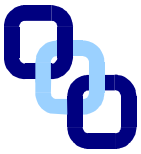

Colorado Child Fatality Prevention System

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Annual Report
January 2008

To the Governor,
Health and Human Services Committees and
Judiciary Committees of the
House of Representatives and the Senate of the
Colorado General Assembly

Child Fatality Prevention Review Team

Document Information

Title:	Colorado Child Fatality Prevention System Annual Report
Submitted By:	The members of the Colorado Child Fatality Prevention System (See Attachment One for a list of members)
Subject:	A description of trends in child deaths reviewed by the Colorado Child Fatality Prevention Review Team and, as required in statute, specific recommendations for changes in laws or policies most likely to reduce child deaths in Colorado
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Colorado Child Fatality Prevention System
Annual Report

I. Introduction

The Child Fatality Prevention Act (Article 20.5 of Title 25, Colorado Revised Statutes) established the Child Fatality Prevention System, a statewide, multidisciplinary, multi-agency effort to prevent child deaths. The Child Fatality Prevention System Review Team (State Review Team) is required to report annually to the governor, and to the Health and Human Services Committees and Judiciary Committees of the House of Representatives and the Senate of the Colorado General Assembly. This report describes trends in child deaths identified by the State Review Team during retrospective clinical reviews. Additionally, as required in statute, this report makes specific recommendations for changes in laws or policies most likely to reduce child deaths in Colorado.

The Colorado Child Fatality Prevention System is housed at the Colorado Department of Public Health and Environment in the Prevention Services Division's Injury, Suicide and Violence Prevention Unit. The State Review Team, a volunteer multidisciplinary committee comprising clinical and legal experts in child health and safety, works collaboratively with state staff in reviewing child deaths. Members of the State Review Team are nationally recognized experts in the fields of child abuse prevention, pediatrics, family law, death investigation and Sudden Infant Death Syndrome (SIDS). The variety of disciplines involved and the depth of expertise provided by the State Review Team augment the comprehensiveness of the review process, allowing for a broader analysis of both contributory and preventive factors in each case of child death. A description of the Child Fatality Prevention System's mandate and a list of the State Review Team members are included in Attachment One.

Based on reviews conducted between December 2006 and December 2007, the following are some of the trends noted:

- The majority of deaths due to motor vehicle crashes were children between the ages of 15 and 17 who were not acting in compliance with the current Graduated Drivers Licensing law.
- Sixty-five percent of children who died in motor vehicle crashes were not appropriately restrained.
- In the majority of deaths resulting from child abuse, adults other than the parents suspected prior incidences of abuse but did not report these suspicions.
- In the suicide and accidental deaths involving a firearm, the firearms were easily accessed because the firearms were not stored safely.

II. Key Findings

In 2007, the State Review Team completed reviews on 371 child deaths occurring in 2004 and 2005. The cases are categorized by type of death in Table 1. In 2004, 767 children (691 Colorado residents and 76 nonresidents,) ages 17 and younger died in Colorado. Of these, 321 were neonatal deaths, which are not included in the review process. Neonatal death is defined as a death from natural causes in an infant fewer than 28 days old. Neonatal deaths are not included in the review process because of the large number of deaths and because The

Children's Hospital conducts reviews on these deaths. In 2005, 770 children (703 Colorado residents and 67 nonresidents) ages 17 and younger died in Colorado. Of these, 347 were neonatal deaths.

Table 1: Deaths of children ages 0-17 in Colorado, 2004 and 2005

Type of Death	2004 Deaths		2005 Deaths		Total Deaths, 2004 + 2005	
	Total Number of Deaths	Number Reviewed by 12/07*	Total Number of Deaths	Number Reviewed by 12/07*	Total Number of Deaths	Number Reviewed by 12/07*
Neonatal Death[1]	321	0	347	0	668	0
Child Abuse and Neglect	19	19	16	5	35	24
Violence[2]	44	44	40	10	84	54
Motor Vehicle	106	32	61	0	167	32
Accidental/Unintentional	43	39	53	0	96	39
Natural causes	170	148	199	183	369	331
SIDS[3]/Undetermined	64	41	54	0	118	31
Total Deaths	**767**	**300**	**770**	**194**	**1537**	**494**

[1] Death of an infant fewer than 28 days old from natural causes
[2] Homicide or suicide of a child age 13-17
[3] Sudden Infant Death Syndrome
* Numbers reflect total of cases reviewed in 2006 and 2007.

In preparation for the clinical review, the Child Fatality Prevention System coordinator develops a case file by requesting information from county coroners, law enforcement, county district attorneys, hospitals, the Department of Human Services, local health departments and newspapers. Case files are used during the clinical reviews where five to ten experts meet to study the information available on each case. Data are collected using several tools, including one created by the Maternal and Child Health National Center for Child Death Review (http://www.childdeathreview.org/history.htm). At the end of each clinical review, team members identify any system failures associated with the case and make recommendations for prevention. A graphic representation of the review process can be found in Attachment Two.

Deaths are grouped into six major categories: child abuse and neglect, violence, motor vehicle, accidental/unintentional, natural and Sudden Infant Death Syndrome (SIDS)/ Undetermined. Key findings for each category of death are outlined in Table 2.

Table 2: Key findings from Clinical Reviews

CLINICAL REVIEW GROUP	NUMBER OF CASES REVIEWED IN 2007	KEY FINDINGS
Child Abuse and Neglect	11	• Ten of the children were younger than two years old. • Fifty-four percent of the perpetrators were males left to care for the child while the mother was working or away from the home. • In many of the cases, other people involved with the family (including the mother of the child) were aware of prior incidences of abuse or suspected that abuse might be occurring. In most of these cases, those who were suspicious never notified law enforcement or social services. • Three of the deaths were infants abandoned by the birth mother. • The cases reviewed this year showed an increase in the age of the perpetrator, and the victim was most often not the first child of the mother's, including two of the infants that were abandoned.
Violence	35	• Twenty-five deaths were suicides; 10 deaths were homicides. • In 80 percent of the homicides, the victim was male. In all of the homicide cases, a firearm was used. In two cases, the shootings were accidental and occurred when children were playing with a gun obtained in the home of the deceased. One of the homicide deaths was a murder–suicide perpetrated by the mother of the victim. • The majority of youth suicide deaths (64 percent) were males. There was an increase in the percentage of female deaths by suicide noted in the clinical reviews conducted in 2007 (27 percent in 2006 versus 43 percent in 2007). • The majority of youth suicides (64 percent) resulted from hanging/suffocation. Nineteen percent of the suicide deaths were the result of poisoning and 16 percent were completed using a firearm. • In 71 percent of the suicide deaths, the youth expressed suicidal ideation to others, made prior threats of suicide or attempted suicide in the past. • Many of the youth who died by suicide had a history of relationship problems either with parents or intimate partners. Fourteen percent of the decedents had a history of childhood sexual and physical abuse. • Many of the youth who died by suicide showed signs indicating a diagnosable mental health concern or had been diagnosed recently with a mental disorder that was not being treated adequately.

CLINICAL REVIEW GROUP	NUMBER OF CASES REVIEWED IN 2007	KEY FINDINGS
Motor Vehicle	32	• Of these deaths, 27 children were drivers or passengers in a motor vehicle crash, two were killed when they lost control of the ATV they were driving, two were pedestrians hit by a vehicle, and one was hit by a vehicle while riding a bike. • Sixty-three percent of the children who died in a motor vehicle crash were not properly restrained (not using a seatbelt, car seat or booster seat). • Seventy-eight percent of the deaths due to motor vehicle crashes were teenagers, and in all of these fatalities the deceased was the driver of the vehicle or was the passenger in a vehicle driven by another teenager. Seventy percent of the deceased teenagers were males. • In 76 percent of the motor vehicle crash fatalities involving teens, the teen drivers were not in compliance with the current Graduated Drivers Licensing law. • Alcohol was a significant factor in 39 percent of the deaths due to motor vehicle crashes. • The two children who died as a result of an ATV crash were drivers of the ATV and were not being supervised at the time of the crash.
Accidental/ Unintentional	39	• Twenty-eight percent of these deaths were due to drowning. Of the 11 drowning deaths, three were children who were not adequately supervised and drowned in residential swimming pools. Seven of the drowning deaths involved older children (older than age 10) who were not following proper safety precautions around open bodies of water (i.e., not wearing life jackets). One infant drowned in a bathtub. • Three children died in skiing/snowboarding accidents. In two of these cases, the children were not wearing helmets. Both children died from head injuries. • Three children died in fires at their homes. In all three cases, drug paraphernalia and lighters were found in the home. • Twenty-three percent of the fatalities involved infants who died as a result of positional suffocation (e.g., the child became wedged between cushions or under another person). Fifty percent of the deaths attributed to unintentional injury involved children under the age of five. A lack of supervision was a factor in many of these deaths. In several instances, particularly in the suffocation deaths of infants, investigators noted that the caregiver responsible for supervising the child appeared to be impaired by, or had a history of, abusing drugs or alcohol.
Natural Causes	248	• This category includes deaths due to asthma, cancer, cardiovascular conditions, congenital anomalies, HIV/AIDS, influenza, neurological/seizure disorders, pneumonia, prematurity, and other infectious diseases or medical conditions.

CLINICAL REVIEW GROUP	NUMBER OF CASES REVIEWED IN 2007	KEY FINDINGS
		• Deaths in this category are generally considered to be nonpreventable. The State Review Team identified only two percent of these deaths as preventable (that is, resulting from lack of access to health care or inadequate or inappropriate care).
SIDS/ Undetermined	34	• The county coroner designated 24 of these cases as deaths due to Sudden Infant Death Syndrome (SIDS) or Sudden Unexpected Death in Infancy (SUDI). In 58 percent of these deaths, the infant was in an inappropriate sleeping environment (co-sleeping with a parent on a couch or in a bed), which could have resulted in a suffocation death rather than a SIDS-related death. • Ten of the deaths were classified as undetermined cause of death due to suspicious factors ruling out SIDS or any other natural cause of death. SIDS is defined as a sudden death of an infant younger than one year of age that remains unexplained after a thorough case investigation, including performance of a complete autopsy, examination of the death scene and a review of the clinical history. • The clinical review process identified inconsistencies among county coroners in assigning the cause of death as SIDS or undetermined.

III. Specific Recommendations

The State Review Team considers deaths due to child abuse/neglect, homicide, suicide, motor vehicle-related and other accidental/unintentional deaths as preventable. This is consistent with the definition of preventability used by the National Center for Child Death Review, which defines a child's death as preventable if the community or an individual could reasonably have acted to change the circumstances resulting in death. Specific prevention recommendations for each category of death are outlined in Table 3 on page nine.

In addition, the State Review Team recommends that funding is identified through fee-based or cash fund sources in the state to support the Child Fatality Review process and to implement recommendations for the prevention of child death. Funding also is needed to implement public awareness campaigns in support of policy changes that prevent child deaths.

The management and analysis of the data collected during the clinical review process remain challenging. No state funds are provided to coordinate the Child Fatality Prevention System. Limited federal funds provided by the Colorado Department of Public Health and Environment and the Colorado Department of Human Services have been used to support the work of the coordinator. These resources are used to support the data collection and coordination of the clinical reviews at a minimal level. Additional resources are needed to create a comprehensive database for storing and managing the data collected and to support the work of a data analyst to study and present statistical information in a more comprehensive and timely fashion.

Although the Child Fatality Prevention System was codified in statute in 2005, the Colorado Department of Public Health and Environment has been conducting reviews of child deaths for the past 17 years. Many of the members of the State Review Team, who previously participated on the voluntary Child Fatality Review Committee, indicated that the trends identified during reviews in 2007 matched those seen in case reviews conducted over the past 17 years. Therefore, the following recommendations represent a synthesis of prevention strategies gathered from the analysis of many similar cases of child fatality over the years. As a result, the State Review Team endorses these recommendations as the most effective means of reducing child death rates in Colorado.

Table 3: Specific Recommendations

CLINICAL REVIEW GROUP	RECOMMENDATION	EVIDENCE IN SUPPORT OF THIS RECOMMENDATION
Child Abuse/ Neglect	• **Establish and fund free or low-cost respite childcare centers with access 24 hours per day, seven days per week.** • **Develop and implement a public information campaign, targeting mothers, that emphasizes the danger of leaving children in potentially high-risk situations with caregivers who may be abusive. The availability of respite care centers should be presented as an option.**	• A male who was caring for the child while the mother was at work or away from the home perpetrated the majority of deaths resulting from child abuse or neglect. • Respite care centers provide an option for childcare, so mothers do not have to leave their child/ren with a potentially abusive caregiver. The Children's Bureau of the U.S. Department of Health and Human Services has recognized the effectiveness of crisis nursery (respite) care.[1] The American Academy of Family Physicians also recommends community respite care as a child abuse prevention strategy.[2] The National Resource Center for the Community Based Child Abuse Prevention Programs states that *Respite services directly contribute to a reduction in the likelihood of child abuse and neglect, and in the likelihood of removal of children from their homes; and contribute directly to the safety of children receiving care.*[3] An outcome evaluation of planned and crisis respite care programs conducted by the ARCH National Respite Network and Resource Center found that 20 percent of caregivers would have left their child with an inappropriate caregiver if crisis respite care had not been available. Eighty-two percent said that the availability of crisis respite reduced the risk of harm to their children to a "very" or "extremely" high degree.[4] • Respite child-care centers in Fort Collins and Colorado Springs serve many families each year and could serve as models for the development of other centers. Family resource centers also might be able to provide this service or distribute referrals to families in need of respite care.

[1] http://www.archrespite.org/archfs01.htm
[2] Bethea M.D., Lesa, (1999) Primary Prevention of Child Abuse. American Family Physician. 59. http://www.aafp.org/afp/990315ap/1577.html
[3] http://www.archrespite.org/friends_factsheet9.pdf
[4] Ibid

CLINICAL REVIEW GROUP	RECOMMENDATION	EVIDENCE IN SUPPORT OF THIS RECOMMENDATION
Child Abuse/ Neglect	• **Revise the current child abuse and neglect mandated reporter law so that it requires all adults to report suspected abuse or neglect of a child. A mandated reporter is a person who is required by law to make a report of child maltreatment under specific circumstances. Presently, Colorado law requires certain designated individuals (designated by professional group) to report child maltreatment.**	• In the majority of child abuse related deaths, a person (other than those professionals already designated to report maltreatment) is suspicious of abuse prior to the incident resulting in death. • In 18 other states **all** adult citizens are required to report suspected abuse or neglect regardless of their professions. There has been no comprehensive evaluation research on the effects of this law related to child abuse rates.
Child abuse/ Neglect	• **Increase awareness about the "Colorado Safe Haven for Newborns" law (C.R.S. 19-3-304.5), which was established in 2000.**	• This statute grants immunity to birth mothers who safely relinquish their newborn to a firefighter at a fire station or to a hospital staff member at a hospital. There has been no evaluation research on the effects of this law.

Violence	• **Create legislation that mandates the safe storage of firearms in the homes of parents with children and youth under age 18.**
	• Safe storage of firearms is defined as the following:
	  • Guns are stored unloaded and locked in a cabinet.
	  • Keys are stored in a hidden and undisclosed location away from the cabinet.
	  • Ammunition is stored in a hidden and undisclosed location away from the cabinet.
		• In most of the firearm-related deaths reviewed, the youth had easy access to a firearm.
		• Currently there are 19 states with safe storage laws.
		• Several academic studies have noted that the availability of firearms is a key risk factor in youth suicide. The implementation of legislation requiring safe storage of firearms led to decreases in firearm-related youth suicides in several U.S. states and in New Zealand.[5] [6] [7]

Violence	• **Mandate a school-based curriculum that trains students, teachers and parents on how to recognize and respond to suicidality in adolescents.**	• Adolescents spend a significant amount of time in school and with peers. Suicidal youth are most likely to disclose their suicidal ideation to a peer. Peer response to suicidal disclosures is extremely important to saving lives. [8] Seventy-one percent of the suicide

[5] Miller, Matt; Hemenway, David. (2001). Gun Prevalence and the Risk of Suicide: A Review. *Harvard Health Policy Review.* 2, 29-37.
[6] Webster, Daniel W., et al. (2004). Association between Youth-Focused Firearm Laws and Youth Suicides. *Journal of the American Medical Association.* 292, 594-601.
[7] Beautrais, A.L.; Fergusson, D.M.; Horwood, L.J. (2006). Firearms Legislation and Reductions in Firearm-Related Suicide Deaths in New Zealand. *Australian and New Zealand Journal of Psychiatry*. 40, 253-259.
[8] Dunham, Katherine. (2004). Young Adults' Support Strategies When Peers Disclose Suicidal Intent. *Suicide and Life Threatening Behavior.* 34, 56-65.

CLINICAL REVIEW GROUP	RECOMMENDATION	EVIDENCE IN SUPPORT OF THIS RECOMMENDATION
		deaths involved disclosers of suicidal intentions or prior suicide attempts. Providing young people with the necessary training to recognize suicide risk in their peers and to refer those peers to appropriate treatment is an important prevention strategy.
Motor Vehicle	• **Create primary safety belt legislation making it possible for a driver to be stopped and issued a citation if anyone in the vehicle is not properly restrained.**	• Sixty-five percent of the children/youth who died in motor vehicle crashes were not properly restrained by a car seat or seatbelt. • Practices of the adult driver influence the use of restraints by children. A national study of fatal crashes found that when adult drivers used a seatbelt, children riding with them also were restrained 94 percent of the time. If the adult driver was not using a seatbelt, child restraint use decreased to 30 percent.[9] • States with primary safety restraint laws have seatbelt use rates that are 10 to 15 percent higher than states with secondary laws.[10] • Currently 22 states have a primary safety restraint law.
Motor Vehicle	• **Enhance Colorado's booster seat law to require that children be secured in booster seats from age four to age eight, up to a weight of 80 pounds and a height of four feet nine inches.** • **Existing child passenger safety restraint laws in Colorado adequately address use for infants, toddlers and children ages four to five.**	• Among children age eight and younger who died in a motor vehicle crash, 81 percent were not properly restrained in a booster seat or child passenger safety seat. • Currently the Colorado Booster Seat Law requires booster seats for children ages four and five whose height is less than 55 inches. This law does not reflect the best practice recommendation from the Centers for Disease Control and Prevention, which states that children should be secured in booster seats from age four to eight, up to a weight of 80 pounds and a height of four feet nine inches.

[9] National Highway Traffic Safety Administration. (2006) Fact Sheet available on line: http://www.nhtsa.dot.gov
[10] Ibid

CLINICAL REVIEW GROUP	RECOMMENDATION	EVIDENCE IN SUPPORT OF THIS RECOMMENDATION
Motor Vehicle	• **Support parental awareness and enforcement of the Graduated Drivers Licensing Law.**	• In 76 percent of the motor vehicle crash fatalities involving teens, the teen drivers were not in compliance with the current Graduated Drivers Licensing law. In many of these incidents, the teens were out past curfew, had multiple passengers and were driving recklessly.
Accidental/ Unintentional	• **Create legislation mandating that children wear helmets while skiing or snowboarding.**	• Over the past 17 years, review of child deaths indicate that almost all of the deaths resulting from skiing/snowboarding could have been prevented if the child had been wearing a helmet. • U.S. Consumer Product Safety Commission staff, following an evaluation of head injuries associated with snow skiing and snow boarding, concluded that ski helmets will reduce the risk of head injuries due to skiing and snow boarding accidents.[11] A study of Colorado residents hospitalized for skiing-related injuries found that children are at increased risk for serious head trauma, are ten times more likely to be hospitalized for a skiing-related head injury, and that head injuries are the cause of up to 88 percent of ski-related fatalities.[12] • Several academic studies, including one by a neurologist at St. Anthony's Hospital in Denver, show that skiers wearing helmets have better outcomes in ski-related accidents, reducing or preventing neurological impairment.[13] [14] [15]

[11] http://www.cpsc.gov/library/skihelm.pdf
[12] http://www.healthsystem.virginia.edu/internet/pmr/skihelm.cfm
[13] http://www.jama.ama-assn.org/cgi/content/short/295/8/919
[14] http://www.thecni.org/reviews/11-1-p27-levy.htm
[15] http://www.aaos.org/about/papers/position/1152.asp

CLINICAL REVIEW GROUP	RECOMMENDATION	EVIDENCE IN SUPPORT OF THIS RECOMMENDATION
Accidental/ Unintentional	• **Create legislation that mandates drug and alcohol toxicology screening of parents (or caregivers) in cases where a lack of adequate supervision may have contributed to the injury or death of a child. Include the abuse of a controlled substance or alcohol that impairs an adult caregiver's ability to keep a child safe from injury as part of the civil definition of child abuse or neglect.**	• The majority of accidental/unintentional deaths involved children under age five. Many of these deaths could have been prevented with adequate supervision of the child or with safer sleeping environments. In many of these deaths, the adult(s) responsible for supervising or caring for the child had been using alcohol or drugs. • Six states have included the use of a controlled substance by a caregiver that impairs the caregiver's ability to adequately care for the child as part of the civil definition of child abuse or neglect.[16]

[16] http://www.childwelfare.gov/systemwide/laws_policies/statutes/drugexposed.cfm

IV. Limitations

For many of the cases analyzed, the State Review Team lacked needed information for a comprehensive review. Data was missing because the information was not collected during the initial investigation, agencies did not respond to the coordinator's request for information, or documentation was incomplete or lacked pertinent details.

The review process often would have been enhanced if relevant information were readily available. For example, in child abuse deaths, greater detail about the history of the perpetrator or the psychosocial factors affecting the family would drive the development of prevention strategies. In suicide deaths, more information about the child's mental status, school performance or social life would inform critical points for intervention. In motor vehicle deaths, detailed information about components of the automobile involved in the crash would lead to recommendations related to the safe engineering of cars. These gaps in information could be addressed through outreach and training to law enforcement, coroners and social service agencies conducting scene investigations.

Additionally, the review process would be enhanced with adequate resources for the development and networking of local or regional review teams to obtain data, maintenance and analysis of a comprehensive database, and implementation of prevention recommendations generated from clinical reviews.

V. Conclusion

After 15 years as a voluntary endeavor, the process of child death review was legislatively mandated in 2005 with the passage of the Child Fatality Prevention Act. The State Review Team brings significant medical, psychosocial, legal and law enforcement expertise to the process of child fatality review, and this expertise has been utilized in developing recommendations for effective prevention strategies. The State Review Team is confident that child fatalities can be reduced in Colorado if these recommendations are followed and, where necessary, codified into legislation.

The definition of preventability used by the National Center for Child Death Review states that a child's death is preventable if the community or an individual reasonably could have acted to change the circumstances resulting in death. The vast majority of the deaths meeting this definition are due to unintentional injuries, suicide or violence. Deaths resulting from unintentional injuries, suicide and violence once were believed to be the result of chance or misfortune; however, science has proven otherwise. These deaths can be prevented, and research on best practices in preventing injury-related deaths shows that change in policy and enforcement of laws are effective prevention strategies.