# REPORT TO THE GOVERNOR
# AND GENERAL ASSEMBLY

# IOWA CHILD DEATH
# REVIEW TEAM

**December 2004**

*Administrative Support Provided by:*
*IOWA DEPARTMENT OF PUBLIC HEALTH*

**Thomas J. Vilsack, Governor** **Sally J. Pederson, Lt. Governor**

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# Foreword

**Lon Walker, Chairperson**

This is the ninth year the Iowa Child Death Review Team has published an annual report regarding the deaths of our state's most precious resource: our children. As the number of child deaths remained nearly constant this year, just slightly above 400, one must consider whether we really are doing all that can be done to prevent child deaths. With significant medical advances seemingly every year that can save children who in the not so distant past would have died, why is the number of child deaths not declining?

Parents are often not prepared to be parents and expose their children to drugs and tobacco both during pregnancy and after birth. Too often children are still not properly placed on their back in a crib with appropriate bedding. Too many children are the victims of homicide (at least a dozen every year), and too many troubled youth are taking their own lives. We also are seeing an increasing number of teens, riding in vehicles operated by other teens, involved in a fatal crash. Usually they are not wearing seat belts and may be using alcohol at the time of the crash.

Based on the empirical data collected for nine years, this report outlines some specific recommendations that may help reduce the deaths of our children. When I first wrote the foreword to the 1999 annual report that covered 1998 calendar year deaths, I spoke of our hopes that our recommendations would be implemented to help reduce child deaths in Iowa. To date, too little has been accomplished. I am optimistic this coming year will be different because we have received assurances from a state senator and a state representative that they will introduce some legislation based on this report that will aim to prevent future child deaths.

# Executive Summary

The primary goal of the Iowa Child Death Review Team (CDRT) is to reduce the number of child deaths in Iowa by making recommendations about prevention strategies to government officials, health and human service professionals and the general public. These recommendations are based on several years of the team's reviews of circumstances surrounding individual cases of child death. The team's working definition of a preventable death is as follows:

***A preventable death is one in which an individual or a community could have reasonably done something that would have changed the circumstances that led to the death.***

The CDRT considers all accidents and homicides to be preventable through active intervention such as improved parental supervision, enactment of laws or regulations or parental action. Other deaths due to SIDS, suicide or certain medical conditions may be prevented through improved education to parents about reducing risks for SIDS, more timely and appropriate interventions for medial conditions, and combating depression, bullying and negative self-image experienced by so many youth. Natural deaths from cancers, birth defects and premature birth are more difficult to prevent. Reducing prenatal smoking, alcohol and illicit drug use and secondhand smoke exposure by pregnant women would significantly decrease the number of natural deaths. However, deaths from disease processes such as childhood cancers are far more difficult to impact.

The Iowa CDRT was formed in 1995. Many recommendations have been made in reports to the governor and general assembly since the inception of the team. Some recommendations to the governor and legislature such as expanded case reviews of children through 17 years of age, improved child safety seat laws and stricter penalties for child endangerment resulting in the death of a child have been implemented. Some CDRT recommendations have been made in several annual reports but have not yet been acted upon. They continue to be important steps toward preventing future child deaths and should receive close scrutiny by lawmakers during the 2005 legislative session. In addition, health and human service professionals and the general public must heed the suggestions given if children are to live and thrive.

In order for the CDRT to continue its mission and improve active prevention efforts, the governor and legislature must take action on the <u>new</u> recommendation that permits limited sharing of confidential information to assure protection of other at-risk children, prosecution and further investigation of persons contributing to a child's death and improved inter/intra state agency cooperation to eliminate duplication of effort.

**Natural Deaths:** The vast majority of children die from natural means. Natural manner deaths include causes such as birth defects, premature birth, cancers, infections and chronic illnesses like asthma. Many of the premature births and birth defects are related to tobacco use by the mother while pregnant. Secondhand tobacco exposure after birth aggravates many conditions such as asthma and respiratory infections. Accurate tobacco exposure information is very difficult to obtain. Prenatal exposure to tobacco may be gathered from birth certificates. However, this information is self-reported by the mother and so may likely be underreported. Medical records and law enforcement reports rarely document secondhand tobacco exposure by the child. Thus,

although tobacco is definitely linked to higher incidence of deaths from respiratory infections and asthma, the extent of this exposure is difficult to ascertain.

**Accidents:** Accidents are nearly 100 percent preventable. Actions to prevent the death of a child by accidental means include better care provider supervision, but it may also include improved judgements on the part of adult caretakers. Better judgement would include decisions to keep a child less than 16 years old from operating an ATV, require child bikers to use helmets, enclose swimming pools with locked fences, keep smoke detectors operational, regulate the number of passengers riding with a teen driver, keep guns and ammunition locked in separate cabinets, limit teen driving during inclement weather, keep lighters and matches where children cannot access them and adhere to child safety restraint and seatbelt laws.

During calendar year 2003, 96 children died from accidents. Motor vehicle accidents (MVA) were the leading cause of accidental death. Failure to use seatbelts or child safety- restraint systems was present in 11 of the total 47 MVA deaths where children were passengers or drivers. In addition, in 15 of the motor vehicle crashes, more than one teen passenger was present in the vehicle at the time of the accident. Multiple friends can cause distractions and increase the chances of speeding among teen drivers. Alcohol or illicit drugs were involved in 17 percent of the MVA incidents where a teen victim was either driving or a passenger.

Drowning in tubs, pools and public rivers or lakes accounted for 10.4 percent of accidental deaths. For young children, improved supervision would likely prevent all drowning deaths, especially those deaths occurring in bathtubs.

**Suicides:** Seventeen children committed suicide in 2003. Of these youth, 14 were males and three were females. The youngest child was only nine years old. Hanging was the most frequent means of ending a life (11 cases), followed by gunshot wounds (4 cases) and one case of carbon monoxide poisoning. The Centers for Disease Control and Prevention recently reported that youth suicides using firearms has decreased nationally over the past few years, while hangings have increased. Iowa has experienced the same trend.

**Homicides:** There were 12 child homicide deaths in 2003. Shaken baby syndrome caused four child deaths; blunt trauma caused one death; asphyxiation caused two deaths; gun shot wounds caused one death; a house fire caused one; a drug administration error caused one death; and, drowning caused two deaths. The biological father caused seven of these deaths while the mother's boyfriend killed two children. A babysitter, a grandmother and a neighbor were each responsible for one child homicide. In many cases, the care provider reacted to stresses of a crying or difficult child. Many of these deaths could have been prevented had the care provider put the cranky child in a safe place and walked away or taken some other positive steps to defuse the situation. Health and social service agencies must continue and enhance efforts to educate new parents and the public about resources available to help stressed care providers. In addition, mothers and fathers should be careful whom they allow to tend their children and be alert to personality issues and stresses that may endanger the safety of their children.

**Undetermined:** The CDRT determined 44 child deaths to be of an undetermined manner. The cause of death for the vast majority (29) was SIDS. For two cases, the CDRT did not determine the cause of death because of the lack of adequate death scene investigation information. These were sleep related infant deaths as well. For another five cases, the team called the cause of death "undetermined" because the infants were bed sharing at the time of death, and patterns of lividity or other evidence did not clearly show if there was overlying involved. For three older children, the cause of death and manner of death could not be determined. Two of these cases involved

five-year old children; the other was 16. For one child, the cause was an over-the-counter drug overdose. For one child it was blunt trauma that could have been caused by either an accident or homicide, and two children died from falls that could have been accidents or homicides. In these cases investigative information could not help the team adequately determine the specific manner of death. In addition, one child died from encephalopathy.

***CDRT Recommendations For Elected Officials:***

- Amend the law that governs the CDRT so information can be shared under limited circumstances to protect children, prosecute perpetrators and enhance state agency operation.
- Require immediate drug screens of care providers present when a child dies in a suspected accident, homicide or in an undetermined manner. Require immediate drug screens of drivers when there is a fatal motor vehicle collision.
- Limit the number of passengers less than 20 years of age who may ride with a teen driver in a motor vehicle to one.
- Increase the penalty for driving with an improperly restrained child in a motor vehicle.
- Expand required autopsies for children from the current birth through age two years to birth through six years.
- Continue to expand the Community Empowerment initiative.
- Expand annual funding for the Iowa Child Death Review Team to cover actual operating expenses either through a permanent legislative appropriation or by levying a surtax of $2 on each death certificate issued by the Iowa Department of Public Health's Vital Records Bureau.
- Require all in-ground and aboveground swimming pools sold in Iowa to have swimming pool alarms installed by the purchaser or seller.
- Require all child autopsies to be completed and reported to the State Medical Examiner's office within three months of the death.
- Increase reimbursement to counties for SIDS autopsies.
- Require nicotine metabolite testing to be included in the autopsy when an infant dies so that accurate tobacco exposure can be determined and evaluated for its role in the death of the child.

**Many of these recommendations *do not* require additional money to implement. However, they all require action by elected officials to become policy.**

## 2004 IOWA CHILD DEATH REVIEW TEAM REPORT TO THE GOVERNOR AND IOWA GENERAL ASSEMBLY

In 1995, a new state law established the Iowa Child Death Review Team (CDRT). This law (*Code of Iowa 135.43*) describes the team membership and the specific responsibilities of the CDRT. Additional legislation was passed in 1998 that protects team representatives from liability while performing their duties to the team and protects entities that supply information to the CDRT for review.

The Child Death Review Team is composed of 14 members and seven state government liaisons. Each member represents a different profession or medical specialty, but all of the organizations represented have a documented commitment to helping children survive and thrive. There is a member representing each of the following: perinatology, pediatrics, law enforcement, social work, mental health, substance abuse, domestic violence, family practice, state medical examiner, county attorneys, SIDS, insurance industry, emergency room nurse and a member-at-large.

Liaisons from the following state agencies also participate in review of child death cases: human services, public health, transportation, attorney general's office, education, vital records and public safety. These representatives are selected by their agency director with consideration of their expertise in child behavior, injury and death and their commitment to team attendance and inter-departmental cooperation.

The Iowa Department of Public Health provides coordination and administrative support for the Child Death Review Team. The teams' responsibilities include:

- Collection, review and analyses of child death certificates, data and records concerning the deaths of children ages birth through 17 years, and preparation of an annual report summarizing the team's findings.
- Formulation of recommendations to the governor and general assembly about interventions that could prevent future child deaths.
- Formulation of recommendations to state agencies represented on the CDRT as to how they may improve services to children to prevent future child deaths.
- Maintenance of confidentiality of all records that the team reviews.
- Development of protocols and a child abuse-related death committees.

***The law also specifies the length of team appointment and attendance requirements for the CDRT members. The rules governing the team's operation may be found in the Iowa Administrative Code 641-90(135).***

It should be noted that the 1995 legislation mandated reviews of child deaths through age 6 years. In 2000, that age was expanded to include child deaths through 17 years.

***Since 1995, the Child Death Review Team has reviewed more than 3400 child death cases.*** This document is the ninth CDRT annual report regarding child death in the state of Iowa and ways that future child deaths might be reduced or prevented.

## *RECOMMENDATIONS FOR PREVENTION OF FUTURE DEATHS*

The Child Death Review Team has reviewed cases of child deaths for nine years. The recommendations made in this report are intended to help prevent future deaths. These recommendations are not case-specific, but are intended to deal with a broad range of issues. After a list of the specific recommendations, there is a brief discussion as to why each recommendation was made. **Special attention should be given to any recommendation that has been made in previous annual reports and is stated again this year.**

# RECOMMENDATIONS TO THE GOVERNOR AND THE IOWA GENERAL ASSEMBLY

***RECOMMENDATIONS REQUIRING LEGISLATIVE ACTION:***

***Recommendation 1:*** The CDRT recommends amending the current law (*Code of Iowa* 135.43), which governs operation of the Iowa Child Death Review Team as follows:

The review team shall perform the following duties:

d. Recommend to the Department of Human Services, appropriate law enforcement agencies, and other child protective organizations and agencies interventions, which may prevent harm to a child or children related to or living in the same home as the child under review.

e. Share information with the Attorney General's office, the office of the county attorney, and appropriate law enforcement agencies regarding a child under review only if the sharing of such information is necessary to initiate or assist in a death investigation or criminal prosecution and the office or agency does not otherwise have access to such information.

f. Share information with other divisions within the Iowa Department of Public Health for the purpose of assisting other divisions in performing the duties of that division, only if the division maintains the confidentiality of such information in accordance with this section and the division does not otherwise have access to such information.

g. Maintain the confidentiality of any patient records or other confidential information reviewed, subject to the limited releases of information authorized by this section.

***Recommendation 2*:** The CDRT recommends continued expansion of the Community Empowerment initiative. The CDRT especially advocates implementation of Community Empowerment programs that devote approximately 60 percent of their funds to home visits for all families with a pregnant mother or a newborn child, so that each family may become educated in appropriate parenting, preventive health, social and economic issues relating to infants and young children.

***Recommendation 3*:** The CDRT recommends raising the fine to $100 for driving with an improperly restrained child in a motor vehicle.

***Recommendation 4*:** The CDRT recommends that the graduated driver's license law limit the number of passengers less than 20 years of age who can ride with a teen driver to one.

***Recommendation 5*:** The CDRT recommends that the performance of an autopsy including toxicology studies be required for every death of a child through age 6 with the exception of children who are known to have died of a disease process while under the care of a physician or under extenuating circumstances as determined in consultation with the State Medical Examiner or other forensic pathologist designee. In addition, the team recommends full body X-rays of any child who dies before their second birthday.

***Recommendation 6*:** The CDRT recommends reimbursement for actual expenses incurred for the performance of an autopsy, x-rays and toxicology tests on an infant dying from Sudden Infant Death Syndrome to any county in which a SIDS death occurs. The current law allots $400 per case. The limit for this reimbursement should be $1700.

The CDRT also recommends reimbursement of up to a $600 for transportation of the body to the autopsy site.

***Recommendation 7*:** Immediate drug screens should be done by law enforcement personnel on caretakers and people having access to a child just prior to the death. All drivers involved in a fatal motor vehicle accident should be tested for alcohol and drugs at the time of the crash.

***Recommendation 8*:** Funding for continued operation of the Iowa Child Death Review Team should be raised from the current $15,000 appropriation to $55,000, so that the actual expenses incurred in operation of team activities may be covered in full. The CDRT recommends that the additional money be funded through an additional permanent appropriation **or** that a levy of $2 be added to the fee for each death certificate issued in Iowa and those funds be used to finance the team's continuing operation.

***Recommendation 9:*** The CDRT recommends that all in-ground and above-ground swimming pools sold in Iowa be required by law to have a pool alarm installed by the seller or the purchaser.

### OTHER RECOMMENDATIONS:

***Recommendation 10*:** The CDRT recommends the performance of cotinine (a metabolite of nicotine) testing on all infants who die in Iowa to accurately determine the potential role of tobacco exposure as a risk factor in their deaths. It is suggested that funding for this testing should come from state sales taxes on tobacco products.

***Recommendation 11:*** The CDRT recommends establishment of a statewide system of local or regional child death review teams to review deaths of all children through 17 years occurring in their area. They would share their information with the state team. These teams should be permitted the same statutory authority given to the state CDRT to gather and review information related to child deaths as long as they operate under strict confidentiality guidelines. Team members would be volunteers, so the cost of operating local teams would be minimal.

***Recommendation 12*:** The CDRT recommends that every child death that is a medical examiner's case be reported on a Medical Examiner I report form to the State Medical Examiner's office within four weeks of its occurrence. The final autopsy and toxicology results should be submitted within three months of the child's death unless special laboratory tests or consultations delay this process. It is recommended that all results be submitted within six months of the child's death.

## DISCUSSION OF RECOMMENDATIONS:

The following text offers background that supports and explains each recommendation.

**Recommendation 1:** Although essentially all state agencies and all bureaus at the Iowa Department of Public Health (IDPH) are *under the same restrictions of confidentiality*, the CDRT cannot share certain items of information with other programs. The CDRT collects all of these items and keeps them filed in locked file cabinets at one central location. This is the only program where all information on any child death is brought together to provide a complete picture and details of each death.

When each separate program at IDPH must assess the information to be obtained, order, organize and process the incoming data, staff effort is duplicated. In addition, costs of duplicate mail requests and/or telephone charges to get the exact same information are incurred.

This duplication uses Iowa taxpayer dollars to support identical work and stresses the workloads of state staff, the number of

which has already been reduced due to budget crunches of the past several years.

The current wording in the Iowa Code that relates to the Iowa Child Death Review Team contains very precise and strict language regarding sharing of information by the team and the penalties for disobeying the statute. Currently *for example*, if the CDRT coordinator requests and obtains an autopsy from the University of Iowa and the case falls under the State Medical Examiner's (SME) jurisdiction, the coordinator cannot give a copy of the report to that office. One of their staff people needs to re-request the autopsy report, and the staff at University of Iowa must again copy the report and forward it to yet another unit at the same state agency (IDPH). However, Iowa Code gives the CDRT coordinator the authority to request autopsy reports from the SME office, and that office must share any information they possess with the CDRT.

**Of great concern** to team members is their inability to protect surviving siblings of children who have died. The current legislation does not permit the team to refer a child whom they deem at risk to the Iowa Department of Human Services (IDHS) if that agency has not had previous involvement with the family. In other words, if the case is discussed at a CDRT meeting, and the IDHS liaison finds out *from information gathered for team use* that another child in the home may be in danger, their "hands are tied" by the current law. They cannot go into that home to assess what interventions are necessary to assure the safety of surviving siblings. Likewise, if the CDRT reviews the records for a child death and determines that the child died due to neglect or abuse, the team currently cannot refer the case to law enforcement for further investigation and possible prosecution.

**Recommendation 2:** The majority of child deaths resulting from accidents and many resulting from SIDS or overlying could be prevented. Lack of adequate knowledge about child rearing and health, sometimes coupled with lack of parental supervision, plays a huge role in these types of deaths. For example, parents may be unaware of the dangers of even a small amount of bathtub water and the danger it poses to a toddler. Rural families often do not think about the dangers offered by farm ponds, large machinery or building materials. Many parents are unaware that prone sleep position or smoking during pregnancy or afterward contributes to SIDS. **Therefore,** programs such as the Community Empowerment initiative are of tremendous value in educating new parents and preparing them to provide appropriate and adequate care for their children.

**Recommendation 3:** All too frequently children are not properly restrained in a moving automobile, SUV or truck. In a motor vehicle collision, an unrestrained or inadequately restrained child can be ejected from the vehicle or thrown around in the vehicle. Fatal head injuries and internal injuries often result in these instances.

Anything that may help deter drivers from failing to follow the child restraint law should be done. A significant fine of $100 would help obtain compliance. For parents who cannot afford a car or booster seat, several programs will provide a seat at little or no cost to the family. The Hopes and Healthy Start Programs often refer families to these resources. Others may call 1-800-258-6419 to get information on free seats.

**Recommendation 4:** Nearly 32 percent of motor vehicle accidents causing the death of a child involved situations where several teen passengers were in the vehicle at the time of the accident. Currently, Iowa's graduated driver's license limits the number of passengers in a teen driver's vehicle to the number of seat belts in the vehicle. More passengers, especially other teenage passengers, cause added distractions for the driver and a tendency to speed. Many teen

lives could be saved if the current law is amended to follow Maryland's law. Their law limits the number of passengers in the vehicle when a teen is driving to one passenger less than 20 years old.

**Recommendation 5:** An immediate autopsy of a young child who dies helps to accurately pinpoint the precise cause and manner of death. Accurately classifying manner and cause assures that any wrongdoing may be adequately and quickly investigated. It also helps to determine preventable factors that led to the death.

**Recommendation 6:** The state currently reimburses counties $400 for any autopsy done on an infant who dies from Sudden Infant Death Syndrome. The actual costs for this type of an autopsy **exceeds $1500** when required x-rays and toxicology tests are included. This poor reimbursement places a burden on any county where a SIDS infant dies. In addition, no reimbursement is made for transporting the body to another city or county where a deputy state medical examiner has agreed to perform the autopsy.

Increased reimbursement would ease the burden of counties adhering to guidelines for autopsies on infants. It would also encourage transporting bodies to the state medical examiner for autopsy rather than sending them out-of-state to a closer facility.

**Recommendation 7:** Alcohol and drugs often play a large part in child neglect, inappropriate childcare, child abuse or in motor vehicle mishaps. It is impossible to assess the involvement of chemical substances in the death of a child if testing for these substances is not immediately done at the death scene on all care providers present when the child dies. Deaths may be inaccurately classified as to cause; perpetrators may go unidentified or unpunished; the extent of the involvement of chemical substances in child deaths may be under-reported and so not addressed by public health programs or legislative action. A law requiring this testing would assure that law enforcement in all parts of the state follow this recommendation.

**Recommendation 8:** In 1995, when the legislature and the governor established the CDRT, an appropriation of $20,000 was set aside for the team's operation. This funding was to cover team members' travel, report requests, copying of records, development and printing of an annual report, staff support and any other related expenses necessary for the optimal functioning of the CDRT. In 1998, the legislature and the governor established the Domestic Violence Death Review Team. The CDRT had the same tasks as when it was originally founded, but $5,000 of the original $20,000 appropriation was set aside for the new Domestic Violence Death Review Team.

In 2000, the purview of the CDRT expanded from children birth through age 6 to birth through age 17. The appropriation still remained at $15,000. This funding does not cover much more than team travel expenses for meetings, the annual report development, case ordering and some printing. Funding for staff salary, office expenses, team training, etc. is not adequate. Although the FY 2003 budget recommendation originally included a significant increase in the appropriation for the CDRT, it was not funded at that level. Currently, the Iowa Department of Public Health (IDPH) is providing additional funds to continue the very basic operation of the CDRT. IDPH obviously understands and appreciates the value of the team. However, it is unrealistic and unfair to expect IDPH to eke out additional funds from its already meager budget to fund an interdisciplinary team that was established by law.

Since the 14 professionals on the team donate an average of 12 hours per month to perform the work of the CDRT, it appears that funding the team at $55,000 per year through an adequate budget appropriation is a small investment for saving the lives of Iowa's children.

If funds are not available to increase the appropriation, the team suggests levying a surtax on death certificates that could fund all activities of the team and eliminate the need for an appropriation. Other states such as Nevada are finding that this surtax works well to maintain their team's functions. The surtax needed in Iowa would be only $2 per death certificate and would yield $55,000 per year for team operations.

**Recommendation 9:** The CDRT has reviewed numerous deaths of children who drowned in residential swimming pools. All of these deaths were preventable had someone known that a child had entered the water. Despite Consumer Product Safety Commission recommendations to the public about putting a fence with a locked gate around any home pool, owners continue to leave pools open and accessible to curious children. A new pool alarm has been developed that can be installed at the water line, inside of the pool. If anyone goes into the pool when the alarm is set, a warning signal sounds to alert the owner and others residing in the area that someone has entered the water. The cost of this type of alarm is approximately $250, a cost that is negligible compared to the cost of a pool.

**Recommendation 10:** Medical research long ago identified the role of secondhand tobacco exposure in the deaths of infants. Smoking during pregnancy has been shown to be a major risk factor for both premature birth and SIDS. When prone sleeping position is removed as a risk factor for SIDS, smoking emerges as the next most significant risk. If all smoking during pregnancy were eliminated, perinatal mortality would be reduced by an estimated 10 percent.

Although birth certificates have a place to record the use of tobacco by the mother during pregnancy, this information may not be recorded or may be inaccurate due to the mother's unwillingness to admit to a behavior that could be harmful to her unborn child. Exposure of an infant to secondhand smoke either at home or at a child-care provider's residence may be noted on an Infant Death Scene Investigation, if one is done, but this information has usually been sketchy. We truly do not have an accurate idea of how many infant deaths in Iowa may be related to smoking. The number is probably much greater than birth certificates and death scene investigations indicate.

If cotinine testing were done on all infants who die in Iowa, a true grasp of the extent of tobacco exposure in-utero and after birth could be assessed. Then, the need for better smoking-related interventions would be documented in Iowa's population, and additional public health initiatives could be planned.

**Recommendation 11:** The CDRT conducts retrospective reviews of child deaths so that all records related to the child, such as autopsies and law enforcement investigations, are complete prior to the reviews. The drawback to this method is that if some part of the death investigation was not adequately completed or if questionable information exists on reports, it is most likely too late to obtain that information. In addition, with a retrospective review system, follow-up checks on the safety of surviving siblings, the involvement of vital community agencies in the investigation or public education endeavors is delayed.
Several states, notably North Carolina, Colorado and Missouri have developed statewide systems of county multi-disciplinary child death review teams. These teams meet immediately following the death of a child to share their information, determine what else needs to be done, conduct public education activities for prevention of future child deaths and send reports of their reviews to the state child death review team. Communication and sharing of records expedites the review process at all levels and helps assure complete and thorough review of each death by two competent panels of reviewers, one at the local level and one at the state level.

Only five Iowa counties (Polk, Woodbury, Dubuque, Pottawattamie and Scott) currently have local review teams. Most of these teams review only infant deaths or child abuse-related deaths. With the expansion of the state's CDRT to include children through age 17 years, it would be helpful to have all local teams include children of the same ages. As with the state team, these five local teams try to use what is learned in reviews to prevent future deaths.

Establishing a statewide system of local or regional teams would assure earlier, more thorough and targeted interventions on a community level when any child dies.

**Recommendation 12:** Although efficient reporting of out-of-hospital deaths and other medical examiner cases is requested from county medical examiners, current reporting can take months or longer to be reported on an M.E. I form to the State Medical Examiner's office. This delay in reporting causes inaccurate statistical reporting to other agencies and delays the collection of autopsies and other reports for CDRT review. Requiring more efficient completion of reports to the state medical examiner's office would assist the team in its operation and assure complete reporting of all deaths to that office.

## RECOMMENDATIONS TO STATE AGENCIES

**Recommendation 1: to the Iowa Department of Human Services, Field Office Support Unit.** When a child dies due to a parent's or a caretaker's ignorance, neglect or aggression, the CDRT recommends that ongoing efforts be made to visit the surviving children in the home within one month to assess the safety and well being of these children and enable voluntary referrals to appropriate services. This visit is to be completed by DHS caseworkers knowledgeable in family dynamics and child abuse and/or neglect.

(It is recognized that the Iowa Department of Human Services has made much progress in addressing this issue. The assessment approach is now being used statewide to respond to reports of child abuse. This approach mandates evaluating the alleged abuse, taking needed actions to safeguard the child and engaging the family in services to enhance family strengths and address identified needs. This approach facilitates the provision of needed services to children and families. In addition, it is recognized that DHS staff cannot investigate situations if they are not notified. Delayed autopsy results and delayed caretaker drug testing results, along with inconclusive or nonexistent law enforcement investigations, hamper the ability of DHS to intervene with surviving children when abuse may have been involved in the death of a sibling. )

**Recommendation 2: to the Commission of Uniform State Laws.** The CDRT recommends that the Commission on Uniform State Laws propose legislation in Iowa and promote the passage of legislation in other states, which would facilitate the exchange of medical, investigative, or other information pertaining to a child death.

This legislation should include the following language: " A person in possession or control of medical, investigative or other information pertaining to a child death and child abuse review shall allow the reproduction of the information by the Child Death Review Team of another state operating substantially in conformity with the provisions of this chapter, to be used only in the administration and for the duties of that Child Death Review Team and provided that state grants reciprocal exchange of such child death information to Iowa's Child Death Review Team. Information and records that are otherwise confidential remain confidential under this section. A person does not incur legal liability by reason of releasing information to a Child Death Review Team as required under this section." A meeting between Iowa's CDRT and representatives from

other Child Death Review Teams was held in Des Moines in April 2000. One of the main objectives of that conference was to discuss better sharing of information among states. All state team representatives agreed that they also have problems collecting information from other states, and they would support an interstate agreement that would expedite and ease the process.

***Recommendation 3*: to the Iowa Department of Human Services.** The CDRT recommends that all foster care parents be required to learn and be certified in child and infant CPR and that they be required to be re-certified in this procedure annually. In addition, foster parents should be required to have extensive education regarding appropriate sleep practices and environment for infants. Their homes should be assessed for secondhand smoke exposure and safety before they are accepted into the foster care program.

***Recommendation 4*: to the Department of Public Safety.** The CDRT recommends follow up by law enforcement officers of all cases involving potentially life-threatening injuries resulting from any accident for all children of any age. In the event that an injured child dies either in state or out-of-state from an injury that occurred in their jurisdiction, a thorough investigation of the circumstances surrounding the accident should be conducted by law enforcement. Law enforcement agencies will need to work with hospitals in their area to assure that medical personnel notify law enforcement of child deaths occurring in these types of circumstances.

***Recommendation 5*: to the Iowa Department of Public Health.** The CDRT recommends enhanced statewide education of parents and other care providers and health-care professionals who regularly come in contact with new parents. This education should focus on all risk factors related to an infant's sleep environment (including hazards of bed sharing) and to tobacco exposure before and after birth.

***Recommendation 6*: to all state agencies and their local units or contractors who conduct activities in the homes of their clients/ customers.** The CDRT recommends that the state agencies require each local unit or contractor, whenever conducting activities in the homes of their clients or customers, to check for the presence and operating status of smoke alarms. They should also evaluate the presence of other safety hazards and recommend to residents when repairs, changes or replacements are needed.

***Recommendation 7:* to the Iowa Department of Public Safety and the Iowa Law Enforcement Academy.** The CDRT recommends that all law enforcement agencies follow the Child Death Scene Investigation Protocol and that the report forms be filled out and submitted as quickly as possible to the proper entity. It is further recommended that the curriculum of the Iowa Law Enforcement Academy include instruction on this protocol and report form.

***Recommendation 8:* to the Iowa Law Enforcement Academy.** The Child Death Review Team recommends that the Iowa Law Enforcement Academy curriculum emphasize the importance of death scene photographs and sketches along with use of the Death Scene Investigation Form.

***Recommendation 9:* to the Iowa Department of Human Services.** The Child Death Review Team recommends long term close monitoring of children after they have been returned to their parental home or after a parent who has been incarcerated returns to the home. Special attention should be given to substance abuse by the parent(s) and unsafe surroundings in the child's home. Multidisciplinary team staffings and contacts with the parent's probation officer are suggested for these types of cases.

***Recommendation 10:* to the Iowa Department of Human Services.** The Child Death Review Team recommends removal

of very young children (less than 4 years) from unsafe family situations while parents work to improve the home environment. Close follow up with the family to monitor its progress should be made for one year after the child is back in the home, and frequent visits to the home should be made.

In addition, any caseworker entering a home should perform a home safety check. The results should be reviewed with the parents, and the safety check should be repeated at a later date to evaluate improvements.

***Recommendation 11:*** **to the Iowa Department of Public Health.** The Child Death Review Team recommends increased education for parents on the hazards of delayed medical care, secondhand smoke exposure, inappropriate dosing of medications and drug interactions. It further recommends enlisting the cooperation of hospitals to include this education for new parents both verbally and in their discharge-packets.

# Child Death Review Team Accomplishments

During the 2004 calendar year, the members of the Iowa Child Death Review Team took a very serious and proactive approach to help save Iowa's children from early deaths. These accomplishments focused primarily on education, meetings and awareness building activities around the state.

Specifically, in addition to reviewing 404 cases of child death, the members of the CDRT:

- Advanced awareness among health professionals and the public by giving presentations about child abuse, Sudden Infant Death Syndrome and bed sharing related infant deaths.

- Hosted a joint Child Death Review Team meeting with the Nebraska CDRT.

- Worked with the state medical examiner to widely disseminate the revised Child Death Scene Investigation Form to law enforcement personnel and county medical examiners.

- Worked with IDPH and the Iowa SIDS Alliance on their "Train the Trainer" conference that took place in April 2004 so that every county in Iowa has trained speakers to disseminate accurate information about SIDS to lay audiences and other health professionals.

- Worked with the State Medical Examiner's office to identify deceased children who should have been autopsied but were not and to identify deceased children who should have been medical examiner cases.

- Attended the second national meeting of Child Fatality Review Teams held in St. Louis in August. The team coordinator represented the Iowa CDRT at this meeting. ***It should be noted that Iowa continues to be one of the very few teams that has successfully published an annual report each year since the team was established.***

- Worked more closely with the Bureau of Family Health at IDPH to disseminate child safety and health care information to families, health professionals and child-care providers.

- Worked more closely with other programs coordinated by IDPH to share public information about child deaths such as the child's name and county of residence so that other programs would refrain from unknowingly contacting the grief stricken parents.

- Worked with the National Child Death Review Center to have Iowa participate in the Child Death Review data base pilot project that will take place during 2005.

## Iowa Year 2003
## Deaths of Children Ages Birth through 17 Years
## By County of Residence

| County | Number | County | Number | County | Number |
|---|---|---|---|---|---|
| Adair | 1 | Floyd | 2 | Monona | 2 |
| Adams | 1 | Franklin | 0 | Monroe | 1 |
| Allamakee | 6 | Fremont | 0 | Montgomery | 1 |
| Appanoose | 0 | Greene | 0 | Muscatine | 5 |
| Audubon | 0 | Grundy | 0 | O'Brien | 1 |
| Benton | 1 | Guthrie | 0 | Osceola | 0 |
| Black Hawk | 17 | Hamilton | 1 | Page | 3 |
| Boone | 0 | Hancock | 1 | Palo Alto | 1 |
| Bremer | 2 | Hardin | 3 | Plymouth | 0 |
| Buchanan | 2 | Harrison | 4 | Pocahontas | 1 |
| Buena Vista | 1 | Henry | 5 | Polk | 61 |
| Butler | 3 | Howard | 3 | Pottawattamie | 17 |
| Calhoun | 0 | Humboldt | 0 | Poweshiek | 2 |
| Carroll | 7 | Ida | 0 | Ringgold | 0 |
| Cass | 0 | Iowa | 1 | Sac | 1 |
| Cedar | 1 | Jackson | 6 | Scott | 24 |
| Cerro Gordo | 4 | Jasper | 5 | Shelby | 1 |
| Cherokee | 0 | Jefferson | 1 | Sioux | 6 |
| Chickasaw | 1 | Johnson | 7 | Story | 6 |
| Clarke | 1 | Jones | 3 | Tama | 5 |
| Clay | 0 | Keokuk | 1 | Taylor | 0 |
| Clayton | 2 | Kossuth | 1 | Union | 0 |
| Clinton | 8 | Lee | 3 | Van Buren | 2 |
| Crawford | 2 | Linn | 26 | Wapello | 6 |
| Dallas | 5 | Louisa | 2 | Warren | 6 |
| Davis | 4 | Lucas | 0 | Washington | 10 |
| Decatur | 1 | Lyon | 2 | Wayne | 2 |
| Delaware | 1 | Madison | 4 | Webster | 4 |
| Des Moines | 5 | Mahaska | 2 | Winnebago | 1 |
| Dickinson | 4 | Marion | 4 | Winneshiek | 1 |
| Dubuque | 12 | Marshall | 7 | Woodbury | 26 |
| Emmet | 1 | Mills | 2 | Worth | 0 |
| Fayette | 2 | Mitchell | 3 | Wright | 1 |

## Number of Out of State Children
## Ages Birth through 17 Years
## Dying in Iowa in 2003

| State | Number | State | Number |
|---|---|---|---|
| Nebraska | 3 | Oklahoma | 1 |
| Wisconsin | 1 | Minnesota | 1 |
| Illinois | 4 | Texas | 1 |
| Mexico | 1 | Idaho | 1 |

## 2003 Child Deaths by Age Groups, Race/Ethnicity and Gender

A total of 404 children ages birth through 17 years died in 2003. The age classifications used in this report are birth through 28 days (neonatal), 29 days through 364 days (post-neonatal) and 1 through 17 years (child).

The following tables for calendar year 2003 child deaths show race/ethnicity and gender by age group. The race/ethnicity attributed to the child is that listed on the birth certificate for the mother.

The majority of deaths occurred among whites, followed by blacks. Because Iowa's population is primarily white, these results are to be expected. However, prevention messages and intervention programs must be careful to target all cultural and ethnic groups across the state in the manner most accessible and useful to each group.

### 2003 Total Deaths by Race/Ethnicity and Gender

| Race/ Ethnicity | Male | Female | Total | % of Total |
|---|---|---|---|---|
| White | 195 | 138 | 333 | 82.4 |
| Native American | 4 | 2 | 6 | 1.5 |
| Hispanic | 18 | 7 | 25 | 6.2 |
| Black | 13 | 15 | 28 | 6.9 |
| Asian | 10 | 2 | 12 | 3.0 |
| **Total** | **240** | **164** | **404** | **100%** |

### 2003 Neonatal Deaths by Race/Ethnicity

| Race/ Ethnicity | Male | Female | Total | % of Total |
|---|---|---|---|---|
| White | 67 | 47 | 114 | 80.3 |
| Native American | 1 | 0 | 1 | 0.7 |
| Hispanic | 6 | 5 | 11 | 7.7 |
| Black | 8 | 6 | 14 | 9.9 |
| Asian | 1 | 1 | 2 | 1.4 |
| **Total** | **83** | **59** | **142** | **100%** |

### 2003 Post-Neonatal Deaths by Race/Ethnicity and Gender

| Race/ Ethnicity | Male | Female | Total | % of Total |
|---|---|---|---|---|
| White | 37 | 23 | 60 | 76.9 |
| Native American | 2 | 0 | 2 | 2.6 |
| Hispanic | 1 | 2 | 3 | 3.8 |
| Black | 3 | 8 | 11 | 14.1 |
| Asian | 2 | 0 | 2 | 2.6 |
| **Total** | **45** | **33** | **78** | **100%** |

### 2003 Child Deaths by Race/Ethnicity and Gender

| Race/ Ethnicity | Male | Female | Total | % of Total |
|---|---|---|---|---|
| White | 91 | 68 | 159 | 86.4 |
| Native American | 1 | 2 | 3 | 1.6 |
| Hispanic | 11 | 0 | 11 | 6.0 |
| Black | 2 | 1 | 3 | 1.6 |
| Asian | 7 | 1 | 8 | 4.4 |
| **Total** | **112** | **72** | **184** | **100%** |

## Manner of Death

The attending physician or medical examiner records the manner of death on each death certificate. Five manners of death relate to deaths of children:

- **Natural** means the death was the result of some natural process, such as disease, prematurity/immaturity or congenital defect. Most deaths by this manner are considered by the CDRT to be non-preventable. However, many deaths from prematurity or congenital defects might be prevented through better counseling during preconception and pregnancy, earlier or more consistent prenatal care and smoking cessation.

- **Accidental** means the death resulted from some unintentional act. This manner of death is the most effectively reducible through education of all care providers of children to provide a safe environment with adequate supervision.

- **Homicide** means the death was caused at the hands of another individual but not necessarily with the intent to kill.

- **Undetermined** means that investigation of the circumstances and examination through autopsy did not clearly identify the way in which the death occurred. SIDS is included in this category, since this cause is determined by the absence of other signs rather than by a clearly identified finding.

- **Suicide** means that evidence exits that the child intentionally caused his or her own death.

Prior to 2001, the team only dealt with deaths from natural, accidental, undetermined and homicide manners.

In addition to these five manners of death, when the manner and cause have not yet been determined and the investigation is still incomplete, "pending" is recorded as the manner of death. When the final determination has been made, the medical examiner amends the death certificate to accurately indicate the manner and cause of death.

For 2003, there were no children for whom an amended death certificate was not submitted to Iowa's Department of Public Health, Bureau of Vital Records because of diligent efforts by their staff to obtain the updated information.

**Manner of Death For All 2003 Child Deaths**

| Manner | Number | % of Deaths |
|---|---|---|
| Natural | 235 | 58.1 |
| Accident | 96 | 23.8 |
| Homicide | 12 | 3.0 |
| Suicide | 17 | 4.2 |
| Undetermined | 44 | 10.9 |
| **Total** | **404** | **100%** |

## Causes of Death

Death certificates identify the immediate cause of death and, where it can be determined, one or more conditions leading to the immediate cause (*i.e.*, the immediate cause of death was due to or a consequence of some other disease or condition). Because the immediate cause in most instances is cardiac and/or respiratory arrest, we have followed the usual death analysis procedure of using the underlying cause (the disease or injury that initiated events resulting in the death) for our data and analyses.

When the team reclassified the manner or cause of death, analyses are based upon manner and cause of death as **determined by the CDRT** through case reviews. **Note**: Case determinations were based on evaluations of all materials available at the time the reviews were conducted.

### Natural

The 235 deaths in this group were due to five causes: premature birth, congenital defects that were incompatible with life or following treatment to correct the defect, birth complications, infections and cancers of various types. As demonstrated in the following table, the predominant two causes of natural deaths were prematurity and congenital defects. The 235 natural deaths comprised 58.1 percent of all 2003 child deaths.

Deaths from Sudden Infant Death Syndrome (SIDS), although coded as natural on death certificates, are considered separately in this report as part of the undetermined category.

**Causes of 2003 Natural Deaths**
**All Children through 17 Years of Age**

| Cause | Number | % of Natural | % of All Deaths |
|---|---|---|---|
| Asthma | 1 | 0.4 | 0.2 |
| Prematurity | 89 | 37.9 | 22.0 |
| Congenital Defects | 88 | 37.4 | 21.8 |
| Cancer | 24 | 10.2 | 6.0 |
| Dehydration | 2 | 0.8 | 0.5 |
| Infection | 17 | 7.2 | 4.2 |
| Birth Complications | 13 | 5.1 | 3.2 |
| Myocarditis | 1 | 0.4 | 0.2 |
| **Total** | **235** | **100%** | **58.1** |

### Accidental

In 2003, 96 children died from accidental trauma. Accidents comprised 23.8 percent of all child deaths occurring that year. The major cause was motor vehicle collisions (49.0%), followed by drowning (10.4%). Accidental trauma is considered preventable, but to prevent it requires the efforts of many people including the victim, the family and the community. Education of the community, parents and care providers can help prevent accidental deaths among children of all ages.

**The CDRT believes that better adult supervision could have prevented many deaths.** Parents and other caregivers need to know where young children are at all times. Adults should remove all dangerous objects from the child's environment and make children use protective gear when taking part in potentially dangerous activities.

Adults who care for young children should adhere to safe bedding guidelines set forth by the American Academy of Pediatrics and the Consumer Product Safety Commission.

They should watch for drug and alcohol use among teens that drive and stress bike, ATV, motorcycle and automobile safety, including proper use of seat belts or child restraint systems and helmets when appropriate. Schools and communities should periodically review their driver's training curriculum and revise it accordingly. Rural areas, in particular, should teach student drivers about hazards unique to gravel roads and uncontrolled intersections.

Fences with locked gates and pool alarms should be used to protect children from wandering into yards with unattended swimming pools. Pool ladders should be removed when not in use so little children do not climb into a nearby pool.

Communities with multicultural populations should post warning signs near lakes and rivers in languages that reflect the composition of their resident population.

Firearms should be locked away from children and ammunition kept in separate, locked areas even if children have been taught firearm safety and to hunt.

Children under 16 should not be allowed to operate any motor vehicle including snowmobiles, all terrain vehicles or go-carts. Older children should be given adequate instruction and supervision before they are permitted to drive these vehicles.

All parents and other caregivers should make sure fire alarms are in operational order at all times and that children know an alternate escape route from their residence.

**Causes of 2003 Accidental Deaths**
**All Children through 17 Years of Age**

| Cause | Number | % Acc. Deaths | % of All Deaths |
|---|---|---|---|
| ATV Accident | 1 | 1.0 | 0.2 |
| Bike/MVA Accident | 1 | 1.0 | 0.2 |
| Drowning | 10 | 10.4 | 2.5 |
| Drug Administra-tion Error | 1 | 1.0 | 0.2 |
| Drug Overdose | 1 | 1.0 | 0.2 |
| Farm Accidents | 5 | 5.2 | 1.2 |
| Go Cart Accident | 1 | 1.0 | 0.2 |
| Grain Bin Accident | 1 | 1.0 | 0.2 |
| Hayride Accident | 1 | 1.0 | 0.2 |
| House-fire | 8 | 8.3 | 2.0 |
| Misplaced NG Tube | 1 | 1.0 | 0.2 |
| MVA | 47 | 49.0 | 9.7 |
| MVA / Pedestrian | 5 | 5.2 | 1.2 |
| MVA – CO Poisoning | 1 | 1.0 | 0.2 |
| MVA/Truck Bed Accident | 1 | 1.0 | 0.2 |
| Overlying | 2 | 2.1 | 0.5 |
| Sledding Accident | 1 | 1.0 | 0.2 |
| Snowmobile Accident | 4 | 4.2 | 1.0 |
| Strangulation | 1 | 1.0 | 0.2 |
| Strangulation/ Hyperthermia | 1 | 1.0 | 0.2 |
| Train Accident | 2 | 2.1 | 0.5 |
| **Total** | **96** | **100%** | **23.8%** |

## Homicide

Homicides accounted for 12 deaths in 2003. Five victims were less than a year old. Five were six or younger, and two were slightly older. **The perpetrator's relationship to the victim varied.** In seven cases, the biological father was the perpetrator. A neighbor was responsible in one death. The mother's paramour was guilty in two cases. The babysitter was the perpetrator in one case, and a grandmother was responsible for one death.

Homicides are another area where prevention is possible. When a young child is the victim, this type of death often indicates anger and frustration on the part of the caregiver. Parents and caregivers need easily accessible outlets, i.e. respite care or someone to call, when stresses of childcare escalate. Improved dissemination of information to all new parents about resources could assist in preventing future child homicide deaths. Home visits soon after an infant's birth to families that are at high risk for abusing children is needed in every community. Early intervention could save lives.

Children must not have easy access to firearms. All children should be closely supervised to make sure their social contacts are appropriate and interactions take place under safe circumstances. Parents should monitor teens for alcohol and drug use.

Parents must be conscientious and discriminating about the adults they bring into close and unsupervised contact with their children no matter what the role of the outsider in the household.

Communities must work together to stem the use of drugs and alcohol and eliminate the existence of domestic violence and gang activities.

**Causes of 2003 Homicide Deaths**
**All Children through 17 Years of Age**

| Cause | Number | % of Homicides | % of All Deaths |
|---|---|---|---|
| Asphyxiation | 2 | 16.7 | 0.5 |
| Drowning | 2 | 16.7 | 0.5 |
| Drug Admin. Error | 1 | 8.3 | 0.2 |
| Shaken Baby | 4 | 33.4 | 1.0 |
| Blunt Trauma | 1 | 8.3 | 0.2 |
| Gunshot Wound | 1 | 8.3 | 0.2 |
| House Fire | 1 | 8.3 | 0.2 |
| **Total** | **12** | **100%** | **3.0%** |

**Age Groups by**
**Causes of 2003 Homicide Deaths**

| Cause | Neo-Natal | Post Neo-Natal | Child | Total |
|---|---|---|---|---|
| Asphyxiation | | | 2 | 2 |
| Drowning | | 1 | 1 | 2 |
| Drug Admin. Error | | 1 | | 1 |
| Shaken Baby | | 3 | 1 | 4 |
| Blunt Trauma | | | 1 | 1 |
| Gunshot Wound | | | 1 | 1 |
| House Fire | | | 1 | 1 |
| **Total** | **0** | **5** | **7** | **12** |
| **% of Homicides** | **0.0** | **41.7** | **58.3** | **100%** |

## Undetermined

Undetermined manner of deaths includes any death that cannot be classified as natural, accident, suicide or homicide. Most of the deaths included in this manner are ruled SIDS. It is specified as the cause of death when all other causes have been eliminated based on a thorough autopsy, death scene investigation and clinical history.

Although SIDS deaths are recorded on the death certificate as natural, the CDRT considers all SIDS deaths to be of the undetermined manner of death based on the technical definition of SIDS.

The team determined that there were 44 child deaths for which autopsies failed to pinpoint a specific manner of death in 2003. The cause of death in the majority (29) of these cases was found to be SIDS. The remaining 15 deaths were due to a variety of other causes: falls, undetermined cause, encephalopathy, blunt force trauma and an over-the-counter drug overdose.

### Causes of 2003 Undetermined Deaths All Children through 17 Years of Age

| Cause | Number | % of Undetermined | % of All deaths |
|---|---|---|---|
| SIDS | 29 | 65.9 | 7.2 |
| Undeter-mined | 15 | 34.1 | 3.7 |
| **Total** | **44** | **100%** | **10.9** |

## SIDS Deaths

Most SIDS deaths occur in infants 2 to 4 months of age, and SIDS is more prevalent in males than females. In the year 2003, over 51 percent of the SIDS deaths occurred in children 2 to 4 months old, but surprisingly, more females than males died from SIDS.

### Ages and Gender of 2003 SIDS Deaths

| Age | Male | Female | Total |
|---|---|---|---|
| <01 month | 3 | 3 | 6 |
| 01 months | 0 | 3 | 3 |
| 02 months | 6 | 4 | 10 |
| 03 months | 3 | 2 | 5 |
| 04 months | 1 | 2 | 3 |
| 05 months | 0 | 0 | 0 |
| 06 months | 1 | 1 | 2 |
| 07 months | 0 | 0 | 0 |
| 08 months | 0 | 0 | 0 |
| 09 months | 0 | 0 | 0 |
| 10 months | 0 | 0 | 0 |
| 11 months | 0 | 0 | 0 |
| **Total** | **14** | **15** | **29** |

### Race/Ethnicity of Children Who Died of SIDS in 2003

| Race | Count | % of SIDS |
|---|---|---|
| White | 23 | 79.3 |
| Hispanic | 0 | 0 |
| Black | 5 | 17.2 |
| Native American | 0 | 0.0 |
| Asian | 1 | 3.5 |
| **Total** | **29** | **100%** |

The majority of 2003 SIDS deaths occurred while a parent was caring for the infant, and 15 occurred during colder months.

### 2003 SIDS Deaths by Month

| Month | Number of Deaths |
|---|---|
| January | 4 |
| February | 1 |
| March | 2 |
| April | 1 |
| May | 4 |
| June | 2 |
| July | 3 |
| August | 3 |
| September | 1 |
| October | 4 |
| November | 2 |
| December | 2 |
| **Total** | **29** |

**Care Provider at Time of Death For 2003 SIDS Deaths**

| Provider | Number | % of SIDS |
|---|---|---|
| Parent | 20 | 68.9 |
| Grandparent | 2 | 6.9 |
| Child Care | 5 | 17.2 |
| Foster Parent | 1 | 3.5 |
| Unknown | 1 | 3.5 |
| **Total** | **29** | **100%** |

Risk factors for SIDS include prenatal smoking, secondhand smoke exposure after birth, inappropriate sleep surface, inappropriate (soft, porous) bedding, overheating and most especially, prone or side sleeping position**. Bed sharing is becoming an enormous risk.** In 2003, 15 (51.7%) of the infants dying from SIDS were sleeping with at least one adult or with another child, usually on an inappropriate sleep surface, at the time of death.

**Prenatal Smoking by Mother for Infants Who Died of SIDS in 2003**

| Smoking | Number | % of SIDS |
|---|---|---|
| Yes | 17 | 58.6 |
| No | 12 | 41.4 |
| **Total** | **29** | **100%** |

Prenatal smoking is self-reported on birth certificates, so the number of mothers admitting to this habit is undoubtedly **underreported**.

**Secondhand Smoke Exposure by Infants Who Died of SIDS in 2003**

| Exposure | Number | % of SIDS |
|---|---|---|
| Yes | 19 | 65.5 |
| No | 5 | 17.2 |
| Unknown | 5 | 17.2 |
| **Total** | **29** | **100%** |

Alarmingly, 65.5 percent of SIDS infants were routinely exposed to second hand smoke **from at least one** source after birth. If tobacco exposure related to SIDS is dose–response related, then infants exposed to multiple sources would be at the greatest risk from this contributing factor. Note that if infants were exposed to smoke at a grandparent's home or at a sitter's home, that information might not have been gathered at the death scene, so may also be underreported.

**Bedding at Time of Death for Infants Who Died of SIDS in 2003**

| Bedding | Number | % of SIDS |
|---|---|---|
| Inappropriate | 17 | 58.6 |
| Appropriate | 5 | 17.2 |
| Unknown | 7 | 24.2 |
| **Total** | **29** | **100%** |

**Sleep Position at Time of Death for Infants Who Died of SIDS in 2003**

| Position | Number | % of SIDS |
|---|---|---|
| Face Down | 16 | 55.2 |
| Side | 7 | 24.2 |
| Face Up | 3 | 10.3 |
| Unknown | 3 | 10.3 |
| **Total** | **29** | **100%** |

**Thermal Environment at Time of Death For Infants Who Died of SIDS in 2003**

| Environment | Number | % of SIDS |
|---|---|---|
| Inappropriate | 6 | 20.7 |
| Appropriate | 4 | 13.8 |
| Unknown | 19 | 65.5 |
| **Total** | **29** | **100%** |

Research has shown that placing a baby down for sleep on its back, on a firm mattress in a crib of its own, without soft bedding, including blankets, stuffed animals or bumper pads **reduces** the risks for SIDS. Clearly, most of the infants dying in 2003 from SIDS were exposed to risks in their sleep environment. More than 58 percent were exposed to unsafe bedding, and 79.4 percent were found either in a prone or side position. Literature indicates that prone position carries **nine times** the risk, while side carries **four times** the risk of back sleeping. Infants who were found on their back at the time of death were exposed to other risk factors in their sleep environment.

In recent years, there has been a significant

**increase in bed-sharing** (52% for 2003 vs. 46% for 2002 SIDS deaths) which puts infants at risk, not just from possible overlaying by a parent or sibling, but from porous adult bed covers and pillows and from overheating when exposed to adult body heat. Breastfeeding is beneficial for infants and is strongly advocated by the CDRT. However, many breastfeeding experts promote bed sharing to ease access for the infant, but the hazards of the adult bed should preclude such advice. It would seem more sensible to urge use of the "Arm's Reach Co-sleeper" that locks next to the adult bed with one side open to the parents' sleep surface. The infant then has the closeness of being near its mother for breastfeeding but avoids the hazards posed by the adult bed.

**Sleeping Location at Time of Death for Infants Who Died of SIDS in 2003**

| Location | Number | % of SIDS |
|---|---|---|
| Adult Bed – Bed-sharing | 4 | 13.7 |
| Adult Bed | 3 | 10.3 |
| Bassinet | 1 | 3.5 |
| Car seat | 1 | 3.5 |
| Crib Bed-sharing | 2 | 6.9 |
| Crib | 3 | 10.3 |
| Mother's Arms Bed-sharing | 1 | 3.5 |
| Playpen | 2 | 6.9 |
| Sofa Bed-sharing | 7 | 24.1 |
| Sofa or Stuffed Chair | 2 | 6.9 |
| Waterbed | 1 | 3.5 |
| Waterbed-Bed-sharing | 1 | 3.5 |
| Unknown | 1 | 3.5 |
| **Total** | **29** | **100%** |

During past years, there has been concern that Iowa's SIDS rate was not decreasing as rapidly as that of other states. It is now clear that a shift in diagnosis has caused the rates of other states to change. That is, certain cases that would have been called "SIDS" in the past are now being signed out as "undetermined, suffocation, positional asphyxia or overlying." Unfortunately at this point in time, there are no clear, precise classification schemes to assist forensic pathologists or CDRTs in determining cause of death in sudden, unexplained, infant deaths occurring during sleep. Two organizations are trying to bring consensus and consistency to how these deaths are classified. At the January 2004 meeting hosted by CJ Foundation for SIDS, an updated definition of Sudden Infant Death Syndrome (SIDS) was developed by an international panel of SIDS experts, including pediatric pathologists, forensic pathologists and pediatricians. In addition, they attempted to categorize types of SIDS deaths based on several criteria. This meeting and its outcome are described in a special article in *Pediatrics* Vol. 114 No. 1 July 2004.

The National Association of Medical Examiners is also working to determine a way to adequately describe the wide spectrum of sudden unexpected infant deaths. It is anticipated that it will be at least a few years before consensus among professionals of the medical and SIDS communities can be reached. Until that time, rather than looking at just the cases called "SIDS" by the Iowa CDRT, all cases of infant death that deal with risks in the sleeping and living environments of deceased infants must be evaluated. Educational messages should be developed and enhanced based on this information, and they must address risk factors for SIDS, overlying, suffocation and positional asphyxia.

**Seven of the 15 non-SIDS, undetermined deaths involved infants dying during sleep.** Of these deaths, two were called

"undetermined" by the team because little information was given about the death scene. It is known that one of these children was lying on its stomach at death. The infant was bedsharing at the time of death in the three of remaining five cases: one with the mother on an adult bed, one with both parents on an adult bed and one with the mother on a sofa. There was prenatal smoking and secondhand smoke exposure in three of these five cases. Two infants were found in a face down position at the time of death, while two were found on their backs, and for the other, position is unknown. One of the seven infants was Black, and the other six were Caucasian.

Thus the risk factors in these cases are the same as for SIDS, but team members could not determine whether the child died from SIDS, overlying or another cause.

It should also be noted that for seven SIDS cases and two undetermined, SIDS like deaths, there was a strong history of substance abuse by the parents. In fact four of these infant deaths occurred when the child was bed-sharing with a mother who had a substance abuse history.

For three older children, the cause of death and manner of death were noted as "undetermined." Two of these cases involved five-year old children; the other was 16. For one child, the cause was an over-the-counter drug overdose. For one child it was blunt trauma that could have been caused by either an accident or homicide, and two children died from falls that could have been accidents or homicides. In these cases investigative information could not help the team adequately determine the specific manner of death. In addition, one child died from encephalopathy, the cause of which could not be determined.

## Suicide

Suicide is a manner of death not initially reviewed by the members of the CDRT. As the team expanded its purview to include children ages 7 through 17, suicide deaths became a primary area where lives could potentially be saved.

In 2003, suicides comprised 4.2 percent of all child deaths. In any given year, more males than females successfully commit suicide. Males are more likely to use a violent means of death. The victim may be involved with drugs or alcohol abuse, may have unhealthy social contacts or family problems, be physically or sexually abused or have a history of mental health problems.

Seventeen youths died from suicide in the year 2003 compared with 11 who committed suicide in 2002. Of the 17 suicides of children, 14 were males and three were females. The **youngest victim was 9 years**, and the oldest child was nearly 18. Several victims had a history of family or school problems, and some had used drugs and/or alcohol. Hanging was the primary method used by these children.

**Gender of Children**
**Who Died from Suicide in 2003**

| Gender | Number | % of Total |
|---|---|---|
| Male | 14 | 82.4 |
| Female | 3 | 17.6 |
| **Total** | **17** | **100%** |

**Ages of Children**
**Who Died from Suicide in 2003**

| Age | Number | % of Suicides |
|---|---|---|
| 9 | 1 | 5.9 |
| 10 | 0 | 0.0 |
| 11 | 0 | 0.0 |
| 12 | 2 | 11.8 |
| 13 | 3 | 17.6 |
| 14 | 1 | 5.9 |
| 15 | 4 | 23.5 |
| 16 | 1 | 5.9 |
| 17 | 5 | 29.4 |
| **Total** | **17** | **100**% |

**Methods Used in Child Suicides**
**Occurring in 2003**

| Method | Number | % of Suicides |
|---|---|---|
| Carbon Monoxide | 1 | 5.9 |
| Hanging | 11 | 64.7 |
| Gunshot Wound | 4 | 23.5 |
| MVA | 1 | 5.9 |
| **Total** | **17** | **100%** |

**Race/Ethnicity of Children**
**Who Died from Suicide in 2003**

| Race/Ethnicity | Number | % of Total |
|---|---|---|
| Asian | 1 | 5.9 |
| Caucasian | 16 | 94.1 |
| **Total** | **17** | **100%** |

The Centers for Disease Control and Prevention published information during 2004 stating that the trend across the entire nation corresponds to Iowa's experience: suicide using a firearm is down, and suicide by hanging is increasing.

Being a teenager is difficult. Peer pressure can often be at odds with messages from parents. Bodies are changing, and hormones affect moods. Newer research has shown that the teen's brain is different from that of an adult and may cause them to act more impetuously without concern for possible consequences. Teens who are prone to depression may be afraid to tell anyone about their feelings of depression or anxiety. If they do get help through counseling and/or medication, they may not adhere to the drug regimen or miss counseling sessions. Teens may try to self-medicate through the use of alcohol or illicit drugs. Rather than helping to alleviate the depression, many of these behaviors may add to their feelings and cause conflict within the family unit.

The CDRT strongly advocates school mental health screening programs for children. Teachers should be educated about suicide risk factors and resources to which they may refer children for assistance.

Anti-bullying campaigns should be established in schools and in communities, and adults should provide good role models for youth by not being overly aggressive. Parents should make great efforts to monitor their child's behavior so that they can tell if the child becomes withdrawn, sullen or exhibits any other radial changes in behavior. When necessary, they should confer with school officials to assess modified behavior and address it in a non-threatening, compassionate manner.

## What Actions and Strategies Could Prevent Future Deaths?

**Actions and Strategies that Could Prevent Future Deaths of Natural Manner**

1. Both prospective parents (father and mother) should be physically mature and healthy, both prior to conception of the child and throughout the pregnancy. Damaging substances of any sort, including alcohol, tobacco, certain prescription medications and all street drugs must be avoided.

2. Prenatal care should begin as early as possible, and regular prenatal visits should be continued. Prenatal visits should include intensive smoking cessation counseling if the mother currently smokes. In addition, evaluation of secondhand smoke exposure of the mother should be conducted early in the pregnancy, and the potential risks of such exposure should be carefully explained to her.

3. Prenatal visits should include patient-specific education and interventions aimed at modifiable risk factors such as tobacco, alcohol and drug use.

4. Genetic counseling, available through the University of Iowa regional clinics or private sources, should be recommended to and utilized by parents with potential genetic problems, especially to those who have given birth to children with genetic anomalies, to identify and make the parents aware of the possibilities of future problems.

5. All children should receive regular and timely wellness checkups at clinics or physicians' offices. Parents should be educated about signs and symptoms of illness in their children and indications for seeking medical attention. Families should be discouraged in using hospital emergency rooms as their only source of medical care, since preventive activities such as immunizations may be missed at the time of care.

6. New parents should be thoroughly instructed on the appropriateness and timeliness of well child checkups and proper administration of medicines to young children.

7. Iowa's hard to reach populations, such as certain cultural and ethnic communities, should have culturally-targeted education on the necessity for quality and timely prenatal care, potential hazards of home births and preventive care and practices relating to young children. This education should be done in the language most used by each population.

8. Hospitals should evaluate the mental stability and intellectual capacity of mothers prior to discharge after a new baby is born. Referrals to social services, DHS or local Empowerment should be made if there are concerns about a mother's ability to parent.

**Actions and Strategies that Could Prevent Future Accidental Deaths**

1. Children 6 and under should always be properly restrained when riding in motor vehicles of any type. Care should be taken that the child restraint device being used is of the correct type (i.e. infant-seat or booster-seat) and has been properly fitted to the child. The device should also be installed properly, and the child must be correctly positioned and fastened in the restraint system.

2. Children should ride in the rear seats of vehicles and child safety door locks should be used when available. Automobiles should be kept locked when not in use.

3. Individuals who have repeatedly demonstrated unsafe driving should not be permitted to continue driving. Stronger penalties for multiple offense drivers should be instituted.

4. Bicycle helmet use should be required by law, and the requirement should be strongly supported by parents, teachers and caregivers.

5. Parents and other drivers should check behind <u>all</u> motor vehicles, including farm equipment, before backing up any vehicle.

6. Parents, grandparents, foster parents, daycare providers and other caregivers should learn first aid, administration of CPR, and the Heimlich Maneuver to infants and children.

7. Parents and caregivers should recognize and give only age-appropriate foods to infants and children with special attention to solids given before the age of 4.

8. Extreme vigilance should be practiced whenever children are in, around, or near water, including bathtubs, pools and larger bodies of water regardless of the water depth. **Parents and caregivers need to be cautioned that bathtub rings are <u>not</u> safety devices and that children must never be left alone in the water, even momentarily.** Children playing near lakes, ponds and rivers should use life jackets as a precaution. In addition, children should be taught to swim as early as possible.

9. Home pools should be surrounded by fencing and have locked gates. To prevent unsupervised play by curious children, wading pools should be emptied immediately after each use. Likewise, fencing should be put around decorative ponds in residential areas.

10. Smoke alarms should be installed in every house, apartment and trailer home and checked frequently to assure their continuing operability.

11. Children less than sixteen years of age should never operate an all terrain vehicle. Young children should not ride on all terrain vehicles.

12. A responsible person should supervise children at play, especially if potentially dangerous equipment or hazardous apparatus is in or near the play area. **This supervision is especially important in areas where open septic tanks, manure pits or grain bins may be accessible to the children.**

13. Firearms should be stored unloaded and in a locked receptacle, and ammunition should be stored in a separate, locked receptacle, with both keys unavailable to children.

14. Children should not ride on farm equipment unless it is in a closed cab that has securely fastened doors, and they are under the direct supervision of an adult.

15. Matches and lighters should be stored only in safe places that are unknown to young children. Parents should teach all children about the dangers of matches and lighters.

16. Children should be well supervised by a competent and alert adult at all times. The adult should be capable of and attuned to evaluating potential dangers in the child's environment and continually monitoring their surroundings for possible hazards.

17. Infants and young children should sleep only in a safety-approved crib and alone. Cribs should not be purchased at garage sales or second-hand stores where they may not meet Consumer Product Safety Commission requirements.

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**Actions and Strategies that Could Prevent Future Homicide Deaths**

1. Mothers should be cautioned about careful selection of individuals who care for their children, most especially paramours. Reports of criminal history can be obtained at reasonable charge from local police departments.

2. Inexperienced parents should be linked with a mentor to whom they can turn when they have questions or are stressed.

3. The frequency and content of public service announcements that illustrate the importance of parents or other caretakers taking a "time out" when the stress of childcare becomes overwhelming should be improved.

***4. Parents should be given a list of respite care resources/options and emergency numbers at the time of hospital discharge after the birth of every new infant. These resources should also be discussed at prenatal visits.***

5. Parents of older children should carefully and consistently monitor the friends with whom they associate and enforce strict curfews.

**Actions and Strategies that Could Prevent Future SIDS and Other Undetermined Deaths**

1. Media efforts to promote back sleeping should be stepped up. Easy to read and understandable SIDS informational brochures and other educational materials should be widely distributed on a continual basis across the state to physician offices, public health nurses, public agencies, child care providers, hospital OB departments and other groups who deal directly with infants and their families.

2. Every baby should have its own sleeping place and **should not share** a sleeping place with parents, whether a potential shared place is a bed, a couch, a chair or the floor.

3. Cribs, bassinets, and other sleeping places should be checked for mattress firmness and absence of potential causes of smothering, choking or re-breathing, such as pillows, adult blankets, wide spaces between mattress and sides, crib bumper pads, stuffed toys and small items. Sofas, adult beds or chairs, recliners and waterbeds should never be used as an infant bed or sleep surface.

4. Pregnant women, mothers, fathers and other caregivers should be counseled about smoking hazards to children, both before and after their birth.

5. Pregnant women should be counseled as to the potential negative effects on their offspring of illicit drug use and alcohol use during pregnancy.

6. Parents, grandparents and other care providers to neonates and infants should be educated about appropriate sleep position and sleep environment.

7. Physicians should repeatedly counsel pregnant females and parents of very young children about SIDS risk factors, especially if the mother is very young herself, either parent smokes or the mother is not seeking consistent prenatal care.

8. Special efforts to educate non-English speaking pregnant women and their families about SIDS risk factor should be implemented.

9. Parents should be educated on selection of an appropriate childcare provider who is aware of and follows the “Back to Sleep” recommendations, and who provides a smoke-free home in which to care for children.

## Child Death Review Team Members
**with the disciplines they represent**

Valarie Campbell, MD
SIDS Coalition

Joseph Cowley, PhD
Substance Abuse Counselors

Lois Fingerman
Domestic Violence

Jerri McLemore, MD
State Medical Examiner's Office

Barbara Harre, MD
Pediatrics

Herman Hein, MD
Neonatology

Gerald Loos, MD, Vice-chair
Family Practice

Jan Mackey
Social Worker

Melissa Sally Mueller
Emergency Medical Services

Christine O'Connell Corken
County Attorneys

Glenn Baughman
Mental Health

Lon Walker, Chair
Law Enforcement

Mona Walters
Emergency Room Nurse

Robert Wortman
Insurance Industry

## STATE GOVERNMENT LIAISONS

Virginia Barchman
Attorney General's Office

Charlotte Burt
Department of Education

Scott Falb
Department of Transportation

Dennis Klein, MD
Department of Public Health

Jill France
Vital Records, IDPH

John Quinn
Department of Public Safety

Rosemary Norlin
Department of Human Services

### Coordinator

Stephanie Pettit, PhD
Department of Public Health

### Support Staff

Jinifer Cox
Department of Public Health

Further information about the Iowa Child Death Review Team may be obtained by writing or calling. The mailing address and telephone number are as follows:

**Child Death Review Team**
Lucas State Office Building – 5th Floor
Des Moines, Iowa 50319-0075
Telephone – 515/281-3108
Fax – 515/242-6384
Email – spettit@idph.state.ia.us