

UNEXPECTED CHILD DEATHS IN LOUISIANA

**The Louisiana State Child Death Review Panel
1999 Annual Report
1997 Deaths Under Age 10 Years**

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History

The Louisiana State Child Death Review Panel (CDRP) was established in 1992 by the Louisiana Legislature. The CDRP, a multi-disciplinary team of professionals, was mandated to collect and review reports relating to the investigation of unexpected deaths of children under the age of seven. The Louisiana Legislature further mandated that the Panel produce an annual report. In the 1995 Regular Session of the Legislature, the age of the children included in the review was increased to include all deaths of children age nine years and below beginning on August 15, 1995. Initially, due to lack of staff, only deaths in which the death certificate indicated Sudden Infant Death Syndrome (SIDS) or an injury (*International Classification of Diseases, 9th Revision, E800-999*) as the underlying cause of death were reviewed. With the hiring of a coordinator, the Panel began reviewing all death certificates on children less than 10 years of age. Based on the underlying and contributing causes of death stated on the death certificate, the Panel determines which deaths are "unexpected", (i.e., deaths which are not the result of morbidity or congenital anomaly). After complete review of each case, the Panel may revise the "cause" and "manner" of death. Since this annual report includes these revisions, this document may contain results that differ from other documents published by the Department of Health and Hospitals in which the classification of a death is based on different standards and criteria. The data presented in this report is based on the opinion of the Panel after careful review of each case.

Goals

The Panel has three main goals:

1. To examine the investigation and classification of each child death in Louisiana.
2. To describe unexpected child deaths in Louisiana.
3. To disseminate the findings of the Panel to agencies and groups that can use this information to prevent future deaths.

Acknowledgements

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Injury Research and Prevention Section
Office of Public Health
Department of Health and Hospitals
in collaboration with members and staff of the
Louisiana State Child Death Review Panel

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The multi-disciplinary Louisiana Child Death Review Panel would like to thank all agencies that submitted reports in 1997 to the Panel. Without these reports, the review of each case of unexpected child death in Louisiana would not be possible. In particular, the panel would like to acknowledge parish coroners, law enforcement personnel, hospitals and health care providers, social service agencies, and all others who offered their assistance in this project.

Panel members would also like to acknowledge the support of those by whom they are employed. Without any financial compensation, these agencies grant personnel the time necessary to serve and complete the responsibilities of being a member of the Louisiana State Child Death Review Panel.

Making use of the expertise within the agencies cited above is a crucial component of reviewing each unexpected child death in Louisiana. Involvement in this project is not taken lightly by anyone.

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Executive Summary

How Children Are Dying Unexpectedly in Louisiana

Two hundred thirty-three (233) children died unexpectedly in 1997

Table 1: Unexpected Child Deaths, Ages 0 - 9 Years, Louisiana – 1997

Unexpected Child Deaths	Number	Percentage
Injury Deaths (All Causes)	139	60%
Sudden Infant Death Syndrome (SIDS)	94	40%
Total Unexpected Child Deaths	233	100%

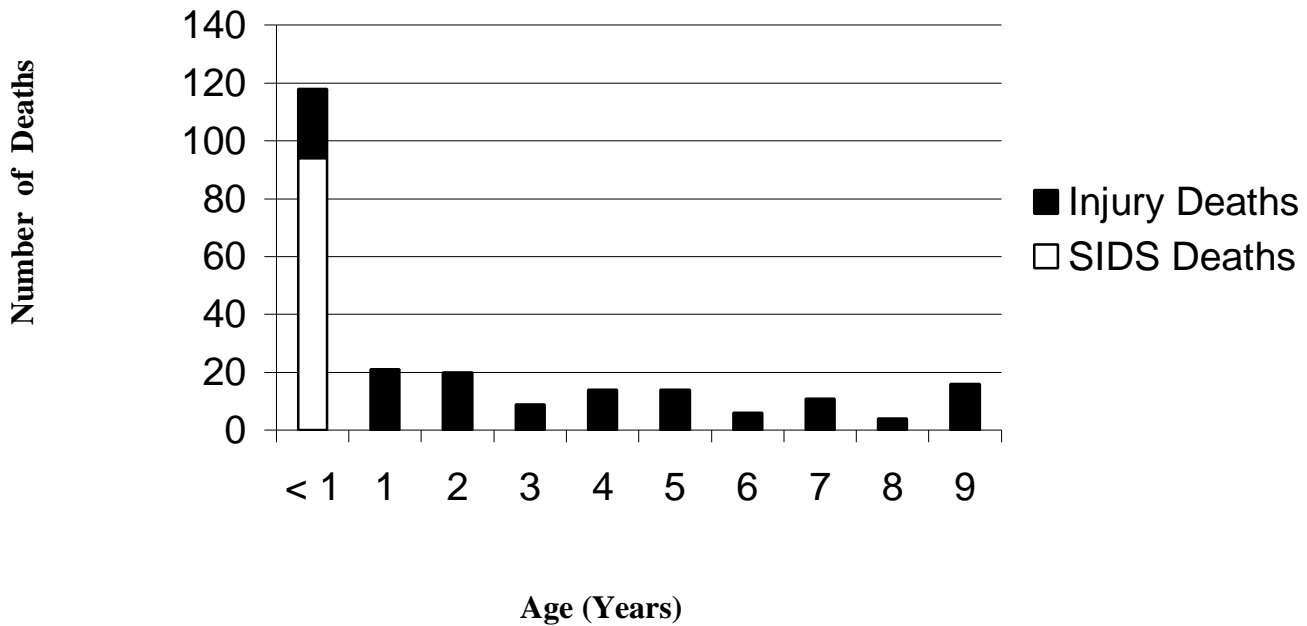
Of the total unexpected child deaths, one hundred thirty-nine (139) children aged nine years or less sustained a fatal injury. The leading causes of child injury deaths were motor vehicle crashes (22%, 52/233), drowning (10%, 23/233), burns (8%, 18/233), and suffocation (6%, 14/233). Additional causes of injury occurring less frequently were firearm related deaths (3%, 8/233), beatings (2%, 5/233), deaths resulting from shaking (Shaken Baby Syndrome, 2%, 4/233), falls (1%, 2/233), and confinement (0.4%, 1/233). The Panel did not identify any electrocution or poison deaths in 1997. The Panel determined that 12 cases could not be grouped with any of the causes of death stated heretofore. The Panel classified these twelve cases into one of two categories, namely “other” or “undetermined” Additionally, ninety-four (94) children aged less than one year died as a result of Sudden Infant Death Syndrome (SIDS) in 1997 (Table 2).

Table 2: Unexpected Child Deaths by Cause, Ages 0 – 9 Years, Louisiana - 1997
N = 233

Cause Of Unexpected Child Deaths	Number of Unexpected Child Deaths	Percentage of Unexpected Child Deaths
Sudden Infant Death Syndrome (SIDS)	94	40%
Motor Vehicle Crash Deaths	52	22%
Drowning Deaths	23	10%
Fire and Burn Deaths	18	8%
Suffocation Deaths	14	6%
Firearm Deaths	8	3%
Beating Deaths	5	2%
Shaken Baby Syndrome	4	2%
Fall Related Deaths	2	1%
Confinement Deaths	1	< 1 %
Other Deaths (Not Elsewhere Classifiable)	6	3%
Undetermined Deaths (Unable to Determine)	6	3%
Total Unexpected Child Deaths	233	100%

Children under the age of one year sustained 51% (118/233) of all unexpected deaths. SIDS deaths, which by definition can only occur in children less than one year, comprised 80% (94/118) of all unexpected deaths of children less than one year of age. The remaining 20% (24/118) of the cases below one year of age were injury deaths (Figure 1).

Figure 1: Unexpected Child Deaths by Cause and Age, Ages 0 – 9 Years, Louisiana - 1997
N = 233



Black children sustained 57% of all unexpected deaths and died more frequently in all causes except drowning.

Males sustained almost 60% of all unexpected deaths. Black males sustained more unexpected deaths than any other race-gender subgroup (71 cases).

Intentional deaths comprised 16% of child injury deaths in which intent could be determined. In one case, the manner of death was suicide; the remaining cases were homicides. Records indicated that the Louisiana Office of Community Services intervened in 2 of the 21 homicide cases PRIOR to the death of the child.

Part I:

Sudden Infant Death Syndrome (SIDS), Ages <1 Year, Louisiana - 1997

SIDS is the death of an infant less than 1 year of age that remains unexplained after a complete investigation, which includes an autopsy, examination of the death scene, and review of the symptoms or illnesses that infant had prior to dying and any other pertinent medical history.

SIDS should not be diagnosed if these criteria are not met.

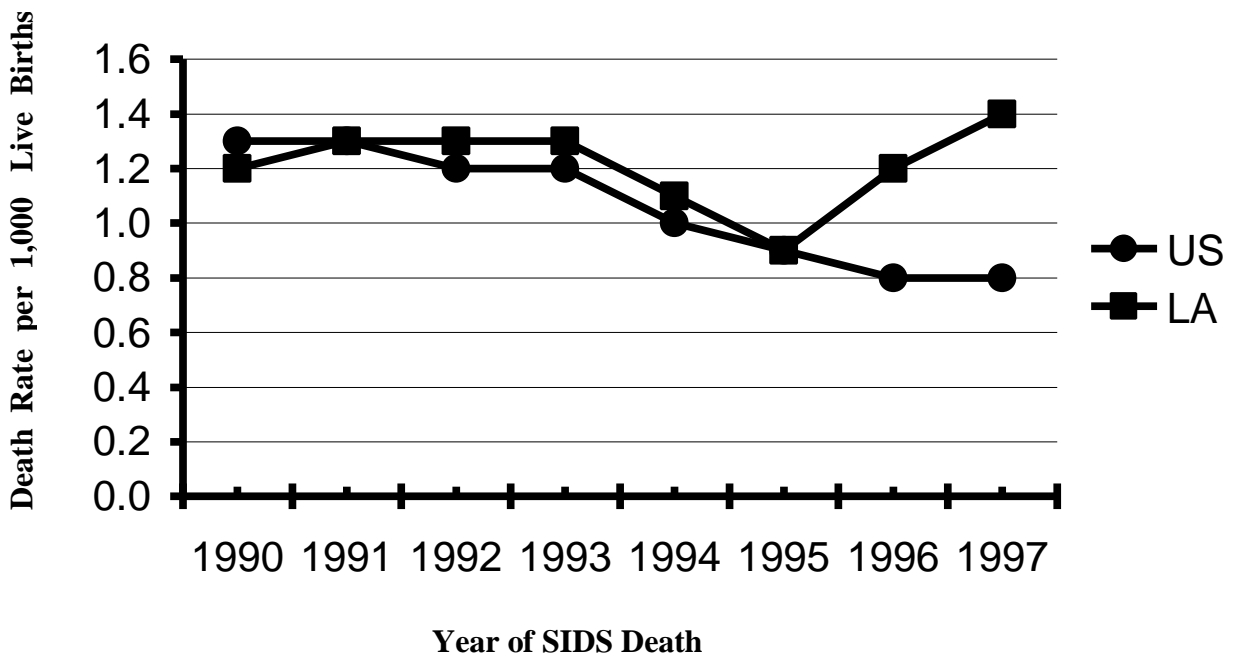
Ninety-four (94) infants died of Sudden Infant Death Syndrome (SIDS) in 1997, a rate increase of 17% over 1996.

SIDS RISK REDUCTION FACTORS

1. Place infants on their backs to sleep;
2. Avoid smoking during pregnancy and keep environment smoke free;
3. Obtain prenatal care and space pregnancies;
4. Avoid all substance abuse, including alcohol.

As is the case nationally, SIDS was the most common cause of unexpected child death in Louisiana in 1997. In 1997, there were 94 deaths from SIDS in Louisiana, equivalent to a death rate of 1.4/1,000 live births. This represents a 17% increase from the 1996 rate of 1.2/1,000 live births. Between 1990 and 1995, rates in Louisiana were roughly comparable to the national rates. However, for the past two years, the rate for Louisiana has surpassed the national rate (Figure 2).

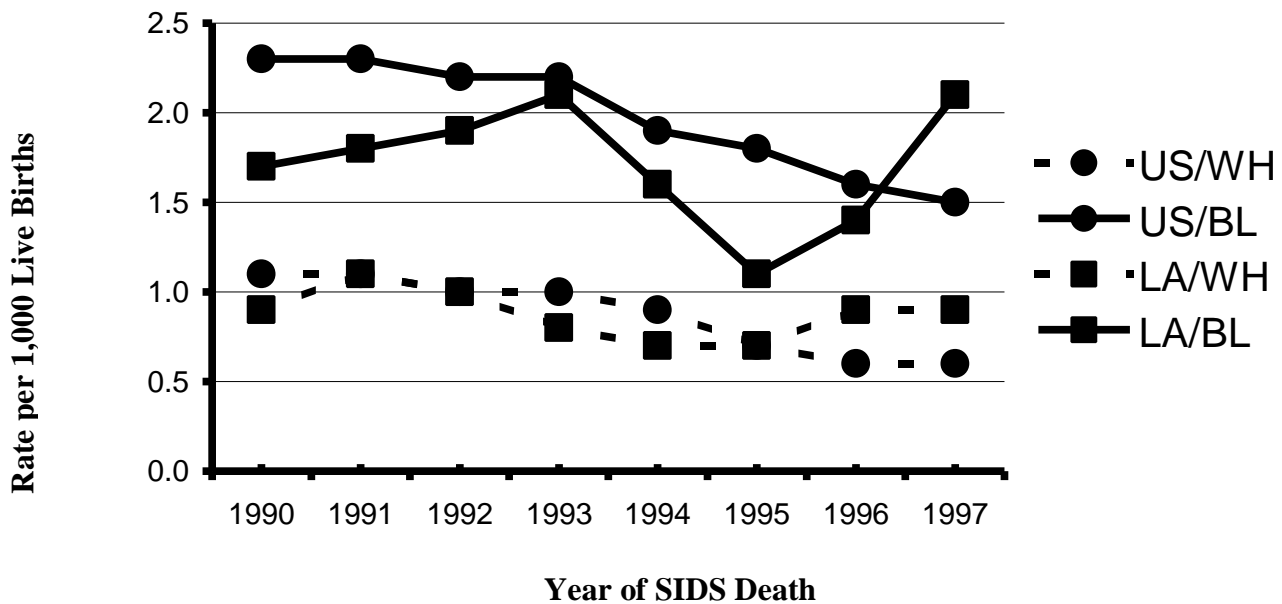
Figure 2: Sudden Infant Death Syndrome (SIDS) Rates, United States and Louisiana, 1990 – 1997



Males had 1.3 times the risk of dying from SIDS compared to females (53 deaths among males and 41 deaths among females).

Blacks had 2.3 times the risk of dying from SIDS compared with whites (60 deaths among blacks and 34 deaths among whites). For many years, there has been a large disparity between SIDS rates by race, both at the national level and in Louisiana. This disparity by race widened in 1997 in Louisiana (Figure 3).

Figure 3: Sudden Infant Death Syndrome (SIDS) Rates By Race and Year, United States and Louisiana, 1990 - 1997



Since 1990, the two years with the highest number of SIDS deaths has been 1991 (97 cases) and 1997 (94 cases, Table 3).

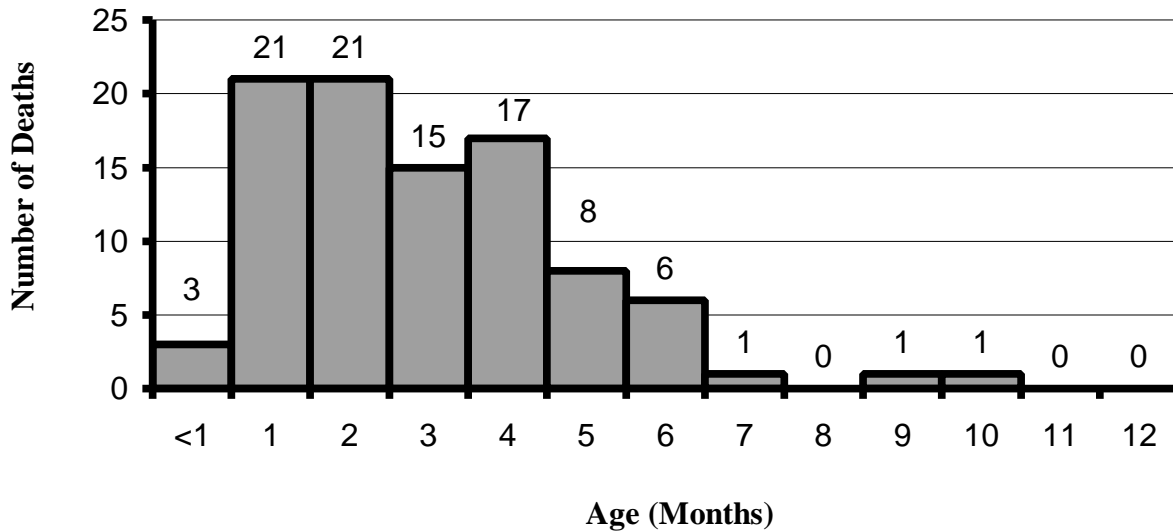
Table 3: Number and Rate of Sudden Infant Death Syndrome (SIDS) by Year, Louisiana, 1990 -1997

Year of SIDS Death	Number of SIDS Deaths	SIDS Death Rate per 1,000 Live Births
1990	90	1.2
1991	97	1.3
1992	92	1.3
1993	87	1.3
1994	75	1.1
1995	60	0.9
1996	73	1.2
1997	94	1.4
	Total Number of Deaths	668

Most SIDS deaths occurred among younger infants, with 82% (77 cases) of deaths occurring in the first four months of life (Figure 4).

Figure 4: Number of Sudden Infant Death Syndrome (SIDS) Cases by Age, Louisiana – 1997

N = 94



Autopsies were performed in 99% (93/94) of the SIDS deaths. Autopsy reports were received for 57% (53/93) of the 1997 cases in which an autopsy was performed. There was a significant increase in the number of autopsy reports received by the Panel between 1996 and 1997 (Table 4).

Table 4: Autopsies Performed and Reports Received, Sudden Infant Death Syndrome (SIDS) Cases, Louisiana, 1996 - 1997

1996 Autopsies Performed	1996 Autopsy Reports Received	1997 Autopsies Performed	1997 Autopsy Reports Received
99% (72/73)	38% (27/73)	99% (93/94 Cases)	57% (53/93)

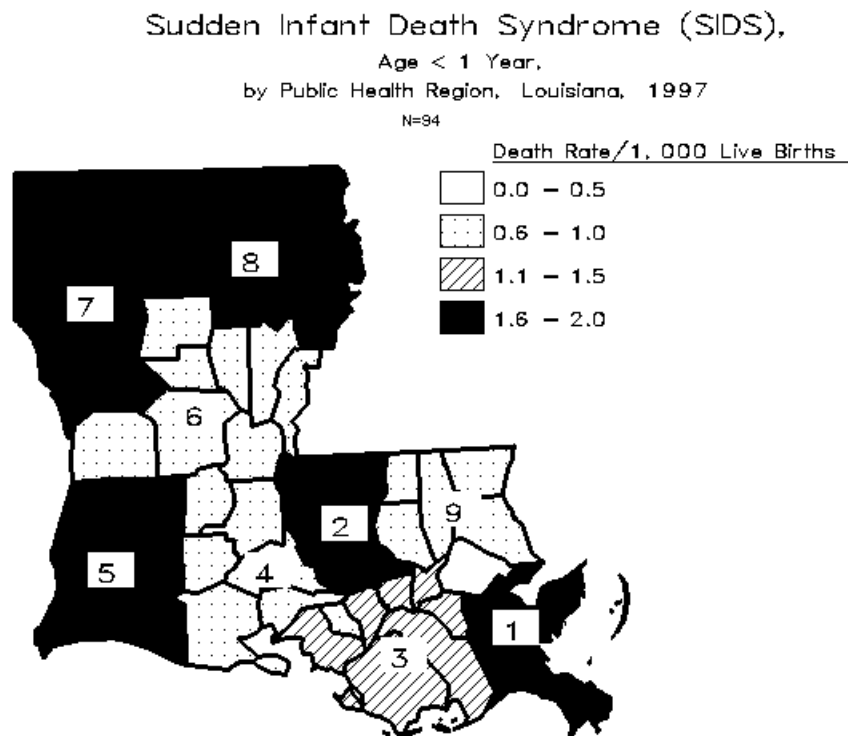
The Centers for Disease Control and Prevention has specified that thorough scene investigations are particularly important in SIDS cases, to ensure that deaths resulting from hereditary or other medical conditions are not classified as SIDS deaths. Death scene investigations were received by the Panel for 48% (45/94) of SIDS deaths in 1997.

In August of 1996, the Office of Public Health, Maternal and Child Health Section (OPH-MCH) began to reimburse coroners for death scene investigations and autopsies performed for SIDS cases (\$500 per autopsy and \$100 per death scene investigation). The SIDS Program also held seminars to train coroners on how to conduct a death scene investigation for a sudden unexpected death. In 1997, the reimbursements and seminars

were probably factors that had a positive impact on the frequency with which death scene investigations were performed, the quality of those investigations, and the submission of those reports to the Panel.

There was no substantial variation in the number of SIDS deaths by month of the year or season. The Louisiana Department of Health and Hospitals groups each of the 64 parishes (counties) of Louisiana into one of nine public health regions. Public Health Regions 1, 2, 5, 7 and 8 had SIDS rates above 1.5/1,000 live births (Figure 5).

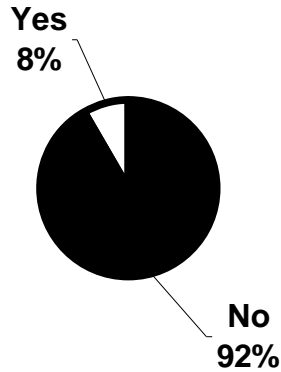
Figure 5



Breast-feeding is believed to be a possible protective factor against SIDS. Whether or not the mother had ever breast-fed the decedent was known for seventy-three cases; of those cases, 92% (67/73) of the mothers had never breast-fed the decedent (Figure 6).

Figure 6: Number of Sudden Infant Death Syndrome (SIDS) Cases in Which Mother Ever Breast-Fed Decedent, Louisiana – 1997

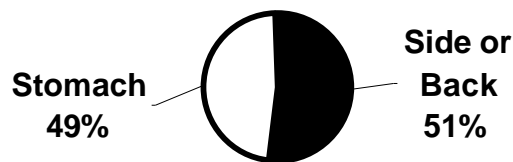
N = 73*



*21 cases missing data

Infant sleeping position, a modifiable risk factor for SIDS, has received increasing attention. Since 1994, the American Academy of Pediatrics has recommended non-prone (i.e., side or back) sleeping for most infants, and has been working to educate the public about this through the Back to Sleep Campaign. The SIDS Prevention Program of the Louisiana Office of Public Health also has been working to disseminate this recommendation in Louisiana, although funds for this purpose have been limited. Sleeping position was reported for 67% (63/94) of the SIDS cases in 1997. About half, 51% (32/63) of these infants were reported to usually sleep in the recommended position (Figure 7).

Figure 7: Sudden Infant Death Syndrome (SIDS) Cases by Usual Sleep Position, Louisiana – 1997
(N = 63)



*31 Cases Missing Data

Other potentially modifiable risk factors for SIDS include bed sharing (i.e., whether the infant slept alone or in bed with others) and infants born at a low birth weight (< 2,500 grams or < 5.8 pounds). If the infant usually shared a bed with others was known for 82% (77/94) of cases; of those, 57% (44/77) were known to share a bed with others. The birth weight was not known in 20% (19/94) of the SIDS cases; of those cases known, 43% (32/75) were of low birth weight.

Maternal risk factors, which are modifiable, include maternal smoking, and mothers who give birth during their teenage years. Whether or not the mother smoked was known for 70% (66/94) of infants; of those mothers, 56% (37/66) reported to be smokers. The mothers age at the birth of her first child was not known in 18% (17/94) of the cases. Of those known cases, 25% (19/77) of the mothers were less than 20 years of age at the time their first child was born. A summary of risk factors reviewed by the Panel are listed in the table below (Table 5).

Table 5: Risk Factors, Sudden Infant Death Syndrome (SIDS), Louisiana - 1997

Risk Factor	Yes Number* (%)	No Number (%)	Comment
Usual Sleeping Position-Side or Back	32/63 cases (51%)	31/63 Cases (49%)	Almost half (49%) of the infants were not placed on there back or side as recommended by the American Academy of Pediatrics.
Infant usually sleeps alone	33/77 (43%)	44/77 (57%)	57% of the infants usually slept with parent(s) and/or sibling(s), which put them at increased risk for SIDS or suffocation death.
Mother smokes	37/66 (56%)	29/66 (44%)	56% of mothers smoked, increasing the risk of post-neonatal morbidity and mortality. Smoke in the home environment of the child is believed to increases the risk of SIDS.
Teen mother	19/77 (25%)	58/77 (75%)	25% of births were to a teen mother, which increases the risk for post-neonatal morbidity and mortality.

*Results do not equal total number of deaths (94 cases) because unknown cases for each risk factor was excluded from calculations

Unexpected Child Injury Deaths

Ages 0-9 Years, Louisiana - 1997

Demographics

The unexpected child injury death rate for Louisiana residents was above the national average in 1997 for most causes of injury. Children aged less than 10 years sustained 139 fatal injuries in 1997. Motor vehicle crashes (37%, 52/139), drowning (17%, 23/139), burns (13%, 18/139), and suffocation (10%, 14/139) were the leading causes of injury deaths (Table 6).

Table 6: Unexpected Child Injury Deaths by Cause, Ages 0 – 9 Years, Louisiana – 1997

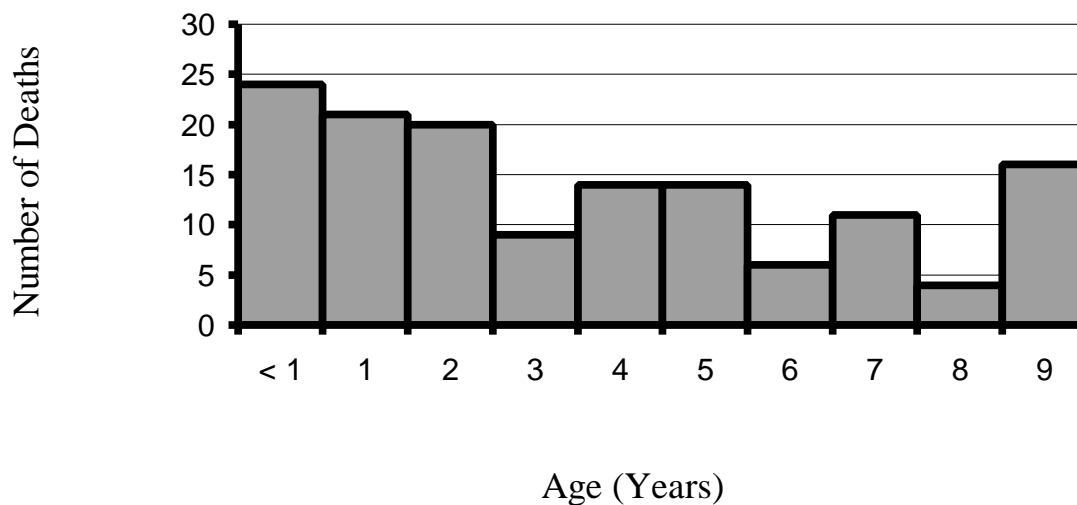
N = 139

Cause of Unexpected Injury Death	Number of Unexpected Injury Deaths	Percentage of Unexpected Injury Deaths
Motor Vehicle Crashes	52	37%
Drowning	23	17%
Fire and Burn	18	13%
Suffocation	14	10%
Firearm	8	6%
Beating	5	4%
Shaken Baby Syndrome	4	3%
Fall	2	1%
Confinement	1	1%
Other	6	4%
Undetermined	6	4%
Total	139	100%

Children aged less than three years old comprised almost half (46%, 65/139) of all injury cases (Figure 8).

Figure 8: Unexpected Child Injury Deaths by Age, Ages 0 – 9 Years, Louisiana – 1997

N = 139



Black children sustained just under half (46%, 64/139) of the injury deaths, but black children died at a higher rate than white children (25.0 per 100,000 blacks vs. 19.6 per 100,000 whites).

Males sustained more than half (58%, 81/139) of the injury deaths and died at a higher rate than females (25.0 per 100,000 males vs. 18.6 per 100,000 females).

In five of the injury cases, the date of injury was unknown. Of those cases known, most of the injuries occurred in July (13%, 17/134). The months in which the least number of injuries occurred were in January and May (5%, 6/134 each).

Protective Services Involvement

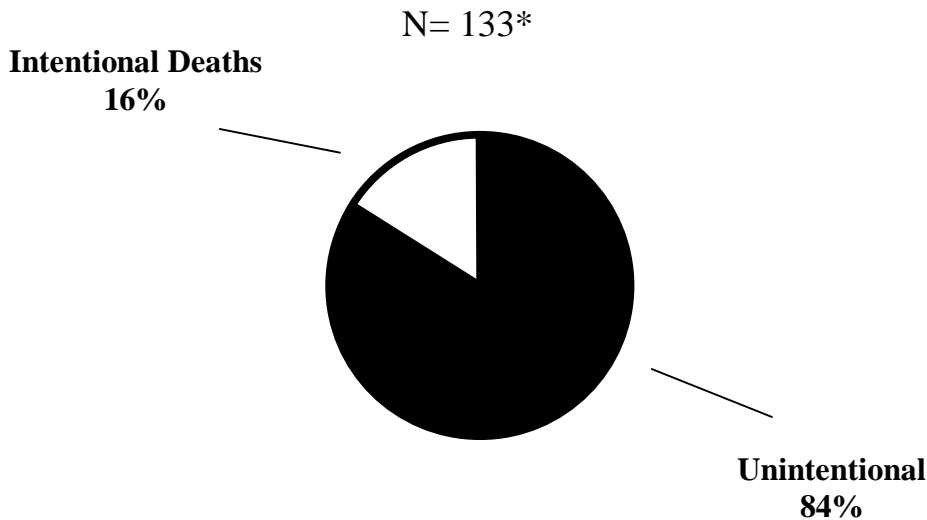
In Louisiana, the local offices of the Office of Community Services (OCS), Department of Social Services have legal responsibility for receipt of Child Protection Services reports of child abuse/neglect, investigation of reports and reasonable efforts to prevent foster care placement in situations in which abuse/neglect reports

appear justified. When a child dies and abuse and/or neglect is suspected, OCS normally conducts a joint investigation with law enforcement to determine whether or not abuse and/or neglect were involved in the child's death. Reports received by the Panel indicate that OCS intervened in 12% of all child injury deaths occurring in 1997. Of the 17 child deaths in which OCS was involved, six were cases in which OCS had previous involvement with the family prior to the death. In two deaths, OCS was involved with the family before the death and investigated the death of the child. In 9 deaths, OCS investigated the death due to alleged abuse/neglect but the family was not known to OCS prior to the death.

Manner and Intent of Death

Due to lack of information, the Panel was unable to confirm the manner of death that appeared on the death certificates of six of the injury cases (6/139), the six cases the Panel classified as "undetermined". Of the remaining 133 cases, the Panel revised only one manner of death from what was indicated on the death certificate. In that case, the underlying cause of death was starvation. After reviewing the reports describing the circumstances surrounding the death, the Panel revised the manner of this death from "natural" to "homicide". The Panel classified 84% (111/133) of the injury cases as unintentional (accidental). The Panel classified the remaining cases (22/133) as intentional (Figure 9).

Figure 9: Unexpected Child Injury Deaths by Intent, Ages 0 – 9 Years, Louisiana – 1997



*6 Cases Missing Data

Unintentional (Accidental) Deaths

Of the 111 unintentional cases, the Panel attempted to determine if a “reasonable” caretaker could have prevented the death based on a set of standards. In 32% (36/111) of the deaths, the Panel did not have adequate information to make this determination. Of the deaths for which adequate information was available, 81% (61/75) were determined to be preventable by a “reasonable” caretaker. The Panel determined that lack of supervision was the most common modifiable risk factor of these deaths (51%, 31/61). Failing to use child safety seats was another modifiable risk factor that would have prevented numerous deaths. The standards these results are based upon, examples of violations of the standards, and number of Louisiana children killed resulting from these violations are summarized below (Table 7).

Table 7: Preventable Deaths by Louisiana Child Death Review Panel Standards*
Louisiana – 1997

Child Death Standards	Examples of Violation	Number of Deaths Resulting From Violation [N (%)]
Children should be provided with adequate and appropriate food, shelter, clothing, and medical care.	Discarding a newborn in the garbage. 6-month old chokes on a pecan.	1 (2%)
Children should be free from physical abuse.	Deaths resulting from Shaken Baby Syndrome or blunt trauma to head or abdomen.	1 (2%)
Children should be supervised by a reasonable caretaker.	Leaving a child unattended near a pool or street.	31 (51%)
Children should be supervised by persons unimpaired by alcohol or drugs.	Driving a motor vehicle with a child while intoxicated.	5 (8%)
Children should not be subjected to unlawful behavior.	Murder/suicide, shot by stray bullet	4 (7%)
Children should be appropriately restrained or protected when riding in a motor vehicle, on a bike, etc.	Riding in a motor vehicle without using an infant car seat, booster seat in conjunction with seat belt, or seat belt, depending on weight.	12 (20%)
Firearms, poisons and other hazardous materials should be kept away from children.	Poisoning due to improper ingestion of medication or cleaning products.	1 (2%)
Children should be protected by a working smoke detector.	Death resulting from smoke inhalation from a fire in a home lacking a working smoke detector.	1 (2%)
Toys, play equipment, appliances and municipal sites should meet accepted safety standards.	A bicycle with inoperable brakes.	0 (0%)
Children should have safe sleeping environments	Suffocation by overlying of an adult; Suffocation resulting from sleeping on soft bedding.	5 (8%)

*Standards developed by Dr. Ursula Bauer, Epidemic Intelligence Officer, United States Department of Health, Centers for Disease Control and Prevention who was assigned to Louisiana during the period the 1997 data was collected.

Intentional Deaths

Of the intentional cases, 96% (21/22 cases) were classified as homicides. The Panel classified the one case remaining a suicide.

Of the 21 homicide cases, children of black race (67%, 14/21) and male gender (57%, 12/21) were the most frequent victims. Records indicated OCS intervention in two of the homicide cases (2/21) prior to the death of the child. The Panel was able to collect some information on the perpetrators of the homicides. Among 81% (17/21) of the homicide cases for which the relationship of the perpetrator to the victim was known, 59% (10/17) of the deaths were inflicted by the natural mother or father of the child. In 24% (4/17) of the homicide cases, the injury was inflicted by the boyfriend of the natural mother. It is popular belief that strangers most frequently inflict intentional injuries. However, in 82% (14/17) of the child homicide cases, a family member or acquaintance of the family (the natural parent or the mother's boyfriend) inflicted the intentional injury. The perpetrator was between 15 and 44 years of age in all cases in which the age of the perpetrator was known (14/14). The perpetrator was between 15 and 26 years of age in 86% (12/14) of the homicides, suggesting that young adults are at high risk for being the perpetrators of child abuse. Of the homicide cases in which the sex of the perpetrator was known (15/21), men and women were equally likely to be perpetrators, indicating both men and women should be targeted in the prevention of child abuse. In only two cases was the perpetrator known to have a psychiatric illness. The Panel received documentation to indicate that in one of the homicide cases (1/21), the perpetrator was under the influence of alcohol at the time the fatal injury was inflicted. Alcohol and toxicology test are not routinely performed on suspected perpetrators so it is not possible to measure the impact of drug and alcohol impairment in these cases.

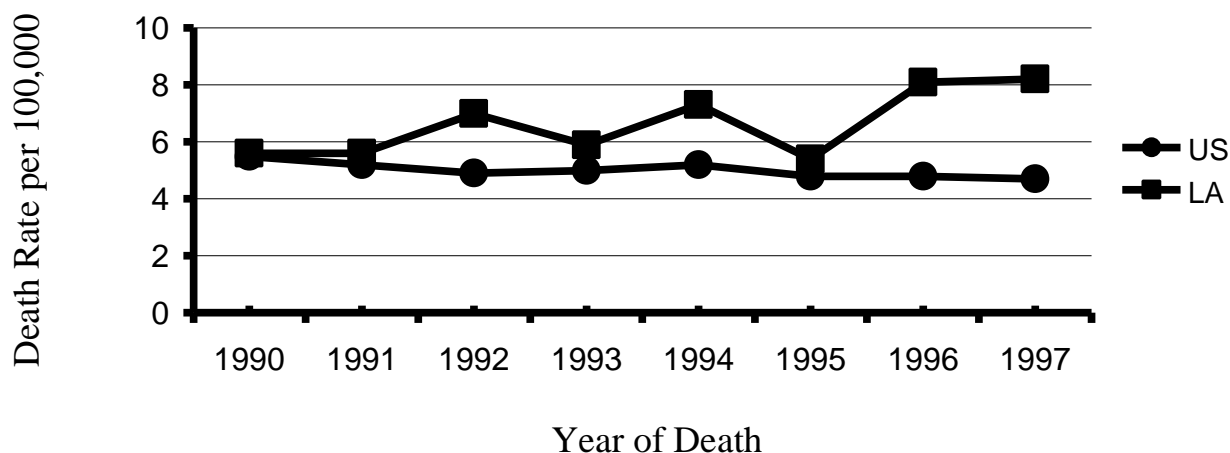
The remainder of this report will focus on the following causes of child injury death: motor vehicle crash deaths, drowning deaths, fire and burn deaths, suffocation deaths, firearm deaths, beating deaths, and deaths resulting from shaking (shaken baby syndrome). Cases classified as "Other" or "Undetermined" are also quantified. National child injury death were categorized and rates were computed based on the *Centers for Disease Control and Prevention, Recommended Framework for Presenting Injury Mortality Data, MMWR 1997; 46(No. RR-14)*.

Motor Vehicle Crash Deaths

Fifty-two (52) children died in motor vehicle crashes in 1997, an average of one child killed per week.

In 1997, 52 children residing in Louisiana died in motor vehicle crashes accounting for 37% (52/139) of all the child injury deaths. The motor vehicle death rate was 8.2 per 100,000 population of children aged less than 10 years. Motor vehicle crash death rates for Louisiana have been relatively stable and have been consistently above the national average since 1990 (Figure 10).

Figure 10: Child Motor Vehicle Crash Death Rates, United States and Louisiana, 1990 - 1997



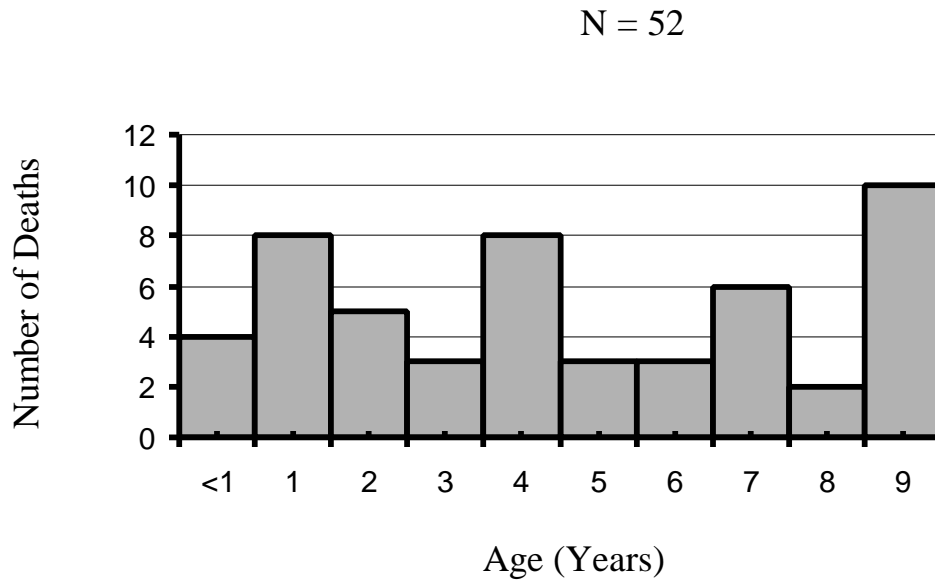
Single or multi-car crashes involving passenger vehicles on public highways were the cause of most deaths. However, in some cases, other contributing factors played a major role in the severity of the injury. In 10% (5/52) of the motor vehicle crash cases, the child drowned as a result of the vehicle leaving the highway and being submerged in water. In 4% of the cases (2/52), a child was a passenger in a motor vehicle which collided with a train. In one case (2%, 1/52), deployment of an air bag resulted in an unrestrained child sustaining a fatal brain injury.

Five of the motor vehicle crash cases involved motorized vehicles that were not designed for public highway use. In two of the motor vehicle crash cases (4%), children were passengers on motorized vehicles used primarily for recreation (one all terrain vehicle and one go-cart). In one case (2%, 1/52), the crash involved a go-cart that the child was driving. In one case (2%, 1/52), a child was a passenger on an all-terrain vehicle in

which the driver lost control. In the one remaining case (2%, 1/52), a child was an unrestrained passenger on a motorized farm vehicle (bush hog).

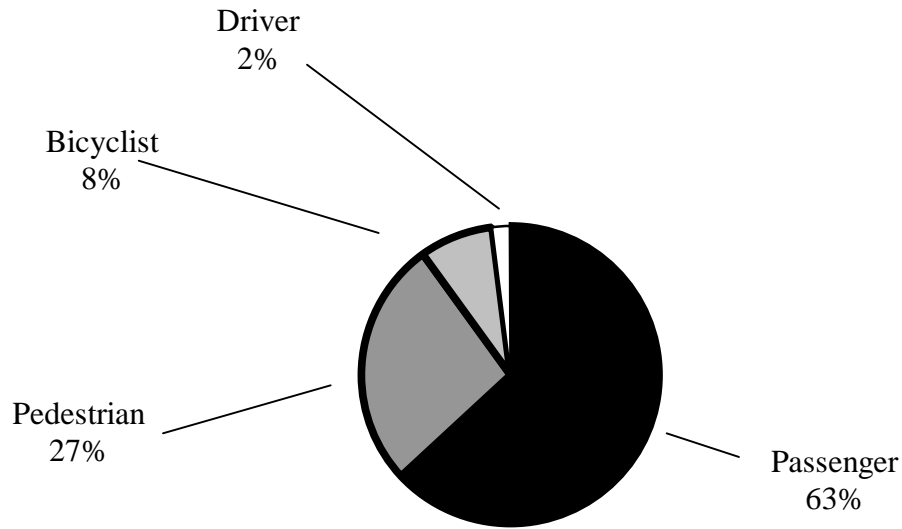
Deaths occurred over the age spectrum (Figure 11).

Figure 11: Child Motor Vehicle Crash Deaths by Age, Ages 0 – 9 Years, Louisiana – 1997



Victims were vehicular passengers in 63% (33/52) of the cases, pedestrians in 27% (14/52) of the cases, and bicyclist in 8% (4/52) of the cases. In one case, the child was the driver of a go-cart (Figure 12).

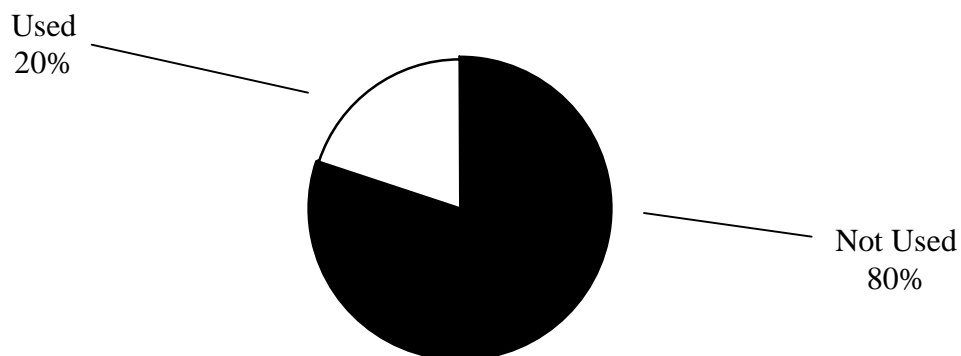
Figure 12: Motor Vehicle Crash Deaths by Position of Child, Ages 0 – 9 Years, Louisiana – 1997 (N = 52)



Existing laws were violated in 70% (21/30) of the cases for which this information was available. Drugs or alcohol were involved in 75% (12/16) of crashes in which information on impairment was available; in 67% (8/12) of these cases, the supervising person was using drugs or alcohol.

Road conditions at the time of the crash were normal for 88% of the cases (42/48) for which this information was available. In the remaining six cases (6/48), wet road conditions may have been a contributing factor in causing the crash. Information on restraint use (child safety seats, booster seats and seat belts) was available and applicable for 25 of the motor vehicle crash deaths. Of the 25 deaths, restraints were used in only 20% (5/25) of the cases (Figure 13).

Figure 13: Restraints Use Among Motor Vehicle Crash Deaths, Ages 0 – 9 Years, Louisiana – 1997 (N = 25)

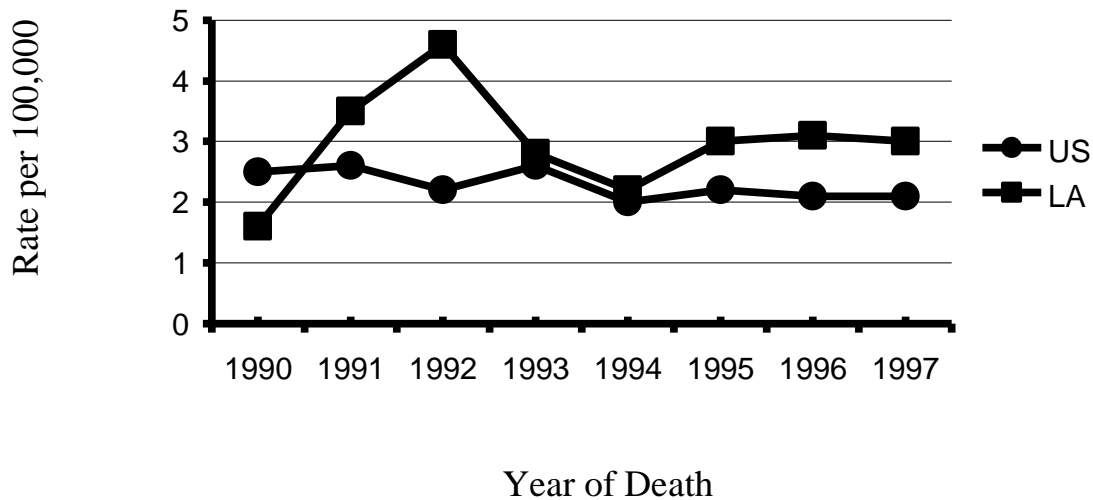


Drowning Deaths

Twenty-three (23) children died as a result of a drowning in 1997.

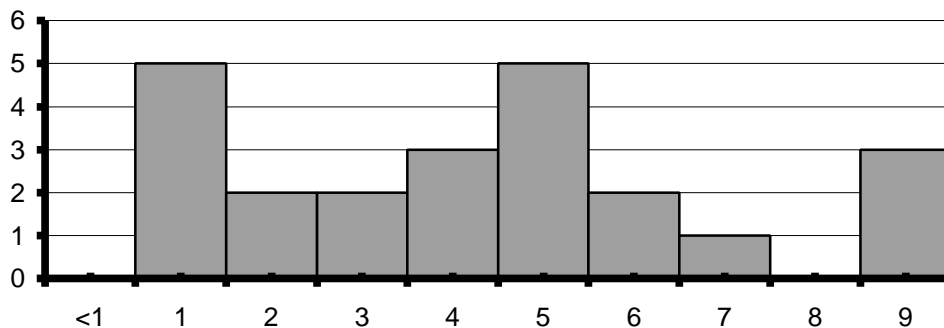
There were 23 child deaths due to drowning in 1997, for a rate of 3.6 drowning deaths per 100,000 population under age 10, and accounting for 17% of unexpected child injury deaths. Drowning death rates for Louisiana have been relatively stable and generally have been greater than the national rates since 1990 (Figure 14).

Figure 14: Drowning Death Rates, Ages 0 – 9 Years, United States and Louisiana, 1990 - 1997



These occurred across the age spectrum (Figure 15).

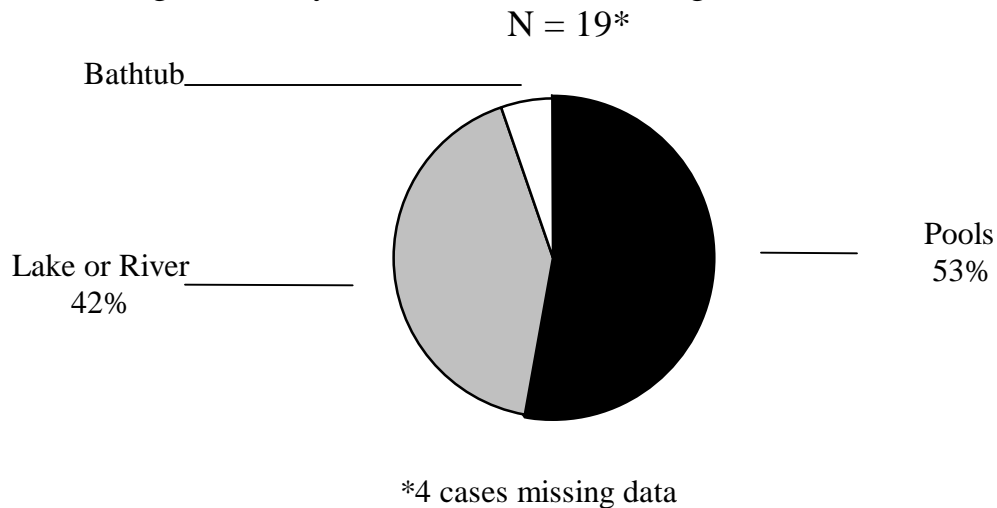
Figure 15: Drowning Deaths by Age, Ages 0 – 9 Years, Louisiana – 1997
N = 23



White children died more frequently than black children (13 deaths among whites compared with 9 deaths among blacks). However, both races died at a death rate of 3.5 per 100, 000 population under the age 10. Most of these deaths (83%, 19/23) occurred during April to August. All of these deaths were unintentional.

The body of water involved in the drowning was unknown in four cases; among the remaining 19 deaths, the most common bodies of water involved were pools (53%, 10/19) and lakes or rivers (42%, 8/19) (Figure 16).

Figure 16: Drowning Deaths by Place of Occurrence, Ages 0 – 9 Years, Louisiana – 1997



In eight of these cases, a fence or barrier secured the body of water. In two of the cases (2/8), the Panel was unable to determine how the fence or barrier was compromised. In one case (1/8) in which a pond was secured by a barrier, the child gained access to the water through a hole in the existing barrier. In two of the cases (2/8), swimming pools were open to the public; both deaths occurred while one or more lifeguards were on duty. The Panel was able to determine how swimming pools secured by fencing were compromised in the remaining three (3/8) cases. In the first case, a child climbed over a fence. In the second case, a child was able to squeeze through an existing hole in the fence. In the third case, another child probably opened the fence.

The activity at the time of drowning was unknown for eleven cases. In the remaining 12 cases, 42% (5/12) occurred while playing, and 33% (4/12) occurred while swimming. Information on the child’s ability to swim was not available for 78% (18/23) of the deaths; of the remaining five children, none were able to swim. Information on the use of flotation devices was not available in 35% (8/23) of the cases; of the remaining 15 cases, none of the children were using a flotation device. Enough information was available in 74% (17/23) of the cases for the Panel to determine whether or not these deaths were preventable by actions that a reasonable caretaker would be expected to take.

The Panel determined that 94% (16/17) of these deaths were preventable, and that the overwhelming majority (81%, 13/16) of the preventable deaths could have been prevented by adequate supervision of the child.

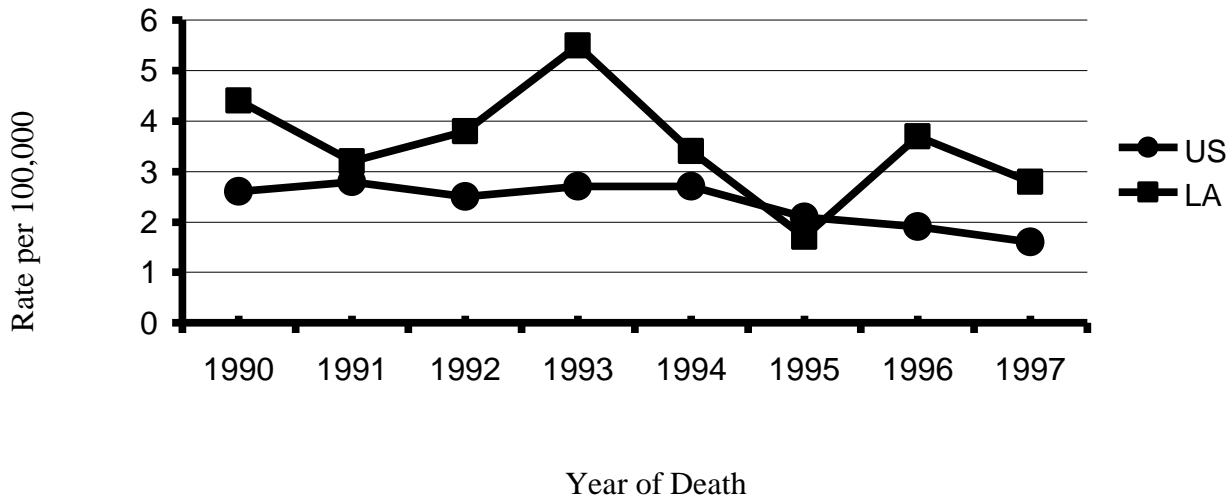
The American Academy of Pediatrics has concluded that children are not developmentally ready for swimming lessons until after their fourth birthday. Young children should receive constant, close supervision by an adult while in and around water.

Fire and Burn Deaths

Eighteen (18) children died in fires in 1997, most (92%) occurred in a home.

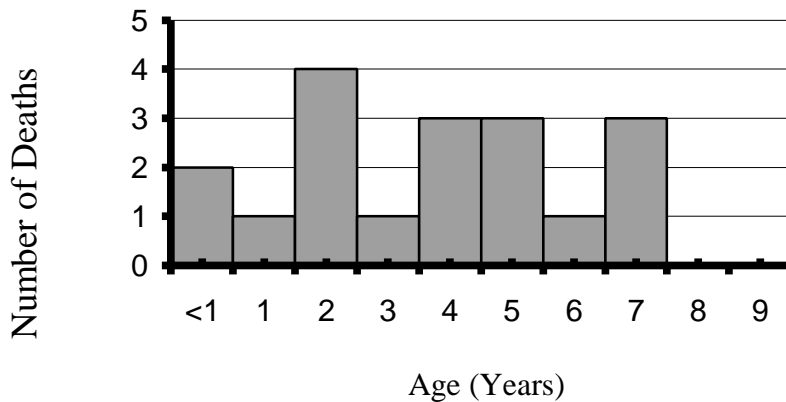
Thirteen fires were the cause of 18 children sustaining fatal fire and burn injuries in 1997, for a death rate of 2.8 per 100,000 population under age 10, and accounting for 13% of unexpected child injury deaths. Fire death rates for Louisiana have been relatively stable and generally have been greater than national rates since 1990 (Figure 17).

Figure 17: Fire and Burn Death Rates, United States and Louisiana, 1990 - 1997



All deaths were to children aged 7 years or less (Figure 18).

Figure 18: Fire and Burn Deaths, Ages 0 – 9 Years, Louisiana - 1997
N = 18



Fifty percent (9/18) of the deaths were black children; Black children were almost four times more likely than white children to die in a fire (Relative Risk 3.5). Twelve of the fires (12/13, 92%) were residential fires; in one case, the place of the fire was not specified. Most of the fires (9/13, 69%) occurred in the months of September, October, November, and December.

Due to lack of data, in most of the fires (7/13, 54%), the Panel was not able to determine the source. In the remaining six fires (6/13), the source of the fires were the following: matches (2/13, 15%) in two cases, a space heater in one case (1/13, 8%), a candle (1/13, 8%) in one case, a toaster (1/13, 8%) in one case, and a cigarette lighter (1/13, 8%) in one case.

Among the twelve residential fires, 42% (5/12) were wooden structures, 33% (4/12) were brick structures, and 25% (3/12) were trailer homes. Smoke detectors were not installed in 83% (10/12) of home fires. In the remaining two cases, due to the damage of the structure, weather or not the structure had a smoke detector could not be determined.

The Panel did not have enough information to determine who started the fire in 69% (9/13) of the structure fires. In the remaining four cases, three fires were started by the decedent and one fire started spontaneously.

In the twelve residential fires, the activity leading to the fire was not known in 75% (9/12) of the cases. In the remaining three cases, the activity leading to the fire was identified as playing (25%, 3/12).

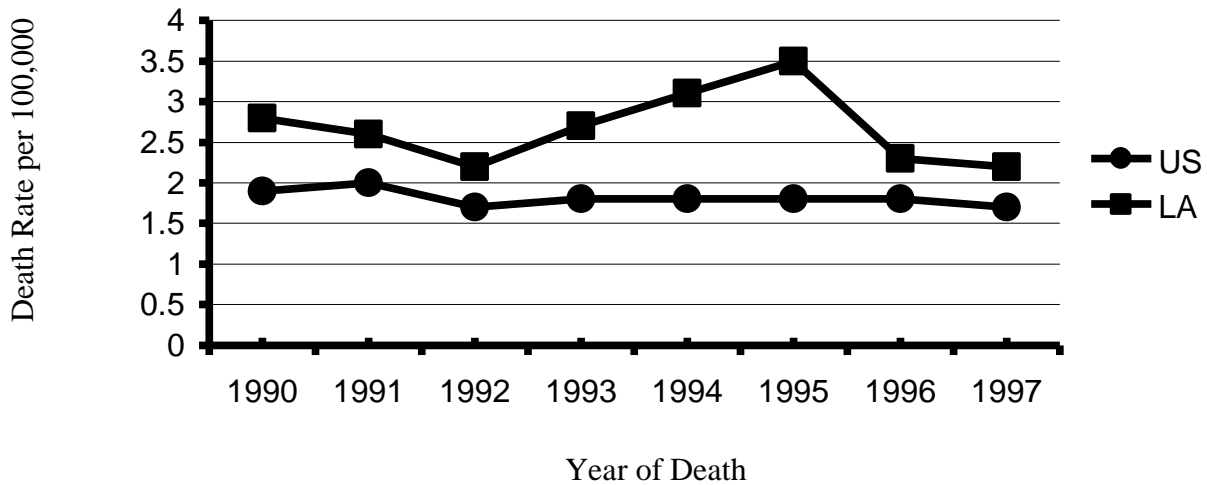
In 69% (9/13) of the structure fires, the Panel was able to determine that 56% (5/9) of these fires could have been prevented by actions of a reasonable caretaker. The most common problem was lack of age-appropriate supervision of the child (60%, 3/5).

Suffocation Deaths

Fourteen (14) children died as a result of a suffocation death in 1997.

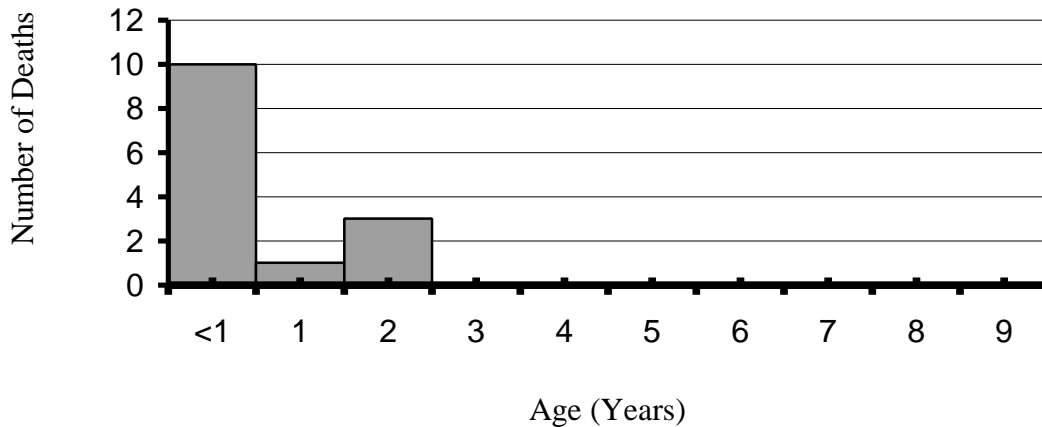
There were 14 child suffocation deaths in 1997, for a death rate of 2.2 deaths per 100,000 population. This accounted for 10% of unexpected child injury deaths. Suffocation death rates for Louisiana have been greater than national rates since 1990 (Figure 19).

Figure 19: Suffocation Death Rates, United States and Louisiana, 1990 - 1997



The majority (71%, 10/14) of these deaths occurred in children under age 1 (Figure 20).

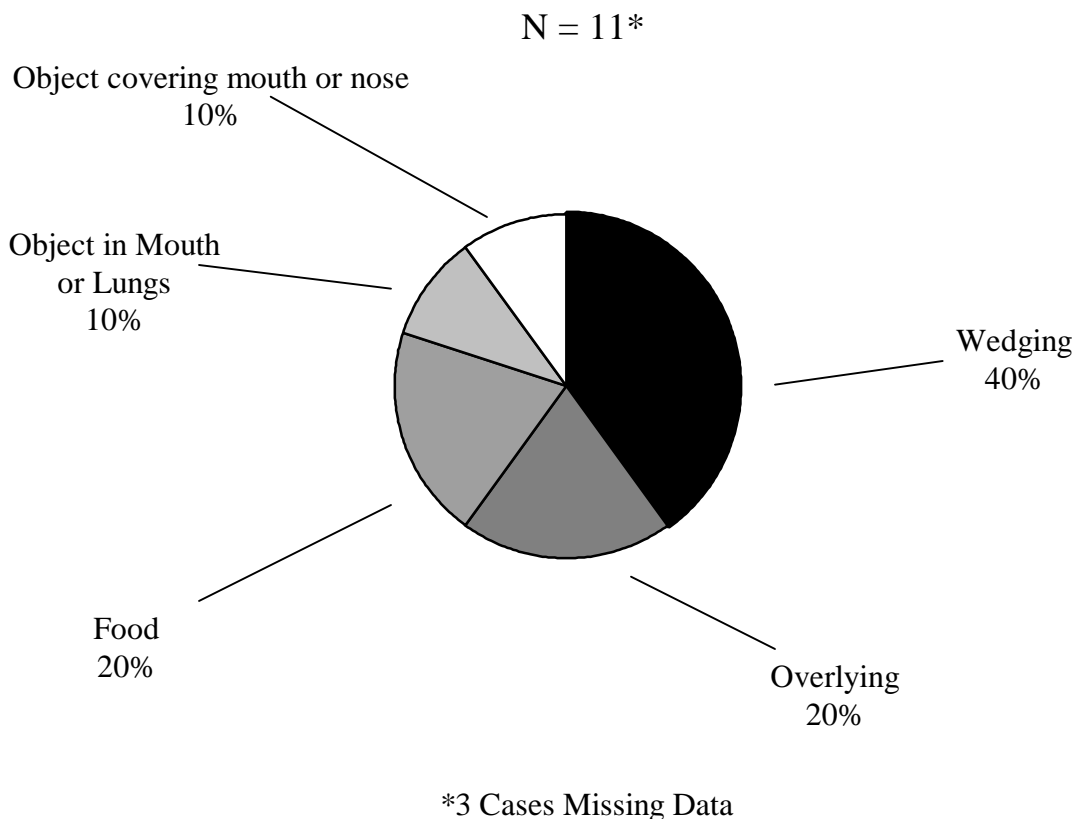
Figure 20: Suffocation Deaths by Age, Ages 0 – 9 Years, Louisiana – 1997
N = 14



Blacks were almost three times more likely than white children to die from suffocation (Relative Risk = 2.5, 9 deaths of black children compared with 5 deaths of white children). Most of these deaths (86%, 12/14) occurred at home. There was no substantial variation in the number of deaths by month or season.

The mechanism of suffocation was not known in three cases. Of those cases known, the leading mechanisms of suffocation included wedging of the infant (40%, 4/14), food (20%, 2/14), and overlying (20%, 2/14). In the remaining two cases, the mechanisms of suffocation included object covering mouth and nose (10%, 1/14), and object in mouth (10%, 1/14) (Figure 21).

Figure 21: Suffocation Deaths Among Children by Mechanism, Ages 0 – 9 Years, Louisiana – 1997



These injuries occurred most commonly on a bed (43%, 6/14), a couch (1/14, 7%), or on the floor (1/14, 7%); in the remaining six cases the location of the decedent was unknown. In 80% (8/10) of the cases, the injury occurred during sleep. In 20% (2/10) of the cases, the event did not occur during sleep; in the remaining four deaths, it was not known if the injury occurred during sleep. Of the total suffocation deaths, only one (7%) was intentional. In 90% of the cases (9/10), the intent was unintentional, while one case (1/10) was intentional. In the remaining four cases, intent could not be determined.

The Panel determined that in 90% (9/10) of the cases in which a decision could be made, the death could have been prevented by the actions of a reasonable caretaker – specifically by the providing a safe sleeping environment like a crib.

In 67% of the cases, the person supervising the decedent at the time of death was the natural mother and/or father. In two cases, the grandmother was the supervising person. In one case, a non-relative was the supervising person and in one case another child was the supervising person. The supervising person was unknown for the remaining two cases. Of the five cases in which the age of the supervising person was known, in two cases their age was less than 15 years. In one case, a factor in the death was that the person supervising the decedent was using drugs or alcohol.

Firearm Deaths

Eight (8) children were shot and killed in 1997.

There were eight deaths from firearms, for a firearm child injury death rate of 1.3 firearm deaths per 100,000 population under age 10 in 1997. These deaths accounting for 6% of unexpected child injury deaths in 1997. Firearm death rates for Louisiana have been greater than national rates since 1990 except in 1995.

Black children were at almost three times greater risk of firearm death than white children (Relative Risk = 2.5, 5 Black deaths compared to 3 White deaths).

There was no substantial variation in the number of deaths by month or season. In most of the cases (75%, 6/8), more than one person was injured by the shooting.

Seven (87%) of these deaths occurred at home. In two of the firearm-related cases (2/8), the type of firearm was not known. Of the six known cases, handguns were involved in 83% (5/6) of the cases. The person handling the gun at the time of the injury was a family member or acquaintance in 87% (7/8) of the cases; in the remaining one case (1/8), the decedent handled the firearm. The person handling the gun was over age 18 in 63% (5/8) of the firearm-related cases.

The manner of death for 63% (5/8) of these deaths was deemed “homicide,” and for 25% (2/8) of these deaths was deemed “accidental”. In one case (1/8), the death was deemed “suicide”. The perpetrator was known in all (5/5) of the homicide cases. Among the homicide deaths, 60% (3/5) of the cases was a murder-suicide involving the child and the natural mother or natural father. In one homicide case (1/5), the mother’s boyfriend was the perpetrator, and in one case the perpetrator was an acquaintance of the family. In one of the homicide cases, the perpetrator was known to have a psychiatric illness.

The Panel deemed all “accidental” (2/8) and “suicide” deaths (1/8) preventable by ensuring that young children do not have access to firearms.

Beating Deaths

Five (5) children were beaten to death in Louisiana in 1997.

There were 5 deaths from beating, for a rate of 0.8 beating deaths per 100,000 population under age 10, and accounting for 4% of child injury deaths in 1997. All five of the children were black, three (3) were boys, and two (2) were girls. All of the deaths occurred in children aged 1 - 4 years. Since 1990, beating death rates for Louisiana have generally been approximately equal or higher than the national rates, except in 1995.

Eighty percent (4/5) of these deaths occurred at home; in the one remaining case, the death occurred at a public place. The perpetrator of the beating was known in 75% (3/4) of the deaths. Of the known cases, all were the caretaker of the child; in two (2/4) of these cases the perpetrator was the boyfriend of the mother of the decedent and in one case (1/4) the perpetrator was the natural mother.

All of the known perpetrators was over the age of eighteen. It could not be determined if any of the perpetrators were known to have a psychiatric problem or were under the influence of alcohol or drugs at the time of the beating. In three (38%) of the cases, a perpetrator was arrested; in the remaining two cases, the Panel could not determine if an arrest had been made.

Shaken Baby Syndrome Deaths

Four (4) children died as a result of Shaken Baby Syndrome in 1997.

Deaths resulting from shaking accounted for four deaths, 3% of all child injury deaths under age 10. Parents and caretakers should be educated on how to handle episodes of crying, a common trigger of Shaken Baby Syndrome. They also should be educated on disciplining children without spanking; options available are punishment or periods of "time out."

"Other" Unexpected Child Deaths

Cases included in the "other" category were injury deaths in which the Panel was able to determine the underlying cause of death but due to the unique circumstances surrounding and leading up to the injury, the Panel grouped these cases separately. In 1997, 4% (6/139) of child injury deaths were included in this category (Table 8).

**Table 8: Unexpected “Other” Child Deaths - Not Elsewhere Classifiable
Louisiana – 1997 (N = 6)**

Cause of “ Other” Child Death
Medical Misadventure-Anaphylactic shock
Starvation
Hit in Chest With Baseball
Wood Doll House Slipped off Back of Truck –Fell On Child
Child Dropped on Head
Medical Misadventure

Undetermined Deaths

Six (6) children died of unknown causes in Louisiana in 1997.

Six fatalities were included in the “undetermined” category. In these cases, the underlying cause of death on the death certificate was ambiguous. In addition, agencies that perform child death investigations did not comply with state law (statue R.S. 40:2019) that mandates them to supply a copy of all investigative reports involving child deaths to the Child Death Review Panel. All six cases were deaths resulting from an external cause of injury. However, the circumstances leading up to the injuries were unknown. Despite numerous requests, the Panel was not given any information. “Undetermined” was the cause assigned these cases (Table 9).

Table : Unexpected Child Deaths - Cause Undetermined, Louisiana - 1997

Cause of “ Undetermined” Child Death
Infant Found Unresponsive – Circumstances Unknown
Infant Found Unresponsive – Circumstances Unknown
Cause Undetermined/Possible Seizure
Abnormal Reaction to Medication-Details Unknown
Traumatic Brain Injury-Cause and Intent Unknown
Death Due to Environmental Cause–Circumstances Unknown

Recommendations Based on Findings

1. Statewide Public Awareness Campaign on normal child care and safety

Public awareness campaigns have been successful in changing other health behaviors. The state of Florida has demonstrated success in decreasing youth tobacco use through a statewide public awareness program. Most information that families receive on normal child care and safety comes from the pediatrician or family physician. Yet according to a study published in *Pediatrics* in 1998, only forty percent of families with children fourteen and younger received any injury prevention counseling at a medical visit in the previous year; only twenty-five percent received counseling about car seat or safety belt use.

Topics that should be addressed in a public awareness campaign include:

- promotion of safe sleeping environments to prevent SIDS and suffocation deaths
- child safety in and around cars
- supervision of children around water
- children and fire hazards
- normal child development issues like “how to soothe a crying baby”, “how to toilet train a toddler” and “effective discipline techniques”
- avoidance of inappropriate foods and objects which could cause fatal asphyxiation in young children

2. Funding to support local child death review teams

This measure will ensure coordination and collaboration of public and private agencies and organizations that respond to child injury and death within their own communities.

3. Develop recommendations on improving the state’s coroner system.

The Legislature should create a special study panel to examine ways to improve the state’s coroner system. Specific issues to be studied should include:

- Parish based inequities in coroner funding
- Standardization of the manner and cause of death
- Mandated response to and procedures for child deaths
- Discrepancies in administration of coroner duties.
- Standardization of child autopsy and death scene investigations

4. Determine the most effective structure for the Child Death Review Panel to insure the active involvement of law enforcement and the legal system in the investigation and follow-up of child deaths.

