Preventing Child Deaths in Missouri

MISSOURI DEPARTMENT OF SOCIAL SERVICES
STAT
STATE TECHNICAL ASSISTANCE TEAM

The Missouri Child Fatality Review Program

Annual Report for 2005

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State of Missouri

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Children's Trust Fund

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Dedication

This report reflects the work of many dedicated professionals throughout the state of Missouri. Through better understanding of how and why children die, we strive to improve and protect the lives of Missouri's youngest citizens. We will always remember that each number represents a precious life lost. We dedicate this report to these children and their families.

Missouri Child Fatality Review Program

Child Fatality Review In Missouri

Death rates for infants, children, and teens are widely recognized as valuable measures of child wellbeing, particularly when viewed within the context of a decade of demographic changes in our state. However, it is the accuracy of key factors associated with child deaths that provides the basis for identifying vulnerable children, and responds in ways that will protect and improve their lives. In 1995, the U.S. Advisory Board on Child Abuse and Neglect concluded that child abuse and neglect fatalities, and other serious and fatal injuries to children could not be significantly reduced or prevented without more complete information about why these deaths occur and how such tragedies might be avoided. It was widely acknowledged that many child abuse and neglect deaths were under-reported and/or misclassified. Scholars, professionals, and officials around the nation had agreed that a system of comprehensive Child Death Review Teams could make a major difference. In 1991, Missouri had initiated the most comprehensive child fatality review system in the nation, designed to produce an accurate picture of each child death, as well as a database providing ongoing surveillance of all childhood fatalities. The Missouri Child Fatality Review Program (CFRP) was presented in the Advisory Board's report as a state of the art model. While the program has evolved and adapted to meet new challenges, the objectives have remained the same-identifying potentially fatal risks to infants and children, and responding with multi-level prevention strategies.

In Missouri, all fatality data is collected by means of standardized forms and entered into a database. What is learned can be used immediately by the community where the death occurred. The sum of statewide data is used to identify trends and patterns requiring systemic solutions. The Missouri Child Fatality Review Program has succeeded in remaining effective, relevant and sustainable over ten years. The success of the program is due in large part to the support of panel members, administrators and other professionals who do this difficult work voluntarily, because they understand its importance. This work is a true expression of advocacy for children and families in our state.

Missouri legislation requires that every county in our state (including the City of St. Louis) establish a multidisciplinary panel to examine the deaths of all children under the age of 18. If the death meets specific criteria, or if requested by the coroner/medical examiner, it is referred to the county's multidisciplinary CFRP panel. The minimum core panel for each county includes: Coroner/Medical Examiner, Law Enforcement, Juvenile/Family Court, Emergency Medical Services, Prosecutor, Public Health and Children's Division. Optional members may be added at the discretion of the panel. The panels do **not** act as investigative bodies. Their purpose is to enhance the knowledge base of the mandated investigators and to evaluate the potential service and prevention interventions for the family and community.

Of all child deaths in Missouri, about 1200 deaths annually, approximately one-third merit review. To come under review, the cause of the child's death must be unclear, unexplained, or of a suspicious circumstance. All sudden, unexplained deaths of infants one week to one year of age, are required to be reviewed by the CFRP panel. (This is the only age group for which an autopsy is mandatory.)

State Technical Assistance Team and Child Fatality Review Program

Missouri State Statutes

- Section 210.150 and 210.152 (Confidentiality and Reporting of Child Fatalities)
- Section 210.192 and 210.194 (Child Fatality Review Panels)
- Section 210.195 (State Technical Assistance Team - duties)
- Section 210.196 (Child Death Pathologists)
- Section 211.321; 219.061 (Accessibility of juvenile records for child fatality review)
- Section 194.117 (Sudden Infant Death; infant autopsies)
- Section 58.452 and 58.722 (Coroner/Medical Examiners responsibilities regarding child fatality review)

Confidentiality Issues (RSMo 210.192 to 210.196)

A proper Child Fatality Review Program (CFRP) review of a child death requires a thorough examination of all relevant data, including historical information concerning the deceased child and his/her family. Much of this information is protected from disclosure by law, especially medical and child abuse/neglect information. Therefore, CFRP panel meetings are always closed to the public and cannot be lawfully conducted unless the public is excluded. Each CFRP panel member should confine his or her public statements only to the fact that the panel met and that each panel member was charged to implement their own statutory mandates.

In no case, should any other information about the case or CFRP panel discussions be disclosed. All CFRP panel members who are asked to make a public statement should refer such inquiries to the panel spokesperson. Failure to observe this procedure may violate Children's Division regulations, as well as state and federal confidentiality statutes that contain penalties.

Individual disciplines (coroner/medical examiners, sheriff departments, prosecuting attorneys, etc.) can still make public statements consistent with their individual agency's participation in the investigation, as long as they do not refer to the specific details discussed at the CFRP panel meeting.

No CFRP panel member is prohibited from making public statements about the general purpose, nature or effects of the CFRP process. Panel members should also be aware that the legislation which established the CFRP panels provides official immunity to all panel participants.

When a Child Dies

The loss of a loved one...particularly a child...is perhaps the greatest loss an individual or family can experience. Many overwhelming feelings follow the death of a child. This grief and sadness is a natural and normal reaction to an irreplaceable loss.

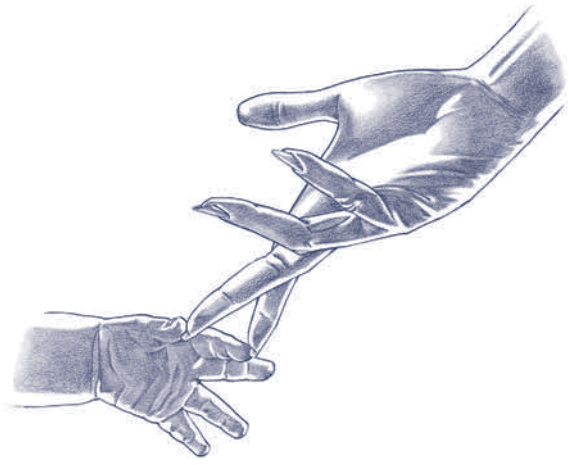
To better understand why and how our children die, the State of Missouri has implemented the Child Fatality Review Program. By reviewing child fatalities, we hope to identify causes and strategies that will ultimately lead to a reduction, in certain cases, of child fatalities. Missouri state law (RSMo 210.192) now requires that any child, birth through age 17, who dies from any cause, be reported to the coroner/medical examiner. The coroner/medical examiner is mandated to follow specific procedures concerning these fatalities. These include:

- All **sudden, unexplained** deaths of infants, from one week to one year, are required to be autopsied by a certified child-death pathologist. The most common questions for parents, "Why did our baby die?" can really only be answered by having an autopsy performed. During an autopsy, the internal organs are examined. This is done in a professional manner, so that the dignity of the child is maintained. The procedure will not prevent having an open casket at the funeral. Preliminary results may be available in a few days; however, the final report may take several weeks.

- In all other child deaths, the coroner/medical examiner is required to consult with a certified child-death pathologist regarding the circumstances of death. In some cases, an autopsy will be ordered.

- If the fatality meets certain criteria, the circumstances surrounding the death will be reviewed by the county Child Fatality Review Program panel. Facts regarding the death are discussed by the professionals who serve on the panel. The represented agencies on the panel have the responsibility to contribute information that will lead to a more accurate determination of the cause of death; they also try to identify ways to prevent further deaths from occurring. **All information is kept confidential.**

The Child Fatality Review Program is a true expression of child advocacy. Like you, we want to know why the death occurred. We will do everything we can to explain and help you understand why.



Missouri Incident Fatalities

"A simple child,
That lightly draws its breath,
And feels its life in every limb,
What should it know of death?"
-William Wordsworth

In reviewing this report, the reader should be aware of some important definitions and details about how child deaths are reported and certified in Missouri, summarized here: (Please refer to Appendix 6, Definitions of Important Terms and Variables, for additional information.)

- **"Missouri Child Fatalities"** refers to all children age 17 and under, who died in Missouri, without regard to the state of residence or the state in which the illness, injury or event occurred. (For example, a child who is a resident of Kentucky, injured in a motor vehicle crash in Illinois and brought to a Missouri hospital, where he or she subsequently dies, would be counted as a "Missouri Child Fatality." This death would be reported to the Child Fatality Review Program on a Data Form 1, Section A only, as an out-of-state event and reported to Illinois.)

- **"Missouri Incident Fatality"** refers to a *fatal illness, injury or event,* which occurs *within the state of Missouri.* (This is not necessarily the county or state in which the child resided.) If the death meets the criteria for panel review, it is reviewed in the county in which the *fatal injury, illness or event* occurred.

- *Every* Missouri incident child fatality is required to be reviewed by the coroner or medical examiner and the chairperson for the county CFRP panel. The findings of the review are reported on the Data Form 1.

- Any child death that is *unclear, unexplained, or of a suspicious circumstance, and all sudden unexplained deaths of infants one week to one year of age* are required to be reviewed by a county-based CFRP panel. Panel findings are reported on the Data Form 2. Panel members receive annual training on the investigation of child fatalities.

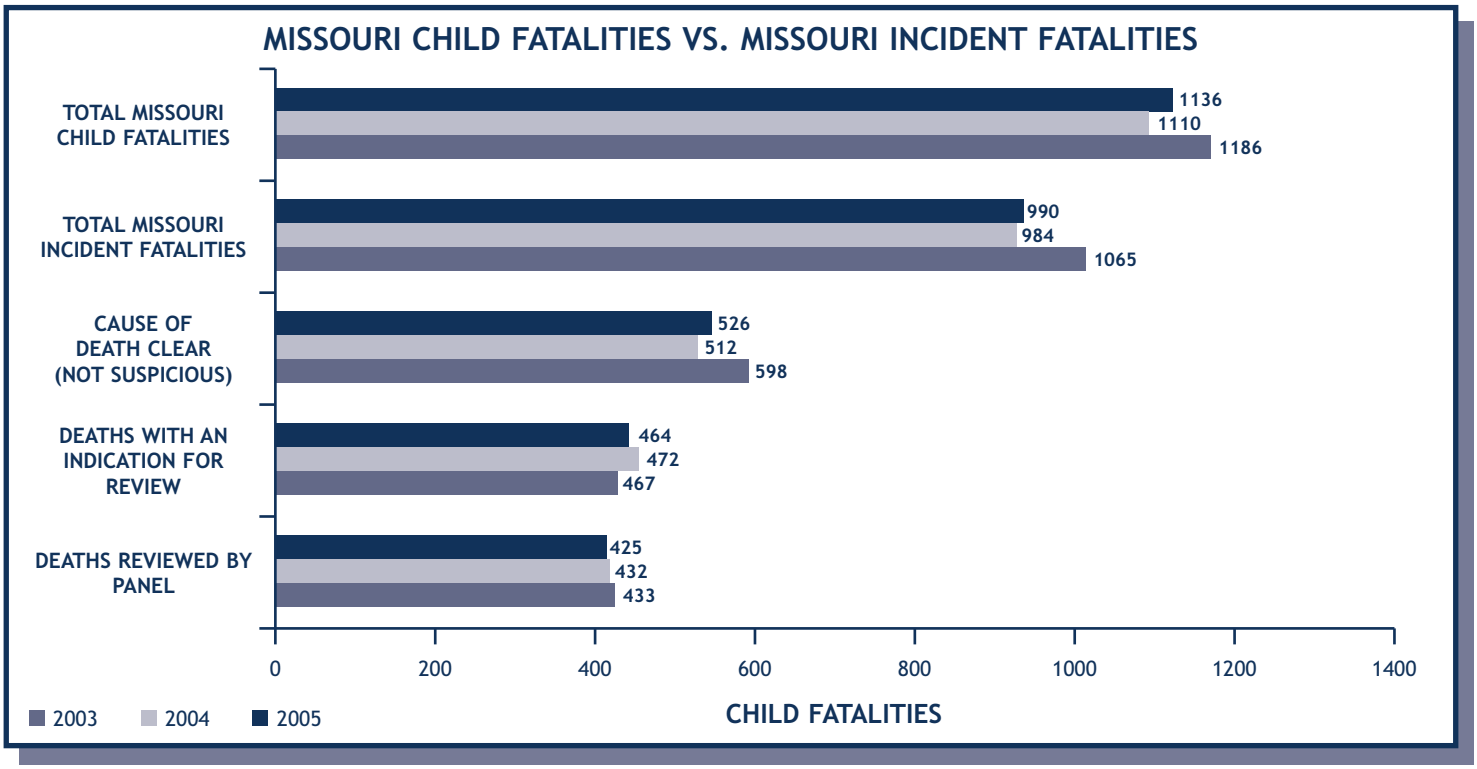
- **Multiple-Cause Deaths:** *Cause of death* is a disease, abnormality, injury or poisoning that contributed directly or indirectly to death. However, a death often results from the combined effect of two or more conditions. Because the Child Fatality Review Program is focused on the prevention of child fatalities, the precipitating events are of particular concern. Therefore, deaths are categorized according to the *circumstances of death*, which may not be the immediate cause of death listed on the death certificate. (An example would be a child passenger in a car that runs off the road and lands in a ditch full of water; the "immediate cause of death" is listed on the death certificate as "drowning," but the precipitating event was a motor vehicle accident. This death would be reported in the Motor Vehicle Fatalities section, with a footnote indicating that the death certificate lists "drowning" as the immediate cause of death.)

- The Child Fatality Review Program data management unit links data collected on the Data Forms 1 and 2 with the Department of Health and Senior Services birth and death data. Every attempt is made to reconcile the two systems; however, in some cases, crucial data components are incomplete and are noted, as appropriate.

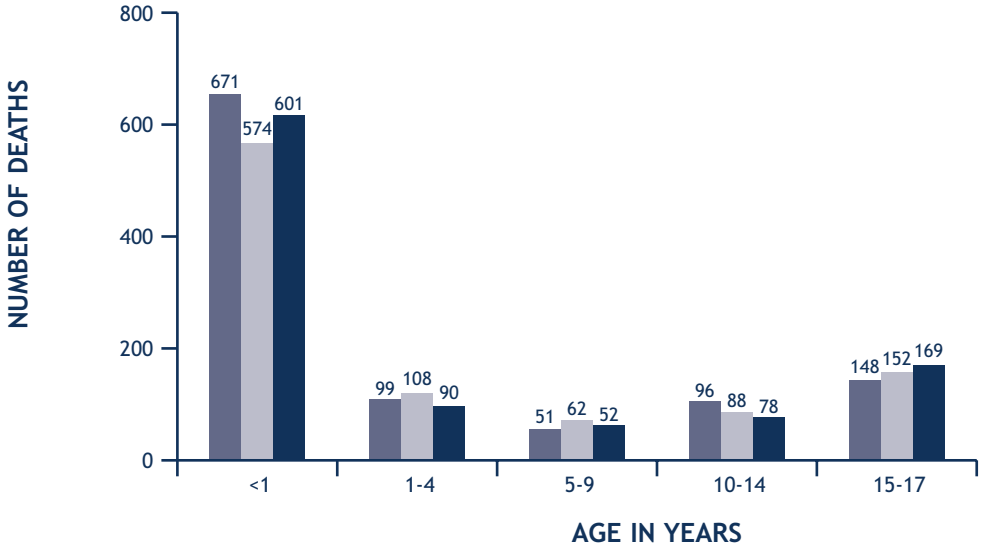
- All deaths included in this CFRP Annual Report occurred in calendar year 2005. Some of the cases reviewed may not have been brought before a county panel until the year 2006.
- In some cases, panels did not complete all of the information requested on the data form.
- Of the **464** Missouri Incident Fatalities reported on Data Form 1 in 2005, with indication for review, **39** did not receive required CFRP panel review, or panel findings were not submitted on Data Form 2. These **39** fatalities are included in this 2005 CFRP Annual Report because the data, though incomplete, is useful and accurate within the limitations on the Data Form 1 information.
- In 2005, **54** Missouri Incident Fatalities were not reported on either a Data Form 1 or Data Form 2, but were reported to CFRP by death certificates from the Department of Health and Senior Services. From information provided by the death certificates, **21** of those **54** fatalities (39%) had at least one indication for review; among those, **13** motor vehicle fatalities, **4** Undetermined, **one** Suffocation, **one** Poisoning, **one** Firearm, and **one** Drowning. Those fatalities are not included in the data for this annual report.

Summary of Findings
Missouri Incident Fatalities, 2005

In 2005, **1136** children age 17 and under died in Missouri. Of those deaths, **990** were determined to be "Missouri incident fatalities" and, therefore, subject to review by the coroner or medical examiner. Of the 990 deaths, **464** had indications for review by a county CFRP panel, and of those **425** were reviewed and a Data Form 2 completed.



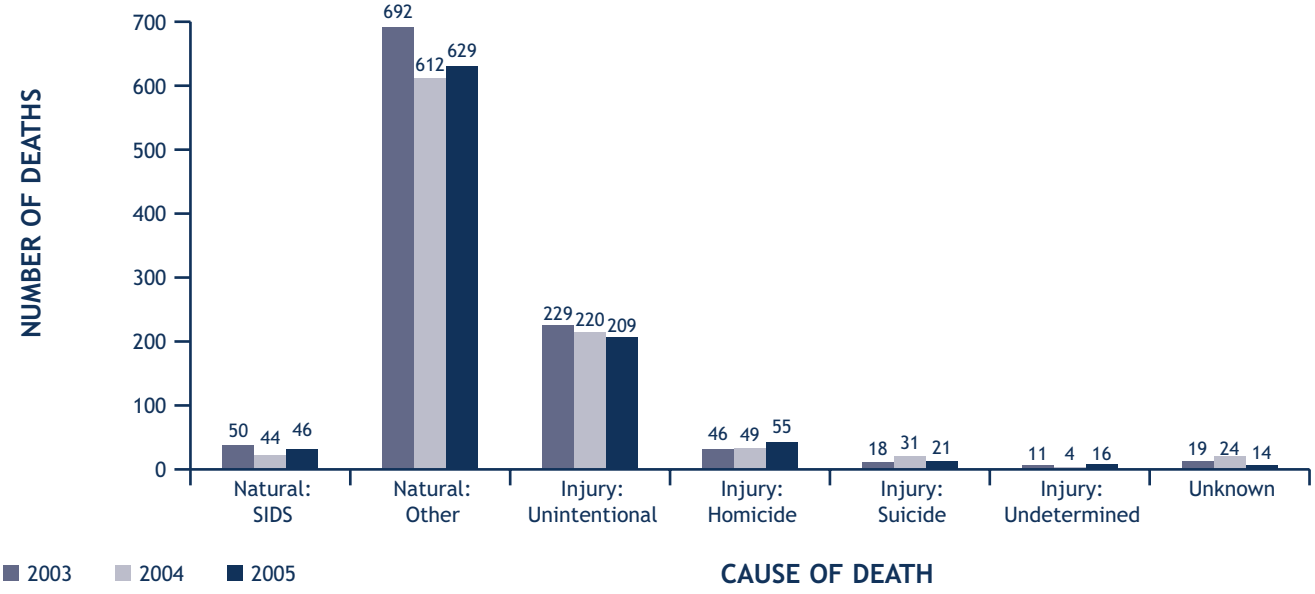
MISSOURI INCIDENT FATALITIES BY AGE

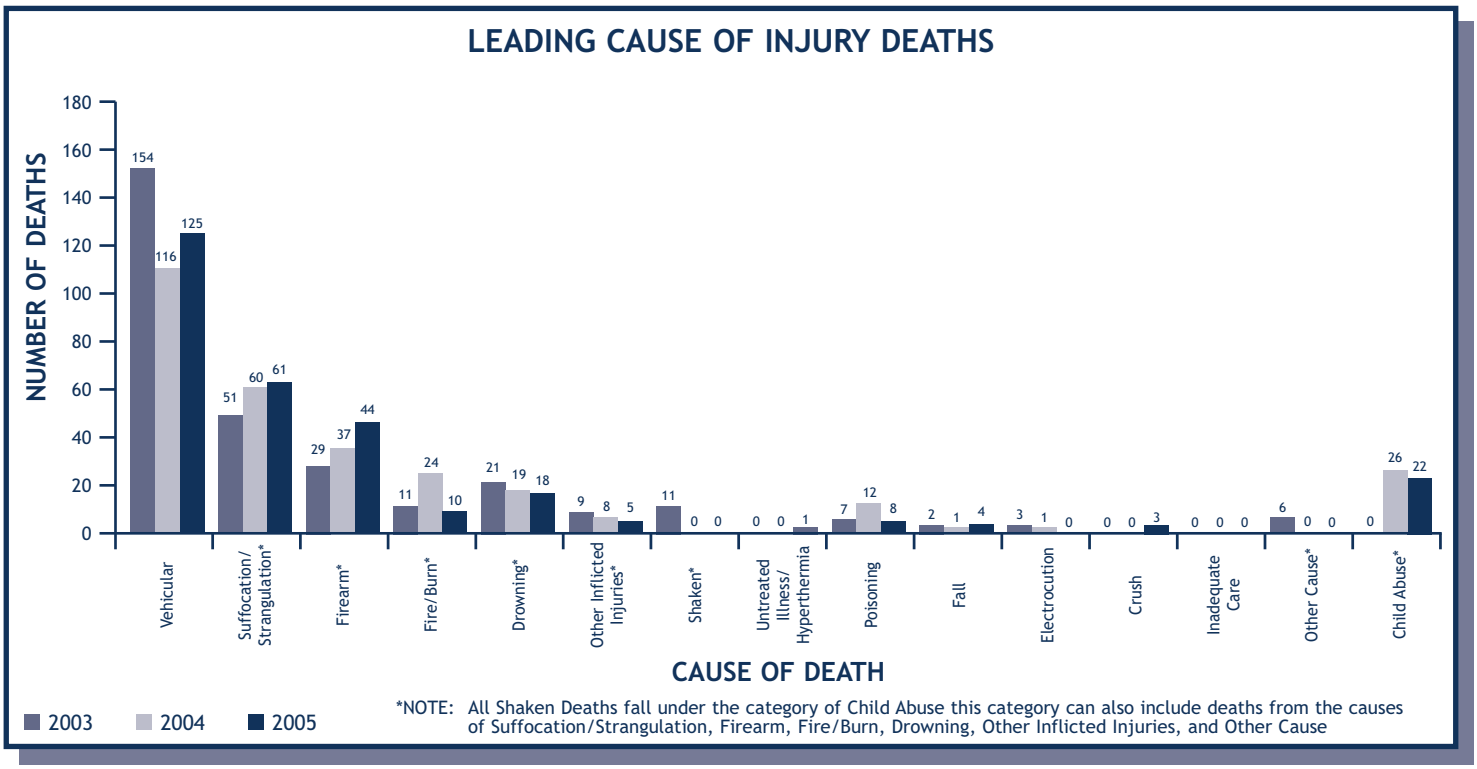


MISSOURI INCIDENT FATALITIES BY SEX AND RACE

SEX	2003	2004	2005	RACE	2003	2004	2005
FEMALE	456	422	590	WHITE	779	705	699
MALE	608	562	400	BLACK	267	257	275
UNKNOWN	1			OTHER	19	22	16
	1065	984	990		1065	984	990

MISSOURI INCIDENT FATALITIES BY MANNER





Illness/Natural Cause Deaths

All Illness/Natural Cause Deaths Other Than SIDS

"The infant mortality rate has declined steadily during the last decade, due in part, to improved medical technology and public health outreach...Infants are more likely to die before their first birthday if they live in unsafe homes and neighborhoods or have inadequate nutrition, health care or supervision."

-Kids Count Missouri, Citizens for Missouri's Children and Children's Trust Fund

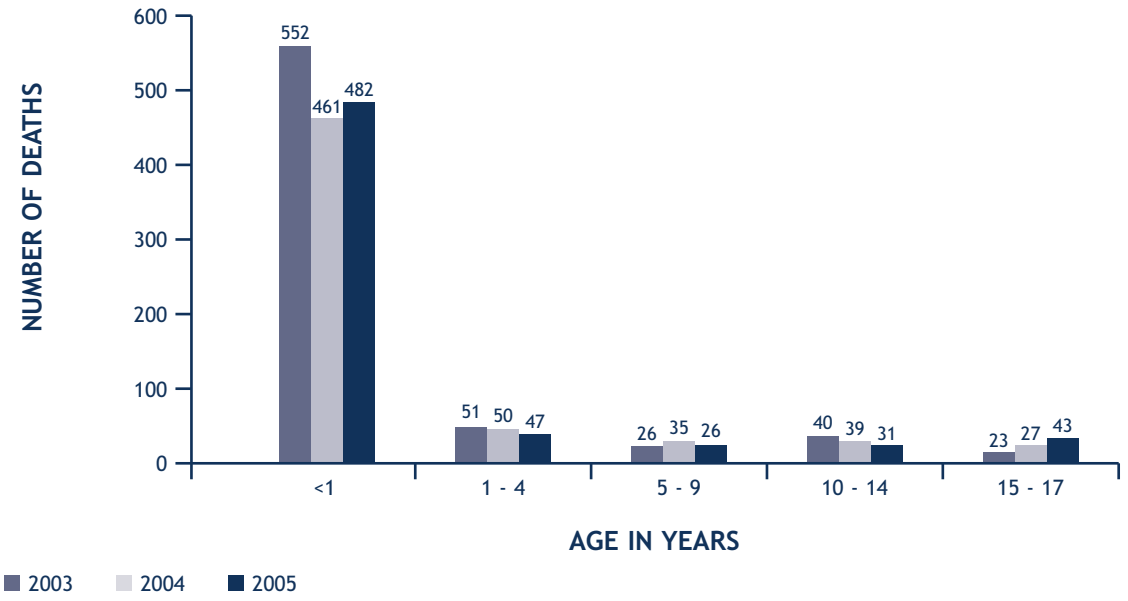
Illness/natural causes, other than SIDS, were responsible for the death of 629 Missouri children in 2005, representing 64% of all Missouri incident child fatalities.

Most child deaths are related to illness or other natural cause. Illness/natural cause deaths include prematurity, congenital anomalies, infection and other conditions. The vast majority of natural cause deaths occur before the first year of life and are often related to prematurity or birth defects.

Infant Mortality

In the United States, the leading causes of infant mortality include congenital malformations, deformations and chromosomal abnormalities (congenital anomalies) and disorders related to short gestation and low birth weight, not elsewhere classified (low birth weight). Also among the leading causes of infant death are Sudden Infant Death Syndrome (SIDS), newborn affected by maternal complications, newborn affected by cord and placental complications, and unintentional injuries. Nationally, the infant mortality rate for 2004 was 6.76 infant deaths per 1,000 live births. *(National Center for Health Statistics)*

ILLNESS/NATURAL CAUSE DEATHS BY AGE



ILLNESS/NATURAL CAUSE DEATHS BY SEX AND RACE

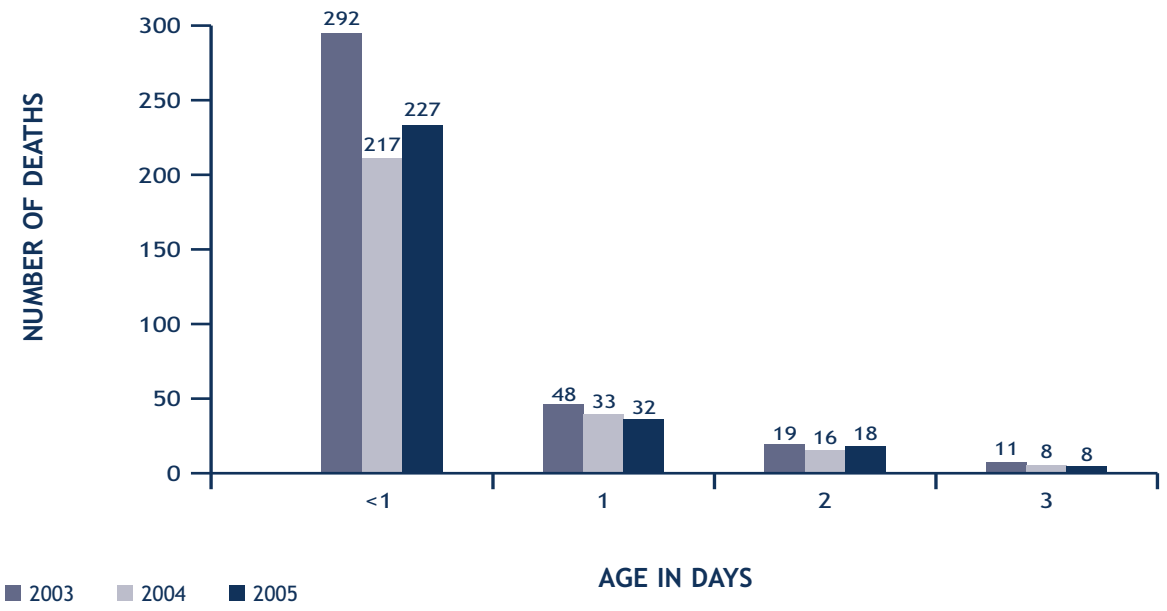
SEX	2003	2004	2005	RACE	2003	2004	2005
FEMALE	323	268	267	WHITE	489	424	436
MALE	368	344	362	BLACK	187	174	182
UNKNOWN	1			OTHER	16	14	11
	692	612	629		692	612	629

In Missouri, in 2004, the infant death rate decreased from 7.8 to 7.5 per 1,000 live births. However, the Missouri infant death rate remains above the 2004 national rate of 6.6 per 1,000 live births. The decrease in 2004 infant mortality primarily reflected a decrease in babies weighing less than 1.1 pounds. Approximately 90% of these small babies die, so even a relatively small decrease of 48 such births had a major impact on infant mortality. *(Missouri Department of Health and Senior Services)*

In Missouri, in 2005, prematurity was the cause of **282** infant deaths, representing 45% of all illness/natural cause deaths, other than SIDS. Of those, **208** (74%) were born at 25 weeks or less gestation and **52** (25%) of those were born at less than 20 weeks gestation.

In 2005, congenital anomalies were the cause of **145** infant deaths, representing 23% of all illness/natural causes, other than SIDS. Infants less than one year of age comprised the majority (77%) of the illness/natural cause deaths in 2005, with **482**. Of those, **285** (59%) occurred within the first three days of life and **227** (47%) occurred within 24 hours of birth.

CHILDREN AGE THREE DAYS OR LESS THAT DIED OF ILLNESS/NATURAL CAUSES



CHILDREN LESS THAN ONE YEAR WHO DIED OF ILLNESS/NATURAL CAUSES BY SEX AND RACE

SEX	2003	2004	2005	RACE	2003	2004	2005
FEMALE	251	197	208	WHITE	387	313	325
MALE	300	264	274	BLACK	154	136	148
UNKNOWN	1			OTHER	11	12	9
	552	461	482		552	461	482

Natural Cause Deaths in Infants Less Than One Year as Reported on CFRP Data Forms

AGE AT DEATH	
0 - 24 hours	244
24 - 28 hours	22
48 hours - 6 weeks	119
6 weeks - 6 months	58
6 months - 1 year	22
Not Answered	17

GESTATIONAL AGE AT BIRTH	
<20 weeks	52
20 - 25 weeks	156
26 - 30 weeks	60
31 - 37 weeks	51
>37 weeks	65
Unknown	62
Not Answered	36

BIRTH WEIGHT IN GRAMS	
<750 grams (<1lb 10oz)	184
750 - 1,499 grams (1lb 10oz - 3lbs 5oz)	58
1,500 grams - 2,499 grams (3lbs 5oz - 5lbs 5oz)	55
>2,500 grams (>5lbs 5oz)	55
Unknown	91
Not Answered	39

MULTIPLE BIRTHS	
Yes	74
No	345
Not Answered	63

MEDICAL COMPLICATIONS DURING PREGNANCY	
Yes	8
No	13
Not Answered	15

SMOKING DURING PREGNANCY	
Yes	3
No	12
Not Answered	21

DRUG USE DURING PREGNANCY	
Yes	6
No	17
Not Answered	13

ALCOHOL USE DURING PREGNANCY	
Yes	0
No	16
Not Answered	20

"Infant morality is the most sensitive index we possess in social welfare."
-Julia Lathrop, Children's Bureau, 1913

Fetal and Infant Mortality Review (FIMR) in Missouri

The death of a child, especially the youngest, most vulnerable infant, is viewed as a sentinel event that is a measure of a community's overall social and economic well being, as well as its health. During the last decade, two methods for examining these sentinel deaths at the local level have emerged: child fatality review (CFR) and fetal and infant mortality review (FIMR).

The rate of death among infants in Missouri has shown a steady decline during the last decade, from 9.6 to 7.5 per 1,000 live births (DHSS). In most communities, infant deaths due to natural causes such as prematurity, congenital anomalies, SIDS, infection, and other disease processes have traditionally been viewed as medically complicated and not preventable. Indeed, they are medically complicated, but research and experience have demonstrated that improvements in resources and systems that serve the needs of infants, mothers and families can produce significant improvements in outcomes. The emergence of FIMR in our state has the potential to bring about significant improvements in maternal and infant outcomes and further reduce infant deaths.

Fetal mortality is defined as the the death of a fetus in utero at 20 weeks or more gestation. It is viewed as an important indicator of overall perinatal health. The health of the mother plays a significant role in maintaining a healthy pregnancy. Conversely, maternal medical complications of pregnancy are adversely associated with fetal deaths.

Infant mortality is defined as the death of a child before one year of age. The infant mortality rate is associated with a variety of social and economic factors, as well as medical/health conditions. Nationally, two-thirds of these deaths occur during the first 28 days of life, the neonatal period.

The FIMR process in our state conforms to the principles and guidelines set by the National Fetal and Infant Mortality Review Program, which is a collaborative effort between the American College of Obstetricians and Gynecologists and the Maternal and Child Health Bureau, Health Resources and Services Administration. The overall goal of Fetal and Infant Mortality Review (FIMR) is to enhance the health and well being of women, infants and families by improving the community resources and service delivery systems available to them.

Many sources provide information for FIMR reviews. A maternal interview is sought from the family. Medical records, including hospital and physician records, as well as any existing medical examiner records are abstracted. All identifying information; i.e., families, providers, and institutions, is removed. A summary of the case is prepared and presented to the case review team. Members of the FIMR case review team represent a broad range of professional organizations and public and private agencies (health, welfare, education and advocacy) that provide services and resources for women, infants and families. The reviews produce findings and recommendations that, typically, are presented to a community action team, comprised of other members of the community with the political will and fiscal resources to create large-scale system changes.

One of the first FIMR programs in Missouri was established in 2003, by the Infant Mortality Workgroup of the Maternal, Child and Family Health Coalition of Metropolitan St. Louis. After reviewing infant mortality data and risk factors in the St. Louis region and national best practices, a FIMR program was piloted in three zip codes in North St. Louis City and County. In December 2005, the St. Louis FIMR was granted approval from the Missouri Department of Health and Senior Services to expand its review of fetal and infant deaths to include all zip codes in St. Louis City and County.

In 2004, the Maternal, Child Health Coalition of Greater Kansas City piloted a Fetal and Infant Mortality Review program in the five zip codes served by the Kansas City Healthy Start project. As in the case of the St. Louis FIMR, these areas were chosen based on a combination of need and community capacity.

The presence of FIMR programs serving the major metropolitan areas in Missouri will bring about a more thorough understanding of the contributing factors of fetal and infant deaths, as well as a larger engagement of community health professionals and institutions to improve maternal and child health throughout our state.

While there are many similarities between CFRP and FIMR, there are distinct and important differences, including basic human concern and advocacy. In Missouri, FIMR and CFRP will be distinct, but complementary, systems, sharing a common mission and some promising opportunities for collaboration. It is anticipated that, when appropriate, the two systems will be able to collaborate in significant ways, such as joint reporting of aggregate findings, sharing recommendations with media and the public and improving systems and resources for children, mothers and families in our state.

For more information, visit:
www.dhss.mo.ogv/FIMR
www.stl-mcfhc.org

Sudden Unexpected Infant Deaths

In 2005, there were 123 sudden, unexpected deaths of infants less than one year of age in Missouri.

Representative Cases:

- **Infants should be placed on their backs to sleep.**

  The mother of a six-week-old infant fell asleep on the sofa, with the baby sleeping in a prone position on her chest. When she awoke, he was unresponsive.

  A four-month-old infant was placed on a sofa, on his stomach, to sleep. When the father tried to wake him up, he was unresponsive.

  A three-month-old infant was left in the care of an unlicensed child care provider, who placed her in a playpen on her stomach to sleep. An hour later, she found the baby unresponsive.

- **The safest place for infants to sleep is in a standard crib with a firm mattress and no soft bedding.**

  A four-week-old infant, one of twins, was placed on his stomach to sleep, on top of two bed pillows in a "pack-n-play." He was found a short time later, face down in the pillow.

  A two-month-old infant was sleeping on her back between her parents, in their bed. She was found unresponsive, with a pillow partially covering her face.

  A ten-week-old infant was sleeping on his back in an adult bed, with two older siblings, ages 2 and 6. He was found unresponsive with his face covered by the leg of one of the older children.

In 2005, there were **123** sudden, unexpected deaths of infants under the age of one year reported to the Child Fatality Review Program. Based on autopsy, investigation and CFRP panel review, **46** were diagnosed as Sudden Infant Death Syndrome (SIDS), **38** Unintentional Suffocation, **17** Illness/Natural Cause, and **16** could not be determined. **Five** infants were found to be victims of Homicide and **one** infant's death was determined to be an Accident resulting from exposure to excessive heat and illness. Those **six** deaths are discussed under "Fatal Child Abuse and Neglect."

Investigation of Sudden, Unexpected Infant Deaths

Each year in the United States, more than 4,500 infants die suddenly of no obvious cause. Half of these sudden, unexpected infant deaths are diagnosed as Sudden Infant Death Syndrome (SIDS), the leading cause of all deaths among infants <1 year of age. Largely because of the national Back to Sleep campaign's effort to reduce prone sleeping rates, SIDS rates have declined by more than 50% since 1990. However, studies have shown that since 1999, some deaths previously classified as SIDS are now classified as accidental suffocation or undetermined. This finding suggests that changes in reporting

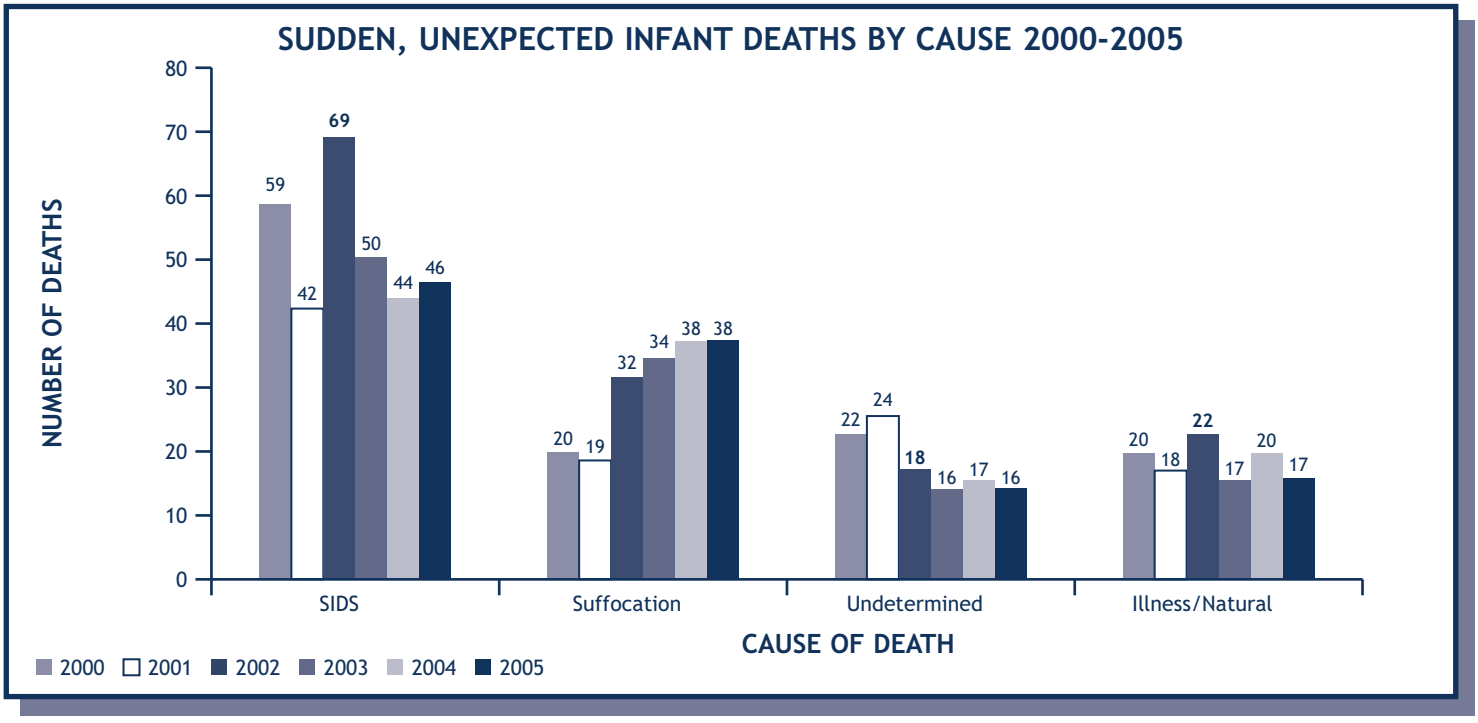
of cause of death may account for part of the recent decrease in SIDS rates and that, in fact, the rate of infant deaths in the United States has not changed significantly during this time period.

Researchers continue promising efforts to identify the common vulnerability of certain infants to sudden death, while the medical community struggles to define universally acceptable guidelines for certification of sudden, unexpected infant death. Inaccurate investigation and classification of cause and manner of death impedes prevention efforts, because researchers cannot adequately monitor national trends or evaluate prevention programs.

In 2004, the Centers for Disease Control and Prevention launched an initiative to improve the investigation and reporting of sudden, unexpected infant deaths. The CDC collaborated with federal and state agencies and organizations, representing medical examiners, coroners, death scene investigators, EMS, law enforcement, forensic nurses, SIDS researchers, and parents who have experienced the death of an infant. In March 2006, CDC released the Sudden Unexplained Infant Death Investigation (SUIDI) reporting form for state and local use in infant death scene investigations. In collaboration with a team of national experts, CDC developed a comprehensive training curriculum and materials for infant death scene investigations. CDC will use these materials to train investigators and death certifiers in how to consistently collect data at the death scene and accurately report their findings on the death certificate. CDC will conduct five regional Train-the-Trainer Academies over two years, beginning in 2006. *(CDC)*

In Missouri, the Death-Scene Investigative Checklist is one of the many tools available to professionals involved in the investigation and evaluation of all child deaths. Refined and updated over time, the Checklist provides a guide to the investigator, regardless of experience level, to consistently collect the information necessary for an accurate determination of the cause and manner of death. The Investigative Checklist and other tools and information are available at (www.dss.mo.gov/stat/forms.htm), or by calling 800-487-1626.

Of the **123** sudden, unexpected infant deaths in Missouri in 2005, a scene investigation was completed in **114** cases; **88** of those (71.5% of the total) were completed by a medical examiner or coroner or their investigator.



SUDDEN UNEXPECTED INFANT DEATHS BY SEX AND RACE

SEX	2003	2004	2005	RACE	2003	2004	2005
FEMALE	42	50	52	WHITE	82	85	84
MALE	75	69	71	BLACK	33	32	37
				OTHER	2	3	2
	117	119	123		117	120	123

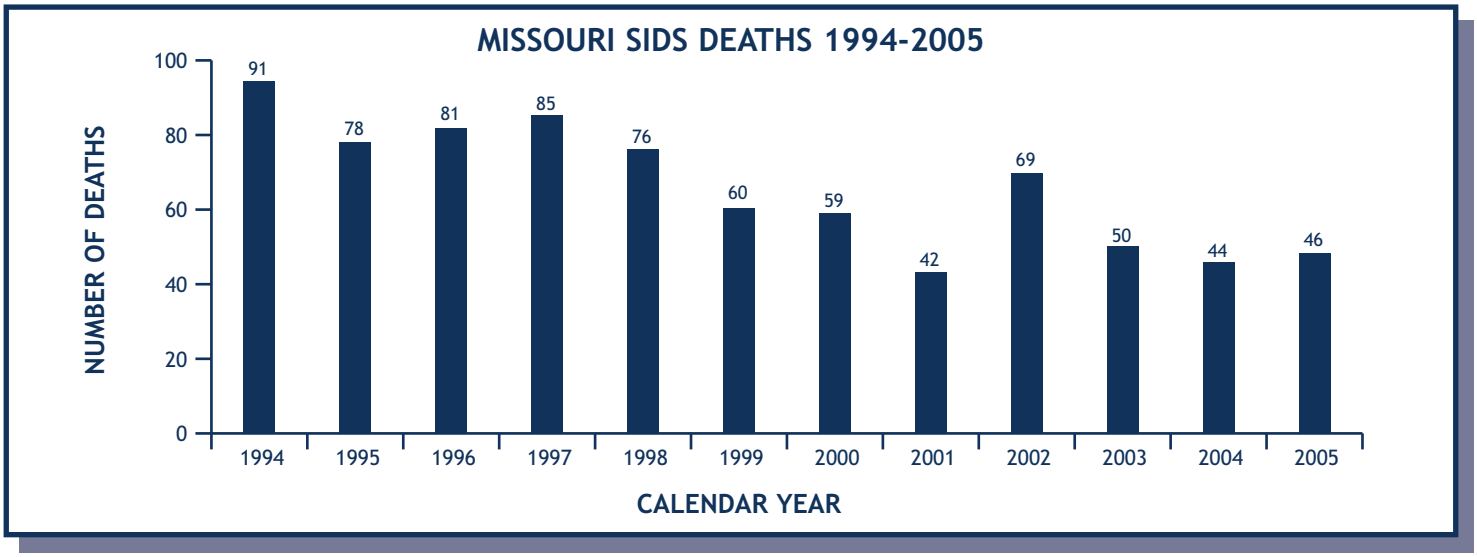
Sudden Infant Death Syndrome

In 2005, Sudden Infant Death Syndrome (SIDS) was the cause of death of 46 Missouri Infants.

SIDS is a diagnosis of exclusion; there are no pathological markers that distinguish SIDS from other causes of sudden infant death. There are no known warning signs or symptoms. Ninety percent of SIDS deaths occur in the first six months of life, with a peak at 2-4 months. While there are several known risk factors, the cause or causes of SIDS are unknown at this time.

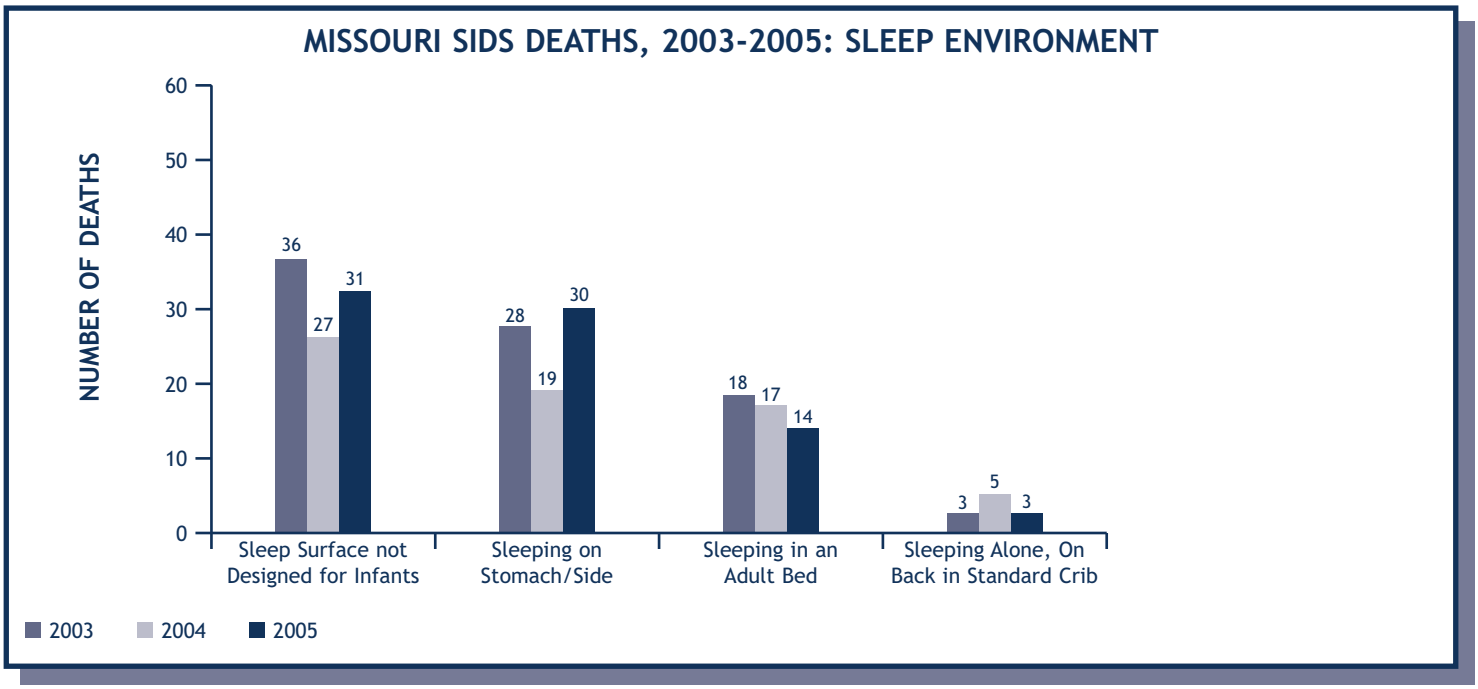
The Triple Risk Model for SIDS is often used to describe the confluence of events that may lead to the sudden death of an infant. This model involves a vulnerable infant (one with a subtle defect involving brainstem arousal responses), at a critical development period (less than six months of age), exposed to environmental challenges to which he/she does not respond (such as overheating, tobacco smoke, or prone sleeping).

SIDS is generally considered a natural manner of death. SIDS is not caused by spitting up, choking or minor illnesses, such as a cold. SIDS is not caused by immunizations; it is not contagious; SIDS is not child abuse. SIDS is not the cause of every sudden or unexpected infant death.



While the cause of Sudden Infant Death Syndrome (SIDS) is unknown, several factors have been identified that increase an infant's risk for sudden death:

- Tummy (prone) or side sleeping
- Bed Sharing
- Soft sleep surfaces
- Loose bedding
- Smoking
- Preterm and low birth weight infants



Recent research findings have resulted in accelerated progress in the understanding of sudden unexpected infant death. Unsafe sleep arrangements are now known to be a highly significant risk factor occurring in the large majority of cases of sudden infant death diagnosed as SIDS, unintentional suffocation and cause undetermined. Unsafe sleep arrangements include any sleep surface not designed for infants, sleeping with head or face covered, and sharing a sleep surface.

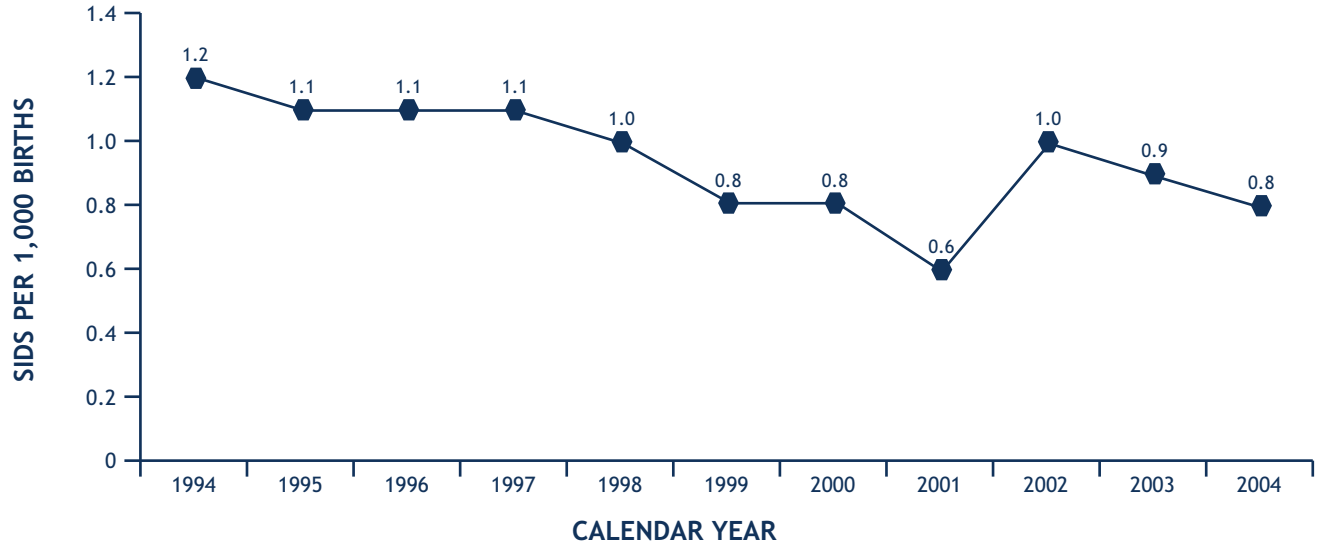
In Missouri, of the **46** sudden, unexpected infant deaths reviewed by county CFRP panels and diagnosed as SIDS in 2005, **30** (65%) were known to be sleeping on their stomach or side. **Thirty-one** (67%) of those infants were not sleeping in a standard crib on a firm mattress and **14** were known to be sleeping in an adult bed. Only **three** (6.5%) sudden, unexpected infant deaths diagnosed as SIDS, were known to be sleeping alone on their backs, in a standard crib with head and face uncovered.

"The truth on how these deaths occur must be known and shared for there to be any opportunity to prevent the next infant's death. We need to work in a kind and caring way, but still need the truth on how the death occurred - nothing less...We have an obligation to our infants and their families to seek only truth - and offer only honesty."

-Pat Tackitt, RN, MS

Wayne County, Michigan CDRT Coordinator

SIDS RATE 1994-2004

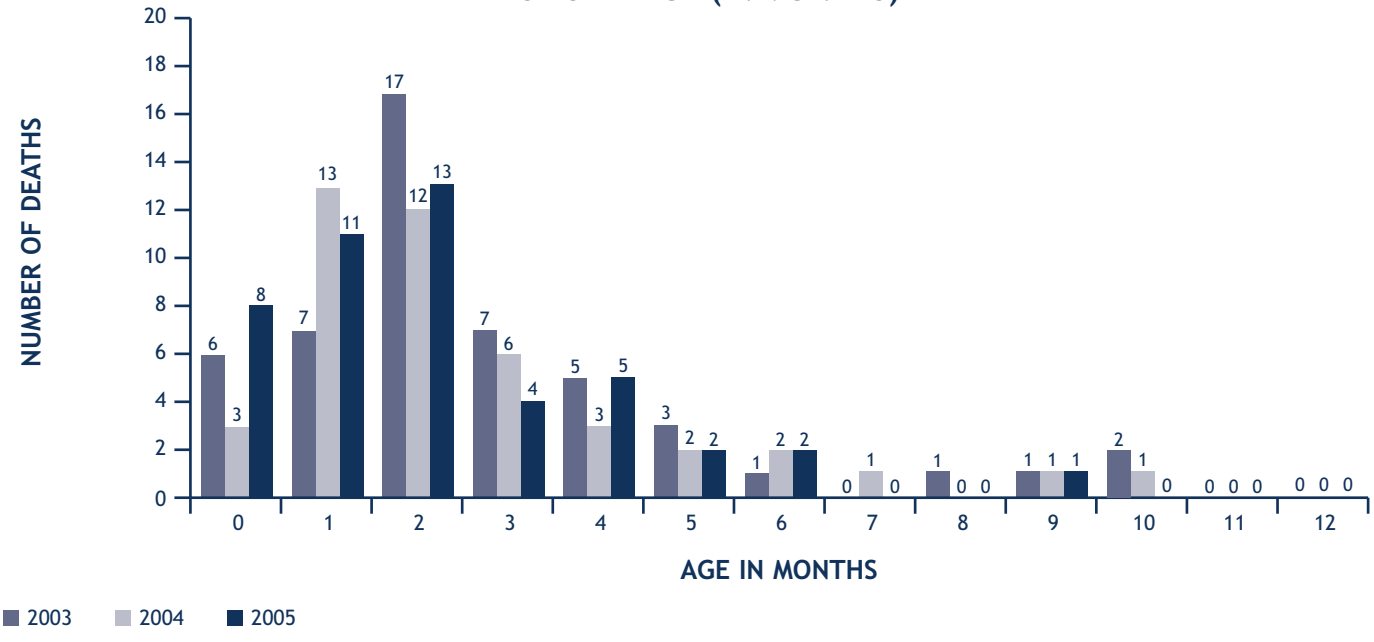


*2005 data not available at time of report

SIDS FATALITIES BY SEX AND RACE

SEX	2003	2004	2005	RACE	2003	2004	2005
FEMALE	14	19	21	WHITE	38	28	34
MALE	36	25	25	BLACK	11	15	11
				OTHER	1	1	1
	50	44	46		50	44	46

SIDS BY AGE (IN MONTHS)



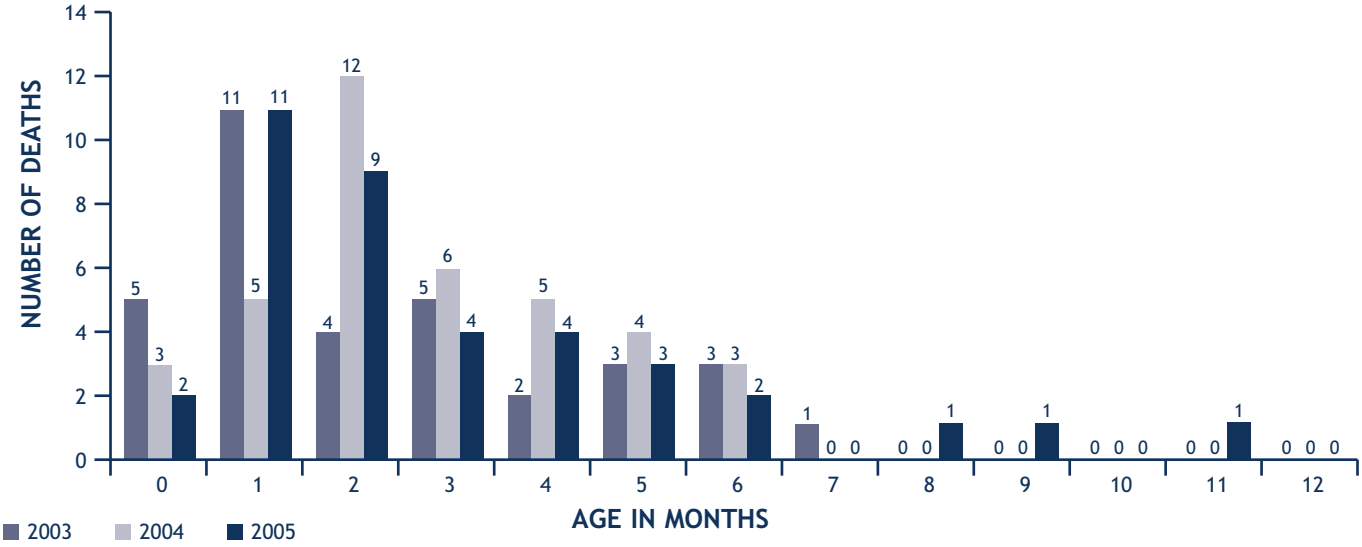
Suffocation in Infants

Unintentional Suffocation was the cause of death of 38 Missouri infants in 2005.

Most infant deaths due to **suffocation**, are directly related to an unsafe sleep environment. Many parents and caregivers do not understand the risks associated with unsafe sleeping arrangements. Infants can suffocate when their faces become positioned against or buried in a mattress, cushion, pillow, comforter or bumper pad, or when their faces, noses and mouths are covered by soft bedding, such as pillows, quilts, comforters and sheepskins. In most cases of unintentional suffocation, the sleeping environment is such that most normal infants would not have been able to move themselves out of the unsafe circumstances.

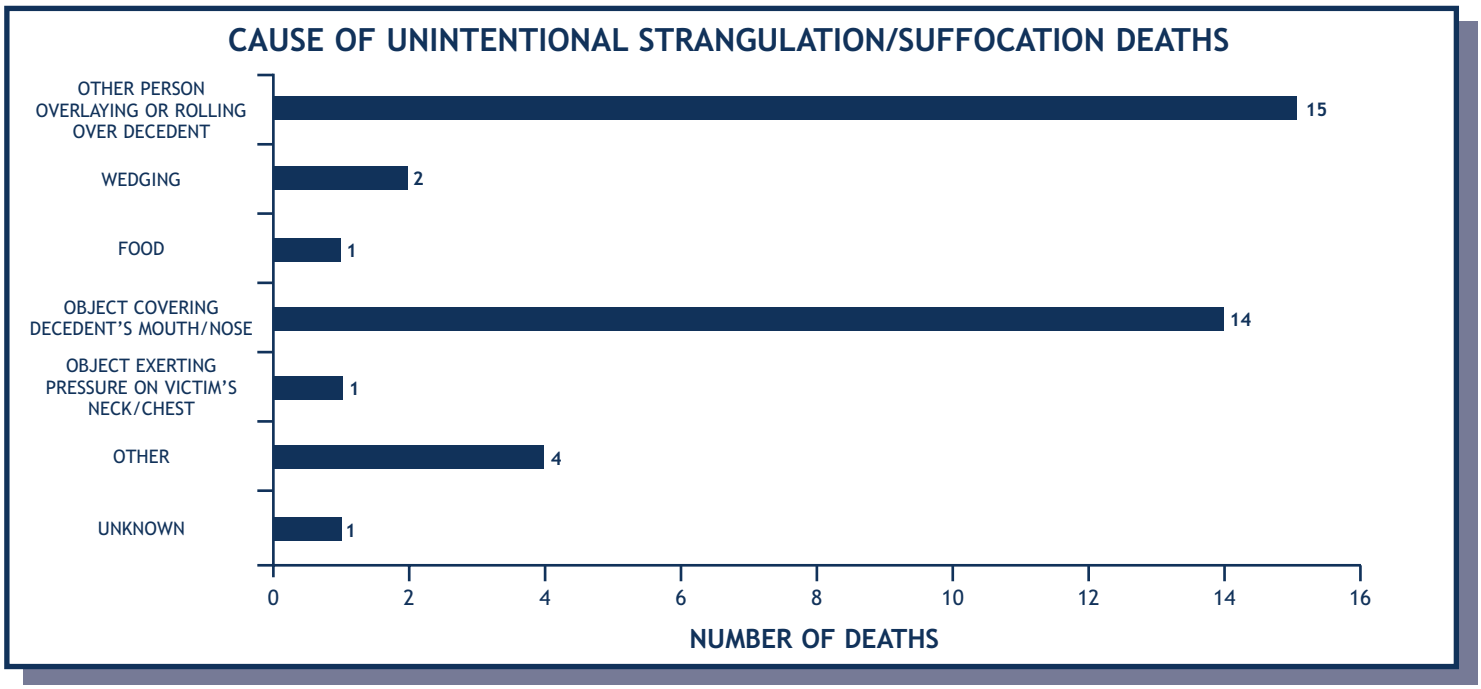
An **overlay** is a type of unintentional suffocation that occurs when an infant is sleeping with one or more persons (bed sharing with adults or other children) and someone rolls over on them. A suffocation due to overlay can be verified by one of the following means: (1) the admission of someone who was sharing the bed, that they were overlying the infant when they awoke or (2) the observations of another person. Most infant deaths involving possible or suspected overlay are classified as **undetermined** cause, because the actual position of the infant and other person at the time of death were not witnessed.

UNINTENTIONAL SUFFOCATION, UNDER 1 YEAR OF AGE BY AGE (IN MONTHS)



UNINTENTIONAL SUFFOCATION BY SEX AND RACE

SEX	2003	2004	2005	RACE	2003	2004	2005
FEMALE	15	16	12	WHITE	18	23	27
MALE	19	22	26	BLACK	16	14	10
				OTHER		1	1
	34	38	38		34	38	38



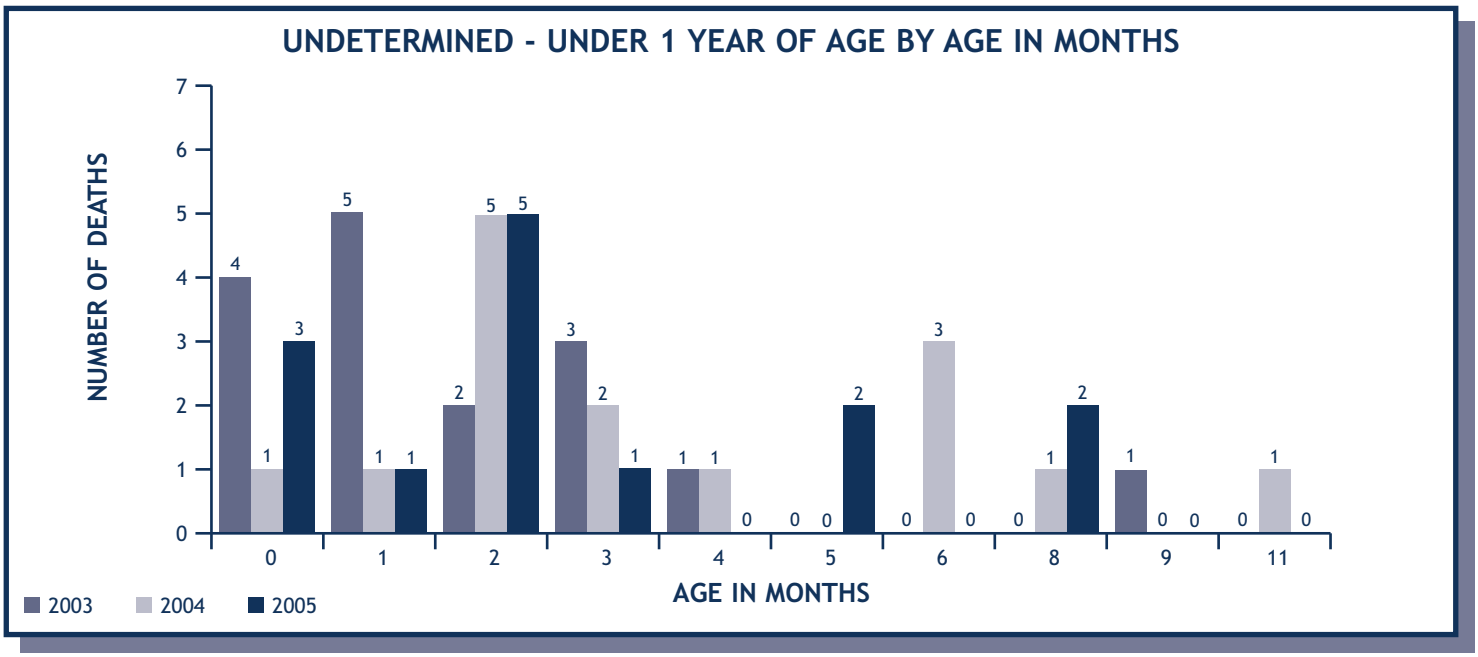
Undetermined

In 2005, the cause of death of 16 Missouri infants could not be determined.

In some cases, even the most thorough and careful scene investigation and autopsy do not produce a definitive cause of death, because risk factors are present that are significant enough to have possibly contributed to the death. One such risk factor is an unsafe or challenged sleep environment. Recent studies of epidemiological factors associated with sudden unexpected infant deaths, demonstrate that prone sleeping and the presence of soft bedding near the infant's head and face pose very strong environmental challenges, by limiting dispersal of heat or exhaled air in the vast majority of cases. However, the extent to which such environmental challenges play a role in a particular sudden infant death, often cannot be determined. Sudden unexpected infant deaths involving an unsafe sleep environment are classified as **undetermined**, when unintentional suffocation is not conclusively demonstrated by the scene investigation.

UNDETERMINED BY SEX AND RACE

SEX	2003	2004	2005	RACE	2003	2004	2005
FEMALE	8	6	9	WHITE	13	16	6
MALE	8	11	7	BLACK	2	1	10
				OTHER	1		
	16	17	16		16	17	16



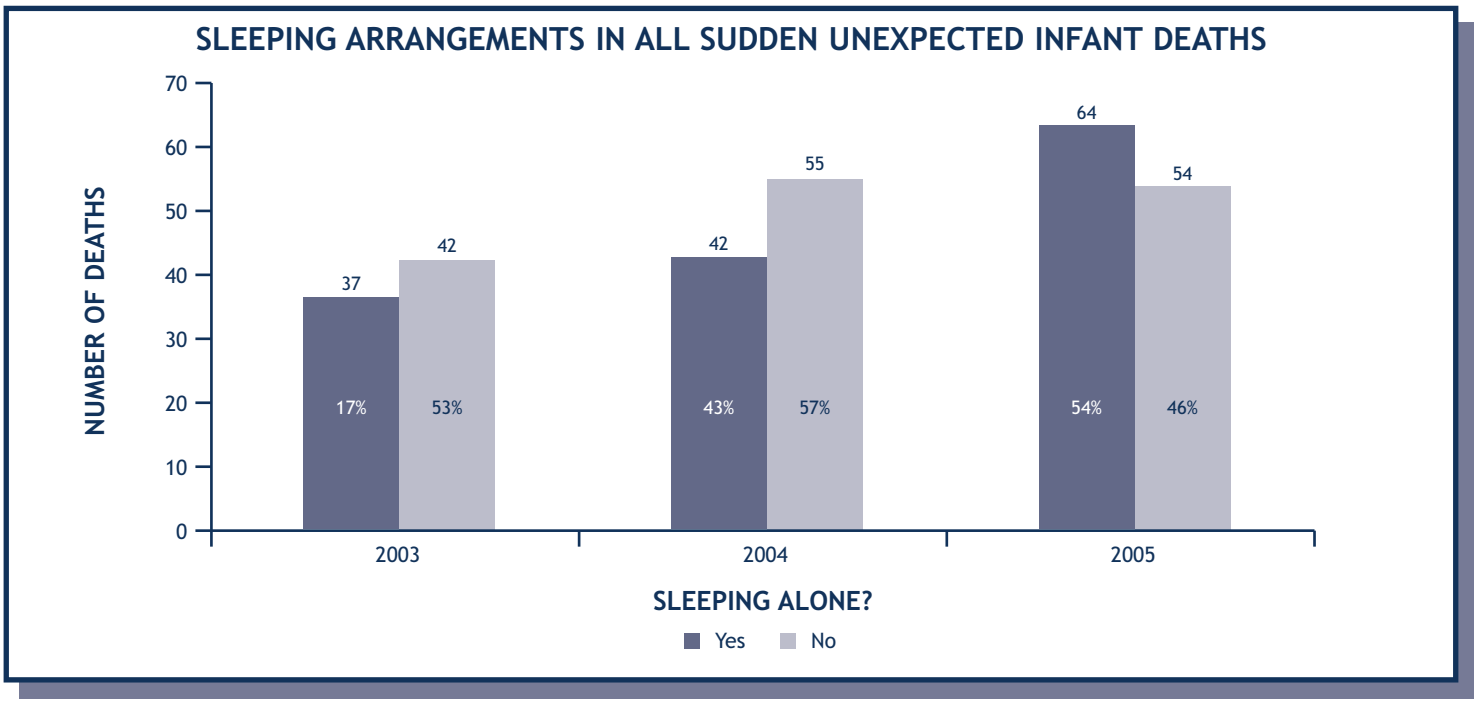
Reducing the Risk of SIDS

In October 2005, the American Academy of Pediatrics issued a revision of their recommendations on reducing the risk of SIDS. The updated policy statement, "The Changing Concept of Sudden Infant Death Syndrome: Diagnostic Coding Shifts, Controversies Regarding the Sleeping Environment and New Variables to Consider in Reducing Risk," addresses several issues that have become relevant since the AAP published a statement in March 2000.

- The American Academy of Pediatrics no longer recognizes side sleeping as a reasonable alternative to fully supine (lying on back). Studies found that the side sleep position is unstable and increases the chances of the infant rolling onto his or her stomach. The caregiver should use the back sleep position during every sleep period.

- Bed sharing is <u>not</u> recommended during sleep. Infants may be brought into bed for nursing or comforting, but should be returned to their own crib or bassinet, when the parent is ready to return to sleep. However, there is growing evidence that room sharing (infant sleeping in a crib in parent's bedroom) is associated with a reduced risk of SIDS. The AAP recommends a separate, but approximate, sleeping environment.

- Research now indicates an association between pacifier use and a reduced risk of SIDS, which is why the revised policy recommends the use of pacifiers at nap time and bedtime, throughout the first year of life.



A Safe Sleeping Environment For Your Baby

The American Academy of Pediatrics, the Consumer Product Safety Commission and the National Institute of Child Health and Human Development have revised their recommendations on safe bedding practices when putting infants down to sleep. Here are the revised recommendations to follow for infants under 12 months:

Safe Bedding Practices for Infants

- Place baby on his/her back on a firm tight-fitting mattress in a crib that meets current safety standards.
- Remove pillows, quilts, comforters, sheepskins, stuffed toys, bumper pads and other soft products from the crib.
- Consider using a sleeper or other sleep clothing as an alternative to blankets, with no other covering.
- If using a blanket, put baby with feet at the foot of the crib. Tuck a thin blanket around the crib mattress, reaching on so far as the baby's chest.
- Make sure your baby's head remains uncovered during sleep.
- Do not place baby on a waterbed, sofa, adult mattress, pillow or other soft surface to sleep.

Placing babies to sleep on their backs instead of their stomachs, has been associated with a dramatic decrease in deaths from Sudden Infant Death Syndrome (SIDS). Babies have been found dead on their stomachs with their faces, noses and mouths covered by soft bedding, such as pillows, quilts, comforters and sheepskins. However, some babies have been found dead with their heads covered by soft bedding, even while sleeping on their backs.

Risk Reduction Recommendations:

The following risk reduction recommendations are from SIDS Resources, Inc., the SIDS Alliance and the American Academy of Pediatrics.

For parents:

- *Sleep position:* Infants should be placed on their backs to sleep throughout the first year of life.
- *Sleep environment:* Do not place infants on adult beds to sleep.
- *Bedding:* Avoid soft bedding. Place baby on a firm tight-fitting mattress in a crib that meets current safety standards. Avoid placing the baby on soft quilts or comforters, sofas, pillows, waterbeds or sheepskins. Stuffed animals should not be placed in the crib with the baby. Avoid using bumper pads.
- *Temperature:* To avoid overheating, do not overdress the baby or over-bundle the baby.
- *Smoking:* Avoid smoking during pregnancy. Create a smoke-free environment around the baby after birth.
- *Breastfeeding:* Mothers should be encouraged to breastfeed. However, infants placed in adult beds to sleep are at increased risk of suffocation and overlay.
- *Prenatal Care and well-baby care.*

For community leaders and policy makers:

- *Support Safe-Sleep campaigns.*

For professionals:

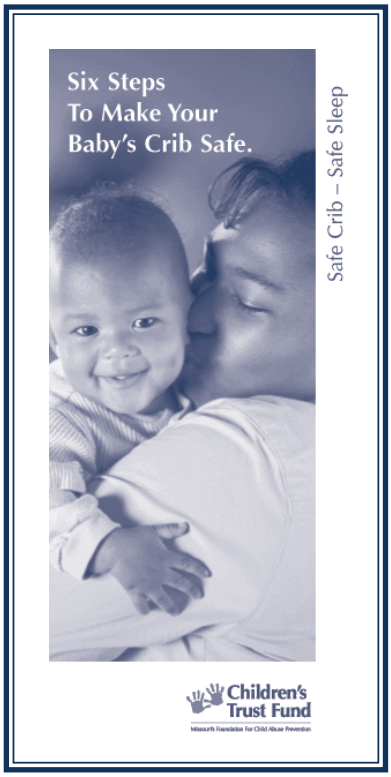
- Newborn nursery personnel, physicians, nurses and public health officials should instruct all new parents and child care personnel in safe sleeping practices and other strategies to reduce the risk of SIDS.

For Child Fatality Review Panels:

- All sudden, unexplained deaths of infants <1 year of age require autopsy by a child death pathologist and review by a county CFRP panel. The data pertaining to infant deaths is critical in identifying risk factors for SIDS and providing targeted prevention messages for parents.

Something We Can Do: The Safe Crib-Safe Sleep Campaign

The safest place for an infant to sleep is in a standard crib, on his or her back without soft bedding or toys of any kind. The American Academy of Pediatrics, the Consumer Product Safety Commission and the National Institute of Child Health and Human Development have revised their recommendations on safe bedding practices when putting infants down to sleep to incorporate this new information. Unfortunately, many parents have not received this information and, for a variety of reasons, are unable to provide a safe crib for their infant.



The Safe Crib Project provides a safe, new crib to families in need, along with critical parent education about safe sleep arrangements for infants. In communities throughout Missouri, social service agencies, community health agencies, hospitals and similar organizations have collaborated to implement the Safe Crib Project, using funding from Children's Trust Fund. The goal of this innovative project is to save infant lives and support families. For additional information about Children's Trust Fund, active Safe Crib Projects or funding opportunities, please contact Children's Trust Fund at 573-751-5147 or visit www.ctf4kids.org.

Resources and Links:

American Academy of Pediatrics Policy Statement news release and a related reviewed article . . . . . www.aap.org/ncepr/sids.htm
www.aap.org/ncepr/revisedsids.pdf
www.aap.org/ncepr/sidsarticle.pdf

National SIDS/Infant Death Resource Center . . . . . www.sidscenter.org

St. Louis Safe Sleep Task Force . . . . . www.stlsafesleepforbabies.com

SIDS Resources, Inc., 135 West Monroe, St. Louis, MO 63122
Counseling and support, research, training and education . . . . . www.sidsresources.org

Missouri Children's Trust Fund
Safe Cribe-Safe Sleep campaign www.ctf4kids.org

Sudden Unexpected Infant Death: A Guide for Missouri Coroners and Medical Examiners . . . . . www.dss.mo.gov/stat/suid.pdf

Fetal-Infant Mortality Review . . . . . www.dhss.mo.gov/FIMR