



Chapter 8. Cause and Manner of Death

Manner or Mode of death is the classification of categories used to define whether a death is from intentional causes, unintentional causes, natural causes, or undetermined causes. California law requires that all suspicious or violent deaths and those deaths where a physician did not see the decedent in the 20 days prior to the death be reported to the Department of Coroner. The Coroner is then responsible for determining the circumstances, manner and cause of these deaths.

The Coroner must designate the manner of death to be listed on the death certificate as either: Homicide, Suicide, Accidental, Natural, Undetermined, Injury Intentional (Homicide or Suicide), or Injury Non-intentional. The Manner of Death is based on the cause and circumstance. For example, a gunshot wound death could be homicide (shot by another with intent to kill or injure), suicide (shot by self in an attempt to kill or injure), or an accident (shot with not intent).

Cause of Death

The cause of death is the actual mechanism that produces the child's death. It must be distinguished from the Manner or Mode of Death as these terms are often confused. For instance, if Homicide is the Mode of Death, then possible causes of death under Homicide may be head trauma, gunshot wound, suffocation, poisoning, etc. Common causes of death for each of the Modes will be highlighted in the information below.

Intentional deaths include:

- Homicide (intentional injury death of another)
- Suicide (intentional injury death of self)

Unintentional deaths include:

- Accidental (unintentional injury death)

Homicides

Homicides, by Coroner's definition, are deaths at the hands of another. Homicide by parent/caretaker/family member is commonly understood by the public as synonymous with child abuse murder. However, the Coroner uses the term "homicide" regardless of the criminal intent of the perpetrator or the findings of the police, the District Attorney, the courts and the juries. Homicide may describe circumstances ranging from tragedies that involve no clear intent,

to vicious, fatal attacks with clear intent.

Infant Homicide²⁵

California has a pattern similar to national data for the years 1990 to 2000. Homicide is the leading cause of injury deaths among infants under one year of age in the United States and the fifteenth leading cause of infant mortality from all causes. Infants are most likely to be killed by their mother during the first week of life, but are more likely to be killed by a male (usually their father or stepfather) thereafter. Half the infant homicides occur by the fourth month of life, and the risk of infant homicide is highest on the day of birth. Homicide risk is greater in the first year of life than in any other year of childhood before age 17.

Preliminary estimates for 2002 indicate that the infant homicide rate has dropped suddenly in the last two years from 9.2 to 6.8 per 100,000 infants under the age of one. This follows three decades of increasing rates from 4.3 in 1970 to 9.2 in 2000. In 2000, infant homicide rates nearly equaled homicide rates among teenagers ages 15-19, having more than doubled since 1970 (from 4.3 to 9.1 per 100,000 children under age one).

Key risk factors associated with infant homicide focuses on the circumstances surrounding the birth of the child. Ninety-five percent of infant homicides occurring on the first day of life were of infants born outside of a hospital setting.

A large but uncertain number of unreported infant homicide deaths may occur among those infants for whom no birth or death certificates are found, such as those who are born with no trained attendants and in no clinical settings. Better reporting of the circumstances surrounding infant fatalities may improve the quality of death and birth records, as these deaths are then recorded.

Teen Homicide

Between 1970 and 1993, the homicide rate for teens ages 15-19 more than doubled from 7.7 to 20.5 per 100,000. The rate has declined dramatically since then to 9.4 per 100,000 in 2001.²⁶ Common causes of child deaths due to homicide include gunshot wounds, stabbing, suffocation, head trauma, trauma to the torso or abdomen, strangulation and poisoning.

It is worth noting that in an effort to better identify families who have previously engaged in child abuse homicide, the California legislature passed Senate Bill 525, which was approved by the Governor of California in October 1999 and took effect on July 1, 2000. SB 525, among other things, requires local CPS agencies to create a record of all abuse or neglect related deaths of children in the recently implemented Statewide CWS/CMS, linking CPS agencies throughout the state, whether the child victim had any surviving siblings or not. The bill also outlines mandates regarding data collection and reconciliation, training on child death review, and

²⁵ Child Trends Databank, "Infant Homicide," National Vital Statistics System, 30 Sept. 2004 www.childtrends.databank.org/indicators/72InfantHomicide.cfm.

²⁶ Child Trends Databank, "Teen Homicide, Suicide, and Firearm Death," National Vital Statistics System, 30 Sept. 2004 www.childtrends.databank.org/indicators/70ViolentDeath.cfm.

development of standard team protocols. It allows CPS workers, when receiving a new referral of abuse or neglect, to check the database for any history of abuse investigations, including information about prior suspicious child deaths.²⁷

Accidental Deaths

Accidental (or unintentional) deaths are typically the largest category of deaths for ages one through 17.²⁸ Several types of accidental deaths, such as drowning, head trauma from falls, suffocations and accidental gunshot wounds, are unintentional in nature. However, Teams may struggle with questions of caretaker supervision in some of these cases, as well as concern regarding the preventability of these accidents. In some counties, a portion of the accidental deaths involves newborns who were prenatally exposed to drugs and subsequently died of prematurity or other related perinatal causes. The relationship between precipitous drug-induced delivery of newborns and child maltreatment fatalities generates much discussion and concern for many Teams.

Public Health replaces the term “Accidental” with “Unintentional Injury” to underscore its position that injuries can often be prevented. However, for child death review, the accepted term remains “Accidental.” Unintentional/accidental deaths are of particular interest to CDRTs as one of the Team’s primary missions is to identify prevention strategies. The Team is interested in issues of child safety and caretaker supervision at the time of the incident leading to death. Many if not all, unintentional/accidental deaths are preventable.

Main Causes of Unintentional/Accidental Deaths

- Autopedestrian
- Auto
- Drowning
- Falls
- Choking
- Suffocation
- Maternal drug abuse
- Poisoning
- Hanging/Strangulation
- Chest/neck compression
- Fire
- Gunshot wounds

The Data

Every year in California, about 700 children and youth die due to accidental/unintentional injuries.²⁹ Accidental/unintentional injury is the leading cause of death of children age one

²⁷ Refer to SECTION VI, APPENDIX E: Legal Issues on Enabling Legislation for complete Senate Bill text.

²⁸ National Center for Health Statistics (NCHS) Vital Statistics System, “WISQARS Leading Causes of Death Reports, 1999 – 2001,” webapp.cdc.gov/sasweb/ncipc/leadcaus10.html.

²⁹ California Department of Health Services, Vital Statistics Death Statistical Master File, “EPICenter California Injury Data Online,” www.applications.dhs.ca.gov/epicdata/content/TB_fatal.htm.

through 18 years. More children between the ages of one and 14 die in the United States every year from unintentional injuries than from all childhood diseases combined. This excludes natural deaths from pre-maturity or congenital defects. The number of these deaths, combined with those from diseases, surpasses the number of deaths from unintentional injuries.

Every year, one out of every four children in the United States is injured seriously enough to require medical care. Accidental/Unintentional Injuries result in 10,400,000 child emergency room visits a year (this doesn't include visits to private doctors, clinics, urgent care) and 360,000 child hospitalizations a year (the leading cause of child hospitalizations).

Consider the following:

- A two-year-old is left alone by a swimming pool while a parent goes inside to answer the phone and the child falls in and drowns. The incident is unintended, but the contributing factor to the death is lack of supervision of a young child in a risky environment. The child's death may be unintentional, but it is not accidental.
- A child finds unlocked and in reach medications or pesticides and swallows some. The incident is unintended, but it not accidental. The contributing factor to the child's poisoning is that a dangerous substance was left within reach of a child. The cause of the death is likely poisoning or toxic reaction.
- The car in which a teen is riding without a seat belt is hit by another car, and the teen is thrown and severely injured. There is a direct contributing factor for these injuries; the teen was not wearing a seat belt. Therefore, the injuries that occurred are unintentional, but not accidental.

CDRT's and Recommendations for Prevention

One of the key functions of CDRT's is to make recommendations that can help reduce the number of future child deaths. If we do not include unintentional injury deaths as well as child abuse and neglect deaths, we are losing the power to significantly lower the number of children who unnecessarily die. We must do the following:

- Include injury prevention experts as CDRT members
- Review circumstances as to WHY children die, **INCLUDING unintentional injuries**
- Educate regarding "Unintentional" injuries
- Do **not** use the word "**Accident**" when an injury or death is due to a known cause, not just random chance
- Encourage the media to change this terminology
- Make recommendations appropriate to the findings of the team, in order to reduce the number of future child deaths, and
- Translate recommendations into community actions

Natural Deaths

Natural Infant Deaths

Natural deaths are from disease or other medical conditions other than injury. A natural death is the most common manner of death if one includes infants. For most infants (under one year of age), deaths are natural and infants provide about half of all child deaths. About half of all child deaths occur in the first year of life and most of those are neonatal deaths in the first month of life. Newborns may die in the first day, hour, minute or seconds of life. If a child breathes or shows other signs of life that is a live newborn. (If the child is stillborn, but more than 20 weeks gestation, that is a fetal death. Infant death rates are calculated differently than other child death rates. These are calculated by the number of deaths per 1000 live births. The greatest numbers of natural deaths are infants who die within the first 24 to 48 hours of life. Black infants are more than twice as likely to die in their first year than white infants are.³⁰ Many infant deaths can be prevented through improvements to maternal and prenatal health.

Risk Factors

- Prior pre-term delivery
- Previous infant or fetal loss
- Adequacy of prenatal care (early entry, missed appointments)
- Medical conditions of the mother
- Maternal age (under 20, over 35)
- Infections, including sexually transmitted
- Hypertension
- Diabetes
- Poor nutritional status
- Obesity
- Short inter-pregnancy interval
- Poverty
- Substance, alcohol and tobacco use
- Stressors and lack of social support
- Less than 12th grade education
- Unintended unplanned pregnancy
- Unmarried or lack of male involvement in pregnancy
- Physical and emotional abuse of mother

Natural Deaths from Age One to 18

Death from a natural cause is one of the leading causes of death to children over the age of one. Cancer, congenital anomalies and cardiac conditions are the top three causes of natural death.³¹ Fatalities from illnesses such as asthma, infectious diseases and some screenable genetic disorders, under certain circumstances, can and should be prevented.

³⁰ Centers for Disease Control and Prevention, National Center for Health Statistics, "Infant Mortality Rates," 30 Sept. 2004 www.infoplease.com/ipa/A0779935.html.

³¹ SECTION VI, APPENDIX B: Data on the 10 Leading Causes of Deaths.

Asthma affects approximately five million children a year. In the U.S., deaths from asthma in the United States increased from a low of 1,674 in 1977 to 5,667 in 1996, but decreased to 5,434 in 1997. The asthma death rate dropped 4 percent in the United States in 1997; most likely due to improved disease management.³²

Among children aged 5-17 years, the asthma death rate nearly doubled from 1980 to 1993 (from 1.7 to 3.2 per million population). Asthma is the most common chronic illness in childhood. In the United States, asthma affects an estimated 4.8 million children under 18 years of age. In 1993, asthma accounted for an estimated 198,000 hospitalizations and 342 deaths among persons aged less than 25 years.³³

Risk Factors

- Children with chronic health conditions or congenital anomalies
- Exposure to environmental hazards, especially of vulnerable children

Natural deaths are managed by the medical professional who has been caring for the child. At the time of death, the coroner may choose to accept the opinion of the medical professional using their medical findings or ask for the body and do a separate investigation.

The coroner performs most pediatric autopsies. However, hospitals have cut their rate of autopsies to cut the expense of medical care. Health care professionals manage almost all-natural deaths with a physician signing the death certificate. Some of these deaths may be from intentional or non-intentional injury and improperly classified as natural. Some coroner's cases may be seen as injury related and with investigation changed to natural.

Examples

- A three-year-old dies from pneumonia. The death is natural.
- A three-year-old coroner case of sudden death may be investigated as a possible suffocation homicide. At autopsy a major congenital heart defect is found. The eventual cause of death is listed as cardiac defect with a manner of natural.

Undetermined Deaths

Undetermined deaths reflect situations in which the Coroner is unable to fix a final mode of death. These cases often involve insufficient or conflicting information, which affects the Coroner's ability to make a final determination. Usually, there is no clear indicator in these cases whether the death was intentionally caused by another or was accidental. These cases remain

³² "Decreases in Asthma Mortality in the United States," Annals of Allergy, Asthma and Immunology 2000; 85:121-127 <http://allergy.edoc.com/>.

³³ National Center for Environmental Health, "Asthma Mortality and Hospitalization Among Children and Young Adults -- United States, 1980-1993," 30 Sept. 2004 <http://wonder.cdc.gov/wonder/prevguid/m0041248/m0041248.asp>.

suspicious in nature and can be of interest to Teams, because a final determination cannot be made by the Coroner.

Texas pediatrician pathologist, Dr. Harry Wilson, wrote about cases that are a mix of different manners, e.g., part homicide, part natural and part accidental. His comments are logical, but we require one manner of death for our system or death records.³⁴

Undetermined child deaths are some of the most frustrating for CDR Teams. A designation of “Undetermined” means the Coroner or Medical Examiner could not determine the exact manner in which the child died. The cause may be apparent, suffocation for example, but whether the suffocation was intentional or not, can’t be determined. The child may have had an illness that was not attended to, he got worse and the result was the death of the child. The issue is whether the parent was grossly negligent or if the disease process was too aggressive to have been stopped. Or, an adult may have rolled over on a child in the middle of the night. Or, the child may have gotten caught up in loose blankets. The forensic evidence presented to the Coroner/Medical Examiner cannot substantiate whether the child’s death was intentional or unintentional, thus the mode of death is “Undetermined.” The case may start out identified as undetermined as to manner of death and end up being returned to the team several times as new information is uncovered. In a situation like that the mode may be changed from undetermined to homicide.

Undetermined deaths occur when the specific cause of death is unclear, even after investigation. This will include cases from all manners of deaths, including homicide and natural deaths. Autopsy and investigation simply cannot tell you everything. Without a witness, it may be impossible to know what happened. Even a witness may not be adequate.

Undetermined deaths include some problem cases as well, including co-sleeping deaths and deaths involving neglect where the level of negligence and intent are not clear.

Suicide³⁵

Suicide is an intentional form of death. Review of child and adolescent suicide is often included in Team reviews or may be reviewed by a separate Team. Teams may find that suicide, most often in and of itself, is not a result of child abuse and neglect. However, the ability of a Team to collect information on these deaths from multiple agencies is of benefit in better identifying these high-risk youth for prevention purposes.

Suicide is the third leading cause of death among youth and young adults aged 15 -25³⁶. According to the CDC, more teens die from suicide than the combined causes of cancer, heart disease, AIDS, birth defects, stroke pneumonia, influenza and chronic lung disease. The risk for suicide is highest among young white males. Adolescent males of all races are four times more likely to commit suicide than females. Males are more successful in their attempts because they

³⁴ Refer to SECTION VI, APPENDIX G: Manner and Cause of Death on “Minding Your Manners,” by Harry Wilson MD.

³⁵ Refer to www.suicidology.org/ for information on the American Association of Suicidology.

³⁶ National Center for Injury Prevention and Control, “Suicide: Fact Sheet,” 30 Sept, 2004 www.cdc.gov/ncipc/factsheets/suifacts.htm.

use firearms. Adolescent females are twice as likely as adolescent males to attempt suicide. There appears to be an increase in suicide rates for 12-14 year-olds.

The methods used most often to commit suicide (and the most common causes of suicide deaths) include firearms, hanging, and poisoning. Many suicide deaths are not identified. They may be classified as accidents, homicides, and even natural deaths.

Depression, often with significant precipitating events, leads to most suicides in young persons. Some of these precipitating events may seem insignificant to adults, but pose serious risks to vulnerable teens. Cluster suicides, those committed by other teens following a friend's suicide, are not uncommon. Any teen suicide should trigger suicide watches on other vulnerable teens.

The school setting has been identified as a critical place to recognize warning signs of suicide and to implement primary and secondary prevention activities.

Often parents contest the finding of suicide because of feelings of guilt, responsibility and social stigma persist. There are sometimes unwanted financial consequences of suicide.

Recent Data

According to the findings of the CDC Youth Risk Behavior Survey in 2003, during the past 12 months:³⁷

- 16.9 % of youth responding seriously considered suicide (21.3% were females and 12.8% were males)
- 16.5% had a suicide plan
- 8.5% made a suicide attempt

Risk Factors

- Long term or serious depression
- Previous suicide attempt
- Mood disorders and mental illness
- Substance abuse
- Childhood maltreatment
- Parental separation or divorce
- Inappropriate access to firearms
- Interpersonal conflicts or losses without social support
- Previous suicide by a relative or close friend
- Other significant struggles such as bullying or issues of sexuality

Fetal Death

Fetal deaths may sometimes be handled as a special population and reviewed as a separate

³⁷ CDC MMWR, "Youth Risk Behavior Surveillance – United States, 2003," 30 Sept. 2004
www.cdc.gov/mmwr/PDF/SS/SS5302.pdf.

category, though there is no definitive mode of fetal death. The Coroner is not required to report a manner of death (i.e., homicide, accidental, natural, undetermined) to the State Department of Health for fetal death certificates.

After 20 weeks of gestation, a human embryo is generally reclassified as a fetus. Fetal deaths require a fetal death certificate. California law includes fetal death as homicide if the cause is from external intentional assault. If a person murders a pregnant woman who has a potentially viable fetus the death can be listed as special circumstances, multiple homicide and that may be grounds for the death penalty.

Fetal deaths are generally from natural causes and are a particular problem because it may not be taken seriously. The most common intervention in the hospital is to allow the mother to hold the stillborn and feel the loss. Memorabilia of a foot print or lock of hair may be of value to allow the process of grief and mourning to unfold. After the hospital there are questions of funeral, graves and ceremonies that acknowledge the loss. Women (and men) who are not allowed to see the stillborn and not allowed to grieve may spend a lifetime struggling with a loss they cannot “own” and then cannot allow the natural feeling of loss to resolve or settle.