KENTUCKY CHILD FATALITY REVIEW SYSTEM

2010 ANNUAL REPORT

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Thanks to all members and consultants of the State Child Fatality Review team who volunteer their time and efforts to reviewing this data and reducing child fatalities across the state.

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Message From the Commissioner

The death of a child is a tragic loss to families, friends and communities. Fatalities of children stir within us strong emotions and reactions as we struggle to understand the facts and information leading up to the event. In some cases, we may never know why a child dies or have answers to our many questions. In other instances, the reasons for the death are complex and are the result of many factors. While we cannot change the circumstances surrounding the death, what we can do is learn from these tragedies and take advantage of every opportunity to prevent them in the future.

In order to prevent future child deaths, this report includes causes of death, risk factors and prevention strategies for children age 17 and under. The information is based on 2008 data from vital statistics and other data sources. There were a total of 603 deaths of Kentucky children age 17 and under in 2008, which is a decrease of 2.8% from 2007.

Nationwide, the death rate of infants under the age of one year has leveled off. Based on the current available data for 2008, Kentucky's infant mortality rate decreased by 3.1%. We continue to study these deaths and associated factors to determine the best strategies for preventing infant deaths. Many programs are at work to improve the health of pregnant women and reduce infant deaths throughout our state.

The leading cause of death for children ages 1-17 is unintentional injury, the largest number of these from motor vehicle accidents. Many of these deaths are preventable. Therefore, it is imperative we continue to educate and spread awareness about child safety and injury prevention. Such as using car seats for infants and toddlers, booster seats for children ages four to eight, seat belts for children over the age of eight, and improved driving safety by teenagers. Kentucky has successfully passed the Graduated Drivers' License and Texting Bills which have positively impacted teenager driving safety.

The future of Kentucky's children depends on assuring a safe community and quality of life for them and their families. We hope that the information in this report will not only heighten awareness of the causes and potential preventability of child death, but also help prevent future child deaths.

Sincerely,

William D. Hacker MD, FAAP, CPE
Commissioner
Kentucky Department for Public Health

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KENTUCKY CHILD FATALITY REVIEW SYSTEM
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Introduction

KRS 211.680 was passed by the Kentucky General Assembly in 1996 to create a system that strives to reduce the number of child deaths by identifying potential risk factors from the review of the cause and manner of death and conducting community education on prevention strategies to prevent similar deaths in the future. The Kentucky Department for Public Health (DPH) established the state Child Fatality Review and Injury Prevention Program (CFRIP). In accordance with KRS 211.684, the Department for Public Health established the State Child Fatality Review Team. The state team is a voluntary, multidisciplinary body that is mandated to assume certain duties. The CFRIP Program works with the State Team to assure a strong child fatality review and injury prevention system throughout Kentucky.

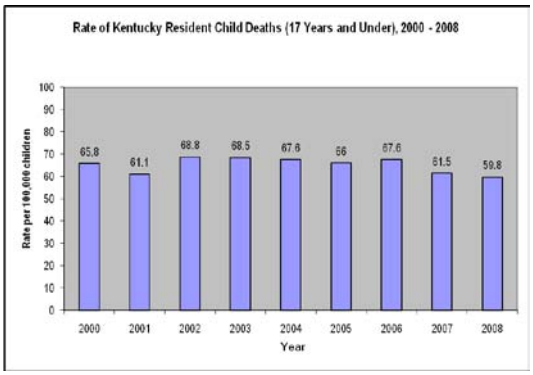
The Department for Public Health is responsible for the coordination of all local child fatality review teams in conjunction with the local health departments and local coroners. DPH organizes the State Child Fatality Review and Injury Prevention Team to discuss and analyze the data from a statewide perspective. DPH is responsible for producing a child fatality review annual report to demonstrate trends and aide in decision making by legislatures.

According to KRS 211.686, local child fatality review team composition includes multidisciplinary representation from coroners, law enforcement, health departments, Department for Community Based Services, Commonwealth's and county attorneys, medical professionals and other members and organizations whose participation is important to carry out the teams' purpose. The local team assists the coroner in gathering as much information as possible to determine the most accurate manner and cause of a child's death. Team members have the opportunity to share information, discuss and prioritize child health and risk factors, and promote participation in various community prevention programs. Trends and risk factors identified in the community by local teams are then reported to the state so that the State Team can identify trends and develop strategies that will help save the lives of children across the Commonwealth. The number of local child fatality review teams has consistently increased over the last three years. Currently, two-thirds of Kentucky counties (88) have a local child fatality review team.

EXECUTIVE SUMMARY

This report depicts the fatalities for Kentucky's children for the calendar year 2008, the most recent year with completed data from the Kentucky Vital Statistics records. For 2008, there were a total of 603 Kentucky children from 0-17 years of age. Over half of these deaths were infant deaths, many due to extremely premature births with little or no chance of survival. However, among potentially preventable infant deaths, co-sleeping was the most frequent risk factor. Deaths associated with co-sleeping were seen in categories of SIDS, suffocation, unexplained infant deaths, and homicides. The most common cause of deaths in children after age one is accidental death, with motor vehicle accidents being the most common cause. Overall the rate of child deaths has decreased steadily since 2002, with this rate decreasing by 2.8% from 2007 to 2008.

Figure 1.



Data Source: Kentucky Vital Statistics, Death Certificate Files, 2000-2008

Kentucky 2008 Infant Deaths

Infant death is defined as any baby that dies after birth and before turning one year of age. Most infant deaths are considered "natural cause" deaths because they occur due to medical conditions. Many of these medical conditions share certain known risk factors such as lack of prenatal care, poor nutrition and smoking during pregnancy. In 2008, the three leading causes of infant deaths in Kentucky are prematurity-related conditions, congenital anomalies, and Sudden Unexplained Infant Deaths (SIDS/SUDI)

- 352 Kentucky resident infant deaths
- 24% of infant deaths were due to prematurity related causes. Prematurity can be prevented in some cases, and risk factors that lead to prematurity can be addressed in communities.
- 17% of the Kentucky infant deaths were related to congenital anomalies. The percentage of infant deaths from congenital anomalies deaths is decreasing. One example of preventable deaths in this category is Neural Tube Defects, which can be prevented in many cases if the mother takes daily folic acid before getting pregnant.
- Kentucky lost 49 infants to sudden unexplained infant death in 2008. (or a rate of 0.86/1,000 live births) These rates can be reduced by putting infants on their backs to sleep, and avoiding co-sleeping.

Kentucky 2008 Childhood Deaths

In 2008, 251 Kentucky resident children ages 1 to 17 died. 38.7% were determined as deaths due to natural causes. Of these natural child deaths, Cancer (malignant neoplasm) was the leading cause. The majority of childhood deaths in Kentucky were due to injuries (59.8%), many of which are preventable. Nearly half of these injury deaths were from motor vehicle accidents. Another potentially preventable cause of childhood deaths is the deaths from child abuse, which is the second leading cause of childhood deaths in Kentucky. Kentucky has one of the highest rates of deaths from child abuse in the nation, and all Kentuckians should be concerned about preventing these deaths.

KENTUCKY CHILD FATALITY REVIEW SYSTEM
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KRS 211.680 was passed by the Kentucky General Assembly in 1996 to create a system that strives to reduce the number of child deaths. This is done by identifying potential risk factors from the review of the cause and manner of death and conducting community education on prevention strategies to prevent similar deaths in the future. The system facilitates cooperation and communication among agencies responsible for the investigation of child fatalities, which assists in determining accurate cause and manner of the death.

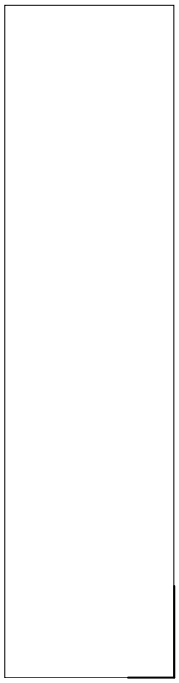
The Kentucky Department for Public Health (DPH) established the state Child Fatality Review and Injury Prevention Program (CFRIP). In accordance with KRS 211.684 the Department for Public Health established the State Child Fatality Review Team. The state team is a voluntary, multidisciplinary body that is mandated to assume certain duties.

- Facilitate the development of local child fatality review team that may include training opportunities and technical assistance;
- Develop and distribute model protocols for local child fatality review teams that investigate child fatalities;
- Review and approve local protocols prepared and submitted by local teams;
- Analyze received data regarding child fatalities to identify trends, patterns and risk factors;
- Evaluate the effectiveness of adopted prevention and intervention strategies; and
- Make recommendations regarding state programs, legislation, administrative regulations, policies, budgets, and treatment and service standards that may facilitate development of strategies for prevention and reduction of the number of child deaths.

The CFRIP Program works with the State Team to assure a strong child fatality review and injury prevention system throughout Kentucky. Local development of child fatality review teams continues to be one of the most important infrastructure-building responsibilities of the State Team. According to KRS 211.686, local child fatality review team composition includes multidisciplinary representation from coroners, law enforcement, health departments, Department for Community Based Services, Commonwealth's and county attorneys, medical professionals and other members whose participation the local team believes is important to carry out its purpose. The local team assists the coroner in gathering as much information as possible to determine the most accurate manner and cause of a child's death. Team members have the opportunity to share information, discuss and prioritize child health and risk factors, and promote participation in various community prevention programs. Trends and risk factors identified in the community by local teams are then reported to the state so that the State Team can identify trends and develop strategies that will help save the lives of children across the Commonwealth. The number of local child fatality review teams has consistently increased over the last three years. Currently, two-thirds of Kentucky counties (88) have a local child fatality review team.

Key partners in the child fatality review system include the Department for Public Health, local health departments, coroners, medical examiners, Department for Community Based Services, Kentucky Violent Death Reporting System, Kentucky Injury Prevention Research Center (KIPRC) at the University of Kentucky, and Pediatric Forensic Program from the University of Louisville. Numerous other state and local agencies participate, working together to find ways to reduce child deaths.

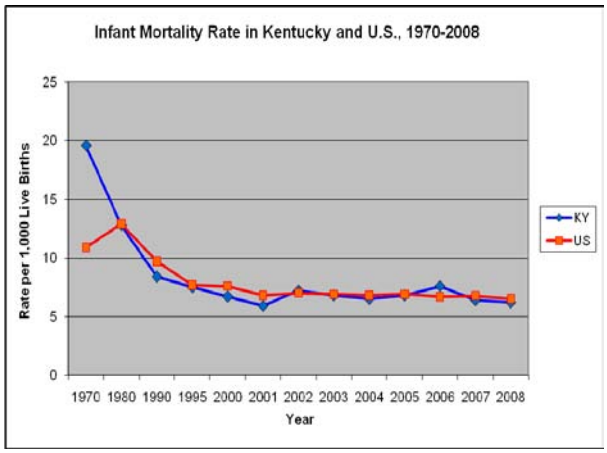
- The Department for Public Health (DPH) is responsible for the coordination of all local child fatality review teams in conjunction with the local health departments and local coroners. DPH organizes the State Child Fatality Review and Injury Prevention Team to discuss and analyze the data from a statewide perspective. DPH also provides technical assistance to existing teams and facilitates the development of teams in counties that have not participated in the process. In addition to team coordination, DPH is responsible for producing a child fatality review annual report.
- Local Health Departments (LHD) provide vital records and epidemiological risk information for deaths in their communities. They also help to identify public health and safety issues within their respective communities. Sometimes the health department has had direct contact with the child or the family and can provide additional information. When the Coroner notifies the health department of a child's death, the health department can then offer grief counseling services to families that have lost a child.
- Coroners are key partners for child fatality review. They have authority to obtain records from all agencies to be used to determine the cause and manner of death. All Child Fatality Review Teams are directed by the coroner and assist the coroner in developing a more complete picture of the cause of death.
- Medical examiners are an integral part of the child death review process. The information from the medical examiners assists the coroner in determining the manner and cause of death.
- The Department for Community Based Services has the legal authority and responsibility to investigate child fatalities when abuse and neglect is suspected and to assess the potential risk to siblings who might remain in the home.
- Law enforcement team members are best trained in scene investigation and can provide critical information as to how a child died.



INFANT DEATHS – INFANT MORTALITY

Infant mortality is the death of a child any time after birth and before reaching his or her first birthday. Infant mortality of a state or nation is often considered a reflection of the social, political, and health care delivery systems of that state or nation. In the last 30 years, Kentucky's infant mortality rate has fallen dramatically and has remained very close to the national average (Figure 2). Kentucky's preliminary 2008 data is showing 352 infant deaths, compared to 380 in 2007. Overall Kentucky's infant mortality rate has decreased by 3.1%. Across the country, infant mortality rates have leveled off since 1990. However, in many southern states, infant mortality is now beginning to increase again.

Figure 2.



Data Source: National Vital Statistics Report, *Births, Marriages, Divorces, and Deaths: Provisional Data for November 2009*; Kentucky Vital Statistics, Death and Birth Certificate Files, 1970-2008

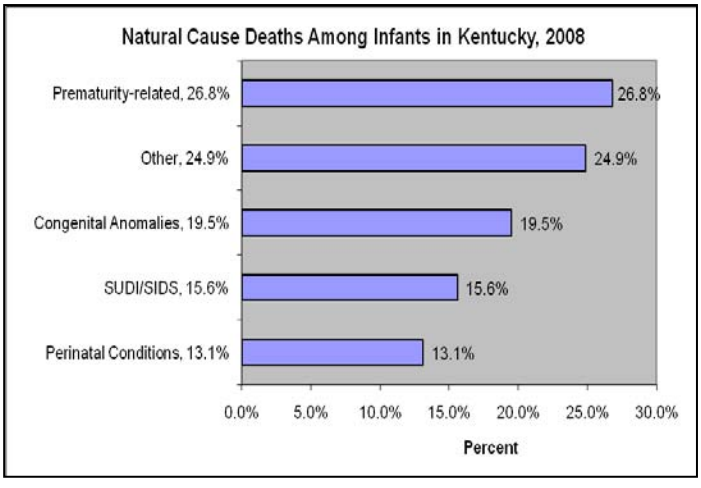
Leading Causes of Infant Death

Natural causes constitute the majority of infant deaths. Natural causes include prematurity-related conditions, congenital anomalies, SUDI/SIDS, perinatal conditions, and malignant neoplasm (Figure 3.).

The three leading causes of infant mortality (excluding "other" category) in Kentucky during 2008 were prematurity-related, congenital anomalies, and SUDI/SIDS. Prematurity related causes of death have always been a major concern in Kentucky, as well as nationally. Infant deaths related to prematurity increased from 22% in 2007 to 24% in 2008. Congenital anomalies, the second leading cause of infant mortality, are the cause of more than 1 in 6 of Kentucky infant deaths. However, there was a 33% decrease in the number of deaths due to congenital anomalies from 2007 to 2008. This decrease may be attributed to a decrease in neural tube defects in 2008.

For 2008, there were 84 Kentucky infant deaths related to prematurity and low birth weight conditions, making this category the number one cause of infant deaths in the state. Congenital anomalies and SIDS/SUDI were the next highest causes of death.

Figure 3.



Data Source: Kentucky Vital Statistics, Death Certificate Files 2008

Prematurity-Related Deaths

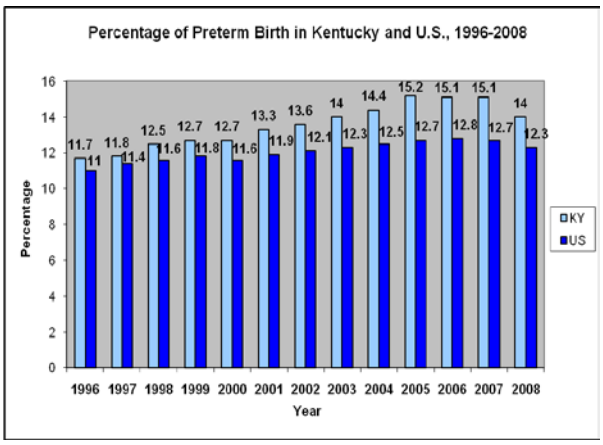
Prematurity/low birth weight is the leading cause of neonatal death in Kentucky and the United States. Preterm birth is defined as any birth occurring prior to 37 weeks of completed gestation, and low birth weight is defined as any infant weighing less than 2,500 grams (5lb. 8oz.) at birth. These two conditions often overlap and share similar risk factors. These factors include:

- Previous preterm or low birth weight birth
- Multiple births
- Short inter-pregnancy interval (Less than 18-24 months between babies)
- Maternal smoking during pregnancy
- Second-hand smoke exposure of the pregnant mother (even if she is not a smoker herself)
- Maternal drug use during pregnancy
- Certain infections during pregnancy including sexually transmitted diseases
- Little or no prenatal care
- Certain birth defects

Of all perinatal condition deaths, infants were more likely to die from prematurity (short gestation) and low birth weight than other conditions. Most of the infants who die of respiratory conditions in the perinatal period are also premature, thus the importance of preventing prematurity is even more apparent.

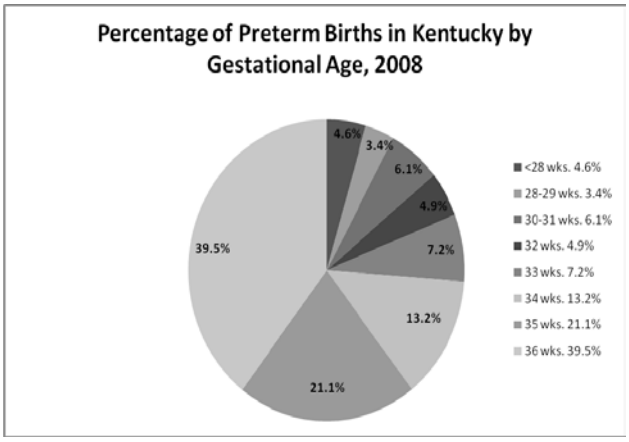
In Kentucky, 14% of all births were preterm births, while only 12.3% of U.S. births were preterm during 2008 (Figure 4).

Figure 4.



Note: Preterm is less than 37 weeks completed weeks gestation.
Data Source: National Vital Statistics Report, *Births: Preliminary Data for 2008*; & Kentucky Vital Statistics, Birth Certificate Files, 1996-2008

Figure 5.



Data Source: Kentucky Vital Statistics, Birth Certificate Files, 2008

Of the premature birth in Kentucky, nearly 74% are babies born between 34 weeks and 36 weeks gestation, or 4-6 weeks before their due date (Figure 5). Although these babies may be “big preemies” and have a high chance of survival, when compared to full term infants they are six times more likely to die in the first week of life, three times more likely to die in the first year of life, and seven times more likely to have complications at delivery. Long term studies on these infants suggest that they are also at higher risk for behavior and learning problems, ADHD, and long term disabilities.

Prevention of Prematurity

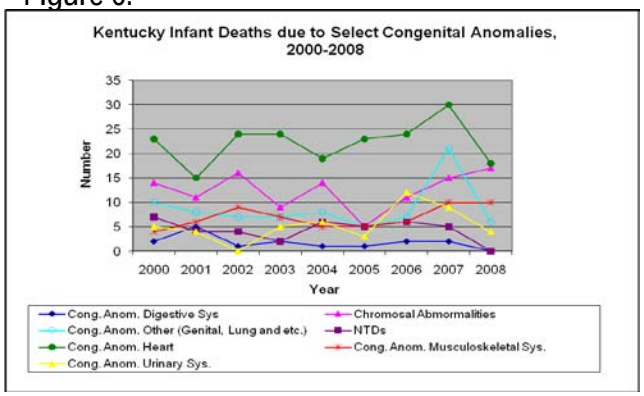
Preconception health care promotes the health of the woman prior to pregnancy for optimal birth outcomes, and leads to a decrease in preterm births. Continued research into the causes and risk factors associated with prematurity and low birth weight is critical in order to develop effective prevention of preterm and low birth weight deliveries. Strategies include:

- assuring access to early prenatal care
- educating women to receive prenatal care as early as possible in the pregnancy
- informing women of the signs of preterm labor and the appropriate steps to follow

Kentucky DPH has a number of programs aimed at reducing premature births. However, it will take the efforts of local communities to continue to reverse the trend of increasing deliveries of premature infants, especially those in the last 4-6 weeks of the pregnancy. The entire community should be aware of the seriousness of preterm birth and the costs associated with prematurity, not only to the families of premature babies, but to the health care, educational, and other systems in the community as well. Preventing preterm birth not only saves babies lives, but improves the future of all communities.

Congenital Anomalies

Figure 6.



Data Source: Kentucky Vital Statistics, Death Certificate Files, 2008

Congenital anomalies, also known as birth defects, accounted for 17% of the deaths among infants in Kentucky in 2008 (Figure 6). Congenital heart defects are the leading cause of deaths among infants with congenital anomalies, despite improved diagnostic technology and improved treatment methods. Deaths due to chromosome abnormalities are the second leading cause of congenital anomalies among infants in Kentucky. The number of deaths from chromosomal abnormalities has increased 21% from 2000 to 2008 (Figure 6). Technological advancements and improving the accuracy of data identify congenital anomalies as cause of death thus more accurate data is now available.

Prevention of Birth Defects

Multiple causes exist for birth defects. Proper risk education and preconception health promotion are critical elements of targeted prevention in helping to reduce birth defects. All birth defects are not preventable, but there are things that women can do to increase their chance of having a healthy baby. Since 50% of pregnancies are unintended, healthcare providers need to promote healthy practices for all women of childbearing age.

Every woman of child bearing age should:

- Take a daily multivitamin that has at least 400 mcg of folic acid in it
- Have regular medical check-ups
- Have regular dental check-ups
- Talk to her health care provider about any medical problems such as diabetes, phenylketonuria, hypothyroidism, hypertension, seizure disorder, and obesity
- Eat healthy food, maintain a healthy weight, and get fit
- Stop smoking and avoid secondhand smoke
- Stop drinking alcohol
- Not use illegal drugs
- Avoid infections because some can harm a fetus
- Avoid hazardous substances and chemicals
- Talk to her health care provider about any family history of birth defects or genetic conditions
- Avoid stress

Some birth defects may be preventable. One type of congenital anomaly, neural tube defects (NTDs), occurs in approximately 4,000 births each year in the U.S. NTDs are a group of congenital malformations involving defects in the skull and spinal column that are caused primarily by the failure of the neural tube to close during embryonic development. This group of defects consists of anencephaly, spina bifida and encephalocele. As many as 70% of neural tube defects can be prevented by women taking folic acid daily through their childbearing years. The U.S. Public Health Service now recommends prescribing folic acid supplementation of 400 to 800 mcg per day, since folate levels in women studied are still low. It is essential that folic acid be taken in the months prior to pregnancy because this type of defect develops between 6-8 weeks gestation, often before the woman even knows she is pregnant.

The Department for Public Health's Folic Acid Program is part of the KIDS NOW program. Funds are allocated to all local health departments (LHD). For folic acid counseling and supplementation for women of child bearing age and service are provided through the family planning and adult preventive programs. Approximately 75,000 Kentucky women of childbearing age each year receive folic acid counseling and supplementation through the efforts of the health departments and six contract agencies, including three state universities. Total infant deaths due to NTDs have been decreasing in Kentucky since 2000, and during 2008 there were no infant deaths due to NTDs, a 100% reduction. According to the 2006 Kentucky Behavior Risk Factor Surveillance System, 44% of women 18-44 years of age report taking folic acid daily.

Sudden Unexplained Death in Infancy (SUDI)

The sudden and unexpected death of an infant is tragic for families. These deaths require detailed investigations to determine the manner and cause of death, and many times the investigation reveals no specific answers for what caused the death. In the past, these deaths were called Sudden Infant Death Syndrome (SIDS) deaths but are now referred to as Sudden Unexplained Death in Infancy (SUDI).

In Kentucky, autopsies are performed by forensic pathologist on 98% of SUDI infants. All cases of SUDI, and all cases of Undetermined Cause are classified as "undetermined" in manner of death. SUDI is also not the cause of every sudden or unexpected infant death.

SUDI is defined as the sudden death of an infant under one-year of age that remains unexplained after a thorough case investigation, including the performance of a complete autopsy, examination of the death scene and a review of the medical history. In 2008, Kentucky statistics show 75 infants died suddenly and unexpectedly. This number includes all categories now referred to as Sudden Unexplained Death in Infancy: typical SIDS, atypical SIDS, and Sudden Infant Death of Undetermined Cause.

SUDI is a diagnosis of exclusion. There are no pathological markers that distinguish SUDI from other causes of sudden infant death. There are no known warning signs or symptoms. Ninety percent of SUDI deaths occur in the first six months of life, with a peak at one to four months. While there are several known risk factors, the cause or causes of SUDI are unknown at this time. Nationally, as well as in Kentucky (Figure 9.), African-American babies are twice as likely to die of SUDI as their white counterparts.

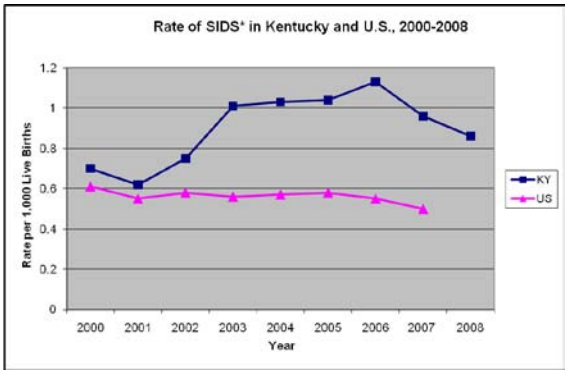
The Kentucky State Medical Examiners Office has developed investigative policy for purposes of uniformity and standardization for death certificates. All sudden, unexplained deaths in infancy with no anatomic, toxicological, or metabolic causes will be categorized into one of three broad groups as listed:

- Attributed to SUDI
- Consistent with SUDI
- Undetermined

Kentucky's SIDS/SUDI rate has decreased but still remains well above the rate for the nation (Figure 7). However, at least part of this difference may be due to the generalized coding used by Kentucky for death certificates. During

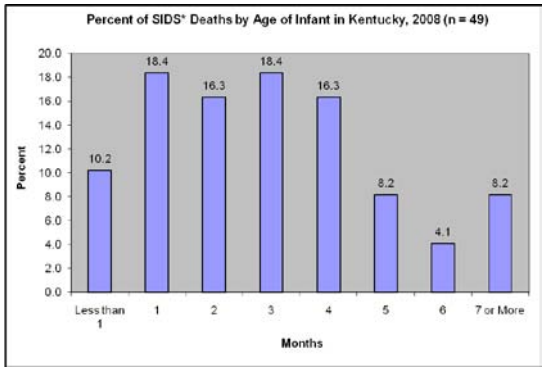
the same time period that SIDS/SUDI deaths increased, deaths in the "unexplained" category decreased, and the overall infant deaths showed little change. Deaths may not have increased, but instead a shift in the cause of death may have occurred. This is also seen in a published retrospective review of infant deaths from 2000 to 2004 done by Shields, et. al., in the August, 2007 *Kentucky Medical Association*
article, "Is SIDS on the Rise?". The conclusions of this study are that the increase in the number of deaths consistent with SIDS/SUDI and the decrease in cases reported as unexplained over the same time period are due to the standardization of terminology, rather than an actual increase in the number of infant deaths.
The rate of SIDS/SUDI in Kentucky in 2008 is 0.9/1,000 live births (Figure 7). SIDS/SUDI was the assigned cause of death for 49 of the sudden unexplained Kentucky resident infant deaths in 2008. The majority of the SIDS/SUDI related deaths occurred between the ages of 1 to 4 months (Figure 8).

Figure 7.



*Note: In 2008, all SUDI and/or SIDS deaths were diagnostically categorized as R95.
Data Source: National Vital Statistics System; Deaths, Data not available for 2008; & Kentucky Vital Statistics, Death and Birth Certificate Files, 2000-2007

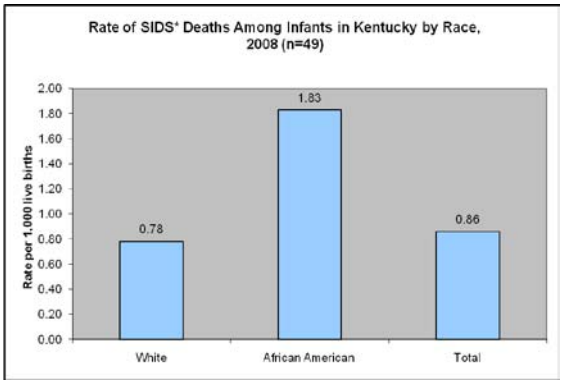
Figure 8.



*Note: In 2008, all SUDI and/or SIDS deaths were diagnostically categorized as R95., Data Source: Kentucky Vital Statistics, Death Certificate Files, 2008

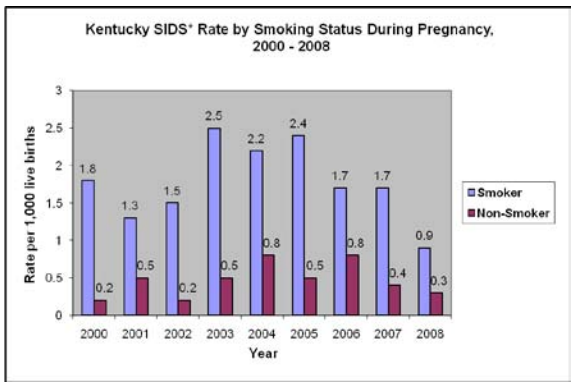
Of these 49 deaths, 27 (55%) were male and 22 (45%) were female. Thirty-eight (78%) of these infants were white, 10 (20%) were African American, and one (2%) was classified as other race. Among white infants, nearly one infant died due to SIDS/SUDI for every 1,000 live births. However, the rate among African American infants is higher, with nearly two SIDS/SUDI deaths for every 1,000 live births (Figure 9). Another risk factor for SIDS/SUDI is the association with smoking. In general, infants of mothers who smoke during pregnancy are twice as likely to die of SIDS/SUDI as infants of non-smoking mothers. Smoking in the home after the baby is born (second-hand smoke) also increases the risk of SIDS/SUDI. Women in Kentucky are more than twice as likely to smoke during pregnancy than other women in the United States. The increased risk of SIDS/SUDI for those who smoke during pregnancy is clearly demonstrated in Figure 10. In 2008, Kentucky babies born to women who smoked during pregnancy were three times more likely to die from SIDS/SUDI than those born to women who did not smoke. Although the rate of death by SIDS/SUDI for infants of smoking mothers has fluctuated over the last eight years, it has consistently remained at least two times higher than that of infants with non-smoking mothers. The rate of SIDS/SUDI in non-smoking mothers in Kentucky is 0.3 per 1,000 live births.

Figure 9.



*Note: In 2008, all SUDI and/or SIDS deaths were diagnostically categorized as R95.
Data Source: Kentucky Vital Statistics, Death Certificate Files 2008

Figure 10.



*Note: In 2008, all SUDI and/or SIDS deaths were diagnostically categorized as R95.
Note: Deaths that could not be linked to birth certificates were excluded.

RISK FACTORS AND RECOMMENDATIONS FOR SUDDEN UNEXPLAINED DEATH IN INFANCY (SUDI)

The most recent recommendations from The American Academy of Pediatrics (AAP) are as follows:

- 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. The AAP and partners launched the Back to Sleep Campaign approximately 10 years ago. For more information you may visit www.nichd.nih.gov/sids.
- 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 SUDI. The AAP recommends that a baby sleep in the room with parents but not share a bed with other children or adults. Bed sharing also increases the risk of an overlay which occurs when a parent or other person sleeping with the infant unintentionally rolls over or lays upon the infant; therein blocking the infant's airway. The risk of overlays seems to be particularly high when there are multiple bed sharers and also may be increased when the bed sharer has consumed alcohol or is over-tired.
- Avoid soft bedding. Soft bedding may be pillows, quilts, comforters, sheepskins, waterbeds, couch cushions, stuffed toys.
- Avoid any extra objects in the crib with the baby. No pillows, stuffed animals, bumper pads, extra blankets, or sheets should be in the crib. The AAP recommends using sleep clothing with no other covering over the infant: for example, infant sleep sacks that are designed to keep the infant warm without the possible hazard of head covering.
- Avoid overheating. The infant should be lightly clothed for sleep, and the bedroom temperature should be kept comfortable for a lightly clothed adult. Over-bundling should be avoided, and the infant should not feel hot to the touch.
- Research published by the AAP now indicates an association between pacifier use and a reduced risk of SUDI, which is why the revised policy recommends the use of pacifiers at nap time and bedtime, throughout the first year of life. However, the procedures in place by the AAP state that the pacifier should be used when placing the infant down for sleep and not be reinserted once the infant falls asleep. If the infant refuses the pacifier, he or she should not be forced to take it. Additionally, pacifiers should be cleaned often and replaced regularly.
- Maternal smoking and second-hand smoke in the home are potent risk factors for Sudden Unexplained Death in Infancy. Babies whose mothers smoked when pregnant are twice as likely to die of SUDI, and the risk increases further if there is smoking in the home after they are born. In Kentucky, SUDI occurred three to five times more frequently over the last nine years in mothers who smoked during pregnancy than in non-smoking mothers. Any home with a young baby should make every effort to keep the home smoke-free.

PREVENTION STRATEGIES

<u>Parents:</u>

1. *Sleep position:* Infants should be placed on their backs to sleep throughout the first year of life.
2. *Sleep environment:* Do not place infants on adult beds or sofas to sleep; babies should sleep in their own bed, not with adults or other children.
3. *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 and pillows should not be placed in the crib with the baby. Avoid using bumper pads. Additionally loose bedding

such as blankets and sheets may be hazardous. If a blanket is used it should be tucked in around the crib mattress and only as high as the infant's waist, so that the infant's face is less likely to become covered.

4. *Breastfeeding:* Mothers are encouraged to breastfeed. Even if breastfeeding, infants should not sleep in the beds with their mothers as this puts the baby at increased risk of suffocation and overlay.
5. *Pacifier use:* Research now indicates an association between pacifier use and a reduced risk of SUDI, which is why the AAP recommends the use of pacifiers at nap time and bedtime throughout the first year of life.
6. *Temperature:* To avoid overheating, do not overdress the baby or over-bundle the baby. If a light blanket is needed, make sure you tuck it in on all sides and that it doesn't come above the baby's waist. Never cover the baby's head and face.
7. *Smoking:* Avoid smoking during and after pregnancy. Create a smoke-free environment in the home during pregnancy and after the baby comes home from the hospital.
8. *Prenatal Care and well-baby care*: Mothers should receive prenatal care as early as possible in the pregnancy. They should also make sure to keep their baby on the schedule given by the pediatrician.

Professionals:

1. Newborn nursery personnel, physicians, nurses, and public health officials should instruct all new parents and potential caregivers in safe sleeping practices and other strategies to reduce the risk of SUDI.
2. Potential care givers should all receive training on SUDI prevention and follow AAP guidelines on safe sleep practices.
3. Promote Safe Sleep education and campaigns.

Child Fatality Review Teams:

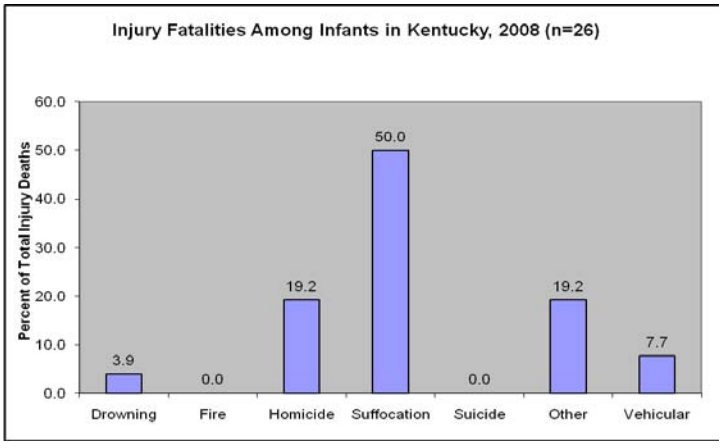
1. All sudden, unexplained deaths of infants <1 year of age require an autopsy and should be reviewed by a county child fatality review team. The data pertaining to infant deaths is critical in identifying risk factors for SUDI and providing targeted prevention messages for communities.
2. Encourage a multidisciplinary approach that includes thorough completion of death scene reports by coroners in all counties, include metabolic screening reports with other case documents to more accurately define the cause of deaths, and classify the death correctly as SUDI, co-sleeping, suffocation, overlay, positional asphyxia, or an inborn metabolic disease.

Other Causes of Infant Death

Although the majority of infant deaths are due to natural causes as discussed in Leading Causes of Infant Death, page 11. A little over 5% of infant deaths are due to unintentional and intentional injuries. In this report unintentional injury includes drowning, fire, suffocation, motor vehicle crash/accident, poisonings, etc., and intentional injuries include child abuse/neglect, homicides, and suicides.

During 2008, 26 Kentucky infant deaths were due to injury and 19 of these deaths were unintentional. The other category includes: accidental poisoning, falls, other unspecified event, and undetermined intent (Figure 11.).

Figure 11.



Data Source: Kentucky Vital Statistics, Death Certificate Files, 2008

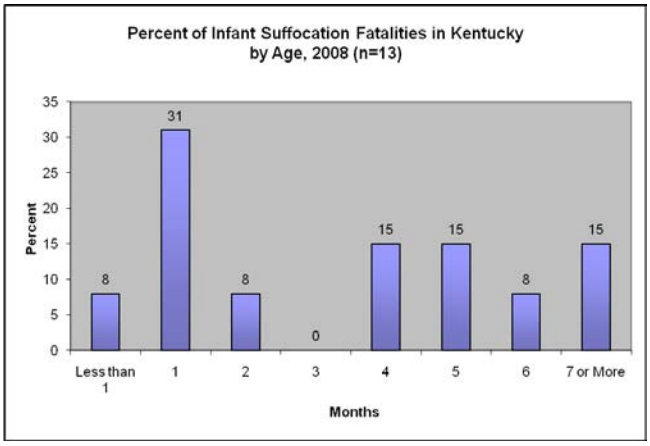
Unintentional Injury

Unintentional injuries or accidents are preventable deaths. The most common unintentional injury among infants is suffocation. Injury fatalities among infants related to motor vehicle crash/accident and drowning are discussed in the subsequent Child Deaths – Unintentional Injury section of this report.

Suffocation in Infants

Infant deaths due to suffocation are almost always related to an unsafe sleep environment. 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 and comforters or stuffed animals. Most cases of unintentional suffocation happen in environments where normal infants could not move themselves out of the unsafe circumstance (scooting between the back and bottom of sofa cushions). Overlaying is another type of unintentional suffocation. This occurs when an infant is sleeping with one or more persons (bed sharing with adults or children, sharing sofas or armchairs) and someone rolls over on the infant or the baby wedges between the wall, pillow, cushion, or blanket and the person. Most of these types of cases are classified as undetermined because the actual position of the infant and other person at the time of death was not witnessed.

Figure 12.



Data Source: Kentuckv Vital Statistics. Death Certificate Files. 2008

Unintentional suffocation and unspecified threat to breathing were the cause of death of 13 Kentucky infants in 2008 (Figure 12). Nationally the rate of death from suffocation is 0.2 infants/1,000 live births or 2 infants in every 10,000 births. The rate of infant suffocation in Kentucky is comparable at 0.23/1,000 live births. In Kentucky in 2008, the rate among African American infants and white infants were very close; 0.17/1,000 live births and 0.24/1,000 live births, respectively. However, valid comparisons cannot be made from year to year due to numbers being too small.

Prevention

Parents and caregivers may not know the risks associated with unsafe sleeping arrangements. Prevention strategies and safe sleeping practices for infants have been addressed under Sudden Unexpected Infant Deaths of Undetermined Cause.

Child Abuse/Neglect Fatalities

Child fatalities are the most tragic consequence of child abuse and neglect. The Cabinet for Health and Family Services, Department for Community Based Services, Division of Protection and Permanency (DPP) is the agency in Kentucky responsible for receiving and investigating cases where child abuse or neglect is alleged to have resulted in a child fatality or near fatality.

The DPP investigates potential abuse/neglect related child fatalities and near fatalities and substantiates abuse or neglect when it is warranted. Each fatality or near fatality investigation is reviewed by the Central Office. There continues to be a strong correspondence between the age of the child victim and the risk for serious or fatal injury. There were 15 child fatalities occurring in the 2008 fiscal year whose families had prior involvement with DPP and, of these victims, 47% were 1 year of age or younger. This data is consistent with trends seen previously in

Kentucky and nationally. The majority of infant deaths associated with this group are from caretaker neglect, followed by caretaker physical abuse. Common causes of death in physical abuse and neglect fatalities were inflicted head injury, gunshot, drowning and lack of supervision. Other relevant causes were suffocation, overdose, drug exposure and no medical treatment.

House Bill 285 was signed by the Governor on April 26, 2010. The bill is designed to educate parents about pediatric abusive head trauma, and to provide training to a broad range of citizens of Kentucky, from parents to professionals including attorneys functioning as guardian ad litems and medical professionals. It strengthens protection for Kentucky's children and seeks to reduce the threat of child abuse known commonly as "shaken baby syndrome."

Homicides

There were five infant deaths due to homicide in 2008. The risk factors and prevention strategies below are relevant to the child abuse and neglect, which is the primary cause of infant homicide.

RISK FACTORS FOR CHILD ABUSE/NEGLECT

According to the National Center for Child Death Review, risk factors for child abuse and neglect are as follows: younger children (under the age of five); parents or caregivers who are under the age of 30; low income, single-parent families experiencing major stressors; children left with male caregivers who lack emotional attachment; children that have emotional and health problems; lack of quality childcare; substance abuse among caregivers; parents or caregivers that have unrealistic expectations of child development and behavior; and parental or caregiver history of criminal activity or domestic violence.

PREVENTION STRATEGIES

Kentucky Revised Statute 620.030 mandates that anyone who has reasonable cause to believe that a child is abused or neglected shall immediately make a report to proper authorities including local law enforcement, the cabinet, the commonwealth or county attorney. The 24-hour abuse or neglect hotline number to make a report of abuse or neglect is 1-800-752-6200.

The American Academy of Family Physicians recommends that prevention strategies target families prior to the initial act of child abuse by strengthening family and community connections and support; treating parents as vital contributors to their children's growth and development; creating opportunities for parents to feel empowered to act on their own behalf; respecting the integrity of the family; enhancing parents' capability to foster the optimal development of their children and themselves; establishing links with community support systems; providing settings where parents and children can gather, interact, support and learn from each other; enhance coordination and integration of services needed by families; enhance community awareness of the importance of healthy parenting practices; and provide emergency support for parents 24 hours a day (Beetha, 1999).

Parents:

1. Recognize that being a parent is a difficult job at times and accept that you may at times get frustrated and/or angry; but you are being a better parent for walking away rather than reacting in a negative manner.
2. Seek help if your family is in crisis. 1-800-CHILDREN is a statewide helpline that offers a lifeline of support, encouragement and information regarding resources in local communities. Parents and caregivers can call 1-800-CHILDREN 24 hours per day, 7 days per week and talk with a trained volunteer who can provide them with information, support and/ or referrals in their local communities. Other resources can be found at http://www.pcaky.org/.

Community Leaders:

1. Support and fund home-visitation programs that assist parents.
2. Work with agencies such as Prevent Child Abuse Kentucky and Community Partners Protecting Children to further their missions of protecting Kentucky's children.

Professionals:

1. Support and facilitate public education programs that target caretakers, especially male caretakers, and child care providers.
2. Expand training on recognition of child abuse and neglect.
3. Educate the public on reporting procedures and laws.
4. Develop consistent policies among agencies so children will not go undetected.
5. Improve collaboration and utilization of collateral resources during an investigation.
6. Recognize families that are at risk and identify potential services that may protect the children.
7. Use data to determine consistent risk factors.
8. Improve recognizing, reporting and documenting the child deaths.
9. Assist parents to recognize that anger and frustration are a part of being a parent. Moreover, it is a tough job but understanding, empathy, and permission for these emotions along with tools to deal with those feelings can very often prevent a negative incident from occurring.
10. Participate in the Child Abuse Recognition Education (C.A.R.E.) program through Prevent Child Abuse Kentucky. The C.A.R.E. program partners with medical professionals who have indicated their support of and commitment to the well being of Kentucky's children. These professionals have identified (and continue to do so) colleagues throughout the Commonwealth, each who have responsibilities encompassing one or more areas where a child victim of child abuse or neglect may be seen. For more information call: 1-800-CHILDREN or see http://www.pcaky.org/care.html.

Child Fatality Review Teams:

1. Community-based teams are critical in identifying which child deaths have abuse and neglect as risk factors and explore integrative ways to address these risk factors so that no children go undetected or unprotected.
2. The National Center for Child Death Review provides guides to effective reviews that should be used by CFR teams to help determine what records should be brought to meetings, what risk factors to evaluate, the types of services that need to be provided and evidence- based prevention activities to consider. Examples of these activities include training hospital emergency room staff to improve their ability to identify child abuse fatalities and improve reporting to agencies.

CHILD DEATHS

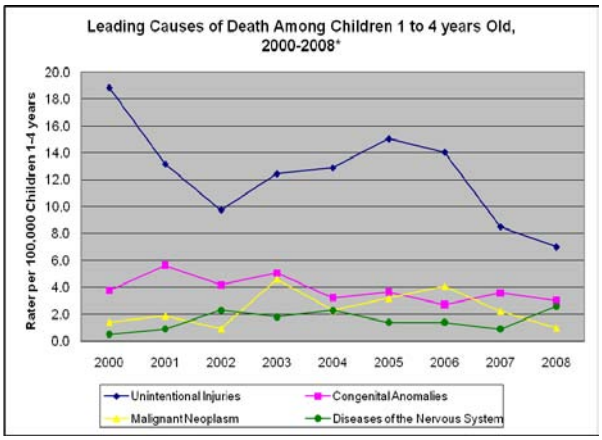
More children in Kentucky (aged 1 to 17) die of injury related causes than natural cause deaths. Injury related deaths are more likely to be preventable than natural cause deaths. Many factors have been associated with increased risk of injury or death in children including socioeconomic factors, cultural factors, geographical location, education level, and health and safety issues in the community. Understanding these factors is critical to developing prevention strategies to reduce injury related child death through state and community-based interventions.

Leading Causes of Death/Trends by Age

Children 1 to 4:

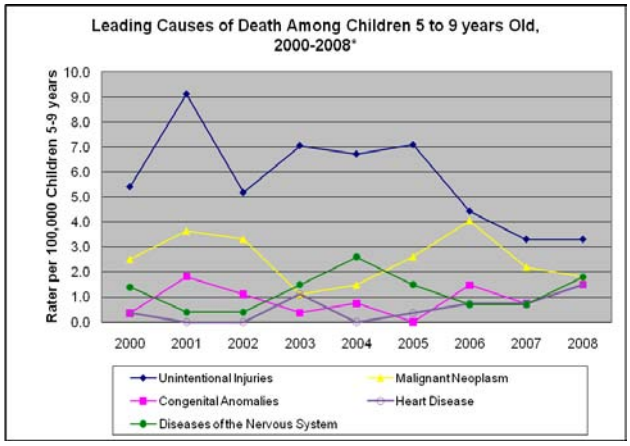
Unintentional injuries were the leading causes of death for children (aged 1 to 4) during 2008.
This particular age group can be especially vulnerable to injuries due to incomplete cognitive and physical development, curious nature, and lack of adult supervision. Unintentional injury has remained the leading cause of death among children of this age group from 2000 to 2008 (Figure 13). The rate of death from unintentional injury has decreased from 9.0/100,000 children in 2007 to 7.0/100,000 children in 2008. Congenital anomalies and diseases of the nervous system (Meningitis, Encephalitis, Cerebral Palsy, Epilepsy, etc.) tied as the next leading causes of death for this age group at 3.0/100,000 children. The death rate from malignant neoplasm has decreased from 2.0/100,000 children in 2007 to 1.0/100,000 in 2008.
Diseases of the nervous system constitute one of the three leading causes of death among this age group.

Figure 13.



*Note: Rates based on 20 or fewer deaths and may be unstable. Use with caution.
Data Source: Kentucky Vitals Statistics, Death Certificate Files, 2000-2008.

Figure 14.



*Note: Rates based on 20 or fewer deaths and may be unstable. Use with caution.
Data Source: Kentucky Vitals Statistics, Death Certificate Files, 2000-2008

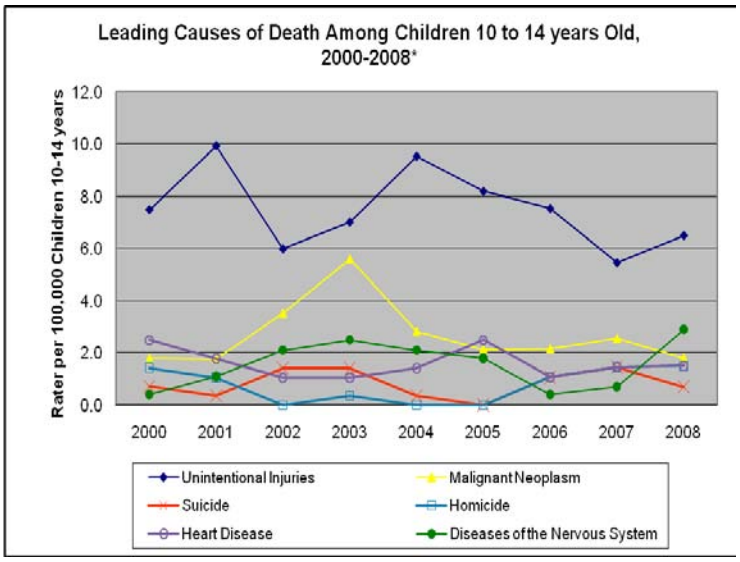
Children 5 to 9:

During 2008, the leading cause of death among children aged 5 to 9 was also unintentional injuries. Unintentional injuries are followed by malignant neoplasm, diseases of the nervous system, congenital anomalies, and heart disease as the leading causes of death for this age group.
During the time period of 2000 to 2008, unintentional injury remained the leading cause of death among children 5 to 9 years old (Figure 14). The death rate of malignant neoplasm per 100,000 children is higher than that of congenital anomalies in all years (2000-2008). Nearly, 2.0/100,000 Kentucky children died in 2008 due to disease of the nervous system, making disease of the nervous system one of the top three leading causes of death among children 5 to 9 years of age for the first time in eight years. Congenital anomalies fell to the fourth leading cause of death with 1.5/100,000 children affected.

Children 10 to 14:

Unintentional Injuries were again the leading cause of death among children aged 10 to 14 in 2008. As children age, injuries continue to remain the leading cause of death. Natural cause related illnesses (diseases of the nervous system) constitute the second leading cause of death among children in this age group followed by violent deaths, including homicide and suicide. The rate of death from unintentional injuries, heart disease, and homicide increased slightly from 2007, while the rate of death from malignant neoplasm and suicide slightly decreased (Figure 15). The rate of death due to diseases of the nervous system increased tremendously (by 314%) from 2007 to 2008 among this age group. Homicide and heart disease tied as the third leading cause of death of 10 to 14 year olds in Kentucky for the third year in a row (2006-2008).

Figure 15.

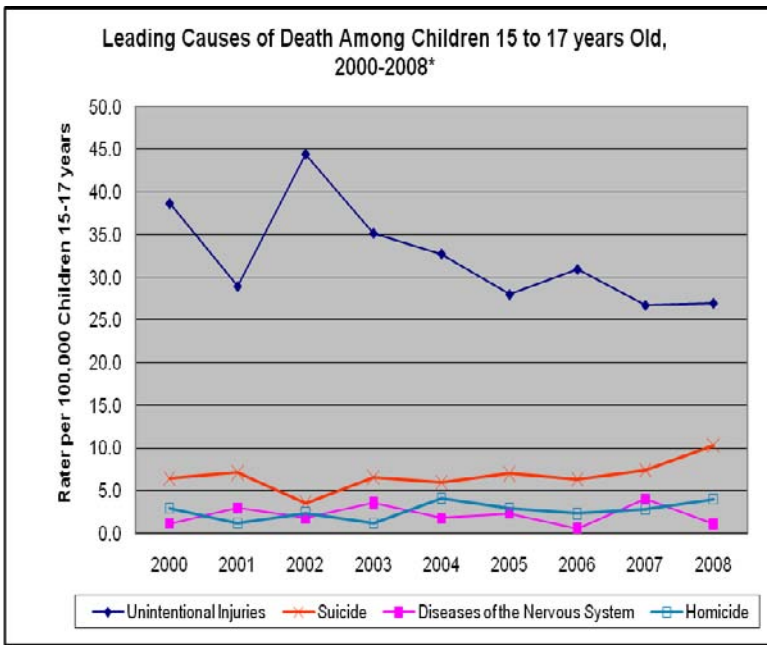


*Note: Rates based on 20 or fewer deaths and may be unstable. Use with caution.
Data Source: Kentucky Vitals Statistics, Death Certificate Files, 2000-2008

Children 15 to 17:

The leading cause of death among Kentucky teens aged 15 to 17 in 2008 was unintentional injuries. These deaths are mostly from motor vehicle accidents involving young drivers and their passengers. The second leading cause of death in this age group is suicide, followed by homicide. As teens become older, they may engage in more risk taking behavior, and they may be more easily influenced by their peers. From 2000-2008, unintentional injury has remained the leading cause of death among Kentucky teens 15 to 17 years old (Figure 16). Compared to other age groups, teens 15 to 17 years old have the highest rate of death from unintentional injury for all years shown. The next leading causes of death among Kentucky teens in 2008 were suicide and homicide, which have been on the rise since 2006. The death rate for diseases of the nervous system decreased by 73% from 2007 to 2008, making it no longer a leading cause of death for this age group (Figure 16).

Figure 16.



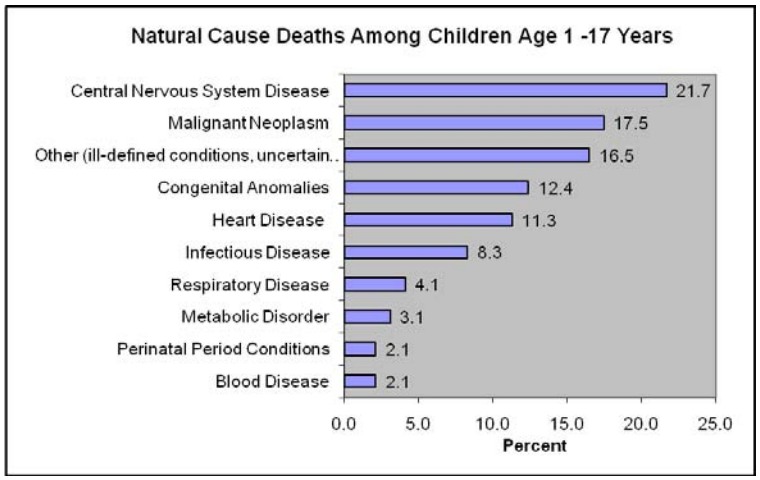
*Note: Rates based on 20 or fewer deaths and may be unstable. Use with caution.
Data Source: Kentucky Vitals Statistics, Death Certificate Files, 2000-2008

Natural Cause Deaths in Children

According to the National Maternal and Child Health Center for Child Death Review, natural causes are the second leading cause of fatality for children over 1 year of age in the United States. Congenital anomalies, genetic disorders (such as cystic fibrosis), diseases of the nervous system (such as Meningitis), cancers, heart and cerebral problems, serious infections and respiratory disorders (such as asthma) can be fatal to children. These types of deaths are generally linked to a specific disease or condition.

Figure 17 shows natural cause deaths among children 1 to 17 years old for 2008 by cause of death groupings. Deaths due to Central Nervous System (CNS) diseases account for 21.7% of all natural deaths among children in 2008. Malignant Neoplasm (17.5%) was the second leading cause of natural deaths among 1 to 17 year olds and congenital anomalies constituted 12.4% of natural cause deaths in this age group.

Figure 17.



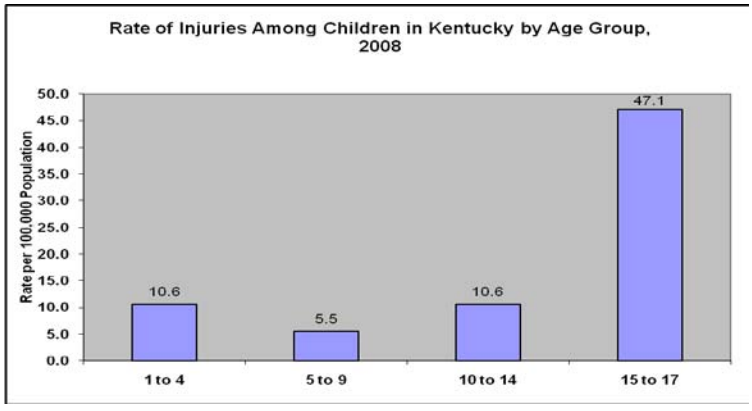
Data Source: Kentucky Vital Statistics, Death Certificate Files 2008

During 2008 there were two cases of Meningococcal disease, commonly known as Meningitis, among 1 to 17 year old Kentucky children. Some forms of bacterial meningitis, such as meningococcal disease, can be fatal in some cases, even in teens. Fortunately, immunizations are now available to combat these diseases, and are recommended for teens and college students.

Injury Deaths in Children

Kentucky's children continue to experience many deaths from injury (Figure 18). Injuries remain a major cause of morbidity and mortality for children, not just in Kentucky, but in the nation. The majority of childhood injuries are potentially preventable, yet they continue to increase and remain the leading cause of death to children over 1 year of age. The National Center for Injury Prevention and Control says the cost of injuries to our nation is estimated at more than $400 billion each year. These costs include direct medical care, rehabilitation, lost wages and lost productivity.

Figure 18.



Data Source: Kentucky Vital Statistics, Death Certificate Files, 2008

The federal government pays approximately $80 billion each year in injury related medical costs and about $18.4 billion in death and disability benefits. It is estimated that insurance companies and other private sources pay approximately $161 billion annually.

Table 1. Injury Deaths by Manner of Death and Age in Kentucky, 2008

Age	Accident	Homicide	Suicide	Total	
	#	#	#	#	%
1-4 Years	18	5	0	23	15
5-9 Years	9	5	1	15	10
10-14 Years	23	4	2	29	19
15-17 Years	52	7	17	76	49
Total	102	21	20	143 *	

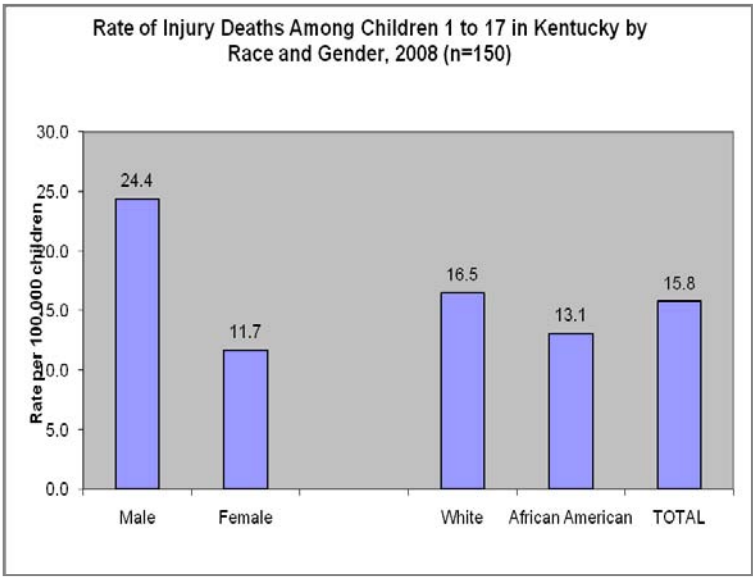
*Note: some missing because manner was undetermined.

The breakdown of injury deaths by manner and age is shown in Table 1. The majority of injury deaths (76%) occurred among Kentucky's 15 to 17 year olds. Injury deaths have the most potential for prevention and can be either from unintentional injury, like motor vehicle deaths, or from intentional injury/violent deaths. The majority of injury deaths are accidental, but the numbers of homicides and suicides in children are significant.

In 2008, the death rate due to injury of African American Kentucky children was 13.1/100,000. This rate is comparable to the 2007 injury death rate among African American children (13.3/100,000). Over an eight year time span (1999-2007), Kentucky's injury death rate of African American children (19.6/100,000) has been consistent with the national average (19.1/100,000) while the injury death rate of white children (18.9/100,000) has been higher than the national average (14.1/100,000). In 2008, Kentucky male children under 17 years old were nearly twice as likely to die from injuries than females. The rate of death due to injury for Kentucky males in 2008 was 24.4/100,000 and the rate for females was 11.7/100,000 (Figure 19). From 1999 to 2007, the national injury death rate for males (19.1/100,000) and females (10.2/100,000) was lower than Kentucky's injury death rate for males (23.5/100,000) and females (13.9/100,000).

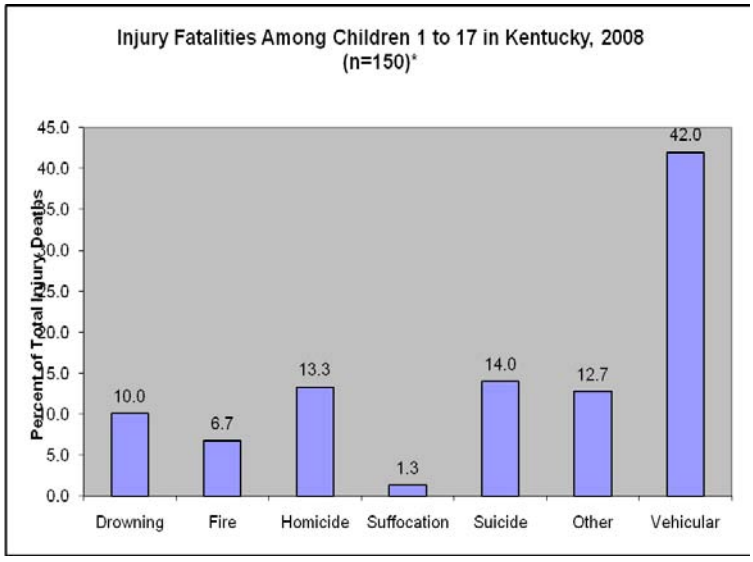
Injury deaths were responsible for 176 Kentucky children deaths in 2008. When looking at injury deaths by type, more children died from motor vehicle crashes than any other injury (Figure 20). The category for "Other" includes deaths due to circumstances involving falls, rifles or larger firearms discharge, accidental poisoning by drug or alcohol exposure, and other unspecified events.

Figure 19.



Data Source: Kentucky Vital Statistics, Death Certificate Files, 2008

Figure 20.



Data Source: Kentucky Vital Statistics, Death Certificate Files, 2008

Unintentional Injury Related Deaths

Unintentional injuries, more commonly known as accidents, are the number one cause of all deaths for Kentucky's children aged 1-17. Perhaps the most unsettling part of these deaths is that they are preventable. Unintentional injuries include transportation deaths, drowning fatalities, fire fatalities, poison fatalities, suffocation in infants and even the unintentional act of leaving a child in a car alone.

Transportation Deaths

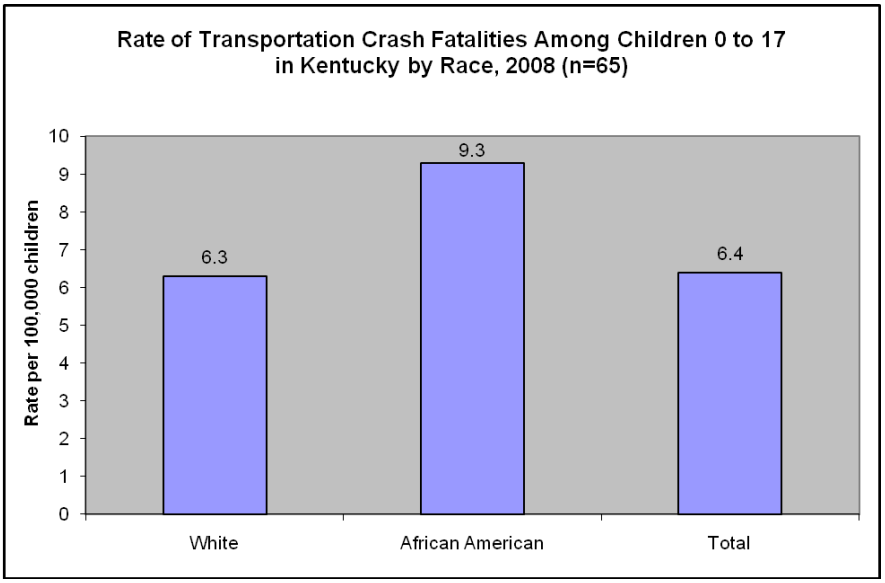
Motor Vehicle Fatalities

In the United States, as well as in Kentucky, motor vehicle crashes are the leading cause of injury death for people ages 1–44 years; the leading cause of death for children from 1-14 years; and, the second leading cause of injury death for children less than one year. Kentucky Vital Statistics data shows that in 2008, for children 17 and under, motor vehicle crashes accounted for 37% of all injury related deaths.

Of the fatal motor vehicle crashes in Kentucky during 2008, 8% of those killed were children less than 18 years of age. According to Kentucky State Police Statistics, 55,062 Kentucky children were involved in motor vehicle crashes during 2008, and 12% (6,583) of those children were not restrained. There was a total of 65 child fatalities due to motor vehicle accidents in 2008, and 55% (36) of those children were unrestrained. This again emphasizes the importance of using child safety seats.

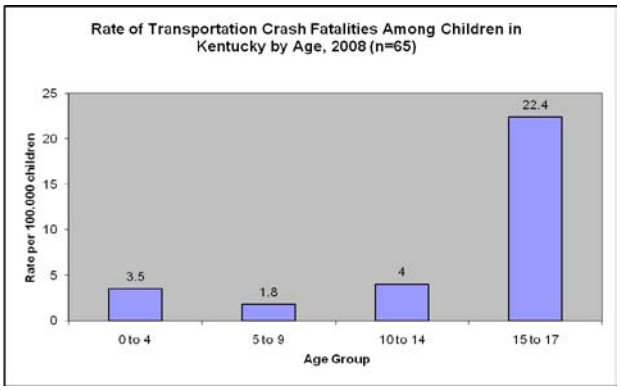
Motor vehicle fatalities include drivers; passengers; pedestrians who are struck by motor vehicles; bicyclists; and occupants in any other form of transportation, including all-terrain vehicles. All motor vehicle fatalities involving children in Kentucky during 2008, 11% were killed as car drivers or passengers, 57% in which the vehicle type was not specified, 18% were pedestrians or riding a bicycle, and 14% were ATV drivers or passengers. The rate of death for children under 18 from transportation crashes is 6.4/100,000 children. Nine per 100,000 African American children died in transportation crashes in 2008, while only 6.3/100,000 white children died in transportation crashes in 2008 (Figure 21).

Figure 21.



Data Source: Kentucky Vital Statistics, Death Certificate Files, 2008

Figure 22.

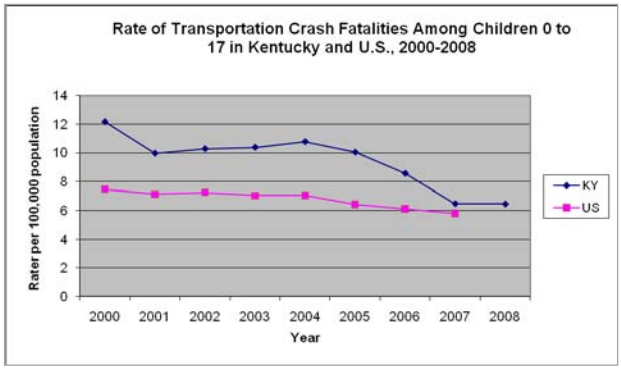


Data Source: WISQARS Injury Mortality Report, 2000-2007 (data not available for 2008); & Kentucky Vital Statistics, Death Certificate Files, 2000-2008

In 2008, 22.4 per 100,000 youth (age 15 to 17 years) died in crashes in Kentucky. Kentucky teens were nearly four times as likely to die in transportation crashes, compared to the rate of all other age groups (Figure 22.). This emphasizes the importance of legislation such as the Graduated Driver Licensing Program and a new law, KRS 189.292, related to prohibiting the use of personal communication devices while driving.

From 2000 to 2008, the rate of transportation crash fatalities in Kentucky has been higher than the United States rate. However, the rate decreased in Kentucky from over 12.0/100,000 in 2000 to 6.5/100,000 in 2008 (Figure 23).

Figure 23.



Data Source: Kentucky Vital Statistics, Death Certificate Files, 2008

After the 2006 implementation of the Graduated Driver Licensing Program the numbers dramatically decreased. The program became law from strong legislative leadership, and was supported by the recommendations and efforts of the state CFR team. The "2008 Booster Bill" law may have a similar impact in decreasing child deaths. It is also anticipated that a new law, KRS 189.292, related to prohibiting the use of personal communication devices while driving, may contribute to lowering the fatality rate from transportation crashes in the future.

Pedestrian Fatalities

In 2008, 11 deaths occurred to children as pedestrians on public roadways in Kentucky. Young children are impulsive and have difficulty judging speed and distance and are more likely to suffer injuries on residential streets with high traffic volume and large numbers of parked cars on the street.

Toddlers are at risk primarily due to their small stature and limited interactions with traffic. The majority of pedestrian injuries involving toddlers occur when a vehicle is backing up. Therefore, young children are at increased risk of death in driveways and other relatively protected areas. Parents, grandparents and caregivers must remember to never leave an infant/toddler unattended around a parked vehicle.

Bike and Motorcycle Related Fatalities

Motor vehicle fatalities also included bicycling and injuries sustained in motorcycle accidents as either passengers or drivers.

The single most effective safety device available to reduce brain injury from any type of bike crash is a helmet. In the event of a crash, a bike helmet can reduce serious brain injury by 85%. Unfortunately, only 66% of parents of children 14 years of age and younger consistently require their children to wear a helmet when biking (Safe Kids Research Report). According to the National Center for Injury Prevention and Control, primary strategies to increase helmet use include: 1) education, 2) legislation and 3) helmet distribution programs.

All-Terrain Vehicle (ATV) Fatalities

In 2008, 14% of Kentucky's transportation crash fatalities among children under 18 were due to ATV injuries. An ATV that turns over can lead to serious injury or death from blunt trauma to the chest, a combination of chest and head injuries, or positional asphyxia. Overturns typically occur when riding on a steep hillside or when the ATV runs off the road but can even occur in an open yard. Helmets help protect the head from serious injury while riding an ATV and should always be worn regardless of age, experience, or length of time on the ATV. These ATV fatalities occurred in counties across the state. While summer is generally considered the time when accidents occur, ATV deaths occurred throughout the year, from February to November. The age range of those killed due to ATV accidents was 9 to 17 years.

In addition to the ATV deaths, dirt bikes also pose a threat of serious injury or death, especially when the child is not wearing a helmet. Unfortunately, neither ATVs nor dirt bikes are typically thought of as motor vehicles, and children are often allowed to drive these vehicles with no driving education.

RISK FACTORS FOR TRANSPORTATION FATALITIES

The National Center for Injury Prevention and Control lists two factors as most significant in contributing to motor vehicle-related fatalities among children: 1) unrestrained children and 2) drunk drivers. National Safe Kids reports that child safety seats reduce fatal injury by 71% for infants less than 1 year old and by 54% for toddlers 1 to 4 years old in passenger cars. This places them at twice the risk of death and injury as those riding restrained. Child restraint use directly correlates to the restraint use of the caregiver. As with all the other states, Kentucky has primary enforcement of child restraints, meaning a police officer can stop and cite a driver for not having a child 50 inches and under properly restrained. The most common reason restrained children are killed is misuse of child car seats and premature graduation to seat belts. The Center for Disease Control reports that 72% of observed car and booster seats were misused in a way that could be expected to increase the risk of a child's injury. To find a certified child passenger safety technician please visit http://www.safekidsweb.org/events/events.asp and click on Kentucky. You may also visit www.highwaysafety.ky.gov/child_passenger_safety.html for more information about child seats and other safety issues.

According to the National Center of Injury Prevention and Control, nine teens (16 to 19 years of age) died every day from motor vehicle injuries in the US during 2008. Risk factors faced by teens include inexperience, low rates of seatbelt use, and high rates of alcohol use. Inexperienced drivers lack the perception, judgment, and decision-making skills that are required to drive safely. Kentucky's graduated licensing system (KRS 186.450) was passed by the General Assembly in 2006 and deaths appear to be decreasing (the rate of transportation crash fatalities among children 0 to 17 decreased in 2008 to 6.4 per 100,000 from 8.6 per 100,000 in 2006.)

Although pedestrian injuries are not as common as motor vehicle occupant injuries, a disproportionate number of the injuries sustained by child pedestrians are severe. The National Center for Injury Prevention and Control reports that in 2008, one in every five children between the ages of 5 and 9 who were killed in traffic crashes was a pedestrian. Often parents overestimate their children's pedestrian skills. Children are impulsive and have difficulty judging speed, spatial relations, and distance. Safe Kids U.S.A. reports that auditory and visual acuity, depth perception and proper scanning ability develop gradually and do not fully mature until at least age 10. Toddlers are especially vulnerable, but unlike their older counterparts, toddlers are most likely to be struck in driveways, in parking lots or on sidewalks.

According to Safe Kids U.S.A., each year more than 130 children die from bicycle-related injuries and more than 280,000 are treated in emergency rooms. Of these, nearly half (47%) have traumatic brain injuries. Proper use and proper fit of a helmet are important to reduce injuries as the risk of head injury is doubled if the helmet is worn incorrectly.

ATVs are not "one-size-fits-all." According to the ATV Safety Institute, approximately 90% of youth ATV-related injuries occur when a child under the age of 16 is operating an adult-sized ATV. The U.S. Consumer Product Safety Commission data show that 92% of all ATV-related fatalities are the result of warned-against behaviors. These behaviors include: not wearing a helmet, riding on public roads, carrying a passenger on a single-rider ATV, riding the wrong size ATV, youth riding unsupervised, and riding with no formal ATV training.

PREVENTION STRATEGIES

Parents:

1. All children less than 13 years of age should ride properly restrained in the back seat.
2. Unless using a higher weighted harness car seat, children between 40-100 pounds should ride properly positioned with a lap/shoulder belt in a booster seat.
3. Always model and teach proper pedestrian behaviors.
4. Children should walk with an adult until they are at least 10 years of age.
5. Teach children to look left, right and left again before they cross the street and keep looking both ways until they reach the other side.
6. Educate children that if they must walk when it is dark, to wear light-colored clothing or clothing with reflective material so drivers can see them. A flashlight is also a good idea.
7. "Spot the Tot" is an initiative through Safe Kids U.S.A. encouraging drivers to take a five-second walk around the car before they get in to leave.
8. Teach kids to obey traffic signs and the rules of the road when riding a bicycle. Kids should not ride without supervision until they have demonstrated that they follow the rules.
9. As long as it's certified and brand new, let kids pick out their own helmets. If they think a helmet looks cool, they'll be more likely to wear it when you're not around.
10. A helmet should sit on top of the head in a level position and should not rock forward and backward or side to side. The helmet straps must always be buckled but not too tightly. Safe Kids recommends the "Eyes, Ears and Mouth" test: The rim of the helmet should be one to two finger-widths above the eyebrows, the straps should form a "V" just below the ear lobe, the buckle should be flat against the skin and the strap should feel snug when the rider's mouth is open.
11. Always wear protective gear, especially a helmet, when riding ATVs, motorcycles, bicycles, skateboards, scooters, mopeds.
12. Children under the age of 16 years should not ride or operate ATVs of any size.
13. ATVs should never be ridden after dark.
14. ATVs should not be ridden by two people, unless the machine was manufactured to carry two riders.
15. Ask about ATV safety training courses in your community; you may visit www.atvsafety.org to find out about training in your area
16. Education about ATV safety must include leaving it parked without keys in the ignition and with the emergency brake on. Children should be instructed not to play around a parked ATV, just as they should not play around a car.
17. Children should not ride as a passenger on off-road utility vehicles until they have graduated from booster seats in an automobile at age 8 or 4'9" in height, and they must use a seat belt when available.
18. Never leave children alone in the car, not even for a minute.

Professionals:

1. Educate parents on strategies to reduce injury and death at car seat check-up events.
2. Educate parents on bike safety through bike rodeo programs.
3. Helmet distribution and education.
4. Institute the "Not Even For a Minute" Campaign. This campaign, sponsored by the Children's Trust Fund, urges parents and care givers never to leave a child alone in a vehicle, not even for a minute. For more information please visit: http://ctf.typepad.com/missouri_childrens_trust_/files/NEFAM_WebBroch.pdf.

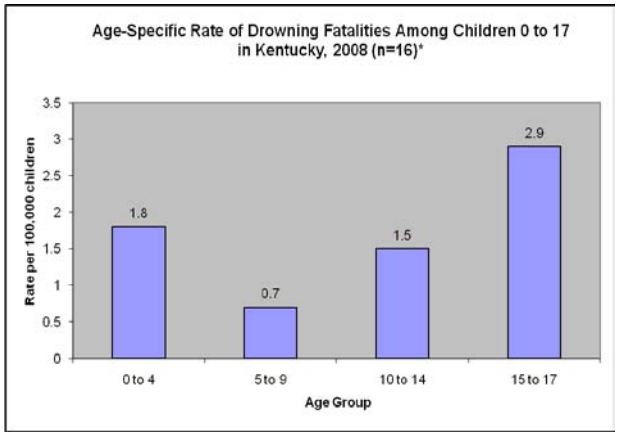
Child Fatality Review Teams:

1. Local CFR teams continue to work in their communities to avert transportation deaths. A number of community initiatives are targeted at teen driver safety, as well as promoting child safety seats for younger children.
2. The state child fatality review team will continue to improve data collection and analysis and work collaboratively with the Kentucky State Police, the Kentucky Injury Prevention Center at UK, and other groups with the common goal of reducing child deaths from motor vehicle accidents.

Drowning Fatalities

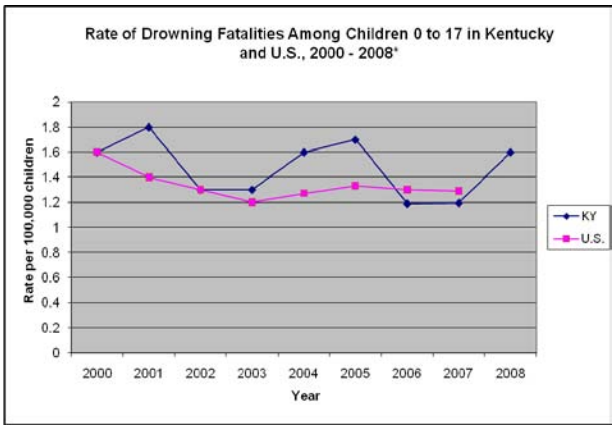
In 2008, 16 Kentucky children died due to drowning. The places of drowning for these children included natural water, swimming pools, and unspecified places. Drowning in infants under age 1 typically occurs in bathtubs. Most drowning in children ages 1 to 4 happens in swimming pools. Children can drown in as little as an inch of water which makes wading pools, buckets, toilets, hot tubs, gold fish ponds, and other water sources dangerous as well. A child can drown in a matter of seconds and usually drowns when left unattended. Drowning occurs quickly and quietly. According to the CDC, three children in the nation die every day due to drowning, making drowning the leading cause of injury death for children 1 to 4 years of age. Therefore, children under four always need adult supervision. Older children are more likely to drown in creeks, lakes and rivers. In Kentucky, teenagers aged 15-17 had the highest rate of drowning deaths in 2008 (Figure 24.). Deaths by drowning increased from 1.2/100,000 in 2007 to 1.6/100,000 in 2008. Due to the small number of drowning incidents, this increase is not statistically significant.

Figure 24.



*Note: Rates based on 20 or fewer deaths and may be unstable. Use with caution.
Data Source: KY Vital Statistics, Death Certificate Files, 2008

Figure 25.



*Note: Rates are based on 20 or fewer deaths and may be unstable. Use with caution.
Data Source: WISQARS Injury Mortality Report, 2000-2007 (data not available for 2008); & Kentucky Vital Statistics, Death Certificate Files, 2000-2008

RISK FACTORS FOR DROWNING

Children are at risk of drowning when they are unsupervised around any water source. Pools without fences and steps that aren't properly secured increase the risk of a small child gaining access to the pool. Older children are at more risk swimming in lakes or streams.

PREVENTION STRATEGIES

Local teams, after reviewing drowning deaths, produced preventive recommendations: closer supervision of children around water sources, making sure pools are enclosed with fences, removing steps to above-ground pools when the pool is not in use, having lifeguards at rivers or posting no swimming signs, and limiting access to pools when adult supervision is unavailable. Kentucky has implemented The Virginia Graeme Baker (VGB) Pool and Spa Safety Act which requires public pools to comply with additional safety measures that minimize suction and entrapment hazards. For more information on this law, go to http://www.poolsafety.gov/index.html. For additional information on swimming pools and bathing facilities regulations, please visit http://chfs.ky.gov/dph/poolsafety.htm. Public pools in Kentucky are required to have fences and a locked gate mechanism. Some city ordinances require private pools to be fenced as well. Please check with local governmental offices to learn about local community ordinances and requirements.

Parents:

1. Parents and caregivers should stay within an arm's reach of the child when he or she is in or near a in bathtub, pool, spa, wading pool, irrigation ditch, or other open standing water.
2. Residential pools should have a four-sided pool fence with a self-closing, self-latching gate. The fence should be at least four feet tall and separate the pool from the house and the yard.
3. Rigid, motorized pool covers, pool alarms, and other protective devices, which may offer some protection if used appropriately and consistently, are not a substitute for 4-sided fencing.
4. Remove all water from containers, such as pails and 5-gallon buckets, immediately after use.
5. Make sure children always wear U.S. Coast Guard-approved personal flotation devices near open water or when participating in water sports.
6. Parents, caregivers, and pool owners should learn CPR and keep a telephone and equipment approved by the US Coast Guard (i.e., life preservers, life jackets, shepherd's crook) at poolside.
7. Children need to be taught never to swim alone and never to swim without adult supervision.
8. Tell children to stay away from pool and hot tub drains.
9. Parents should educate children that if they find a drain cover that is loose, broken or missing, notify the owner or operator and do not enter the pool or hot tub.

Community Leaders:

1. Enact or enforce pool fencing ordinances.
2. Enforce the use of personal flotation devices when boating.

Professionals:

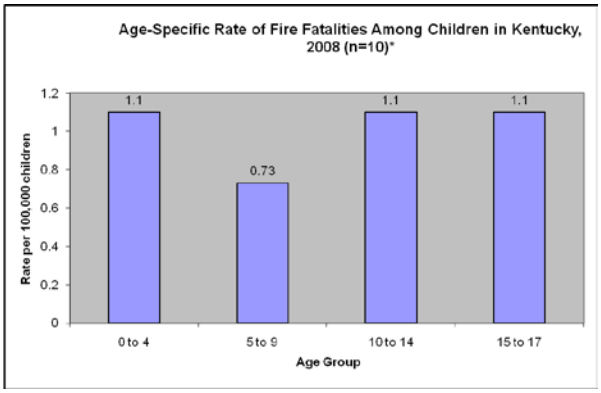
1. The American Academy of Pediatrics encourages pediatricians to identify families who have residential swimming pools and schedule periodic counseling beginning in the perinatal period to ensure that parents remain aware of the risk of drowning and near-drowning.
2. Adults and children should receive water safety education. This should include watercraft safety (wave-runners, boats, skis, etc) as well as the dangers of open water and other water hazards to small children.
3. Facilitate CPR trainings.

Child Fatality Review Teams:

1. Promote public education.
2. Implement prevention strategies at the local level.

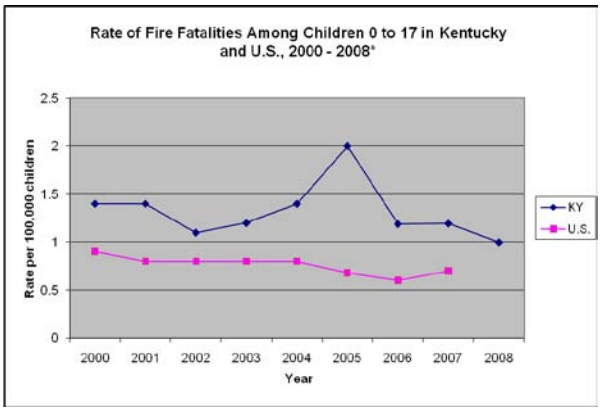
Fire Fatalities

Figure 26.



*Note: Rates based on 20 or fewer deaths and may be unstable. Use with caution.
Data Source: KY Vital Statistics, Death Certificate Files, 2008

Figure 27.



Note: Rates are based on 20 or fewer deaths and may be unstable. Use with caution. Data Source: WISQARS Injury Mortality Report, 2000-2007 (data not available for 2008); & Kentucky Vital Statistics, Death Certificate Files, 2000-2008

Each year in the United States, approximately 488 children under age 14 die in residential fires and 116,600 are injured from fire/burn-related incidents, according to Safe Kids USA. In more than 50% of these homes smoke detectors were not present or did not work. The United States Fire Administration also reports that children living in rural areas have a dramatically higher risk of dying in a residential fire than do children living in more urban areas, which may be related in part to the time it takes fire responders to reach rural fires. In 2008, 10 Kentucky children died due to fire according to Kentucky Vital Statistics records. The rate of fire deaths among children in Kentucky is 1.0 per 100,000 children and was consistent across age groups, except for children aged 5 to 9 years (Figure 26). Almost half of all Kentucky fires resulting in the death of a child in 2008 killed multiple children. Children who died ranged in age from 0 to 17 years (Figure 27).

From 2000 to 2008, the rate of death among children from fires was higher in Kentucky than the United States. The spike in the Kentucky deaths in 2005 was from a single fire with multiple deaths. Overall, there has been a decrease in the rate of fire deaths in Kentucky from the baseline in 2000 (Figure 27). According to the United States Fire Administration, Kentucky had the 14th highest death rate due to fire when compared to the other states and the District of Columbia in 2007.

RISK FACTORS FOR FIRE FATALITIES

There are many issues around fire injury and death to children. Prevention can be divided into primary prevention of fire, detection of a fire that does occur, and escape from a fire. According to the National Center for Injury Prevention and Control, children from low-income families are at greater risk due to a lack of working smoke alarms, substandard housing, use of alternative heating sources, and children left unattended due to unaffordable or inaccessible child care while parents work.

Prevention of residential fires in Kentucky involves safe storage of matches and lighters, fully extinguishing cigarettes, fire standards for mobile homes and manufactured housing, rental home/apartment standards, code compliance by builders and families doing home maintenance/adaptation, code enforcement, adequate space around alternate heating sources, not overloading extension cords, eradication of methamphetamine home manufacturing labs, safe kitchen cooking, and safe use of candles. Data on specific fire causes can help direct more specific and efficient community prevention efforts.

When a fire does occur, smoke detectors save lives because they give people the precious minutes of warning that permit them to get out. Smoke detectors with standard batteries should have the batteries replaced whenever the clocks change, so that there is never an opportunity for a battery to be dead or dysfunctional.

Escape is enhanced by families making an escape plan in advance and practicing. It is important to be sure that windows actually do open and that people can fit through them to escape. Special planning needs to be done for fire evacuation of families with small children, as the children may know a plan but be unable to physically implement it. For example, they may not be able to reach a window or have the strength to open it alone. Advance planning should include which adult will evacuate which child.

PREVENTION STRATEGIES FOR FIRE PREVENTION

Parents:

1. Never leave food unattended on a stove.
2. Keep cooking areas free of flammable objects (such as potholders and towels).
3. Avoid wearing clothes with long, loose fitting sleeves when cooking.
4. Children should always be supervised when cooking.
5. Keep matches, lighters, gas, etc. locked up and out of reach of children.
6. Install smoke alarms on every level and in every sleeping area of your home.
7. Test smoke detectors/alarms at least one time per month.
8. Replace batteries when you change your clocks in the spring and fall.
9. Replace the entire unit after ten years of service, or as the manufacturer recommends.
10. Have a fire drill plan in place and practice with your family. Practicing may help children stay calm in an actual emergency. Safe Kids U.S.A. helps making your fire escape plan easy. Please visit their website at http://www.safekids.org for tools to ensure your families safety.
11. Identify which adult is responsible for which child in case of an emergency.
12. Children should stay away from radiators and heaters, and they should be taught that these are not toys.
13. Teach children not to play with or drop anything into space heaters. Nothing should be placed or stored on top of a heater.

Community Leaders:

1. Work with local builders and inspectors to require smoke detectors in new and existing housing.
2. Work to make landlords responsible for ensuring that their properties have working smoke detectors.
3. Enforce building codes and inspections.

Professionals:

1. Partner with local agencies to go door-to-door to install smoke detectors in high risk communities as distribution alone without installation has been proven to be an ineffective strategy.
2. Work with the fire department to help disperse their fire safety messages.

Child Fatality Review Teams:

1. When reviewing a fire death, explore code requirements in the community and determine the presence of a smoke detector at the home.
2. CFR teams should assure that the following questions are covered: Were children supervised; were there working smoke detectors in the house; was there drug or alcohol use by supervising adults; did the child have access to lighters; matches or other incendiary devices, etc.

Poison Fatalities

The CDC reports that 374 children aged 0 to 19 in the US are treated in emergency rooms and two children die every day due to poisoning. Traditionally, poisoning deaths are unintentional among young children as a result of inadvertent ingestions but represent intentional ingestions among suicidal teens. Safe Kids USA indicates the highest risk of poisoning is generally for young children, specifically those aged 1 to 3. As these young children will put anything in their mouth. Many household products are poisonous if swallowed, comes in contact with skin or eyes, or inhaled and include cleaning supplies, cosmetics, medicines, plants, toys, pesticides, art supplies, and alcohol. Medications commonly kept around the house, such as vitamins, cold medicines, ibuprofen, and others, can be fatal if taken incorrectly. Very young children are also at an increased risk of carbon monoxide poisoning from gas in the home because their bodies are unable to metabolize gas like adults. The Kentucky Department for Public Health partners with the Norton Poison Center to provide education about and prevention for poisonings. In Kentucky in 2008, there was only one confirmed poisoning death, which was recorded as an intentional self-poisoning (suicide).

RISK FACTORS FOR POISONINGS

Active, curious children will often investigate, and sometimes try to eat or drink, anything that is left within their reach. Household products can be poisonous to children, and leaving these things within a child's reach is very dangerous. Taking items out of their original package is also a high risk practice because it makes it difficult to accurately identify the substance if accidentally ingested. Keeping medications beyond the time frame needed or recommended increases the number of hazards in the home.

PREVENTION STRATEGIES FOR POISONINGS

For parents, caregivers, and community leaders such as teachers, neighbors, police, etc:

1. Safely dispose of unused, unneeded or expired prescription drugs. These items may be disposed of by mixing them with coffee grounds or kitty litter to make them less appealing to children.
2. Be especially careful when staying somewhere other than home that may not be child-proofed.
3. Store medications and cleaning solutions in original bottles. Lock up all potentially lethal substances including drain cleaner, dishwasher soap, kerosene and other volatile fluids.
4. Avoid use of over the counter cold and cough medications in children under age 2, and carefully review with a doctor or other primary care provider and with a pharmacist any medication ordered to be sure of correct strength and dose.
5. Be aware that giving cough and cold medication to children to make them stop crying, be quiet or go to sleep is a dangerous choice that can result in their death.
6. If nursing an infant, mothers should be careful about their own pain medication and other substance use and avoid anything that can affect their baby.
7. Pain medication in a household is a potential risk for a child; this is especially true of long-acting forms.
8. Methamphetamines in a household are a serious potential risk for children. Research has shown the harmful affects of the manufacture and production of this drug, and children should never be exposed to the process or the drug itself.
9. Everyone in a community must be vigilant about child abuse and parental drug abuse, and must make it their responsibility to report potential child endangerment so that families can receive treatment and children can be protected. In the long term, drug abuse prevention is the goal.
10. The AAP recommends that you call medicine by its correct name. You do not want to confuse a child by calling medicine "candy."
11. Use safety latches or locks on drawers and cabinets where you keep dangerous items.
12. Seek help if your child swallows a substance that is not food. Call the Poison Help Line at 800-222-1222 or your doctor. Don't make a child vomit.

For community leaders and policy makers and professionals:

1. Create a sense of community where the well-being of the children is important and people look out for each other.
2. Be aware of the potential lethality of familial drug abuse on any related children, including teenagers. Educate all in the child protection field about this, including the judicial system.
3. Ensure that adequate drug treatment and mental health care exist for all community members, including women and teenagers.
4. Educate the public, clients and patients about the items listed above.
5. Ensure adequate access to childcare.
6. Ensure that children of military personnel and military contractors have adequate access to safe care during the time their caregiver is deployed.

For Child Fatality Review Teams:

1. Ensure that toxicology is obtained on all suspicious deaths, particularly young children and teens.
2. Ensure that all child deaths receive full review by a multidisciplinary, multi-agency team and that all medical records are carefully reviewed.

Intentional Injury Related Deaths

Child Abuse/Neglect Fatalities

During the 2008 state fiscal year (SFY) in Kentucky, 28 children died from child abuse or neglect. However, this may be an underestimation because child abuse and neglect fatalities often mimic illness and accidents and are particularly difficult to diagnose for the treating physician or the investigating coroner. The Division of Protection and Permanency (DPP) works with local child fatality review teams to help improve the accuracy of child death reporting.

Age of Child Victims

As in previous reporting periods, there continues to be a strong correspondence between the age of the child victim and the risk for serious or fatal injury. There were 15 child fatalities occurring in the 2008 fiscal year whose families had prior involvement with DPP and, of these victims, 53% were age three or younger and 47% were one year of age or younger. Twenty eight near fatalities occurred in the 2008 fiscal year whose families had prior involvement with DPP, 68% of the victims were age three or younger and 57% were one year of age or younger. These data are consistent with trends seen previously in Kentucky and nationally.

Gender of Child Victims

Of the 28 near fatalities whose families had prior involvement with DPP, (64%) were male and 10 female (36%).

Type of Maltreatment

The cause of the majority of child deaths associated with families that had prior involvement with DPP was caretaker neglect (60%). Another 40% of the deaths were the result of caretaker physical abuse. Expectedly, physical abuse and neglect, being very different types of maltreatment, present quite differently as well. Common causes of death in physical abuse and neglect fatalities with prior DPP were inflicted head injury, gunshot, drowning and lack of supervision. Other relevant causes were suffocation, overdose, positional asphyxia, drug exposed and no medical treatment. Please see the child abuse/neglect risk factors and prevention strategies under infant death section.

Homicide

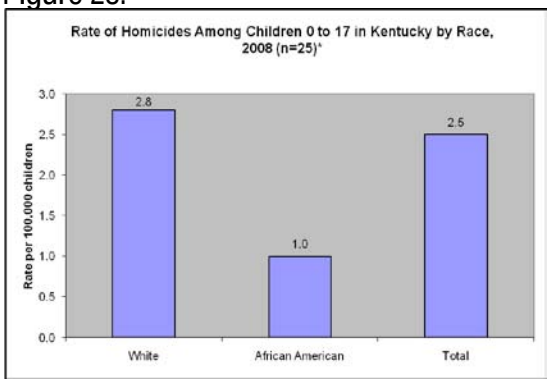
Homicides, as identified on the Kentucky death certificate, file may be under reported because the case is under investigation or the manner is classified as an accident. Deaths due to firearm injuries, after investigation, may turn out to be classified as homicides and thus would be included in this section.

During 2008, there were 25 child deaths due to homicide, but this number is based on those deaths identified as homicide and not those still under investigation. The majority of these deaths occurred among children 15-17 years old (4.0 per 100,000). The age group with the next highest homicide rate (3.2/100,000) was children under the age of four (Figure 29.). Again, these statistics for homicide are likely to be an estimation of cause of death, which may also include firearm and accidental injuries.

In 2008, the methods of child homicide in Kentucky included firearm, assault by sharp object, maltreatment, hanging, strangulation, suffocation, and unspecified or other. Child abuse can be manifested as homicide. Therefore, some child abuse cases may be captured here as well. The overall rate of homicide deaths among Kentucky children 17 and under was 2.5/100,000 children in 2008 (Figure 28). The rate of black children who died by homicide was lower than that of white children (1.0/100,000 compared to 2.8/100,000, respectively).

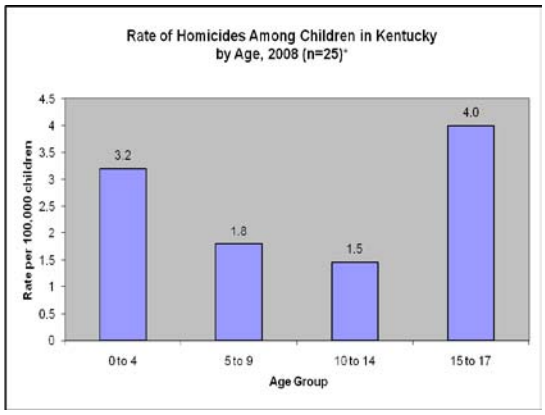
Overall, there has been a slight increase in the national trend of homicides among children. It appears that Kentucky's homicide rate is lower than that of the national rate; however, this may be the result of issues with data reporting or the manner in which it was reported. Therefore, a statistically valid comparison cannot be made regarding these numbers. It appears, in 2008, Kentucky experienced a significant increase in childhood homicide (Figure 30), but no definite conclusions can be drawn.

Figure 28.



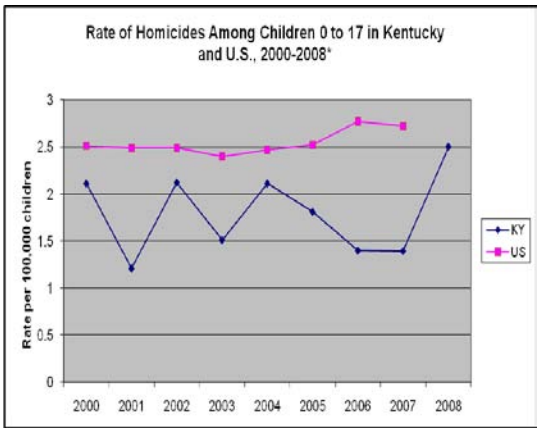
*Rates based on 20 or fewer deaths and may be unstable. Use with caution.
Data Source: KY Vital Statistics, Death Certificate Files, 2008

Figure 29.



*Rates based on 20 or fewer deaths and may be unstable. Use with caution.
Data Source: KY Vital Statistics, Death Certificate Files, 2008

Figure 30.



Note: Rates are based on 20 or fewer deaths and may be unstable. Use with caution.
Data Source: WISQARS Injury Mortality Report, 2000-2007 (data not available for 2008); & Kentucky Vital Statistics, Death Certificate Files, 2000-2008

RISK FACTORS FOR HOMICIDE

The National Youth Violence Prevention Resource Center states that research on youth violence has increased our understanding of risk factors including individual, family, peer/social, and community risk factors that make some populations more vulnerable to victimization and perpetration. These risk factors increase the likelihood that a young person will become violent. However, the risk factors are not the direct cause of youth violence; instead, risk factors contribute to youth violence.

PREVENTION STRATEGIES FOR HOMICIDE

According to the Children's Safety Network, a number of prevention factors may protect some youth from violence. These include: a feeling of connectedness to family or other adults; ability to discuss problems with parents; the perception that parental expectations for school performance are high; frequent shared activities with parents; youth involvement in social activities; commitment to school; and the consistent presence of parents during at least one of the following: when the child awakens, when arriving home from school, during evening mealtimes, and when going to bed. It has also been shown that programs that address community deterioration (improving areas for children to play and providing supervised activities); alcohol abuse; gun safety; non violence coping skills; and economic issues can indirectly help to prevent youth violence.

Parents:

1. Seek early treatment for children with emotional problems; possible mental disorders, particularly depression and impulse control disorder; and substance abuse problems. Find help if your child appears angry, sad or lonely; is being bullied at school; has other school problems; or is withdrawn. Please visit http://mentalhealth.samhsa.gov/publications/Publications_browse.asp?ID=50&Topic=Youth+Violence+Prevention or http://www.safeyouth.org/scripts/topics/hotlines.asp for youth violence prevention information and crisis hotlines that may be useful to you and your family.
2. Talk to your pediatrician or primary care provider.
3. Make sure your child has appropriate adult supervision, especially in the hours after school and on weekends.
4. Help your child make good choices about personal safety, staying out of gang activity, substance use, and limiting access to firearms
5.

Community Leaders:

1. Work to make firearms inaccessible to young people.
2. Support violence prevention programs in your community.
3. Create positive activities for youth, such as after-school programs.
4. Educate families about violence prevention.

Professionals:

1. Provide appropriate treatment to children who exhibit violent behaviors.
2. Work with families to recognize signs of depression, anger, or loneliness that could lead to violence.
3. Partner with schools to help kids understand the issues of violence.

Child Fatality Review Teams:

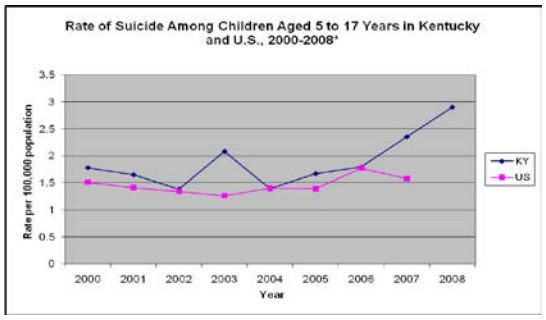
1. Promote education/awareness about firearm safety and programs that keep guns out of the hands of children.
2. When reviewing homicide deaths, be mindful of prevention activities for the community.
3. The National Center for Child Death Review provides guides to effective reviews that should be used by CFR teams to help determine what records should be brought to meetings, what risk factors to evaluate, the types of services that need to be provided and evidence- based prevention activities to consider.

Suicide

In 2007, the most recent year for which national data is available, 34,598 people in the United States committed suicide and of these, 4,140 were people between the ages of 15-24 according to www.suicidology.org. Nationally, there were approximately 95 suicides per day or one suicide every 15.2 minutes and about every two hours a young person (under the age of 25) commits suicide. The CDC reports that in the US during 2008, more than 376,000 people received medical care for self-induced injuries at emergency rooms. In Kentucky, suicide is the second leading cause of death for those aged 15 to 17. The rate of suicide deaths among Kentucky children ages 5 to 17 was 2.9 per 100,000 children in 2008. According to the Suicide Prevention and Awareness program staff at the Kentucky Department for Behavioral Health, Developmental and Intellectual Disabilities, this may be partially attributable to an experience in 2007 with initial youth suicides which resulted in suicide contagion issues in many communities in Kentucky in 2008.

The rate of suicide was highest among children 17 years old (13.6 per 100,000). From 2000 to 2008, it would appear the rate of death among children from suicide was higher in Kentucky than the United States for most years (Figure 31), but the numbers are small and not statistically valid. However, it is concerning that Kentucky's rate of suicide among children runs higher than the national rate even when underreporting is an issue. It appears that Kentucky's childhood suicide rate has increased substantially from 1.3 in 2006 to 2.9 in 2008, but no definite conclusions can be drawn when the numbers are so small.

Figure 31.



*Note: Rates are based on 20 or fewer deaths and may be unstable. Use with caution.
Data Source: WISQARS Injury Mortality Report, 2000-2007 (data not available for 2008); & Kentucky Vital Statistics, Death Certificate Files, 2000-2008

Firearms are the most common method of suicide among all groups (male, female, elderly, young, black, white, etc). Suicide crosses all ethnic, economic, social, and age boundaries. The racial distribution of Kentucky childhood suicides in 2008 reflects Kentucky's normal population distribution, thus no disparities occur among those children who committed suicide. The second most common mechanisms were hanging/strangulation. In 2008, more Kentucky males (17) committed suicide than females (3) and the most common method by both was use of a firearm. This follows a national trend of increase of use of more lethal means amount young females as well as males.

Kentucky has made efforts to develop preventive measures by creating and enacting Senate Bill 65 and House Bill 51. Senate Bill 65 requires all high school and middle school principals, guidance counselors and teachers to complete a minimum of two hours of self-study review of suicide prevention materials each year. House Bill 51 requires the Cabinet for Health and Family Services to post suicide prevention awareness and training information. The Suicide Prevention and Awareness program staff at the Kentucky Department for Behavioral Health, Developmental and Intellectual Disabilities posted the information on August 1, 2010. It also requires every public middle and high school administrator to disseminate suicide prevention awareness information to all middle and high school students by September 1, 2010, and September 1 of each year thereafter.

RISK FACTORS FOR SUICIDE

The Kentucky Violent Death Reporting System (KVDRS), with funding from the Centers for Disease Control and Prevention, began collecting statewide violent death information in 2005. The KVDRS integrates investigative information from the Kentucky State Police, coroners, medical examiners, forensic crime laboratories and toxicology laboratories from deaths that occur within Kentucky (numbers will vary from Vital Statistics due to KVDRS reporting all deaths occurring in Kentucky, while the remaining data in this report is all Kentucky resident deaths for children less than 17 years old). KVDRS collects additional information regarding deaths, including precipitating circumstances of suicide cases.

In 2008, there were 19 KVDRS suicide cases. Precipitating circumstances were known in 63% of those suicide cases. Suicide precipitating circumstances are identified as:

- Current depressed mood
- Ever treated for mental illness
- Current mental health problem
- Current treatment for mental health problem
- Left suicide note
- Disclosed intent to commit suicide
- School problem
- Other relationship problem
- More than one circumstance can apply

In Kentucky, the precipitating circumstances associated with the majority of youth suicide in 2008 were depression and mental health, which are known nationally as risk factors. None of Kentucky's 2008 suicide cases appeared to be linked with a suicide of a family member or friend within the past five years.

Research shows that most suicidal people desperately want to live but are unable to see alternatives to their problems. They want to 'stop the pain' and think suicide is the only answer. Most suicidal people give definite warning signals of their suicidal intentions, but others are often unaware of the significance of these warnings or unsure what to do about them. Suicide has ramifications for the loved ones left behind, often referred to as "survivors." Survivors have not only lost a loved one, they also have many questions and may experience emotional problems and become suicidal themselves. Survivors include not just family members but classmates, neighbors, and entire schools.

To help identify youth at risk for suicide, the most important warning signs are:

- Any suicide threats
- Statements revealing a desire to die
- Sudden changes in behavior
- Prolonged depression
- Previous suicide attempt
- Alcohol and drug abuse
- Making final arrangements
- Giving away prized possessions
- Purchasing a gun or stockpiling pills

There is ample evidence that talking about suicide does not cause someone to become suicidal. Talking may be the one thing that saves someone.

The Kentucky Suicide Prevention Group has three key messages 1) A life is too much to lose, 2) Suicide is a preventable public health problem and 3) Suicide Prevention: It's Everybody's Business. The group's mission is to decrease suicide deaths and attempts in the Commonwealth through advocacy and awareness, intervention, survivor support, and evaluation. The Kentucky Department of Behavioral Health, Developmental and Intellectual Disabilities and Addiction Services (DBHDIDAS) has an ongoing grant funded by Substance Abuse/Mental Health Administration (SAMHSA). This grant, Kentucky Suicide Prevention in Youth - a Collaborative Effort (SPYCE) project, includes both public and professional education on suicide risk factors and protective factors for suicide prevention as well as training in prevention, early intervention and post-intervention methods.

PREVENTION STRATEGIES FOR SUICIDE

Parents:

1. Seek early treatment for children with emotional problems, possible mental disorders (particularly depression and impulse control disorder) and substance abuse problems.
2. Limit access to lethal means of suicide, particularly firearms.
3. Provide supervision, support and constructive activities for children and adolescents.
4. Find professional help if your child appears angry, sad, lonely, is being bullied at school, has other school problems, or is withdrawn.
5. Get trained in Q.P.R. (Question, Persuade, and Refer). Q.P.R. is an educational program that teaches ordinary citizens how to recognize a mental health emergency and how to get a person at risk the help they need. For more information please visit http://www.kentuckysuicideprevention.org/Resources.html#4.

Community Leaders:

1. Support local efforts to address suicide and the range of associated stressors, e.g. untreated mental illness, abuse, lack of access to care, bullying.
2. Work to make firearms inaccessible to young people.
3. Support suicide prevention programs in your community.
4. Create positive activities for youth such as after-school programs.
5. Educate professionals in the community who deal with children and families about suicide and warning signs.
6. Become gatekeepers to ask youth about suicide and refer them to appropriate professional resources.
7. Learn how to recognize the signs of suicide and ask your children if they are thinking about suicide. Gatekeeper training is used to learn these signs and is widely available throughout the state. Training can be scheduled for any community group through the Kentucky Suicide Prevention Group. For more information see http://mhmr.ky.gov/mhsas/sped-training.asp or call to schedule training (502-564-4456).

Professionals:

1. Provide appropriate treatment and/or referral to kids who exhibit suicidal behaviors.
2. Work with families to recognize signs of depression, anger, or loneliness that could lead to suicide.
3. Partner with schools to help kids understand the issues of suicide.
4. Become involved in state or local suicide prevention/postvention activities.
5. Encourage trainings in Q.P.R. (Question, Persuade, and Refer). Q.P.R. is an educational program that teaches ordinary citizens how to recognize a mental health emergency and how to get a person at risk the help they need. For more information please visit http://www.kentuckysuicideprevention.org/Resources.html#4.

Child Fatality Review Teams:

1. Support the Kentucky Suicide Prevention Group's efforts both locally and statewide.
2. Promote education/awareness about firearm safety and programs that keep guns out of the hands of children.
3. Promote other suicide prevention programs both locally and statewide.
4. When reviewing suicide deaths, be mindful of prevention/postvention activities for the community.

FEDERAL REPORTING OF CHILDHOOD INJURY PREVENTION INDICATORS

The Title V block grant from the Health Resources and Services Administration, Maternal and Child Health Bureau, requires that Kentucky report annually on a core set of measures. A section of these are performance measures, on which all states are required to report. Performance measures help to assess how maternal and child health needs are being met in each state. Table 2 highlights 2008 Kentucky and U.S. data for selected national and state performance measures that relate to child fatality.

Table 2. Selected Performance Measures from Title V

Performance Measures Relating to Child Fatality Review	KY	US
Health Status Indicator 03C: The death rate per 100,000 from unintentional injuries due to motor vehicle crashes among youth aged 15 through 24 years.	26.7	24.9
Health Status Indicator 03B: The death rate per 100,000 for unintentional injuries among children aged 14 years and younger due to motor vehicle crashes.	2.5	3.2
National Performance Measure 10: The rate of deaths to children aged 14 and younger caused by motor vehicle crashes per 100,000 children.	2.5	3.2
Health Status Indicator 03A: The death rate per 100,000 due to unintentional injuries among children aged 14 years and younger.	6.9	8.3
National Performance Measure 16: The rate (per 100,000) of suicide deaths among youths 15-19.	10.6	6.9
State Performance Measure 1: Decrease the death rate for children age 0-18 due to unintentional injury and/or violence.	17.4	17.4

[a] Data for Kentucky is 2007 from Title V;
[b] US data is from the Web-based Injury Statistics Query and Reporting System (WISQARS) for the year 2007. Data from 2007 is the latest finalized data. http://www.cdc.gov/injury/wisqars/index.html

TECHNICAL NOTES AND DATA SOURCES

Data contained within this report are from:

- Kentucky Vital Statistics Death Certificate Files
- March of Dimes Peristats Data Center
- Child Fatality Coroner Report Form Database
- Kentucky State Police Statistics
- Kentucky Injury and Prevention Research Center (KIPRC)
- Kentucky Child Abuse and Neglect Annual Report
- Kentucky Violent Death Reporting System
- Centers for Disease Control and Prevention
- The Kentucky State Data Center

The data reflects only those deaths occurring to children age 17 and under. Data from the 2008 Vital Statistics Live Birth Certificate files were utilized for denominator data in calculating infant mortality rates. Causes of death are classified based on the International Classification of Diseases 10th revision (ICD-10). Whenever available, rates for the Nation were compared to rates for Kentucky. National rates were obtained from the Centers for Disease Control and Prevention WISQARS Fatal Injury Reports and National Vital Statistics Reports (National mortality reports for 2008 were unavailable).

Certain limitations exist with death certificate data and should be acknowledged when interpreting results. First, problems exist in the completion of death certificates as well as the accuracy of completed information on the certificate. Physician interpretation of mortality causal events may differ which could lead to variation in coding the primary cause of death. Also, determining one specific underlying cause of death among decedents with multiple chronic diseases can become problematic since the etiologic sequence of diseases may be unclear, and one single disease may not adequately describe the cause of death. Second, data reported in this publication are from the primary cause of death field only and do not include supplemental causes of death. This could lead to under-reporting of certain causes of death. For example, an infant with a congenital heart defect that is born pre-term may have listed prematurity as the primary cause of death on the certificate with congenital anomalies listed as a contributing cause of death. Since this report is based only on the primary cause of death, this infant would be counted in the prematurity deaths but not in the congenital anomalies deaths. Therefore, reporting based solely on the primary cause of death can lead to underreporting of certain causes.

Calculation of Rates

Often rates are used to relate the number of cases of a disease or outcome to the size of the source population in which they occurred. A rate is defined as a ratio in which there is a distinct relationship between the numerator and denominator, and some measure of time is included as part of the denominator.

Infant mortality rates are commonly used to measure the risk of dying during the first year of life. These rates are calculated by dividing the number of infant deaths in a calendar year for a given area by the number of live births registered for the same period and area and are presented as rates per 1,000 live births.

With the exception of infant mortality rates, rates presented within this report are on an annual basis per 100,000 estimated populations residing in Kentucky. The 2008 Population Estimates for Kentucky from the Kentucky State Data Center were utilized for denominator data in calculating death rates. Age specific death rates are calculated by dividing the total number of deaths for a specified age group for a given area and time frame by the total estimated persons within that same age group for the same area and time frame and expressed as a rate per 100,000 specified population.

Calculation of Preterm Related Causes of Death

Preterm birth has been steadily increasing in Kentucky over the last decade and has risen at a rate faster than that of the nation with a total of 8,961 babies born preterm in Kentucky during 2007. Despite this fact, in 2007, only 52 infant deaths were classified as being attributable to preterm birth with the standard classification of leading causes of death. In order to address this discrepancy, we utilized a newer method that estimates more accurately the contribution of preterm birth to infant mortality rates in Kentucky. One study published in the Journal *Pediatrics* ("The Contribution of Preterm Birth to Infant Mortality Rates in the United States") classified preterm related causes of death for the nation based off linked birth and death files and, in so doing, were able to classify 34.3% of all infant deaths as attributable to preterm birth compared to only 17% using the standard classification of leading causes of death. The National Center for Health Statistics has also published this new method of classifying preterm related causes of death in their publication "Infant Mortality Statistics from the 2005 Period Linked Birth/Infant Death Data Set." After reviewing these two publications along with the new method, Kentucky applied this method to its 2007 data.

In order to ascertain the gestational age of an infant who has died, death certificate files had to be linked to the birth certificate files so the infant could be classified as preterm or not at birth. Kentucky infant death certificates from 2007 were linked to birth certificates from 2006 and 2007 and this was the data set from which preterm related causes of death were determined. Following the criteria from Callaghan et. al., a specific list of ICD10 codes for the underlying cause of death was utilized to classify a death as either preterm related or not. This list was determined in their study by taking the top 20 leading causes of infant death in the linked file using the criteria outlined for cause of death rankings by NCHS and determined if >=75% of infants whose deaths were attributed to that cause had been born at <37 weeks gestation. Based on this method, the following causes of death were determined to be attributable to preterm birth: short gestation/low birth weight, respiratory distress of newborn, bacterial sepsis of newborn, atelectasis, chronic respiratory disease originating in the perinatal period, necrotizing enterocolitis of newborn, maternal complications, cord and placental complications, neonatal hemorrhage, birth trauma, and vascular disorder of intestines. These corresponding ICD10 codes were then pulled from the linked infant death/birth file for Kentucky and these were the deaths that were classified as preterm related cause of death.

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KRS 211.680 Legislative intent and findings for KRS 211.680 to 211.686 and KRS 72.029

The Kentucky General Assembly declares that the purpose of KRS 211.680 to 211.686 and KRS 72.029 is to reduce the number of child fatalities. The General Assembly finds that establishing priorities and developing programs to prevent child fatalities requires:

(1) Accurate determination of the cause and manner of death;

(2) Cooperation and communication among agencies responsible for the investigation of child fatalities; and

(3) Collection and analysis of data to:

(a) Identify trends, patterns, and risk factors; and

(b) Evaluate the effectiveness of prevention and intervention strategies.

Effective: July 15, 1996

History: Created 1996 Ky. Acts ch. 347, sec. 1, effective July 15, 1996.

KRS 211.682 Interpretation of KRS 211.680 to 211.686 and KRS 72.029 with respect to laws relating to coroners

The provisions of KRS 211.680 to 211.686 and KRS 72.029 shall not be interpreted to limit, restrict, or otherwise affect any power, authority, duty, or responsibility imposed by any other provisions of law upon any coroner, but rather shall be interpreted to aid, assist, and complement the coroner in the performance of those statutory duties.

Effective: July 15, 1996

History: Created 1996 Ky. Acts ch. 347, sec. 2, effective July 15, 1996.

KRS 211.684 Authorization to establish state child fatality review team -- Annual report on child fatalities

(1) For the purposes of KRS Chapter 211:

(a) "Child fatality" means the death of a person under the age of eighteen (18) years; and

(b) "Local child fatality response team" and "local team" means a community team composed of representatives of agencies, offices, and institutions that investigate child deaths, including but not limited to, coroners, social service workers, medical professionals, law enforcement officials, and Commonwealth's and county attorneys.

(2) The Department for Public Health may establish a state child fatality review team. The state team may include representatives of public health, social services, law enforcement, prosecution, coroners, health-care providers, and other agencies or professions deemed appropriate by the commissioner of the department.

(3) If a state team is created, the duties of the state team may include the following:

(a) Develop and distribute a model protocol for local child fatality response teams for the investigation of child fatalities;

(b) Facilitate the development of local child fatality response teams which may include, but is not limited to, providing joint training opportunities and, upon request, providing technical assistance;

(c) Review and approve local protocols prepared and submitted by local teams;

(d) Receive data and information on child fatalities and analyze the information to identify trends, patterns, and risk factors;

(e) Evaluate the effectiveness of prevention and intervention strategies adopted; and

(f) Recommend changes in state programs, legislation, administrative regulations, policies, budgets, and treatment and service standards which may facilitate strategies for prevention and reduce the number of child fatalities.

(4) The department shall prepare an annual report to be submitted no later than November 1 of each year to the Governor, the Legislative Research Commission, the Chief Justice of the Kentucky Supreme Court, and to be made available to the citizens of the Commonwealth. The report shall include a statistical analysis of the incidence and causes of child fatalities in the Commonwealth during the past fiscal year and recommendations for action. The report shall not include any information which would identify specific child fatality cases.

Effective: July 14, 2000
History: Amended 2000 Ky. Acts ch. 14, sec. 61, effective July 14, 2000. -- Amended 1998 Ky. Acts ch. 426, sec. 311, effective July 15, 1998. -- Created 1996 Ky. Acts ch. 347, sec. 3, effective July 15, 1996.

KRS 211.686 Authorization for coroners to establish local child fatality response teams -- Confidentiality of team proceedings and records

(1) A local child fatality response team may be established in every county or group of contiguous counties by the coroner or coroners with jurisdiction in the county or counties. The local coroner may authorize the creation of additional local teams within the coroner's jurisdiction as needed.
(2) Membership of the local team may include representatives of the coroner, the local office of the Department for Community Based Services, law enforcement agencies with investigation responsibilities for child fatalities which occur within the jurisdiction of the local team, the Commonwealth's and county attorneys, representatives of the medical profession, and other members whose participation the local team believes is important to carry out its purpose. Each local team member shall be appointed by the agency the member is representing and shall serve at the pleasure of the appointing authority.
(3) The purpose of the local child fatality response team shall be to:
- (a) Allow each member to share specific and unique information with the local team;
- (b) Generate overall investigative direction and emphasis through team coordination and sharing of specialized information;
- (c) Create a body of information that will assist in the coroner's effort to accurately identify the cause and reasons for death; and
- (d) Facilitate the appropriate response by each member agency to the fatality, including but not limited to, intervention on behalf of other children who may be adversely affected by the situation, implementation of health services necessary for protection of other citizens, further investigation by law enforcement, or legal action by Commonwealth's or county attorneys.

(4) The local team may:
- (a) Analyze information regarding local child fatalities to identify trends, patterns, and risk factors;
- (b) Recommend to the state team, and any other entities deemed appropriate, changes in state or local programs, legislation, administrative regulations, policies, budgets, and treatment and service standards which may facilitate strategies for prevention and reduce the number of child fatalities; and
- (c) Evaluate the effectiveness of local prevention and intervention strategies.

(5) The local team may establish a protocol for the investigation of child fatalities and may establish operating rules and procedures as it deems necessary to carry out the purposes of this section.
(6) The review of a child fatality by a local team may include information from reports generated or received by agencies, organizations, or individuals that are responsible for investigation, prosecution, or treatment in the case.
(7) The proceedings, records, opinions, and deliberations of the local team shall be privileged and shall not be subject to discovery, subpoena, or introduction into evidence in any civil action in any manner that would directly or indirectly identify specific persons or cases reviewed by the local team. Nothing in this subsection shall be construed to restrict or limit the right to discover or use in any civil action any evidence that is discoverable independent of the proceedings of the local team.
Effective: July 14, 2000
History: Amended 2000 Ky. Acts ch. 14, sec. 43, effective July 14, 2000. -- Created 1996 Ky. Acts ch. 347, sec. 4, effective July 15, 1996.

KRS 72.025 Circumstances requiring post-mortem examination to be performed by coroner

Coroners shall require a post-mortem examination to be performed in the following circumstances:
(1) When the death of a human being appears to be caused by homicide or violence;
(2) When the death of a human being appears to be the result of suicide;
(3) When the death of a human being appears to be the result of the presence of drugs or poisons in the body;
(4) When the death of a human being appears to be the result of a motor vehicle accident and the operator of the motor vehicle left the scene of the accident or the body was found in or near a roadway or railroad;

(5) When the death of a human being occurs while the person is in a state mental institution or mental hospital when there is no previous medical history to explain the death, or while the person is in police custody, a jail or penal institution;
(6) When the death of a human being occurs in a motor vehicle accident and when an external examination of the body does not reveal a lethal traumatic injury;
(7) When the death of a human being appears to be the result of a fire or explosion;
(8) When the death of a child appears to indicate child abuse prior to the death;
(9) When the manner of death appears to be other than natural;
(10) When human skeletonized remains are found;
(11) When post-mortem decomposition of a human corpse exists to the extent that external examination of the corpse cannot rule out injury or where the circumstances of death cannot rule out the commission of a crime;
(12) When the death of a human being appears to be the result of drowning;
(13) When the death of an infant appears to be caused by sudden infant death syndrome in that the infant has no previous medical history to explain the death;
(14) When the death of a human being occurs as a result of an accident;
(15) When the death of a human being occurs under the age of forty (40) and there is no past medical history to explain the death;
(16) When the death of a human being occurs at the work site and there is no apparent cause of death such as an injury or when industrial toxics may have contributed to the cause of death;
(17) When the body is to be cremated and there is no past medical history to explain the death;
(18) When the death of a human being is sudden and unexplained; and
(19) When the death of a human being occurs and the decedent is not receiving treatment by a licensed physician and there is no ascertainable medical history to indicate the cause of death.
Effective: July 15, 1998
History: Amended 1998 Ky. Acts ch. 406, sec. 1, effective July 15, 1998. -- Amended 1986 Ky. Acts ch. 316, sec. 1, effective July 15, 1986. -- Created 1982 Ky. Acts ch. 195, sec. 1, effective July 15, 1982.

KRS 72.029 Monthly report by coroner on child fatalities

Every coroner or other official performing a coroner's functions shall, on or before the tenth day of each month, report to the Department for Public Health the death of any child under the age of eighteen (18) years occurring within the county during the preceding month, and the circumstances of the death. The report shall be made on the form required pursuant to administrative regulations promulgated pursuant to KRS Chapter 13A by the department. The form shall be developed in consultation with the Kentucky Coroners' Association.
Effective: July 15, 1998
History: Amended 1998 Ky. Acts ch. 426, sec. 93, effective July 15, 1998. -- Created 1996 Ky. Acts ch. 347, sec. 5, effective July 15, 1996.

KRS 72.410 Investigation of deaths defined as a coroner's case

(1) The coroner of each county shall investigate the cause and manner of all deaths that are defined by KRS 72.405 as a coroner's case.

(2) The coroner may, in his sound discretion, when investigating a coroner's case, request the assistance of the district medical examiner and the Office of the Kentucky State Medical Examiner, order an autopsy, and hold an inquest.

(3) (a) Upon notification of the death of a child under the age of eighteen (18) years which meets the criteria for a coroner's case as defined in KRS 72.405 and 72.025, the coroner shall as soon as practicable contact the local office of the Department for Community Based Services, law enforcement agencies with local jurisdiction, and the local health department to determine the existence of relevant information concerning the case.

(b) Any agency of the state or any other agency, institution, or facility providing services to the child or the child's family, shall provide to the coroner upon his or her request the cooperation, assistance, and information to enable the coroner to comply with the provisions of this chapter. This section shall not be deemed to abrogate the attorney-client nor the clergy-penitent privilege or the confidentiality of records provided by KRS 311.377(2). If other privileged or confidential records are disclosed to the coroner pursuant to this section, the records shall remain confidential or privileged and shall not be disclosed except as authorized by this section, to the state or local child fatality response team, or as otherwise required by law.

Effective: June 26, 2007

History: Amended 2007 Ky. Acts ch. 85, sec. 152, effective June 26, 2007. -- Amended 2000 Ky. Acts ch. 14, sec. 8, effective July 14, 2000. -- Amended 1998 Ky. Acts ch. 65, sec. 7, effective July 15, 1998. -- Amended 1996 Ky. Acts ch. 347, sec. 6, effective July 15, 1996. -- Created 1978 Ky. Acts ch. 93, sec. 4, effective June 17, 1978.

LEADING CAUSES OF CHILD DEATH IN KENTUCKY

The top 10 leading causes of death in Kentucky by age groups from the years 2004 to 2007 combined are presented in Table 3. The information presented in Table 3 comes from a CDC dataset, in which data is only complete through 2007. After the <1 age group, unintentional injury was the leading cause of death among the remaining age groups of Kentucky children during 2008.

Table 3. Top Ten Leading Causes of Death in Kentucky by Age

10 Leading Causes of Death, Kentucky					
Combined years 2004 - 2007					
Age Groups					
Rank	<1	1 to 4	5 to 9	10 to 14	15 to 17
1	Congenital Anomalies	Unintentional Injury	Unintentional Injury	Unintentional Injury	Unintentional Injury
2	SIDS	Malignant Neoplasm	Malignant Neoplasm	Malignant Neoplasm	Homicide
3	Prematurity Related	Congenital Anomalies	Congenital Anomalies	Heart Disease	Suicide
4	Unintentional Injury	Homicide	Homicide	Congenital Anomalies	Malignant Neoplasm
5	Maternal Pregnancy Comp.	Heart Disease	Heart Disease	Suicide	Heart Disease
6	Placenta Cord Membranes	Benign Neoplasm	Benign Neoplasm	Homicide	Congenital Anomalies
7	Neonatal Hemorrhage	Anemias	Meningitis	Benign Neoplasm	Bronchitis, Emphysema, Asthma
8	Bacterial Sepsis	Bronchitis, Emphysema, Asthma	Bronchitis, Emphysema, Asthma	Cerebra-vascular	Cerebra-vascular
9	Atelectasis	Influenza & Pneumonia	Cerebra-vascular, Perinatal Period, and Influenza & Pneumonia*	Diabetes Mellitus, Perinatal Period, & Chronic Low Respiratory Disease	Septicemia
10	Disease of Circulatory System and Necrotizing Enterocolitis	Cerebra-vascular and Nephritis	Cerebra-vascular, Perinatal Period, and Influenza & Pneumonia*	Diabetes Mellitus, Perinatal Period, & Chronic Low Respiratory Disease	Influenza & Pneumonia

Note: Shaded areas denote potentially preventive deaths.
Note: * Five causes tied but only three depicted
Source: National Center for Injury Prevention and Control – WISQARS (Data complete through 2007)

Additional Resources

Kentucky Child Fatality Review and Injury Prevention Program
Department for Public Health
Contact: Teddy Slone
502-564-2154 x3857 or Teddy.slone@ky.gov

To find a Local Child Fatality Review Team in your area contact the Kentucky Child Fatality and Injury Prevention Program Administrator, Teddy Slone, at 502-564-2154 x3857 or Teddy.slone@ky.gov

SAFE KIDS Local Coalitions in Kentucky

- Safe Kids Barren River
  - Coalition Coordinator: Vickie Poore
    - vickieLpoore@ky.gov (270) 651-8321 x136
- Safe Kids Fayette County
  - Coalition Coordinator: Sherri Hannan
    - srhann2@uky.edu (859) 323-1153
- Safe Kids Louisville and Jefferson County
  - Coalition Coordinator: Erika Janes
    - Erika.janes@nortonhealthcare.org (502) 629-7335
- Safe Kids River Cities
  - Coalition Coordinator: Rene Clay
    - Rene.clay@kdmc.net (606) 408-4151

SAFE KIDS Kentucky State Coalition

- Coordinator: Susan Pollack
  - shpoll@uky.edu (859) 323-6194

Local Chapters under SAFE KIDS Kentucky State Coalition

- Safe Kids Christian County
  - Chapter Coordinator: Deborah Lambert
    - Deborah.Lambert@ky.gov (270) 887-4160
- Safe Kids Estill County
  - Chapter Coordinator: Becky Crawford
    - RebeccaN.Crawford@ky.gov (606) 723-5873
- Safe Kids Madison County
  - Chapter Coordinator: Lloyd Jordison
    - WilliamL.Jordison @ky.gov (859) 228-2042
- Safe Kids Metcalfe County
  - Chapter Coordinator: Stephanie Elmore
    - Stephanie.Elmore@ky.gov (270) 651-8321 x130
- Safe Kids Pulaski County
  - Chapter Coordinator: Judy Price
    - judy.price@somersetpd.com (606) 678-6670

Kentucky Injury Prevention and Research Center – www.kiprc.uky.edu
333 Waller Avenue, Suite 206
Lexington, KY 40504
Contact: Susan Pollack, MD
859-257-4954 or shpoll@uky.edu

Childcare Health Consultation for a Healthy Start in Childcare Program

Department for Public Health
Contact: Tal Curry
502-564-3757 or tal.curry@ky.gov

HANDS Program
Department for Public Health
Contact: Brenda English
502-564-3757 or brenda.english@ky.gov

Resources for Educational Programs and Law Enforcement Activities

Kentucky Crime Prevention Coalition
859-727-2678
www.kycrimeprevention.com

Prevent Child Abuse Kentucky
300 East Main St, Suite 110
Lexington, KY 40507
1-800-CHILDREN
www.pcaky.org

Kentucky Department of Community Based Services
Division of Protection and Permanency
1-800-752-6200

Kentucky Child Now!
1491 Twilight Trail
Frankfort, KY 40601-1700
502-227-7722
www.kychildnow.org

Kentucky Regional Poison Center
PO BOX 35070
Louisville, KY 40232-5070
1-800-222-1222

Kentucky Coroners Association
Dept of Criminal Justice
www.coroners.ky.gov

National Center for Child Death Review
2438 Woodlake Circle, Suite 240
Okemos, MI 48864
1-800-656-2434
www.childdeathreview.org

Division of Fire Prevention
101 Sea Hero Road, Suite 100
Frankfort, KY 40601
502-573-0365
www.ohbc.ky.gov

Kentucky Suicide Prevention Group
1-800-SUICIDE or 1-800-273-TALK (8255)
www.kentuckysuicideprevention.com

Kentucky Department for Behavioral Health
100 Fair Oaks Lane, 4E-D
Frankfort, KY 40621
502-564-4527

Hunter Education (Firearm Safety)
KY Dept of Fish and Wildlife Resources
#1 Sportsman's Lane
Frankfort, KY 40601
1-800-858-1549
www.fw.ky.gov

INTERNET RESOURCES

American Academy of Pediatrics	www.aap.org
American Association of Suicidology	www.suicidology.org
American Red Cross	www.redcross.org
American SIDS Institute	www.sids.org
ATV Safety Institute	www.atvsafety.org
Best Practices of Youth Violence Prevention: A Sourcebook for Community Action	www.cdc.gov/ncipc/dvp/bestpractices.htm
C.A.R.E Program	www.pcaky.org/care.html
Center for Injury Prevention and Control	www.cdc.gov/ncipc
Child Abuse	www.childabuse.com
Children's Safety Network	http://research.marshfieldclinic.org
Community Partners Protecting Children	www.uky.edu/socialwork/trc
Consumer Product Safety Commission	www.cpsc.org
Department for Community Based Services	www.chfs.ky.gov/dcbs
First Candle	www.FirstCandle.org
Kentucky Department for Mental Health	www.mhmr.ky.gov
Kentucky Domestic Violence Association	www.kdva.org
Kentucky Injury Prevention/Research Center	www.kiprc.uky.edu
Kentucky Suicide Prevention Group	www.kentuckysuicideprevention.org
KUTO (Kids Under Twenty-One)	www.kuto.org
National Center for Child Death Review	www.childdeathreview.org.
National Center for Injury Prevention	www.cdc.gov/ncipc
National Center for Missing/Exploited Children	www.missingkids.com
National Center on Shaken Baby Syndrome/ Abusive Head Trauma	www.dontshake.org
National Fire Protection Association	www.nfpa.org
National Highway Transportation Safety Admin	www.nhtsa.dot.gov
National Institutes of Health	www.NICHD.NIH.gov/SIDS
National SAFE KIDS Campaign	www.safekids.org
National SIDS/Infant Death Resource Center	www.sidscenter.org
National Suicide Prevention Lifeline	1-800-Suicide (784-2433)
National Youth Violence Prevention Resource Center	www.safeyouth.org
Poison Control Center	1-800-222-1222
Prevent Child Abuse Kentucky	www.pcaky.org
SIDS Kentucky Network	www.SIDSKY.org
State Fire Marshall's Office	www.dhbc.ky.gov
Substance Abuse/Mental Health Administration	www.samhsa.gov
Suicide Hopeline Hotline	1-800-273-TALK (8255)
Suicide Prevention Resource Center	www.sprc.org
United States Fire Administration	www.usfa.fema.gov
United States Lifesaving Association	www.usla.org
U.S. Department for Justice	www.ojjdp.ncjrs.org
Yellow Ribbon Suicide Prevention Program	www.yellowribbon.org
Youth Suicide Prevention Programs: A Resource Guide	www.cdc.gov