than three quarters of all injury deaths among children aged 1-9 years old in Louisiana during 2009-2011. Of unintentional injury deaths, MVAs were the leading cause. During 2009-2011, 3.9 children per 100,000 in this age group were killed in a MVA. Please note that injury rates are not available by race, ethnicity, and region due to small numbers. There was a 26.6% reduction in injury fatalities among all races in Louisiana from 2002-2011 ($p<.05$).

*Rates based on counts less than 20 are unstable and may vary widely from future reports
--Rates based on counts <5 are suppressed to maintain confidentiality
ǂ Black indicates non-Hispanic black and white indicates non-Hispanic white

Adolescent Deaths

Adolescents Aged 10 to 14 Years

Figure 14. Proportion of Adolescent Mortality by Gender, Aged 10-14 years, 2009-2011[7, 10]

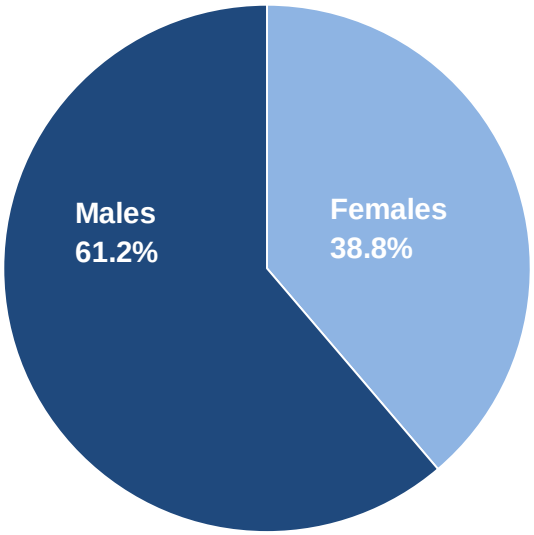
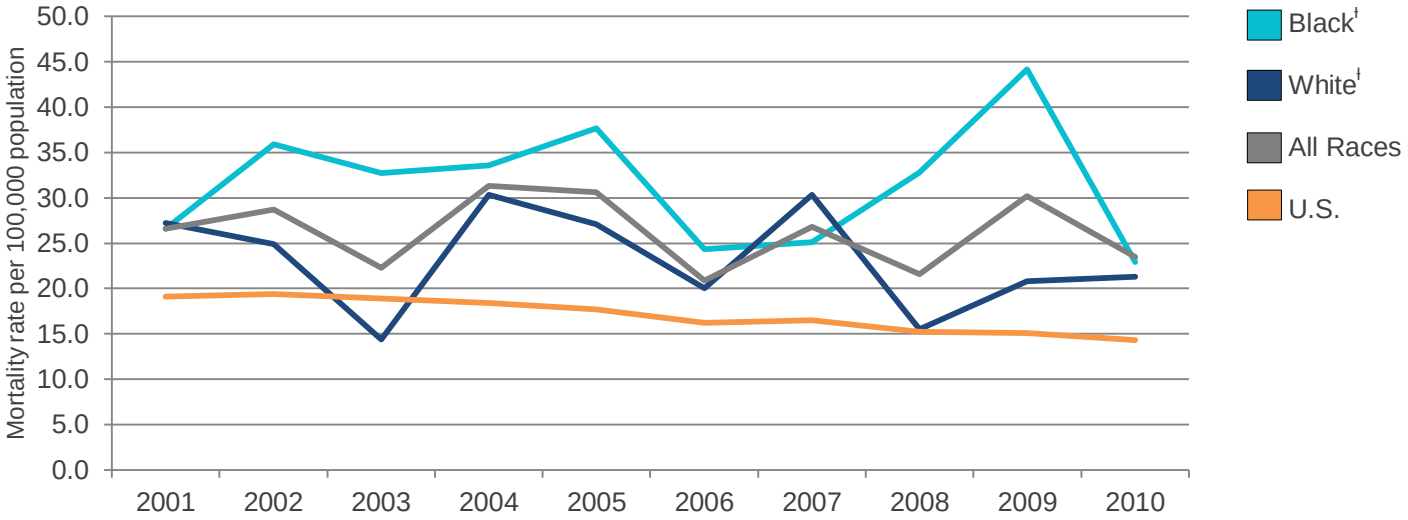


Table 15. Adolescent Mortality Rate per 100,000 Population by Race/Ethnicity, Aged 10-14 Years, Louisiana, 2009-2011[7, 10]

	Black†	White†	Hispanic	All Races
Louisiana	28.4	23.1	15.7*	24.7
Region 1	33.9	27.6*	--	29.0
Region 2	20.3*	20.7*	--	20.6
Region 3	22.1*	13.9*	0.0	18.5*
Region 4	23.7*	10.5*	0.0	15.8
Region 5	-	31.2*	0.0	26.2*
Region 6	41.2*	20.1*	0.0	25.0*
Region 7	30.7*	36.3*	0.0	32.0
Region 8	35.5*	26.8*	--	30.9
Region 9	29.1*	26.6	--	26.9

Figure 15. Trend in Adolescent Mortality by Race/Ethnicity, Aged 10-14 Years, Louisiana, 2002-2011[3]

NOTE: In order to include US data, data are limited to 2010



Key Findings

Though black† adolescents had higher mortality rates compared to white† and Hispanic adolescents, the overall difference at the state level was not statistically significant during 2009-2011. Males aged 10-14 years in Louisiana were 1.5 times as likely to die as their female counterparts (p<.05). There was a 45.1% reduction in deaths among black† adolescents from 2002-2011 (p<.05) but there was not a significant reduction in white† adolescent deaths.

*Rates based on counts less than 20 are unstable and may vary widely from future reports
--Rates based on counts <5 are suppressed to maintain confidentiality
† Black indicates non-Hispanic black and white indicates non-Hispanic white

Causes of Adolescent Death

Adolescents Aged 10 to 14 Years

Figure 16. Leading Causes of Adolescent Death, Aged 10-14 Years, Louisiana, 2009-2011[7, 10]

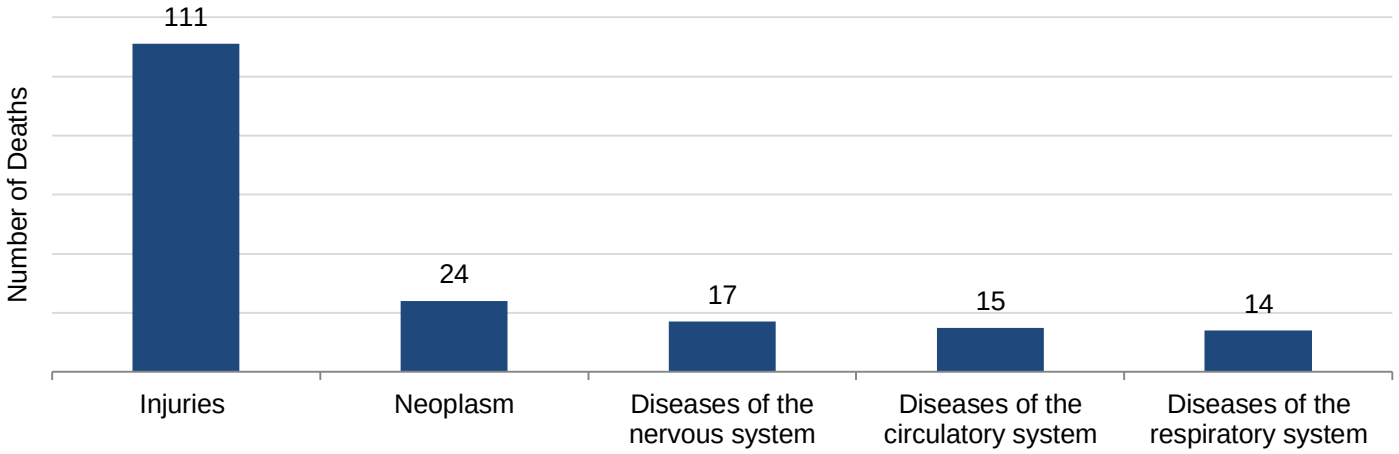
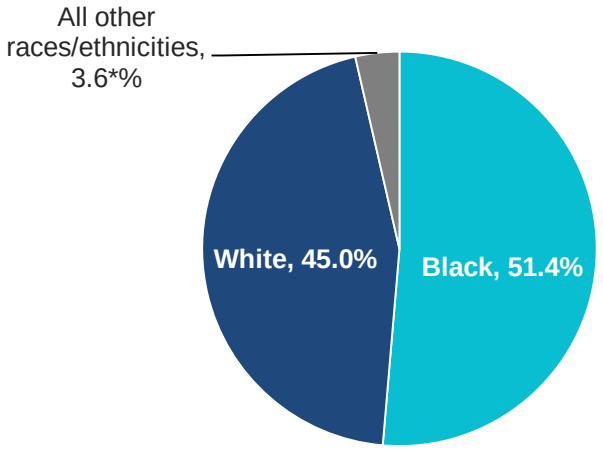


Table 16. Leading Causes of Adolescent Death, Aged 10-14 Years, Louisiana, 2009-2011[7, 10]

Rank	Cause of Death	Rate (per 100,000 population)
1	Injuries	12.1
2	Neoplasm	2.6
3	Diseases of the nervous system	1.9*
4	Diseases of the circulatory system	1.6*
5	Diseases of the respiratory system	1.5*

Figure 17. Proportion of Adolescent Injuries by Race/Ethnicity, Aged 10-14 Years, 2009-2011[7, 10]



Key Findings

Injuries were the leading cause of death among adolescents aged 10-14 years in Louisiana during 2009-2011. Among fatal injuries, MVAs accounted for the largest proportion of deaths at 21.3%. Black[ł] adolescents were 1.6 times as likely to die from an injury as white[ł] adolescents in Louisiana during 2009-2011 (p<.05).

*Rates based on counts less than 20 are unstable and may vary widely from future reports
--Rates based on counts <5 are suppressed to maintain confidentiality
ł Black indicates non-Hispanic black and white indicates non-Hispanic white

Data Sources and Methodology

Data Methods
Data were analyzed using Statistical Analysis System (SAS) 9.2 and Epi Info 7. The alpha level was set at 0.05 when testing for statistical significance.

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, objectives are selected with a goal of meeting the targets by the end of the decade. All Healthy People objectives have standardized indicators with known numerators and denominators.

Louisiana DHH-OPH Vital Records and Statistics
Data from DHH-OPH Vital Records and Statistics were used to categorize cause of death. The BFH adheres to the International Classification of Diseases (ICD) 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 death occurrence.

CDR Case Reporting System
The CDR Case Reporting System data collect information about deaths that occur in Louisiana among children under 14 years old. Information obtained from personal interviews, autopsy reports, medical records, death investigations, and death reviews are recorded in the system by MCH regional coordinators. Data from this system were used to report the proportion of deaths reviewed according to age.

Limitations

Small Number of Events

Many key indicators are presented at the regional level. Despite the inclusion of multi-year data, some sub-group population counts were less than five and are not presented in the report in order to preserve confidentiality. Though event counts above five are reported, 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. Unstable rates are noted with an asterisk. Furthermore, trends based on unstable rates are not represented in this report. As a result, Hispanics were not included in any trend figures.

Data Systems

Louisiana DHH-OPH Vital Records: Data presented in this report include preliminary numbers from 2010, 2012 and 2013 and are subject to change. Death coding for out of state residents was unavailable in preliminary death data from 2012 and 2013. Causes of death for these individuals may be available at a later date.

CDR Case Reporting System: Missing and incomplete data limit the value of CDR data prior to 2012, after which the data entry process was improved. Lack of consistent data for historic data severely limits the use of the data in this system due to an inability to accurately analyze trends and clusters. Due to these limitations, data related to the CDR process from 2009-2011 are unavailable and not reported. Instead, CDR data for years 2012-2013 are reported. These data cannot be compared to data from 2009-2011. In addition to these limitations, quality assessment has not been conducted for data entered in the CDR Case Reporting System. Thus the reliability and validity of the data are unknown.

Appendix A: 2013 State CDRP Members

Position	Current Incumbent
Attorney General or Designee	Emily Andrews
Citizen-At-Large, representing different geographic areas of the State (4)	Dr. Dawn Vick Cynthia Di Carlo Paul Ramagos *
Commissioner of the Department of Insurance or Designee	Emma Fontenot
District Attorney	Leon Cannizzaro Jr.
Department of Public Safety, Louisiana State Police	Dr. Jimmy McGuane
Executive Director of Highway Safety Commission of the Department of Public Safety and Corrections or Designee	Col. John Le Blanc
Executive Director of the Louisiana Maternal and Child Health Coalition	*
Forensic Pathologist certified by the American Board of Pathology and licensed to practice medicine in the State	*
Health Professional with expertise in SIDS- appointed from a list of three names submitted by the Louisiana State Medical Society	Dr. Louis Cataldie
Injury Prevention and Research Center Appointee	
Member of the House of Representatives	The Honorable Scott Simon
Member of the Senate	*
Pathologist experienced in Pediatrics	Deborah Cavalier
Pediatrician with expertise in diagnosing and treating child abuse and neglect- nominated by the State chapter of the American Academy of Pediatrics	Dr. Reynaldo Dela Rosa
Police Chief	Chief Ronald Stevens
Police Chief Appointee	Dr. James Parrot
Secretary of the Department of Children and Family Services or Designee	Rhenda Hodnett
Secretary of the Department of Health and Hospitals or Designee	Dr. James Hussey Amy Zapata
Sheriff	Lauren Meher
State Fire Marshal or Designee	Cindy Gonthier
State Health Officer or Designee	Dr. Takeisha Davis
State Registrar of Vital Records or Designee	Devin George
Superintendent of the Office of State Police or Designee	Lt. Kevin Rhodes

*Information currently unavailable or open position

Appendix B: 2013 Local CDRP Coordinators

Region	Coordinator
Region 1	Patrice Sims*
Region 2	Kelly Bankston
Region 3	Nicole Soudelier*
Region 4	Christine Cornell
Region 5	Nancy Roach, Linda Pickett
Region 6	Annelle Tanner, Lisa Norman
Region 7	Melissa Morton
Region 8	Amy Pyles**, Samantha Crawford
Region 9	Martha Hennegan

Note: With the exception of the CDRP coordinators, local CDRPs did not have permanent members.

*Individual no longer holds position
**Individual now holds the position of MCH Regional Coordinator Supervisor

Appendix C: Infant Death Review

A Snapshot of Reviewed Deaths among Infants Less Than One Year Old

54.6% of infant deaths that occurred during 2012-2013 and met CDR assessment criteria were reviewed by CDRPs during that time period.[7]

Overview of Deaths Reviewed by CDRPs in Louisiana from 2012-2013

While the majority of deaths reviewed were categorized as accidental, natural, or undetermined deaths, there were a small number of homicides reviewed as well. Within natural and accidental deaths reviewed, causes of death included asphyxia, SIDS, pneumonia, infections, fatal weapon injuries, MVAs, drowning, and falls.

Risk Factors Identified by CDRPs in Louisiana from 2012-2013

- Unsafe sleep was a common factor among SUIDs reviewed, with 72.6% of SUIDs reviewed having occurred in an unsafe sleep environment. 58.9% occurred in an adult bed, and 13.7% occurred in a couch or chair.
- Sleep position was also identified as a risk factor, with 28.4% of SUIDs reviewed reportedly put to sleep on their stomachs.

What recommendations were made to help prevent infant deaths in the future?

Increased and improved parental education was recommended by many CDRPs, who noted that parents needed to be informed of the following specific issues:

- The need to eliminate soft bedding, crib bumper pads, and other dangerous objects from the sleep environment.
- The need for attentive caregiving while infants are sleeping and that parents should be encouraged to check on their baby at regular intervals, regardless of whether or not the infant is moving or making noises.
- Normal infant growth and development.

What is being done in Louisiana?

- **All 52 birthing hospitals in Louisiana have achieved recognition as a Safe Sleep Hospitals** under the Louisiana Safe Sleep Champion Initiative. Designation as a Safe Sleep Champion indicates adherence to AAP safe sleep guidelines, ensuring a united and standardized message on safe sleep practices for Louisiana caretakers.
- Direct On Scene Education (DOSE), a safe sleep education program carried out in the homes of pregnant women and families with an infant under the age of one, is being piloted in the Lake Charles area. The program is implemented by EMS and firefighters.
- Ongoing canvasing in vulnerable zip codes throughout the state is performed to distribute health education materials.

Appendix D: Child Death Review

A Snapshot of Reviewed Child Deaths among Children Aged 1-14 Years

22.0% of eligible deaths among children 1-14 years old that occurred from 2012-2013 in Louisiana were reviewed by CDRPs during that time period.[7]

Overview of Deaths Reviewed by CDRPs in Louisiana during 2012-2013

The majority of deaths reviewed were considered preventable accidental deaths. Natural deaths, suicides, and homicides were also reviewed. Among accidental deaths reviewed, causes of death included MVAs, drowning, fatal weapon injuries, asphyxia, fire/burns, poisoning/overdose, and falls.

What recommendations were made to help prevent child deaths in the future?

- Tire wear should be included in vehicle inspections to reduce unsafe driving conditions for pedestrians and drivers.
- Public education related to the use of prescription drugs while driving was also identified as an area needing improvement in Louisiana. Pharmacists should be encouraged to review driving precautions with individuals receiving prescription drugs that influence driving ability or adding a safety brochure to the prescription packet.
- Strict enforcement of both seat belt laws and the age and size limits for children riding in the front seat is needed.
- Strict enforcement of laws prohibiting ATV use on public roads, implementation of a law requiring helmet use, and ATV safety education in schools and Wildlife and Fishery organizations is necessary.

What is being done in Louisiana?

Shreveport's Sheriff's Safety Town is a miniature town that allows children to practice safety skills learned within the classroom in a simulated setting. The program provides safety lessons on the use or being in the presence of vehicles, bicycles, pedestrians, fire, guns, water, and more. Since opening in 2008, over 33,000 children have visited Sheriff's Safety Town, resulting in a 22.2% increase in safety knowledge measured through pre and post test scores.[9]

Other efforts include child car seat inspections offered throughout the state, which can be located via www.safercar.gov, and the national seatbelt enforcement campaign Click It or Ticket.

References

1. Centers for Disease Control and Prevention, National Center for Health Statistics. 25 Years a Champion for Health Equity!. http:// www.cdc.gov/features/HealthEquityChampion/. Updated September 9, 2013. Accessed May 28, 2014.

2. Centers for Disease Control and Prevention, National Center for Health Statistics. Sudden Unexpected Infant Death (SUID). http://www.cdc.gov/sids/. Updated February 11, 2014. Accessed March 11, 2014.

3. Centers for Disease Control and Prevention, National Center for Health Statistics. Compressed Mortality File 1999-2010 on CDC WONDER Online Database, released January 2013. Data are compiled from Compressed Mortality File 1999-2010 Series 20 No. 2P, 2013. http://wonder.cdc.gov/cmf-icd10.html. Accessed Mar 18, 2014.

4. The Federal Interagency Forum on Child and Family Statistics (Forum). Adolescent Injury and Mortality. http://www.childstats.gov/americaschildren/phenviro8.asp. Accessed March 11, 2014.

5. Healthy People, US Department of Health and Human Services. Maternal, Infant and Child Health. http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicId=26. Updated August 28, 2013. Accessed March 11, 2014.

6. ICD10 Data. 2014 ICD-10-CM Codes. http://www.icd10data.com/ICD10CM/Codes. Accessed March 11, 2014.

7. Louisiana Department of Health and Hospitals-Office of Public Health, Vital Records and Statistics.

8. Louisiana Department of Health and Hospitals-Office of Public Health, Bureau of Family Health. Child Death Review Reporting System. Accessed March 11, 2014.

9. Sheriff's Safety Town. Caddo Parish Sheriff's Office Safety Town Report. Updated April 14, 2014.

10. United States Census Bureau, US Department of Commerce. Census 2008-2012 summary file. Louisiana. http://www2.census.gov/acs2012_5yr/summaryfile/. Accessed March 11, 2014.

11. United States Department of Health and Human Services (US DHHS), Centers of Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), Division of Vital Statistics (DVS), Linked Birth / Infant Death Records 2007-2010 on CDC WONDER On-line Database. http://wonder.cdc.gov/lbd-current.html. Accessed Mar 18, 2014.

12. Vigilant Canine Services International. Louisiana LEP Training Regions. http://vigilantcanine.com/vcsi-lep-training-regions/louisiana-lep-training-regions/. Accessed April 9, 2014.