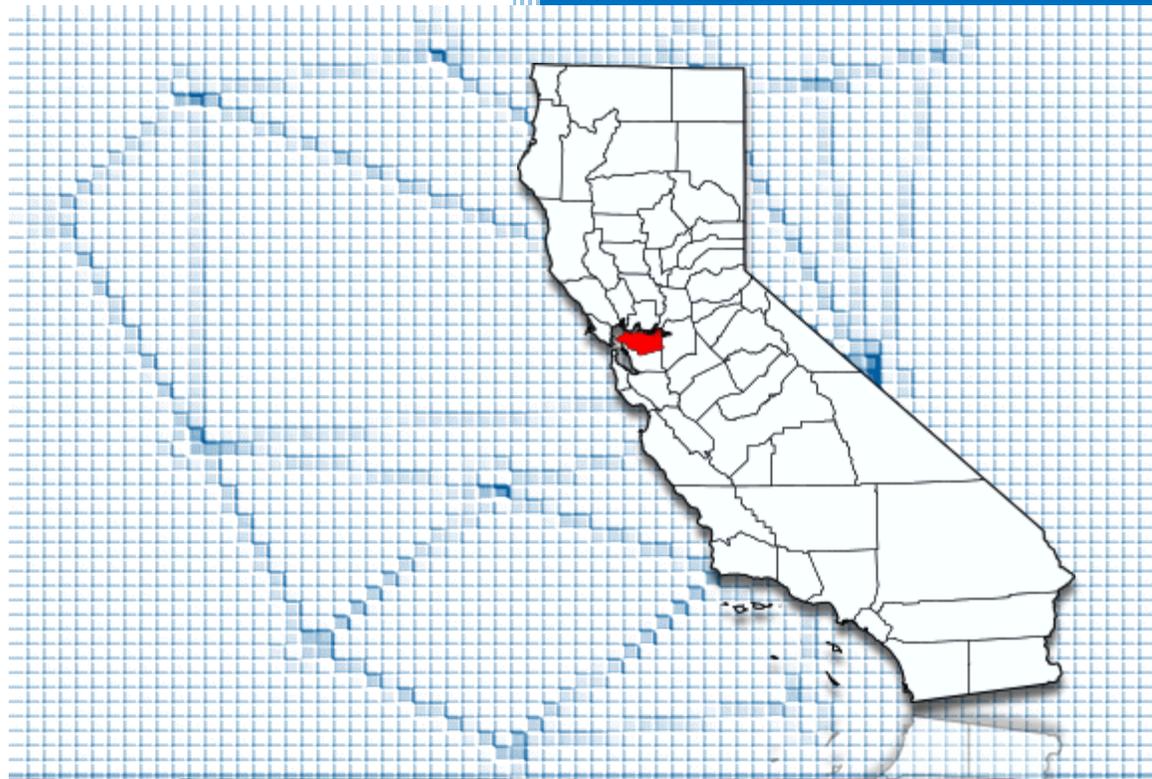


2008-2012

Contra Costa County Child Death Report



Prepared by:
Dr. Jim Carpenter MD, MPH, FAAP

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CONTRA COSTA COUNTY
DEPARTMENT OF HEALTH SERVICES
In Collaboration With
CHILD ABUSE PREVENTION COUNCIL
OF CONTRA COSTA COUNTY
Child Death Review Team 5 Year Report

September 1, 2015

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PART I

Overview of Child Death Review Teams and Child Deaths
2008-2012

EXECUTIVE SUMMARY

This report is based upon the multi-disciplinary reviews of 155 child deaths by the Contra Costa County (CCC) Child Death Review Team (CDRT) covering the years 2008-2012.

The review is limited to CCC Coroner cases of children less than 18 years of age. It does not include many natural deaths where the child had been under medical care for, say, cancer or other known health conditions. Coroner cases are classified as accidents, homicides, suicides, natural or undetermined. Reviewed deaths represent about one third of all child deaths in CCC over the study period. The total number of child deaths in CCC between 2008 and 2012 was 496. Of these deaths, 198 or 40% occurred in neonates in the first month of life and 91 or 18% occurred in infants after the first month of life.

The primary goal of Child Death Review is to understand why children die and to take action to prevent other death or injury. The main conclusions from this review are below.

1. **Preventability:** The Contra Costa County CDRT determined that 65% of the deaths reviewed were probably preventable by a variety of interventions. In other words, about 100 of the 155 deaths did not need to happen. Interventions such as active supervision, safe sleeping practices and more limited access to firearms would have prevented many of these deaths.
2. **Ethnicity:** We identified ethnic disproportion regarding deaths with, for example, higher rates of African-Americans and Hispanics dying from homicide and sleep-related death compared to Asians and Caucasians. Whether this was more related to socio-economic status could not be determined by the reviews.
3. **Age:** The age distribution of deaths favored the very young and the older teens with most deaths in infants or teens aged 15 to 17. Infants tended to die in unsafe sleeping environments whereas teens died in accidents, homicide or suicides.
4. **Gender:** Males die at a higher rate than females in most classifications of death.
5. **Classification of Death:** Accidents or preventable injuries represented the largest percentage of deaths reviewed and were considered preventable for the most part. Homicides, natural, undetermined and suicides followed in order of frequency. Undetermined deaths included a number of sleep-related deaths that were undetermined because the autopsy could not differentiate a Sudden Infant Death Syndrome (SIDS) from an accidental overlay.
6. **Accidental Deaths:** were primarily from a Motor Vehicle Collision (MVC) and bed sharing. There were also drownings, fire and 2 children left in cars. All of these deaths were determined to be preventable.
 - a. Motor vehicle-related deaths could have been prevented by safer driving and use of seatbelts.
 - b. Sleep-related deaths could have been prevented by following safe sleeping practices.
 - c. Fire-related deaths could have been prevented by active supervision, working smoke detectors and fire escape plans.
 - d. Drownings could have been prevented by active supervision, use of personal flotation devices, working barriers or alarms for pools, and less adolescent risk-taking behaviors.
 - e. Children left in the car deaths would not have happened with active supervision.

7. **Homicides:** were 94% male and 90% involved the use of a firearm. Hispanics and African-Americans constituted 87% of these deaths although they make up only 47% of the CCC population. The CDRT determined that the majority of these deaths were preventable although many modalities would be necessary besides limiting easy access to firearms.
8. **Suicides:** were seen in 14 over the 5 year period. Suicides in teens are often an impulsive act precipitated by strife at home or school. 3 of the suicides were by train, 3 by firearm and the rest by asphyxiation. Prevention is multimodality and is the purview of the Crisis Center (see appendix).
9. **Natural Cause of Death:** includes medical conditions and SIDS. The majority of these deaths occurred in the first year of life with most of these sleep-related deaths. Prevention of these deaths includes safe sleeping practices and improved access to healthcare.
10. **Undetermined Cause of Death:** was primarily sleep-related death in infancy with an autopsy that could not discriminate SIDS from accidental overlay. Most of these deaths were determined to be preventable with use of safe sleeping practices.
11. **Child Abuse or Neglect-related Deaths:** accounted for 3 or 4 fatalities for physical abuse and 16 deaths from neglect. The neglect-related deaths included drowning, fire, children left in cars, and 2 untreated illnesses. Prevention includes parenting classes, active supervision and other modalities.
12. **Sleep-related Deaths:** include 37 infants whose deaths were classified as natural (SIDS), accidental (overlay), or undetermined (either SIDS or overlay). Most if not all of these deaths could have been prevented with safe sleeping practices.
13. **Firearm-related Deaths:** were predominantly homicides with 3 suicides and one accidental death. African-Americans and Hispanics were over-represented in these deaths. Prevention of firearm-related death is multimodality beginning with limiting easy access to firearms.
14. **Recommendations** for Prevention of Childhood Death and Injury in CCC:
 - a. Safe to Sleep Campaign for CCC targeting all birthing hospitals, medical providers, home visitors, childcare providers and the public.
 - b. Promotion of active supervision of children to prevent drowning, fire death, children left in cars, and other injuries.
 - c. Promotion of safe storage of firearms, buyback programs, assault weapon ban, research in the public health aspects of firearm injury, trigger lock give aways.
 - d. Promotion of Child Abuse Prevention in all forms including home visitation, parenting classes, and mandated reporter trainings.
 - e. School drop-out prevention programs, after-school programs, alternative education, bullying prevention, teen recreation programs, mentor programs and others.
 - f. Promote access to healthcare including mental healthcare and substance abuse treatment.

Jim Carpenter MD, MPH, FAAP
Chair, CCC Child Death Review Team

Acknowledgements

We would like to thank the Contra Costa Health Services department: Epidemiology, Planning, and Evaluations (EPE) and specifically Epidemiologist, Lisa G. Diemoz, MPH. Also, we would like to thank the Contra Costa Health Services department: Family, Maternal, Child, and Health (FMCH) and specifically the Program Manager, Natalie Berbick, MSW. In addition, we would like to extend our appreciation to the Child Abuse Prevention Council of Contra Costa County (CAPC) as administrative support for the Child Death Review Team (CDRT) and their CDRT Coordinator, Kara Vance. We would like to give a large thank you to all CDRT members, both past and present for attending the meetings and contributing their time and energy to this cause. We hope that each and every individual involved understands that their contribution will help make a difference in ensuring that children do not die from a preventable death. Without their efforts this report would not have been possible. We especially appreciate the energy and dedication of Sonia Suri, in extracting and compiling the data for these reviews. Lastly, a great thank you to Dr. Jim Carpenter who established the Contra Costa CDRT and has chaired it since its inception.

Introduction

Child Death Review Teams (CDRTs) or Child Fatality Review Teams (CFRTs) were originally created by pediatricians to look closely at suspicious child deaths and not miss cases of child abuse or neglect. However, with time the process moved towards a comprehensive review of all child deaths to assess their preventability. The approach moved away from a strictly medical evaluation and towards a public health model of interpretation. Regional CDRTs each conduct themselves differently, due to the lack of unifying protocol. Therefore, while some regions utilize the terminology CDRT, others utilize CFRT. Contra Costa began its Child Death Review Team in 1988. Legislation passed at the time made it possible for members of the CDRT to discuss the deaths without violating HIPAA (please see the California penal code in the appendix for reference) and other confidentiality guidelines.

The Contra Costa CDRT reviews coroner's cases of individuals under the age of eighteen who have died within the county. On occasion cases are reviewed of individuals who are residents of the county but died within another county; this is based on the availability on the information of the death presented to the Contra Costa coroner's office when the death occurs elsewhere or from the sharing from another team. The CDRT of Contra Costa County was created and is currently chaired by Dr. Jim Carpenter, a child abuse pediatrician who is affiliated with Contra Costa Health Services (CCHS). Child Abuse Prevention Council of Contra Costa County (CAPC) serves as the administrative support for the CDRT and works in conjunction with Dr. Carpenter. The multidisciplinary team is comprised of select individuals from the coroner's office, law enforcement, public health department, district attorney's office, child protective services, Emergency Medical Services (EMS), SIDS programs, CRISIS, and others. There is a complete of the current team roster below. Meetings occur bi-monthly where a procedural review of old and new cases, as presented by the coroner's office, is performed. This review begins when the coroner's office submits its cases ready for review to CAPC who then sends those cases to members of the CDRT. Each member then review's their own agency's records for information regarding the involved individuals and families. On the meeting days those results are shared and discussed. The review works to determine concurrence with coroner's classifications of death and whether the death was preventable. The goals of the CDRT are as follows:

1. **To Promote** improved investigation of all child deaths
2. **To Ensure** all child abuse related deaths are identified
3. **To Enhance** cooperation, collaboration, and communication between county agencies
4. **To Increase** the thoroughness and effectiveness of the child protective interventions process
5. **To Identify** leading risk factors resulting in deaths, recommend system and policy changes to prevent child fatalities
6. **To Develop** guidelines for coordinating investigations and interventions on child death cases
7. **To Maintain** statistical data of child fatalities
8. **To Recognize** and protect siblings at risk
9. **To Provide** optimal support and resources for survivors

Once the cases are reviewed they are input into a state-wide database. Periodic reports are produced. The primary goals of the report are to raise public awareness, review trends, and provide recommendations for preventability. This report is a comprehensive five-year report covering the 155 coroner's cases of deaths in individuals under the age of eighteen within the Contra Costa county from 2008-2012.

Preventability Guidelines

Case reviews result in a classification of preventability into one of three categories: “probably preventable, unable to tell, and probably not preventable.” It is important to note that all cases are not presented with the same amount of data and many do not fit into clearly cut parameters. Therefore, it is understood that these guidelines are to help the team to make a determination of preventability. Part III of this report has divided the deaths into six categories to look at preventability and intervention models most efficiently. The general guidelines which the CDRT holds on preventability within the six categories are as follows:

- 1. Abuse & Neglect-Related:** CDRT follows the stance of the CAPC and other organizations including the CDC, AAP and AAFP, which believes that all child abuse and neglect is ultimately preventable. Therefore, they are collectively given a “probably preventable” determination by the CDRT. Neglect-related deaths are the most preventable of these deaths since often adequate supervision of the child is all that would be necessary to prevent the death.
- 2. Firearm-Related:** CDRT considers all firearm-related deaths to be “probably preventable.” The thought behind this determination is that without the firearm the death would probably not occur.
- 3. Healthcare Access-Related:** This encompasses, prenatal, medical, and mental healthcare. These cases do not follow generalizations and preventability must be accounted for individually for preventability. Each case is assessed for any warning markers beforehand, degree of action that would have to have been taken to treat the illness, and how effective it would have been in avoiding the demise.
- 4. Motor Vehicle Accident-Related:** The CDRT asserts that as a form of an accident, they are probably all preventable.
- 5. Sleep-Related:** The CDRT assesses the quality and quantity of the identified risk factors in the sleeping environment in order to determine preventability. For example, SIDS-Related deaths in a completely safe sleep environment, is considered probably not preventable while asphyxia in an unsafe sleep environment is considered probably preventable.
- 6. Adolescent Risk-Taking -Related:** A stage of adolescence related to peer group pressures, a sense of invulnerability and an immature frontal cortex with attendant deficiencies of impulse control and judgement. The CDRT views these deaths to be probably preventable.

CDRT ROSTER

Natalie Berbick, MSW	<i>Public Health</i>	Program Manager
Carol Bokelman	<i>Children & Family Services</i>	SWSII
Barbara Cappa	<i>Child Abuse Prevention Council of Contra Costa County</i>	Past DRT Coordinator
Jim Carpenter, M.D., MPH	<i>Contra Costa County, Health Services / Contra Costa Regional Medical Center</i>	Staff Pediatrician
Carol Carrillo, MSW	<i>Child Abuse Prevention Council of Contra Costa County</i>	Executive Director
James, Rhonda MA, MFT	<i>Contra Costa Crisis Center</i>	Grief Program Coordinator
Malkia Crowder	<i>Contra Costa County, Probation Dept.</i>	Probation Supervisor
Mariana Dailey	<i>Contra Costa Health Services</i>	Senior Health Education Specialist
Lisa G. Diemoz, MPH	<i>Contra Costa Health Services, Public Health Division / Epidemiology, Planning & Evaluation</i>	Epidemiologist
Captain William Duke	<i>Contra Costa County, Sheriff-Coroner's Division</i>	Commander
Maria Fairbanks	<i>Contra Costa EMS</i>	Trauma Coordinator
Bruce Flynn	<i>Contra Costa County District Attorney's Office / Sexual Assault \ Family Violence Unit</i>	Sr. Deputy District Attorney
Nancy Georgiou	<i>Contra Costa County District Attorney's Office / Sexual Assault \ Family Violence Unit</i>	Past Sr. Deputy District Attorney
Nicole Gremillion	<i>Children & Family Services</i>	
Elisa Heinrich	<i>Child Abuse Prevention Council of Contra Costa County</i>	Accounting Manager
Janet Johnson	<i>SDMC</i>	Risk Manager
Arnold Josselson, MD	<i>Forensic Medical Group, Inc.</i>	Pathologist
Joan Miller, MSW	<i>Children & Family Services</i>	Interim CFS Director
Susie Moore	<i>Contra Costa Crisis Center</i>	Past Grief Program Coordinator
Susan Nairn PHN	<i>Public Health</i>	Program Manager
Becky Nelson	<i>Contra Costa County, Child Welfare Ombudsman</i>	Child Welfare
Suzanne Nelson	<i>Contra Costa County, Probation Dept.</i>	Probation Supervisor
Tamra Roberts	<i>Concord Police Department</i>	Detective
Xavier Shabazz	<i>Contra Costa County, Sheriff-Coroner's Division</i>	Sargent
Duane Spencer, D.D.S.	<i>Pediatrics & Forensics Dentistry</i>	Dentist
Sonia Suri	<i>Contra Costa Health Services</i>	Assistant
Kara Vance	<i>Child Abuse Prevention Council of Contra Costa County</i>	DRT Coordinator
Jordan Walter	<i>Paramedic</i>	CES Specialist

GLOSSARY

- AAP:* American Academy of Pediatrics
- AAFP:* American Academy of Family Practice
- Abuse-Related Death:* A death that is directly the result of a form of child abuse
- Accident:* An unintentional and unexpected event; etymology of Old French in the 12c. defines accident as an “act of god” and thus suggests inevitability or fate. However most “accidents” are preventable injuries
- Accidental Death:* A manner of death indicating non-intentional trauma. See Mode of Death; and Intentional and Non-Intentional Injury
- ACP:* American College of Physicians
- AMA:* American Medical Association
- APHA:* American Public Health Association
- Asphyxia:* Death caused by being deprived of oxygen. Can be caused by strangulation, suffocation, choking, or smothering
- Autopsy:* The medical, forensic examination and dissection of a dead body for the purpose of inquiry into the cause of death. An autopsy is required by statute for violent, unexpected, sudden, or unexplained deaths
- Bed-Sharing:* When an adult (or another child) and an infant sleep together in the same bed
- CAPC:* Child Abuse Prevention Council of Contra Costa County
- CCRMC:* Contra Costa Regional Medical Center
- CDC:* Centers for Disease Control
- CDRT:* Child Death Review Team can be used interchangeably with CFRT
- CFRT:* Child Fatality Review Team can be used interchangeably with CDRT
- CFS:* Child and Family Services, can be used interchangeably with CPS
- CHP:* California Highway Patrol
- CPS:* Child Protective Services – The social service system design to protect children
- CPSC:* Consumer Product Safety Commission
- CRISIS:* Contra Costa Crisis Center
- Child:* An individual less than eighteen years of age
- Coroner:* A jurisdictional official whose duty it is to investigate sudden, suspicious, or violent death to determine the cause. Contra Costa County has a Sheriff-Coroner.
- Coroner’s case:* A suspicious or sudden death that does not occur as a result of a chronic condition while under medical surveillance
- Co-Sleeping:* When an adult (or another child) and an infant sleep together in the same room

- Death:* The cessation of life, manifested by loss of heart beat, absence of spontaneous breathing, and the permanent cessation of brain function; loss of life
- Death Classification:* One of the five categories assigned to all deaths: Accident, Homicide, Natural, Suicide, or Undetermined
- Death Scene Investigation:* An attempt by a person functioning in an official capacity together information at the site where a fatal illness, injury, or event occurred, for the purpose of determining the cause and circumstances of the death
- Emergency Medical Services:* (EMS) The complete chain of human physical resources that provide patient care in cases of sudden illness or injury
- EPE:* CCHS Department of Epidemiology, Planning, and Evaluations
- FMCH:* CCHS Department of Family, Maternal, Child, and Health
- Fatality:* Loss of life
- Fetal Death:* (Common) Death of pregnancy after approximately 20 weeks
- Fetus:* An unborn baby that is still in its mother's womb
- Firearm-Related Death:* A death directly involving a firearm
- FIMR:* Refers to the act that resulted in death being one that was not deliberate, willful, or planned.
- Healthcare Access-Related*
- Death:* These deaths have directly resulted from a lack of adequate prenatal, medical, or mental healthcare intervention
- HIPAA:* Health Insurance Portability and Accountability Act. This act was passed in 1996 and regulates the confidentiality of medical information
- Homicide:* Death at the hands of another (without reference to intent)
- IFD:* Intrauterine Fetal Demise or stillbirth. It is when the fetus dies after 20 weeks gestation
- Infant:* Child under one year of age
- Injury:* Refers to any force whether it be physical, chemical, thermal, or electrical that results in harm or death
- MADD:* Mothers Against Drunk Driving
- Manner of Death:* The legal classification of death whether natural, suicide, accidental, homicide or undetermined
- MVA:* Motor Vehicle Accident
- MVC:* Motor Vehicle Collision or Crash
- MVC-related Deaths:* A death that is directly related to a motor vehicle collision, includes trains, trucks, and cars
- Natural Cause Death:* Death resulting from inherent, existing, conditions; natural causes include congenital anomalies, disease, other medical causes, and SIDS

- Negligence:* In the law, doing something that a person of ordinary prudence would not do, or the failure to do something that a person of ordinary prudence would do, under given circumstances.
- Premature:* An infant born before thirty-seven weeks gestation
- Preventable Death:* A child's death is considered to be preventable if the community (through legislation, education, etc.) or an individual (through reasonable precaution, supervision, or action) could have done that which could have changed the circumstances that led to the death)
- Preventability Determination:* The determination of either "probably preventable," "unable to tell," or "probably not preventable" that the CDRT assigns to every case it reviews; these determinations assess the degree to which the committee believes the death could have been avoided
- Prevention:* In public health, the keeping of something (such as an illness or injury) from happening
- Reviewable Death:* Death which has been reported as having met criteria for review by the Child Death Review Team, whether or not the review has yet been completed and reported
- Risk Factors:* Refers to a person, thing, event, etc... that put an individual at an increased likelihood of incurring injury, disability, or death
- SADD:* Students Against Destructive Decisions
- SIDS:* Sudden infant death is the unexpected death of an infant where after review of the clinical history, death scene investigation, and a thorough postmortem examination including autopsy, fails to demonstrate another cause of death; a diagnosis of exclusion made when there is no underlying cause of death can be identified, it is not caused by abuse or neglect.
- Sleep-Related Death:* Deaths occurring in infants that occur during to sleep and are related to sleep environment
- Suffocation:* Asphyxia caused by a general deprivation of oxygen either from obstruction of external airways or lack of breathable gas in the environment
- Suicide:* Action of killing oneself intentionally
- SUIDS:* Sudden unexpected infant death syndrome; after medical history review, complete autopsy and death scene investigation these deaths are attributed to SIDS, accidental asphyxias, a percentage are found to be related to birth defects, metabolic disorders, infections, arrhythmias or seizures, the majority are preventable sleep-related deaths
- Inadequate Supervision-Related Death:* A death that is the direct result of a lack of adequate supervision, active supervision/surveillance would have prevented these deaths
- Undetermined Death:* Mode of death is not clear
- Unintentional Death:* Refers to the act that resulted in death being one that was not deliberate, willful, and/or planned

ABBREVIATIONS

- AAP:* American Academy of Pediatrics
- AAFP:* American Academy of Family Practice
- ACP:* American College of Physicians
- AMA:* American Medical Association
- APHA:* American Public Health Association
- ASSB:* Accidental Suffocation and Strangulation in bed
- CAPC:* Child Abuse Prevention Council of Contra Costa County
- CCHS:* Contra Costa Health Services
- CCRMC:* Contra Costa Regional Medical Center
- CDC:* Centers for Disease Control
- CDR:* Child Death Review
- CDRT:* Child Death Review Team
- CDRTs:* Child Death Review Teams
- CFRT:* Child Fatality Review Team can be used interchangeably with CDRT
- CFRTs:* Child Fatality Review Team can be used interchangeably with CDRTs
- CFS:* Child and Family Services, can be used interchangeably with CPS
- CHP:* California Highway Patrol
- CPS:* Child Protective Services – The social service system design to protect children
- CPSC:* Consumer Product Safety Commission
- CRISIS:* Contra Costa Crisis Center
- EKG:* Electrocardiogram
- EMS:* Emergency Medical Services
- EPE:* CCHS Department of Epidemiology, Planning, and Evaluations
- FMCH:* CCHS Department of Family, Maternal, Child, and Health
- FIMR:* Refers to the act that resulted in death being one that was not deliberate, willful, or planned
- HIPAA:* Health Insurance Portability and Accountability Act.
- IFD:* Intrauterine Fetal Demise or stillbirth
- MADD:* Mothers Against Drunk Driving

MVA: Motor Vehicle Accident

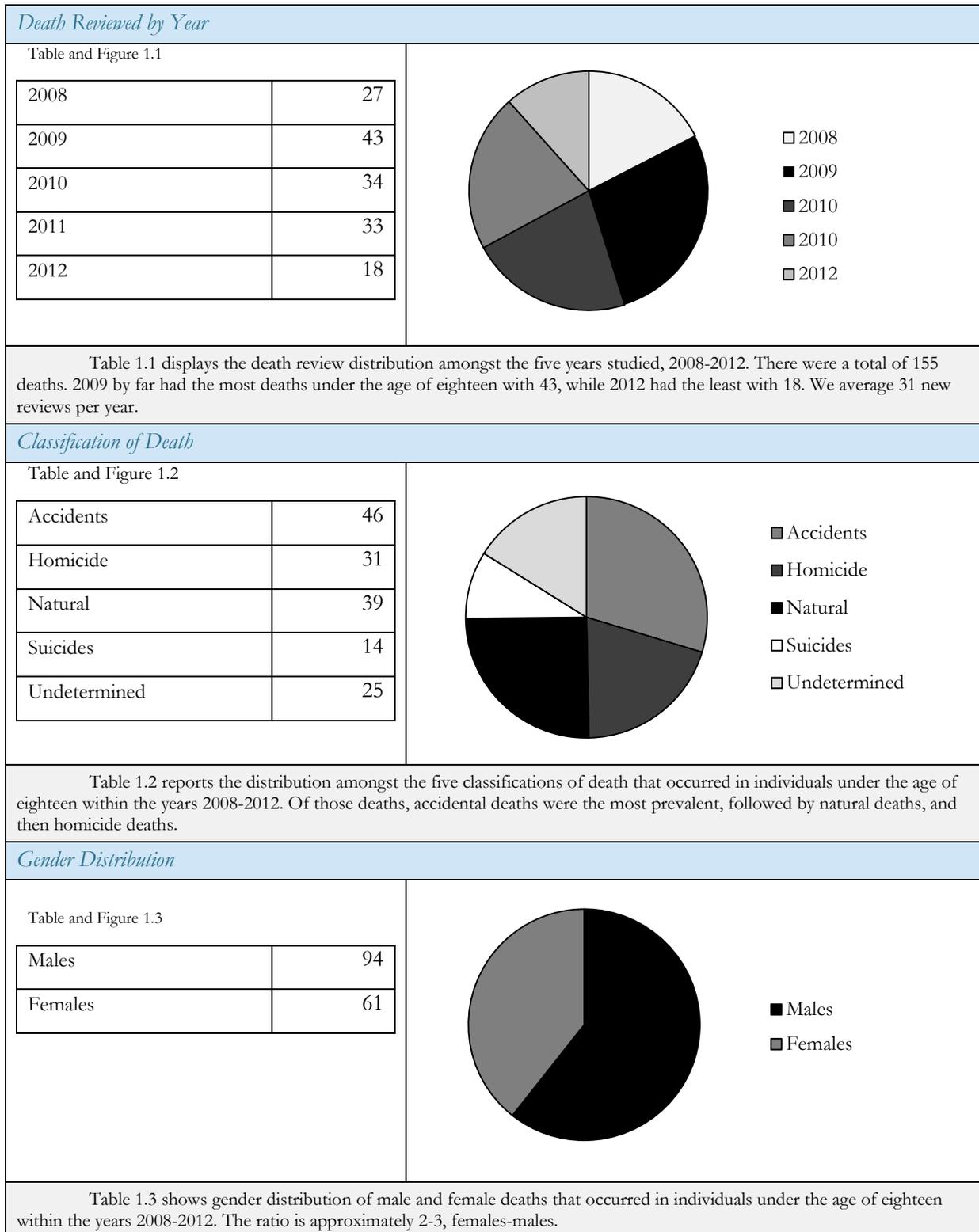
MVC: Motor Vehicle Collision or Crash

SADD: Students Against Destructive Decisions

SIDS: Sudden Infant Death Syndrome

SUIDS: Sudden Unexpected Infant Death Syndrome

CUMMULATIVE DATA 2008-2012



Ethnic Distribution

Table and Figure 1.4

African American	45
Asian/Pacific Islander	8
Caucasian	41
Hispanic	54
Other	7

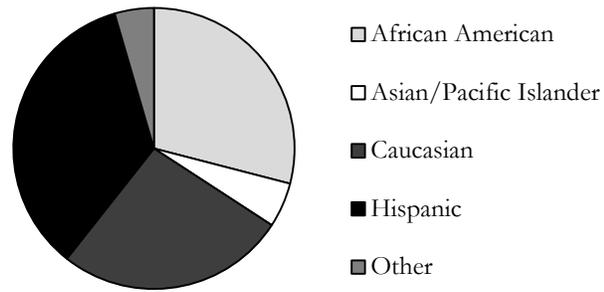


Table 1.4 shows the ethnic distribution amongst the deaths that occurred in individuals under the age of eighteen within the years 2008-2012. The five most prevalent ethnic groups are displayed. The term “other” is utilized for individuals who could not accurately be sorted into any of the other four categories or whose families did not wish to identify an ethnic group for them. The largest represented ethnic group is Hispanic, followed by African American, and then Caucasian.

Age Distribution

Table and Figure 1.5

Fetus	10
<1 years	49
1-4 years	14
5-10 years	12
11-14 years	14
15-17 years	56

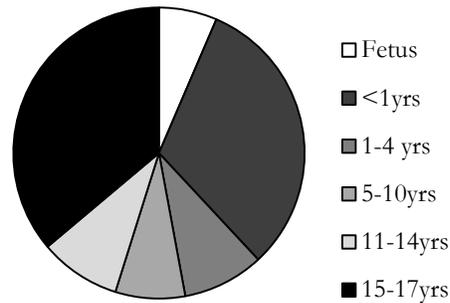


Table 1.5 illustrates the age distribution which the deaths occurred in individuals under the age of eighteen within the years 2008-2012. A large majority of the deaths occur within the oldest and youngest age brackets of 15-17 years old and <1 years old. Those two age brackets comprised approximately 2/3 of the total deaths.

Preventability

Table and Figure 1.6

Probably Preventable	101
Unable to Tell	43
Probably Not Preventable	11

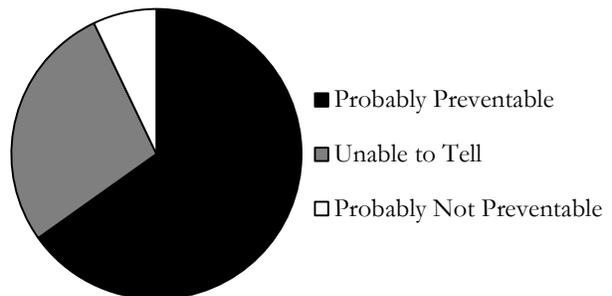


Table 1.6 highlights the preventability as determined by the CDRT of the 155 cases of individuals under the age of eighteen within the years 2008-2012. The guidelines for preventability are listed in *Preventability Guidelines* on page 14 of this report. Only 7% of the cases were deemed “Probably Not Preventable,” while 65% were considered “Probably Preventable.”

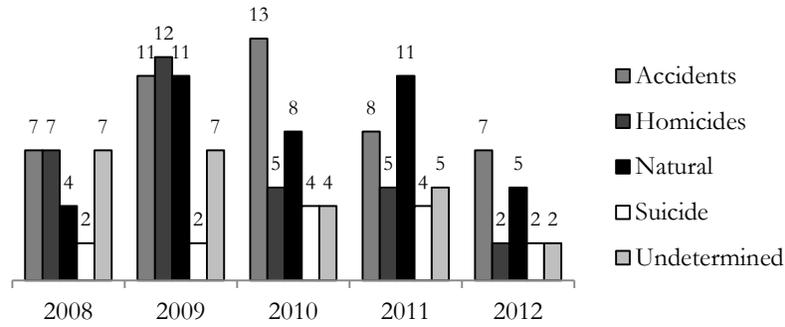


Table and Figure 2.1

	2008	2009	2010	2011	2012
Accidents	7	11	13	8	7
Homicides	7	12	5	5	2
Natural	4	11	8	11	5
Suicide	2	2	4	4	2
Undetermined	7	7	4	5	2

Table 2.1 displays the death classifications as distributed by year. The two largest groups, accidents and natural deaths, both saw peaks in 2009 and 2011. While the third largest group saw a large peak only in 2009.

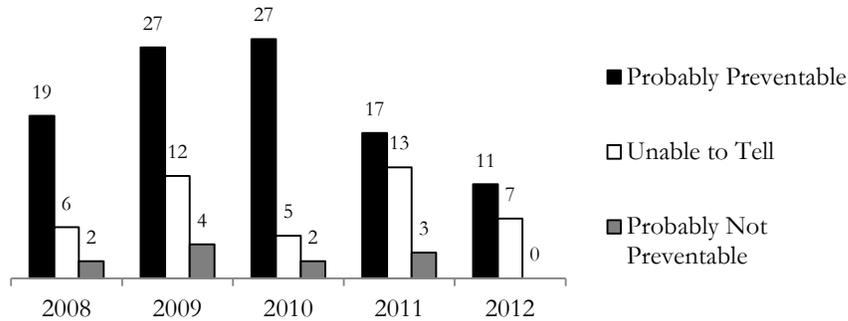


Table and Figure 2.2

	2008	2009	2010	2011	2012
Probably Preventable	19	27	27	17	11
Unable to Tell	6	12	5	13	7
Probably Not Preventable	2	4	2	3	0

Table 2.2 showcases preventability as distributed by year. Overall, the largest group each year was “Probably Preventable.” 2012 did not see any deaths considered to be “Probably Not Preventable.”

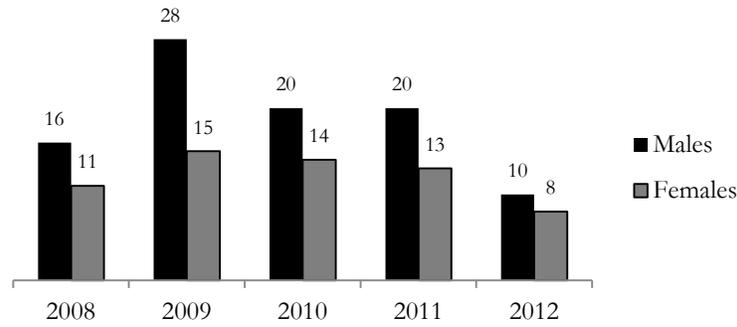


Table and Figure 2.3

	2008	2009	2010	2011	2012
Males	16	28	20	20	10
Females	11	15	14	13	8

Table 2.3 illustrates the male-female distribution of the deaths by year. More males died in each of the years studied. The greatest disparity comes in 2009 with a difference of thirteen deaths and a ratio of 3-2, men-women. The year with the least disparity is 2012, which only saw a different of 2 and a ratio of 5-4, men-women.

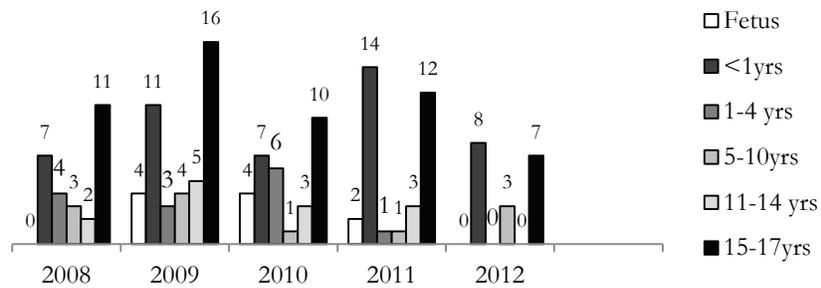


Table and Figure 2.4

	2008	2009	2010	2011	2012
Fetus	0	4	5	2	0
<1 years	7	11	7	14	8
1-4 years	4	3	6	1	0
5-10 years	3	4	1	1	3
11-14 years	2	5	3	3	0
15-17 years	11	16	10	12	7

Table 2.4 highlights the age distribution of the deaths by year. Each year sees the 15-17 year and <1 year age groups having the highest prevalence. In 2008, 2009, and 2010 15-17 years old are the age group with the most deaths. While in 2011 and 2012 <1 year of age is the largest.

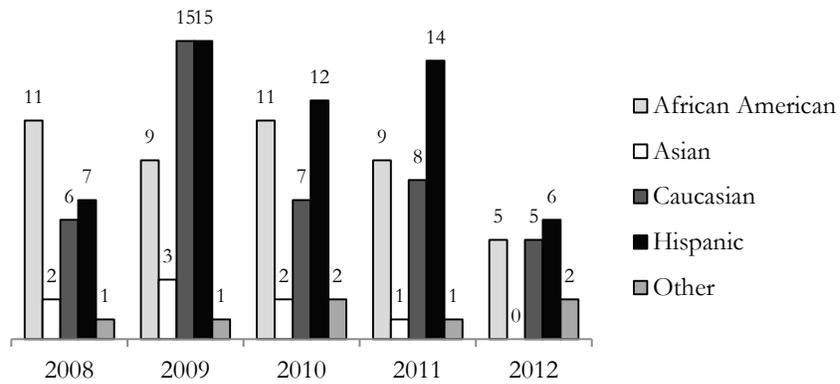


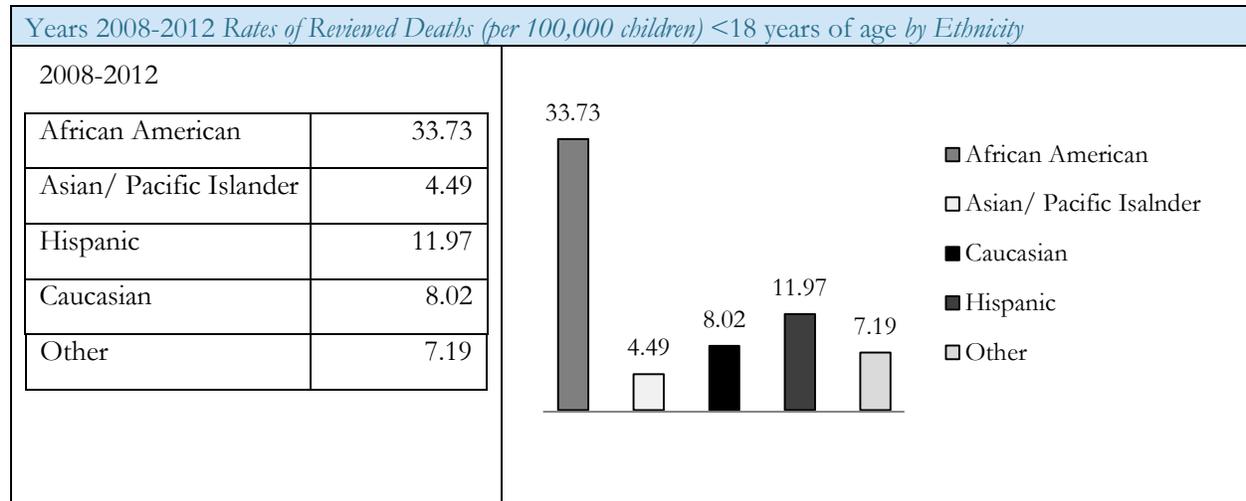
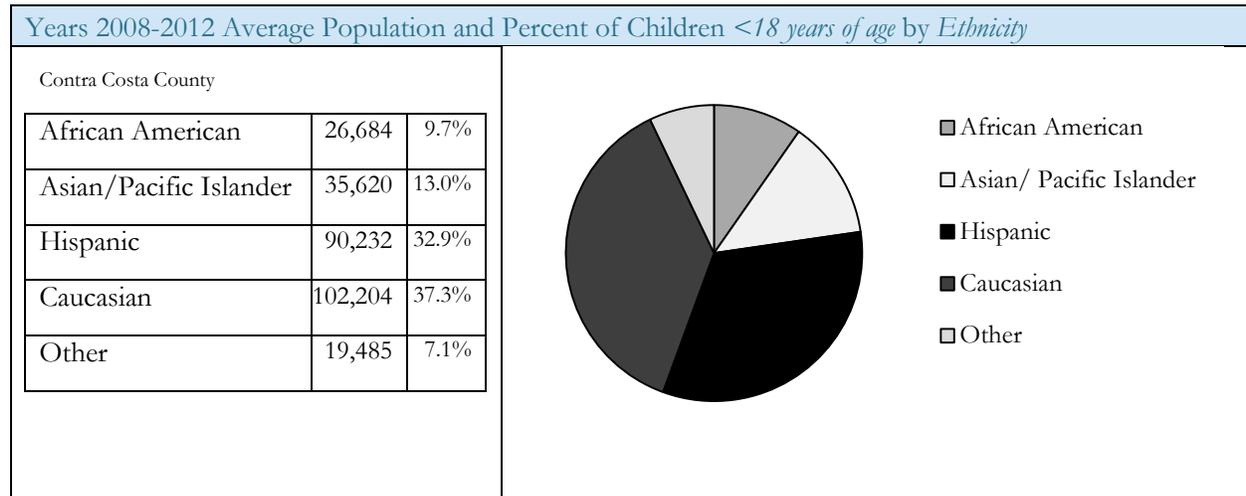
Table and Figure 2.5

	2008	2009	2010	2011	2012
African American	11	9	11	9	5
Asian	2	3	2	1	0
Caucasian	6	15	7	8	5
Hispanic	7	15	12	14	6
Other	1	1	2	1	2

Table 2.5 shows the ethnic distribution of the deaths by year. 2008 saw the largest ethnic group prevalence to be African American, while 2009 saw an even exceptionally large amount of Caucasian and Hispanic deaths. 2010 saw its largest ethnic prevalence as Hispanic and African American, while 2011 saw Hispanic to solely be the largest. 2012 had a relatively even distribution compared to the other years.

DEMOGRAPHIC BREAKDOWN OF CONTRA COSTA COUNTY 2008-2012

Ethnic variations exist in SES, Access to care and caretaking practices. Rates refer to the likelihood of an event (in this case death) occurring within a group (in this case ethnicity). Consistently, African Americans have the highest rate of death followed by Hispanics. Asians consistently have the lowest rate of death.



Yearly Rates of Reviewed Deaths (per 100,000 children) <18 years of age by Ethnicity																							
<p>2008</p> <table border="1"> <tr><td>African American</td><td>40.7</td></tr> <tr><td>Asian/ Pacific Islander</td><td>7.4</td></tr> <tr><td>Hispanic</td><td>25.9</td></tr> <tr><td>Caucasian</td><td>22.2</td></tr> <tr><td>Other</td><td>3.7</td></tr> </table>	African American	40.7	Asian/ Pacific Islander	7.4	Hispanic	25.9	Caucasian	22.2	Other	3.7	<table border="1"> <tr><th>Ethnicity</th><th>Rate</th></tr> <tr><td>African American</td><td>39.23</td></tr> <tr><td>Asian/ Pacific Islander</td><td>5.89</td></tr> <tr><td>Hispanic</td><td>8.14</td></tr> <tr><td>Caucasian</td><td>5.49</td></tr> <tr><td>Other</td><td>5.42</td></tr> </table>	Ethnicity	Rate	African American	39.23	Asian/ Pacific Islander	5.89	Hispanic	8.14	Caucasian	5.49	Other	5.42
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PART II

Classifications of Death in Children <18 years in Contra Costa County

2008-2012

ACCIDENTS OR PREVENTABLE INJURIES

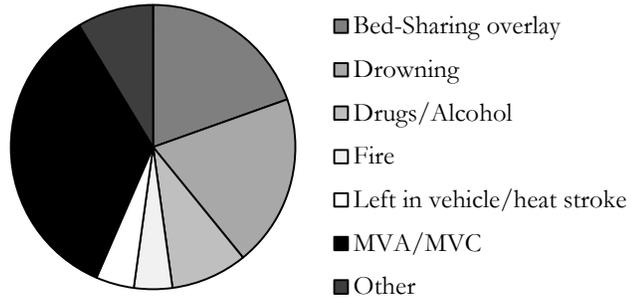
Accidents as a classification of child death represented the largest number of deaths reviewed by the CDRT over the period of 2008-2012. The word “accident” is, from the French for ‘act of god’ and suggests inevitability or fate. Just the opposite is more accurate. “Accidents” are for the most part, preventable injuries. In fact, 100% of these accidental deaths were determined to be probably preventable by the CDRT.

The specific manners of accidental death included MVA/MVC, bed-sharing overlay, drowning, fire, ingestion and other. Safe sleeping practices would probably have prevented all of the bed sharing deaths. Safer driving and avoidance of adolescent risk-taking behaviors would have probably prevented the motor vehicle crashes. Active supervision would have probably eliminated most of the drowning and fire deaths as well as two children left in cars. Absence of working smoke detectors also contributed to fire deaths.

Manner of Death

Table and Graph 3.1

Bed-Sharing overlay	9
Drowning	9
Drugs/Alcohol	4
Fire	2
Left in vehicle/heat stroke	2
MVA/MVC	16
Other	4



Gender Distribution

Table 3.1 displays the manner of deaths for accidental deaths that took place. The group MVA/MVC comprises motor vehicle collisions, pedestrians hit by motor vehicles, bicyclists hit by motor vehicles, and a dirt bike riding incident.

Table and Graph 3.2

Male	25
Female	21

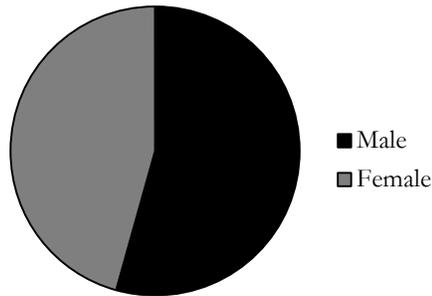


Table 3.2 shows the male-female ratio for accidents, which is roughly 5-4.

Age Distribution

Table and Graph 3.3

Fetus	2
<1 years	12
1-4 years	8
5-10 years	8
11-14 years	2
15-17 years	14

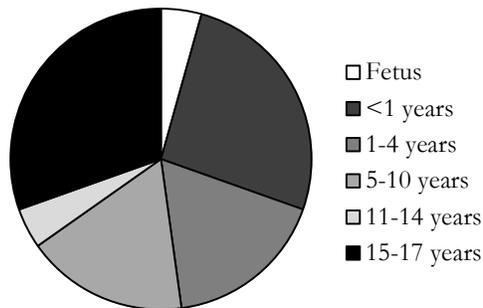
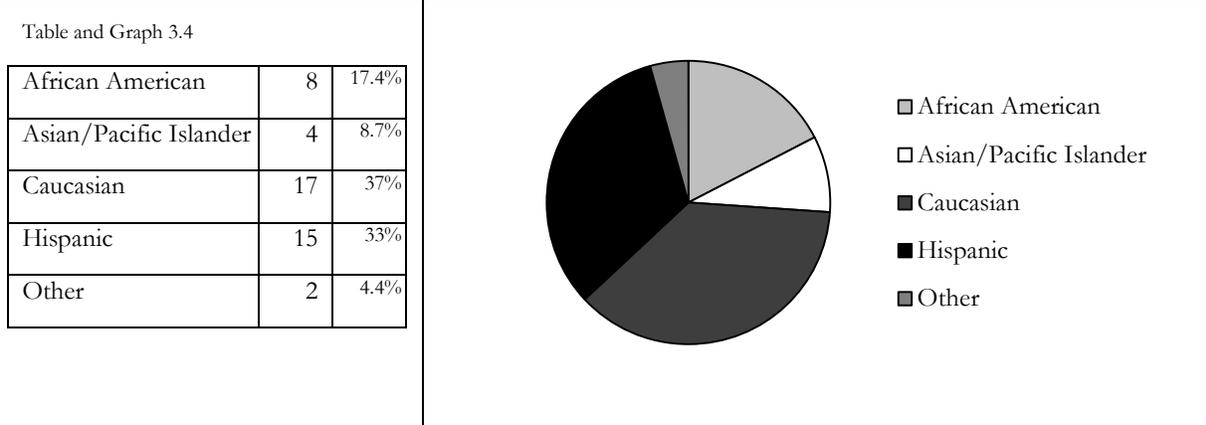


Table 3.3 illustrates the age distribution for accidental deaths which emphasizes the trends seen in the overall data. The two age groups with the largest prevalence are <1 year and 15-17 years.

Number and Percent of Accidental Deaths by Ethnicity



Ethnic Distribution of Ave. Yearly Population & Percent of Children <18 years of age; 2008-2012

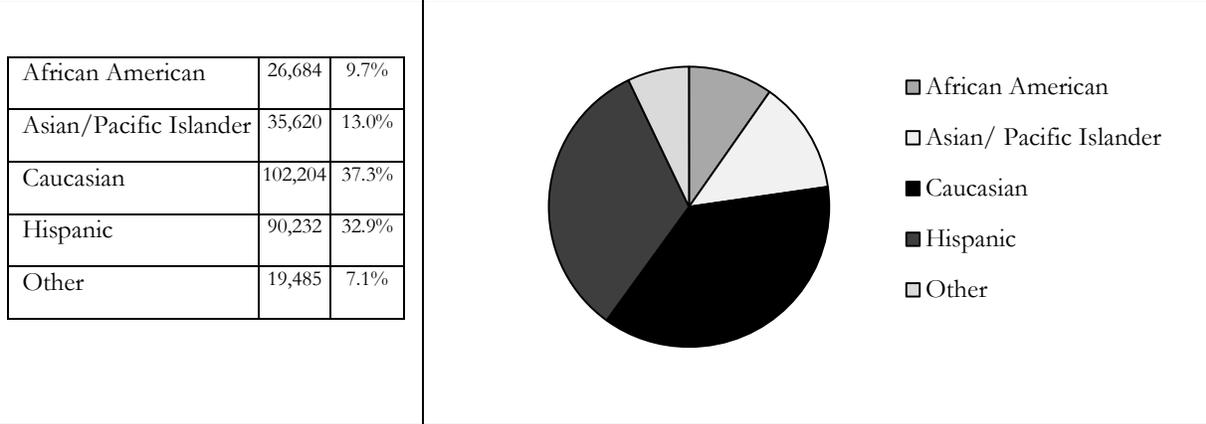


Table 3.4 highlights the ethnic distribution of accidental deaths. Caucasians are the largest group, followed closely by Hispanics. Underneath Table and Graph 3.4 is the demographic breakdown of the county for reference.

Preventability

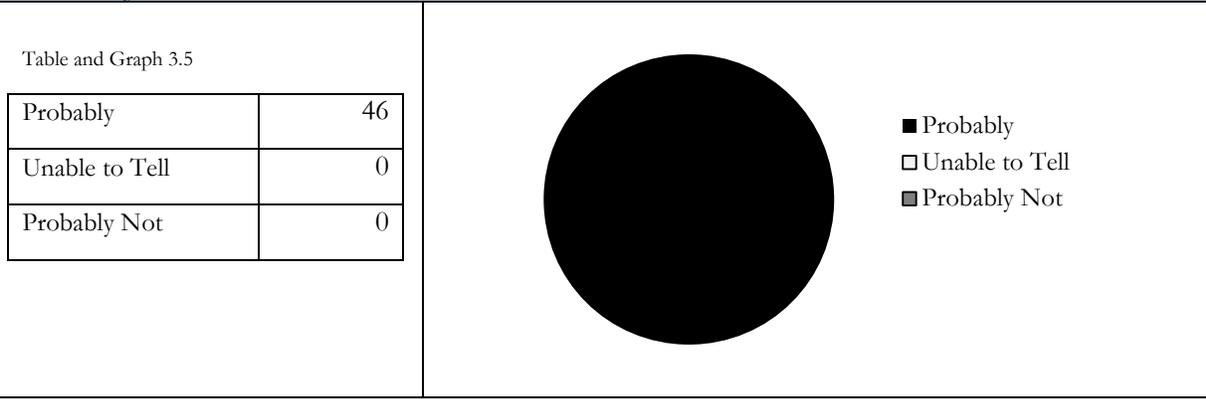


Table 3.5 reports that the CDRT determined all the accidental deaths observed within this data were preventable deaths.

HOMICIDES

Homicides in common parlance refer to death at the hands of another without reference to intent. Legal definitions include:

1. ***Murder***: Unlawful killing a human being with malice a forethought (requires premeditation plus are element of malice)
2. ***Manslaughter***: An unlawful killing of a human being without malice a forethought
3. ***Voluntary Manslaughter***: An unlawful killing committed under circumstance which, although they do not justify the homicide, mitigate it
4. ***Involuntary Manslaughter***: Criminally negligent homicide, such as a death resulting from the negligent operation of a motor vehicle

Out of the 31 homicide victims reviewed over the five year period, 2 were related to child abuse. The remaining victims occurred in adolescents; 90% of those deaths died from the use of firearms. One single death was from a stabling.

Of the victims, 94% were male. Ethnic breakdown showed overwhelming likelihood of the homicide death in Hispanics and African Americans representing 87% of all the deaths compared to 47% of population of Contra Costa County.

The DRT determined that 97% of homicide deaths were preventable. Since both child abuse and gun-related death are considered preventable by the CDRT. Many modalities have to be considered in ultimately preventing these deaths and include:

1. ***Limiting easy access*** to guns and ammunition
2. ***Multi-systemic therapy*** for troubled youth
3. ***Dropout prevention*** programs and alternative education opportunities
4. ***Mentoring***, therapy and bullying prevention support programs
5. ***Parenting programs***
6. ***All forms*** of Child Abuse Prevention
7. ***Other*** preventative measures identified

Manner of Death

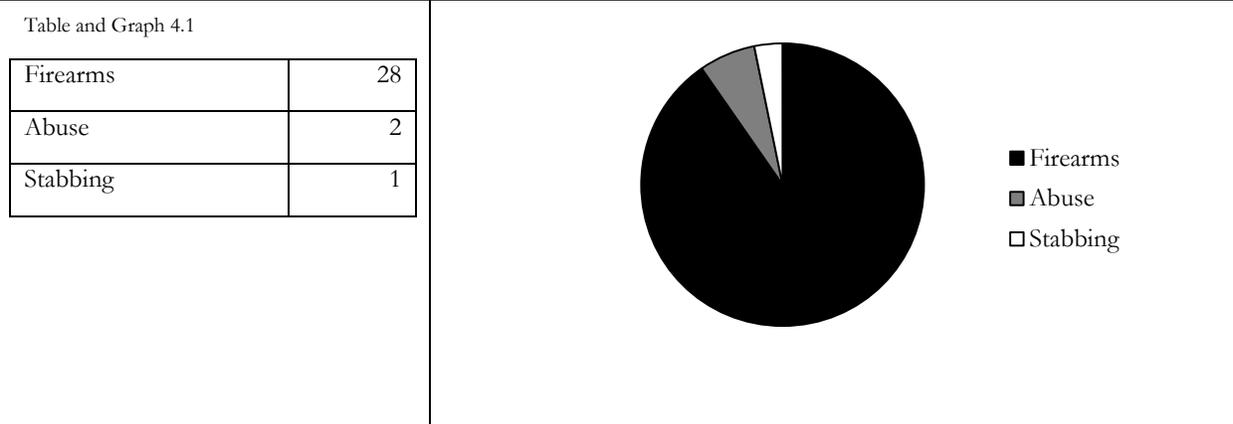


Table 4.1 displays the manner of deaths for homicides. The data reports an overwhelming percentage, 90%, of the homicide deaths due to firearms.

Gender Distribution

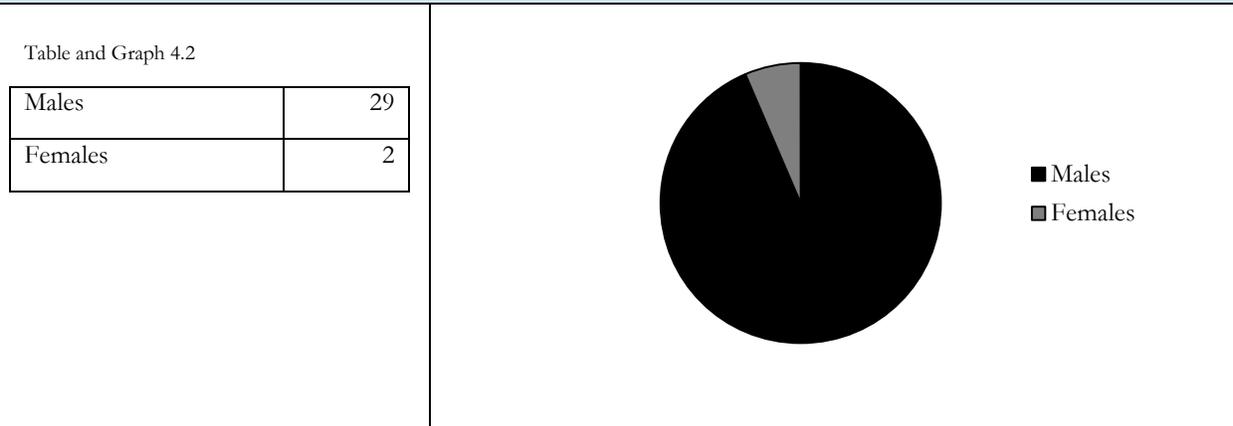


Table 4.2 illustrates the ratio of males-females and reports that a majority of the homicide deaths, 94%, were male.

Age Distribution

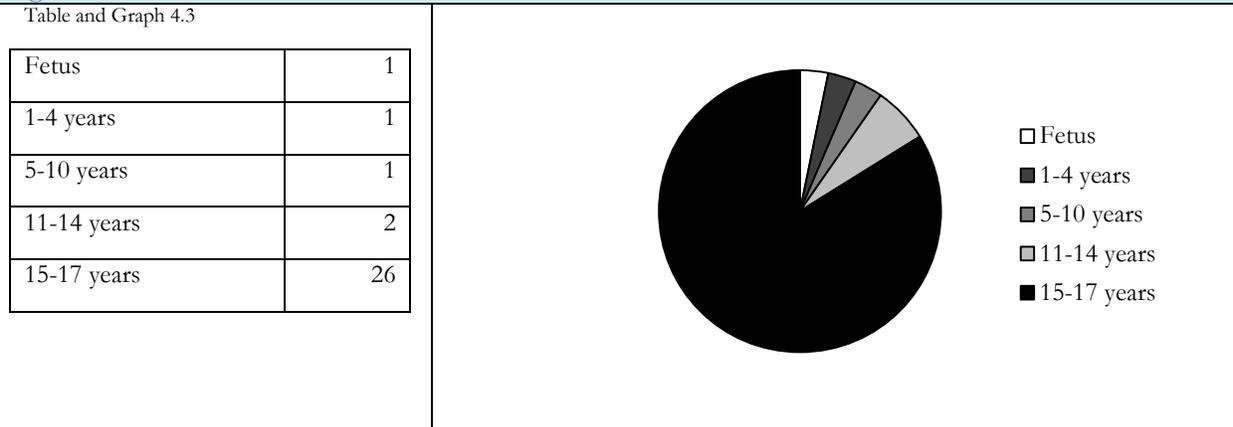
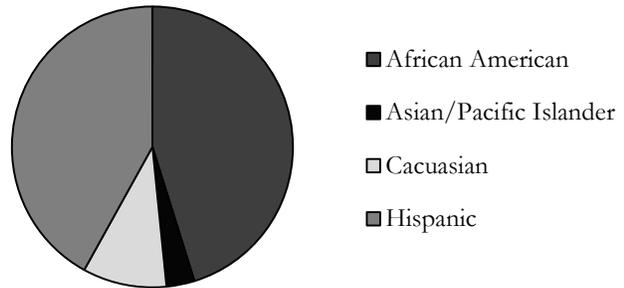


Table 4.3 showcases the age distribution of homicide deaths. 83% of those deaths were within the 15-17 age group.

Number and Percent of Homicides by Ethnicity

Table and Graph 4.4

Asian/Pacific Islander	1	3.2%
African American	14	45%
Caucasian	3	9.8%
Hispanic	13	42%



Ethnic Distribution of Ave. Yearly Population & Percent of Children <18 years of age; 2008-2012

African American	26,684	9.7%
Asian/Pacific Islander	35,620	13.0%
Hispanic	90,232	32.9%
Caucasian	102,204	37.3%
Other	19,485	7.1%

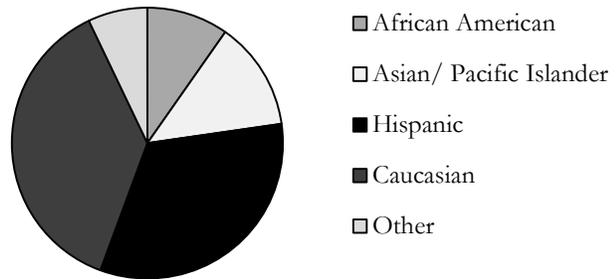


Table 4.4 reports the ethnic distribution of the homicide deaths. African American, followed closely by Hispanic are the two largest groups and together comprise 87% of the homicide deaths. Underneath Table and Graph 4.4 is a demographic breakdown of the county for reference.

Preventability

Table and Graph 4.5

Probably	30
Unable to Tell	1
Probably Not	0

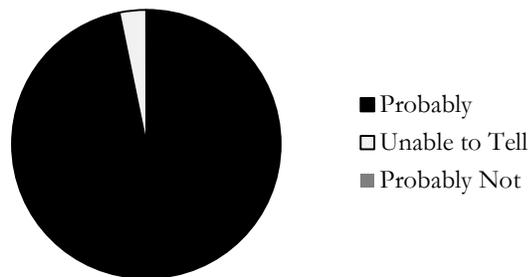


Table 4.5 highlights that 97% of the child homicides for the county from 2008-2012 were preventable.

NATURAL CAUSE OF DEATHS

Natural Deaths include all medical causes of deaths such as infection, cardiac defects, seizures, intrauterine deaths, and SIDS. Most of these deaths occur in the first year of life with a cluster of cardiac deaths occurring in adolescence. Most natural deaths are not coroner cases and hence are not subject to CDRT review.

The ethnic distribution reflects the percentages in Contra Costa County closer than other classifications of death. The preventability was often considered “unable to tell” due the presence of risk factors for SIDS or the lack of information regarding whether more timely access to healthcare might have made a difference. Known prevention modalities for natural cause of death include:

1. *Safe sleeping practices*
2. *Prenatal care*
3. *Access to healthcare*
4. *Pre-participation sports examination* including consideration of electrocardiogram (EKG) or echocardiogram
5. *AEDs* - Automatic Electronic Defibrillators in gymnasiums

Manner of Death

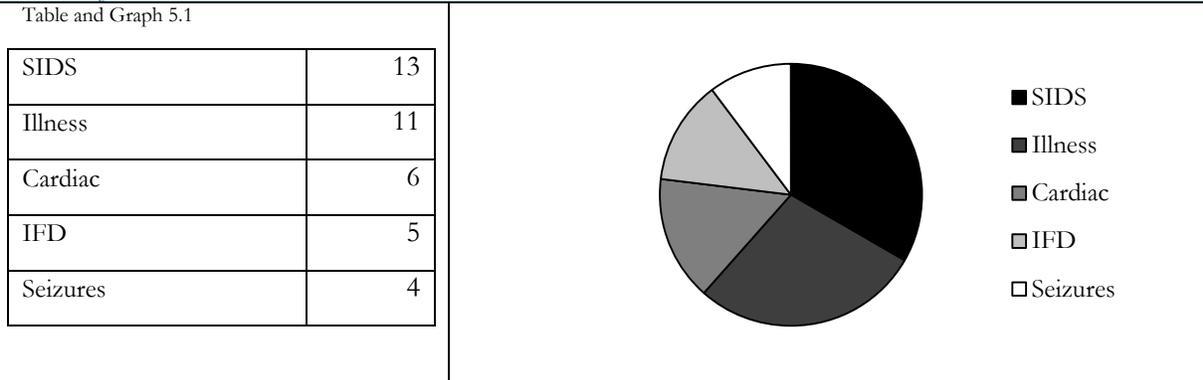


Table 5.1 presents the manner of death for natural deaths. SIDS and illness are the two highest reported causes within this population at this time period.

Gender Distribution

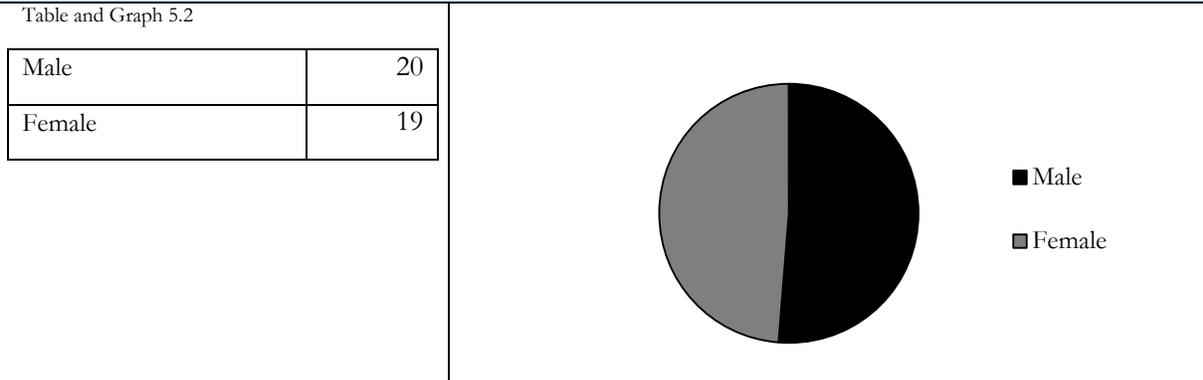


Table 5.2 shows the almost equal male-female ratio.

Age Distribution

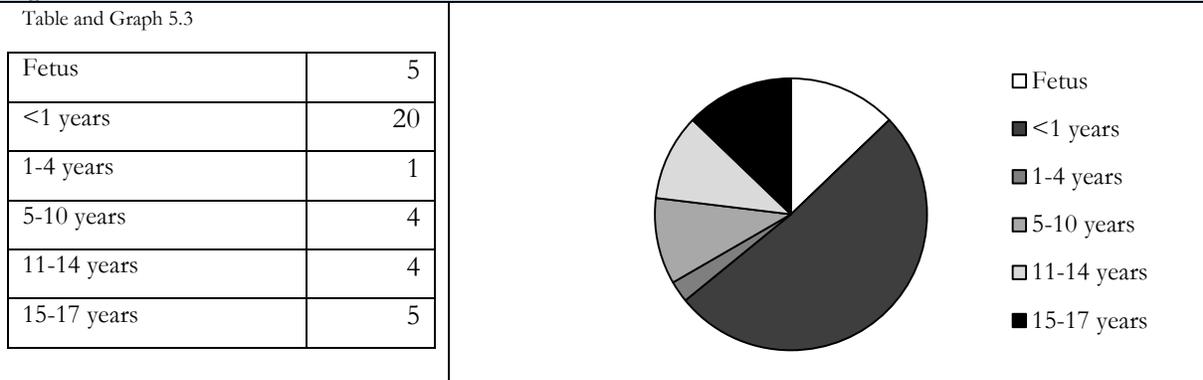
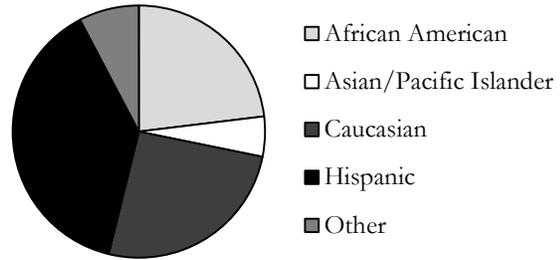


Table 5.3 reports the age distribution for natural deaths. The less than <1 year age group comprised almost half of the reported data for natural deaths.

Number and Percent of Natural Cause of Deaths by Ethnicity

Table and Graph 5.4

African American	9	23%
Asian/Pacific Islander	2	5.1%
Caucasian	10	26%
Hispanic	15	38%
Other	3	7.9%



Ethnic Distribution of Ave. Yearly Population & Percent of Children <18 years of age; 2008-2012

African American	26,684	9.7%
Asian/Pacific Islander	35,620	13.0%
Caucasian	102,204	37.3%
Hispanic	90,232	32.9%
Other	19,485	7.1%

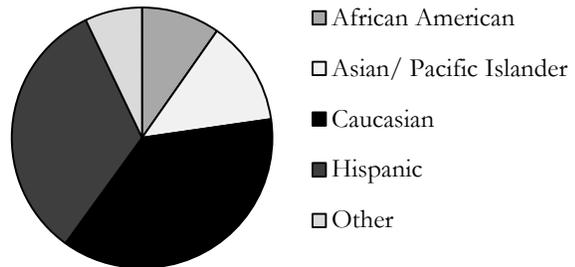


Table 5.4 illustrates ethnic distribution of natural deaths that approaches the ethnic distribution in Contra Costa County.

Preventability

Table and Graph 5.5

Probably	5
Unable to Tell	22
Probably Not	12

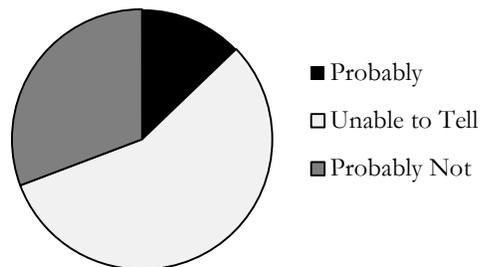


Table 5.5 illustrates preventability of natural deaths with the majority deemed “unable to tell”. Hispanic deaths are most prevalent, followed by Caucasian, and then African American.

SUICIDES

Adolescent suicide was seen in 14 cases over the 5 year study period consistent with national studies showing it as the 3rd leading cause for teen death (following accidents and homicides). The manner of suicide was mainly by hanging with 2 suicides by firearm. Of note, the three suicides by train represent cluster suicides. The teens in general did not have known or treated depression. The suicide often had a precipitant of strife at home or school. Suicide notes were unusual and the suicide usually impulsive. The ethnic distribution showed an absence of Asian-pacific islanders and a slight overrepresentation of African Americans.

Suffocation (hanging or plastic bag) as the manner of suicide has been increasing in national studies as use of firearms or poisoning has been decreasing. The CRISIS Center had contact and provided services for survivors and schools affected by the suicides. (See appendix for description of their program and services). The National Strategy for Suicide Prevention encourages a comprehensive approach to suicide prevention that includes (as cited in Sullivan, Annet, Simon, Luo, 2015)¹:

1. ***Activities for enhancing social support***, problem-solving skills, and other protective factors to prevent suicidal behavior
2. ***Increasing training*** in recognizing risk factors and taking appropriate referral
3. ***Expanding access*** to social services
4. ***Reducing stigma*** and other barriers to seeking help
5. ***Providing responsible media*** reporting to reduce contagion and to enhance awareness that suicide is preventable

The CDRT suggests a mental health intervention plan that includes both early recognition of mental health distress and appropriate action. Parents, schools, and organizations can make this happen. Parents should be informed on how to tell when their child is mentally not well. Both non-profits and the school systems should hold informational meetings where parents can be educated on the signs and symptoms of emotional distress and resources within the community. Contra Costa schools can hire more counselors to reach all students, teach teenagers the importance of bringing a friend in need to one of those counselors, and enforce that the counselors are there to listen to any student in distress in confidence. Lastly, organizations like the Contra Costa Crisis Center offer wonderful resources for individuals in the community to reach out for help without feeling labeled.

The mission of the Contra Costa Crisis Center is to keep people alive and safe, help them through crises, and connect them with culturally relevant resources in the community

The Crisis Center has a 211 info and referral line, 24 hour crisis lines, and grief counseling programs. The 211 info and referral program is a 24-hour phone line that is available for all categories of emergency referrals within the county. The 24-hour crisis line is a phone line that will directly connect the caller to a crisis trained employee that will discuss any and all issues to try to get that individual to an emotionally safe place where they do not want to hurt themselves or others. In addition, the Crisis Center offers grief counseling following a death or tragedy. This counseling can be offered at schools, in group sessions, or individually. See appendix for more about them.

¹ US Department of Health and Human Services. Office of the Surgeon general and National Action Alliance for Suicide Prevention. *2012 National Strategy for suicide prevention: goals and objectives for action*. Washington, DC: US Department of Health and Human Services; 2012.

Manner of Death

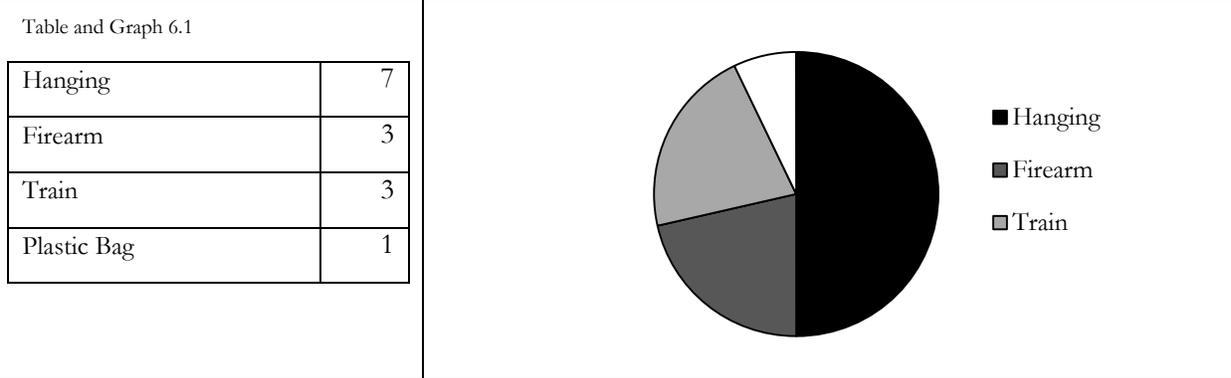


Table 6.1 showcases the manner of death for suicide. There were a total of 14 suicide deaths.

Gender Distribution

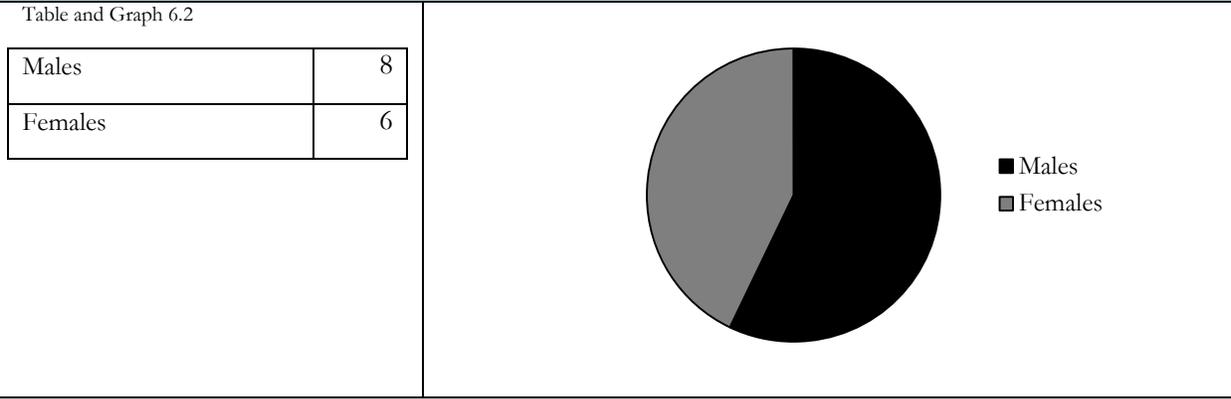


Table 6.2 illustrates the male-female ration, which is 4-3.

Age Distribution

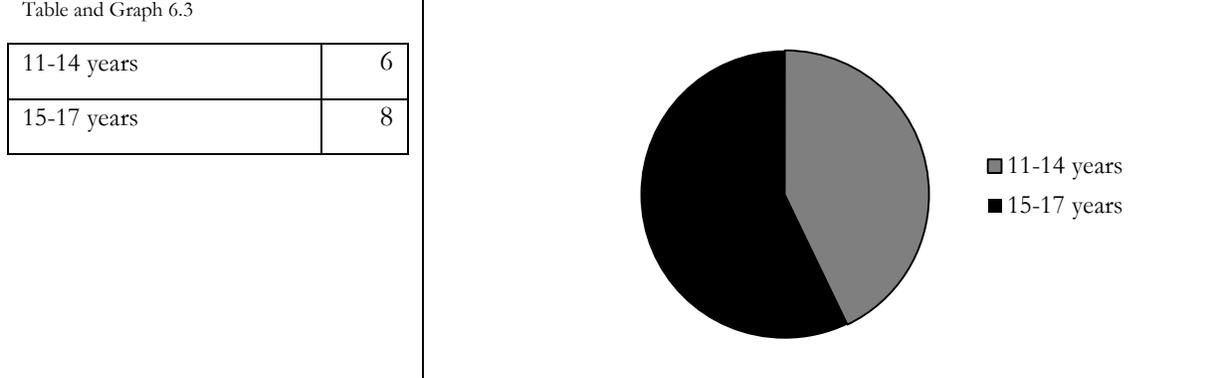
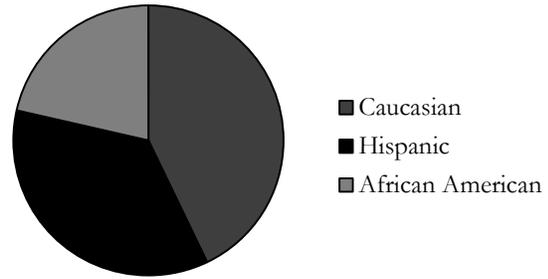


Table 6.3 displays the age distribution for suicides. The only two age groups which died by suicide were 15-17 year olds, followed by 11-14 year olds.

Number and Percent of Suicides by Ethnicity

Table and Graph 6.4

Caucasian	6	43%
Hispanic	5	36%
African American	3	21%



Ethnic Distribution of Ave. Yearly Population & Percent of Children <18 years of age; 2008-2012

African American	26,684	9.7%
Asian/Pacific Islander	35,620	13.0%
Caucasian	102,204	37.3%
Hispanic	90,232	32.9%
Other	19,485	7.1%

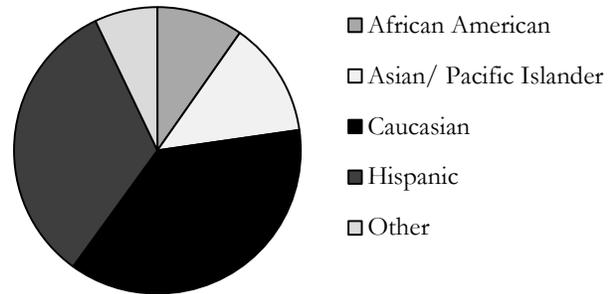


Table 6.4 reports the ethnic distribution for suicides. Only three ethnic groups died by suicide within this data which were Caucasians, followed by Hispanics, and then African Americans.

Preventability

Table and Graph 6.5

Probably	10
Unable to Tell	4
Probably Not	0

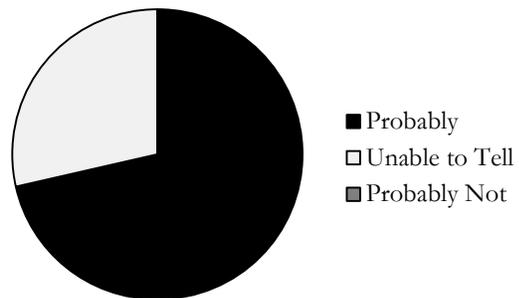


Table 6.5 highlights the preventability of suicides. 71% were deemed “probably preventable” and the remaining 29% were deemed “unable to tell.”

UNDETERMINED CAUSE OF DEATHS

A death is classified as undetermined when after complete autopsy, death scene investigation and review of the medical history, a cause of death cannot be determined. The majority of these were sleep-related deaths where it could not be determined whether the infant succumbed to SIDS or was an accidental overlay asphyxia.

Preventability of undetermined cause of death is difficult to assess except for the SUIDS which are believed to be 80-90% preventable with safe sleep practices. Medical conditions that may be classified as undetermined include fatal cardiac arrhythmias or unobserved seizures that may leave no evidence at autopsy.

Manner of Death

Table and Graph 7.1

SUIDS	14
IFD	3
Other	8

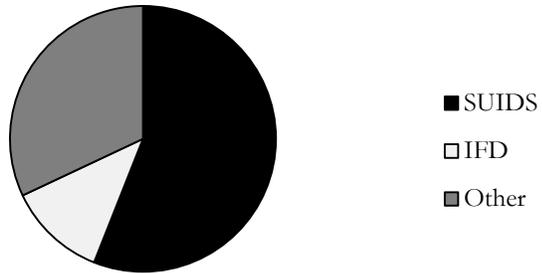


Table 7.1 highlights the manner of death for undetermined deaths. SUIDS (Sudden Unexpected Infant Death Syndrome) was the most dominant manner of death.

Gender Distribution

Table and Graph 7.2

Male	12
Female	13

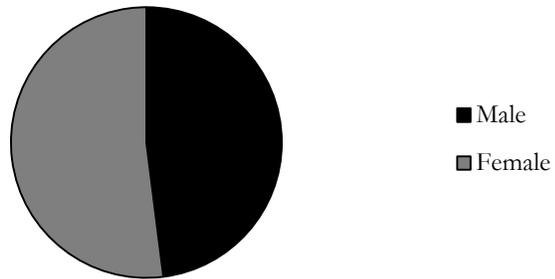


Table 7.2 displays the almost equal male-female ratio.

Age Distribution

Table and Graph 7.3

Fetus	3
<1 year	14
1-4 years	5
5-10 years	0
11-14 years	0
15-17 years	3

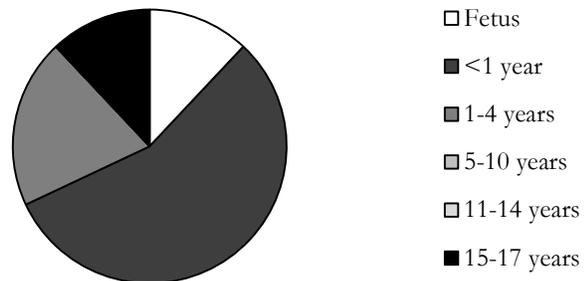
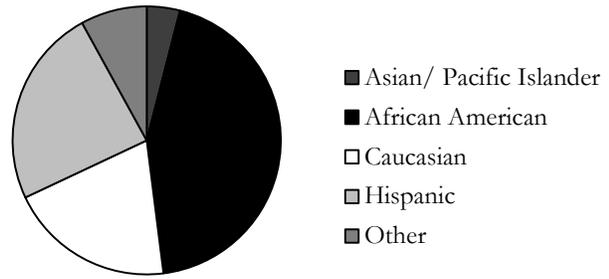


Table 7.3 reports the age distribution of undetermined deaths. Notably, the <1 year group has the highest prevalence within this data set. This can be attributed to the large number of SUIDS deaths noted in Table 7.1

Number and Percent of Undetermined Cause of Death by Ethnicity

Table and Graph 7.4

Asian/Pacific Islander	1	4.0%
African American	11	44%
Caucasian	5	20%
Hispanic	6	24%
Other	2	8.0%



Ethnic Distribution of Ave. Yearly Population & Percent of Children <18 years of age; 2008-2012

African American	26,684	9.7%
Asian/Pacific Islander	35,620	13.0%
Caucasian	102,204	37.3%
Hispanic	90,232	32.9%
Other	19,485	7.1%

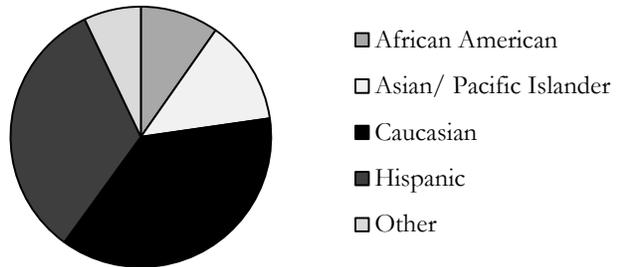


Table 7.4 illustrates the ethnic distribution for undetermined deaths, which states that African Americans are the largest represented group within undetermined deaths. Underneath Table and Graph 7.4 is a demographic breakdown of the county for reference.

Preventability

Table and Graph 7.5

Probably	9
Unable to Tell	16
Probably Not	0

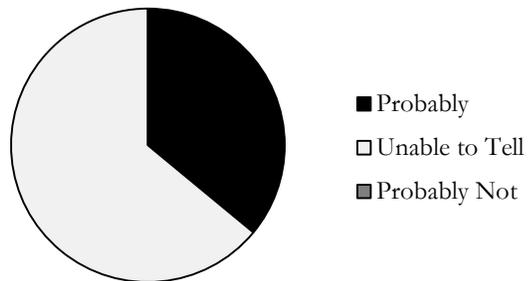


Table 7.5 showcases the preventability of these undetermined deaths. The largest reported preventability, by the CDRT, for these deaths is “Unable to tell.”

PART III

Selected Topics in Child Death



CHILD ABUSE AND NEGLECT-RELATED DEATHS

The original impetus and legislation to establish CDRTs was to not miss any child deaths related to child abuse and neglect. Our 5 year review identified 3 or 4 fatalities from child physical abuse and 16 deaths from child neglect.

The first was classified as a homicide and occurred in 2008. The manner of death was attributed to malnutrition and blunt/thermal injuries. The decedent was a 17 year old female who had been the recipient of years of abuse, resembling torture. She had a previous CFS record in San Francisco County, but not in Contra Costa. She had been placed in the guardianship of an aunt and had stopped attending school.

The second case was classified as an undetermined death and occurred in 2010. The manner of death was hypoxic ischemic encephalopathy. The decedent was a 1 year and 4 months old female. She had sustained brain injuries due to physical abuse at a young age by her mother.

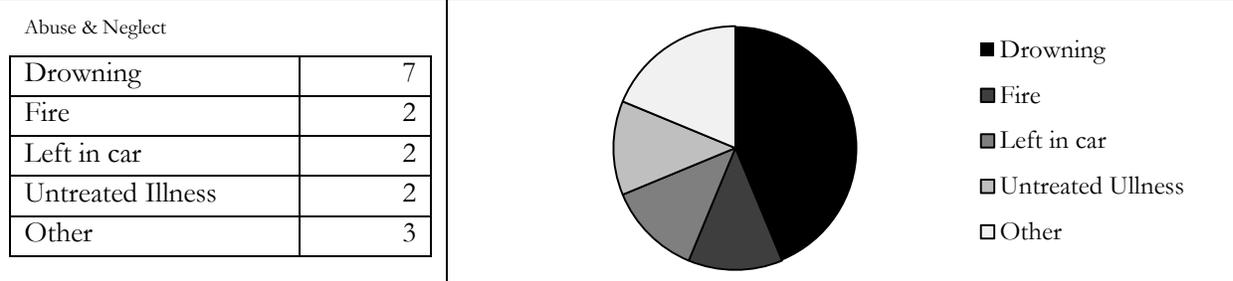
Concord, CA USA The third case was also classified as a homicide and occurred in 2011. The decedent was an 8 year old boy. His manner of death was shaken baby syndrome with multiple contusions. He had sustained irreparable brain damage at 3 months old at the hands of his parents and had been placed into a foster care home.

There was a fourth case classified as a natural death, which did not rule abuse as part of the death in its autopsy. However, the CDRT believed there to be evidence of physical abuse that caused a pre-disposition to the bleeding disorder which caused the death. The decedent was 3 months 18 days old and a female.

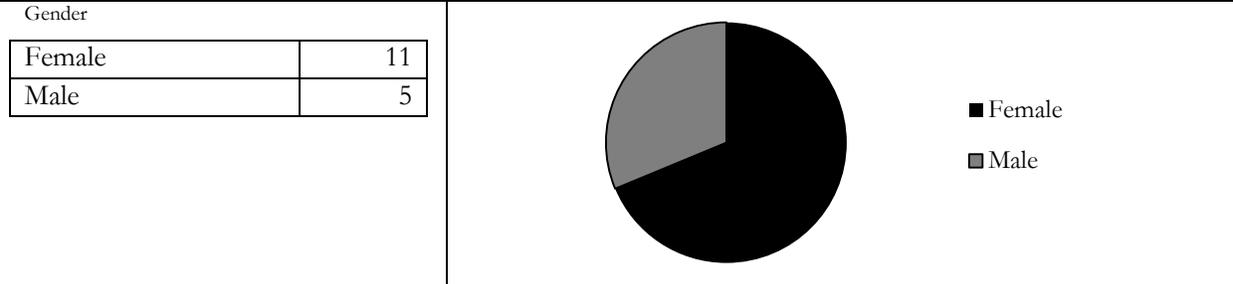
The child fatalities attributed to child neglect included 7 drownings, 2 fires, 2 children left in cars, 2 untreated illnesses and 3 other cases. Simple active supervision would have prevented the deaths from drowning, fire, and heatstroke. Providing medical treatment would have prevented the two deaths from illness. Negligent deaths were primarily female, Hispanic and African American and were considered probably preventable.

The data following on the next page on displays the neglect cases in individuals under the age of eighteen within Contra Costa County from 2008-2012.

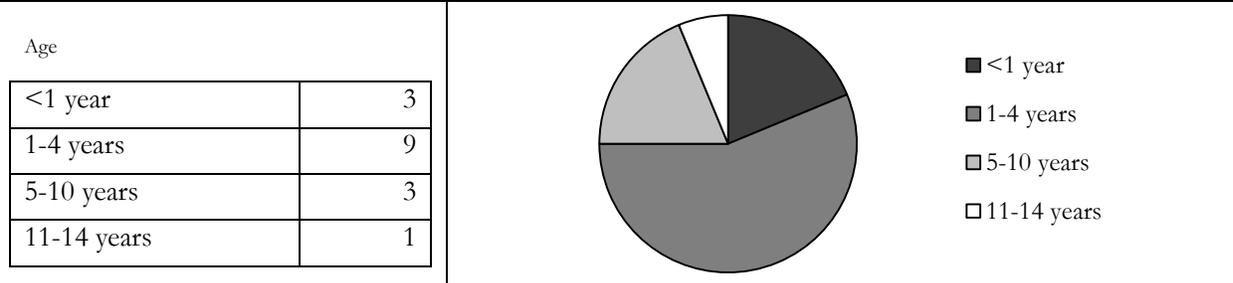
Manner of Death for Child Abuse and Neglect-Related Deaths



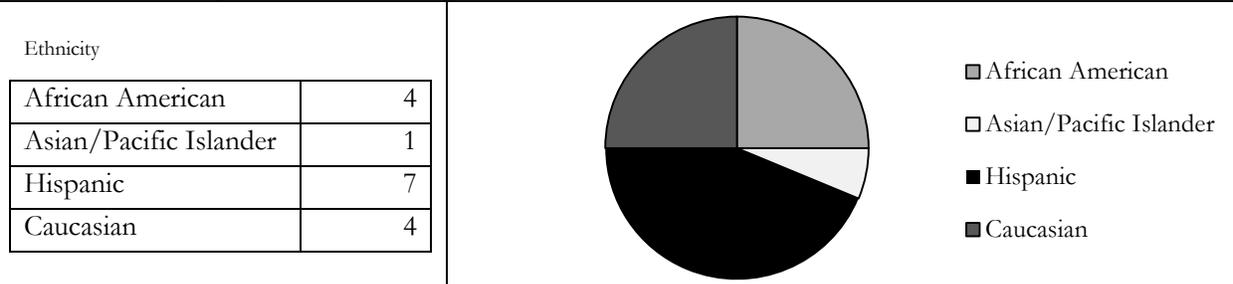
Gender Distribution of Child Abuse and Neglect-Related Deaths



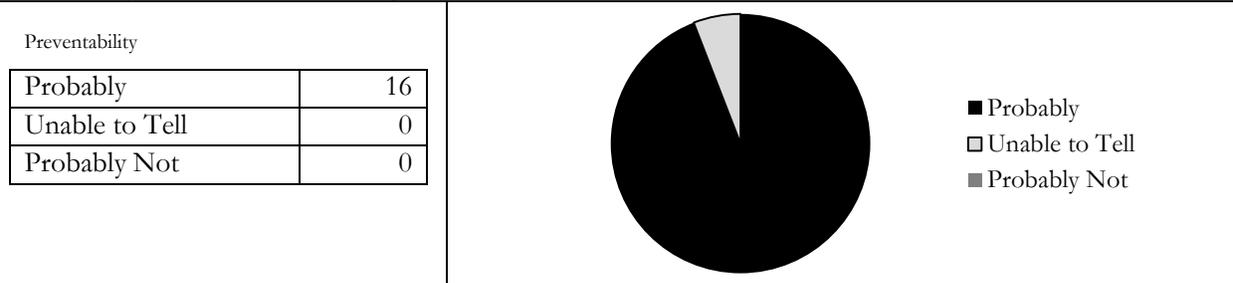
Age Distribution of Child Abuse and Neglect-Related Deaths



Ethnic Distribution of Child Abuse and Neglect-Related Deaths



Preventability for Child Abuse and Neglect-Related Deaths



INTERVENTIONS FOR CHILD ABUSE DEATHS

In regards to prevention determinations and intervention models, the CDRT follows the teachings and practices of CAPC.

CAPC believes that Child Abuse is 100% preventable, therefore, the many programs that they run not only work to prevent child abuse before it happens but also address abuse as it occurs within the community.

CAPC Mission: To promote the safety of children and prevent child abuse and neglect in Contra Costa County by raising community awareness, influencing public policy, educating our community and providing resources.

The programs that CAPC offers are:

1. ***Baby bag/New parent kit:*** The baby bag/new parent kit is a collection of materials given to parents when they are leaving the clinic or hospital at which their child was born. The materials inside offer support and education surrounding parenting and can be in either English or Spanish. Two of the resources offered within are developmental growth charts and child safety information. The primary goal is to explain normal child-behavior to parents so that they do not have inappropriate expectations of their child that result in parental anger or frustration and possibly abuse. Secondly, to educate the parents on how truly fragile their new child is and how easily it can be to cause them harm. These kits work to fight any chances of possibly shaken baby syndrome from occurring.
2. ***Mandated reporting training:*** Mandated reporting training, which trains individuals who directly work with children on how to identify and report cases of abuse. The training can take either 60 or 90 minutes and are offered free by CAPC. By teaching individuals to report abuses, it stops abuse from occurring for both that individual and any others that may have followed.
3. ***Nurturing Parenting Program (center based and home based):*** Nurturing parenting program are both programs that address cases of abuse before CFS involvement. Individuals can to seek help to stop the cycle of abuse before they are entered into the system. Parents can either be referred to this program or voluntarily enter themselves. There is both a center-based and home-based program available. The center-based program is a 22 week long program and its goals are as follows:
 - Preventing recidivism in families receiving social services
 - Connecting families to community resources
 - Reducing the rate of juvenile delinquency and substance abuse
 - Stopping the intergenerational cycle of child maltreatment by teaching positive parenting behaviors

“Classes highlight replacing abusive behaviors with nurturing intentional habits, promoting healthy physical and emotional development, while teaching appropriate role and developmental expectations. Each week parents and children are provided with dinner and classroom activities entail role plays, videos, worksheets, parent handbooks, and assessment inventories. In addition, parents and children learn how to play games, sing songs and have fun as a family”

The home based program is an evidence based home visitation program that works with families who have children 12 years of age and younger. This program specifically works to assist families that do not qualify for county-based visitation services. This course is only 15 weeks long and its curriculum delivers these measurable outcomes:

- Developing empathy, parent-child bonding and attachment
- Teaching parents appropriate expectations regarding a child's growth and development to foster positive brain development and feelings of self-worth, as well as trust and security
- Administering discipline while promoting dignity for both the adult and child
- Empowering adult and child, so far as how to nurture themselves and each other
- Promoting positive self-worth
- Helping all family members in developing a meaningful level of self-awareness and acceptance

Home based-services are offered to families in both East and Central Contra Costa County and can be in either English or Spanish.

4. ***Speak up be Safe:*** Speak up be safe is a program that works with children so that they can understand and recognize abuse. It has been specially designed to be comprehensive and developmentally appropriate. It is implemented with 1st-6th graders and deals with the topics of: child abuse, cyber bullying, bullying, sexual harassment, and technology safety. Each classroom has two safety lessons, followed by activities administered by teachers to enforce the initially presented content. Additional take-home materials are distributed to students to share with their caregivers and encourage conversation. The main purpose is to empower young children, in particular if they are victims of abuse to speak up.
5. ***Surviving Parenthood Guide:*** Surviving parenthood is a comprehensive resource guide given to parents. The pamphlet lists services and resources within Contra Costa County that are available to parents and includes factors to help reduce neglect and abuse. CAPC is currently distributing in 13th edition both in English and Spanish for no charge.

INTERVENTIONS FOR NEGLIGENT DEATHS

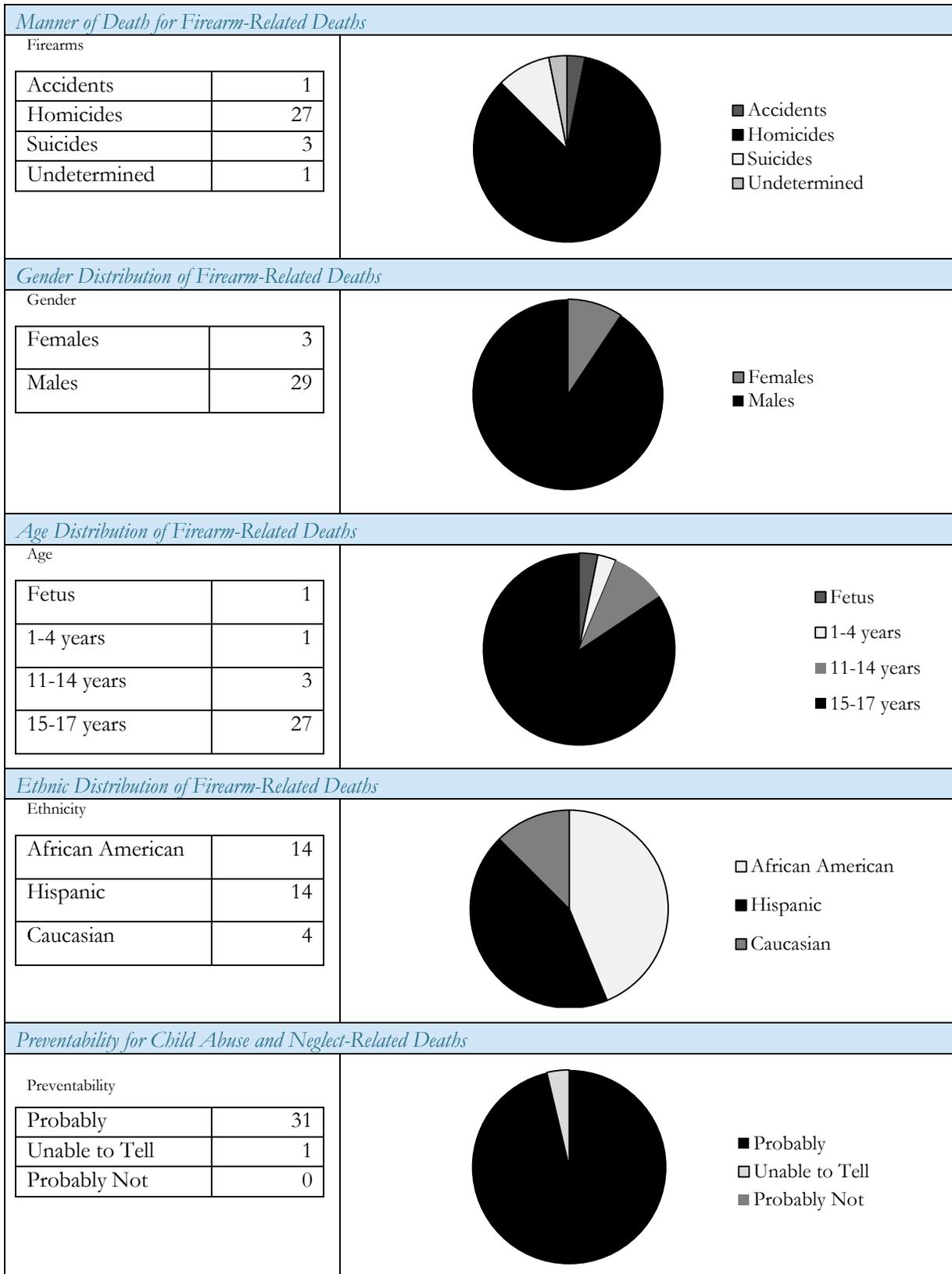
Additional interventions for negligent-related deaths include:

1. **Active Supervision**
2. **Functioning smoke detectors**
3. **Fire escape plans, extinguishers**
4. **Pool barriers, alarms, gates**
5. **Swim lessons, water safety classes**
6. **Use of personal flotation devices**
7. **Access to healthcare**
8. **Home visitation**
9. **Parenting classes**

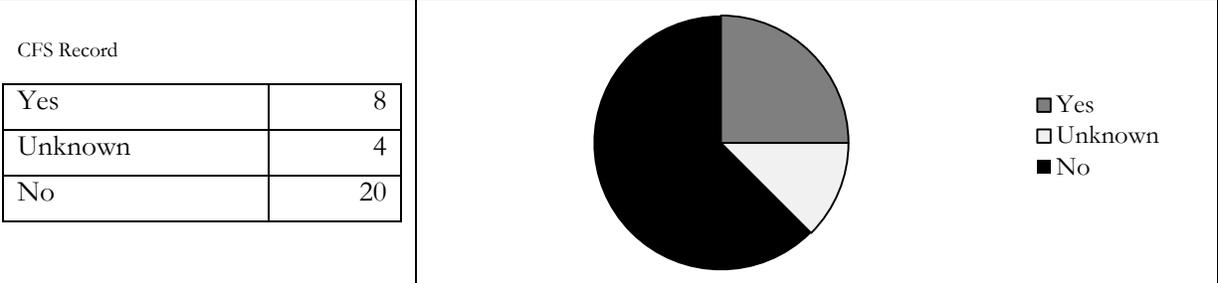
FIREARM-RELATED DEATHS

Firearm related deaths are found within many death classifications including: homicide, suicide, accidental, and undetermined. Within the data set there was 1 accidental, 1 undetermined, 3 suicides, and 27 homicide deaths due to firearms. Of the 27 homicide deaths, two were committed by family members and four were committed during a criminal act. Of the total 31 deaths, only three were females. The large majority of the individuals were between the ages of 15-17 years old, with only 2 deaths occurring within the 1-4 age groups, and 3 deaths occurring in the 11-14 age groups. There was an equal number of both African Americans and Hispanic as the predominant ethnic group of those deceased, while a small subset was Caucasian. Only 25% of the individuals held records with CFS, yet 53% either personally held probation records or had at least one parent with a probation record.

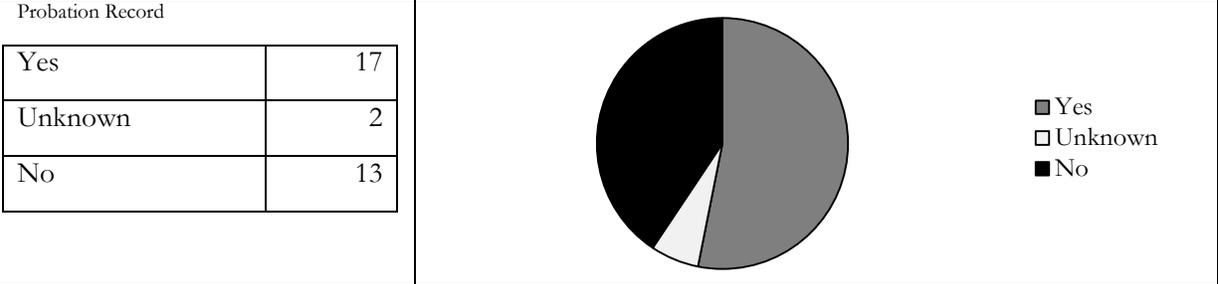
During the case investigations, abuse was found in 22% of the deaths. However, it is important to note that many instances of abuse were either not documented or were not within the parameters of the criminal investigation and therefore, were not accounted for. Approximately 1/3 of the decedents displayed a positive toxicology screen for illicit drugs. Only three of the cases displayed elevated BAC levels. Lastly, 4 of the cases represented individuals living in foster care at the time of their death. All of the deaths were considered preventable by the CDRT, except for one. That shooting occurred during the commission of another crime and the circumstances of that crime prevented the CDRT from coming to a clear conclusion. Therefore, that single case was deemed “Unable to Tell.”



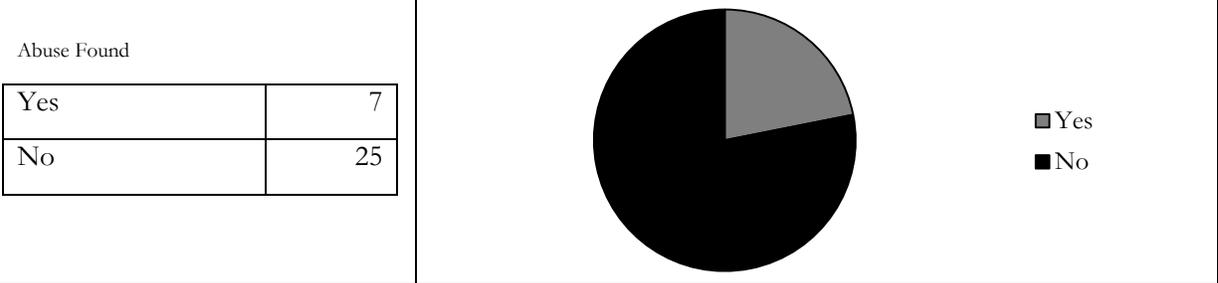
CFS Involvement History in Firearm-Related Deaths



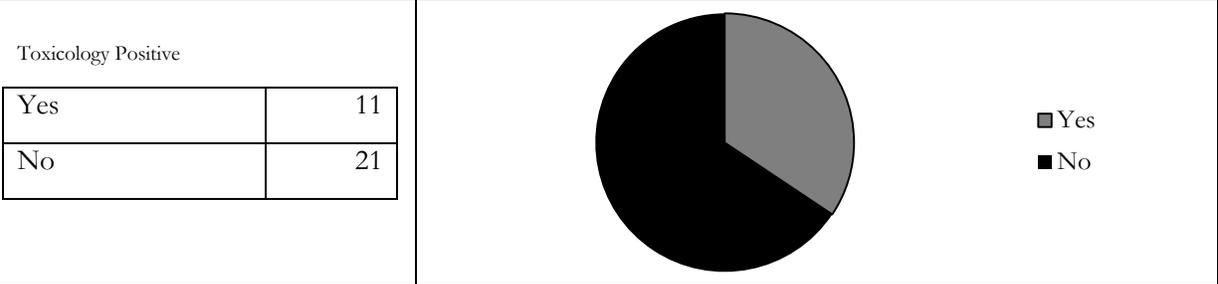
Probation History in Firearm-Related Deaths



Child Abuse History in Firearm-Related Deaths



Toxicology History in Firearm-Related Deaths



INTERVENTIONS FOR FIREARM-RELATED DEATHS

The prevention of firearm-related deaths begins with two main components; effective storage and control of the family firearm. According to the American Academy of Pediatrics:

“Gun avoidance programs are designed to educate children as a way of reducing firearm injury; however, several evaluation studies have demonstrated that such programs do not prevent risk behaviors and may even increase gun handling among children. In contrast results of a large national randomized controlled trial demonstrated that brief physical counseling directed at parents, combined with distribution of gunlocks, may be effective in promoting safer storage of guns in homes with children. A recent randomized controlled trial found that a safe storage campaign with gun safe distribution was both feasible and effective at limiting household exposure to unlocked and loaded guns.”²

Children gain access to the firearm in the family home due to its accessibility. If it is properly stored in a locked area, without ammunition, unloaded, safety mechanisms, and trigger locks prevent the likelihood of that child being able to access it and use it is severely diminished. It has been proven that keeping a gun locked or unloaded has protective effects of 73% and 70% with regard to risk of both suicide and unintentional injury (as cited in Dowd & Sege et al, 2012).³ In regards to reducing homicides involving firearms, a combination of safe storage practices and the implementation of community programs that reduce violence within at-risk urban youth can reduce fatalities.

One program that has had success is *Fly or Fresh Lifelines for Youth* (See appendix). It is important to note that Fly is not an available program within Contra Costa County, but in looking at its intervention model and strength we can assist in its growth to our county or implement similar models within our own county-wide programs. The detailed intervention model which *fly* utilizes is detailed within the appendix. The program targets youth that are incarcerated or at high risk of incarceration and offers a combination of legal educations, leadership positions, and mentorship opportunities. In an article by Law Center to Prevent Gun Violence it was reported that, “The unsafe storage of firearms is a public health and safety issue in the US [...] 73% of children under age 10 living in homes with guns reported knowing the location of their parents’ firearms.”⁴

Community programs that have been associated with reduction of firearm death and violence in general include:

- 1. Buyback programs**
- 2. Trigger lock give aways**
- 3. School drop-out prevention programs**
- 4. After-school programs**
- 5. Alternative education**
- 6. Bullying prevention**
- 7. Teen recreation programs**
- 8. Mentor programs**

² Dowd, M. Denis MD, MPH, Sege, Robert D. MD, PhD, and Council on Injury, Violence, and Poison Prevention Executive Committee. (2012). Firearm-Related Injuries Affecting the Pediatric Population. *Pediatrics* 130 (2012): e1416. Web.

³ Grossman DC, Mueller BA, Riedy C, et al. Gun storage practices and risk of youth suicide and unintentional firearm injuries. *JAMA* 2005;293(6):707-714. Web.

⁴ Frances Baxley & Matthew Miller, parental Misperceptions about children and Firearms, 160 *archives of Pediatric & Adolescent Med.* 542, 544 (2006). Web.

Health organizations including the APHA, AMA, AAP, AAFP, ACP, and CDC have viewed firearm injuries and death as a public health matter and have encouraged increased research. Presently there are dramatic limitations on research in this area at the national level because of congressional reluctance to counter the gun lobby. In Florida, a law has passed to outlaw a pediatrician from even asking about gun ownership in a home where children reside. There are 9 other states that have introduced similar legislation limiting physician's ability to query and/or counsel regarding gun ownership and safe storage. This is in spite of research showing that "a gun stored in the house is associated with a threefold increase in the risk of homicide and a fivefold increase in the risk of suicide" (as cited in Dowd & Sege et al, 2012).⁵⁶⁷ There are no restrictions on physician counselling regarding other child safety concerns such as bike helmets, care seats, poisoning prevention, etc. That this law violates the physicians' First Amendment rights and threatens their ability to provide optimal care and help prevent injury demonstrates how ingrained firearms are in the U.S. Mandatory waiting periods, restoration of the assault weapon ban, closure of the gun show loop hole, and mental health restrictions for gun purchases are legal modalities that seem obvious to many but are unlikely to occur in most states or localities let alone nationally.

The firearm is one of few consumer products not subject to regulation by the Consumer Product Safety Commission although it is the most deadly and dangerous consumer product. Technology exists to make firearms both safer and usable by a single user but there is presently little consumer demand for these attributes that could limit injury, death and crime.

Ultimately, firearm-related deaths and injuries are preventable but significant changes in our culture, priorities and legislations will be required before these deaths can be prevented.

⁵ Kellermann AL, Rivara FP, Rushforth NB, et al. Gun ownership as a risk factor for homicide in the home. *N Engl J Med.* 1993;329(15):1084-1091

⁶ Kellermann AL, Rivara FP, Somes G, et al. Suicide in the home in relation to gun ownership. *N Engl J Med.* 1992;327(7):467-472

⁷ Bailey JE, Kellermann AL, Somes G, Banton JG, Rivara FP, Rushforth NB, et al. Risk factors for violent death of women in the home. *Arch Intern Med.* 1997;157(7):777-782

HEALTHCARE ACCESS-RELATED DEATHS

These deaths included three manners of death: intrauterine fetal demise (IFD), natural deaths, and suicides.

Of the 9 IFD, one occurred following a motor vehicle crash, 5 were deemed natural and 3 were undetermined. African Americans and Hispanics were overrepresented in this sampling. There was not enough information from this review to determine the contribution of healthcare access to these deaths. Preventability similarly was not able to be determined in spite of clear evidence in other studies of the health benefits of prenatal care.

The natural deaths included SIDS, asthma, cardiac, seizures, and other illness. Access to healthcare was not a factor in most of these deaths. Asthma deaths occurred in children with known asthma being treated but primarily with caretakers not realizing the severity of the attack until it was too late and the child was less responsive to medical intervention.

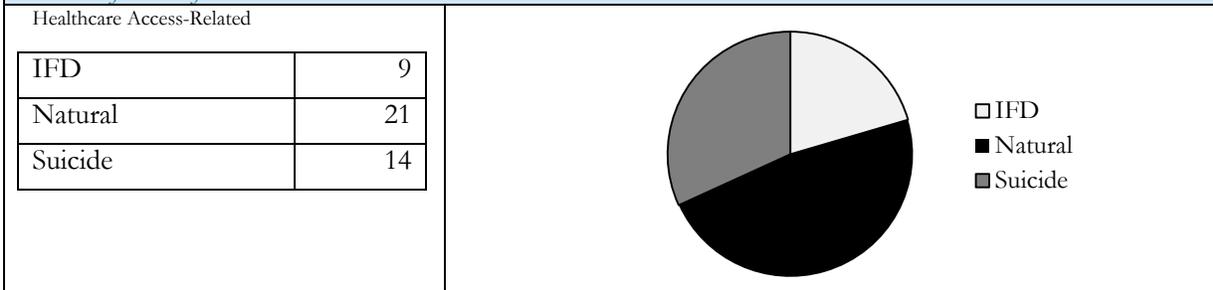
Cardiac conditions were previously unknown cardiomyopathy or myocarditis without significant symptoms preceding the often sudden demise.

Seizures were usually not observed but suspected because of the child's prior history.

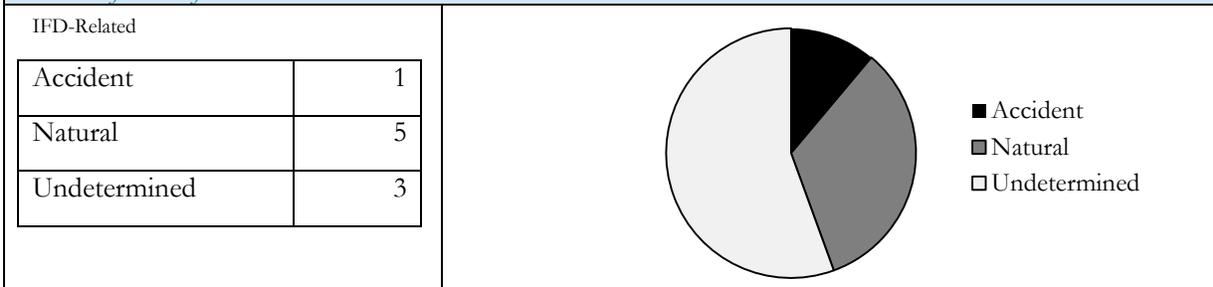
Suicides as discussed in another section occurred primarily in adolescents without prior diagnosed depression and hence were not under medical care. Although lack of timely and covered mental healthcare is a concern in the U.S, most suicides are impulsive acts in adolescents who normally have fluctuating moods. The recognition of the stressed or troubled adolescent falls on teachers, peers, and parents.

The following graphs include an overview of the manners of death in cases where access to healthcare may have contributed to the death. The Intrauterine Fetal Demises are reviewed in more detail. Two IFDs were not included in this part since access to health care could not prevent the death (MVC and Homicide).

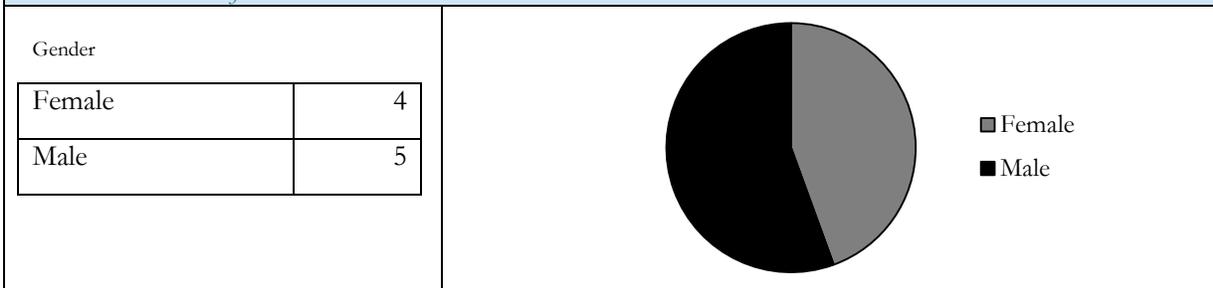
Manner of Death for All Healthcare Access-Related Deaths



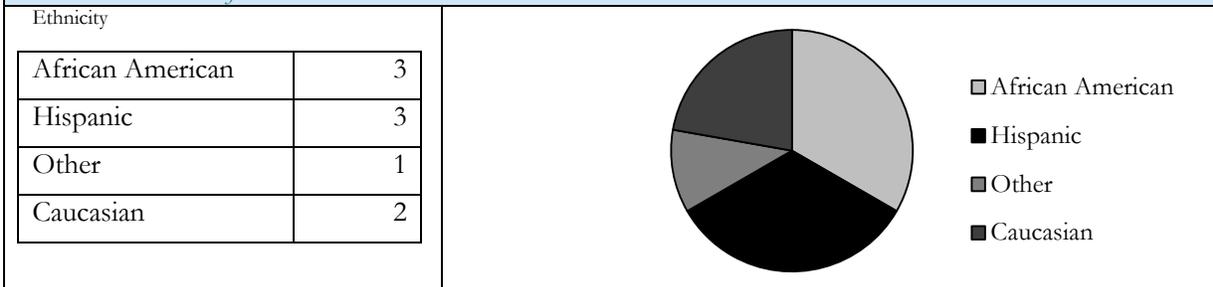
Manner of Death for Intrauterine Fetal Demise-Related Deaths



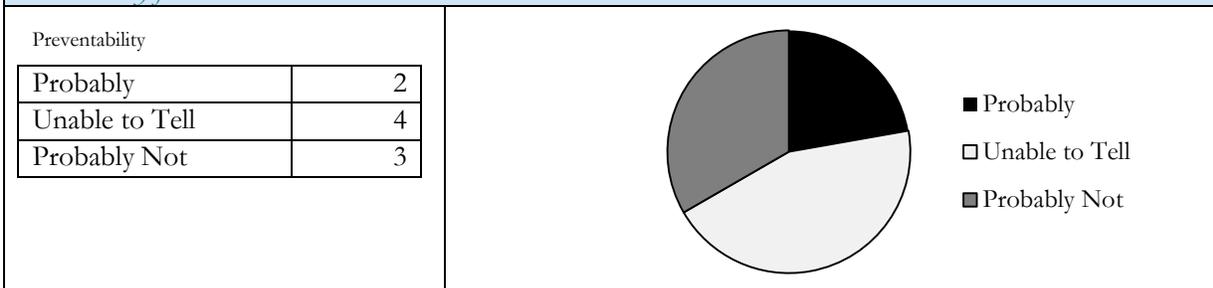
Gender Distribution of Intrauterine Fetal Demise-Related Deaths



Ethnic Distribution of Intrauterine Fetal Demise-Related Deaths



Preventability for Intrauterine Fetal Demise-Related Deaths



INTERVENTIONS FOR HEALTHCARE ACCESS-RELATED DEATHS

Recommendations regarding healthcare access-related deaths include:

1. **Universal health coverage** including prenatal care and mental healthcare
2. **CPR training** and Automatic Electronic Defibrillators in middle and high schools
3. **Safe sleeping** practices
4. **Suicide awareness** and bullying prevention presentations in middle and high schools (see appendix)

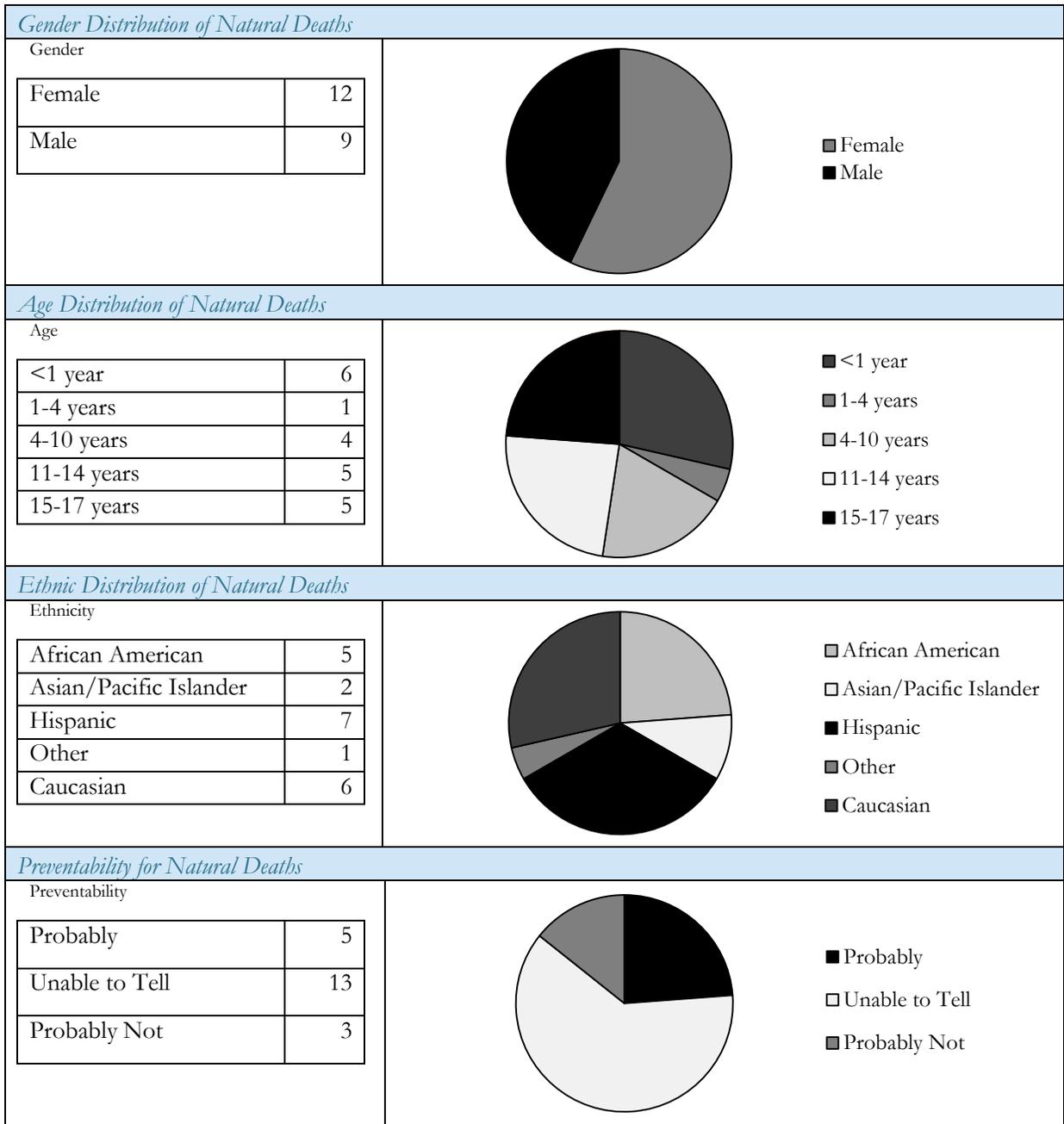
NATURAL CAUSE OF DEATHS

These deaths include medical diagnosis-related deaths. The identified disorders included seizures, cardiac conditions, asthma and infections. Not included, though classified as natural deaths, were SIDS and intrauterine fetal demises. The SIDS cases are discussed in sleep-related deaths. Also not included are the natural deaths of children with known medical conditions such as cancer and extreme prematurity.

The cardiac deaths were found in children without prior symptoms or suspected heart disease. Because of this, it has been suggested to screen teens with EKG or echocardiogram prior to sports participation.

Asthma deaths occurred in children with known asthma and medication but failure of recognition by caretakers that the asthma was severe and less responsive to medication.

The total number of deaths of children 2008-2012 was 496 with most of these deaths from medical conditions that were evident without autopsy or referral to the coroner's office. Of these deaths, 289 or 58% were neonates (198) and infants (91). Neonates are especially at risk due to congenital conditions, prematurity, birth complications and vulnerability to infection and asphyxia.



INTERVENTIONS FOR NATURAL CAUSE OF DEATH

For IFDs the proposed prevention plan is adequate prenatal care. The available programs through Contra Costa Health Services are: Black Infant Health, Healthy Families America, and Comprehensive Perinatal Services Program Information for Clients, Prenatal Care Guidance, and Lift Every Voice. These programs are available for low-income Medi-Cal eligible women across the county. Some programs have specific requirements, but each one works towards ensuring that all women have the resources for adequate prenatal care. Early recognition of high-risk pregnancy of any cause, increases likelihood of improved pregnancy outcome. That 40% of all child deaths (198 of 496) over the study period occurred in the first month of life, highlights the value of comprehensive preconception, prenatal, and perinatal care.

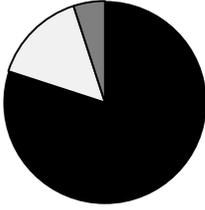
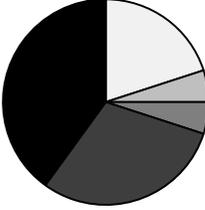
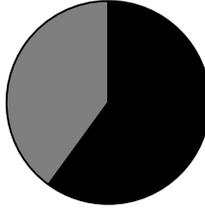
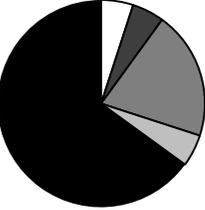
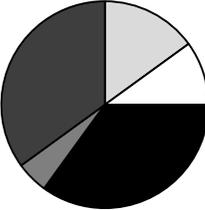
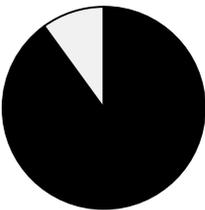
Healthcare interventions are primarily preventative and ongoing medical care. All children participating in sports teams should have an annual pre-participation physical exam routine check-up with their physician in addition to consideration of EKG or echocardiogram. This procedure will detect an enlarged heart or irregular heartbeat that could be fatal. Any individual with known seizure disorder should remain on anti-seizure medication or have it readily available. Any individual with allergies or asthma should have their epi-pen or inhaler accessible at all times. Parents should have their children vaccinated against disease and get an annual flu shot. Lastly, any child with persistent or worsening symptoms should access healthcare.

Access to healthcare that is comprehensive and prevention-based is the backbone to prevent most natural causes of death. Healthcare education for all of us ought to take place in the schools. Universal healthcare access should be available with a concentration on prevention, disease recognition, and management.

MOTOR VEHICLE-RELATED DEATHS

The best means of preventing MVA/MVC is for the promotion of safe driving practices, with a specific emphasis on teenage drivers. “Motor vehicle crashes are the leading cause of death for US teens. Seven teens ages 16 to 19 die every day from motor vehicle injuries. Per mile driven, teen drivers ages 17 to 19 are nearly three times more likely than drivers aged 20 and older to be in a fatal crash.” (“Teen Drivers,” 2014). We recommend sober driving enforcement by increased campaigns and harsher legal punishment. Modern attention grabbing campaigns utilizing social media can be implemented to enforce sober driving. Reckless driving should be monitored more closely and followed by harsher punishment for DUI, speeding, DWI, and not wearing seatbelts. The importance of seatbelts is monumental “Of the teens (aged 13-19) who died in passenger vehicle crashes in 2012 approximately 55% were not wearing a seat-belt at the time of the crash. Research shows that seat belts reduce serious crash-related injuries and deaths by about half” (“Teen Drivers,” 2014).

To prevent careless teenage driving, we recommend more thorough driver’s education and more difficult means of obtaining a license that includes additional behind-the wheel training. Making it harder to obtain a license, teenagers will be better versed in safety measures and have had more experience behind the wheel. Teenagers not interested in putting the time and energy towards being serious drivers will be deterred and better drivers of all ages will be left on the road. In addition, the implementation of a graduated license program, which places restrictions upon new driver license holders. With driving experience, the restrictions are increasingly lifted. Research has shown these programs to be effective “graduated drivers licensing (GDL) programs are associated with reductions of 38% and 40% in fatal and injury crashes, respectively, among 16-year-old drivers” (“Teen Drivers,” 2014).

<i>MVA/MVC-Related Deaths</i>		
MVC Related Deaths		 <ul style="list-style-type: none"> ■ Accidents □ Suicides ■ Undetermined
Accidents	16	
Suicides	3	
Undetermined	1	
<i>Manner of MVA/MVC -Related Deaths</i>		
Manner of Death		 <ul style="list-style-type: none"> □ Bicycle □ Dirt Bike ■ Pedestrian ■ Train ■ Vehicular
Bicycle	4	
Dirt Bike	1	
Pedestrian	1	
Train	6	
Vehicular	8	
<i>Gender Distribution of MVA/MVC -Related Deaths</i>		
Gender		 <ul style="list-style-type: none"> ■ Male ■ Female
Male	12	
Female	8	
<i>Age of MVA/MVC -Related Deaths</i>		
Age		 <ul style="list-style-type: none"> □ Fetus ■ <1 year ■ 5-10 years □ 11-14 years ■ 15-17 years
Fetus	1	
<1 year	1	
5-10 years	4	
11-14 years	1	
15-17 years	13	
<i>Ethnic Distribution of MVA/MVC -Related Deaths</i>		
Ethnicity		 <ul style="list-style-type: none"> □ African American □ Asian/Pacific Islander ■ Hispanic ■ Other ■ White
African American	3	
Asian/Pacific	2	
Hispanic	7	
Other	1	
Caucasian	7	
<i>Preventability for MVA/MVC-Related Deaths</i>		
Preventability		 <ul style="list-style-type: none"> ■ Probably □ Unable to tell ■ Probably Not
Probably	18	
Unable to tell	2	
Probably Not	0	

INTERVENTIONS FOR MVA/MVC-RELATED DEATHS

Virtually every MVC death was accompanied by unsafe driving usually by a teen. Adolescent risk-taking behaviors often accompany the fatal collision. Interventions to prevent these deaths include:

1. Continuation of the graduated driver's license.
2. Improvements in car safety including restraints, airbags, crumple zones and collision avoidance.
3. Continuation of use of mandatory child safety restraints through age 8 or 80 pounds.
4. Support for programs such as Mothers Against Drunk Driving (MADD) or Students Against Destructive Decisions (SADD) in the schools.
5. Ongoing and increased enforcement of traffic safety regulations.
6. Limiting access to and better safety crossing at railway tracks.
7. Promotion of bicycle safety fairs and enforcement of the safety helmet law.

SLEEP-RELATED DEATHS

About 3,500 infants die suddenly and unexpectedly each year in the United States.⁸ These deaths are called SUID, which stands for “Sudden Unexpected Infant Death.” SUID includes all unexpected deaths: those without a clear cause, such as Sudden Infant Death Syndrome (SIDS), and those from a known cause, such as suffocation, entrapment, ingestion, infection, trauma, metabolic diseases, or cardiac arrhythmias.

“Sleep-related causes of infant death” are those linked to how or where a baby slept. They are due to accidental causes, such as suffocation; entrapment, when the baby gets trapped between two objects, such as a mattress and a wall, and can’t breathe; or strangulation, when something presses on or wraps around baby’s neck, blocking the baby’s airway. These deaths are not categorized as SIDS.

People who investigate SUIDs may report the cause of death in different ways and may not include enough information about the circumstances of the event from the death scene investigation. If there is still some uncertainty as to the cause after it is determined to be fully unexplained, then the medical examiner or coroner might leave the cause of death as “unknown”. Most SUIDs are reported as one of the three types of infant deaths⁹:

1. ***Sudden Infant Death Syndrome (SIDS)***: One type of SUID, SIDS is the sudden, unexpected death of an infant under 1 year of age that cannot be explained after a complete postmortem investigation that includes an autopsy, death scene investigation, and review of the medical history¹⁰. Despite the success of the national Back to Sleep Campaign (1994)¹¹, SIDS remains the leading cause of death for infants one month to one year of age, claiming more than 2,200 lives each year. In addition, one-half of all SUID cases are SIDS.
2. ***Undetermined Cause of Death***: The sudden death of an infant less than 1 year of age that cannot be explained. In some cases, the evidence is not clear or not enough information is available, so the infant death is considered to be of undermined cause¹².
3. ***Accidental Suffocation and Strangulation in bed (ASSB)***: One type of SUID, ASSB is a cause of death code used for vital statistics purposes¹³. The code is used to identify infant deaths caused by suffocation or asphyxia (blockage of the infant’s airway) in a sleeping environment. There are many mechanisms that precede an accidental suffocation, which include:
 - **Suffocation by soft bedding**: When soft bedding, a pillow, or a waterbed mattress blocks the infant’s airway
 - **Overlay**: When another person shares the sleep surface with the infant and lays on or rolls on top of or against the infant while sleeping, blocking the infant’s airway.
 - **Wedging or entrapment**: When an infant is trapped between two objects, such as a mattress and wall, bed frame, or furniture blocking the infant’s airway.
 - **Strangulation**: When something presses on or wraps around the infant’s head and neck blocking the airway.

⁸ Center for Disease Control. *Sudden Unexpected Infant death and Sudden Infant Death Syndrome: about SUID and SIDS*, <http://www.cdc.gov/sids/aboutsuidandsids.htm>. (May 26, 2015)

⁹ <http://www.cdc.gov/sids/aboutsuidandsids.htm>

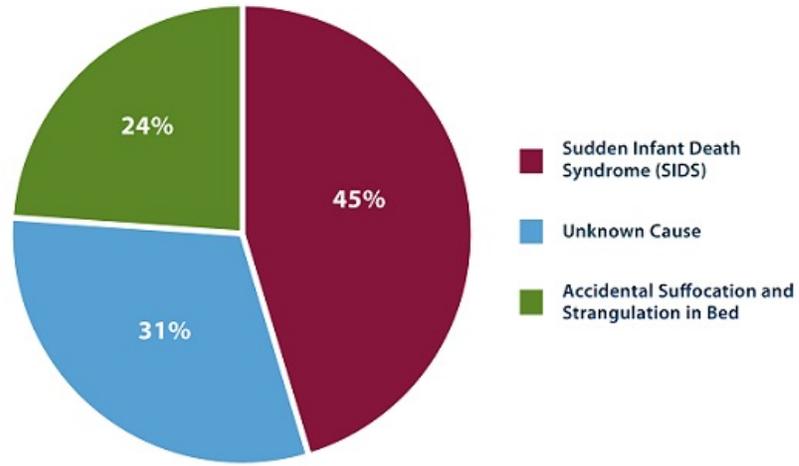
¹⁰ National Institute of Child Health and Human Development. *Safe to Sleep Campaign: Common SIDS and SUID terms and Definition*, <http://www.nichd.nih.gov/sts/about/SIDS/pages/common.aspx>. (2013)

¹¹ <http://www.nichd.nih.gov/sts/campaign/Pages/default.aspx>

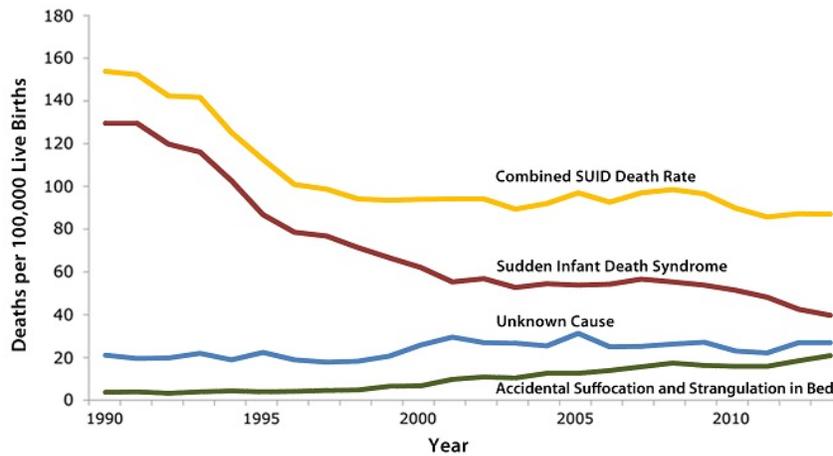
¹² <http://www.cdc.gov/sids/aboutsuidandsids.htm>

¹³ <http://www.nichd.nih.gov/sts/about/SIDS/pages/common.aspx>

Breakdown of Sudden Unexpected Infant Death by Cause, 2013



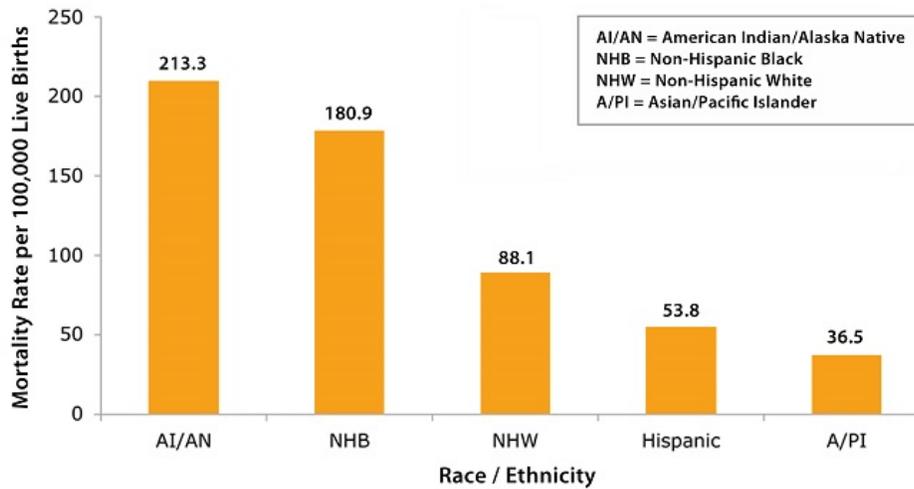
Trends in Sudden Unexpected Infant Death by Cause, 1990-2013



Abbreviation: SUID, sudden unexpected infant death.

SOURCE: CDC/NCHS, National Vital Statistics System, Compressed Mortality File.

Sudden Unexpected Infant Death by Race/Ethnicity, 2008-2012



SOURCE: CDC/NCHS, National Vital Statistics System, Period Linked Birth/Infant Death Data.

This chart shows sudden unexpected infant death (SUID) rates (which include sudden infant death syndrome, unknown cause, and accidental suffocation and strangulation in bed) by race/ethnicity in the United States from 2008 to 2012. SUID death rates per 100,000 live births for American Indian/Alaska Native (213.3) and non-Hispanic black infants (180.9) were more than twice those of non-Hispanic white infants (88.1). SUID death rates per 100,000 live births were lowest among Hispanic infants (53.8) and Asian/Pacific Islander infants (36.5).

Known Risk Factors for SIDS and Other Sleep-Related causes of Infant Death

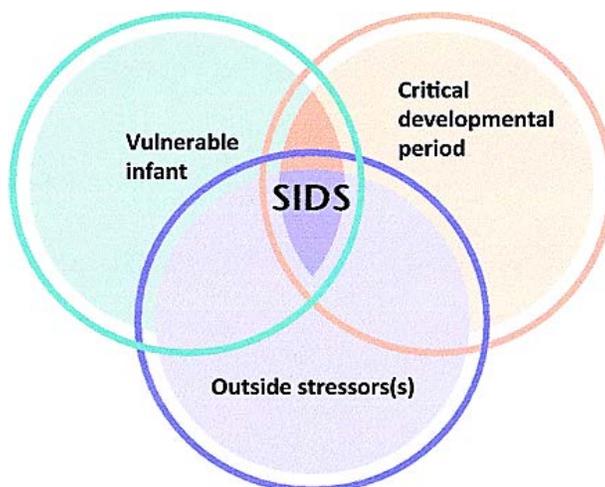
Recent neuropathic studies in SIDS victim’s present evidence suggesting many infants possess underlying vulnerabilities which put them at risk for sudden death¹⁴. Dr. Hannah McKinney conducted years of research studying the brainstems of infants that had died from SIDS, and was able to identify an abnormality within a network of nerve cells located in the part of the brain that controls breathing, heart rate, blood pressure, temperature, and waking from sleep¹⁵.

This concept represents the first part of what we call the “Triple Risk Model,” developed to describe the series of events that takes place when an infant dies of SIDS. The model involves the intersection of three overlapping factors: (1) a vulnerable infant; (2) a critical development period, and (3) exogenous (outside) stressor(s), and proposes that “infants who eventually die of SIDS may appear normal clinically, but their vulnerability lies latent until they enter the critical development period between 1 and 6 postnatal months are subject to an environmental stressor which overwhelms their homeostatic controls.”¹⁶

¹⁴ Filiano, J.J. and Kinney, H.C. A Perspective on Neuropathologic Findings in Victims of the Sudden Infant Death Syndrome: The Triple-Risk Model, *Biol Neonate*, 1994; 65: 194-197.

¹⁵ First Candle. Triple Risk Model for SIDS. http://www.firstcandle.org/cms/wp-content/uploads/2009/12/Triple_Risk_Model.pdf. (2009).

¹⁶ Filiano, 1994



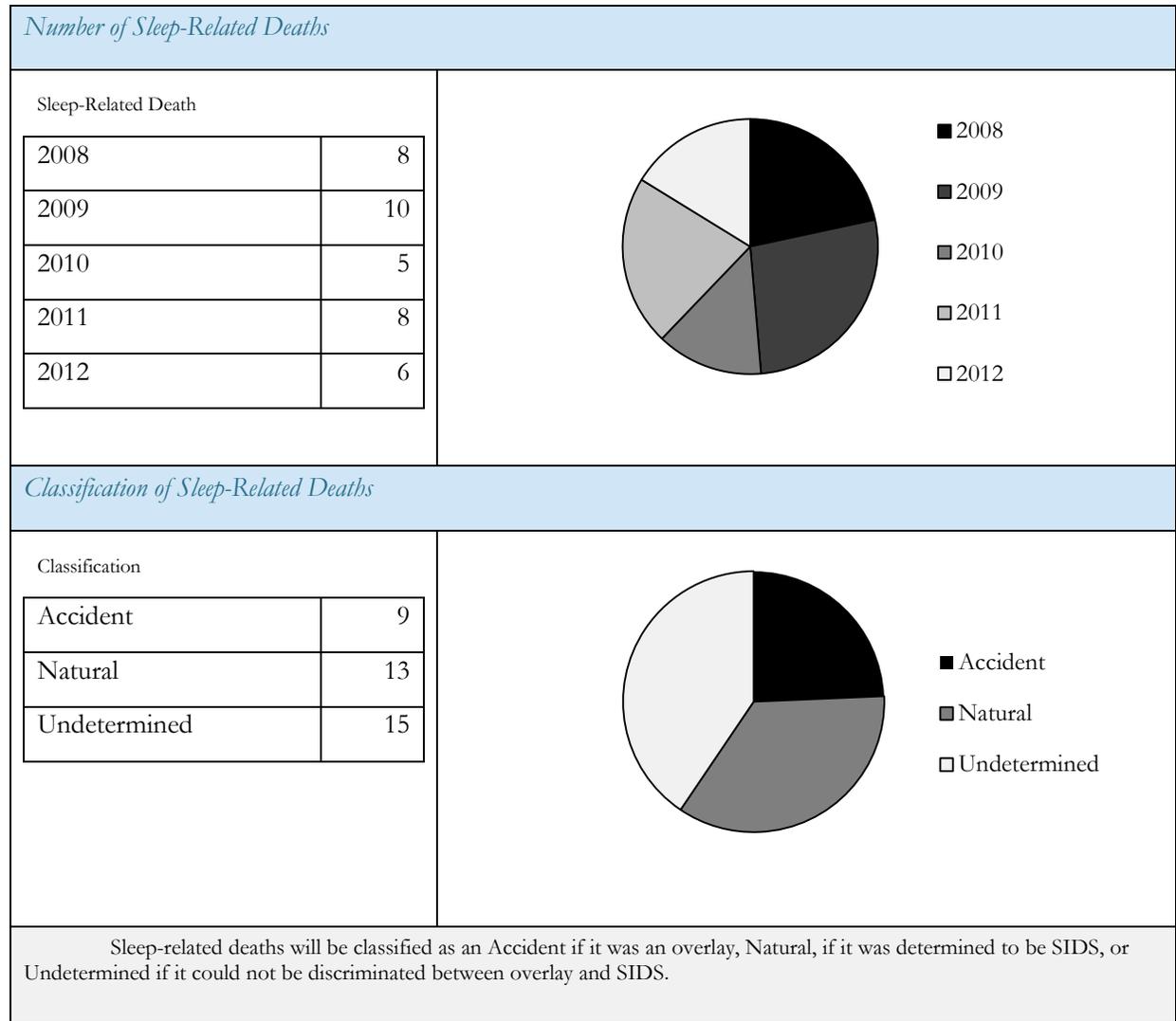
1. **Vulnerable Infant:** Some infants have a genetic predisposition or an underlying abnormality in an area of the brain stem that controls respiration; hear rate temperature, arousal from sleep and other major bodily functions during early life. Infants born premature are at higher risk for upper respiratory infections and other medical conditions which may complicate these matters, while others at the time of death were found to have increased levels of serotonin in their system.
2. **Critical Development Period in Homostatic Control:** Ninety percent of all SIDS deaths occur before 6 months of age, with the peak incidence of SIDS between 2-4 months¹⁷. To an infant predisposed to SIDS this represents an unstable time for virtually all of their physiologic systems.
3. **Outside Stressor(s):** Exogenous/environmental stressors are the focus of risk reduction interventions and include challenges that may trigger a sudden, unexpected death in a vulnerable infant, but generally regarded as non-lethal and common in thousands of healthy infants¹⁸. Environmental challenges include:
 - **Tobacco exposure**
 - **Respiratory infections**
 - **Bed sharing**
 - **Over-heating**
 - **Sleeping on soft surfaces** such as couches, adult mattresses, or chairs under soft coverings
 - **Prone (tummy) sleep positioning** which encourages the rebreathing of carbon dioxide.

The triple risk model may serve as a frame of reference to help explain the timing of SIDS deaths, but does not provide insight to all sudden, unexpected infant deaths. A small number of babies who seem to have no known risk factors may die suddenly and unexpectedly before one month of age and after one year of age; while others with multiple risk factors survive. There is no way to identify which babies are at increased risk as a result of underlying brain abnormalities; therefore SIDS risk reduction messages should focus on removing as many exogenous stressors from the infant's environment during that critical first year of life.

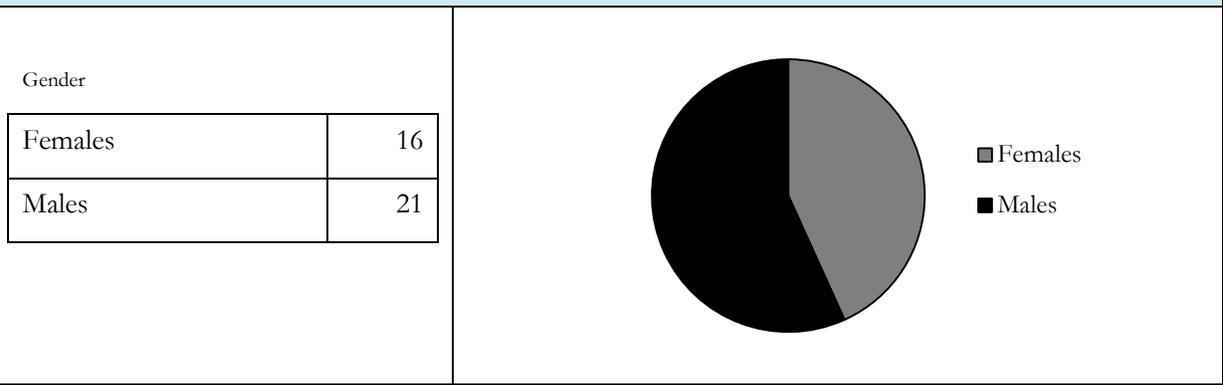
¹⁷ http://www.firstcandle.org/cms/wp-content/uploads/2009/12/Triple_Risk_Model.pdf.

¹⁸ Guntheroth, W.G. and Spiers, PS. *The Triple Risk Hypotheses in Sudden Infant Death Syndrome*, <http://pediatrics.aappublications.org/content/110/5/e64.full>. (2002)

Sleep-Related Deaths: 2008-2012

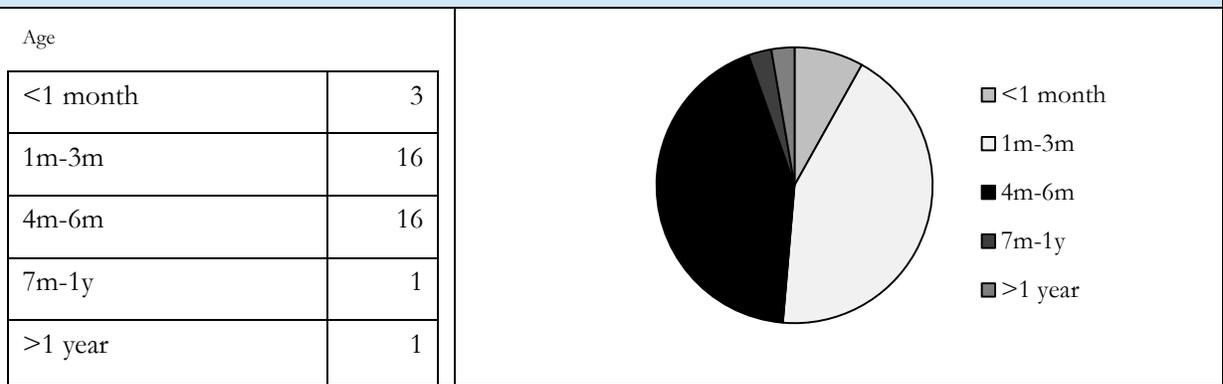


Gender Distribution of Sleep-Related Deaths



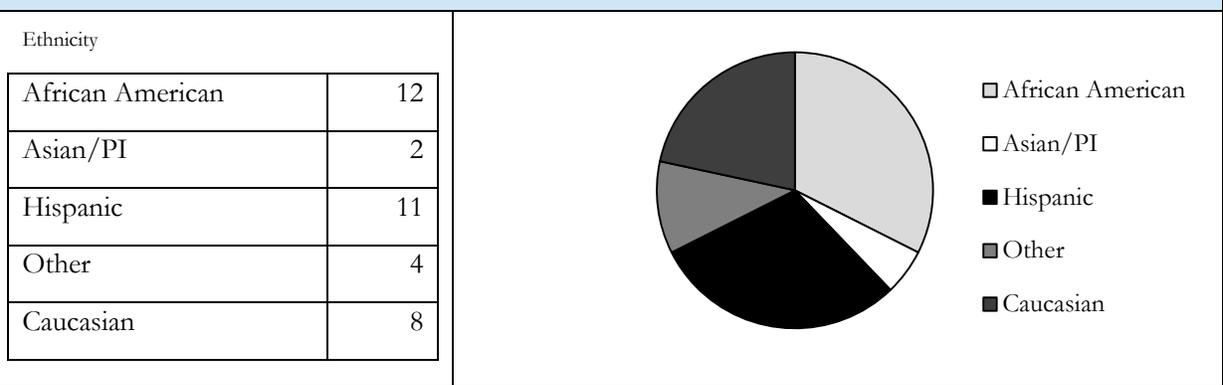
There was a slight preponderance of males over females in sleep-related deaths

Age of Sleep-Related Deaths



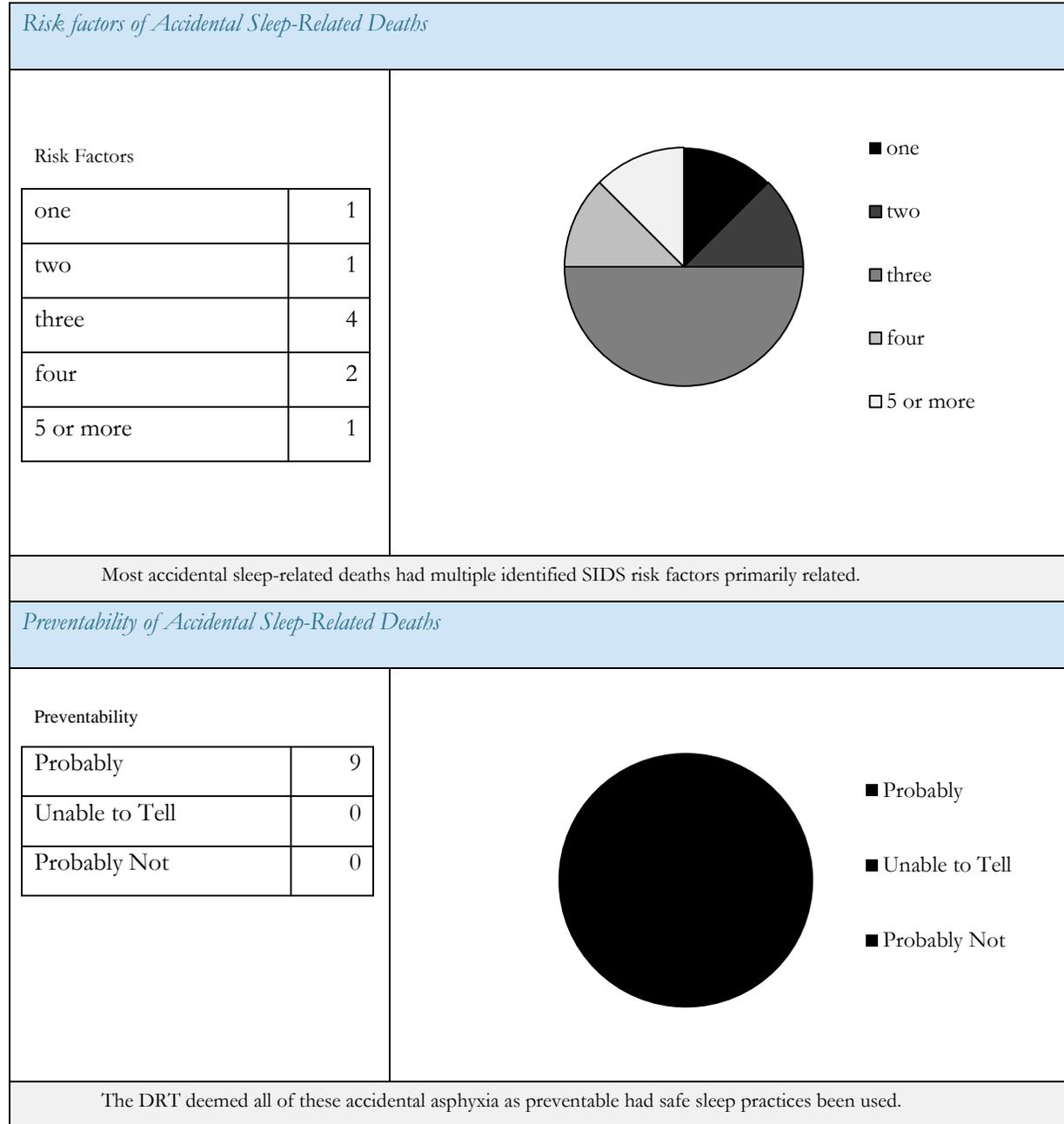
Over 90% of sleep-related deaths occurred in the first 6 months of life consistent with national prevalence studies.

Ethnic Distribution of Sleep-Related Deaths

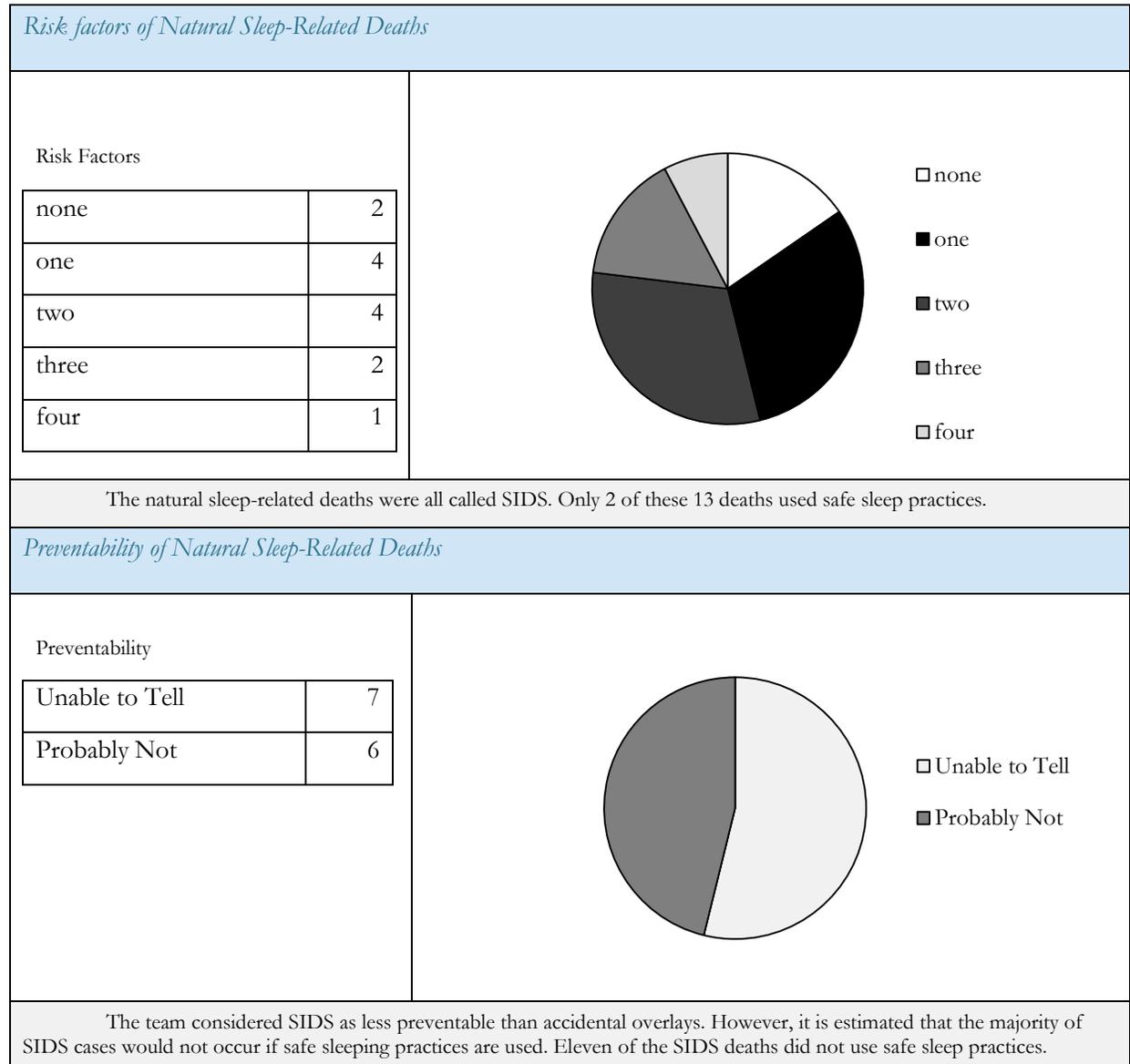


African American and Hispanic infants are overrepresented in sleep-related deaths compared to other ethnicities

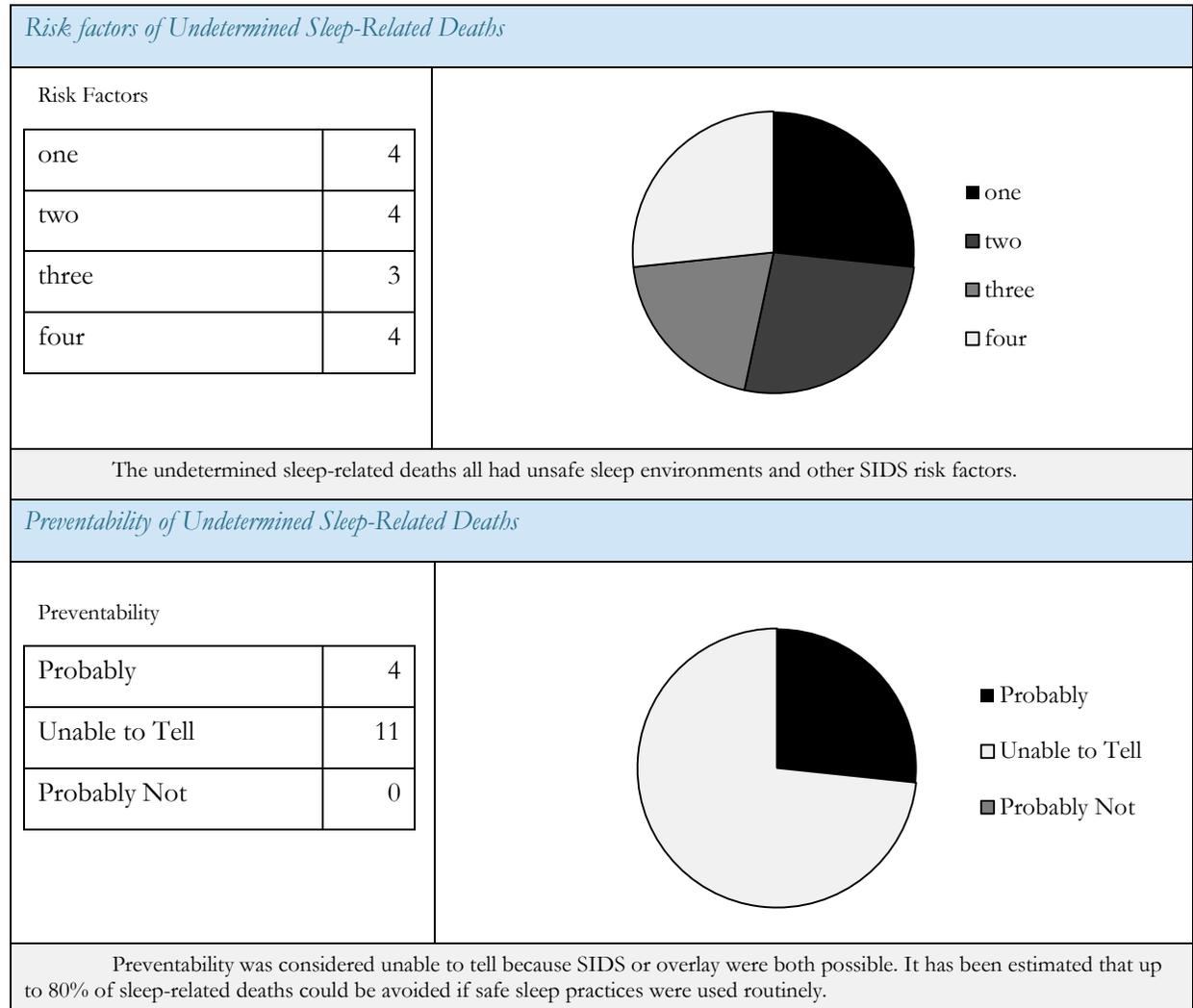
Sleep-Related Deaths: Accidental



Sleep-Related Deaths: Natural



Sleep-Related Deaths: Undetermined



INTERVENTIONS FOR SLEEP-RELATED DEATHS

The American Academy of Pediatrics (AAP) released a Policy Statement, SIDS and Other Sleep-Related Infant Deaths: Expansion of Recommendations for a Safe Infant Sleeping Environment and an accompanying Technical Report on October 18, 2011¹⁹. The AAP in these new guidelines expanded its previous risk reduction recommendations by focusing on a safe sleep environment that can reduce the risk of all sleep-related infant deaths including SIDS. The 2011 AAP recommendations builds on the success of the former Back to Sleep Campaign, reinforces those originally published in 2005, and provides more clarification on other recommendations regarding room sharing without bed sharing²⁰.

1. *Always place infants on their backs to sleep for every sleep.*

Parents and caregivers are advised to place infants on their backs for every sleep until they are 12 months old. Once an infant can turn from their back to front (supine to prone) and from front to back (prone to supine), place the infant to sleep on their back, but allow the infant to sleep in the position he or she assumes.

2. *Use a firm sleep surface for infants. A firm crib mattress covered by a fitted sheet is the recommended sleeping surface.*

A crib, bassinet, or portable crib/play yard that meets the current Consumer Product Safety Commission standards is recommended. Do not allow infants to sleep on a couch, chair, cushion, bed, pillow, beanbag, or in a car seat, stroller, swing, infant carrier or bouncy chair. If an infant falls asleep any place that is not a safe sleep environment, move the infant to a firm sleep surface right away. Infant sling carriers are not recommended for babies younger than four months of age because of the risk of suffocation.

3. *Keep soft objects and loose bedding out of the crib.*

No toys, soft objects, stuffed animals, pillows, positioning devices or extra bedding should be in, attached to, or draped over the side of the crib. Bumper pads or similar products that attach to the cribs slats are not recommended. Instead of blankets, a one piece sleeper or wearable blanket can be used to keep a baby warm.

4. *Keep your baby's sleep area separate but in the same room where you are sleeping.*

Room sharing without bed sharing is recommended. A crib, bassinet, portable crib or play yard should be placed close to the parents' bed. Infants can be brought into bed for feeding or comforting but should be returned to their own crib/bassinet when they fall asleep. Babies should not sleep alone in an adult bed or with adults, other babies or children.

5. *Do not let a baby get too hot or cover the infant's head when sleeping.*

The area where the baby sleeps should be well ventilated and at a temperature that is comfortable for a lightly clothed adult. Bibs and clothing with ties or hoods should be removed and the infant's head should not be covered. An infant is too hot if they are sweaty or their chest is hot to the touch. Infants should be dressed in no more than one layer more than an adult is wearing.

¹⁹ California SIDS Program. *Safe Sleep Environments for Infants*, <http://californiasids.cdph.ca.gov/Universal/Safe%20Sleep%20Environments%20for%20infants.html?p=23>. (2011).

²⁰ American Academy of Pediatrics. *SIDS and Other Sleep-Related Infant Deaths: Expansion of Recommendations for a Safe Infant Sleeping Environment*, <http://pediatrics.aappublications.org/content/early/2011/10/12/peds.2011-2284>. (2011)

6. *Do not allow smoking around a baby.*

There should be no smoking near pregnant women or infants. No one should ever smoke around a baby especially in the same room, in a car or in the room where an infant sleeps. Infants who are exposed to smoke have a higher risk of dying from SIDS. Mothers should not smoke during pregnancy or after the baby is born.

7. *Breastfeeding is recommended and is protective against SIDS.*

If possible, mothers should exclusively breastfeed or feed their infant expressed human milk, for the first six months. (No formula or non-human milk-based supplements.) Any breastfeeding, however, even for a short time, has been shown to be protective against SIDS.

8. *Offer a pacifier at naptime and bedtime.*

Use a pacifier when placing an infant for sleep, unless the baby refuses it. Do not attach a pacifier by a string around the infant's neck or to their clothing or other object. Once the infant is asleep, it is not necessary to reinsert the pacifier. For breastfed babies, wait until the infant is about one month old or is used to breastfeeding, before offering a pacifier.

9. *Pregnant women should receive regular prenatal care.*

Research studies show that regular medical care during pregnancy is associated with a lower risk of SIDS. Regular medical checkups are the best way to make sure a baby is growing properly and that there are no problems that will affect their health.

10. *Avoid alcohol and the use of illicit drugs during pregnancy and after birth.*

Mothers should not use alcohol or illicit drugs during pregnancy and after the baby is born. Infants are placed at high risk for SIDS when sharing a bed with adults who are using alcohol and/or illegal drugs.

11. *Infants should have immunizations and regular check-ups.*

Recent evidence suggests that immunizations might protect against SIDS. Infants should be immunized as recommended by the American Academy of Pediatrics (AAP) and the Centers for Disease Control and Prevention. It is also important that babies have regular well-child checks as recommended by the AAP.

12. *Home monitors and devices that claim to reduce the risk of SIDS should not be used.*

Home monitors that check a baby's breathing and/or heart rate are not advised as a way to prevent SIDS. Commercial devices such as wedges, positioners, special mattresses or other types of sleeping products should be avoided. There is no evidence that these devices or products protect against SIDS or suffocation or that they are safe.

13. *Provide supervised "Tummy Time" when infants are awake.*

Tummy time is important for infant growth and development. It builds muscles and coordination in the head, neck, shoulders, and abdomen and back that are needed to reach important developmental milestones (such as rolling over, sitting up, and crawling). Supervised tummy time when an infant is awake takes pressure off the back of the baby's head so it is less likely to be flat.

14. *Health care professionals, staff in newborn nurseries and neonatal intensive care (NIC) nurseries and child care providers should endorse the SIDS risk reduction recommendations from birth.*

Hospital NICU/newborn nursery staff should model SIDS risk reduction recommendations and implement these guidelines from the time the baby is born through discharge. Childcare providers should receive education about safe sleep practices and develop written policies to reinforce the guidelines. Health care professionals, physicians and nurses should receive education about infant safe sleep measures.

15. *Media and manufactures should follow safe-sleep guidelines in their messaging and advertising.*

Be aware of media and advertising messages that provide misinformation about the best and safest ways for a baby to sleep. Educate parents about how they can make their infant's sleep area cozy, cute and comfortable but as safe as possible.

16. *The National Campaign should be expanded to include a major focus on the safe sleep environment and ways to reduce the risks of SIDS and all sleep-related infant deaths.*

Pediatricians, family physicians and other primary care providers should be educated about the AAP recommendations and discuss safe sleep practices and the importance of SIDS and SUID prevention with expectant parents and families of newborns. Room sharing without bed sharing, breastfeeding and no smoking around infants should be promoted. Everyone caring for a baby including grandparents, foster parents and babysitters should know how to protect a baby from suffocation, SIDS and other sleep-related infant deaths. Education efforts should be undertaken to reach special populations at higher risk for SIDS such as African Americans and American Indians²¹.

17. *Research and surveillance should continue to have a special focus on the risk factors, causes and pathophysiological mechanisms of SIDS and other sleep-related infant deaths.*

Education campaigns and interventions need to be evaluated, encouraged and funded. Investigative standards and reporting are needed to provide accurate data along with ongoing training courses.

²¹ Contra Costa SIDS Program. *Sudden Infant Death Syndrome (SIDS) Program Overview*, <http://cchealth.org/sids/>. (2015)

ADOLESCENT RISK-TAKING-RELATED DEATHS

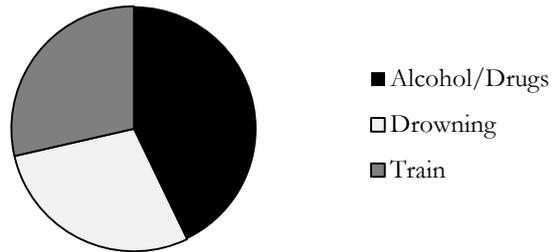
Adolescence is a period of childhood with significant changes physically, socially and emotionally. The brain is well-developed but with a lack of maturation of the frontal cortex and its attendant command functions of impulse control and judgment.

Within this 5-year review of adolescence risk-taking-related deaths:

- Drug and alcohol experimentation/use led to 3 deaths.
- 2 teens drowned in a storm-swollen flood way without life jackets or adequate raft or experience.
- Other teens died in motor vehicle collisions with unsafe driving and often without use of seatbelts.
- All of these deaths were deemed preventable.

Gender Distribution of Adolescent Risk-Taking Deaths

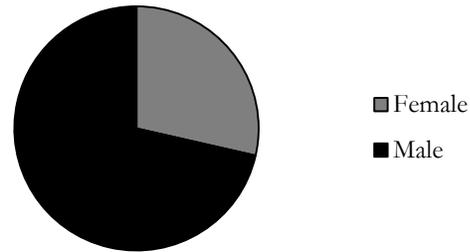
Alcohol/Drugs	3
Drowning	2
Train	2



Not included in this section were many of the motor vehicle crashes that on general were due to unsafe driving.

Age Distribution of Adolescent Risk-Taking Deaths

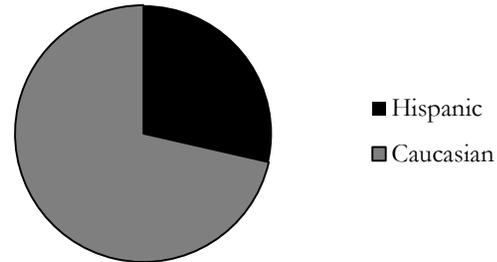
Gender	
Female	2
Male	5



Males are far more likely to engage in risk-taking behaviors than females.

Ethnic Distribution of Adolescent Risk-Taking Deaths

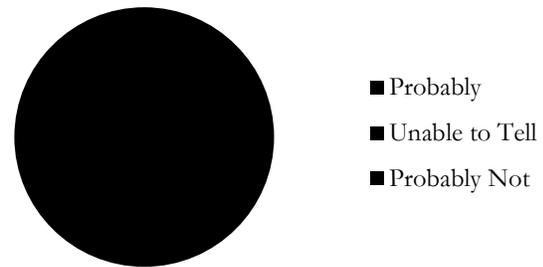
Ethnicity	
Hispanic	2
Caucasian	5



This is the one category of deaths that whites predominated.

Preventability for Adolescent Risk-Taking Deaths

Preventability	
Probably	7
Unable to Tell	0
Probably Not	0



All of these deaths are deemed preventable if better judgement had been used.

INTERVENTIONS FOR ADOLESCENT RISK-TAKING-RELATED DEATHS

Recommendations from this review team are as follows:

1. We support the graduated driver's license for new drivers
2. Seatbelt laws are essential and need to be enforced
3. MADD and SADD presentations in schools as well as CHP presentations
4. Substance use/abuse programs are to be supported and should be covered by routine health coverage
5. Limiting access to water ways with significant drowning potential
6. The use of "good judgment" as advice from parents, teachers, and other adults to teens

PART IV

Conclusions and Recommendations



CONCLUSION

The death of a child is a tragedy. A preventable death of a child is an unacceptable tragedy. The majority of the 155 deaths reviewed by the CDRT between 2008 and 2012 were deemed preventable and often by means no more complicated than the adequate supervision of children.

Some of the findings of this report may come as a surprise to the reader but the reasons children die in Contra Costa are for the most part, the same reasons that children die in the rest of the USA.

Teens die from three primary manners of death: 1) accidents (better called preventable injuries) with motor vehicle crashes being the single most common cause of death, 2) homicides with 90% involving firearm, and 3) suicides.

In the first year of life, the most likely cause of death is related to an unsafe sleeping environment resulting in SUIDS, SIDS or accidental asphyxia. This is found by all CDRT's across the country. This has led to a national movement encouraging safe-sleeping practices to be taught, practiced and reinforced from prenatal care, birth and the perinatal period, through the first year of life.

Adequate and active supervision of children would have prevented virtually all of the deaths from fire, drowning and being left in a car.

Which brings us to asking who is responsible for preventing unnecessary child fatalities in Contra Costa County? The answer is simple: All of us.

Parents are the first and foremost protectors of children. Active supervision includes noticing someone else's child about to step in the street or the pool. Preventing injury includes using proper restraints in cars on your children and yourself and driving safely and defensively. It includes practicing safe-sleeping in the first year of life, even if you shared a bed with your first child without a problem. It includes checking your smoke detectors annually and having a carbon monoxide detector also. It includes using personal flotation devices on boats even if it is unlikely that you or your children would fall out. It includes always checking the car seat for a sleeping infant even if you have errands and appointments to get to. Prevention of injuries includes checking in with your teen and recognizing distress or risk-taking behaviors. Prevention includes safe storage of a firearm if you have to have a firearm at all.

Teens have a shared responsibility in being aware of their influence on each other and the lack of foresight they may demonstrate in many decisions. Suicides, homicides and MVC's are fatal consequences of the above.

Law enforcement have the responsibility of enforcing laws and also often coming to the rescue when injuries occur. We salute our Emergency Medical Services that have consistently gotten first responders to injuries in a timely fashion. We would like to decrease their calls by the 65% of potentially, preventable fatalities they have to respond to.

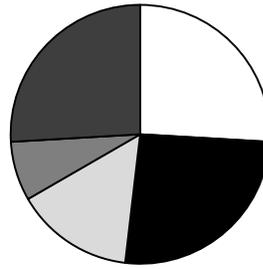
The media has a role in injury prevention by provision of child safety public service announcements and stories that educate but do not sensationalize child fatality.

Legislators have a role in child injury prevention and have clear successes in the laws regarding child car restraints and the graduated driver's license. Many extant laws such as regarding smoke detectors in rental units and barriers around pools tend not to be enforced until a tragedy occurs.

It is hoped that this report will elucidate the preventability of childhood injury and fatality so that these 155 children did not die in vain.

2008 Classification of Death

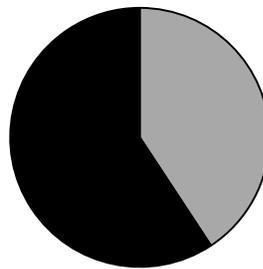
Accident	7
Homicide	7
Natural	4
Suicide	2
Undetermined	7



- Accident
- Homicide
- Natural
- Suicide
- Undetermined

2008 Gender Distribution of Deaths

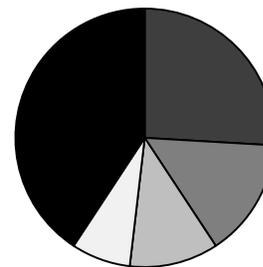
Gender	
Female	11
Male	16



- Female
- Male

2008 Age Distribution of Deaths

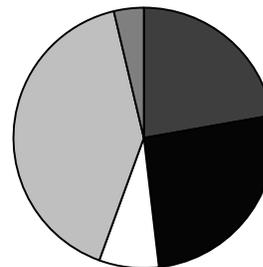
Age	
<1 years	7
1-4 years	4
5-10 years	3
11-14 years	2
15-17 years	11



- <1 years
- 1-4 years
- 5-10 years
- 11-14 years
- 15-17 years

2008 Ethnic Distribution of Deaths

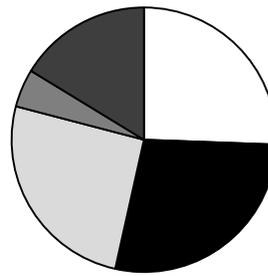
Ethnicity	
Caucasian	6
Hispanic	7
Asian	2
African American	11
Other	1



- Caucasian
- Hispanic
- Asian
- African American
- Other

2009 Classification of Death

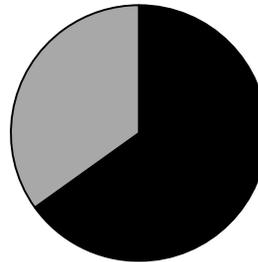
Accidental	11
Homicide	12
Natural	11
Suicide	2
Undetermined	7



- Accidental
- Homicide
- Natural
- Suicide
- Undetermined

2009 Gender Distribution of Deaths

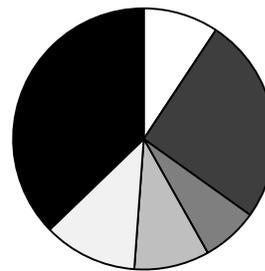
Gender	
Male	28
Female	15



- Male
- Female

2009 Age Distribution of Deaths

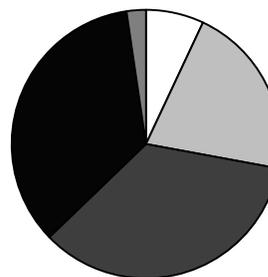
Age	
Fetal	4
<1 years	11
1-4 years	3
5-10 years	4
11-14 years	5
15-17 years	16



- Fetal
- <1 years
- 1-4 years
- 5-10 years
- 11-14 years
- 15-17 years

2009 Ethnic Distribution of Deaths

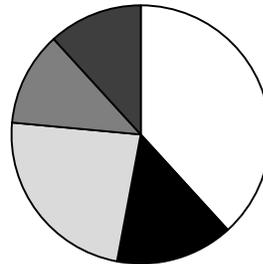
Ethnicity	
Asian/PI	3
African American	9
Caucasian	15
Hispanic	15
Other	1



- Asian/PI
- African American
- Caucasian
- Hispanic
- Other

2010 Classification of Death

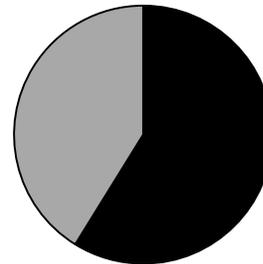
Accident	13
Homicide	5
Natural	8
Suicide	4
Undetermined	4



- Accident
- Homicide
- Natural
- Suicide
- Undetermined

2010 Gender Distribution of Deaths

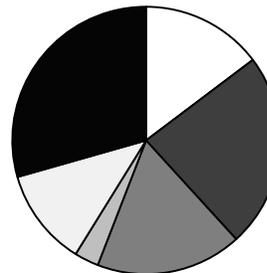
Gender	
Male	20
Female	14



- Male
- Female

2010 Age Distribution of Deaths

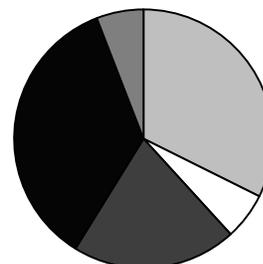
Age	
Fetal	5
<1 years	8
1-4 years	6
5-10 years	1
11-14 years	4
15-17 years	10



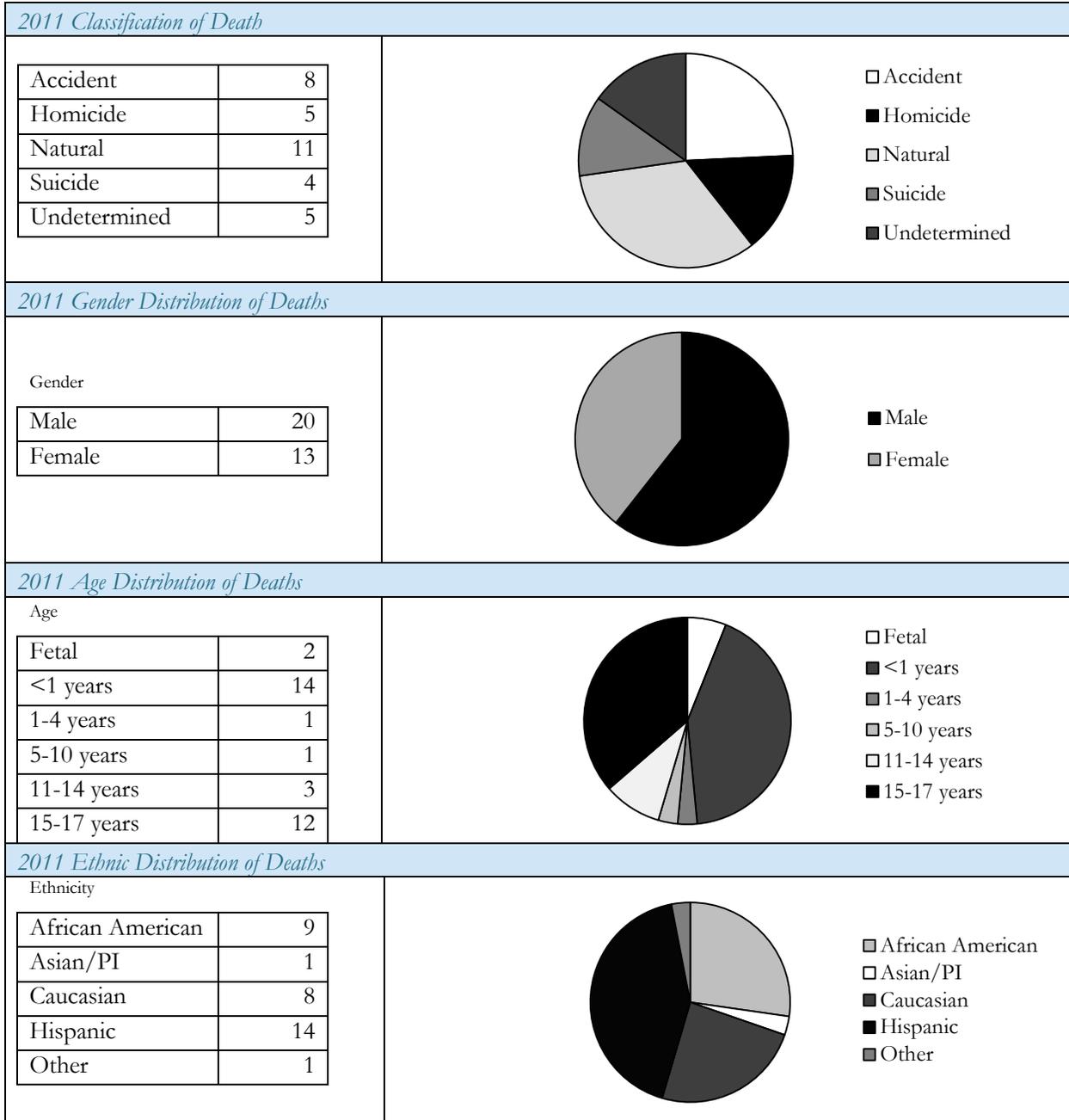
- Fetal
- <1 years
- 1-4 years
- 5-10 years
- 11-14 years
- 15-17 years

2010 Ethnic Distribution of Deaths

Ethnicity	
African American	11
Asian/PI	2
Caucasian	7
Hispanic	12
Other	2

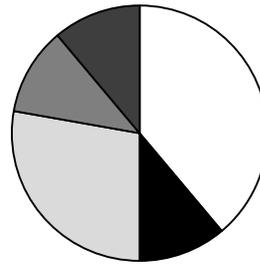


- African American
- Asian/PI
- Caucasian
- Hispanic
- Other



2012 Classification of Death

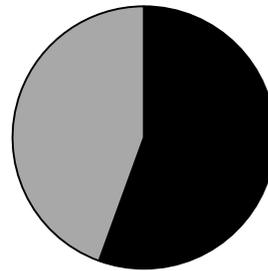
Accident	7
Homicide	2
Natural	5
Suicide	2
Undetermined	2



- Accident
- Homicide
- Natural
- Suicide
- Undetermined

2012 Gender Distribution of Deaths

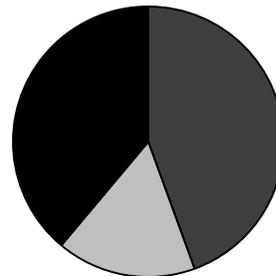
Gender	
Male	10
Female	8



- Male
- Female

2012 Age Distribution of Deaths

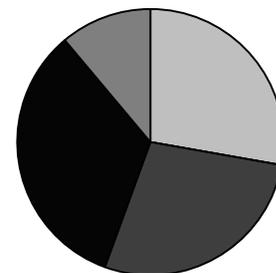
Age	
<1 year	8
1-4 years	0
5-10 years	3
11-14 years	0
15-17 years	7



- <1 year
- 1-4 years
- 5-10 years
- 11-14 years
- 15-17 years

2012 Ethnic Distribution of Deaths

Ethnicity	
African American	5
Asian/PI	0
Caucasian	5
Hispanic	6
Other	2



- African American
- Asian/PI
- Caucasian
- Hispanic
- Other

NEXT STEPS

It is hoped that the people of Contra Costa County will agree that prevention of child injury and death is a priority and reachable goal.

The following are some steps to consider for our community:

- 1. *Safe to Sleep county wide project.*** Trainings have already taken place at Contra Costa Regional Medical Center (CCRMC) for perinatal nurses and pediatricians. A survey of all delivering hospitals regarding the delivery of the Safe to Sleep message to parents is in process with all hospitals being offered trainings. It has been estimated that 1,000 infants will survive each year in the US if safe-sleeping practices are more universally practiced.

Los Angeles County did a county-wide Safe to Sleep campaign 2 years ago, funded by First 5 monies and have already seen a decline in sleep-related deaths in infants.
- 2. *Treat firearm-related injury and death as a public health problem.*** Blocking research funds for the CDC serves no function other than allowing the continuation of gun-related violence and death. Safe storage of firearms should be part of child safety discussions in the doctor's office and not made illegal, as it is presently in the state of Florida. The firearm is a consumer product and should be made safer and monitored by the Consumer Product Safety Commission (CPSC).
- 3. *Suicide prevention can only occur if we look out for each other and provide adequate mental health services.*** The majority of teen suicides occur as impulsive acts in response to the myriad stressors of adolescence colliding with parents, peers and schools. A growing trend is social media induce stress and bullying. Parents need to maintain communication with their teens. Teens need to be aware of their influence on each other. Schools need to serve as both places of education but also providers of counselling and conflict resolution. The Crisis Center is to be applauded for its decades of service to the people in crisis of Contra Costa County (see appendix).
- 4. *Homicide prevention requires so much more than dealing with easy access to firearms.*** People in poverty need opportunities other than joining gangs. Mentor programs, teen recreation programs, summer jobs for teens, bullying prevention, after school programs, school drop-out prevention and others should be created, supported and nurtured.
- 5. *Child fatality review teams also need to be supported and nurtured.*** All members of the CCC CDRT are volunteers from agencies and programs in CCC and squeeze in their case reviews with their many other duties. The reason there are not annual reports as suggested by statute has to do with the lack of funding. This report is possible only due to funds by the department of Epidemiology and FMCH.

It is hoped that subsequent reports will be both funded and be more frequent. It is also hoped that agencies that participate in CDRT will continue to support provision of personnel and time to this endeavor.

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APPENDIX

Fly Program

One program that has had success is *Fly* or *Fresh Lifelines for Youth*. It is important to note that Fly is not an available program within Contra Costa County, but in looking at its intervention model and strength we can assist in its growth to our county or implement similar models within our own county-wide programs.

FLY is committed to measurably working with youth ages 15-18 who are in the juvenile justice system or at-risk of formal system's entry to inspire them to change the trajectory of their lives, build their assets, and ultimately reduce their delinquent behavior. FLY's innovative programs include legal education, leadership training, and one-on-one mentoring.

Fly's legal program exposes these youth to the criminal justice system, by using role-play, debates, and mock city council hearings. The goals are to allow the children to problem solve, resist peer-pressure, deal with anger management, and develop empathy. The leadership program places youth that have already been in the legal program in leadership placement to contribute to their community. Each individual is assigned a case manager that learns that person's strengths and weaknesses and places them in the appropriate position to grow. In addition, to their placement this program includes a wilderness retreat and community service experiences. The mentor program places these youth with a responsible adult-role model to support and encourage positive decision making. This program encourages youth to have the strength to stay away from violence to move forward in their education and career ambitions. The program has been highly effective and reports the following statistics:

- **More than 80% of youth report that after FLY they are less likely to break the law**, said by one youth: "FLY is a good program because it helps kids change their behavior, their attitudes, and their actions."
- **More than 85% say that knowing about the law gives them more confidence to resist negative peer pressure.** "Now when some friends ask me to hang out I say no because I know they are going to do stuff that's illegal."
- **More than 90% report that FLY gave them access to positive role models.**
- **75% of youth do not offend during the program**
- **60-80% of eligible high school seniors graduate high school or receive their GEDs**
- **80% report they can resist negative peer pressure and are less likely to break the law**
- **Over 90% of mentees report that they have significantly reduced or eliminated their use of drugs and/or alcohol as a result of participating in the Program.**

In conclusion, the recommended intervention plans for firearm-related injury are as follows:

A combination of safe gun storage and violence prevention can reduce firearm-related fatalities. Safe gun storage can be implemented by a combination of education, legislation, and modern engineering. Parents should be educated to keep guns within a locked storage area, unloaded, and without ammunition. Legislation should be passed to support these education efforts and enforce the teachings. Modern engineering can be used to develop personalized safety mechanisms and trigger locks. Lastly, firearms should be sold with a lock and storage box to be expensed by the gun manufacturing companies. Once again, legislature should be passed to enforce this requirement. Secondly, violence prevention initiatives should work with high-risk youth to promote positive lifestyle changes. The model which *fly* implements, that uses legal education, leadership placement, and mentor relationships has proven to be efficient in character development and violence reduction. Contra Costa should extend its hand to *fly* to ask for support in emulating its effective measures within our own already established non-profits and government programs. Specifically in the city of Richmond, that has long struggled with violence amongst youth.

CRISIS Intervention

The Contra Costa Crisis Center was founded in 1963 and incorporated as a 501(c)(3) nonprofit organization in 1969. Our mission is to keep people alive and safe, help them through crises, and connect them with culturally relevant resources in the community. We do this by operating the following three countywide programs: 24-hour crisis lines; one of the largest grief counseling programs in California; 2-1-1 information and referral; a large and robust volunteer program.

24-Hour Crisis and Suicide Hotlines: Our 24-hour crisis and suicide hotlines are certified by the National Association of Suicidology and have operated around the clock continuously since 1963. Annually, staff and volunteers answer nearly 30,000 crisis calls. In the last fiscal year this included 5,637 suicide calls, 4,830 child abuse calls, and 1,065 elder abuse calls. Our hotlines also respond to all calls made by Contra Costa County residents to the National Suicide Prevention Lifeline and after-hours calls made to Child and Adult Protective Services. Our callers present a wide and complex range of concerns; they struggle with abuse, depression, grief, mental illness, isolation, and are frequently at risk of suicide. Staff and volunteers receive extensive training to ensure that they are able to provide effective, compassionate interventions to support people experiencing emotional distress and crisis. County records indicate that, there was only one individual who died by suicide who also called for assistance in the past year. While we grieve that loss, we are grateful that our services are working for the large number of county residents who do reach out.

All staff and volunteers are highly trained and supported to perform all aspects of mental health support and crisis intervention. All are ASIST (Applied Suicide Intervention Skills Training) Certified and some staff are also trainers in this internationally recognized best-practice model.

We implement many projects within our Crisis Line program. Examples include:

- **Crisis Chat-Online:** Crisis Chat-Online was launched on March 1, 2012. The Crisis Center is one of only 10 crisis centers in the U.S. to receive a startup grant from the National Suicide Prevention Lifeline to support the implementation of online crisis chat services. Online crisis support has proven especially effective in reaching young people in crisis who tend not to reach out for help through the phone lines. In the first month of providing this service we responded to over 65 visitors (with minimal advertising). Most were high risk for suicide. Of these, 80% were female and 3% transgender; 60% were aged 13-25. During the first year pilot phase, we are operating on-line Chat services 20 hours per week with plans to extend the service as funding grows.

Crisis Chat encourages the client's cooperation in keeping safe. As with hotline callers, our first priority is to build rapport and gain trust through non-judgmental, empathic listening. Staff provides a validating, and respectful exchange with the client while also attempting to obtain information about the client's emotional state and surroundings (where they are physically, who else might be nearby, whether they have easy access to lethal means, etc.). We allow ample time for clients to tell their story - the average online exchange is 60 minutes and can be significantly longer – our longest exchange to date was four hours. Ideally, clients receive sufficient support and guidance within one or a series of sessions to address their immediate crisis. We also offer follow-up support through the crisis line once rapport and trust has been gained to ensure help 24/7. We arrange for police intervention in rare cases where there is imminent danger and the client remains highly lethal regardless of the intervention.

- **Veteran Crisis Support Line:** The Crisis Center is one of six national crisis centers receiving calls from veteran across the country. These calls tend to be longer and more likely lethal than those from the general population.

- Spanish Language Talk line: The Crisis Center responds to this specialized language line in order to support our monolingual Spanish speaking residents as well as participates with surrounding counties to ensure between the seven bay area counties, we have this important second language expertise as well as an understanding of the unique issues some of our monolingual Spanish speakers may be encountering. This service does not depend upon a translation service and is available directly and in real-time.
- Facebook & Tumbler: We maintain social media presence to promote safe and healthy behavior choices and access to support services.

Grief Counseling: Our grief counseling program is one of the oldest, largest, and most diverse bereavement services in California. The goal of Grief counseling is to reduce the risk of suicide and other self-destructive behaviors among youth and adults mourning the death of a loved one. Counseling is conducted by trained staff, interns and volunteers, many of whom were once grief clients themselves. Most of our support groups meet at the Crisis Center in Central County with additional groups in West and East Counties. Individual counseling is available in Central County and can be provided in the client's home when necessary. All counseling is free and services are available in Spanish. We also operate a 24-hour grief counseling phone line, and provide counseling at schools and businesses following the death of a student or adult. We consistently serve an average of 1000 grieving clients per year.

211 Information and Referral: 2-1-1 is the national, toll-free, three-digit phone number to call for information about local health and social services; the Crisis Center is the authorized provider for Contra Costa County. 2-1-1 provides a free and accessible way for individuals and families who are struggling with economic and other crises to access critically needed health and social services. The support callers receive from our trained information and referral specialists empowers them to more easily navigate a confusing and disparate maze of services. Whether the caller is a senior seeking home care, a victim of violence needing help, an unemployed person in need of a job or a single parent facing eviction, 2-1-1 can help. Our staff and volunteers provide a personal touch - people talking to people- instead of an endless web of recorded messages that leave those in need further frustrated.

- We maintain a 2-1-1 database for referrals (www.211database.org) with comprehensive, up-to-date information on 1,500 services available in multiple languages, and we publish specialized resource guides in English and Spanish of essential services. These resources are offered free to everyone in the community including other service providers. Our average call volume per year is nearly 40,000 and 82% of all the 2-1-1 calls we receive are from very low or no income individuals.
- Our 2-1-1 Resource Manager updates the database continually as well as designs specialized guides for target populations by contract engagement.

Outreach Services: Through in-person outreach and presentations, we educate our community about suicide prevention and intervention as well as the services available to assist those in need – both from our agency and from the other service providers in our resource database.

Volunteer Program: The Crisis Center has a long history and core belief in the engagement of highly trained volunteers serving the community in which they live. We are able to operate our 24:7 services because of our combination of staff AND the skilled and dedicated work of nearly 200 volunteers at any given time. Volunteers engage in extensive and specialized training and serve an average of 4-6 hours per week each – some far more. Many of our volunteers remain with the Crisis Center for years – decades even. Most have some personal connection to our mission and have survived from personal loss – quite often served here at the Crisis Center during that loss.

Internship Program: The Grief Counseling program conducts a clinical training program for graduate students who are learning the specialty of grief and loss and are earning hours toward clinical licensure. Interns conduct group and individual grief counseling and are supervised by licensed clinicians.

Administration: The Contra Costa Crisis Center is governed by a 15-member board of trustees. A staff of approximately 20 is assisted by 200+ active volunteers. Our budget is currently \$1.8 million with an administrative (including fundraising) overhead rate of 14%. Nearly 60% of our funding comes from individuals, businesses, foundations, civic groups, and proceeds from Leftovers Thrift Shop, an agency auxiliary; 40% of our annual budget is derived from government grants and contracts.

Partner Agencies: *The Crisis Center maintains regular contact with over 1,500 service providers in the County to ensure that when we refer people in need to services, the information we provide is accurate and that the criteria used for determining whether an individual or family is eligible for service is also correct. Additionally, we participate in numerous collaborations – most, meet monthly and include other community based organizations and public service entities. A partial list includes: County Suicide Prevention Collaborative, Bay Area Suicide and Crisis Intervention Alliance, Bay Area 2-1-1 Collaborative, CA 2-1-1 Collaborative, Sudden Infant Death Review Team, Human Services Alliance, Safe & Bright Futures for Children. Other partners include National Suicide Prevention Lifeline, Contra Costa Voluntary Organizations Against Disasters, Living Works, and more.*

For further information contact:

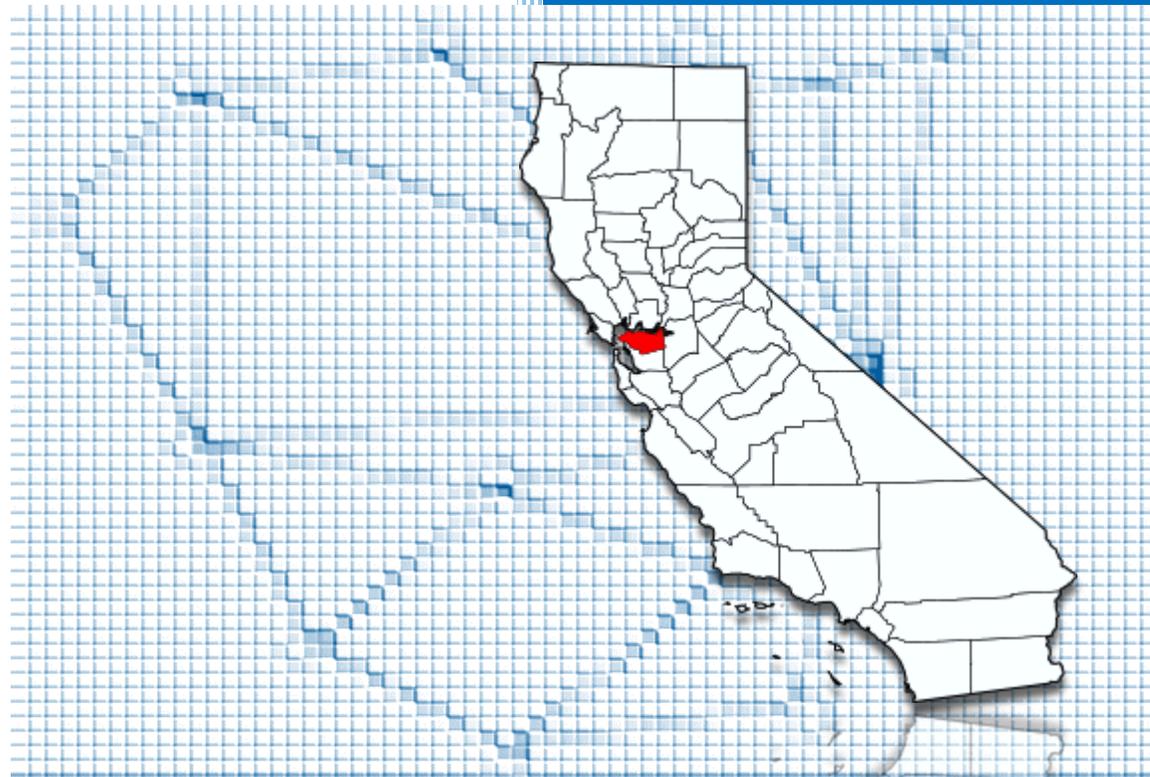
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2008-2012

Contra Costa County Child Death Report



Prepared by:
Dr. Jim Carpenter MD, MPH, FAAP

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CONTRA COSTA COUNTY
DEPARTMENT OF HEALTH SERVICES
In Collaboration With
CHILD ABUSE PREVENTION COUNCIL
OF CONTRA COSTA COUNTY
Child Death Review Team 5 Year Report

September 1, 2015