DOCUMENT RESUME

ED 427 871 PS 027 364

TITLE Preventing Child Death: Strategies for the Prevention of Child Death by Poisoning, Firearms, Drowning and Fires. A Special Report Commissioned by the Children's Trust Fund of Texas.

INSTITUTION Texas Kids Count Project, Austin.

SPONS AGENCY Children's Trust Fund of Texas, Austin.

PUB DATE 1997-00-00

NOTE 33p.

PUB TYPE Guides - Non-Classroom (055) -- Reports - Evaluative (142)

EDRS PRICE MF01/PC02 Plus Postage.

DESCRIPTORS Accident Prevention; Accidents; Change Strategies; *Children; *Death; Fire Protection; Guns; Injuries; Poisoning; *Prevention; Safety; *Safety Education

IDENTIFIERS *Child Safety; Drownings; Texas

ABSTRACT

This report is designed to be used in conjunction with the Texas Child Fatality Review Team Annual Report, which provides a comprehensive analysis of the incidence of child death in Texas and examines the state's fatality response system. Four types of preventable death are the focus of this report: deaths by drowning, gunshot wounds, poisoning, and those caused by fire. This report examines causes and preventive intervention or education strategies. A section of the report is devoted to each of the four causes of death. The first part of each section presents information concerning what factors cause death. For each type of accidental death, environmental factors, as well as ethnic, age, gender, and cultural factors, are examined. The second part of each section presents ideas for preventing accidental deaths of children. Contains 53 references. (EV)

Preventing Child Death

Strategies for the Prevention of Child Death by Poisoning, Firearms, Drowning & Fires

A Special Report Commissioned by the Children's Trust Fund of Texas

texas kids count

PUBLISHED BY THE TEXAS KIDS COUNT PROJECT

Preventing Child Death:
Strategies for the Prevention of Child Deaths by Poisoning, Firearms, Drowning and Fires

Preventing Child Death, a publication commissioned by the Children's Trust Fund of Texas, is provided by the Texas Kids count Project.

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Overview of the Children's Trust Fund of Texas

The Children's Trust Fund of Texas was established in 1985 by the Texas Legislature to prevent the abuse and neglect of our children by leading the way in setting policy, offering resources for community prevention programs, and providing information and education on child abuse and neglect. CTF has been a state agency since 1991 and is the only agency in the state with a sole mandate to prevent child abuse and neglect. It is governed by a nine-member council appointed by the governor and it is responsible for setting policy, funding priorities, and providing administrative direction. The Council's financial support to local programs is based on a three-year funding cycle requiring an increased local match each year, with the goal of establishing successful programs that can be fully sponsored by the community after CTF funding ends. CTF also works to achieve interagency collaboration.

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Texas Kids Count is a project of the Center for Public Policy Priorities with the University of Texas Center for Social Work Research as a research partner. The project is part of a nationwide effort to highlight the well-being of children in every state. As part of this ongoing effort to build a better understanding of the conditions facing all children in Texas, Texas Kids Count is building a comprehensive database of indicators of child well-being. The data will be used to produce annual fact books and other analyses on the status of children in Texas.

This special report was funded by the Children's Trust Fund of Texas. Other funding for Texas Kids Count is provided by the Annie E. Casey Foundation and supplemented by support from the Hogg Foundation for Mental Health and the RGK Foundation. Special research has been supported by the Texas Department of Health and the Texas Department of Human Services.

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The Center for Public Policy Priorities

The Center for Public Policy Priorities is a public policy research and analysis organization, seeking sound solutions to the challenges faced by low- and moderate-income families in Texas. The Center pursues this goal through independent research, analysis, policy development, public education, and technical assistance. The Center for Public Policy Priorities is an office of the Benedictine Resource Center.

The Benedictine Resource Center

The Benedictine Resource Center (BRC) is a not-for profit corporation dedicated to promoting the well-being and empowerment of the poor and disenfranchised. In 1985, a congregation of Benedictine nuns from Boerne, Texas founded the BRC. The Benedictine tenet of societal discernment — the ongoing process of reading the "signs of the times" and responding to them — is focal to the BRC's Ministry. Through education, technical assistance, advocacy, research and resource development, the BRC creates strategies for ringing about those structure which promote individual dignity, spiritual enrichment and community well-being — interdependent and essential components of its comprehensive mission. The Texas Kids Count project is a direct outgrowth of the BRC mission to improve the lives of disadvantaged children and families in Texas. The dedication of BRC to this fundamental goal undergirds the Texas Kids Count project and all the activities of the Center for Public Policy Priorities.

Foreword

By Janie D. Fields, MPA

Executive Director
Children's Trust fund of Texas Council

The Children's Trust Fund of Texas Council (CTF) wants the prevention of child abuse and neglect to become a reality for all communities. Since its inception in 1985, the Children's Trust Fund of Texas has worked to create an environment in which prevention is possible through the involvement of all Texans. CTF is working to inform the public of the extent of the problem and to foster the knowledge in individuals that they can make a difference in the lives of children.

The Seventy-Fourth Legislature charged the Children's Trust Fund of Texas to promote education of the public regarding the incident and causes of child deaths and specific steps the public can undertake to prevent them. The information in this report is critical as we look to meet the legislative mandate. The circumstances surrounding the death of a child are not always identified. Yet knowledge of these circumstances can lead to the development of prevention strategies that save lives. This research will assist us as we move forward in determining how we should accomplish this challenge and where we should direct our scarce resources.

I encourage you to reflect on the facts in this report and meet the challenges they present in preventing child deaths, an issue that concerns us all.

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Introduction

This report is for all those who work with children or have children or grandchildren of their own. It is for anyone who wishes to prevent the senseless accidental deaths of Texas children. This report is designed to be used in conjunction with the Texas Child Fatality Review Team Annual Report, which provides a comprehensive analysis of the incidence of child death in Texas and examines the fatality response system in Texas. This system combines information from many sources to assess the circumstances surrounding deaths that are sudden and unexpected.

The Texas Child Fatality Review Team provides a system for coordination and communication about the causes of death among Texas children. This report goes one step further and attempts to provide insight into causes of preventable death and recommendations for prevention strategies. The Children's Trust Fund of Texas mandate for the State Child Fatality Review Team is to promote education of the public regarding the incidence and causes of child deaths, determine the public's role in preventing child deaths, and specify steps the public can undertake to address this vital issue. As the State Committee and local review teams increase our knowledge of the circumstances surrounding child deaths in Texas, CTF will continue to promote awareness of preventable dangers to the lives of Texas children.

Accidents can be prevented. Public awareness coupled with specific legislative and community efforts have successfully reduced child mortality in Texas over the last decade and a half. This is illustrated by a steady decline of accidental deaths since 1980. Although rates have remained high in some less-populated areas of our state, by 1995 the decline statewide had resulted in 41 percent fewer accidental deaths than in 1980 (Texas Department of Health, Bureau of Vital Statistics 1995).

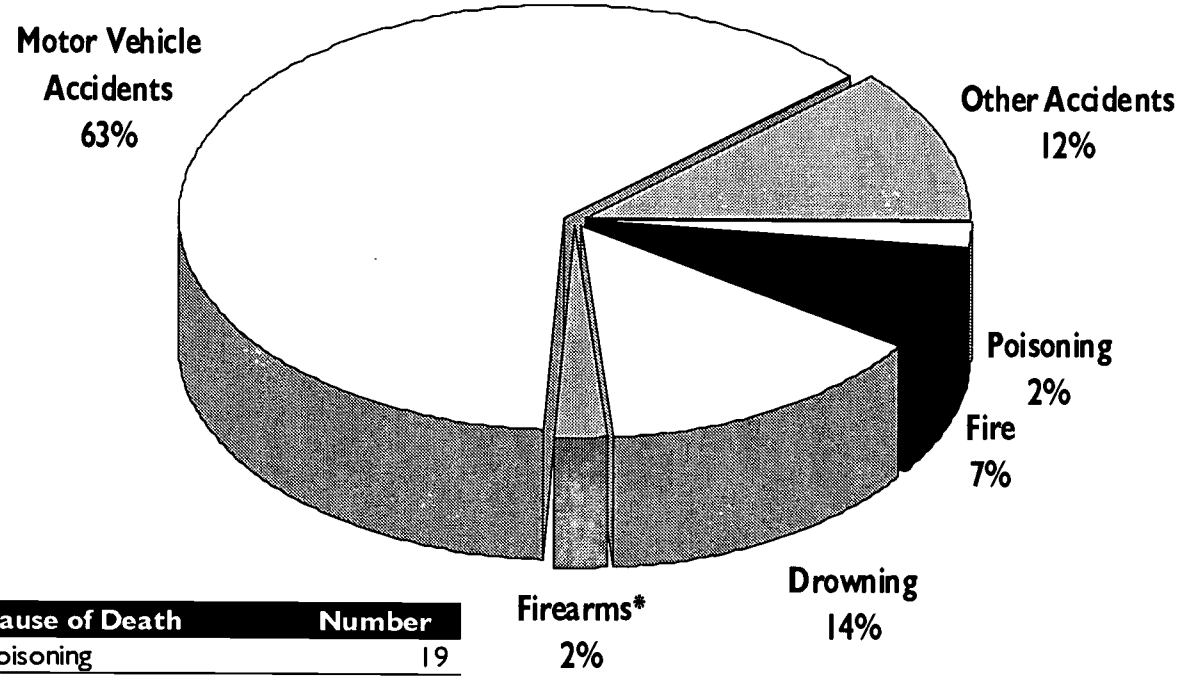
Although children's deaths are always tragic, cutting short their life experience, and causing immeasurable loss to those who love them, those deaths that weigh most heavily are the ones that could have been prevented. In 1995, 4,009 deaths of children were reported in Texas. Of those, 2,806 died of congenital causes, Sudden Infant Death Syndrome (SIDS), or other "natural" causes. However, fully 30 percent of those deaths, 1,203 children and young people under the age of eighteen, died for reasons that could have been prevented through readily-known or available measures (Texas Child Fatality Review Teams 1995).

Four types of preventable death are the focus of this report: deaths by drowning, gunshot wounds, poisoning, and those caused by fire. This report exams causes and preventive intervention or education strategies. Although motor vehicle accidents cause the largest number of accidental child deaths, they will not be included in this report: much work has already been done by others on the subject.

A section of this report is devoted to each of the four causes of death. The first part of each section presents information concerning what factors cause deaths. For each type of accidental death, environmental factors as well as ethnic, age, gender, and cultural factors will be examined. For example, if fewer parents of some groups teach their children to swim, prevention strategies may call for encouraging more instruction for children of that group. Racial categories and ethnic backgrounds as well as the

Accidental Deaths of Texas Children

Ages 0 to 19 in 1995



Cause of Death	Number
Poisoning	19
Fire	74
Drowning	142
Firearms*	32
Motor Vehicle Accidents	620
Other Accidents	117

*Unintentional firearm deaths only, does not include homicides or suicides

Source: *Texas Vital Statistics 1995*. Texas Department of Health

categories of male or female are linked to some differences in rates of death. African American children die 42 percent more frequently than all other people through the age of seventeen (Texas Child Fatality Review Teams 1995). Among all racial and ethnic groups, the mortality rate of males is 42 percent higher than that of females, and between the ages of fifteen and seventeen inclusive, males' deaths are more than double those of females their age (Texas Child Fatality Review Teams 1995). Targeted prevention strategies can address each of these differences.

Seasonal and geographic variations are also significant. For instance, drowning occurs more frequently in the summer (Baker et al. 1992), while carbon monoxide poisoning is more frequent in the winter - especially in the colder, northern states (Goodman 1996).

Also, deaths occur for different reasons at different ages. For example, firearm deaths among small children are most likely accidental, with the likelihood of murder or suicide increasing at older ages. It is not until children reach the ages of fifteen through seventeen years that injuries surpass natural causes in frequency of occurrence (Texas Child Fatality Review Teams 1995).

The second part of each section of this report presents ideas for preventing accidental deaths of children. Because of the high toll of child deaths, national as well as local experts and agencies continue to work toward effective means of combating children's fatalities. An analysis of both why accidents occur and how they can be prevented can save children's lives.

Drowning

In Texas, drowning is the second leading cause of accidental death for children (Texas Child Fatality Review Teams Annual Report 1995). According to the Texas Department of Health, 142 children between the ages of 0 and 19 drowned in 1995 (Texas Vital Statistics 1995). Although the number of drownings for girls and boys is about equal up to age four, more than three-fourths of all drownings of older children are boys. While African American children are more likely to drown in pools, Hispanic children are more likely to drown in a lake, river or creek (Texas Child Fatality Review Teams Annual Report 1995). Children under the age of 5 are more likely to drown in pools, while older children drown more often in natural bodies of water (Texas Child Fatality Review Teams Annual Report 1995).

The great majority of drowning deaths of young people occur in the context of water recreation, including swimming in pools or other bodies of water, and boating. Most drownings can be prevented by specific precautions, recognition of drowning, and timely CPR.

Across the United States, the highest non-boat drowning rates are for infants, one and two years old, while the highest boating-related drowning rate is for the oldest children. In addition, five times as many males as females die in non-boat drownings, while fourteen times as many males are fatalities in boat-related drownings. Females' rate of death by drowning peaks in infancy, then levels off; but for males, the rate peaks in infancy, declines slightly to age ten, then rises to a maximum at age eighteen (Baker 1992).

This late-teen peak may be related to alcohol use, boys' behavior patterns, and other factors. The U.S. Coast Guard estimates that 51 percent of all boating accidents are alcohol-related (Spice 1997). The motion of a boat affects a person's equilibrium. Exposure to the sun, also, increases dehydration, which intensifies the impact of intoxication as well as causing thirst and additional drinking.

Generally speaking, rural areas experience greater per capita drowning rates than do urban. In addition, more than any other type of injury death, drowning occurs disproportionately on Saturdays and Sundays (Texas Department of Health, Bureau of Vital Statistics 1996). Forty percent of all drownings occur on the weekend, reflecting the increase during the weekend of recreation of all sorts, including boating and swimming. These drownings are influenced by alcohol use, which is a prominent factor in adult and adolescent drownings and increases substantially on the weekends (Wintemute et al. 1990).

Similarly, drowning is the most seasonal of all injuries, with two-thirds of non-boat and one-half of boat-related deaths occurring in May through August, with July the peak month (Baker et al. 1992). Often, boat-related deaths are categorized as "water transport" deaths, and so are not included in drowning statistics. However, the majority of these deaths are due to drowning as opposed to falls, fires, and other occurrences on boats. In Texas, there were 9 water transport deaths of children 19 and under in 1995.

According to the Texas Department of Health, at least 93 percent of children under the age of 6 were unsupervised at the time of their drowning or near-drowning

event. In at least 57 percent of Texas water-related injuries, the injured party was reported as not wearing a flotation device such as a life jacket, while only 1 percent who died was. In the additional approximately 42 percent of cases, it was unknown whether flotation equipment precautions had been taken.

> **[According to the] Coast Guard, 85 percent of all drowning fatalities would be alive if they had worn a life jacket. That's why the law requires a child to wear a life jacket.** Program Director, Texas Parks and Wildlife August, 1997.

In Texas, most non-boat-related drownings take place in swimming pools. Thirty-nine percent of those that occurred between January 1994 and September 1996 happened in pools, with constructed facilities, including bathtubs, hot tubs, and pools, accounting for just over half the total cases. Of these, 30 percent occurred at the victim's private residence, 17 percent at his or her apartment residence, 15 percent at another person's home, and 11 percent at a public facility. The most common setting, therefore, is in the family's (or the victim's) own private swimming pool.

It has been estimated by some experts that a residential swimming pool is fourteen times as likely as a car to be involved in the death of a child less than five years old. This youngest group is most likely to drown in pools, but also in bathtubs, buckets, and toilets. About 40 percent of all U.S. infant drownings occur in bathtubs. Children can drown within 20 seconds. This can translate into a parent's going to answer a ringing phone, or walking to an ice chest to get a drink. Some experts believe, however, that this high fatality rate may be an indication of child abuse rather than a lack of supervision, but little information or data are available to validate this claim.

Drowning Prevention Strategies

Perhaps the most traditional method of drowning prevention is teaching children to swim at an early age. Groups such as the American Red Cross, the Boys and Girls Clubs of America, and the YMCA have offered swimming instruction to children for many decades. In addition to swimming skills, children can be taught the dangers of swimming hazards, such as strong undertows.

A majority of childhood drownings occur under a momentary lapse in parental or adult supervision. Many children drown with their parents in the immediate vicinity. Victim recognition should be promoted to the public. Kim Tyson, Aquatic Coordinator for the University of Texas Aquatics Center and longtime educator and advocate for water safety instruction, believes that victim recognition should be a primary objective of safety training for parents and children. Tyson trains parents and life guards in drowning recognition, often using actual videotaped footage of drowning children whose critical situation is undetected by parents and other adults swimming only a few yards away (Tyson 1997).

The problem is that the parents who are watching their kids can actually be watching their children and if they're not trained in what a drowning looks like, it looks like [the children] are playing and the kids can literally drown. They'll watch junior over here, talk to their neighbor for 5, 10, maybe 30 seconds, come back, and [the child's] down.
Aquatic Coordinator, University of Texas Aquatics Center

Perhaps the greatest reason why drowning is so difficult to detect is that it is usually a silent killer. Tyson points out this and other factors in her training:

- Most drowning victims do not call out for help. Typically, the drowning victim is spending all of his or her energy in trying to breathe in, and does not have enough air to yell for help. Victims generally tilt their heads back into the water in an attempt to reach the air.
- Few drowning victims wave their arms or thrash around as most movie renditions of drownings indicate. Typical drowners appear to be playing in the water with their arms at their sides attempting to push down on the water to get to the air to breathe. These unsuccessful attempts are followed by vertical arm movements as they sink silently into the water.
- Most adults drown within 20 to 60 seconds. Children can drown within 10 or 20 seconds due to smaller lung capacity. This is why supervising parents who momentarily turn their attention away may miss the child's silent struggle.

Parents are not the only people who need to be trained in victim identification. Many lifeguards, as well, need training in drowning recognition. Loud and splashy movements accompanied by shouts for help are usually made by people who have some degree of swimming skill and are experiencing fatigue or swimming distress. Lifeguards are taught that swimmers experiencing distress are usually able to float for a few minutes and are not in immediate danger of drowning. In a crowd of playing, screaming children in the water, it is the silent, bobbing drowner who must command a lifeguard's attention. Typical drowning movements are recognizable, such as those called "Climbing the Ladder"--vertical bobbing movements accompanied by panicked and instinctive movements of the arms. Despite training to recognize these motions, there are an average of 10 to 15 drownings in guarded facilities in Texas each year--and this is only a small percentage of the number of lifesaving rescues that take place. For every drowning, there are about five near-drownings, and for every near-drowning in which submersion injuries take place, there are another five near-drowning incidents which do not require medical assistance.

Pool Safety

Residential swimming pools carry other risks for drownings, from unsafe water conditions, to getting one's hair caught in a drain. Pool bathers can aid in the prevention of their entrapment by swimming with their hair tied back. Children should be restrained from playing near pool drains. When pools are not in use, they should be covered securely.

All swimmers should check the condition of the water before entering a pool. Cloudy water is an indication that the pool filters are not working properly. Potential drowning victims cannot be spotted easily in cloudy water. Also, pools should have flotation devices, such as a life ring buoy, near the water, as well as a pole hook with which to assist those in the pool in case of emergencies.

Natural Water Settings Safety

Texas has an important risk factor, which contributes to the high proportion of drownings each year in the state: its coastal waters. National Lifesaving Statistics (1996) available through the U.S. Lifesaving Association (USLA) show that dangers associated with ocean rip currents account for at least 80 percent of all USLA's rescues in the nation. Although USLA data for the Texas gulf coast do not provide statistics for the number of rip current-related drownings and rescues, the longest barrier island in the world, a structure which gives natural rise to rip tides, runs along the Texas gulf coast at Padre Island National Seashore (National Geographic, 1997)

Rip currents are difficult to detect because they appear to be calm areas of water. They are often inviting to swimmers. However, the current created in these coastal areas can quickly carry even a strong swimmer out beyond a shoreline's breakers. Because the rip flow is so quick, it can induce panic in even the most experienced swimmers who attempt to fight the current. This fighting response can tire swimmers and cause drowning. Strategies to prevent rip current-related drownings include:

- Always swim in lifeguarded areas along a coastline.
- Avoid rip current areas. These can be identified along a beach where there is rippling water but a lack of wave activity.
- If caught in a rip current, swimmers should not fight but ride it out beyond the breaker. The influence of a rip current dies once beyond the breaker. Swimmers should also be aware that once beyond the breaker, they will most likely encounter wave action, and so should be on the lookout for incoming surf, which can either provide a further hindrance or be used to carry one back in to shore.
- Signal for help while being carried out in the current.

Natural water settings like lakes and rivers often contain water that is difficult to see through. When swimming in a lake or river, divers should always check for under water rock or other obstructions before jumping into the water. Also, divers should ensure that the water is deep enough to dive in safely.

Boat-related Safety

The most important safety strategy for children in boats is to wear a life jacket. Statistics of the National Safety Council show that, in 1995, 88 percent of all boating-related fatalities involved persons who were not wearing a flotation device. Over half of all U.S. boating fatalities occur when a boat capsizes or a boater falls overboard (U.S. Coast Guard, 1994, in National Safety Council, 1997). Despite the danger (and prevalence) of boating-related drownings, it is surprising to note how many boaters are

unaware of boating safety regulations: "Ninety percent of all boating fatalities [in 1995] occur[red] on boats where the operator had no formal boating safety instruction, up from 80 percent in 1994" (National Safety Council, 1997).

Boater Safety Courses are offered by Texas Parks and Wildlife Department. Anyone at any age can attend the course. Children under 12 must be accompanied by an adult. For more information call the Austin Headquarters toll-free at 1-800-792-1112 EXT. 61 or 512-389-4938 or visit their web site at:

http://www.tpwd.state.tx.us/edu/boated/boatprog.htm

Boater safety courses stress boating safety and responsibility, including:

- tips on choosing the right boat
- legal requirements for your boat
- navigation rules and aids
- getting underway, docking, anchoring, and trailering
- handling accidents and emergencies
- weather
- basic water safety
- fire on board
- water sports

The Lower Colorado River Authority (LCRA) also offers boating safety classes. Classes are targeted to 13- 15 year olds an offer general boating safety information including basic rules and laws for Texas waterways. The LCRA also offers classes in operating personal water craft (PWC). Classes are offered several times a month, as needed. Contact the LCRA for more information at (512) 473-3200.

Texas has a number of state regulations regarding boater safety, including the requirement that all children under the age of 13 must wear life jackets while on a boat. In addition, all life jackets should be U.S. Coast Guard-approved. Children under the age of 13 should not operate a motorboat with more than a 15 horsepower motor without direct supervision of a person 17 years or older.

Texas law stipulates additionally that no person with a blood alcohol level greater than .10 percent may operate a boat. General alcohol provisions have been in place since 1984, but a 1993 study showed that only 42 percent of respondents who participated in boating activities were aware of the law (Howland et al., 1993). Because of the recreational aspect of boating, consumption of alcohol on board a boat often occurs.

A fairly recent arrival in the water-navigation field is the use of personal water craft (PWC). PWCs include jet skis, wet bikes, and other jet-propelled individual water craft. About 80 percent of all PWC accidents involve a collision with another boating vessel (National Safety Council, 1997). All operators of PWCs and those persons towed by them must wear Coast Guard-approved life jackets. Children under the age of 13 must be accompanied by a person 17 years of age or older, and no PWC may be operated at night.

Because personal water craft are available to families at lower costs than many other types of boats or vessels, they are much more accessible to children. It is important that children and parents who own or have access to the use of these PWCs be educated in boating safety programs. The U.S. Coast Guard Auxiliary holds regular

boater education courses for families, including children, often concentrating on the safe use of PWCs (U.S. Coast Guard Auxiliary, 1997).

Many drowning deaths have been prevented by the immediate practice of CPR (Cardio-Pulmonary Resuscitation). Training classes for resuscitation and revival of drowning victims are readily available in most communities. Seventy-three percent of persons experiencing drowning or near-drowning events were hospitalized, often brought in by ambulances in which they were usually administered CPR. Thirty-one percent of those hospitalized died as a result of drowning-related injuries within 24 hours of their submersion in the water. Faster action, resulting in their receiving needed oxygen sooner, could have prevented some of those deaths.

In 1993, the Texas Legislature passed a law (Texas Health and Safety Code, Chapter 757) which required all apartment pool yards to be surrounded by a 4-foot fence with entry to the pool yard accessible only by a locked, self-latching, self-closing gate. The law applies to all pools constructed after January 1, 1994, and requires retrofitting of the required enclosures to those pools constructed prior to that date. It does not, however, cover privately-owned residential pools, environments in which most childhood drownings take place. It is necessary, therefore, to provide increased guidance to parents regarding safety measures and drowning recognition.

Fires

Fires took the lives of 74 Texas children between the ages of 0 and 19 in 1995, according to the Texas Department of Health (Texas Vital Statistics 1995). The rate of fire death is three times as high for African American children as other groups and young children (less than 5 years) are three times more likely to die in fires (Texas Child Fatality Review Teams Annual Report 1995). Fires are more likely to occur in the winter months (Texas Child Fatality Review Teams Annual Report 1995).

By far the greatest number of unintended fires in the U.S. occur in buildings, and most of these in residences (Goodman 1994). In Texas, while outside fires (trees, brush, grass, refuse, etc.) were the most frequent, residential structure fires caused the most deaths and injuries (Texas Commission on Fire Protection 1996). The rate for fire-related deaths is highest for the young and the elderly, those people who are least mobile (Goodman 1994).

Children under the age of five are more likely to succumb to fire than those between five and nine years old. The fire fatality rate among children continues to drop as their age increases. While there has been a 37 percent decline in the rates of residential fire deaths in Texas since 1970, numbers are still too high (Texas Commission on Fire Protection 1996).

Several factors contribute to variation in fire frequency. The most obvious is a seasonal variation, with most fires occurring nationally in the coldest, darkest months of December through March. According to the Centers for Disease Control (CDC), the increased number of winter deaths by fire reflects the seasonal use of portable heaters, fireplaces and chimneys, and the presence of Christmas trees (Goodman 1994). Children playing with matches or lighters are the leading source of fires, which result in deaths of infants and young people up to the age of five. In the winter months matches and lighters are more liable to be an accessible temptation.

Fires associated with electrical portable heaters usually result from electrical shortages or malfunction of the heater, rather than from ignition of nearby flammable materials. Those resulting from kerosene heaters usually result from using the wrong fuel, or from faulty equipment, which leaks fuel that is then ignited. Chimney fires usually result from a buildup of creosote (a highly flammable by-product of wood fires). In 1991, fires related to Christmas trees accounted for the lowest number of fires but a substantially higher proportion of deaths than other types of residential fire. Most of these resulted from electrical problems, such as overloaded outlets and frayed or damaged cords (Goodman 1994).

In Texas in 1995, more fires occurred on Saturday and Sunday than on other days. While fires on these two days resulted in significantly higher dollar loss, close to double the amount of other days, they did not necessarily cause more deaths. Many of these fires have been linked to alcohol use and cigarette smoking. Typically, deaths from cigarette-initiated house fires occur between midnight and 6:00 a.m. (Texas Commission on Fire Protection 1996).

Fires in vehicles, especially automobiles, occur more frequently than do those in buildings. They account for the second greatest number of fire-related fatalities in

Texas. They usually originate in the engine of the car, and although what causes the ignition is most commonly unknown, it is the gasoline fuel, which is most frequently ignited (Texas Commission on Fire Protection 1996).

Fire Prevention

Fire is "the most preventable disaster," according to Gary L. Warren, Sr., the Executive Director of the Texas Commission on Fire Protection. He also notes that fire "takes more lives annually than any natural disaster." The use of smoke detectors can substantially reduce deaths by fire. Experts agree that a smoke detector should be installed outside each sleeping area on every habitable level of a home and the battery changed at least annually (Shriners Burn Institutes 1996; Goodman 1994).

Occupants should also develop escape plans so that they can respond to the warning given by the smoke detectors. The plans should include the identification of two exits from every living area, in case one is closed off by fire. The home's inhabitants should practice exit drills followed by meeting at a designated safe place sufficiently distant from the home. In addition, every home should have a multipurpose fire extinguisher ready for use in putting out small fires. Residences should be evacuated from any fire that cannot be extinguished within one minute because of the rapid rate of accumulation of heat and smoke. Once evacuated, residences should not be reentered. Persons who become trapped in a residence should crawl on the floor toward an exit to avoid the possible inhalation of smoke (Goodman 1994).

Children should be taught not to play with matches or lighters (Shriners Burn Institutes 1996). In addition, they should be told to inform an adult immediately if they see a fire starting. Other precautions include storing matches and lighters out of the reach of young children; wooden "strike anywhere" kitchen matches should not be used or kept in homes with young children (Goodman 1994).

Christmas lights should be examined regularly. Trees should not be set up near heating sources or fireplaces. In addition, cut trees should be sufficiently watered to reduce drying: dry trees ignite easily and burn rapidly. Electric cords for portable electric space heaters should be plugged directly into the wall and not linked through an extension cord. They should be kept at least three feet from any combustible object, and unplugged when not in use. Kerosene heaters should be used only with K-1 kerosene, rather than gasoline or camp-stove fuel, and should be refueled outdoors after the heater has cooled. Chimneys should be cleaned and inspected annually to detect and prevent creosote buildup. A fire screen should be used in front of the fireplace; wood stoves and fireplaces should burn only seasoned wood--not green wood, trash, or wrapping paper. Other improvements have decreased mortality due to fire. Cigarette papers were designed that would automatically extinguish if they were not being smoked. Sprinkler systems, improved regulation of electrical wiring, and more conscientious building designs for escape routes have also contributed to declining fire death rates.

Poisoning

Children can be exposed to two types of poisoning: chronic and acute. The most dramatic and visible cases of poisoning are those that are sudden and acute. These acute poisonings are exemplified by children who accidentally drink household chemicals or drugs and suffer immediate effects. However, many children also experience long-term, chronic exposures to poisonous substances (Sherrid 1991). The most familiar type of chronic poisoning is caused by lead in the water and in paint.

The cases of fatal poisoning, both acute and chronic, have decreased substantially over the last several years. According to the Texas Department of Health, 19 children between the ages of 0 and 19 died from poisoning in 1995 (Texas Vital Statistics 1995). This section will focus on the methods and strategies used to prevent poisoning deaths in the hopes that some of these strategies can provide insights into prevention strategies for other types of child death.

Acute Poisoning

Sixty percent of all calls to poison centers in the United States, almost all the result of acute exposure, involve children younger than five years. In fact, for every poisoning death among children younger than six years old, about 20,000 ingestions are reported to poison control centers (Litovitz et al. 1989). The most deadly substances are antidepressants, anti-convulsants, and cardiovascular drugs, which were involved in 2 percent of reported poisonings but caused 25 percent of deaths. A study conducted by the American Association or Poison Control Centers found that 23 percent of the oral prescription drugs taken by children under 5 belonged to someone who did not live with the child. Furthermore, up to 24 percent of the prescription medicines belonged to grandparents (U.S. Consumer Product Safety Commission 1997a).

Research efforts nationwide have pinpointed frequent sources of poisoning, then prompted strong laws and regulations aimed at minimizing resulting risks to children. The resulting decline in fatal poisonings among children is a dramatic success story. The federal and state legislation of child-proof packaging of medications, and in some cases division of medication into single dose packets, has resulted in a steep drop in poisoning cases among children (U.S. Consumer Product Safety Commission 1997b). However, the availability of medications without child-proof packaging has increased in recent years. A new ruling of the U.S. Consumer Product Safety Commission has changed the testing method for child-proof packaging in an effort to devise packaging that is both adult friendly and child-resistant (U.S. Consumer Product Safety Commission 1997b).

In Texas, children who are 0-5 years of age accounted for more than half of all acute poisonings in 1995 (Texas Poison Center Network 1996). Children between five and eighteen years old accounted for less than 15 percent. Poisoning was responsible for less than 3 percent of all deaths of children younger than five, and just over one percent of children between five and eighteen (Texas Department of Health, Bureau of Vital Statistics 1995).

Most teenage poisoning cases are considered suicide attempts, although without other clues this is difficult to assess in instances such as carbon monoxide asphyxiation.

Among deaths declared to be suicide, more victims are females than males, and aspirin is the most common poison females choose to end their lives (Texas Poison Center Network 1996).

In many cases, substances that poison children are not clearly marked as dangerous. Such household agents as kitchen cleaners, aspirin, or even an ornamental plant can be potentially dangerous for children because parents and children alike do not think about them as poisons. In Texas, the top ten acute exposure substances, in order, are (Texas Poison Center Network 1996):

1. analgesics,
2. cleaning supplies,
3. personal care products,
4. cold and cough medicines,
5. bites and venom,
6. plants,
7. foreign bodies,
8. topical medications,
9. insecticides and pesticides, and
10. sedatives or related drugs.

Availability of information on antidotes to all of these poisons has become increasingly widespread. This readily available information has lead to a substantial reduction in the severity and frequency of poisoning-related incidents. Throughout the state, more than 72 percent of the calls to a poison center are safely handled at the caller's home under the poison center's direction.

Chronic Poisoning due to Lead

In many areas in the United States, children are exposed to some degree of lead poisoning from a variety of sources. While chronic exposure to lead poisoning can be a fatal, it is also detrimental to the developing nervous system of children and can cause damage to cognitive development (Goodman 1994). Federal health officials have determined that smaller doses of lead are more toxic than had been previously estimated. It is difficult to ascertain if these smaller quantities of lead will eventually lead to or be a factor in death, but they do cause such problems in children as mental retardation, behavioral problems, learning disabilities, hearing problems, kidney malfunction, high blood pressure, shortened attention spans, and growth retardation (Cooper 1992; Needleman 1991; Science News 1991a, 1991b; Zylke 1991). Lead poisoning is also associated with shortened life and makes children weaker and more vulnerable to accidents (Cooper 1992; Environmental Defense Fund 1990).

In particular, very young children are at increased risk of lead poisoning. Estimates show that 10 to 15 percent of young children (less than 6 years) have toxic levels of lead (Cooper 1992). However, as of 1992 only 10 percent of all young children were screened for lead. In some areas of the country, the levels of lead poisoning were much higher. A study of children aged six months to five years in the El Paso, Texas/Las

Cruces, New Mexico area found that over 50 percent tested above the acceptable threshold level for lead poisoning (Environmental Defense Fund 1990). The primary sources of lead poisoning will be discussed here.

Lead Paint

A major killer, both chronic and acute, of children has been lead paint (*Time* 1991; *U.S. News & World Report* 1991). Public awareness campaigns followed by targeted legislation resulted in a change in paint ingredients. Although the prevalence of lead poisoning has diminished, paint continues to be the main source of lead poisoning in children because there are still many homes with old lead-based paint. Homes with peeling lead-based paint, which is easily ingested by toddlers, pose a particular risk to small children (Schirmer et al. 1991).

Fortunately, Texas is one of the states with the fewest number of homes containing lead paint (under 20 percent; Cooper 1992). However, the current trend to remodel and refurbish older homes has resulted in toxic dust from sanding operations (*Home Mechanix* 1991). Older homes can be a dangerous source of lead poisoning for children.

Other sources of lead poisoning

Historically, leaded gasoline used as vehicular fuel has contributed to the lead poison intake of both children and adults. In areas near dense traffic, by busy highways or in inner-city, urban surroundings, concentrations of lead can develop in adjacent air, plants, and in the ground. Legislated elimination of leaded gasoline has drastically cut lead exposure from this source, although the ground in many areas continues to hold concentrations of lead (Cooper 1992; Congressional Quarterly Weekly Report 1991).

Another potential source of lead poisoning for children are vinyl miniblinds used in many homes. The U.S. Consumer Product Safety Commission (CPSC) tested imported vinyl miniblinds after being alerted by the Arizona and North Carolina Departments of Health that the blinds might present a source of lead poisoning to young children. Although the blinds are made of plastic, lead is often added to the plastic as a stabilizer. Over time and exposure to sunlight and heat, the plastic deteriorates, leaving lead dust on the blinds' surfaces. Young children can touch the blinds, then put their hands in their mouths. CPSC found enough lead in the surface dust on some blinds that a child could swallow a dangerous level of lead in fifteen to thirty days from the dust of less than one square inch of a blind's surface per day (U.S. Consumer Product Safety Commission 1996).

Another major source for lead in the area is drinking water, which can include lead leached from waste dumps, or from the piping between the municipal underground water main and the household faucet (Shenon 1990). Now, although allowing two decades for compliance, federal governmental regulations have begun to control this aspect of drinking water impurity. However, utilities in small communities are exempted from the regulations (Cooper 1992).

Many types of kitchen dishes and glasses can potentially contain lead. While lead leached into drinking water or from dishes and glasses has not commonly resulted in acute poisoning death, it has a set of significant consequences for children's well-being.

Other forms of environmental poisoning

Carbon monoxide (CO) is a potential source of poisoning death among children. Carbon monoxide poisoning can occur through exposure to residential heating systems, gas appliances, and fireplaces that produce carbon monoxide. Most fatal exposures to carbon monoxide, however, are from motor vehicle exhaust. The total number of deaths from carbon monoxide is much higher in the northern regions of the country, and especially during the coldest months. In Texas, a southern state, the death rate due to carbon monoxide poisoning in vehicles is among the lowest in the country at less than .10 per 100,000 people (Goodman 1996). Because it is colorless, almost odorless, tasteless, and non-irritating, its presence is not usually detected (Goodman 1994).

Poisoning by illegal substances

Texas has among the highest rates of poisoning by opiates (Baker 1992). Family income is related to levels of poisoning by opiates and cocaine. These substances are among the few causes of death for which mortality is lowest in low-income areas (Baker 1992). Highest in middle-income neighborhoods, fatal opiate poisoning is most frequent in those areas with the high per capita income necessary to purchase such drugs. The statistics in some instances are difficult to interpret, however, because death by, for example, heroin overdose is often labeled "natural," since death is considered a natural result of hard drug dependence (Baker 1992).

Among children under eighteen, the abuse of inhalants is unacceptably high (National Institute on Drug Abuse 1997). Unlike opiates, inhalants are commonly used across all income categories, they are cheap and readily obtainable. Unfortunately, "sniffing" can cause severe brain damage as well as death. In such cases, the body and brain are starved of oxygen, or the heart is forced to beat rapidly and erratically. However, medical examiners often attribute these deaths to suffocation, suicide, or accidents, and organized, data-collecting systems do not currently specify inhalants. Medical journals have described the situation as "serious," but medical personnel are not trained to recognize or report inhalant abuse symptoms (National Institute on Drug Abuse 1996).

The use of inhalants is most common among younger adolescents. Nationwide, in 1993, one in every five eighth graders had "sniffed" or "snorted" an inhalant. However, while 5.4 percent of the eighth-graders included in the survey had consumed an inhalant within the past thirty days, only 2.5 percent of seniors had (National Institute on Drug Abuse 1993), suggesting that their use diminishes as children grow older.

Prevention of Poisoning

Even though child proof packaging has been improved, parents and other caretakers should continue to take precautions to prevent children from having access to

drugs and other toxic substances. Children are curious and can quickly get into substances parents are using. Special care should be taken to alert visitors to the home about precautions they should take with their belongings. Also, parents who leave their children with other caretakers should ensure that proper safety precautions are being taken there.

Specific legislation has helped in the prevention of children's deaths by poisoning. In addition, individuals can take actions to shield children from toxic substances. Expert assistance is available immediately by telephone at government- or hospital-sponsored poison centers. The Central Texas Poison Center answers questions from both health professionals and the general public 24 hours a day, at a toll-free number (given at the end of this report). They also have available free green "Mr. Yuk" stickers with a disgusted-looking face children can be taught to avoid, to put on medicine containers, poisonous products, and flower pots of poisonous plants. However, these stickers have been found to attract some children to poisons making the stickers ineffective in preventing poisoning. Precautions the Poison Center recommends to prevent children from being poisoned are:

1. Read and follow labels and warnings on containers.
2. Store potentially harmful products and drugs out of reach of children.
3. Wash out and dispose of empty containers, and throw away unused portions.
4. Avoid taking products out of their original containers.
5. Avoid putting harmful substances into food or drink containers; such as storing gasoline in Coke bottles.
6. Train your children to stay away from storage areas and medicine cabinets.
7. Avoid leaving children alone, especially where potentially harmful substances are accessible, like in the kitchen or bathroom.
8. Recognize that children are curious about things and they learn to climb at very young ages.
9. Do not store food and cleaners together.
10. Avoid calling medicine "candy."
11. Avoid buying over-the-counter medicines that are animal-shaped or look like candy (Central Texas Poison Center 1994).

A checklist is available from the U.S. Consumer Product Safety Commission, which lists toxic substances found at home. Disposal and child-proofing instructions are included in the list (U.S. Consumer Product Safety Commission 1995).

Preventing Lead Poisoning

In the 1950's, hundreds of children died in the U.S. each year because of lead. Now, fatalities are rare, and, according to David E. Jacobs, director of Office of Lead Hazard Control at the Department of Housing and Urban Development (HUD), "if we take action, we can eliminate lead poisoning as a major childhood disease" (Jacobs 1997).

Parents and other caretakers can help children avoid exposure to lead. Especially important for households with pregnant women, infants, and children under

age seven, the measures discussed below cannot assure complete safety but they are a good start. Other areas that need attention are soil and dust in playgrounds, back yards, and day-care centers (Greeley 1991).

The first step in preventing lead poisoning is to identify any lead paint in the home. About half the residences built before 1978 contain some lead paint. Older houses, built before 1950, are likely to have lead paints (Yulsman 1991). Any chipping or peeling lead paint poses an immediate threat to children. On the other hand, if the paint is in good condition or has been painted over, it is best to leave it alone since the removal process exposes the lead and makes it more easily inhaled or ingested. If an older home is being renovated, children should live elsewhere while surfaces are sanded or scraped, after which a special vacuum cleaner should be rented to remove the lead paint dust.

Specialty contractors are licensed and trained to remove lead from dwellings, but their services are expensive. In Texas, call (512) 834-6600 for information on local lead abatement firms and possible sources of financial aid for reducing lead hazards (Henderson 1991; U.S. Consumer Product Safety Commission 1995).

Proper and comprehensive screening of levels of lead in the home is essential. For less than $50, drinking water can be tested for lead contamination by EPA-certified laboratories, listed at local utilities (U.S. Consumer Product Safety Commission 1994). Both soft water and acidic water cause pipes or solder to leach lead. Homes built before 1933 may contain lead pipes, while those built between 1978 and 1988 may be fastened with lead solder. Minerals deposited by water in pipes can provide a protective coating for those houses built before 1978; lead solder was banned after 1988 (U.S. Consumer Product Safety Commission 1993).

To reduce lead in water, let the tap flow for one or two minutes before drinking or drawing water for cooking, thus avoiding water that has stood in the pipes for several hours (National Association of Home Builders 1992). When cooking, use only cold water because hot water tends to sit longer in the pipes. The use of distilled water, available in supermarkets, should be used when feeding a baby formula that requires mixing with water.

Food cans can be another source of lead. Imported cans may be soldered with lead. Also, the clear glaze that covers most ceramicware contains lead. Some types of china are more likely than others to pose a lead hazard — old or damaged pieces, hand-crafted pieces that may have been improperly fired, dishes with painted or raised decal-type decorations not covered by a glaze should not be used for serving food or beverages. Hot or acidic foods, such as those that are tomato-based, should not be served on old china or any dishes that have damaged glaze, because these foods can leach lead out of the glaze. Ceramic pitchers should not be used to store acidic juices. Coffee mugs with leaded glazes should not be used, since coffee and tea are both hot and acidic. Do not use leaded-glass crystal to store drinks (Harvard Health Letter 1991, 1992).

Glass or stoneware dishes (heavy pieces with a dull finish) do not contain lead. Some manufacturers now use non-lead glaze on their china. Kits are available for under

$30 to test lead content of chinaware, or manufacturers can be contacted for information on their products.

Across the nation, different states and cities have developed different measures to reduce lead poisoning. Massachusetts implemented extensive lead-poisoning prevention initiatives in 1988. Under their law, sellers of homes are required to provide information about the dangers of lead paint and to give buyers ten days to have the house inspected for potential lead hazards. It also requires doctors to screen children and day-care providers, to ensure that all children have been screened by age two. California requires all makers of ceramics to test their products and attach warning labels to all pieces that leach lead.

Screenings

Every child in Texas should be tested for lead poisoning. When a child tests positive for lead poisoning, health officials should order an inspection of the child's house. The city should also inspect day-care centers for lead paint. Tenants should be able to request inspections of their apartment and require landlords to remove any deteriorating lead paint.

Preventing carbon monoxide poisoning

Carbon monoxide (CO) poisoning can be prevented using low-cost CO detectors. Other precautions that can be taken include:

- All appliances using combustible fuel should be installed professionally, as well as inspected and maintained on a regular basis.
- Fuels should not be burned in confined spaces.
- Exhaust fans should be used to remove gases from a room or garage. (Goodman 1995)

Thanks to legislation and increased awareness of the dangers of poisonous substances, as well as the informational assistance available through the network of Poison Prevention Centers, many children who would have been victims are alive today. Continued efforts to disseminate poison prevention information to parents, grandparents, and any child caregiver should be maintained.

Firearms

New national statistics show that for the first time in more than a decade, the number of children killed by guns has decreased between 1994 and 1995 (CDF 1997). There were 253 firearm-related deaths in Texas in 1995 (Texas Child Fatality Review Team Annual Report 1995). Many of these were homicides and suicides, but nearly 25 percent of the child shootings were unintentional and accidental deaths. About 9 percent were caused by someone who was playing with a gun (Texas Child Fatality Review Team Annual Report 1995). The number of unintentional gun deaths in Texas decreased from 40 in 1994 to 32 in 1995. This report will focus on the prevention of these unintentional shootings.

Handguns were the most frequently used firearm in the deaths reviewed by child fatality review teams (Texas Child Fatality Review Team Annual Report 1995). Approximately 200 million homes nationwide, almost half of the homes in the United States, have firearms (Children's National Medical Center 1995). Sixty million of these are handguns. Often, the accidental gun-related death or injury of a child stems from adult misjudgment. There is a widespread tendency on the part of adults to underestimate children's abilities to gain access to and fire a gun, an overestimation of their capacity to distinguish between real and toy guns, and to follow rules of gun safety.

Nearly all childhood unintentional shooting deaths occur in or around the home, and most involve guns, which have been kept loaded and accessible to children. According to one study, 51 percent of handguns were stored unlocked, another 30 percent were kept loaded, and an additional 13 percent were kept both unlocked and loaded (Children's National Medical Center 1995). Most children who kill themselves or their friends accidentally do so while playing with guns. If a gun is in the home, around 80 percent of young children know where it is, while 85 percent of gun owners say they never worry about someone in their home being injured by a gun (Children's National Medical Center 1995). Guns are kept for hunting, by collectors, and, more and more commonly, as a means of defense against intruders. However, a gun in the home is 43 times more likely to kill a family member or friend than to be used in self-defense (Children's National Medical Center 1995).

Age, ethnicity, and location are factors in firearm deaths as well as injuries. More than 60 percent of all unintentional firearm deaths of children aged fourteen and under occur to those from ten to fourteen years old (Children's National Medical Center 1995). The rate of deaths by firearms then triples for those young people from fifteen to nineteen years old (Baker et al. 1992).

Child accidental firearm deaths are four times more likely, per capita, in rural areas than in urban locations. In rural areas, rifles and shotguns are more commonly found and used than in urban sites. At present, purchasing or obtaining a firearm is not difficult for a determined person. With the rise in gang activity and a decrease in respect for conventional or traditional means of justice or social control, the possession of firearms by young people is increasingly prevalent.

In addition to casualties from firearms in the home, although not as frequent, hunting accidents cause child deaths each year. In the western and southwestern United

States, including Texas, they are far less frequent than in other regions of the country. Furthermore, in the southwestern states, of which Texas is a part, the number of hunting accidents and fatalities steadily fell in the five-year period from 1991 through 1995 (International Hunter Education Association 1995).

Prevention of Death by Firearms

Research shows that every single unintentional shooting in which a child age 5 or under shot and killed him or herself or others could have been prevented by a child-proof gun safety device. An estimated 31 percent of all unintentional shootings could be prevented by the presence of two safety features: trigger locks and loading indicators. Further, the safe storage of firearms is essential to preventing accidental shootings (Children's National Medical Center 1995).

> **The unfortunate part about the child preventable statistics is that in most every one of those cases they got a hold of the gun in an irresponsible manner, i.e., from a friend, in a dresser drawer, you know all the different places that the parents think that these loaded firearms are safe, and they're not.** Program Director, Texas Parks and Wildlife, August, 1997.

The Texas Nurses Foundation sponsors "Gun Safe" training courses. The principle points this Foundation promotes are:

- All guns— sporting, antique, BB, pellet, and others— should be securely locked away, with all key or combination locks solely in the possession of an adult.
- In households where children live or visit:
  1. Adults should lock up guns.
  2. The locks should be key or combination locks.
  3. Guns should be secured in a gun safe, fire safe, or lockbox.
  4. Unstored guns should have a properly fitting trigger lock.
  5. Only adults should have access to lock keys and combinations. (Texas Nurses Foundation 1996).

In most hunting accidents with firearms, the shooter did not see the victim. In some states, including Texas, blaze orange clothing is required of hunters, and has succeeded in preventing some shootings.

In a study conducted by the International Hunter Education Association, the specific causes for vision-related accidents were found to be the following:

1. The victim moved into the shooter's line of fire.
2. The victim was out of sight of the shooter.
3. The shooter swung his weapon around to shoot an animal.
4. The shooter mistook the victim for an animal (International Hunter Education Association 1995).

The National Rifle Association emphasizes in their prevention literature the necessity of teaching children what to do if they do come across a firearm. In the Eddie the Eagle Program, children from pre-Kindergarten to grade 3 are presented with learning activities that emphasize the following precautions if they find a gun:

Stop
Don't Touch
Leave the Area
Tell an Adult

These learning modules and a video tape are made available to schools. However, one expert suggested that there is a group of children who are curious about firearms and who are not reached by this type of school program.

> **Kids are so susceptible to the firearms because they know nothing about the action of the firearm. They're wanting to explore this whole thing that's so apparently glamorized in Hollywood. No wonder they have the curiosity for it.** Program Director, Texas Parks and Wildlife, August, 1997.

Most firearm prevention programs are centered around the proper use and storage of firearms. However, a firearm injury prevention program was established in Albuquerque, New Mexico, in 1992 with a preventive program built around problem solving, critical thinking, resistance to peer pressure, and strong self-esteem (University of New Mexico 1993). This program emphasized giving children the cognitive skills necessary to make sensible decisions about gun use. The Albuquerque pilot project also developed a curriculum targeting grades Kindergarten through 8th grade, with posters warning parents about the dangers of storing loaded guns at home, public service announcements for radio and television, and bright yellow tags placed by gun store owners on firearms offered for sale. The program revolved around what students must do when they see a gun and how guns can be rendered safe if they are in homes. As the pilot project unfolded, the students empowered themselves to be agents of change on their own behalf. They created posters, poems, stories, and other works, and distributed them at home, in malls, and elsewhere. As the artwork and stories emerged, those based on actual deaths received the greatest attention and response. According to a report produced in conjunction with the project,

> Their success was due to their relevance to real life situations which for once supplanted TV, videos, movies, and games geared to violence and gunplay. [Students were] anxious to discuss ways of leaving guns alone and of resisting peer pressure[,]...were immediately responsive when posed with the problem of keeping their younger siblings from dangerous interaction with firearms and greatly enjoyed the challenge of inventing ways to educate these younger brothers and sisters.

When asked for their ideas and assistance, older students looked at firearm injury prevention with more respect. They had become, after all, part of the solution...

Possibly the greatest need perceived in this project was for trained adults to make a beginning in reaching out to children who want to be active in protecting themselves from firearm injury and death.

While all portions of the project were effective, the curriculum was especially innovative and powerful, and was developed when it was discovered that appropriate, effective materials were almost nonexistent. What had been available failed to stimulate children in an impactful way. Through testing with six hundred elementary students in three highly diversified schools and three hundred seventh graders in one middle school, the creators of the new curriculum discovered that by far the most beneficial lessons were those drawn from real life situations. Students paid attention to and identified with injuries sustained by children their own age and from their own geographical region, with similar cultural backgrounds.

The Children's Trust Fund of Texas has distributed a video called *Handguns: Made for Killing, Not for Kids*. The video and discussion guide are available from Media Projects, Inc. in Dallas, Texas (214) 826-3863.

Conclusion

The rates of unintentional death of children have fallen steadily in recent years. Concerted efforts on the part of community members, from parents to business-people and government officials, have been largely responsible for the drop in rates. Prevention initiatives have proven successful in reducing numbers of unintentional deaths among children by addressing three key areas: education, environmental change, and policy initiatives.

Improved data collection methods are called for if we are to accurately assess the causes of children's deaths. For example, official data collection for poisoning deaths should include categories for inhalant and other drug overdose deaths. It is not possible to assess the seriousness and extent of a problem until we understand the actual numbers of children who are dying from particular causes. Only when the circumstances of these deaths are fully understood can intervention strategies be addressed both locally and statewide.

Prevention of children's deaths should be a community effort that involves kids as well as adults. Children often have the best ideas about how to protect themselves, their siblings, and their friends. Kids who have experienced the unnecessary death of a friend or relative are particularly affected by the tragedy of it and are motivated to prevent further occurrences. Everyone in the community is charged with the responsibility of working toward the protection of our children.

Each community has a unique set of environmental and social circumstances that can lead to unintentional child deaths. In addition to any state or federal safety guidelines that have been released, community assessments are necessary to determine what the

risk factors are for that area and what resources communities have to deal with those risks. Prevention strategies are most effective when they address the particular risk factors and make use of the resources of the community.

In Texas, numbers to call for assistance are:

All emergencies	911
Texas Poison Control Network	1-800-764-7661
SafeRiders (Car seats and bike helmets)	1-800-252-8255
Texas Commission on Fire Protection	1-512-918-7100
Advisory Commission on Emergency Communications (9-1-1 Commission)	1-512-305-6911
Texas Trauma Coordinators Forum	1-214-590-8268
Texas Dept. of Transportation	1-512-416-3194
National Safety Council	1-202-293-2270
U.S. Consumer Product Safety Commission	1-800-638-2772

Other Resources include:

Injury Prevention and Control Program
Texas Department of Health 1-512-458-7266
http://tdh.state.tx.us/injury.htm

National Safe Kids
http://www.safekids.org

SAFE KIDS coalitions inTexas 1-512-458-7266
http://www.tdh.state.tx.us/injury/safekids.htm

Harborview Medical Center Injury Prevention and Research Center 1-206-221-1520
http://weber.u.washington.edu/~hiprc

Think Child Safety

P.O. Box 9037
Paris, TX 75461
(903) 785-7511
Contact: Stewart Dodson

One community prevention effort is the *Think Child Safety* campaign of Paris, Texas. This effort has three components that incorporate elements of education, environmental change and new policy:

1. The *Think Child Safety* logo and recognition program makes the logo as conspicuous as possible to provide a constant reminder to adults to redirect their thinking about preventing accidents.
2. Student teacher safety instruction teaches high school students to train younger children in injury prevention.
3. The Mobile Safety Vehicles component encourages the drivers of vehicles in the community that routinely use two-way radios or cellular phones to become safe havens for children, should an emergency arise. The drivers are *Think Child Safety*-certified individuals are trained in basic first aid. When an emergency occurs, they notify police or EMS, then comfort and protect the child until help arrives (Texas Department of Health 1996).

The *Think Child Safety* program successfully involves the community in prevention of child deaths. The combination of using safety measures to prevent accidents, along with immediate appropriate follow-up in cases when accidents do occur, has already succeeded in saving Texas children's lives.

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EFF-089 (9/97)