San Bernardino County

Child Death Review Team

Annual Report | 2015

San Bernardino County Board of Supervisors

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Special thanks to Dr. Elizabeth Hausmann for her efforts in the initial reformatting process of this report.

Team Membership

The San Bernardino County Child Death Review Team (CDRT) is a dedicated multidisciplinary team that voluntarily meets monthly to discuss the cases of child deaths within San Bernardino County. Their desire to make a difference through discussion of these cases is invaluable to the health and safety of our children. Their commitment and time is greatly appreciated.

American Medical Response
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Inland Counties Emergency Medical Agency
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Public Integrity Division
Rialto Fire
San Bernardino County Sheriff
Sheriff – Coroner

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Mission Statement

The mission of the San Bernardino County Child Death Review Team (CDRT) is to review, investigate, and analyze the circumstance surrounding deaths of children under the age of 18 that occur in San Bernardino County. The CDRT completes this review through a process of interagency collaboration and discussion. The object of the CDRT is to identify ways to improve children's lives through preventing serious childhood injury and deaths in the future. The CDRT's review is not intended to assess fault by any particular agency or child care professional.

Executive Summary

As a society, we raise our kids to grow and mature into adulthood, becoming important individuals in our community. However, a death of a child is extremely heartbreaking and leaves a void in our families and in the community. Although many child deaths are due to natural causes, others are due to unnatural and avoidable causes. The San Bernardino County Child Death Review Team (CDRT) is a multidisciplinary team of professionals who diligently review qualifying child deaths reported by the medical examiner/coroner's office to understand and identify why children die. This is the first year that the CDRT Report is examining all child deaths that occurred in the county. Historically, the focus had been to report on cases that CDRT had reviewed.

In 2015, there were 211 San Bernardino County (SBC) children, aged 0 to 17 years old, who lived and died in SBC. The total crude child mortality rate in SBC was 36.9 deaths per 100,000 children. Each child death fell under one of the six different manners of death: natural, accidental, traffic, homicide, suicide, and undetermined. The percentage of child deaths by natural, accidental, traffic, homicide, suicide, and undetermined were 75%, 5%, 4%, 6%, 1.5%, and 8%, respectively. Natural deaths continue to account for the majority of all child deaths. Drowning was still the leading cause of accidental death. Unsafe sleeping environments that resulted in Sudden Infant Death Syndrome or Sudden Unexplained Infant Death Syndrome (SIDS/SUIDS) was still a concern in this county as well.

When examining by racial and ethnic groups, Hispanics accounted for the majority (57%) of all child deaths. However, what was alarming was the fact that African Americans/Blacks only accounted for roughly 17% of child deaths that occurred in 2015, but their total child mortality rate was the highest at 81.6 deaths per 100,000 children. Infants accounted for 60% of all child deaths that occurred in 2015.

This in depth analysis of all child deaths that occurred in 2015 gives us more insight to what is impacting our children. The goal with this report is to be able to assess what is occurring county wide and hopefully to implement appropriate interventions to prevent future child deaths, particularly those that are due to unnatural and avoidable causes. We hope the value of this report will welcome further research and policy development to better the lives of our children and community.

I. Introduction

Background

In 1988, California enacted legislation to establish interagency Child Death Review Teams. These teams are intended to assist local agencies in identifying and reviewing child deaths and facilitating communication during the investigation of such cases[1]. In response, the San Bernardino County Child Death Team (CDRT), composed of a collaborative body of professionals, was established to provide professional review of deaths of individuals under the age of 18 who died in San Bernardino County.

The San Bernardino County CDRT reviews qualifying child deaths reported by the medical examiner/coroner's office to evaluate trends and causes to identify the needs of our children to prevent future injuries and death. In addition, data from the State Department of Social Services has been maintained to identify high risk family situations and aid in future identification of children at risk for preventative measures. Due to the sensitivity of the material, each member signs a confidentiality agreement to ensure confidentiality is maintained pursuant to California Penal Code 11167.5[2].

The state law mandates that no less than annually, each child death review team will provide the public with findings, conclusions, and recommendations based on aggregated statistical data from the incidences and causes of child deaths (SB 1668 (e) (1))[3]. Thus, this report will provide a comprehensive view on all San Bernardino County resident child deaths that occurred in 2015 in San Bernardino County.

Case Selection

All cases reported through San Bernardino County Coroner's Case Management System for persons under the age of 18 by the medical examiner/coroner's office are reviewed. If the medical examiner/coroner has accepted the cause and manner of death proposed from the source, there is no further investigation. For the remaining cases, the medical examiner/coroner assigns one of six manners of death to a case which CDRT reviews. The manner of death refers to how an individual under 18 died including the consideration of intention, circumstance, and/or actions that led to the death. The six manners of death reviewed are natural, accidental, traffic, homicide, suicide, and undetermined. SBC CDRT does not review unpreventable natural deaths of those cases that were due to disease, congenital conditions, and/or perinatal causes. Also to note, CDRT does not review fetal or stillborn deaths unless there is a reasonable cause to investigate. For the purposes of this report, all natural deaths that occurred in 2015 will be reviewed and analyzed.

This dedicated team of CDRT members voluntarily meet monthly to discuss the cases of child death within San Bernardino County. CDRT members would compile information from their agency that pertained to each case and these case materials were prepared monthly. Each case would be thoroughly discussed, and reviewed with conclusions drawn.

The goal of reviewing such cases is to plan and coordinate a comprehensive and multidisciplinary review of each child's death, to better understand the risk factors, causes, and potential motives of each event. In

[1,2,3] State of California Child Death Review Enabling Rules CALIFORNIA CODES, PENAL CODE SECTION 11174.32-11174.35

addition, the CDRT members will analyze the data to better understand and develop appropriate interventions. The interventions implemented are to prevent child deaths through identification of new patterns, improvement of safety problems, and increase public awareness of health and safety programs that are available.

This report focuses on children who were SBC residents at the time of their death whose death also occurred in SBC. Residents whose death occurred in other counties or out-of-county residents whose death occurred in SBC will not be included in any analysis to make inferences about SBC children. Because there is no standardization at the county or state level, comparisons between SBC and other counties are challenging. Thus, crude mortality rates will be calculated only for SBC residents whose death occurred in SBC to ensure accuracy and to better develop interventions for our residents. It is important to note that the National Center for Health Statistics (NCHS) does not publish or release mortality rates based on fewer than 20 cases or deaths. This is because these data do not meet their requirement for the level of accuracy needed. Thus, mortality rates based on fewer than 20 cases are often marked as unreliable. For the purposes of this report, mortality rates based on fewer than 20 cases should be considered unreliable and any conclusions drawn from unreliable rates should be made with extreme caution.

These statistics will be categorized by manner of death.

Manner of Death refers to how the person died and includes consideration of intention, circumstance, or action the led to the cause of death. There are six classifications for manner of death:

- Natural*:* Death due to complication(s) of disease, infection, congenital condition, and/or perinatal cause.
- Accidental: Deaths that are not intentional, expected or foreseeable (excludes natural and traffic deaths).
- Traffic*:* Death by a motor vehicle, pedestrian and/or cyclist accident that occurs on the road.
- Homicide: Death caused by an individual's intent to end the life of another individual.
- Suicide*:* Death caused by self-harm with an intent to die as a result.
- Undetermined: No significant finding during the autopsy to conclusively give a cause or manner of death.

Data Source†

For this report, the primary source of death records were obtained through the Coroner's Case Management System. When exploring this data set, it was discovered that many fetal deaths were labeled as live births. In these cases, further interpretation was necessary for the consistency and clarity of this report. Upon reviewing these case reports in detail, it was determined these cases should be removed for the analysis as this report does not analyze any fetal deaths. Since we are using preliminary data from the Coroner's Case Management System, the rates in the report may differ from other official sources.

All population estimates came from the U.S. Census Bureau, American Community Survey 1-Year Estimates using the 2015 Public Use Microdata Sample (PUMS) files. Center for Disease Control (CDC) Wonder and the Master Birth File[4] were used to determine the amount of live births that occurred in 2015. The 2015

[4] California Department of Public Health (CDPH), Center for Health Statistics and Informatics. Birth Statistical Master File.

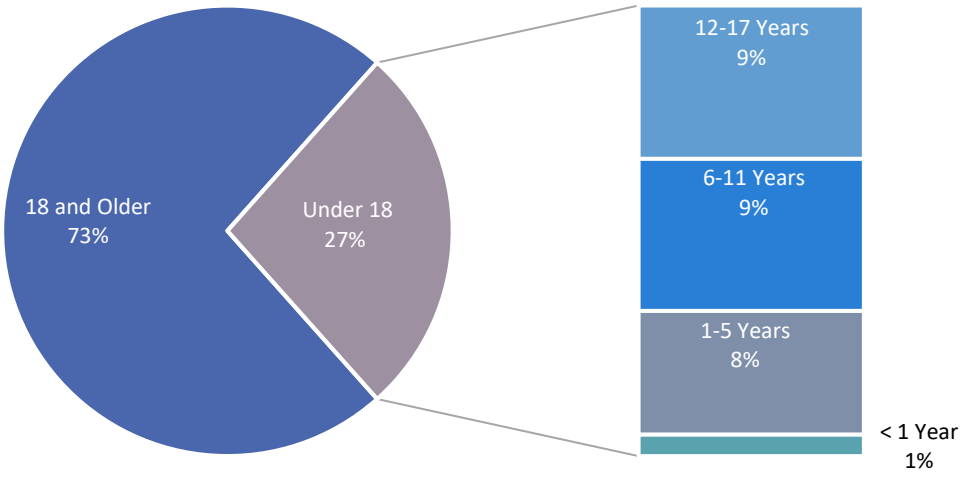
Master Death File[5] was also used to produce a map to detail where in the county child deaths were occurring.

[5] California Department of Public Health (CDPH), Center for Health Statistics and Informatics. Death Statistical Master File.

II. Demographic Information

San Bernardino County is the fifth largest population in California with an estimated 2,129,281 people residing in the county in 2015[6]. There were an estimated total of 571,498 children, ages 0-17 years old, which comprised 26.8% of the total San Bernardino County population[7].

Figure 1. Total San Bernardino County Population in 2015



In 2015, there were a total of 211 children, aged 0 to 17 years old, who resided and died in San Bernardino County (SBC). In order to be able to make meaningful comparisons and conclusions, the crude child mortality rate was calculated for children who both resided and deceased in SBC. The crude *child mortality rate* is the number of child deaths per 100,000 children living in SBC in 2015. In 2015, the total crude child mortality rate in SBC was 36.9 deaths per 100,000 children. Table 1 lists the crude mortality rate for each manner of death. Section III on pg. 18 analyzes each manner of death in depth.

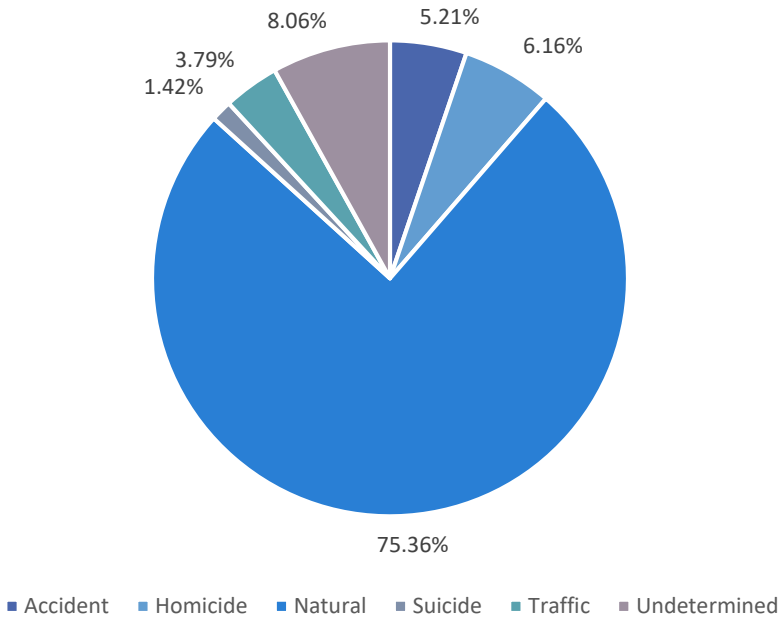
Table 1. Total Child Deaths by Manner of Death, 2015

Manner of Death	(n)	%	Mortality Rate per 100,000
Accident	11	5.21%	1.9*
Homicide	13	6.16%	2.3*
Natural	159	75.36%	27.8
Suicide	3	1.42%	0.5*
Traffic	8	3.79%	1.4*
Undetermined	17	8.06%	3.0*
Total	211	100.00%	36.9

*Mortality rates calculated based on less than 20 cases are considered unreliable.

[6] 2015 San Bernardino County Indicators Report
[7] United States Census Bureau; American Community Survey (ACS), One-Year Public Use Microdata Sample (PUMS), 2015

Figure 2. Total Child Death by Manner of Death, 2015



Gender

Deaths when analyzed by sex were split fairly equally among males and females accounting for roughly 51% and 49%, respectively, of all child deaths that occurred in 2015.

Table 2. Total Child Deaths by Sex, 2015

Gender	(n)	%	Mortality Rate per 100,000
Female	103	48.82%	36.8
Male	108	51.18%	37.1
Total	211	100.00%	36.9

Race/Ethnicity

Of the 211 deaths among SBC residents, most of the child deaths occurred among Hispanic children, which accounted for more than 55% of deaths in 2015. San Bernardino County has a large Hispanic population with more than 60% of the child population being Hispanic in 2015. Although Hispanics accounted for the majority of child deaths, their crude mortality rate of 33.2 child deaths per 100,000 children which was below the total crude mortality rate for 2015. African Americans/Blacks only accounted for about 17% of child deaths, but their mortality rate was the highest at 81.6 per 100,000 children in 2015. African Americans/Blacks appeared to be associated with higher mortality rates in SBC. More research will be needed to identify the possible risks factors and overall trends.

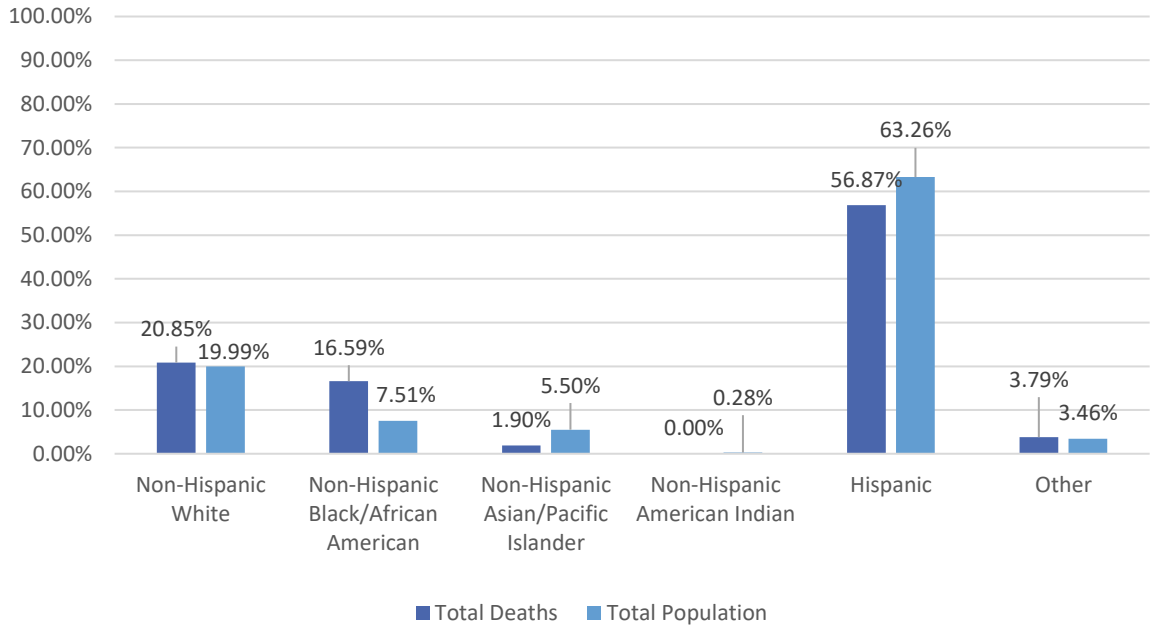
Table 3 breaks down the number of child deaths by racial/ethnic categories and shows the disproportionality that exists between these categories. Figure 3 displays the percentage of total living children in 2015 and compares it to the total child deaths that occurred in SBC by each racial/ethnic category.

Table 3. Total Child Deaths by Race/Ethnicity, 2015

Race	(n)	%	Mortality Rate per 100,000
Non-Hispanic White	44	20.85%	38.5
Non-Hispanic Black/African American	35	16.59%	81.6
Non-Hispanic Asian/Pacific Islander	4	1.90%	12.7*
Non-Hispanic American Indian	0	0.00%	---
Hispanic	120	56.87%	33.2
Other	8	3.79%	40.4*
Total	211	100.00%	36.9

*Mortality rates calculated based on less than 20 cases are considered unreliable.

Figure 3. Percentage of SBC Child Deaths and Child Population by Race/Ethnicity, 2015



From Figure 3, it illustrates that the child deaths that occurred in Non-Hispanic Asian/Pacific Islanders, Non-Hispanic American Indians, and Hispanics were all lower in proportion when compared to their total population at that given time period.

Age

In 2015, the majority of SBC resident child deaths occurred in infants under 12 months of age. Infants accounted for 60% of all child deaths that occurred in 2015. Teenage deaths, aged 12 to 17 years, came in second, accounting for 16% of all child deaths. Table 4 breaks down the number of child deaths by age group. Figure 4 displays the percentage of total living children in 2015 and compares it to the total child deaths that occurred in SBC by each age group. Note, the infant mortality rate definition is slightly different than the child mortality rate. *Infant mortality rate* is defined by the number of infant deaths (less than one year of age) per every 1,000 live births[8].

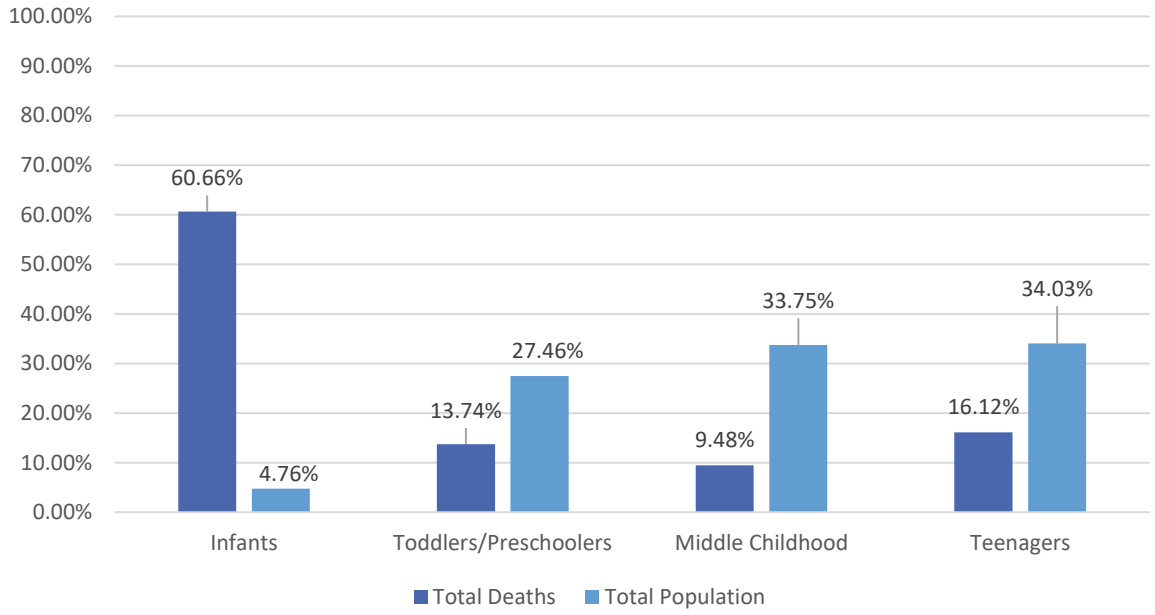
[8] Center for Disease Control and Prevention. (2018). Infant Mortality. Retrieved from https://www.cdc.gov/reproductivehealth/maternalinfanthealth/infantmortality.htm

The San Bernardino County infant mortality rate for all racial/ethnic groups was 4.2 infant deaths per 1,000 live births in 2015. This rate currently meets and is below the Healthy People 2020 target of 6.0 infant deaths per 1,000 live births[9].

Table 4. Total Child Deaths by Age Groups, 2015

Age Groups	(n)	%	Mortality Rate
< 1 Years *(Infants)*[†]	128	60.66%	4.2 per 1,000 children[10]
1-5 *(Toddlers/Preschoolers)*	29	13.74%	18.5 per 100,000 children
6-11 *(Middle Childhood)*	20	9.48%	10.4 per 100,000 children
12-17 *(Teenagers)*	34	16.12%	17.5 per 100,000 children
Total	211	100.00%	36.9 per 100,000 children

Figure 4. Percentage of SBC Child Deaths and Total Child Population by Age/Groups, 2015



Spotlight | 0-5 Child Deaths

Out of the 211 total child deaths, 157 child deaths were of children aged 0-5. Children ages 0-5 are an important focus for CDRT as almost 75% of the deaths that occur are among this age group. It is important to analyze and identify trends to lower our 0-5 child mortality rate. As seen in Table 5, 0-5 deaths closely resemble all total child deaths that occurred in 2015 with the expectation of no suicide and minimal traffic related deaths.

[9] Healthy People 2020. Washington, DC: U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion. Feb 2018. Available from: https://www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health/objectives

[10] United States Department of Health and Human Services (US DHHS), Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), Division of Vital Statistics, Natality public-use data 2007-2015, on CDC WONDER Online Database, February 2017. Accessed at http://wonder.cdc.gov/natality-current.html

[†]See page 9 for limitations on data.

Table 5. Child Deaths by Manner of Death for Children aged 0-5, 2015

Manner of Death	(n)	%	Mortality Rate per 100,000
Accident	10	6.37%	1.7*
Homicide	8	5.10%	1.4*
Natural	123	78.34%	21.5
Suicide	0	0.00%	---
Traffic	1	0.64%	0.2*
Undetermined	15	9.55%	2.6*
Total	157	100.00%	27.5

*Mortality rates calculated based on less than 20 cases are considered unreliable.

Table 6. Child Deaths by Race/Ethnicity for Children aged 0-5, 2015

Race	(n)	%	Mortality Rate per 100,000
Non-Hispanic White	33	21.02%	28.9
Non-Hispanic Black/African American	21	13.38%	48.9
Non-Hispanic Asian/Pacific Islander	3	1.91%	9.6*
Non-Hispanic American Indian	0	0.00%	---
Hispanic	94	59.87%	26.0
Other	6	3.82%	30.3*
Total	157	100.00%	27.5

*Mortality rates calculated based on less than 20 cases are considered unreliable.

Region

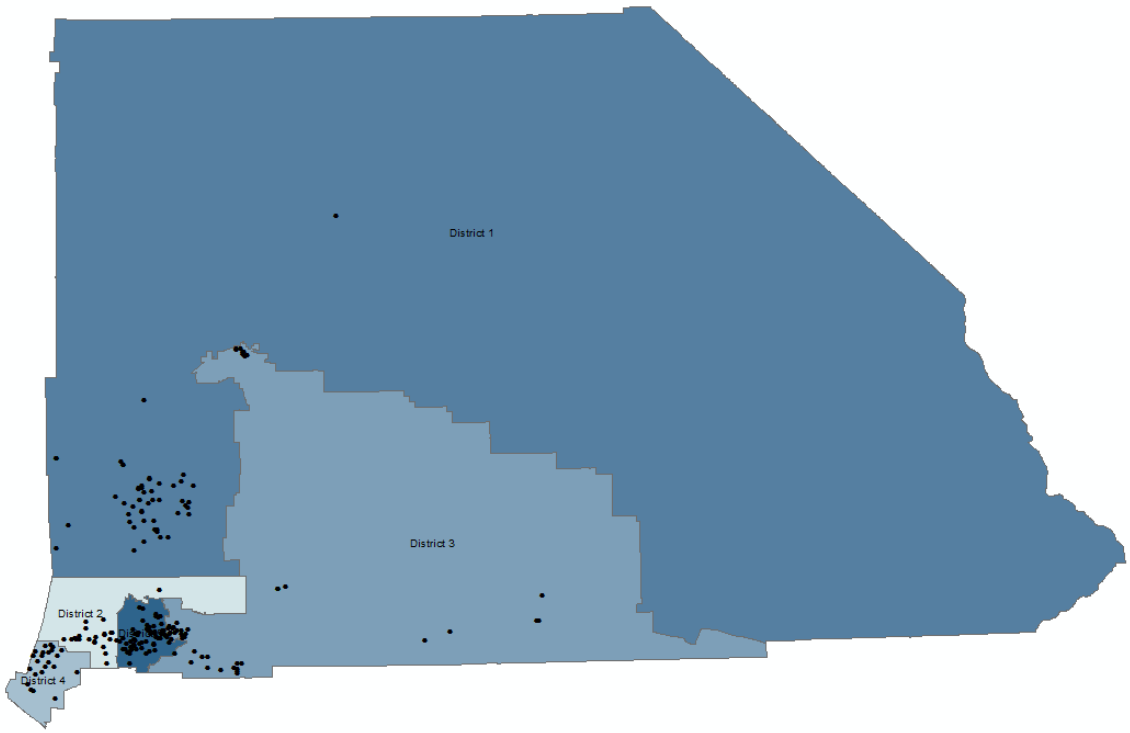
This data comes from the 2015 Death Statistical Master File [11].

Map 1 shows all the child deaths that occurred in SBC. Table 7 has the breakdown by district. District 2 and 4 have the least amount of child deaths in their district. However, it is important to note that District 2 and 4 have a low residing population of children when compared to the rest of the districts. District 5 has a high residing population of children and District 5 also had the highest amount of child deaths (30%). Because these are not rates, conclusions drawn from this map should be made with extreme caution. Rates were not produced as there are currently limited resources to produce accurate rates.

Table 7. Total Child Deaths by SBC Supervisorial Districts, 2015

District	(n)	%
District 1	52	24.65%
District 2	23	10.90%
District 3	47	22.27%
District 4	25	11.85%
District 5	64	30.33%
Total	211	100.00%

Map 1. Total Child Deaths by SBC Supervisorial Districts, 2015



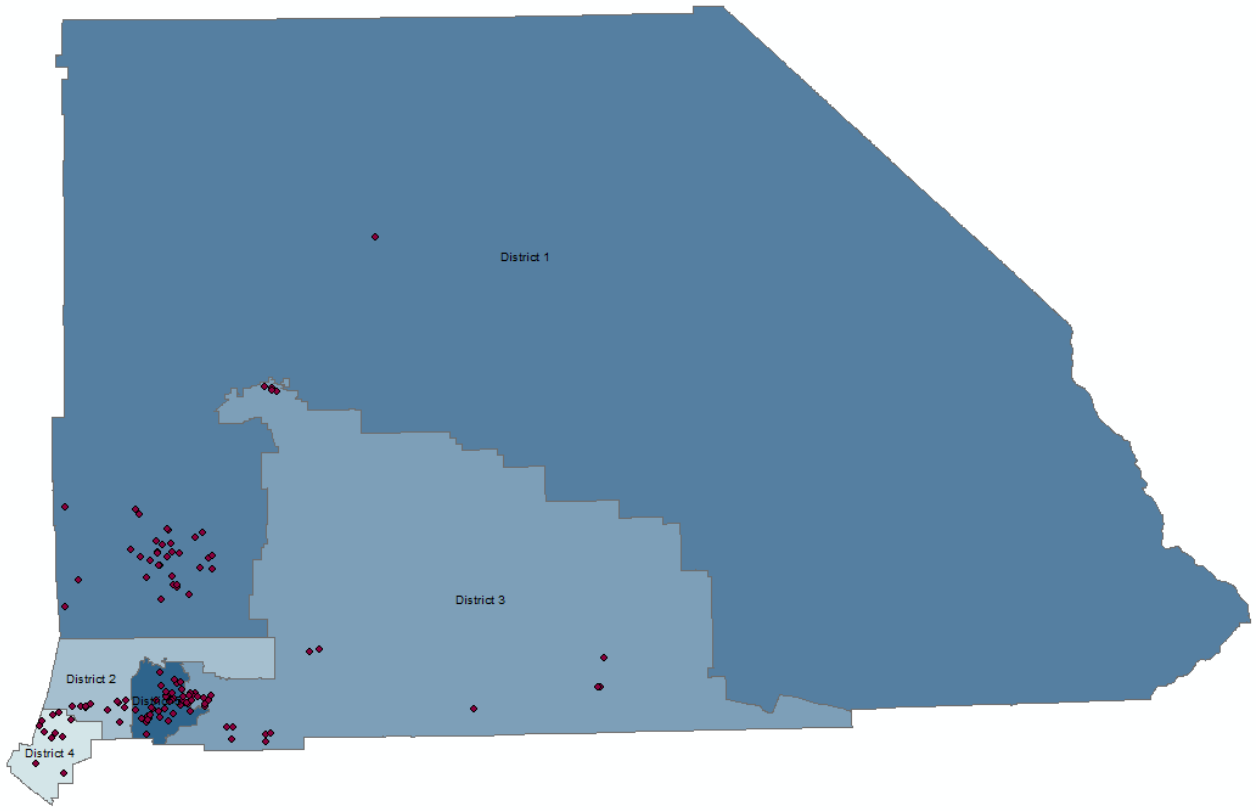
[11] California Department of Public Health (CDPH), Center for Health Statistics and Informatics. Death Statistical Master File.

Map 2 shows all infant deaths that occurred in SBC. Table 8 has the breakdown by district. District 2 and 4 have the least amount of child deaths in their district. However, it is important to note that District 2 and 4 have a low residing population of children when compared to the rest of the districts. District 5 has a high residing population of children and District 5 also had the highest amount of child deaths (31%). Because these are not rates, conclusions drawn from this map should be made with extreme caution. Rates were not produced as there are currently limited resources to produce accurate rates.

Table 8. Total Infant Deaths by SBC Supervisorial Districts, 2015[†]

District	(n)	%
District 1	37	28.91%
District 2	13	10.16%
District 3	27	21.09%
District 4	11	8.59%
District 5	40	31.25%
Total	128	100.00%

Map 2. Total Infant Deaths by SBC Supervisorial Districts, 2015



[†]See page 9 for limitations on data.

III. Six Manners of Death

This section will focus on child deaths by manner of death. The manner of death refers to how the person died and includes consideration of intention, circumstance, or action that led to the cause of death that has been determined by the Medical Examiner/Coroner. There are six classifications for manner of death: natural, accidental, traffic, homicide, suicide, and undetermined.

In 2015, natural deaths accounted for 75% of all child deaths. Undetermined deaths made up about 8% of child deaths, homicide accounted for 6% of child deaths, accident accounted for 5% of child deaths, traffic accounted for almost 4% of child deaths and suicide accounted for about 1.5% of all child deaths. Table 9 below lists the crude mortality rate for each manner of death as illustrated in the first section.

Table 9. Child Deaths by Manner of Death, 2015

Manner of Death	(n)	%	Mortality Rate per 100,000
Accident	11	5.21%	1.9*
Homicide	13	6.16%	2.3*
Natural	159	75.36%	27.8
Suicide	3	1.42%	0.5*
Traffic	8	3.79%	1.4*
Undetermined	17	8.06%	3.0*
Total	211	100%	36.9

*Mortality rates calculated based on less than 20 cases are considered unreliable.

Accident Child Deaths

Out of the 211 child deaths that occurred in 2015, 11 (5.2%) deaths were classified as an accident death. The crude mortality rate was 1.9 accident deaths per 100,000 children.

There were five female cases and six male cases. The age range was quite dispersed. However, the majority of accident deaths occurred in children under the age of five which accounted for 73% of all accident deaths. About 82% of all accident cases were of Hispanic ethnic background and the other 18% were of White racial background. The number one cause of death was drowning. See the Spotlight section below for a closer look at drownings. The other causes of death were listed as follows: blunt force to head, suffocation, smoke inhalation, overlaying and foreign body penetration. Table 10 displays the racial/ethnic information and table 11 displays the breakdown by cause of death. It is important to note that the three deaths that were due to smoke inhalation occurred in the same household.

Table 10. Accident Child Deaths by Race/Ethnicity, 2015

Race	(n)	%
Non-Hispanic White	2	18.18%
Non-Hispanic Black/African American	0	0.00%
Non-Hispanic Asian/Pacific Islander	0	0.00%
Non-Hispanic American Indian	0	0.00%
Hispanic	9	81.82%
Other	0	0.00%
Total	11	100%

Table 11. Causes of Accidental Death, 2015

Cause of Death	(n)	%
Drowning	4	36.36%
Blunt Force to the Head	1	9.09%
Suffocation	1	9.09%
Smoke Inhalation	3	27.27%
Overlaying	1	9.09%
Foreign Body Penetration	1	9.09%
Total	11	100%

Spotlight | Drowning Deaths and Submersions

SBC CDRT takes a closer look at drowning fatalities that occur in San Bernardino County because deaths due to drowning are 100% preventable. For every child fatality that is due to drowning, five other children will receive emergency department care for nonfatal submersion injuries[13].

In 2015, the Drowning Prevention Network (DPN) reported that there were a total of 48 child submersion incidents that occurred in San Bernardino County. In 2015, 75% of all submersion incidents occurred among children under the ages of 18. More than 56% of all child submersion incidents reported, occurred in the summer. Please note that this number can be higher due to the fact that some submersion incidents may have not been reported to the DPN. Also to note, although all submersion incidents occurred in SBC, not all children were SBC residents.

From these 48 children submersion incidents, four were fatalities as a result of drowning. Three deaths were of children under the age of three years and one death was of a child of 15 years of age. One drowning case was of a White racial background and the other three were of Hispanic ethnic background. These drownings occurred in an above ground, in-ground pool or a pool of water near waterfalls. These drownings also occurred only in the spring and summer.

Homicide Child Deaths

In 2015, 13 (4.9%) deaths were classified as a homicide death in SBC. The crude mortality rate was 2.3 homicides per 100,000 children.

There were three female cases and ten male cases. The age range was dispersed with 61% of cases being five years or younger, the remaining cases consisted of children 14 years or older. The leading causes of homicide deaths were listed as the following: blunt force trauma, gunshot wound, drug toxicity, and stabbing. Blunt force trauma and gunshot wound together made up about 77% of all homicide child deaths. Table 12 displays the racial/ethnic information and table 13 displays the breakdown by cause of death. It is important to note that one of the gunshot related deaths was instigated as the victim had a desire to commit suicide as indicated by the note left at their residence. For the two other gunshot related deaths, victims were under the influence of either alcohol or other substances at the time of death.

Table 12. Homicide Child Deaths by Race/Ethnicity, 2015

Race	(n)	%
Non-Hispanic White	4	30.77%
Non-Hispanic Black/African American	3	23.08%
Non-Hispanic Asian/Pacific Islander	0	0.00%
Non-Hispanic American Indian	0	0.00%
Hispanic	6	46.15%
Other	0	0.00%
Total	13	100%

Table 13. Causes of Homicide Death, 2015

Cause of Death	(n)	%
Gunshot Wound	5	38.46%
Blunt Force	5	38.46%
Drug Toxicity	1	7.69%
Sharp Force of Neck	1	7.69%
Stab Wound	1	7.70%
Total	13	100%

[13] Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS) [online]. [cited 2012 May 3]. Available from: URL: http://www.cdc.gov/injury/wisqars.

Spotlight | Child Abuse and Neglect Deaths

SBC CDRT reviews cases that were of child abuse or neglect to better recognize risks and prevent any future abuse or neglect related child deaths for the victim's siblings and children in SBC.

Abuse can be defined as physical, sexual or emotional abuse[14].

Neglect is the failure to meet a child's basic physical and emotional need such as housing, food, education, access to medical care, and more[15].

To be an abuse or neglect case, there must be evidence of maltreatment in the Coroner's report, police investigation or Children and Family Services (CFS) investigation.

In 2015, there were 12 cases involving children who died as a result of suspected child abuse and neglect. The total crude child mortality rate due to child abuse or neglect in SBC was 2.1 deaths per 100,000 children.

These cases were originally reported to CFS and were followed through accordingly. All 12 deaths resulting from child abuse and neglect were under the age of ten. 66% of these deaths were of children under the age of one years old. Two cases were of African Americans/Black racial background, five were of Hispanic ethnic background and five were of White racial background.

Many of these cases were originally classified as a natural, homicide, accident or undetermined deaths. However, upon close inspection, there was suspicion of child abuse and neglect for all 12 cases. The leading cause of death was blunt force head injury comprising 33% of all child abuse and neglect cases. The other causes of death were listed as the following: undetermined manner of death, SUID, sharp force injury of neck, overlaying, drowning, and complications due to cerebral palsy.

Natural Child Deaths

Out of the 211 child deaths that occurred in 2015, 159 (75.4%) child deaths were classified as a natural death. The crude mortality rate was 27.8 natural deaths per 100,000 children.

Deaths when analyzed by sex were spilt fairly equally with males accounting for about 49% of all natural child deaths that occurred in 2015.

Table 14. Total Natural Child Deaths by Sex, 2015

Gender	(n)	%	Mortality Rate per 100,000
Female	81	50.94%	28.9
Male	78	49.06%	26.8
Total	159	100%	27.8

Of the 159 natural deaths among SBC child residents, a majority of the natural child deaths occurred among Hispanic children, which accounted for more than 59% of natural deaths in 2015. African Americans/Blacks

[14] Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Technical Packages for Violence Prevention. Available from: https://www.cdc.gov/violenceprevention/pdf/CAN-Prevention-Technical-Package.pdf
[15] Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Technical Packages for Violence Prevention. Available from: https://www.cdc.gov/violenceprevention/pdf/CAN-Prevention-Technical-Package.pdf

only accounted for about 15% of child deaths that occurred in 2015, but once again their natural mortality rate was the highest at 55.9 per 100,000 children. African Americans/Blacks seem to continuously be experiencing the greatest disproportionality in San Bernardino County. Whites accounted for 18% of all natural deaths and their mortality rate is 25.4 per 100,000 children. Although African Americans/Blacks and Whites had similar percentages of natural deaths, African Americans/Blacks' mortality rate is two times greater than White individuals. Table 15 displays the racial/ethnic information.

Table 15. Natural Child Deaths by Race/Ethnicity, 2015

Race	(n)	%	Mortality Rate per 100,000
Non-Hispanic White	29	18.24%	25.4
Non-Hispanic Black/African American	24	15.10%	55.9
Non-Hispanic Asian/Pacific Islander	4	2.51%	20.2*
Non-Hispanic American Indian	0	0.00%	---
Hispanic	95	59.75%	26.3
Other	7	4.40%	22.3*
Total	159	100.00%	27.8

*Mortality rates calculated based on less than 20 cases are considered unreliable.

In 2015, the majority of San Bernardino County resident natural child deaths occurred in infants under 12 months of age. Infants accounted for 66% of all natural child deaths. Teenagers, middle childhood children, and toddlers/preschoolers each accounted for about 10-12% of all natural child deaths. Table 16 breaks down the number of child deaths by age group. Note, infant mortality rate definition is slightly different than child mortality rate. Infant mortality rate is defined by the number of infant deaths (less than one year of age) per every 1,000 live births[16].

Table 16. Total Natural Child Deaths by Age Groups, 2015

Age Groups	(n)	%	Mortality Rate
< 1 Years *(Infants)*[†]	105	66.04%	3.5[17]
1-5 *(Toddlers/Preschoolers)*	18	11.32%	11.5*
6-11 *(Middle Childhood)*	17	10.69%	8.8*
12-17 *(Teenagers)*	19	11.95%	9.8*
Total	159	100.00%	27.8

*Mortality rates calculated based on less than 20 cases are considered unreliable.

Since natural deaths account for the majority of deaths that occurred in 2015, there is value in identifying the top leading causes of death. In the future, we hope to have more resources in order to do an in depth analysis on all the top leading causes of natural deaths. Table 17 lists the top five leading causes of natural deaths.

[16] Center for Disease Control and Prevention. (2018). Infant Mortality. Retrieved from https://www.cdc.gov/reproductivehealth/maternalinfanthealth/infantmortality.htm

[17] United States Department of Health and Human Services (US DHHS), Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), Division of Vital Statistics, Natality public-use data 2007-2015, on CDC WONDER Online Database, February 2017. Accessed at http://wonder.cdc.gov/natality-current.html

[†]See page 9 for limitations on data.

Table 17. Top Five Leading Cause of Natural Deaths, 2015

Leading Causes of Death	(n)
Prematurity	78
Congenital Anomalies	18
Genetic Disorders and Chromosomal Disorders	16
Types of Cancer	10
SUIDs/SIDs	6

In 2015, there were 78 premature births that resulted in a death. Many of these deaths were associated with congenital anomalies, infections, heart failure and/or lung failure. However, majority of these deaths were due to the infant being born prematurely. Table 18 breaks down all premature death by gestation age.

Table 18. Total Preterm Deaths by Gestation Age, 2015

Gestation Age	(n)	%
Extreme preterm (≤ 28 weeks)	58	74.36%
Very preterm (29-32 weeks)	10	12.82%
Moderate preterm (33-37 weeks)	10	12.82%
Total	78	100.00%

Spotlight | Infant Sleep-Related Deaths

SBC CDRT reviews all infant sleep-related deaths in order to educate parents and caregivers to better understand the ways to reduce the risk of sleep-related infant deaths. *Sleep related infant deaths* can be classified as a death of an infant less than one years of age that occurs suddenly and unexpected where the sleep environment was likely to have contributed to their death. The following terms better define sleep-related deaths.

Sudden Unexpected Infant Death (SUID) is used to describe any sudden and unexpected death, whether explained or unexplained (including sudden infant death syndrome and undetermined deaths) of a child under 12 months of age[18].

Sudden Infant Death Syndrome (SIDS) is defined as the sudden death of an infant younger than 12 months of age that remains unexplained after a thorough case investigation, including performance of a complete autopsy, thorough examination of the death scene, and review of the infant's and family's clinical histories[19].

The three most commonly reported types of SUIDS are: SIDS, undetermined causes, accidental suffocation and strangulation in bed[20].

[18] SIDS and Other Sleep-Related Infant Deaths: Updated 2016 Recommendations for a Safe Infant Sleeping Environment, TASK FORCE ON SUDDEN INFANT DEATH SYNDROME, Pediatrics Oct 2016, e20162938; DOI: 10.1542/peds.2016-2938

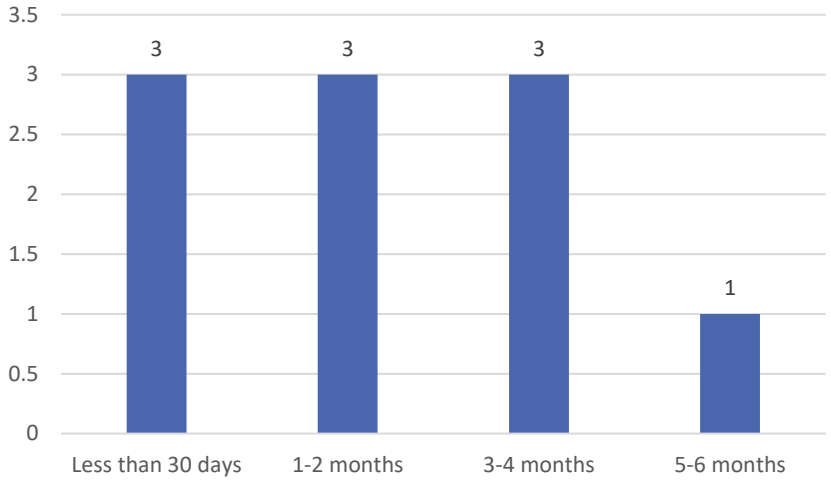
[19] Willinger, M., James, L. S., & Catz, C. (1991). Defining the sudden infant death syndrome (SIDS): Deliberations of an expert panel convened by the National Institute of Child Health and Human Development. Pediatric Pathology, 11(5), 677–684

[20] https://www.cdc.gov/sids/data.htm

In 2015, there were a total of 10 infant sleep-related deaths. Out of those, five were classified as SUID and one was classified as SIDS.. It is important to note that all these cases were classified as different manners of death including: undetermined, natural and accident.

There were five female cases and five male cases. Four cases were of Hispanic background, one case was of African American/Black racial background and the rest were of White racial background. All these cases were of infants six months or younger. Figure 5 shows the distribution by age. In two cases, mothers fell asleep with their infant on the couch and awoke to find their infant unresponsive. One mother woke to find herself on top of her infant on the couch. One infant died while sleeping in a car seat. Four infants slept in a crib or bassinet and three infants co-slept with their parents.

Figure 5. Sleep Related Infant Deaths by Age, 2015



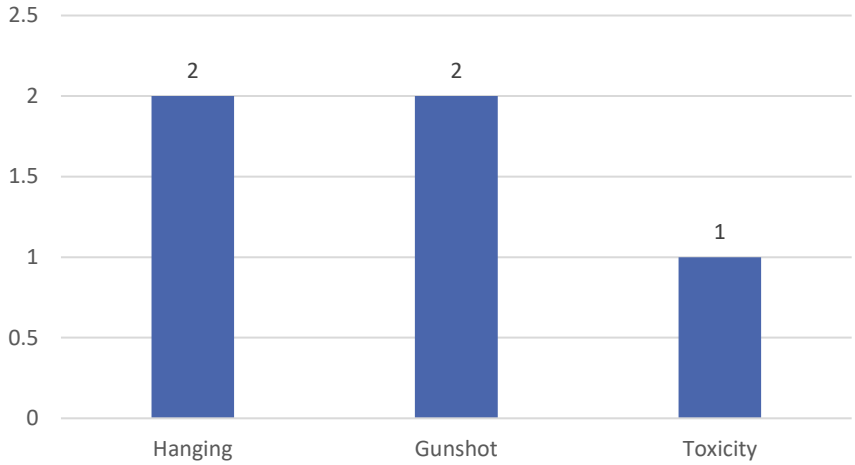
Suicide Child Deaths

There were only three cases that were classified as suicides in 2015 with a crude mortality rate of 0.5 suicide deaths per 100,000 children living in SBC.

There was one female case and two male cases. The age range for these three cases were from 12-16 years of age. Two of the deaths were documented as African American/Black and one was documented as White. The cause of death for these three cases were listed as the following: hanging, shotgun wound of the head, and acute diphenhydramine sertraline toxicity. Males continue to outnumber females in suicide related deaths for children aged 0-17. This trend has remained unchanged since 2009.

There were two cases that appeared to be suicide but were not classified as such due to lack of evidence. One child died from hanging, however, there was no evidence of that child being suicidal so it was not classified as a suicide. This was classified as an undetermined death. There was an additional child who had written a note indicating suicidal intents. However, during an altercation with another individual, the victim died of a gunshot wound. This death was classified as a homicide death, regardless of the apparent suicide note. These two deaths are important to note as they may not be classified as a suicide, but there seems to be suicidal type behavior that led to their death.

Figure 6. Suicide Deaths by Cause of Death, 2015



Traffic Child Deaths

In 2015, there were a total of eight (3.8%) cases that were classified as a traffic-related death in SBC. The crude mortality rate was 1.4 traffic deaths per 100,000 children.

There were seven female cases and one male case. The age range for these eight cases were from as young as two months old to 17 years old. Four cases were of African Americans/Black racial background and four were of Hispanic ethnic background. The leading cause of traffic deaths were blunt force injuries which accounted for 83% of all traffic deaths. There was one crash injury that resulted in a traffic death. All these deaths were a result of being a passenger in the vehicle. Two of the deaths had a cannabinoids presumptive positive test result. However, in general there was limited information on the driver's intoxication state. Table 19 displays the racial/ethnic information and table 20 displays the breakdown by cause of death.

Table 19. Traffic Child Deaths by Race/Ethnicity, 2015

Race	(n)	%
Non-Hispanic White	0	0.00%
Non-Hispanic Black/African American	4	50.00%
Non-Hispanic Asian/Pacific Islander	0	0.00%
Non-Hispanic American Indian	0	0.00%
Hispanic	4	50.00%
Other	0	0.00%
Total	8	100%

Table 20. Causes of Traffic Deaths, 2015

Cause of Death	(n)	%
Blunt Force	7	87.50%
Crash Injury	1	12.50%
Total	8	100%

Undetermined Child Deaths

There were 17(6.4%) cases that were classified as undetermined deaths in 2015 with a crude mortality rate of 3.0 undetermined deaths per 100,000 children living in SBC.

There were six female cases and 11 male cases. The majority of deaths, about 88%, occurred in children under the age of 12 months. There were only two African American/Black cases, six Hispanic cases with majority of cases being of White racial background. There was one case where race was classified as other..

The majority cause of death for these cases were undetermined, due to the lack of conclusive evidence during the autopsy. However, there were four cases of sudden unexplained infant death, one case of hanging and one case of extreme prematurity. Sudden unexplained infant deaths (SUIDs) will be examined in greater depth in the Spotlight section on page 22. Table 21 displays the racial/ethnic information and table 22 displays the breakdown by cause of death.

Table 21. Undetermined Child Deaths by Race/Ethnicity, 2015

Race	(n)	%
Non-Hispanic White	8	47.06%
Non-Hispanic Black/African American	2	11.77%
Non-Hispanic Asian/Pacific Islander	0	0.00%
Non-Hispanic American Indian	0	0.00%
Hispanic	6	35.29%
Other	1	5.88%
Total	17	100%

Table 22. Causes of Undermined Death, 2015

Cause of Death	(n)	%
Undetermined	11	64.71%
SUID[1]	4	23.53%
Hanging[2]	1	5.88%
Prematurity[3]	1	5.88%
Total	17	100%

Although cases [1,2,3] have their cause of death determined they will remain under the undetermined category as noted by the Coroner's Office.

Recommendations

Based on the information in this report, the following is a list of recommendations to prevent future child deaths.

There is a need to further examine the disproportionate death rate of African Americans/Blacks in San Bernardino County. Their child mortality rate is more than double the total child mortality rate for 2015 in SBC. This needs to be addressed to reduce this incredibly high rate. In the future, there are plans to perform a trend analysis on the leading causes of death in children as this will further help identify any areas that may need more attention.

Child abuse and neglect deaths are deaths that are preventable but are still occurring in this county at disheartening level. Research shows that parents and caregivers who have support are more likely to provide a safe and healthy environment for the child. Children need much attention to ensure that they are growing up to be healthy and productive adults. CDRT may consider promoting ACE approach for harm reduction and prevention of child abuse and neglect.

Child abuse hotline: 1-800-827-8724

Deaths due to drownings are 100% preventable. Children less than 12 months are more likely to drown in a bathtub or bucket[21]. Below are some important take home messages for individuals around children in regards to swim safety.

- Children should never be left unattended for any amount of time when around water.
- Empty all tubs, buckets, containers, and kiddies pools immediately after use.
- Install fences around home pools per city code.
- Know what to do in an emergency. Keep emergency equipment handy. Also, learning CPR and basic water rescue skills may help save a life.

To contact Safe Kids Inland Empire please call 909-558-8118 ext.83303 or visit https://www.safekids.org/coalition/safe-kids-inland-empire.

Sleep related infant deaths are unfortunately still occurring in our county at a rate that is not acceptable. All parents and caregivers should ensure that an infant's sleeping environments is made as safe as possible. Safe sleep practices recommended by the American Academy of Pediatrics (AAP)[22] include:

- Placing the baby on his or her back at all sleep times – including naps and at night.
- Using a firm sleep surface, such as a safety-approved mattress and crib.
- Keeping soft objects and loose bedding out of the baby's sleep area.
- Sharing a room with baby, but not the same bed.

[21] https://www.safekids.org/watersafety
[22] http://pediatrics.aappublications.org/content/138/5/e20162938

Cribs for Kids, funded by First 5 San Bernardino, is a campaign that promotes safe sleeping for babies. There are resources listed here for anyone who may need them.

It is unfortunate that youth in our county think that the best solution is to take their own life. The years during adolescence are a critical period of transition and of significant growth, physically and emotionally. These years can be difficult but understanding how to provide the right support could help prevent future suicides. Adolescents need to be screened for depression. We recommend increased collaborations to promote screening in schools or by primary care providers for timely detection. We also recommend that schools create bully prevention program for their students.

We hope these recommendations can improve the conditions that potentially lead to children's morbidity and mortality in our county. Each and every child should have the opportunity to live a healthy life provided they get all the resources needed to ensure that. For more information regarding the resources listed above, please contact Children's Network at 909-383-3677 or visit http://hs.sbcounty.gov/CN.

Appendix A: Glossary

Abuse: any act of physical, sexual or emotional abuse.

Accidental Death: Deaths that are not intentional, expected or foreseeable (excludes natural and traffic deaths). These could be due to injuries without elements of neglect and reasonable precautions were taken to prevent it from occurring, including medical errors.

Child Death Review Team (CDRT): composed of a collaborative body of professionals, that was established to provide professional review of deaths of individuals under the age of 18 who died in San Bernardino County.

Child Death: Any death to an individual under the age 18.

Crude Child Mortality Rate: The number of child deaths within a population divided by the total number of children in that population. This rate is a measure of frequency of occurrence of death in a defined population during a specified interval.

Death Certificate: Certifies the occurrence of death. This information is provided to the Medical Examiner/Coroner's Office who then provide information for review by CDRT.

Drowning: a submersion under water that leads to suffocation and ultimately death.

Homicide: Death caused by an individual's intent to end the life of another individual. This can be abuse by parent/caregiver or a third-party. This can also result from high risk behavior such as gang affiliation or resulting from verbal and physical altercation.

Infant Death: Specifically, any death that occurs during the 12 months of life.

Infant Mortality Rate: The number of infant deaths (less than one year of age) per every 1,000 live births. This rate is a measure of frequency of occurrence of death in a defined population during a specified interval.

Manner of Death: refers to how the person died and included is consideration of intention, circumstance, or action the led to the cause of death. This is indicated on the death certificate including six classifications: natural, accidental, traffic, homicide, suicide, and undetermined.

Natural Death: Death due to complication(s) of disease, infection, congenital condition, and/or perinatal cause.

Neglect: the failure to meet a child's basic physical and emotional need such as housing, food, education, access to medical care, and more.

Preterm: is a birth that occurs before 38 weeks of gestation.

Sudden Infant Death Syndrome (SIDS): the sudden death of an infant younger than 12 months of age that remains unexplained after a thorough case investigation, including performance of a complete autopsy, thorough examination of the death scene, and review of the infant's and family's clinical histories.

Sudden Unexpected Infant Death Syndrome (SUIDS): used to describe any sudden and unexpected death, whether explained or unexplained (including sudden infant death syndrome and ill-defined deaths) of a child under 12 months of age.

Suicide: Death caused by self-harm with an intent to die as a result. This can be related to child abuse or neglect, substance use/abuse, bullying, loss of family member/significant other or history of clinical mental illness.

Traffic Death: This could be death resulting while driving a motorized vehicles, at fault or victim; or death resulting from passenger in motorized vehicle.

Undetermined Death: No significant finding during the autopsy to conclusively give a cause or manner of death. Also, if there are many questionable or confounding factors, death could be determined as Undetermined.