

San Bernardino County
Child Death Review Team
Annual Report
2012 Data

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Background of the Child Death Review Team in San Bernardino County

In 1988, California enacted legislation allowing the development of interagency child death review teams. These teams are intended to assist local agencies in identifying and reviewing child deaths and facilitating communication involved in the investigation of such cases. In response to this legislation, the San Bernardino County Child Death Review Team (CDRT) was formed to provide professional review of deaths of persons under the age of 18 who lived in San Bernardino County.

State law mandates that no less than once each year, each child death review team shall make available to the public: findings, conclusions, and recommendations, including aggregate statistical data on the incidences and causes of child deaths (SB 1668 (e) (1)). Due to the sensitivity of the material discussed, confidentiality is maintained pursuant to California Penal Code 11167.5. The San Bernardino County CDRT is a multidisciplinary collaborative body guided by agreed upon goals and objectives.

The San Bernardino County CDRT reviews and evaluates the deaths of children less than 18 years of age reported to the Medical Examiner/Coroner's Office. The hope is that through a comprehensive and multidisciplinary review of child deaths, we will better understand how and why children die and use our findings to take actions to prevent other deaths, and to improve the health and safety of our children.

The team is composed of designated representatives from the following agencies:

- Sheriff's Department, Crimes Against Children Division
- Sheriff's Department, Coroner's Division
- Children & Family Services
- District Attorney's Office
- Department of Public Health
- Probation Department
- Program Integrity Division
- Loma Linda Medical Center
- Arrowhead Regional Medical Center
- Children's Network
- Department of Behavioral Health
- San Bernardino County Superintendent of Schools
- Inland Regional Center
- American Medical Response
- Inland Counties Emergency Medical Agency
- San Bernardino City Police

Prior to each meeting, selected CDRT members receive record check information of each child death to be reviewed for the month. The members research their own agency's files for additional information on the child and his/her family. All of the related information is then brought to the monthly meeting for disclosure, compilation, discussion, review, and classification. A course of action is determined once the review is complete.

Executive Summary

This report will focus on the deaths that occurred across all six manners of death assigned by the Coroner. Manner of death refers to how an individual died and includes consideration of intention, circumstances, and/or actions that led to the death. The six manners include; Natural, Accident, Traffic, Homicide, Suicide, and Undetermined. Natural manner deaths include those that were due to disease, congenital conditions, and/or perinatal causes.

The data and cases that are being shared in the report were obtained through the San Bernardino County Coroner's Case Management System.

A total of 129 child deaths were reviewed by the San Bernardino County CDRT team in 2012. Of those, 49% (n=64) of children's deaths were natural in manner, which was followed by undetermined deaths at 20.2% (n=26), accident and traffic deaths at 16.28% (n=21), homicide deaths at 6.98% (n=9), and suicide deaths at 6.98% (n=9).

Almost half of the accidental and traffic-related deaths were due to multiple blunt force injuries. The second most common cause of accidental death was drowning. Close to half of the accident and traffic-related deaths were among children ages 0-5.

Homicide deaths among children have decreased by half since 2011, from 18 deaths to 9 deaths in 2012. The number of homicide deaths resulting from child abuse and neglect has decreased as well by 3 cases, since 2011. It should be noted that approximately 50% of these children were between ages 0-5.

Deaths by suicide were most common among males and teenagers ages 15-17. This age category accounted for approximately 88% (n=6) of children who died by suicide in San Bernardino County.

The most common cause of death among undetermined manner deaths was sudden unexplained infant death (SUIDS). Many of these infants were considered to be in unsafe sleeping environments. Due to the high volume of cases reviewed related to SUIDS, a special focus for CDRT is once again featured. In 2012, 27 infants died in their sleeping environments, 55.6% of whom were known to be bed sharing with at least one parent.

We invite interested parties to use this report's data for research and policy development purposes and to contact us if further information is required.

Demographics: 2012

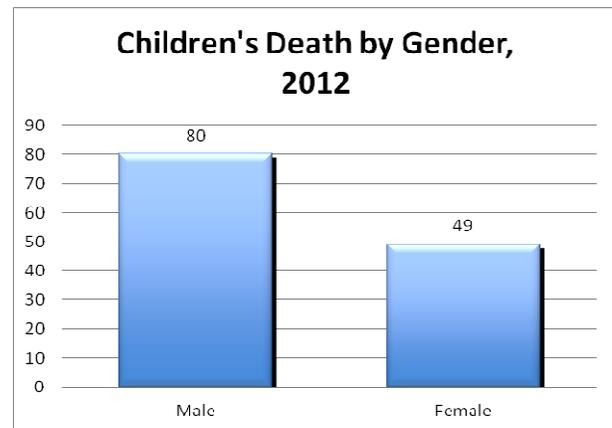
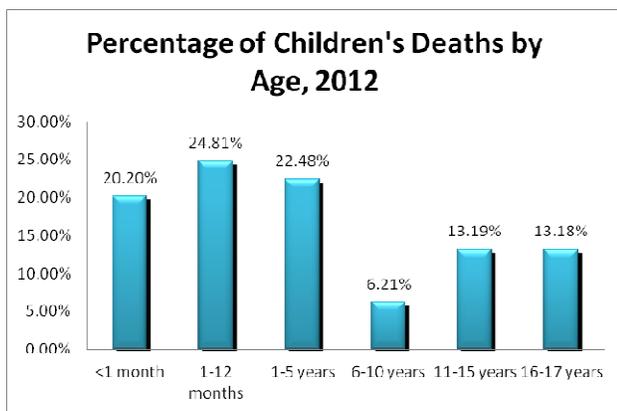
Age/Gender

During 2012, a total of 129 deaths were reviews by the San Bernardino County Child Death Review Team. All of these deaths can be classified as one of the following: Natural, Accident, Traffic, Homicide, Suicide, or Undetermined in the manner of death. The data and cases that are being shared in this report were obtained through the Coroner's database called the Coroner's Case Management System.

Of the 129 deaths reviewed, 62% (n=80) were male and 38% (n=55) were females. A reoccurring trend is present this year, as in previous years, where there are more deaths among males in comparison to their female counterparts.

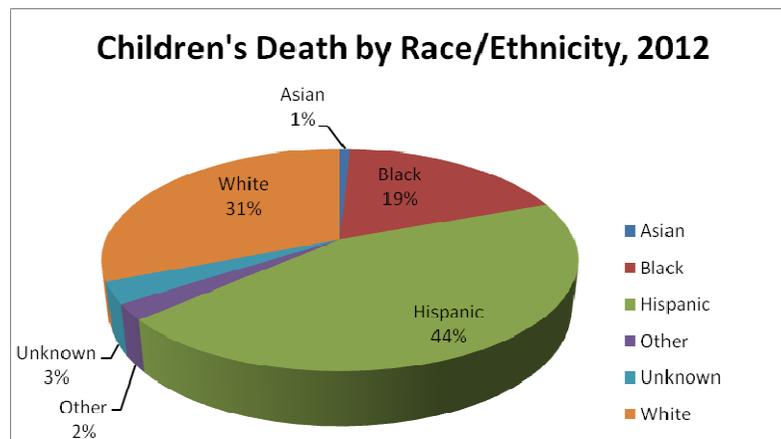
While the deaths of children in San Bernardino County varied in age range, 67% (n= 87) of deaths were among children between 0-5 years. This is consistent with the trend that has been seen in previous years. In 2011, 61% of children were in this age range and in 2010 where 66% of children were in the age range.

Amongst the number of deaths within the 0-5 age range, there were 24.1% (n=21) of the deaths amongst children aged 1-3 months. 33% (n= 42) of deaths in 2012 were in the 6-17 year age range.



Race/Ethnicity

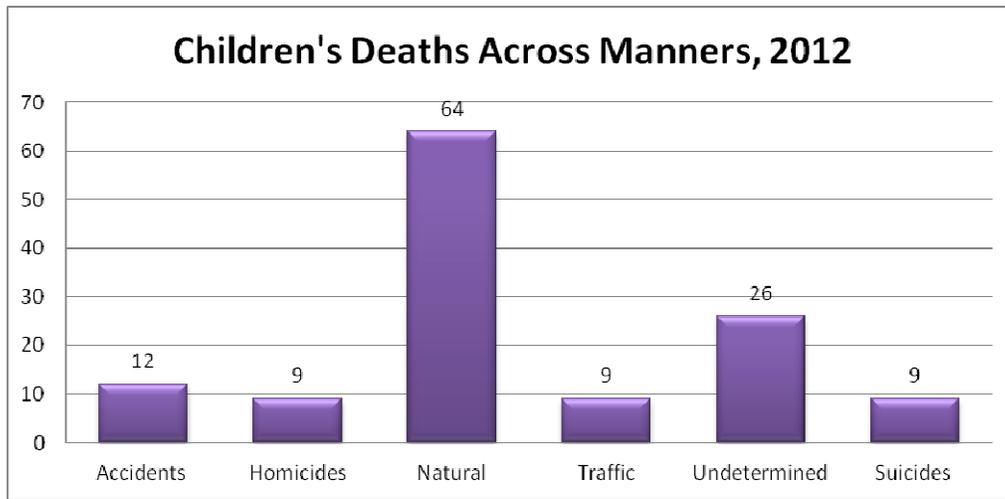
In 2012, Hispanics had the highest number of child deaths in the County. However, they also represented 50% of the total population in San Bernardino County. Proportionately, deaths among Black children were over-represented, especially when they only make up 9.6% of the total population in the County.



San Bernardino County Child Deaths Manners

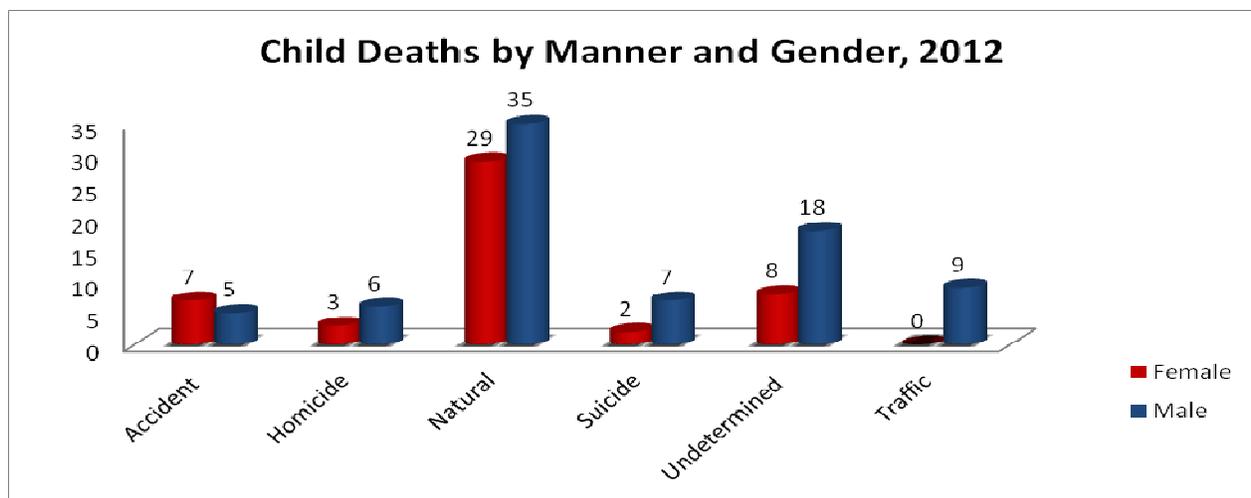
The manner or mode of death is the official category of death that is listed on the death certificate. In 2012, natural death accounted for the majority of cases that were reviewed by CDRT, followed by undetermined manners. In total, 49.6% (n=64) of deaths among children in San Bernardino County were listed as natural, 20.2% (n=26) were undetermined, and 9.30% (n=12) of child deaths were accidents. Lastly, homicides, traffic, and suicides each made up 6.98% (n= 9) of deaths.

Since 2011, three categories saw an increase in cases: natural, undetermined and suicides. There were 64 natural cases in 2012, compared to the 63 in 2011; 26 undetermined cases this year, compared to 22 in 2011; and 9 suicides, compared to 8 in 2011. Conversely, accident, traffic, and homicide cases decreased, in some cases by half.



Child Deaths by Manner and Gender

In 2012, deaths in terms of gender continue to follow the pattern from 2011, where in almost all categories male deaths outnumber females. In fact, males made up 55% of deaths in the natural category. Furthermore, all 9 (14.1%) traffic related deaths this year were male, and 7 of the 9 suicides were male. The only category that saw a higher percentage of deaths among females, in comparison to their male counterpart, was accidents. Of the 12 accident related deaths in 2012, 7 of them were females.



Child Deaths by Manner and Age

Children between the age of 0-5 accounted for 73% (n=47) of the natural death cases reviewed by the CDRT in 2012. As the chart illustrates, undetermined was the second leading manner of death for children, and within this category 58% (n=15) of the deaths were among children 1-12 months of age. Further, 55.6% (n=5) of the homicide deaths were children below the age of 5. What is different from the trend that has been seen in past years is that homicide is no longer the leading manner of death among children 16-17 years of age. Instead, suicide is the leading cause of death among this age group. In 2012, 77.8% (n=7) of the suicide cases were children between 16-17 years of age.

	N	%	<1 month	1-12 months	1-5 years	6-10 years	11-15 years	16-17 years
Accident	12	9.30%	1	3	4	2		2
Homicide	9	6.98%	2		3		2	2
Natural	64	49.60%	16	14	17	5	9	3
Suicide	9	6.98%					2	7
Traffic	9	20.20%			1	1	4	3
Undetermined	26	6.98%	7	15	4			

Child Deaths by Manner and Race/Ethnicity

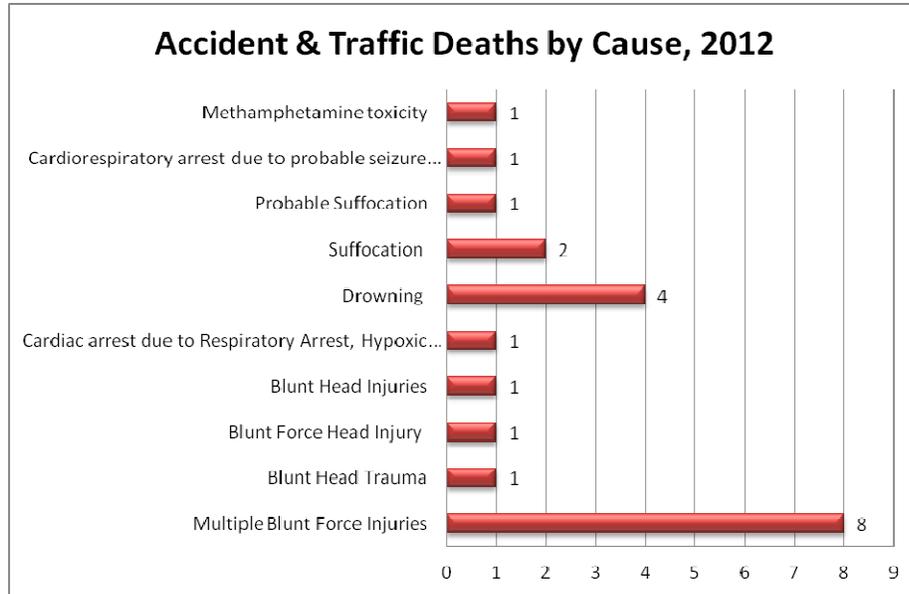
Natural manner was the leading cause of death among all races in 2012. 50% (n=6) of the accident deaths and 44.4% (n=4) of traffic deaths were among Hispanics; 45.5% (n=4) of the homicide deaths were among Blacks; 50% (n=32) of the natural deaths were among Hispanics; 33.3% (n=3) of suicides were among Hispanics and Whites; and 42.3% of undetermined manner of deaths were among Whites. Accidents, traffic, and suicides appear to be concentrated among Hispanics, while homicides were more concentrated among Blacks, and undetermined deaths concentrated among Whites.

	N	%	Accident	Homicide	Natural	Suicide	Traffic	Undetermined
Asian	1	0.8%			1			
Black	24	18.6%	2	4	10	2	3	3
Hispanic	57	44.2%	6	3	32	3	4	9
Other	3	2.3%			2			1
White	40	31.0%	3	2	19	3	2	11
Unknown	4	3.10%	1			1		2

Causes of Death by Manner: 2012

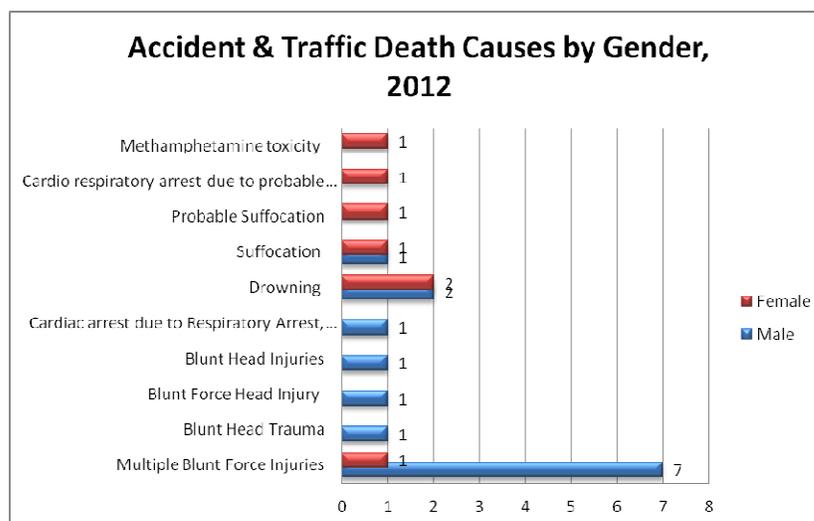
Accident & Traffic Deaths

In 2012, 21 of the cases reviewed by CDRT were classified as accident and traffic in manner within San Bernardino County.



Accounting for 38.1% (n=8) of accident and traffic related deaths, multiple blunt force injuries was the leading cause of deaths in this category. The majority of the multiple blunt force injuries were due to a traffic related incident. The second leading cause of death was drowning with 19% (n=4) of fatalities in 2012. These findings are consistent with data from 2009-2011.

Accident and traffic related deaths were most prevalent among males. Male multiple blunt force injuries accounted for 87.5% (n=7) of the deaths, far out-numbering females who had only 1 death in this category. As the graph illustrates, most blunt force head injuries, of varying degrees, were males. This year, drowning and suffocation related deaths were equal amongst males and females. There was one female death due to methamphetamine toxicity.



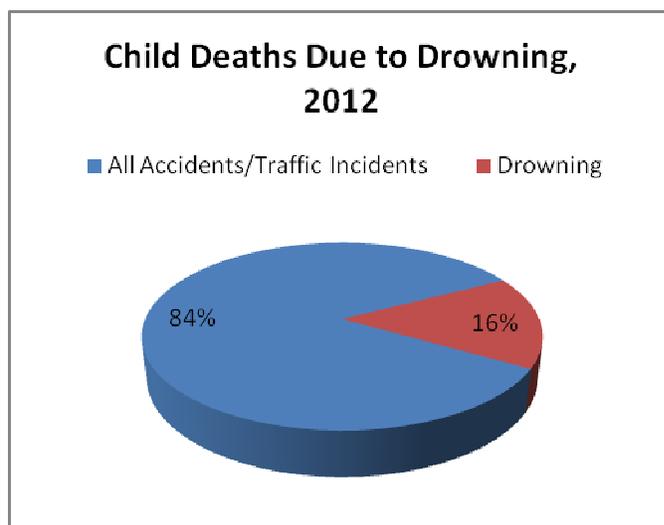
In 2012, 42.9% (n=9) of cases reviewed were accident and traffic related deaths among children ages 0-5. The leading cause of death in this age group was drowning and suffocation. While multiple blunt force injuries were the leading cause of death in this category, 85.7% (n=6) of the deaths were concentrated among 11-17 year olds.

	N	%	<1 month	1-12 months	1-5 years	6-10 years	11-15 years	16-17 years
Multiple Blunt Force Injuries	7	33.3%				1	3	3
Blunt Head Trauma	1	4.8%			1			
Blunt Force Head Injury	2	9.5%			1		1	
Blunt Head Injuries	1	4.8%			1			
Cardiac arrest due to Respiratory Arrest, Hypoxic Ischemic Encephalopathy, Submersion Injury	1	4.8%				1		
Drowning	4	19.0%			2	1		1
Suffocation	2	9.5%		2				
Probable Suffocation	1	4.8%		1				
Cardio respiratory arrest due to probable seizure and blunt force head injury	1	4.8%	1					
Methamphetamine toxicity	1	4.8%						1

Spotlight: Drowning Deaths and Submersions, 2012

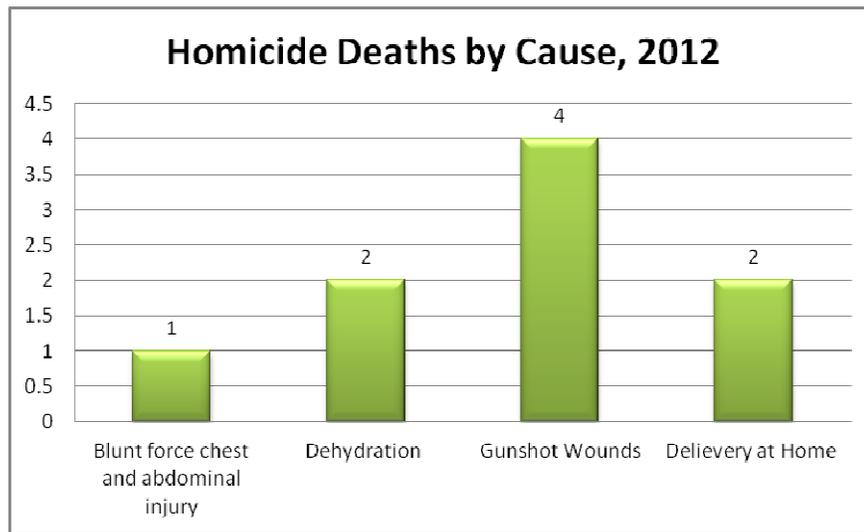
In 2012, CDRT reviewed a total of 4 deaths as a result of drowning, while one additional death was due to a submersion incident that occurred in 2004. Three of the four drowning cases occurred in an in-ground swimming pool that was not properly gated. Caregivers stated that the children had been left unattended between 5-15 minutes before they were found in the pool. Many times they were left in the company of other young children, in the house, or in the front yard. One drowning death resulted from a child slipping into an aqueduct and did not know how to swim. In 2012, the Drowning Prevention Network reports that there were a total of 53 submersions, including children and adult, within San Bernardino County.

- 4 of the 53 submersions resulted in 4 child deaths,
- One child has severe neurological impairment, but survived.
- 2 children were male; 2 children were female
- 2 children were between 0-5; 1 was 9 years old; 1 was 17 years old
- The child who succumbed to the submersion event was a male, 9 years old

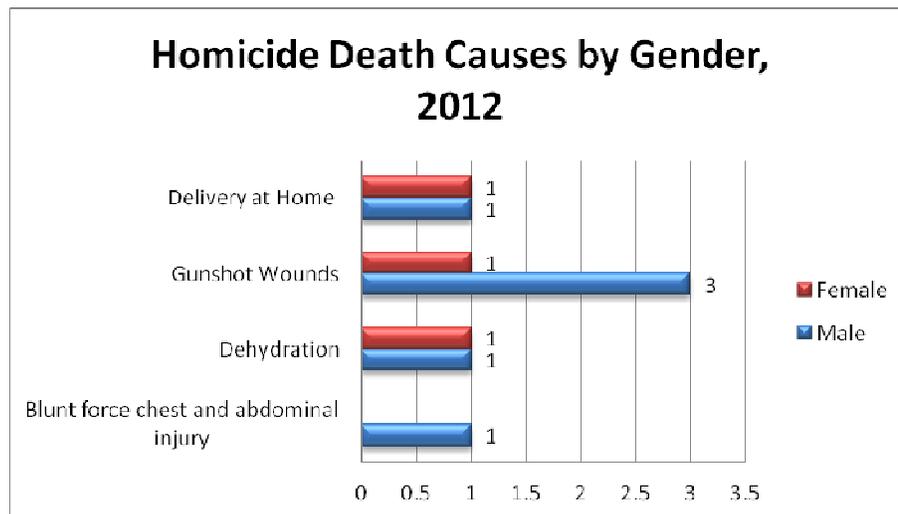


Homicides

In 2012, 9 children's homicide deaths within San Bernardino County were reviewed by the CDRT team. The number of homicide cases has decreased by half since 2011.



While the number of homicides has dropped by half in one year, gunshot wounds remains the leading cause of death. 44.4% (n=4) of all homicides were due to gunshot wounds this year. The second leading cause was dehydration due to child abuse and neglect and as a result, 22.2% (n=2) of children died. One child death was due to blunt force chest and abdominal injury caused by an adult. Two deaths were caused by being delivered at home. In one instance, the cause was neonatal asphyxia due to delivery in toilet bowl; and the other was neonatal death following home delivery without provisions of adequate care in an infant with methamphetamine intoxication.



Over half of all deaths due to homicide were among males in 2012. The leading cause of homicide death, gunshot wounds, was most prevalent among males. Delivery at home and dehydration due child abuse and neglect had the same number of deaths for males and females. One male accounted for death due to blunt force chest and abdominal injury.

	N	%	< 1 month	1-12 months	1-5 years	6-10 years	11-15 years	16-17 years
Blunt force chest and abdominal injury	1	11.1%			1			
Dehydration due to child abuse and neglect	2	22.2%			2			
Gunshot Wounds	4	44.4%					2	2
Delivery at Home	2	22.2%	2					

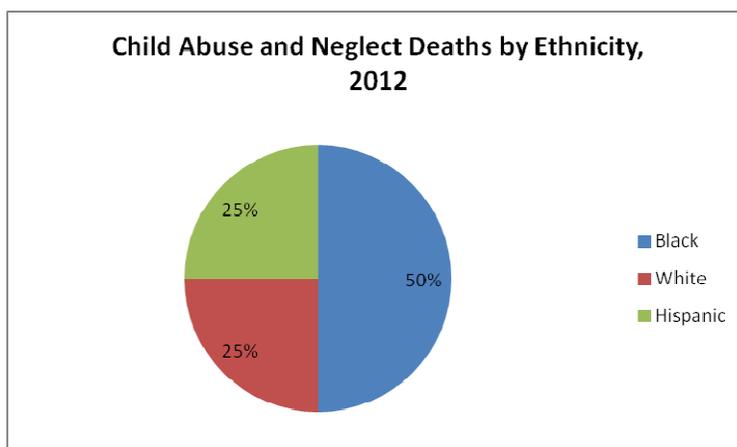
55.6% (n= 5) of homicide deaths were of children were between the ages of 0-5. Of the children 0-5, 40% (n=2) were neonatal deaths (<1 month). The deaths of the other three children who were 1 year, 2 year, and 4 years old were due to some form of child abuse and neglect. 2 deaths due to gunshot wounds were of children between the age of 11-15, and the other two were of teenagers 16-17 years old.

Spotlight: Child Abuse and Neglect Deaths, 2012

	N	Age	Gender	Race
Dehydration due to Child Abuse and Neglect	1	4 years	Female	Black
Dehydration in a Malnourished Child due to Child Abuse and Neglect	1	1 year	Male	White
Neonatal Asphyxia due to delivery in toilet bowl	1	1 day	Male	Black
Neonatal death following home delivery without provisions of adequate care in an infant with methamphetamine intoxication	1	0	Female	Hispanic

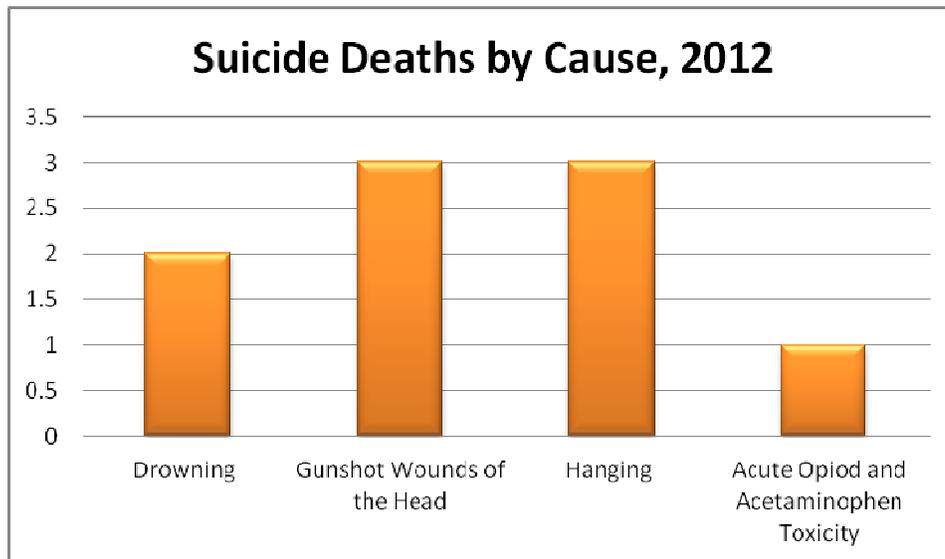
In 2012, CDRT reviewed four cases involving children who died as a result of child abuse and neglect. The number of reviewed cases decreased within the last year by three cases. In 2011, there were seven cases reviewed.

Overall, all four cases of homicide deaths resulting from child abuse and neglect were of children 0-5 years old. 50% (n=2) of the cases involved children who were less than 1 day old. Both of these cases were at home deliveries, both in the toilet bowl. Two of the cases involved child death resulting from dehydration and malnourishment.



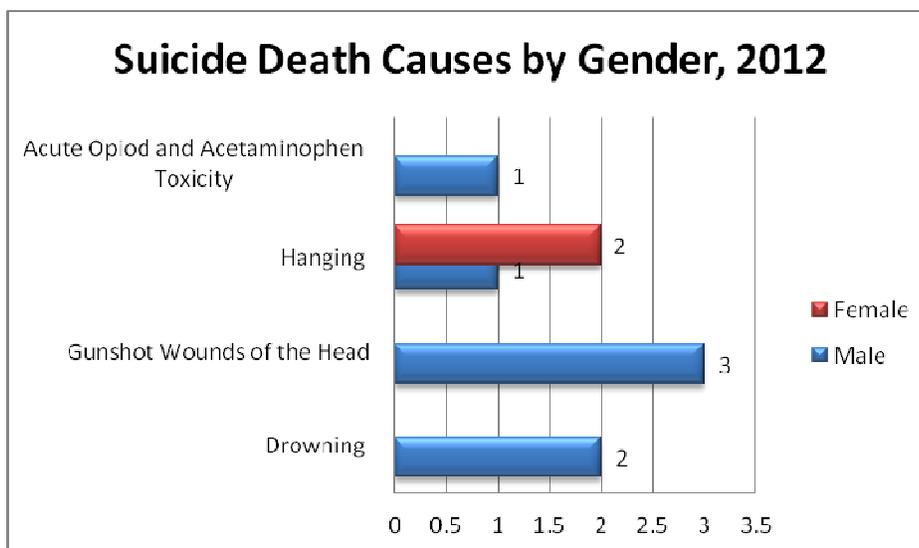
Suicides

In 2012, 6.98% of all cases reviewed by the CDRT team were suicide cases. The number has increased from the eight suicides that occurred in 2011.



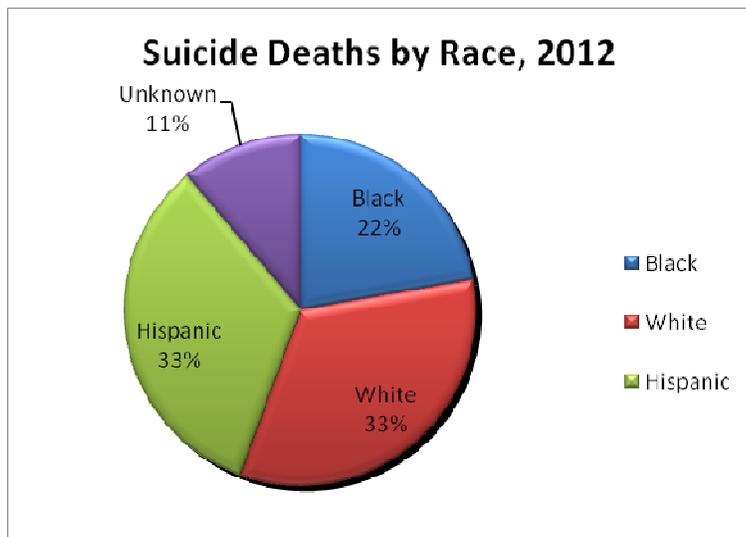
The leading causes of suicide deaths among children in the County were gunshot wounds of the head and hanging. When both of these causes are combined they account for 66.7% (n=6) of all suicide related deaths in 2012. 22.2% (n=2) of all suicides were by drowning, leading it to be the second leading cause of suicide deaths. Lastly, one suicide death was due to acute opioid and acetaminophen toxicity.

As a trend that has been seen since 2009, males continue to outnumber females in suicide related deaths. In 2012, 77.8% (n=7) of the total suicide deaths were males, while females represented 22.2% (n=2). The graph indicates that the leading cause of death amongst males were gunshot wounds to the head (n=3) and drowning (n=2). Amongst females, the leading and only cause of death was suicide by hanging; hanging was the cause of death of one male in 2012.



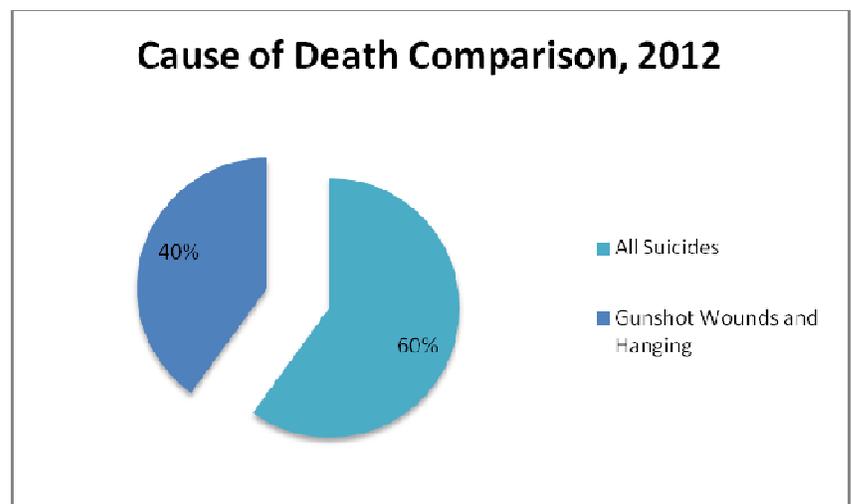
	N	%	< 1 month	1- 12 months	1-5 years	6-10 years	11-15 years	16-17 years
Drowning	2	22.2%					1	1
Gunshot Wounds of the Head	3	33.3%						3
Hanging	3	33.3%					1	2
Acute opioid and acetaminophen toxicity	1	11.1%						1

Most of the suicide cases involved teenagers between the age of 15-17 years old, they represented 88.9% (n=8) of the total deaths by suicide. The remaining death was of a child who was 11 years old.

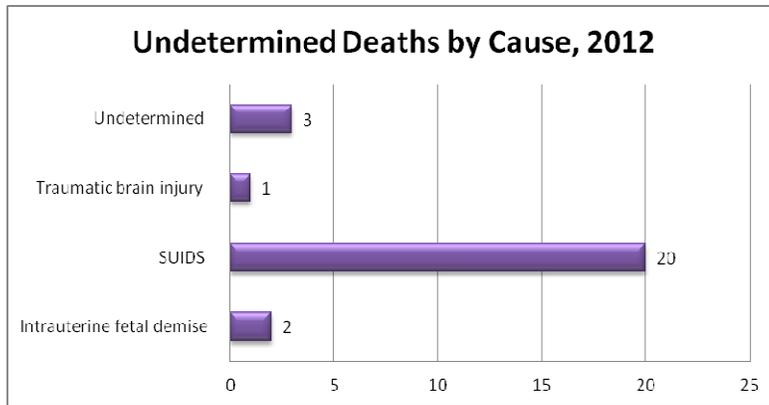


In 2012, Whites and Hispanics represented 66.4% (n=6) of all suicide cases. The rate of suicides decreased from 2011 to 2012 among Hispanics and Whites. While suicides among Blacks increased by 22.2% from last year.

This chart to the right indicates that 40% of all of the suicides were caused by gunshot wounds to the head and hanging.



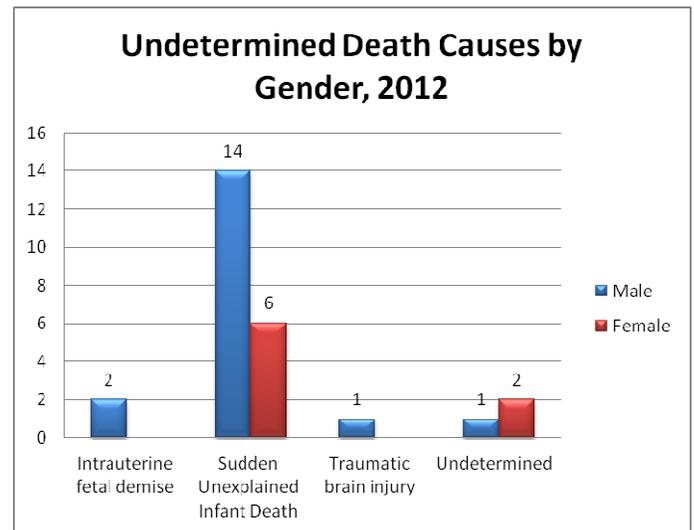
Undetermined Deaths



There were 26 deaths with the manner of undetermined in 2012. Undetermined death was the second leading manner of death, behind natural deaths. The number of cases reviewed with an undetermined manner of death has increased from 2011.

The leading cause of deaths with a manner of undetermined was sudden unexplained infant death, accounting for 76.9% of death in 2012. The second leading causes of undetermined deaths were intrauterine fetal demise and undetermined cause, accounting for 15.3% of total cases, when combined. Traumatic brain injury was the cause of one death. Sudden unexplained infant death continues to remain the most common cause of undetermined deaths, a trend that has been seen since 2009.

It is worth noting that the trend of males outnumber their female counterparts in number of deaths in each cause category continues in the undetermined cases. In cases of sudden unexplained infant deaths, males accounted for 70% (n=14) of the cases, while only 30% (n=6) were females. Furthermore, intrauterine demise and traumatic brain injuries were comprised of males only, with no female cases being accounted for. The only category that females represented with the most deaths was with the undetermined cases, accounting for 66.7% (n=2) of the deaths.

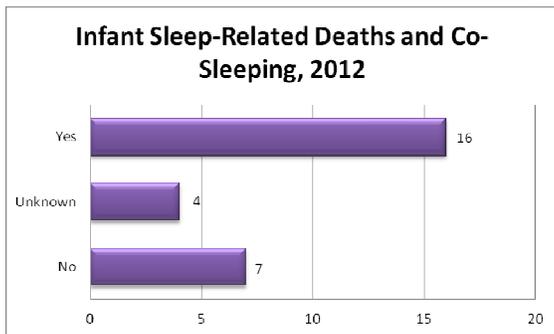
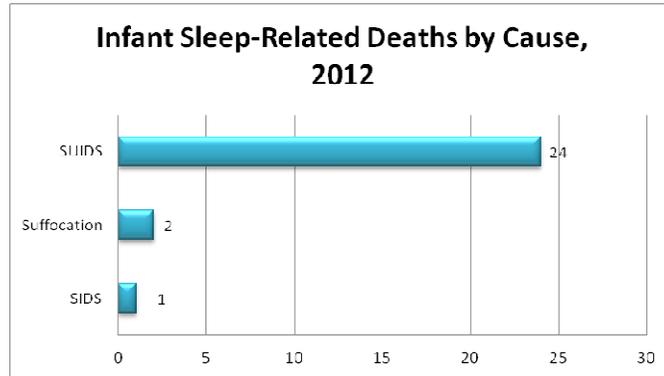


Column1	N	%	< 1 month	1-12 months	1-5 years	6-10 years	11-15 years	16-17 years
Intrauterine fetal demise	2	7.69%	2					
SUIDS	20	76.90%	4	16				
Traumatic brain injury	1	3.85%			1			
Undetermined	3	11.50%	1		2			

As the above chart indicates, all of the undetermined manner of death cases occurred within the age range of 0-5 years. Children between the age of 1-12 months represented the highest number of deaths, accounting for 61.5% (n= 16) of the total. Infants <1 month represented the second highest number of death, accounting for 27% of the cases, followed by three cases that occurred within the 1-5 year age range. Lastly, the sudden unexplained infant deaths all occurred with children under the age of 12 months. These findings continue to stay true to the trends that have been seen since 2009.

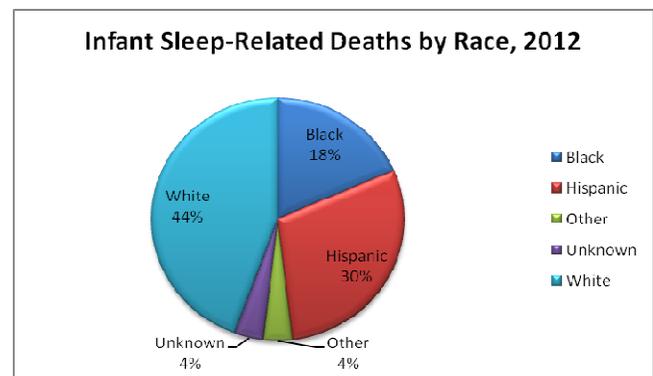
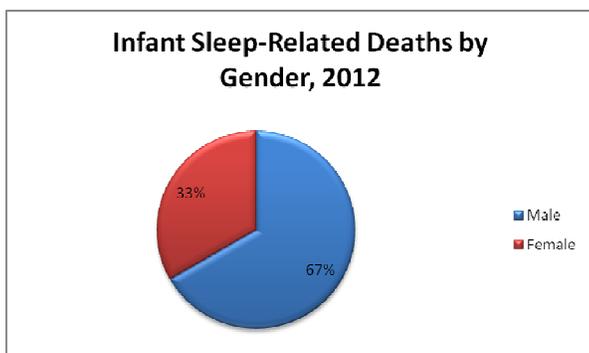
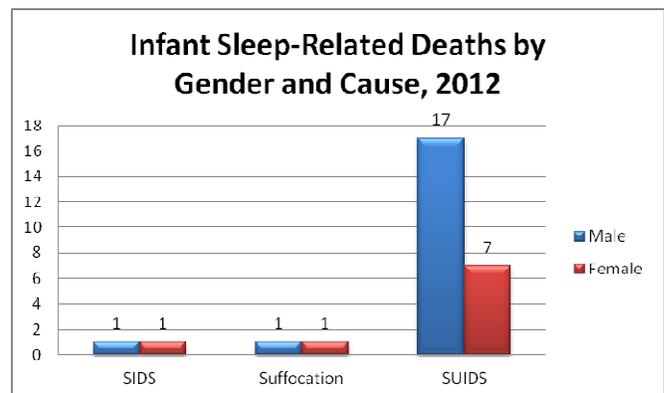
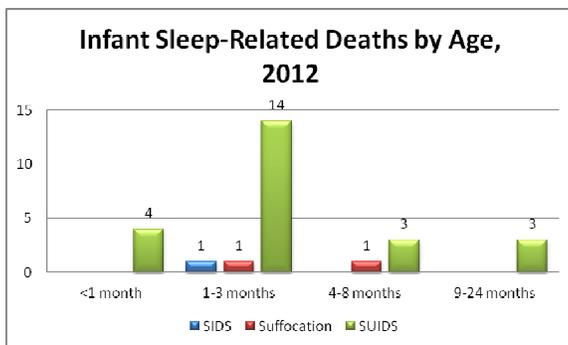
Special Topics: Infant Sleep-Related Deaths, 2012

In 2012, 27 infants were found unresponsive in their sleep environments and subsequently died within San Bernardino County. Approximately, 59.3% (n=16) of these infants were known to have been bed/space sharing with a parent or family member. More specifically, 55.6% (n=15) of these bed/space sharing circumstances involved sleeping with one or more parent. Sleeping locations for bed sharing cases this year included the bed, the passenger seat of a car, parent's arm or chest, couch, and on top of a pillow. Note: The cases included in the study include deaths across multiple manners including natural and accident manner deaths.



	SIDS	Suffocation	SUIDS
Accident		2	
Natural	1		3
Undetermined			21

Below is the demographic data that describes the 27 infants who were found unresponsive in their sleeping environments and who subsequently died in 2012.

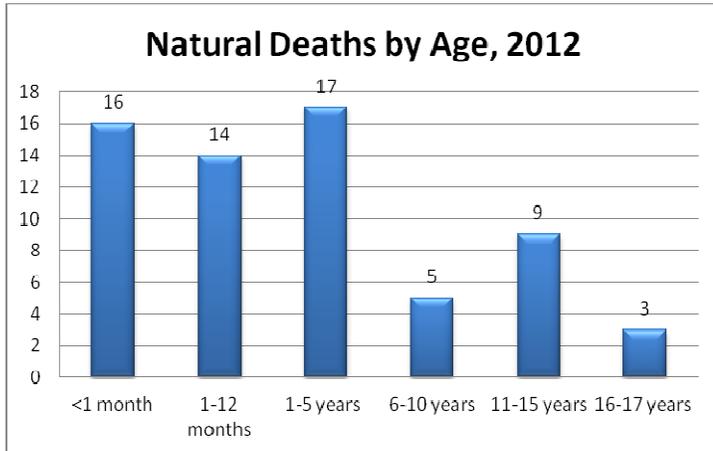


Natural Deaths

In 2012, the majority of San Bernardino County children's deaths were classified as being natural in manner. Furthermore, natural deaths accounted for 49.6% (n=64) of all child deaths reviewed by CDRT. Below is a listing of the natural death causes as well as the corresponding number of deaths associated with each cause.

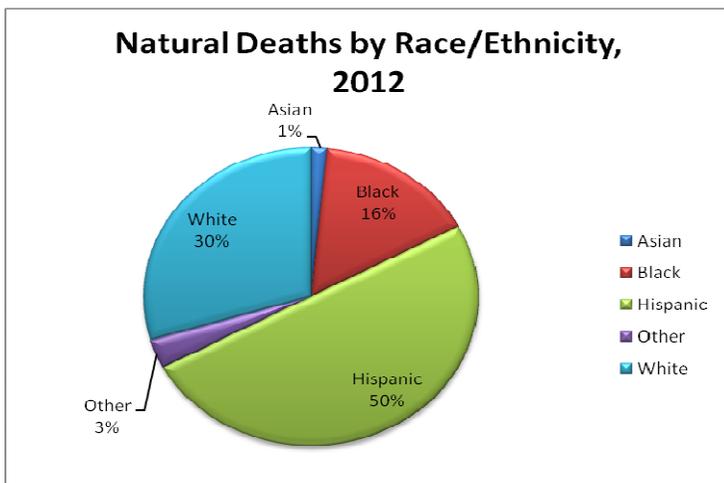
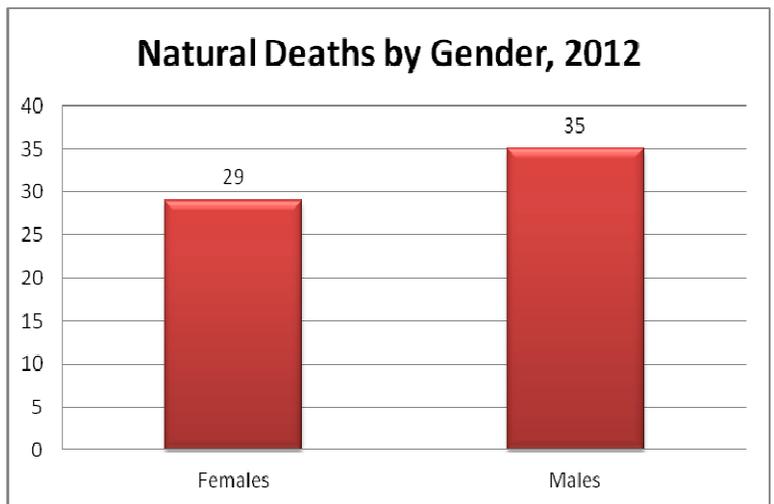
Natural Manner Deaths, 2012	Number
Acute asthma exacerbation due to asthma	1
Acute pulmonary hemorrhage, etiology unknown	1
Acute respiratory infection probably viral	1
Acute upper and lower respiratory infection, probably viral	1
Atrioventricular canal defect with pulmonary atresia	1
Brain injury due hypoglycemia due acute lymphoblastic leukemia	1
Bronchopneumonia ; cerebral palsy	1
Cardiac arrest due to maternal methamphetamine ingestion	1
Cardiac arrest due to septic shock, necrotizing enterocolitis status post bowel resection, klebsiella pneumonia	1
Cardiac arrhythmia due to multi focal myocardial ischemia and thrombotic micro angiopathy	1
Cardiogenic shock due to dilated cardiomyopathy unspecified etiology	1
Cardiogenic shock due to low cardiac output syndrome; right ventricular outflow tract obstruction; tetralogy of fallout	1
Cardiopulmonary arrest due to end stage heart disease, tetralogy of allot with severe pulmonic stenosis, and neurofibromatosis type 1 with noonan syndrome phenotype	1
Cardiopulmonary arrest due to profound mental retardation, severe neonatal hypoxia	1
Cardiopulmonary arrest due to progressive encephalopathy due to Chiari II Malformation	1
Cardiopulmonary arrest due to prolapsed umbilical cord and spontaneous ruptured membrane	1
Cardiopulmonary arrest due to shock, end stage renal disease, and post transplant coronary artery disease	1
Cardiovascular collapse due to congenital aortic valve disease	1
Catastrophic streptococcus pneumoniae meningitis	1
Cerebral ischemia due to cardiogenic shock, subarachnoid intraparenchymal hemorrhage, cerebral arteriovenous malformation	1
Complex congenital cardiac anomalies	1
Complication of aortic valve stenosis and aortic stenosis	1
Complications of congenital left diaphragmatic hernia	1
Complications of cranial vault aplasia	1
Complications of Down's Syndrome	1
Complications of hypoxic-ischemic encephalopathy due to croup with haemophilus influenza pneumonia	1
Complications of prematurity with septo-optic dysplasia	1
Congenital diaphragmatic hernia left due to pulmonary hyperplasia & pulmonary hypertension	1
Embryonal brain tumor	1
Etiology unknown	1
Fetal Demise	1
Fungi sepsis due pneumonia, bronchiectasis, cystic fibrosis	1
Intrauterine fetal demise , etiology unknown	4
Intrauterine infection due to cord accident abruption and placental abruption	1
Maternal Hypertension	1
Metastatic carcinoma of right femur bone	1
Miller-Dieker Syndrome	1
Multiorgan system failure due to septic shock & streptococcus pneumoniae	1
Multiple congenital anomalies	1
Multisystem organ failure due to respiratory failure and gram negative septic shock	1
Placenta abruption	1
Poorly differentiated brainstem glioma	1
Poorly differentiated pontine glioma	1
Prematurity due to cord accident	1
Prematurity due to preterm premature rupture of membranes and chromoamniotitis	1
Prematurity, Etiology Unknown	1
Presumed systemic viral illness	1
Probable seizure due to congenital cerebral malformation	1
Probable systemic viral infection of undetermined etiology	1
Refractory severe hypoxia due to irreversible end stage lung disease, chronic interstitial lung disease, dermatomyositis	1
Respiratory arrest due to chronic lung disease and lung disease	1
Respiratory arrest secondary to multilobar pneumonia	1
Rhabdomyosarcoma	1
Ruptured cerebral arteriovenous malformation	1
Sanfilipo syndrome	1
Septic shock; gram negative bacterial	1
Sudden Infant Death Syndrome	1
Streptococcus Pyogenes Sepsis	1
Sudden Unexplained Infant Death	3
Grand Total	64

The most common types of deaths of a natural manner were intrauterine fetal demise and SUIDS. 9.38% (n=6) of the total natural manner deaths were intrauterine fetal demise, and SUIDS represented 6.25% of the total death.



54.7% (n=35) of the total natural manner deaths were males, following the same trend that has been seen across all other manners. Females represented 45.3% (n=29) of the total deaths.

Compared to other age ranges, children ages 0-5 comprised the majority of natural manner deaths at 73.4% (n=47). Children in the 1-5 age range had the highest total number of deaths at 26.6% of total natural manner deaths, followed by children <1 month with 25% of the total.



In 2012, 50% of all natural manner deaths in San Bernardino County were Hispanic, 30% were white, 16% were Black and the remaining were Asian or Other. In comparison to 2011, there were proportionately fewer deaths among Blacks, an increase in deaths among Hispanics and no change among the Whites.

Recommendations:

Due to the overwhelming number of sleep-related infant deaths reviewed by the Child Death Review Team in this year, Children's Network received approval from Children's Policy Council, in August 2012, to prioritize safe sleeping practices for infants as the "feature" of the 2012-2013 media campaign.

The Children's Network developed a multi-faceted Safe Sleep for Infants media campaign to be implemented throughout the County of San Bernardino. The campaign is designed to raise awareness of the ABC's of safe sleep for infants among community members of San Bernardino County. The overall messaging is based on recommendations made by the American Academy of Pediatrics. The American Academy of Pediatrics recommends that babies should sleep **Alone**, on their **Back**, and in a **Crib**. The components of the media campaign include a modified 30 second advertisement and 4 minute video that were made appropriate for California audiences, billboard advertising, bus advertising, theater advertising, development of posters, a brochure, and The ABC's of Safe Sleep Resource Kits for Countywide distribution.

The objective of this campaign is to raise awareness of safe sleep practices for infants. We are confident that the various media channels we have used has left a lasting impression and are hopeful that it will help save the lives of several infants.

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Children's Network
County of San Bernardino

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