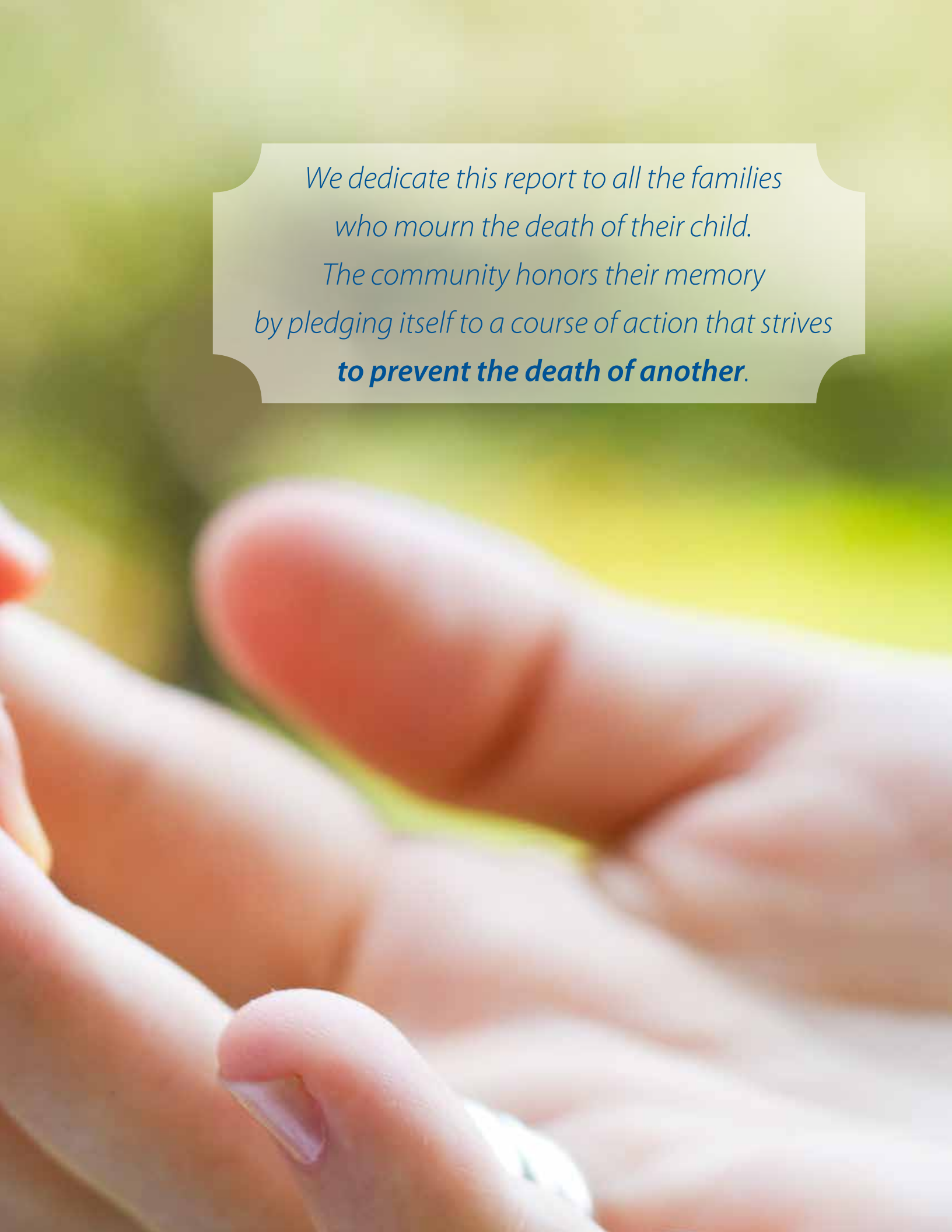
Child Fatalities 2014

Protecting Our Future

The Cuyahoga County Child Fatality Report
Eighteenth Edition

The Cuyahoga County
Child Fatality Review Committee
Armond Budish
Cuyahoga County Executive



We dedicate this report to all the families who mourn the death of their child. The community honors their memory by pledging itself to a course of action that strives ***to prevent the death of another****.*

TECHNICAL GLOSSARY

Infant – A person under 1 year of age.

Neonatal Period – The time period for all infants from their date of birth through the 27th day of life.

Postneonatal Period – The time period for all infants from the 28th day of life until the day before their 1st birthday.

Child – A person between 0 and 17 years of age (all references to "child" in this report specify which age group/range is being discussed).

Cause of Death – Event that causes a physical problem, no matter how brief or prolonged, leading to a child's death.

Manner of Death – Description of circumstances under which a child died. There are five categories for manner of death:

1. Natural: the death is a consequence of natural disease.
2. Accident: unintended and essentially unavoidable death, not by a natural, suicidal, or homicidal manner.
3. Suicide: death caused by self, with some degree of conscious intent.
4. Homicide: death caused by another human.
5. Undetermined: not enough evidence, yet or ever, to determine the manner of death.

Sleep Related Deaths – Deaths to infants under the age of 1 year that occur while sleeping. They can be classified as the following three types:

1. Sudden Infant Death Syndrome (SIDS): a sudden, unexplained death of an infant less than 1 year old. It is a diagnosis of exclusion, meaning that after an extensive review of the infant's medical history, a complete autopsy, and a death scene investigation, no cause can be identified.
2. Accidental Suffocation: a result of another person lying on the baby, wedging of the baby, or the baby's face, in a soft surface such as a pillow, blanket, or bumper pad.
3. Sudden Unexplained Infant Death (SUID)/Undetermined: ruled as the cause of death when an exact reason cannot be found, but the scene investigation indicates that there were dangers in the baby's sleep area.

White – A person having ancestry in any of the original peoples of Europe, the Middle East, or North Africa. It includes people who self report their race as "white" on demographic documents.

All Other Races – A person who does not have ancestry in any of the original peoples of Europe, the Middle East, or North Africa. It includes people who indicate their race is not "white" or report entries such as black or African American, American Indian or Alaska Native, Asian, and Native Hawaiian or Other Pacific Islander as well as ethnicity such as Hispanic if race was not identified.

Rate – Measure that indicates how often an event is occurring during a certain time period. It is calculated by taking the count of an event during a specific time period and dividing this number by the population that is at risk for experiencing the event during the time period. Rates are often expressed in units of 10, such as per 100, per 1,000, or per 100,000.

> ***Example:*** *The infant death rate is expressed as the number of deaths that occurred among infants 1 to 364 days old who were born alive during a given year divided by the number of live births that occurred in the same year multiplied by 1,000. Therefore, if 200 infants died during 2013 and there were 16,000 live births during the same year, the infant death rate would be 12.5 per 1,000 live births (calculated by taking 200 divided by 16,000 and multiplying by 1,000).*

Disparity – Term used to describe the difference or inequity between two groups.

> ***Example:*** *If the infant death rate was lower in whites compared to the infant death rate in all other races, a racial disparity exists because one racial group (all other races) has a higher rate of infant deaths compared to another racial group (whites).*

Ratio – Comparison made between two things; the fraction formed by the division of one amount by another.

> ***Example:*** *The population of Anytown, USA, was 100,000. It had 40,000 dwelling units. The ratio of people to dwelling units was 2.5 (100,000 divided by 40,000 equals 2.5).*

Trend – Term used to describe the general direction in which data are headed over a period of time. It often is demonstrated by placing a line in a chart. There needs to be a minimum of two data points to start a trend line but, as a general rule, most researchers prefer a minimum of six data points to predict a trend.

First Ring Suburbs of Cleveland – Municipalities whose borders touch some portion of the city of Cleveland. See **Appendix A** in data tables section.

Outer Ring Suburbs of Cleveland – Municipalities whose borders don't touch some portion of the city of Cleveland. See Appendix A in data tables section.

Social Determinants of Health – The circumstances in which people are born, grow up, live, work, and age, and the systems put in place to deal with illness. These circumstances are in turn shaped by a wider set of forces: economics, social policies, and politics.[1]

[1] World Health Organization. Social determinants of health: Key concepts. Available online at http://www.who.int/social_determinants/thecommission/finalreport/key_concepts/en/index.html (accessed July 25, 2014).

Table of Contents

Index of Figures, Maps, and Tables

AN OVERALL LOOK AT 2014

There were 165 child deaths in 2014, lowest total number of deaths in past 20 years.

In 2014, we saw the lowest number of child deaths in the county in the past 20 years. The total number decreased by 21 from the 2013 finalized total of 186. Child deaths between 1 and 9 years old decreased by 42% and infants deaths decreased by 9% in 2014. An 18% increase in child deaths between 10 and 17 years old occurred. The total number of child deaths for 2014 included 121 infants, 18 children between 1 and 9 years old, and 26 children between 10 and 17 years old. **Table 1** shows the number of deaths by age group for the last 10 years.

Table 1 Annual Number of Deaths by Age Group

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
Under 1 Year	164	166	162	171	141	140	144	131	133	121	**1,473**
1 - 9 Years	30	31	33	30	42	16	23	30	31	18	**284**
10 - 17 Years	45	36	35	39	30	22	20	21	22	26	**296**
Total	**239**	**233**	**230**	**240**	**213**	**178**	**187**	**182**	**186**	**165**	**2,053**

Twelve fewer infants died in 2014, lowest number of infant deaths in past 20 years.

One hundred twenty-one infants died in 2014. This was the lowest number of infant deaths in the past 20 years. Birth defects accounted for the largest decrease (from 23 in 2013 to 13 in 2014). Prematurity had six fewer deaths while other medical causes and other perinatal complications had one fewer death in 2014. Sleep related increased by three deaths (from 16 in 2013 to 19 in 2014). Infections, motor vehicle accidents, and other undetermined causes each had one more death. Homicide, cancer, accidental injury related, drowning, poisoning, undetermined injury related, and fire had the same number of deaths in 2014 compared to 2013.

Thirteen fewer deaths to children between 1 and 9 years, second lowest number in this age group in past 20 years.

Eighteen children between 1 and 9 years of age died in 2014. This was the second lowest total of child deaths in this age group in the past 20 years. Birth defects had the biggest decrease with seven fewer deaths (from 9 in 2013 to 2 in 2014), while motor vehicle accidents and drownings had three fewer deaths in 2014. One fewer death occurred in prematurity, other medical causes, fire, undetermined injury related, and other perinatal complications. Homicide had three more deaths in 2014 (from 1 in 2013 to 4 in 2014). Accidental injury related and drowning had one more death in 2014. Causes of death that remained unchanged from 2013 to 2014 include: cancer, infection, suicide, and other undetermined related.

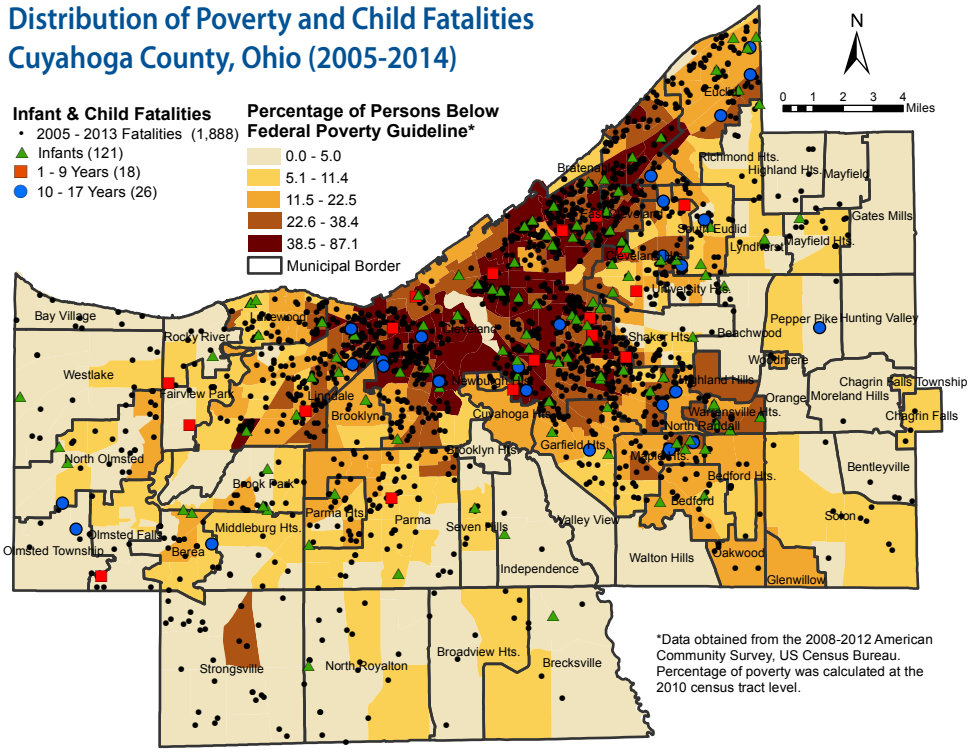
Four more deaths to children between 10 and 17 years, highest total in past 5 years.

Twenty-six children between 10 and 17 years died in 2014. This was the highest total number of deaths in this age group in the last 5 years. Other medical causes had the highest increase with six more deaths (from 2 in 2013 to 8 in 2014) while cancer had one more death in 2014. Prematurity, birth defects, homicide, infection, other perinatal complications, accidental injury related, motor vehicle accident, drowning, poisoning, undetermined injury related, and fire had the same number of total deaths in 2014 compared to 2013. Suicide had two fewer deaths in 2014, while other undetermined decreased by one death in this age group.

Map 1 illustrates that the distributions of poverty and of child deaths are closely related. Map 1 data were retrieved from the 2008-2012 five-year American Community Survey, based on the 2010 census tracts, and deaths from 2005-2014.[2,3] The 2008-2012 Cuyahoga County poverty rate was 17.7%,[4] which is approximately twice as low (or lower) as the poverty rate that exists in the darkest shade of brown on the map. The 2014 federal poverty guideline for a family of four was $23,850.[5]

Map 1

Distribution of Poverty and Child Fatalities Cuyahoga County, Ohio (2005-2014)



*Data obtained from the 2008-2012 American Community Survey, US Census Bureau. Percentage of poverty was calculated at the 2010 census tract level.

Living wage calculators are another measure of the economic status of a family. These provide the expected income needed to support a family without public assistance. In 2014, the living wage for a Cuyahoga County family of four (assuming two parents, one parent working, and two children) was approximately $44,500.[6] This amount is almost twice as high as the federal poverty guideline for 2014 and is higher than the median household income in Cuyahoga County for 2013 (newest data available by the U.S. Census Bureau) of $43,500.[7]

[2] US Census Bureau. 2008-2012 American Community Survey 5-year estimates. Available online at http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml (accessed July 3, 2014).

[3] US Census Bureau. 2010 Census of population and housing; Summary file 1. Available online at http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml (accessed July 3, 2014).

[4] US Census Bureau. 2008-2012 American Community Survey 5-year estimates. Available online at http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml (accessed July 3, 2014).

[5] US Department of Health and Human Services (HHS). The 2014 HHS poverty guidelines. Available online at http://aspe.hhs.gov/poverty/14poverty.cfm (accessed June 26, 2015).

[6] Glasmeier, A.K. PhD. Living Wage Calculator. Available online at www.livingwagecalculator@mit.edu (accessed July 7, 2015).

[7] US Census Bureau. 2013 American Community Survey 1-year estimates. Available online at http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml (accessed July 3, 2014).

Lowest child death rate in past 10 years.

Figure 1 gives an historical perspective over the past 20 years and shows the decrease in the rate of child deaths in 2014. Twenty-one fewer deaths in 2014 led to an 11% decrease in the rate of child deaths in Cuyahoga County. This significant decrease produced the lowest child death rate in the last 10 years and the lowest total number of deaths in the last 20 years. A significant decrease in the rate of child deaths between 1 to 9 years was the biggest factor for the decline.

Figure 1

Total Child Deaths (age 0-17) Cuyahoga County (1995-2014)

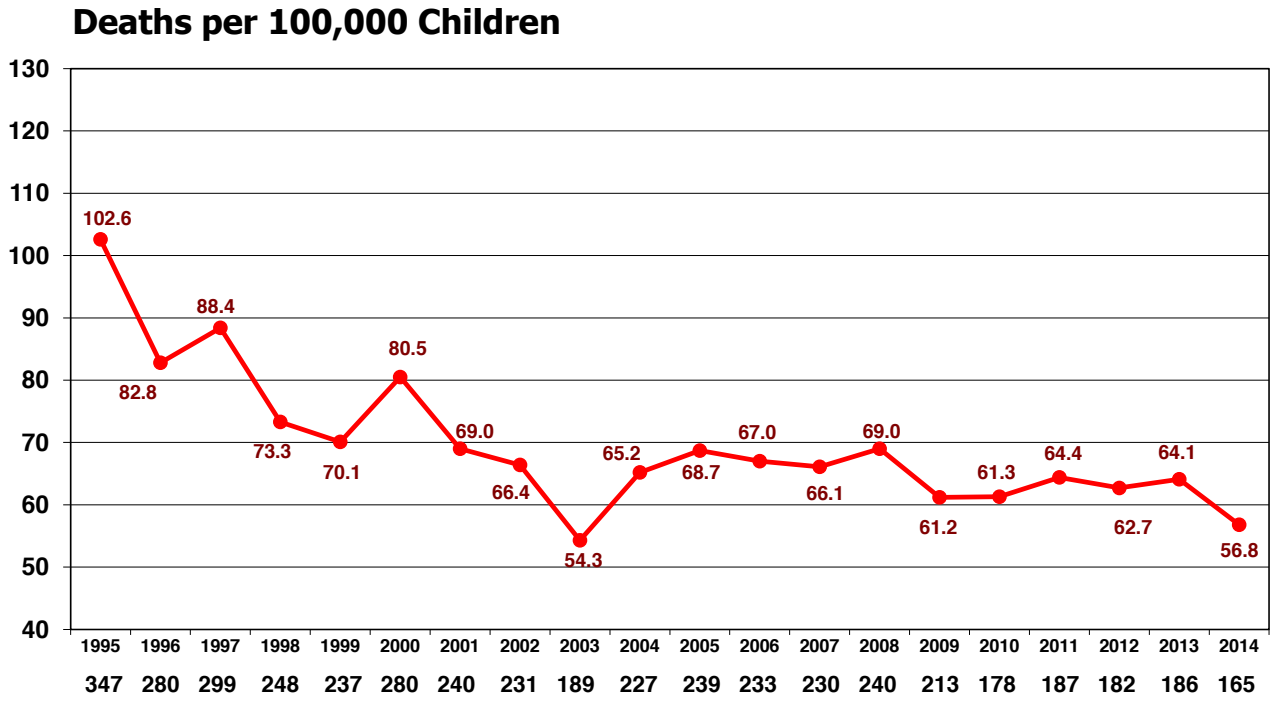


Table 2

Leading Causes of Death by Age Group in 2014

Cause of Death	Under 1 Year	1 - 9 Years	10 - 17 Years	Total
Prematurity	76	0	0	**76**
Sleep Related	19	0	0	**19**
Birth Defects	13	2	3	**18**
Homicide	2	7	8	**17**
Other Medical Causes	2	2	8	**12**
Cancer	1	2	2	**5**
Infections	3	1	0	**4**
Accidental - Injury Related	0	3	0	**3**
Other Perinatal Complications	3	0	0	**3**
Suicide	0	0	3	**3**
Motor Vehicle Accident	1	0	1	**2**
Drowning	0	0	1	**1**
Poisoning	0	1	0	**1**
Undetermined - Other	1	0	0	**1**
Total	**121**	**18**	**26**	**165**

Table 2 provides a breakdown of the leading causes of death by age group. It shows that a large majority (72%) of deaths continue to be rooted in medical related causes such as prematurity, birth defects, cancer, infections, and other medical conditions. Infants accounted for 73% of all child deaths, which was the highest ratio of infant deaths to total deaths in the last three years. Sleep related deaths overtook birth defects for the second leading cause of death in 2014. Homicide was the leading cause of death in the 1-to 9-year-old age group and tied with other medical causes for the leading cause of death in the 10-to 17-year-old age group. Those two causes of death accounted for over 60% of all deaths in that age group.

Birth defects and prematurity had the largest decreases in total number of deaths in 2014. Birth defects had 17 fewer deaths (from 35 in 2013 to 18 in 2014), and prematurity decreased from 83 in 2013 to 76 in 2014. Drowning had three fewer deaths while other perinatal complications, suicide, and motor vehicle accidents had two fewer deaths. Fire and undetermined injury related each had one fewer death in 2014.

There were 12 deaths due to other medical causes in 2014, which was 4 more than in 2013. Six of these deaths had brain related complications, 3 had a metabolic disorder, 2 had clotting disorders, and 1 had a heart condition. Sleep related and homicide deaths each increased by 3 while cancer, infections, accidental injury related, and poisoning each had one more death in 2014. Deaths ruled as other undetermined had the same number of deaths from 2013 to 2014.

In the following pages, you will find a discussion of the specific causes of death and their associated risk factors. Also, we highlight the risks and causes that impacted age groups and races in varying degrees. As in previous reports, the data tell a compelling story about the lives and deaths of our children and the challenges their families face every day.

Cuyahoga County has the lowest racial disparity infant mortality rate.

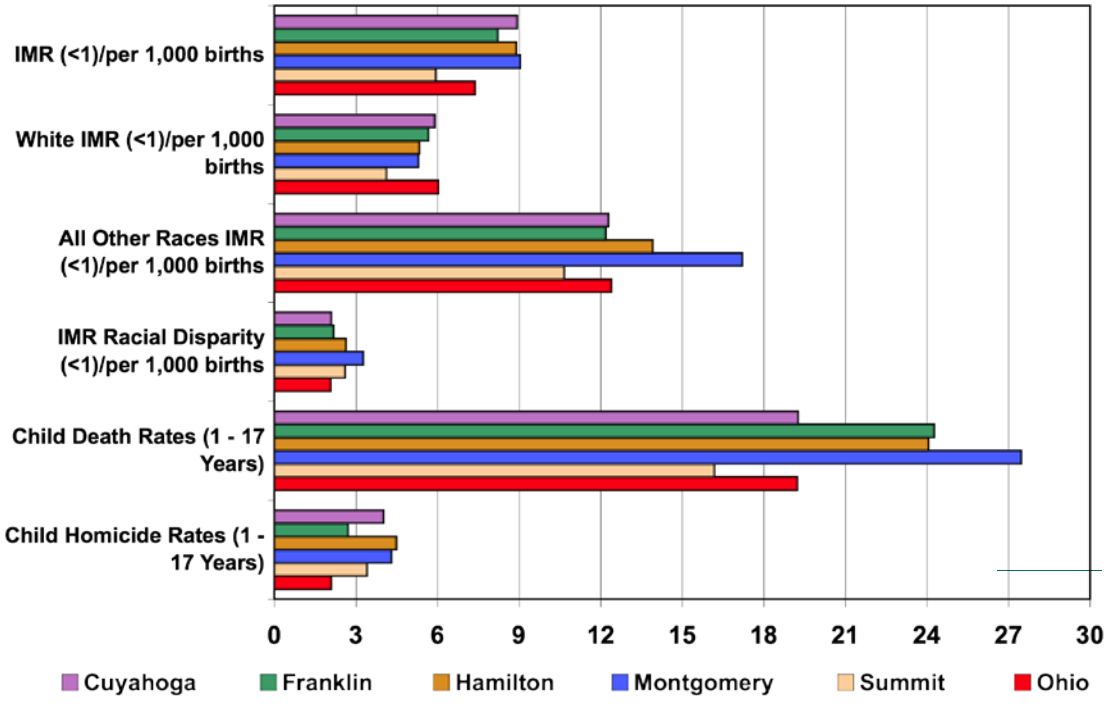
The Child Fatality Review Board sought data sources that allowed direct comparisons to other large, urban areas in the state focusing on child death and infant mortality rates. We compared Cuyahoga County with Franklin (Columbus area), Hamilton (Cincinnati area), Montgomery (Dayton area), and Summit (Akron area) counties, as well as the state as a whole.[8] These data were for 2013, the most current information available.

In 2013, the overall infant mortality rate (IMR) for Cuyahoga was tied with Hamilton for the third highest county and was slightly lower than Montgomery County **(Figure 2)**. Cuyahoga had the highest white IMR, but was the third-highest for all other races IMR. Our racial disparity for infant mortality was the lowest among the five counties; however, this was due to our white IMR being higher than the rest of the counties. The IMR racial disparity ratio in this figure measured the number of all other race infants that died for every one white infant. In previous years, this measure was calculated by subtracting the all other races IMR by the white IMR. Therefore, the current ratio is significantly lower than in previous years. In terms of the child death rate, Cuyahoga had the second-lowest child death rate and had the same rate as the overall state rate. Our child homicide rate was the third highest among the five counties and nearly twice as high as the overall state child homicide rate. The 2013 data suggest that Cuyahoga County improved significantly on the overall child death rate, but had stagnant infant mortality and child homicide rates.

[8] Center for Public Health Statistics and Informatics, Ohio Department of Health. 2013 Infant and child mortality by county (accessed August 13, 2015). The Department specifically disclaims responsibility for any analyses, interpretations or conclusions.

Figure 2

Peer County Comparisons in 2013



Minority children are more than twice as likely to die in Cuyahoga County.

The racial disparity between white and all other race children decreased from 2.4 to a ratio of 2.3 in 2014, which is tied for the second lowest rate in the last 10 years (**Figure 3**). The decrease in the ratio is because there was a greater decrease in the death rate for all other races than in the white rate. In fact, in the last 10 years, the all other races rate of 81.1 was the lowest rate and the white child death rate of 34.9 was second lowest rate (refer to **Table 14**). The sober truth is minority children are still more than twice as likely to die as white children, even though the ratio has decreased by 32% from the peak in 2008. The racial disparity for infants and children is illustrated in **Figure 4**. The graph shows that the mortality rate of minority children ages 1 to 17 decreased from 2.9 in 2013 to 1.8 in 2014. The significant decrease was due to eleven fewer deaths to children of all other races, from 38 in 2013 to 27 in 2014 (Refer to Table 14). The number of white children who died slightly increased (from 15 in 2013 to 17 in 2014). This year almost 45% of all minority children ages 1 to 17 died from homicide, while only 18% of white children died from the same manner.

The racial disparity of infant deaths (2.4) increased for the second time since 2008. This is due to a significant decrease in the white IMR (from 5.9 in 2013 to 4.8 in 2014) which was more than the decrease of all other races IMR (from 12.2 in 2013 to 11.4 in 2014). Although the all other races IMR was the lowest rate in the last ten years, the Cuyahoga County infant death racial disparity ratio (2.4) was higher than the US 2013 ratio of 1.7 (most recent data available).[9] The county infant racial disparity ratio shows we have a lot of work to do to ensure minority infants have the same opportunity as white infants to reach their first birthday.

"Infant mortality is a reflection of a society's commitment to ensuring access to health care, adequate nutrition, a healthy psychosocial and physical environment, and sufficient income to prevent the adverse consequences of poverty".[10] Poverty and child deaths are linked in Cuyahoga County (Map 1). Child deaths are clustered in areas where there are higher percentages of persons living in poverty which has disproportionately impacted our minority population (**Map 2**). Additionally, the map illustrates the link between race, poverty, geographical location, and child death.

Racial and economic divides seen today are a direct result of historical policies that limited opportunities for minority populations to access quality social conditions that provide protective factors to reduce mortality. One example is redlining, a grading process to determine the distribution of home loans. In the late 1930's, a map (**Map 3**) was developed by the Home Owners Loan Corporation (HOLC) to show the grades they gave to various areas within Cuyahoga County

Figure 3 Child Death Rates by Race (age 0-17)

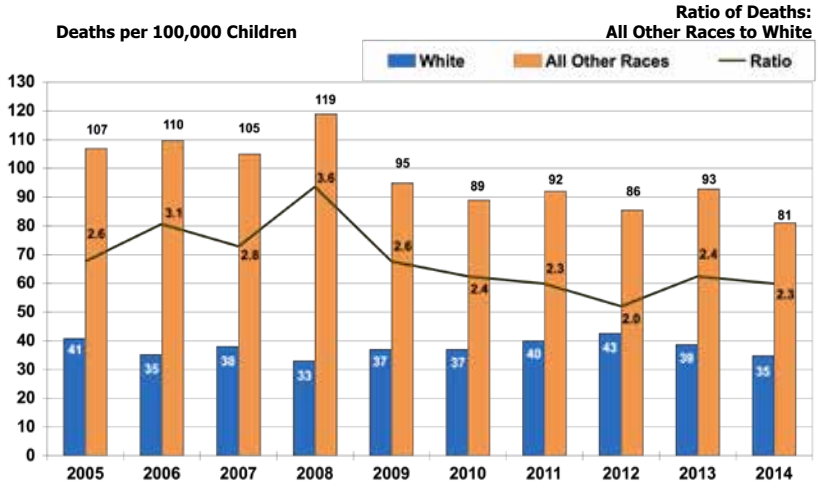
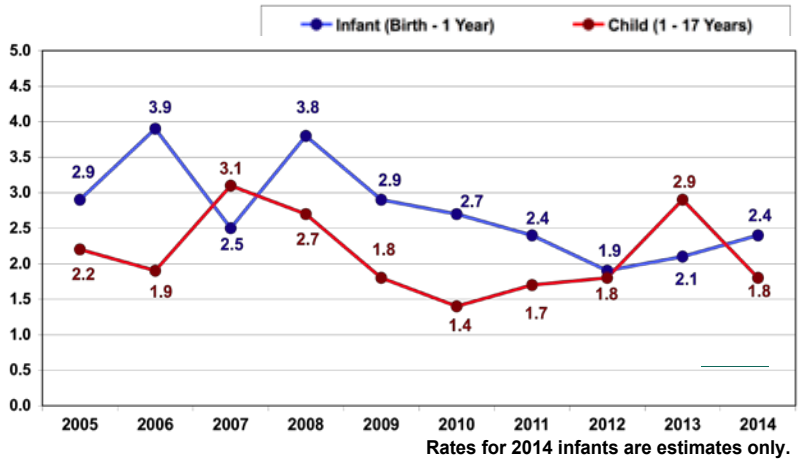
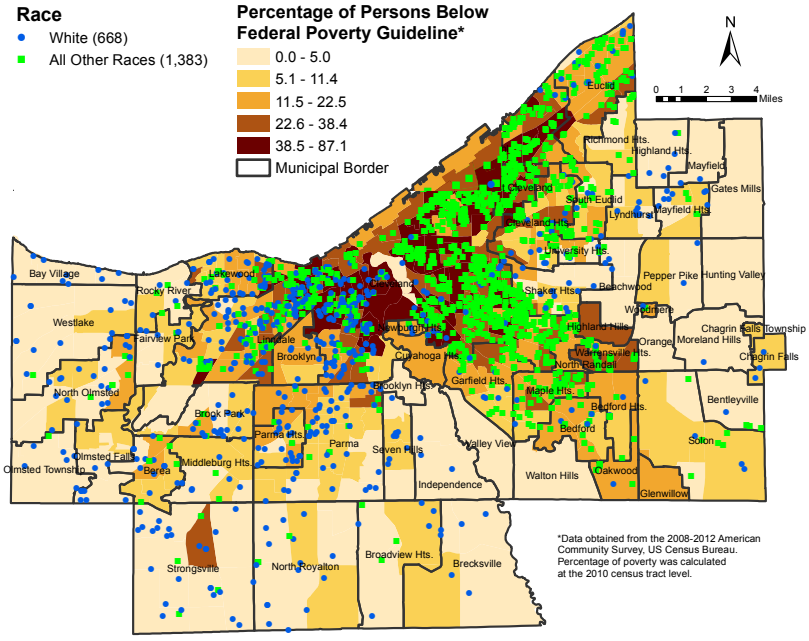


Figure 4 Racial Disparity Ratios

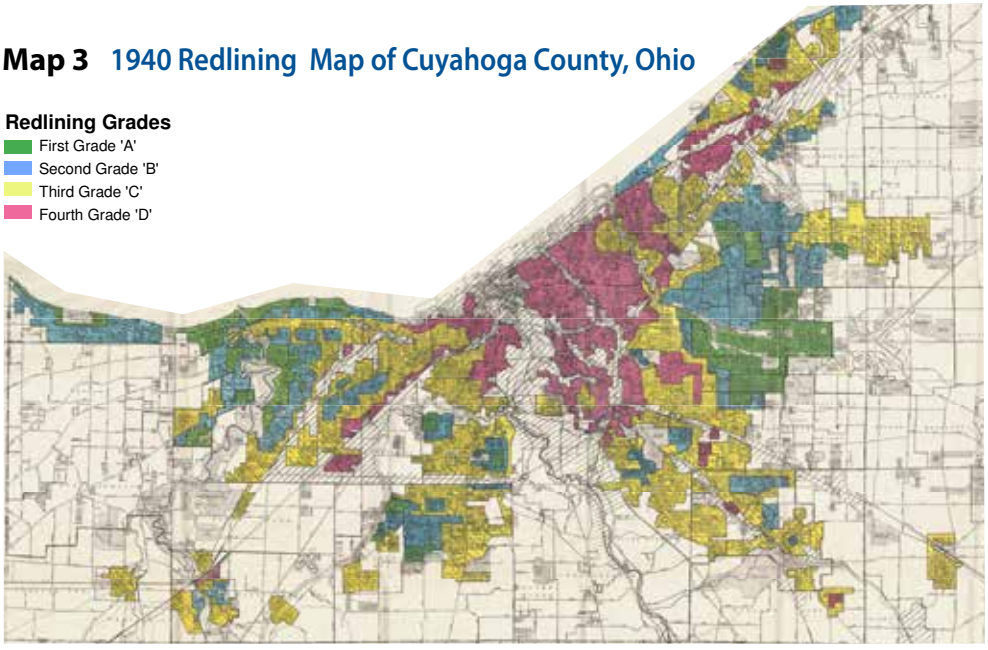


for the purpose of giving loans during the Great Depression.[11] Higher graded locations, denoted on Map 3 in green (grade A) or blue (grade B), had a much higher chance of getting a loan and the loans had lower mortgage costs. These locations were mostly all white populations and had restrictions on keeping minorities from moving into these areas. Lower graded locations, denoted on Map 3 in yellow (grade C) or in red (grade D), were locations that had a majority of people that were recent immigrants or African American. Persons attempting to get a loan in these less desired areas were given mortgages with higher fees, if they could get a mortgage at all. The D graded areas in red were the least desired locations, mostly populated by African Americans or immigrants. Many of these locations were not close to stores, schools or churches, and several sites had hazardous environmental conditions. It was an example of institutionalized racism because it helped develop inequitable, socially unjust conditions found in many inner cities and was a way to systematically develop a financial hierarchy based on race. There is a direct connection between the lower graded areas in the 1930's and the highest areas of poverty and child death that we see today in Map 2. We must focus on strategies that can eliminate the impact of historical wrongs created through policies in order to create equitable conditions for our children, our future.

Map 2 Distribution of Poverty and Race for Child Fatalities Cuyahoga County, Ohio (2005-2014)



Map 3 1940 Redlining Map of Cuyahoga County, Ohio



[9] Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS). Deaths: Final Data for 2013. Available online at http://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64_02.pdf (accessed July 9, 2015).

[10] Report of the secretary's advisory committee on infant mortality (SACIM): Recommendations for HHS action and framework for a national strategy. (2013). Available online at http://www.hrsa.gov/advisorycommittees/mchbadvisory/InfantMortality/Correspondence/recommendationsjan2013.pdf (accessed July 7, 2015).

[11] Kirwan Institute for the Study of Race and Ethnicity, The Ohio State University. History matters: Understanding the role of policy, race, and real estate in today's geography of health equity and opportunity in Cuyahoga County. (2015). Available online at http://kirwaninstitute.osu.edu/wp-content/uploads/2015/06/The-History-of-Race-Real-Estate-Cuyahoga-County-Final-Report-February-2015.pdf (accessed July 2, 2015).

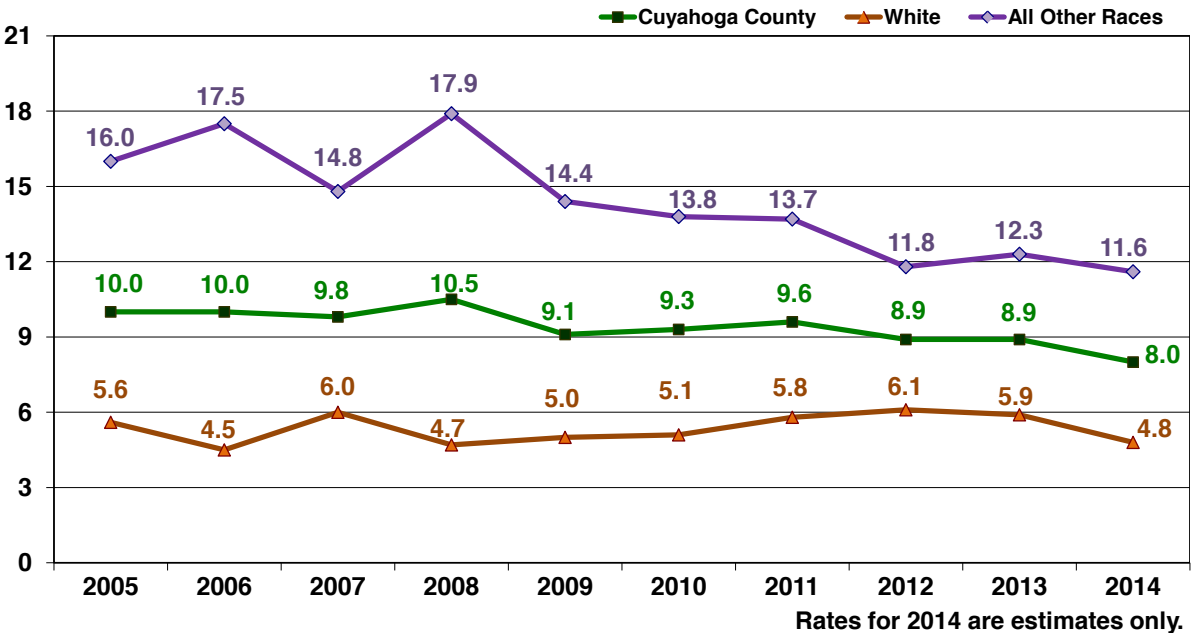
Infant mortality rate is the lowest in the last ten years.

The infant mortality rate in 2014 was 8.0 infant deaths per 1,000 live births and was the lowest rate in the last 10 years (**Figure 5**). The current rate was based on 121 infant deaths among 15,049 live births, according to preliminary data received from the Ohio Department of Health (ODH) (refer to **Table 11**).[12] Our local rate of 8.0 remains significantly higher than the Ohio rate of 7.4 in 2013,[13] and the 2013 US rate of 5.96[14] (most recent data available). In order to match the 2013 Ohio infant mortality rate, Cuyahoga County needed one more infant to survive each month in 2014.

Figure 4 shows the large racial disparity of infant deaths. We regressed in this area in 2014, but we have improved the racial disparity ratio by more than 35% from 3.8 in 2008 to 2.4 in 2014. In Figure 5, the IMR of 11.6 for all other races was the lowest rate in the last ten years. The 2014 rate was more than 35% lower than the high rate of 17.9 seen in 2008. The white IMR increased 26% from 2008 to 2013, but the 2014 white IMR of 4.8 was almost 20% lower than 2013. The white IMR was significantly lower than the Healthy People 2020 goal of 6.0 for the overall IMR in the United States,[15] lower than the U.S. Health and Human Services Secretary Advisory Committee on Infant Mortality (SACIM) 2015 IMR goal of 5.5[16], but higher than the 2020 SACIM IMR goal of 4.5.[17]

Figure 5

Infant Mortality Rate (IMR) per 1,000 Live Births



[12] Data on 2014 births are estimates only. The estimates are derived from unconfirmed delivery hospital data and historical patterns of geographic and racial distributions. Past experience indicates that the estimation technique used is quite accurate and provides a reasonable projection well in advance of the availability of state data for confirmed rates. Center for Public Health Statistics and Informatics, Ohio Department of Health (ODH) (accessed June 12, 2015). The Department specifically disclaims responsibility for any analyses, interpretations or conclusions.

[13] ODH, Center for Public Health Statistics and Informatics. 2013 Ohio Infant Mortality Data: General Findings. Available online at http://www.odh.ohio.gov/~/media/ODH/ASSETS/Files/cfhs/Infant%20Mortality/2013%20Ohio%20Infant%20Mortality%20Data%20Report%20FINAL.pdf (accessed July 30, 2015).

[14] CDC, NCHS. Deaths: Final Data for 2013. Available online at http://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64_02.pdf (accessed July 9, 2015).

[15] HHS, Office of Disease Prevention and Health Promotion. Healthy People 2020. Washington, DC. Available online at http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicId=26 (accessed June 12, 2014).

[16] Report of the SACIM: Recommendations for HHS action and framework for a national strategy. (2013). Available online at http://www.hrsa.gov/advisorycommittees/mchbadvisory/InfantMortality/Correspondence/recommendationsjan2013.pdf (accessed July 7, 2015).

[17] Ibid.

[18] James A. Unpublished preliminary data presented at Ohio Collaborative to Prevent Infant Mortality, Columbus, OH, June 2015.

The most frequent causes of infant death continued to be prematurity (76), sleep related deaths (19), and birth defects (13) – see Table 2. These top three causes accounted for 89% of all infant deaths, which was a lower percentage than last year and the ten-year average. Due to the drastic decrease in the number of birth defect deaths, sleep related deaths became the second leading cause of infant death in 2014. Out of the 13 remaining infant deaths, 9 were medically related, 2 deaths were ruled as homicides, 1 death was due to a motor vehicle accident, and 1 death was ruled as undetermined because the primary cause of death was unable to be identified.

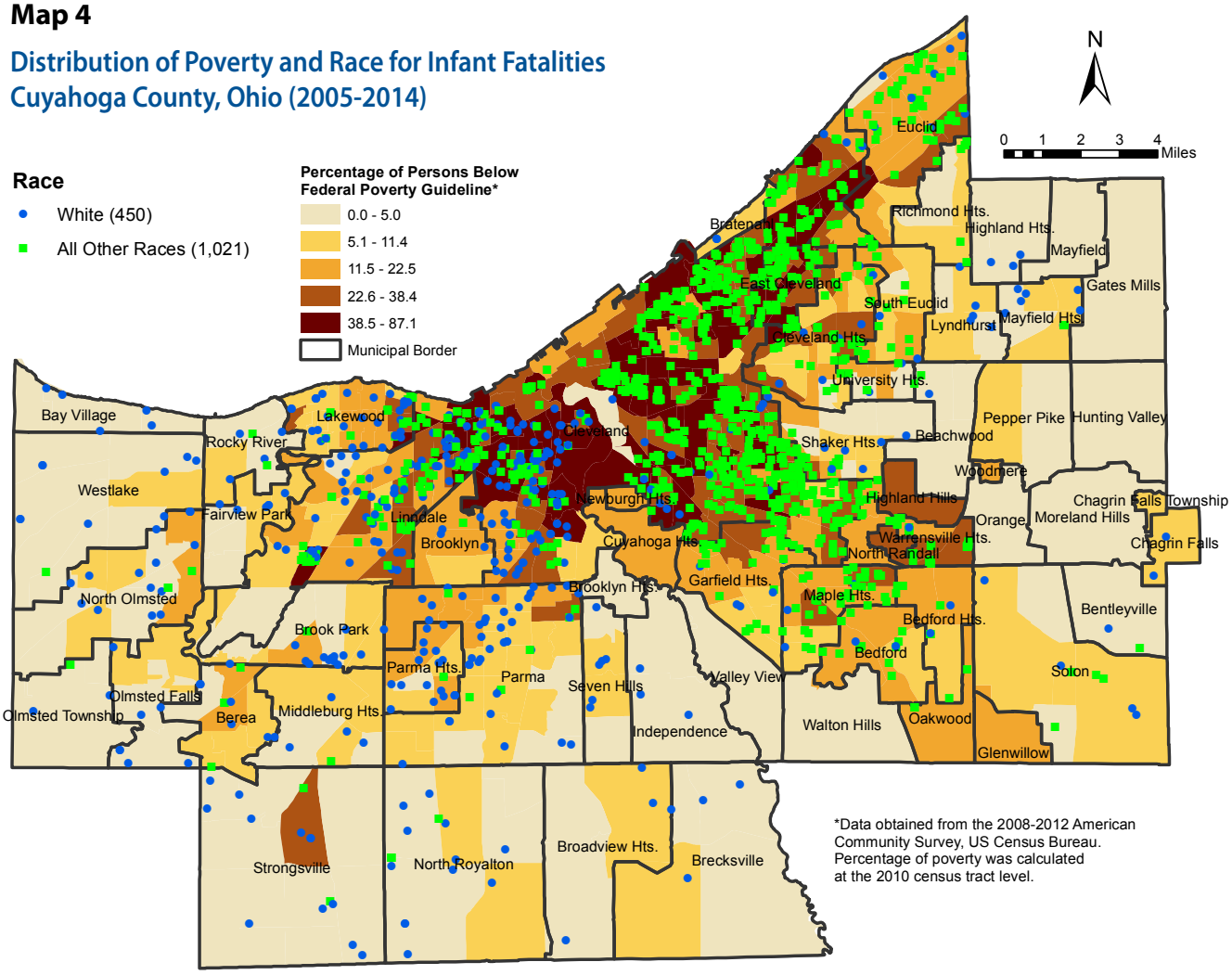
In 2013, Cuyahoga County, in conjunction with the city of Cleveland, began collaborating with ODH, CityMatCH (a national organization that supports local, urban maternal and child health initiatives), and eight other metropolitan communities to establish the Ohio Institute for Equity in Birth Outcomes (OEI). The group was charged with improving the high infant mortality that exists in our communities, especially our high racial disparity ratios. This partnership began after the release of 2010 state-specific data showed that Ohio had the second-highest black IMR and the fourth-highest overall IMR in the country. Preliminary 2013 state IMR data showed Ohio was 45th in black IMR, white IMR, and overall IMR in the US.[18]

INFANT MORTALITY

Our local data show we had over 1,000 minority infants die within the last ten years, but only 450 white infants over the same time period (**Map 4**).

Map 4

Distribution of Poverty and Race for Infant Fatalities Cuyahoga County, Ohio (2005-2014)



*Data obtained from the 2008-2012 American Community Survey, US Census Bureau. Percentage of poverty was calculated at the 2010 census tract level.

Prematurity accounts for 63% of infant deaths and 46% of all child deaths in 2014.

In 2014, 76 infants died due to prematurity, accounting for 63% of the infant deaths (**Figure 6**). The 2014 cause-specific IMR for prematurity was 5.1 deaths per 1,000 live births.[19] Prematurity remains the single leading cause of death for children of all ages in Cuyahoga County (46% of the total).

The 2014 prematurity IMR of 5.1 is tied with 2012 for the lowest rate in the last 10 years (refer to **Table 13**). The CDC recently released a report in which they changed the variable used to measure gestational age of the infant. This new variable significantly impacts the preterm birth rates. The new measure uses the obstetrical estimate of gestation at delivery instead of last menses period, and the preterm birth rates are now significantly lower for local, regional, and national data.[20] Cuyahoga County's preterm birth rate remained stable from 11.8% in 2012 to a preliminary 2014 rate of 11.8%.[21] The state of Ohio rate increased slightly, as the 2011 rate of 10.2% was slightly lower than the 2013 rate of 10.3% (most recent data available).[22] The US rate decreased from 9.8% in 2012 to a 2014 preliminary rate of 9.6%.[23] Although the Cuyahoga County preterm birth rate decreased due to the new calculation method (2014 preliminary rate using old method was 13.8%), we continue to have a much higher rate compared to the state and the nation.

In 2014, infants of all other races were more than twice as likely as white infants to die due to prematurity (**Figure 7**). The good news is that the all other race prematurity death rate of 7.5 is the second-lowest rate in the last 10 years. Although the prematurity deaths for all other races have decreased by 14% since the 2010 rate of 8.6; the white prematurity rate of 2.7 is 29% higher than the 2010 rate of 2.1.

Figure 6
The Impact of Prematurity on Child Deaths in 2014

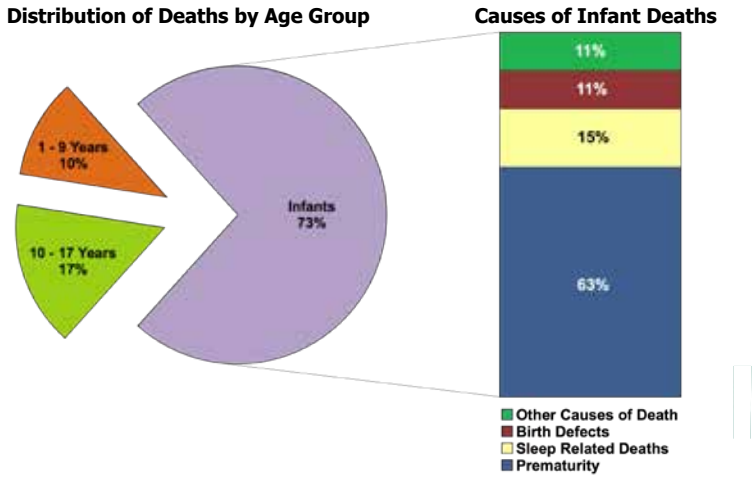
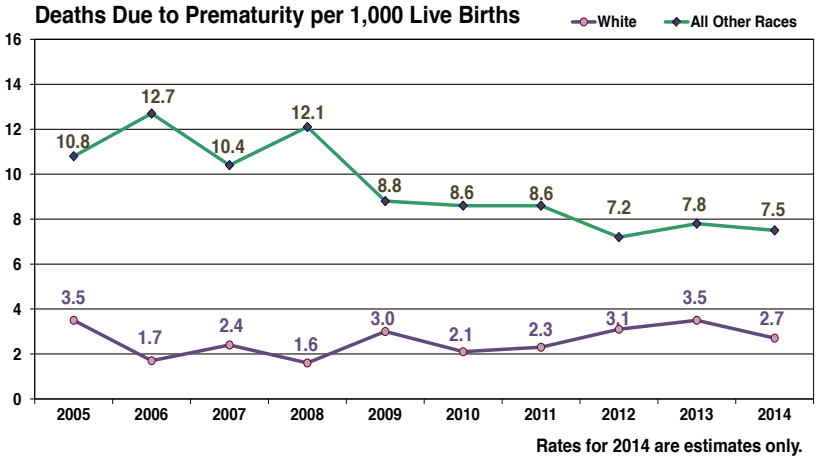


Figure 7
Rates of Infant Death Due to Prematurity by Race



[19] (Center for Public Health Statistics and Informatics, June 12, 2015).

[20] CDC, NCHS. Measuring gestational age in vital statistics data: Transitioning to the obstetric estimate. Available online at http://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64_05.pdf (accessed July 9, 2015).

[21] (Center for Public Health Statistics and Informatics, June 12, 2015).

[22] March of Dimes. 2013 Premature birth report card. Available online at http://www.marchofdimes.com/materials/premature-birth-report-card-ohio.pdf (accessed August 4, 2014).

[23] CDC, NCHS. Births: Preliminary Data for 2014. Available online at http://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64_06.pdf (accessed June 26, 2015).

Poverty remained the most frequent risk factor associated with prematurity, occurring in 71% of the cases. Chorioamnionitis was the second-most common risk factor, occurring in 45% of the prematurity related fatalities. This risk factor also had the largest increase (from 1 in 2013 to 34 in 2014). Mothers with a chronic health condition (41%), premature rupture of membranes (40%), cervical insufficiency (34%) (formerly known as incompetent cervix), previous preterm delivery (30%), and parental tobacco use (30%) were the other five risk factors noted in at least 30% of all preterm related deaths. Cervical insufficiency, placental abruption, and premature rupture of membranes all had significant declines of at least 20% this year. Chorioamnionitis, late entry to prenatal care, parental education less than high school, multiple gestation, intrauterine tobacco exposure, parental tobacco use, mother with a chronic health condition, and previous fetal loss were all the risk factors that increased by at least 20% in 2014. The large majority of prematurity cases with illicit drug use as a risk factor were due to marijuana use. Obesity was the leading risk factor in the category "mother with a chronic health condition". Almost 40% of mothers were obese whose infants died from prematurity. Risk factors associated with prematurity in at least 10% of cases are summarized in **Table 3**.

Of the 76 infant deaths due to prematurity, 49 (65%) were male and 54 (72%) were of a minority race. Cleveland residents comprised 45% of the infant deaths due to prematurity, 41% were from the first ring suburbs, while only 15% were residents in the outer ring suburbs. More than four out of five (82%) were born so early that they lived for less than 12 hours, and only 7 (8%) survived more than seven days. Furthermore, 49 (79%) were born prior to 23 weeks and another 11 were born at 23 weeks. An infant born at 23 weeks should be considered potentially viable, as survival with resuscitation is at least 26-28%.[24] The remaining 16 (21%) were born between the gestational ages of 24 and 29 weeks.

Table 3

Common Risk Factors Associated with 76 Deaths Due to Prematurity

Risk Factor	#	%
Poverty	54	71.1
Chorioamnionitis	34	44.7
Mom with a chronic health condition	31	40.8
Premature rupture of membranes (PROM)	30	39.5
Cervical insufficiency	26	34.2
Parental tobacco use	23	30.3
Previous preterm delivery	23	30.3
Previous fetal loss	21	27.6
Intrauterine tobacco exposure	20	26.3
Multiple gestation	20	26.3
Late entry into prenatal care	17	22.4
Maternal history of mental health problems	17	22.4
Parental illicit drug use	12	15.8
Sexually transmitted infections - past history	12	15.8
At-risk maternal age	10	13.2
Placental abruption	10	13.2
Intrauterine drug exposure	9	11.8
Parental education less than high school	8	10.5

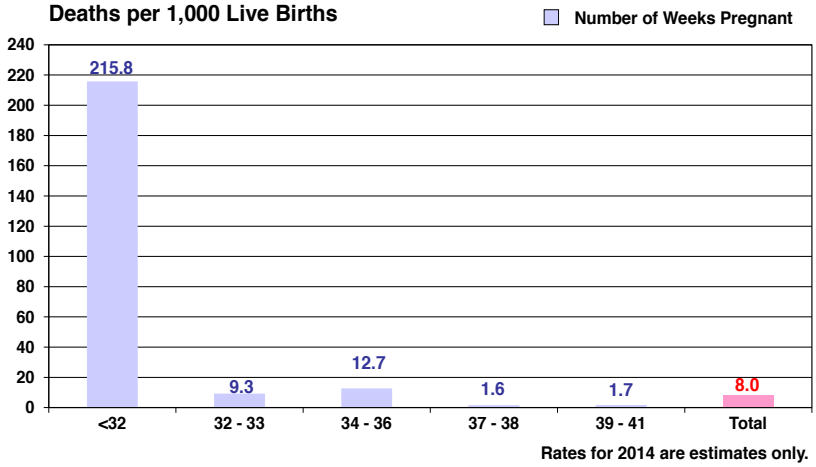
[24] Raju TNK., Mercer BM., Burchfield DJ., & Joseph GF. (2014). Periviable birth: executive summary of a joint workshop by the Eunice Kennedy Shriver National Institute of Child Health and Human Development, Society for Maternal-Fetal Medicine, American Academy of Pediatrics, and American College of Obstetricians and Gynecologists. Journal of Perinatology; 34; pgs. 333-342 Available online at www.nature.com/jp (accessed July 17, 2015).

Prematurity also impacts the financial stability of our health care system. The average medical costs for a premature and/or low birth weight baby is $55,393 per infant through the first year of life.[25] With almost 1,775 preterm births in Cuyahoga County in 2014, the total medical cost for nurturing these preterm babies was approximately $100 million.[26] It is important to note that almost one in five (19%) African American babies born in 2014 were preterm and almost 75% of all African American deliveries were paid for by Medicaid.[27]

Figure 8 illustrates the 2014 infant mortality rate by gestational age. The graph shows that more than one in five infants born before week 32 died. Looking closely at the high IMR for babies less than 32 weeks, we see that a few weeks do really matter. Our IMR for babies less than 24 weeks gestation is 833.3 infant deaths for every 1,000 live births[28] (in other words, five out of six infants died). Babies born at 24-27 weeks had an IMR of 164.7, and our IMR for babies born between 28 and 31 weeks is 35.9 (in other words, one in 28 infants died). Our rate for infants born less than 28 weeks (471.3) is significantly higher than the national rate of 395.93 in 2013 (most recent data available).[29] Cuyahoga County's IMR for 32-33 weeks (9.3) is significantly lower than the national rate of 20.8,[30] but the national IMR for 34-36 weeks of 8.5[31] is significantly lower than our rate of 12.7. The infant mortality rate for full term infants, those born at 37 or more weeks, is 1.7 per 1,000 live births. Infants delivered at full term in Cuyahoga County are 130 times more likely to survive than those born at less than 32 weeks.

One effective and safe way to reduce the rate of preterm births and unplanned pregnancies is the use of long-acting reversible contraceptives (LARC). In a recent study that followed the state of Colorado's initiative to increase LARC usage in Title X clinics, teen birth rates and teen abortion rates dropped by more than 40%.[32] This same study also found that improved access to family planning services and increased use of LARC were associated with a lower risk of preterm births. LARC usage is as high as 32% in some European countries, whereas the 2011-13 U.S. LARC usage rate was 7.2%.[33, 34] This disparity in LARC usage is associated with the 2011 U.S. teen pregnancy rate that is more than twice the rate found in seven European countries and more than four times the rate found in the Netherlands, Slovenia, and Switzerland.[35] Increasing LARC usage through medical facilities that serve women living in poverty, such as Title X clinics, is important because women living in poverty are more than five times as likely to have an unintended pregnancy than women with an income greater than 200% of the federal poverty guideline.[36]

Figure 8 2014 Infant Mortality Rate by Gestational Age



[25] March of Dimes. (2014) Premature babies cost employers $12.7 billion annually. Available online at http://www.marchofdimes.org/news/premature-babies-cost-employers-127-billion-annually.aspx (accessed July 17, 2015).

[26] (Center for Public Health Statistics and Informatics, June 12, 2015).

[27] Ibid.

[28] Ibid.

[29] CDC, NCHS. Measuring gestational age in vital statistics data: Transitioning to the obstetric estimate. Available online at http://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64_05.pdf (accessed July 9, 2015).

[30] Ibid.

[31] Ibid.

[32] Goldthwaite LM., Duca L., Johnson RK., Ostendorf D., & Sheeder J. Adverse birth outcomes in Colorado: Assessing the impact of a statewide initiative to prevent unintended pregnancy. American Journal of Public Health; July 2015; pgs e1-e7.

[33] Vestal C. (2015). A pregnancy prevention breakthrough. The Pew Charitable Trusts. February 2015. Available online at http://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2015/2/12/a-pregnancy-prevention-breakthrough (accessed July 19, 2015).

[34] CDC. NCHS. Data Brief 188: Trends in long-acting reversible contraception use among U.S. women aged 15-44. February 2015. Available online at http://www.cdc.gov/nchs/data/databriefs/db188.htm (accessed July 19, 2015).

[35] Sedgh G., Finer LB., Bankole A., Eilers MA., & Singh S. Adolescent pregnancy, birth, and abortion rates across countries: Levels and recent trends. Journal of Adolescent Health. Available online at http://www.jahonline.org/article/S1054-139X%2814%2900387-5/pdf (accessed July 19, 2015).

[36] Guttmacher Institute (2013). Unintended pregnancy remains a persistent problem in the United States; Disparities by income continue to grow. Available online at http://www.guttmacher.org/media/nr/2013/12/19/ (accessed July 19, 2015).

Tied for the highest number of sleep related deaths in the last four years.

There are three types of sleep related deaths 1) Sudden Infant Death Syndrome (SIDS) 2) Accidental Suffocation and 3) Sudden Unexplained Infant Death (SUID)/Undetermined. SIDS is a diagnosis of exclusion, meaning that after an extensive review of the infant's medical history, a complete autopsy, and a death scene investigation, no cause can be identified. Accidental suffocation is a result of another person lying on the baby, wedging of the baby, or the baby's face in a soft surface such as a pillow, blanket, comforter, or bumper pad. SUID/Undetermined is ruled as the cause of death when an exact reason cannot be found, but the scene investigation indicates that there were dangers in the baby's sleep area. **Figure 9** illustrates the number and types of sleep related deaths that have occurred in Cuyahoga County over a ten-year span.

In Cuyahoga County, there were 19 sleep related deaths in 2014, which was a 32% decrease from 2010, but 3 more deaths than in 2013. The total number of sleep related deaths was tied with the highest number in the last four years, and increased for the first time since 2010. Accidental suffocation was associated with 2 deaths which is the lowest number in the last five years. This accounted for 11% of all sleep related deaths and was the second lowest ratio in the past ten years. Seventeen were ruled SUID/Undetermined due to potential hazards in the sleep environment. Of the 19 sleep related deaths, 10 involved surface sharing, which is the lowest ratio in the last three years. The term surface sharing is now used because evidence suggests that sharing any sleep surface with someone else (not just a bed) is a major risk factor for unsafe sleep related fatalities. All 19 sleep related deaths involved some type of sleep hazard such as soft bed surface, the position baby was placed, pillows, bumper pads, and other items in the sleep environment (**Table 4**).

[37] Ohio Senate 130th General Assembly (2014). Senate Bill 278. Available online at https://legiscan.com/OH/text/SB278/2013 (accessed July 30, 2015).

For the seventh straight year, no SIDS deaths occurred in Cuyahoga County. In other words, a healthy baby who slept alone, on her back, and in a bare naked crib or other approved sleep surface has not died in the last seven years. In that same time period, 142 infants had some risk factor that may have contributed to their death. This may be a result of changes in diagnosis and death scene investigation done in Cuyahoga County as a result of the Sudden Unexplained Infant Death Investigation (SUIDI) initiative recommended by the Centers for Disease Control and Prevention (CDC) in 2007. In September 2014, Ohio Senate Bill 278 updated the Ohio Revised Code, which now mandates a coroner or designee to complete a SUIDI reporting form that may help identify risk factors for infants who died suddenly or unexpectedly.[37] The data strongly support the importance of putting a baby to sleep by himself, in a recommended sleeping place (bassinet, crib, or pack-n-play) and keeping hazards outside of the sleep environment so the baby is safe to sleep.

Figure 9 Sleep Related Deaths by Type

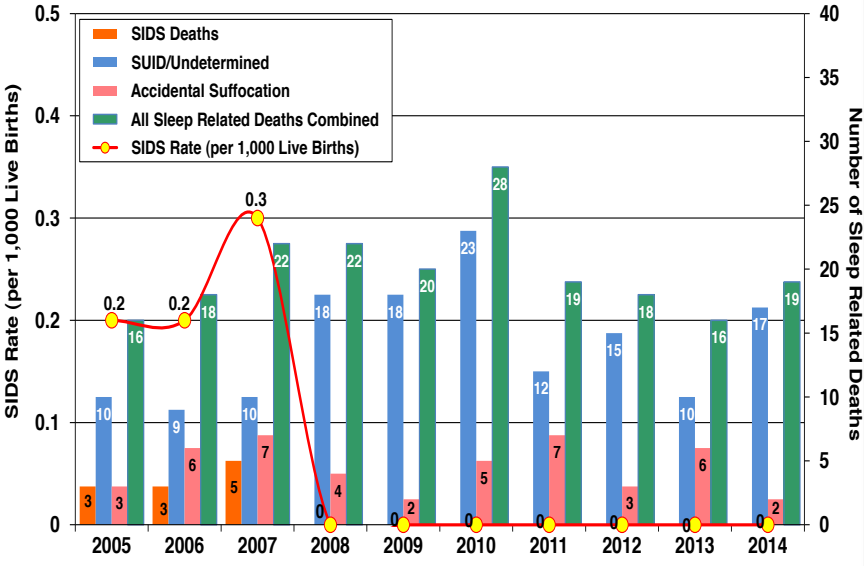


Table 4 Number of Sleep Related Deaths by Type and Presence of Risk Factors

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
SIDS	3	3	5	0	0	0	0	0	0	0	**11**
SUID/Undetermined	10	9	10	18	18	23	12	15	10	17	**142**
Accidental Suffocation	3	6	7	4	2	5	7	3	6	2	**45**
Total Number of Deaths	**16**	**18**	**22**	**22**	**20**	**28**	**19**	**18**	**16**	**19**	**198**
Risk Factors Present											
Surface sharing at time of death	10	12	12	11	11	18	9	13	11	10	**117**
Hazards in sleep area	14	14	20	22	20	28	19	18	16	19	**190**
Total Number of Risk Factors	**24**	**26**	**32**	**33**	**31**	**46**	**28**	**31**	**27**	**29**	**307**

Map 5 illustrates the distribution of these three types of deaths over the past ten years. More than 70% of all cases were ruled as undetermined and more than 60% of the sleep related cases occurred in the city of Cleveland in areas where there are high concentrations of children and persons living below the federal poverty guideline.

Map 5

Distribution of Poverty and Sleep Related Infant Fatalities Cuyahoga County, Ohio (2005-2014)

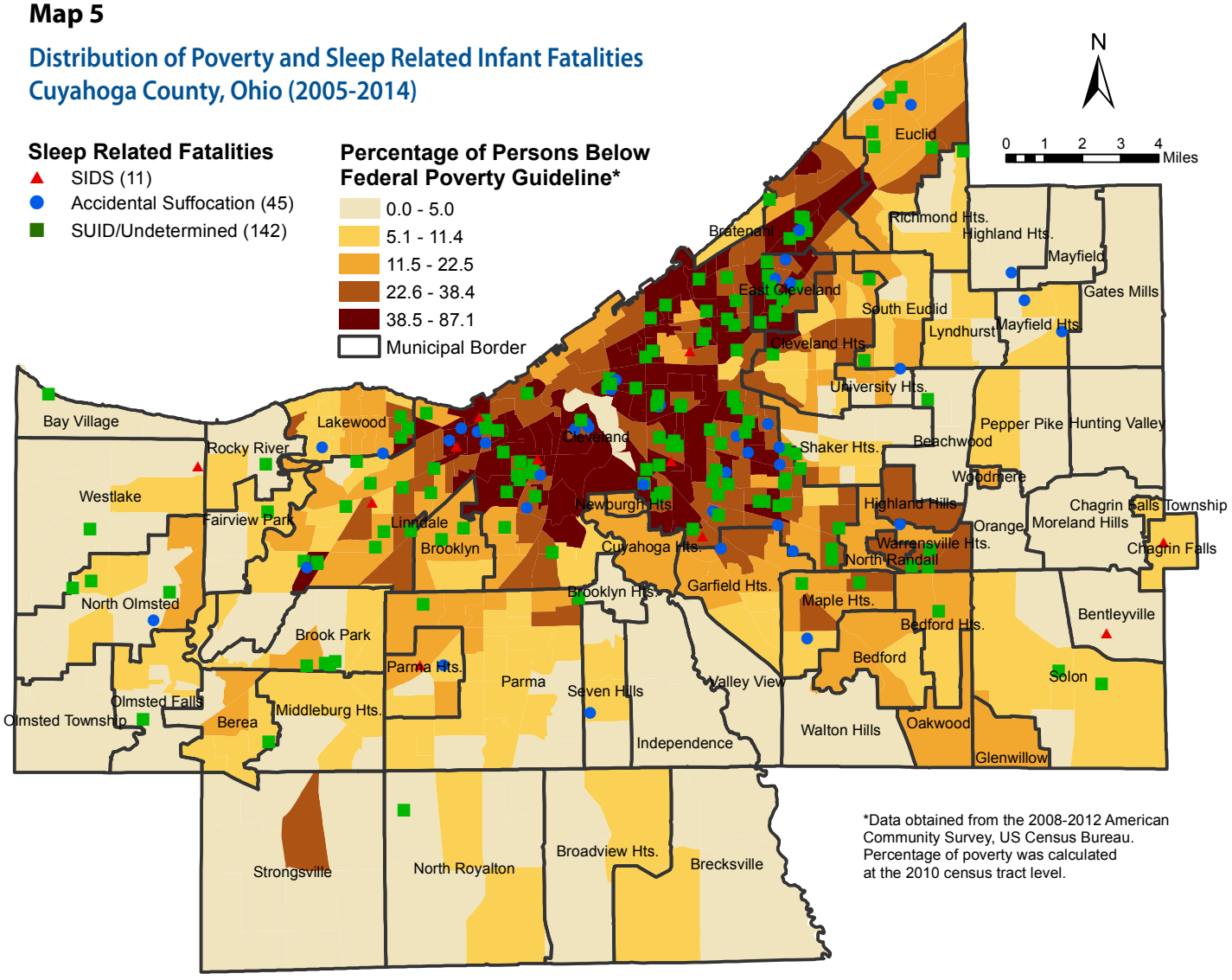


Table 5 shows the demographics for the 198 infants who died in a sleep environment in the last ten years. Overall, 63% of all sleep related deaths occurred in Cleveland (125) with 25% in the first ring suburbs (50) and 12% in the outer ring suburbs (23). In 2014, the percentage of sleep related deaths for residents living in the city of Cleveland was the highest since 2005. The outer ring suburbs had 1 sleep related death in 2014, which ties three other years for the lowest total number of sleep related deaths in the last ten years. In the first ring suburbs, there were 4 sleep related deaths, which tied 2012 for the lowest number in the last five years. First ring suburbs are all municipalities that have one portion of their border touching the city of Cleveland, while outer ring suburbs are municipalities that have no boundaries touching the border of Cleveland. **Appendix A** shows the list of municipalities that are in the first ring and outer ring suburbs.

The data paint a clear picture for possible targeted safe sleep education outreach for at-risk populations. Almost 85% of sleep related deaths occurred to minority infants which is the highest percentage in the last ten years (although less than 50% of infants born in 2014 were of all other races).[38] In 2014, nearly 60% of sleep related infants were female which is the highest ratio since 2008. Almost 40% of infants were placed on their stomach to sleep, which is the highest proportion in this position in the last ten years. This data suggest that sleep position, surface sharing, and sleep hazards are real and present dangers that, if removed, should significantly reduce or possibly eliminate the number of this most preventable type of death for children under the age of 18 in our county.

This data helped us reach out to our partners to target safe sleep messaging in the community. In the second half of 2013, the MomsFirst Project launched a four month billboard campaign (from July to October) targeting city of Cleveland neighborhoods that had the most sleep related deaths from 2005 to 2012. During the second half of 2013, the campaign appeared to work as there were only two sleep related deaths within the city of Cleveland or a 70% decline from the eight year average during a six month time period. After the advertising campaign ended in the fall of 2013, the average number of sleep related deaths in 2014 went back to the average of seven per six months. It appears that this campaign was initially successful, but needs to be sustained over time as we have a new cohort of parents every nine months in our community.

Table 5
Sleep Related Death Demographics (n=198)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
Neighborhood											
Cleveland	12	9	13	15	14	18	11	12	7	14	**125**
First Ring	3	3	6	6	3	7	6	4	8	4	**50**
Outer Ring	1	6	3	1	3	3	2	2	1	1	**23**
Infant's Gender											
Female	9	9	13	13	9	11	6	6	8	11	**95**
Male	7	9	9	9	11	17	13	12	8	8	**103**
Mom's Age											
< 20 Years	2	4	3	7	3	5	1	3	3	7	**38**
20 - 29 Years	10	9	14	12	12	15	12	11	11	10	**116**
30 - 39 Years	1	4	2	2	4	7	5	4	1	2	**32**
≥ 40 Years	0	1	0	0	1	0	0	0	1	0	**3**
Unknown	3	0	3	1	0	1	1	0	0	0	**9**
Infant's Race											
All Other Races	12	10	10	16	16	21	12	14	12	16	**139**
White	4	8	12	6	4	7	7	4	4	3	**59**
Sleep Position[1]											
Back	9	10	14	13	10	18	9	12	10	8	**113**
Stomach	4	3	2	7	5	7	6	4	2	7	**47**
Side	3	3	6	2	5	3	4	2	4	3	**35**

[1]Two cases in 2006 and one case in 2014 had unknown sleep position.

[38] (Center for Public Health Statistics and Informatics, June 12, 2015).

Image courtesy of the Safe to Sleep® campaign, for educational purposes only; Eunice Kennedy Shriver National Institute of Child Health and Human Development, http://safetosleep.nichd.nih.gov/; Safe to Sleep® is a registered trademark of the U.S. Department of Health and Human Services.

Figure 10 shows that almost 95% of sleep related deaths occurred within the first six months of the infants' lives. Almost 60% of sleep related deaths occurred when the infants were one to three months old. Nearly 25% occurred when the infants were two months old, which was the age with the highest percentage of sleep related deaths.

Table 6 shows the number of sleep related deaths per year by age of the infant at the time of death. For the seventh consecutive year, we had an infant who was older than 6 months die in a sleep environment. From 2008 to 2014, we had 12 sleep related deaths that occurred when the infants were 7-11 months old. No such deaths occurred between 2005 and 2007. Three month olds accounted for 37% of all sleep related deaths in 2014, which is highest percentage in this age group. The data clearly show that parents must ensure that all infants under 1 year be placed in a safe sleeping environment to give their infants the best opportunity to celebrate their first birthday.

The breakdown in **Figure 11** examines whether differences exist between where an infant lives and the economic, medical, and environmental risk factors that may contribute to an infant's death. From 2005 to 2014, more than 75% of Cleveland infants were born into poverty while less than 20% of outer ring infants had similar economic hardships. In 2014, 18 of 19 infants lived below the federal poverty guideline. Medical factors were similar between locations in Cuyahoga County from 2005 to 2014, as more than four in five infants (81%) were full term babies (37 weeks or later) and almost four in five infants (78%) were born at or above a normal birth weight (approximately 5 lbs. 8 oz.).

After analyzing three environmental risk factors (surface sharing, extra bedding, and parental tobacco use), it appears that these risk factors play a major role in the demise of an infant while sleeping. Over 60% of Cleveland and first ring suburban infants slept with someone else when they died in their sleep. Over 90% of first ring infants and 80% of Cleveland infants slept with extra bedding (pillow, blanket, or comforter) while less than 65% of outer ring infants had the same risk factor. In 2014, all but one infant had at least one piece of extra bedding in their sleep environment. Over 70% of Cleveland infants who died in their sleep had at least one parent who smoked, while nearly 50% of first ring and outer ring infants had the same risk factor. It appears that the economic and environmental risk factors play a stronger role than medical risk factors for infants who die in their sleep in Cuyahoga County. To ensure that all infants in the state of Ohio have a safe place to sleep, Ohio Senate Bill 276 was passed in December 2014 that mandates all birthing hospitals assess that every infant has a safe place to sleep before discharge, such as a crib or pack-n-play, and make a referral to a Cribs for Kids partner if necessary. [39]

[39] Ohio Senate 130th General Assembly (2014). Senate Bill 276. Available online at https://legiscan.com/OH/text/SB276/2013 (accessed July 30, 2015).

Figure 10
2005-2014 Sleep Related Deaths by Age of Infant (n=198)

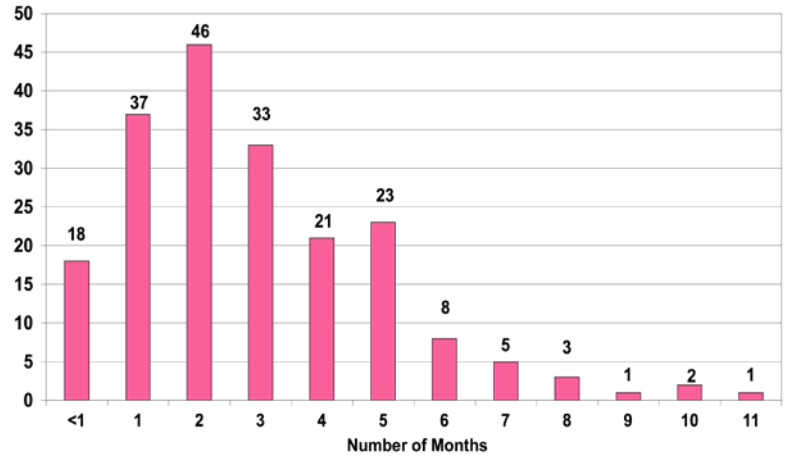
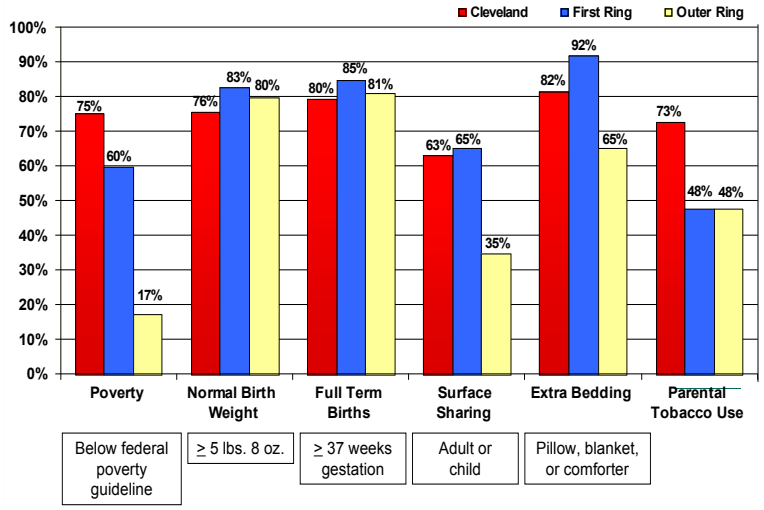


Table 6
Sleep Related Deaths by Age and Year

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
<1 Month	1	1	2	5	3	2	2	1	0	1	**18**
1 Month	4	4	4	4	3	9	1	1	4	3	**37**
2 Months	3	3	8	8	6	5	4	6	1	2	**46**
3 Months	3	1	2	1	0	7	6	2	4	7	**33**
4 Months	1	5	1	2	2	1	3	3	1	2	**21**
5 Months	4	2	4	0	2	2	1	4	2	2	**23**
6 Months	0	2	1	1	0	0	1	0	3	0	**8**
7 Months	0	0	0	0	3	1	0	0	1	0	**5**
8 Months	0	0	0	1	1	0	0	0	0	1	**3**
9 Months	0	0	0	0	0	0	0	1	0	0	**1**
10 Months	0	0	0	0	0	0	1	0	0	1	**2**
11 Months	0	0	0	0	0	1	0	0	0	0	**1**
Total	**16**	**18**	**22**	**22**	**20**	**28**	**19**	**18**	**16**	**19**	**198**

Figure 11
2005-2014 Sleep Related Factors by Neighborhood



Nine fewer child deaths in 2014.

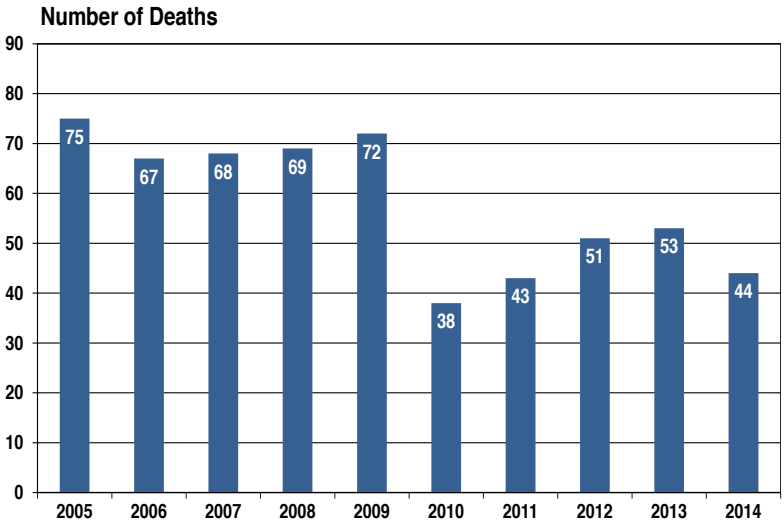
Forty-four children aged 1 to 17 died in 2014 which was a 17% decrease in this age group from the previous year. This was also the third lowest number of deaths in this age group in the last ten years (**Figure 12**). From 2005 to 2009, the five-year average number of child deaths in this age group was 70, but the 2010 to 2014 five-year average was only 46, which was a 34% decrease.

In 2014, 24 injury related deaths accounted for 55% of all fatalities for 1- to 17-year-olds, which is the third-highest percentage of deaths in this category in the last ten years. The 2014 preliminary Cuyahoga County injury related death rate of 8.7 per 100,000 children 1 to 17 years is lower than the 2013 (most recent data available) state of Ohio rate (10.1) and the United States rate (9.8).[40-43] These injury related deaths were attributed to: homicide (15), suicide (3), accident injury related (3), motor vehicle accident (1), drowning (1), and poisoning (1) (Table 2). The number of children in this age group who died as a result of suicide, motor vehicle accident, drowning, undetermined injury related, fire, and undetermined other had fewer deaths in 2014 compared to 2013. Homicide, poisoning, and accidental injury related deaths were injury related causes that increased in 2014.

The number of medical related deaths (20) was the lowest total in the last ten years. The causes of all medical related deaths in this age group were other medical causes (10), birth defects (5), cancer (4), and infection (1) (Table 2). Child deaths from birth defects, prematurity, other perinatal complications, and infection decreased in 2014, and deaths from cancer and other medical causes increased.

Figure 12

Total Child Deaths per Year (age 1-17)



[40] CDC, National Center for Injury Prevention and Control, Web-based Injury Statistics Query and Reporting System (WISQARS). 5 Leading Causes of Death Reports for ages 1-17, National, Regional, and States 1999-2013. Available online at http://www.cdc.gov/injury/wisqars/leading_causes_death.html (accessed June 26, 2015).

[41] (Center for Public Health Statistics and Informatics, June 12, 2015).

[42] US Census Bureau. 2010 Census of population and housing; Summary file 1. Available online at http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml (accessed July 3, 2014).

[43] US Census Bureau. 2013 Population estimates. Available online at http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml (accessed July 13, 2015).

Nine fewer unintentional injury deaths in 2014.

In 2014, 9 children of all ages died as a result of unintentional injuries, which was a 50% decrease compared to 2013 and the fewest number of these types of deaths in the last ten years. The 2014 preliminary Cuyahoga County rate for unintentional deaths for children 1 to 17 years is 1.8 per 100,000.[44,45] This rate is significantly lower than the 2013 rates for the state of Ohio (6.2) and the United States (6.2).[46,47] Of the 9 children, 6 were of all other races and 3 were white. A small majority were male (5) and 4 were female. These 9 deaths include: 2 accidental suffocations, 2 motor vehicle accidents (MVAs), 2 falls, 1 drowning, 1 choking, and 1 prematurity. Both accidental suffocation deaths were related to unsafe sleep environments (infants were found with faces in soft bedding and/or pillows) and both falls were out of a window in the child's home. **Figure 13** provides an illustration of this breakdown.

Case reviews revealed that the most common risk factors identified in these deaths were poverty (7), illicit drug use by a parent (5), history of maternal mental illness (5), history of partner abuse (3), tobacco and/or alcohol use by a parent (3) and suspected parental history of abuse/neglect as a child (3).

Figure 14 gives a historical perspective on the age distribution of traffic related fatalities. This year is tied with 2007 and 2011 for the lowest number of MVAs. There were 2 deaths in the 10 to 17 year age group and 1 infant death. This was the second infant MVA related death, and the first such death since 2009. There were no MVAs for the 1 to 9 year old age group for the first time since 2005.

Of the 3 motor vehicle deaths, 1 was a passenger and the other 2 children died in pedestrian related accidents. The passenger related fatality involved a distracted driver that was speeding and lost control of the car. A teen was struck by individuals in two cars after stealing items from them. This death was ruled as a homicide. The third death occurred when a pregnant woman was inadvertently struck by a vehicle. The unborn baby was delivered via cesarean section at a hospital, but didn't survive the injuries sustained during the crash.

Figure 13

Unintentional Injury Deaths in Cuyahoga County (2014)

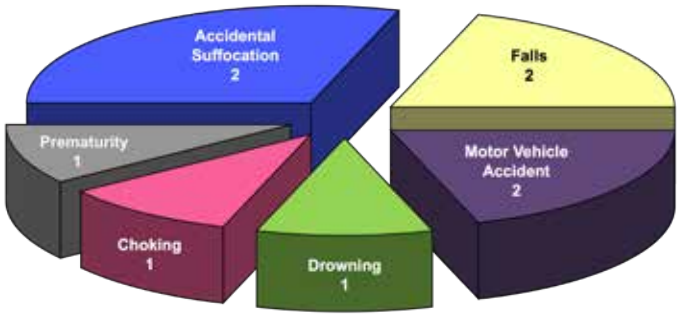
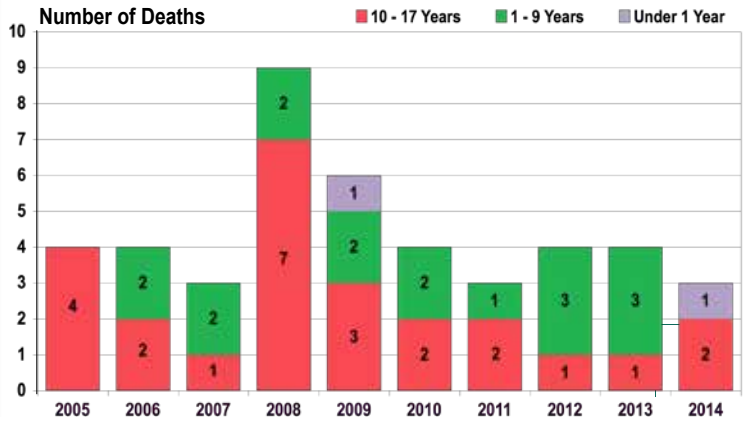


Figure 14

Total Motor Vehicle Deaths by Age Group per Year



[44] US Census Bureau. 2010 Census of population and housing; Summary file 1. Available online at http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml (accessed July 3, 2014).

[45] (Center for Public Health Statistics and Informatics, June 12, 2015).

[46] US Census Bureau. 2013 Population estimates. Available online at http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml (accessed July 13, 2015).

[47] CDC, WISQARS. 5 Leading Causes of Unintentional Injury Deaths for ages 1-17, National, Regional, and States 1999-2013. Available online at http://www.cdc.gov/injury/wisqars/ (accessed June 26, 2015).

In the United States in 2013, unintentional injury was the number one cause of death for children in the 1-17 years group (most recent data available).[48] Motor vehicle accident related deaths account for 47% of all unintentional injury deaths in this age group.[49] In 2013 (the most recent data available), deaths from motor vehicle accidents among children ages 1-17 years in the United States was 2.7 per 100,000 children.[50,51] Cuyahoga County's 2014 rate among ages 1-17 years is nine times lower than the national rate, at 0.3 per 100,000 children.[52,53]

Figure 15 illustrates the number of drowning deaths over the past decade. In 2014, there was 1 child who drowned. This is the lowest number of drowning deaths in the last four years. This death involved a child who swam at a beach with no lifeguards. Drowning was the second-leading cause of unintentional injury related deaths for 1- to 17-year-olds in 2013 in the United States (most recent data available).[54]

In the last ten years, 34 children drowned in Cuyahoga County. In children aged 10 to 17 years, 13 of the 15 children who drowned were of all other races. Conversely, in children aged 1 to 9 years, 10 of the 17 drowning victims were white. There were also two infant drowning deaths. The age and racial breakdown of these deaths are similar to national trends. In the United States from 1999-2010, children of all other races 10 to 17 years were significantly more likely to die due to drowning, but white children 1 to 4 years were significantly more likely to die due to drowning than children of all other races.[55] A recent study found that poor minority children, especially African American and Hispanic/Latino, are at a significant disadvantage concerning swimming ability with more than 50% unable to swim or uncomfortable swimming in the deep end of a pool.[56] The American Academy of Pediatrics (AAP) reinforces its recommendations that most children age 4 and older should learn to swim, but a new recommendation suggests that parents should decide whether to enroll their 1- to 3-year-olds in swim lessons "based on the child's frequency of exposure to water, emotional development, physical abilities, and certain health concerns related to pool water infections and pool chemicals."[57]

As shown in **Figure 16**, there was no accidental fire related death in 2014. This decreases the total number of accidental fire deaths to 14 for the last ten years and only three such deaths in the last five years. Fire was the third leading cause in the US for the 1- to 17-year-olds in 2013 (most recent data available).[58]

Figure 15
Total Drowning Deaths per Year

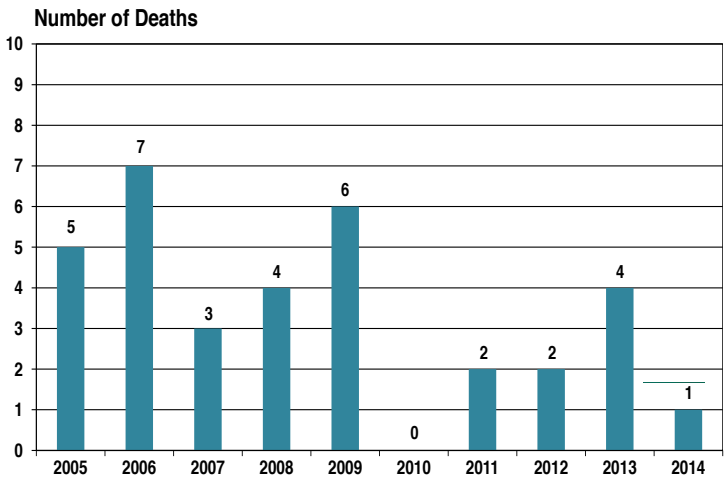
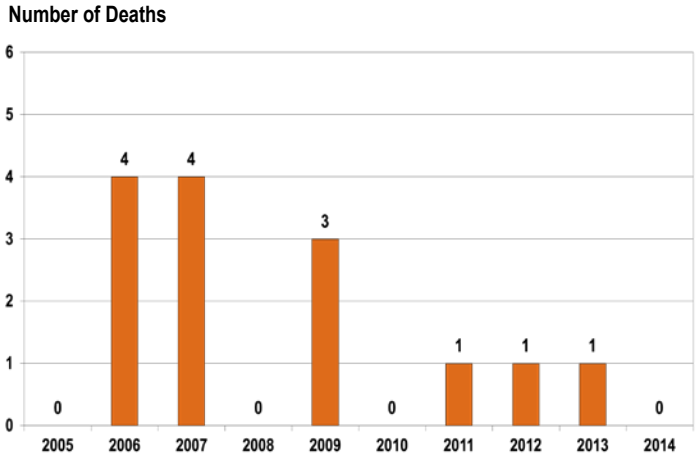


Figure 16
Total Accidental Fire Deaths per Year



[48] Ibid.

[49] Ibid.

[50] CDC, WISQARS. 5 Leading Causes of Unintentional Injury Deaths for ages 1-17, National, Regional, and States 1999-2013. Available online at http://www.cdc.gov/injury/wisqars/ (accessed June 26, 2015).

[51] US Census Bureau. 2013 Population estimates. Available online at http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml (accessed July 13, 2015).

[52] US Census Bureau. 2010 Census of population and housing; Summary file 1. Available online at http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml (accessed July 3, 2014).

[53] (Center for Public Health Statistics and Informatics, June 12, 2015).

[54] CDC, WISQARS. 5 Leading Causes of Unintentional Injury Deaths for ages 1-17, National, Regional, and States 1999-2013. Available online at http://www.cdc.gov/injury/wisqars/ (accessed June 26, 2015).

[55] CDC. Morbidity and Mortality Weekly Report (MMWR) Racial/ethnic disparities in fatal unintentional drowning among persons aged ≤29 years — United States, 1999–2010. MMWR Vol 63 No 19 pgs 421-26. Available online at http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6319a2.htm#tab (accessed July 6, 2015).

[56] Irwin CC., Irwin RL., Ryan TD., & Draver J. (2009). Urban minority youth swimming (in)ability in the United States and associated demographic characteristics: Toward a drowning prevention plan. Injury Prevention; Vol 15 No 4 pgs 234-39.

[57] American Academy of Pediatrics (AAP). AAP gives updated advice on drowning prevention. Available online at https://www.aap.org/en-us/about-the-aap/aap-press-room/pages/AAP-Gives-Updated-Advice-on-Drowning-Prevention.aspx#sthash.87D8gyA8.dpuf (accessed July 19, 2015).

[58] CDC, WISQARS. 5 Leading Causes of Death Reports for ages 1-17, National, Regional, and States 1999-2013. Available online at http://www.cdc.gov/injury/wisqars/leading_causes_death.html (accessed June 26, 2015).

Total number of homicides is the highest in the last five years.

Intentional injury deaths include homicide and suicide. The 17 homicides in 2014 was the highest total since 2009. **Figure 17** illustrates that 2 infants, 7 children between the ages of 1 and 9, and 8 children between the ages of 10 and 17 died due to homicide in 2014. The seven deaths for children between 1 to 9 years was the highest total in the past five years, and the second-highest total in the last ten years. The total number of infant homicides was tied for most in the last six years.

Homicide remained the fourth-leading cause of death for the fourth consecutive year. Homicide was the leading cause of death among 1- to 9-year-olds, and tied for the leading cause of death with other medical causes among 10- to 17-year-olds. Homicide was also the leading cause of injury related deaths among 1- to 9-year-olds for the sixth straight year and the leading cause of injury related deaths for infants. The majority of homicide deaths usually occur in the 10-17 years age group, and in 2014, 47% of all homicides fell into this age category. In the state of Ohio in 2013 (most recent death available), homicide was the second-leading cause of death for children 1-17 years, which was the fourth-leading cause of death in the United States for the same age group.[59,60] Homicide in the United States was the fourth-leading cause of death for the 10-17 years age groups in 2013, but was the third-leading cause of death for the 10- to 17-year-olds in the state of Ohio.[61,62]

Of the 2014 homicide victims in our county, 11 of 17 were boys and 14 of 17 were minority children. The ages of the children were less than 1 year (2), 1 year (3), 2 years (3), 5 years (1), 12 years (2), 15 years (3), 16 years (1), and 17 years (2). Five of 8 homicides in the 10-17 years age group were gun related. The remaining homicides were due to physical abuse (1), MVA (1), and other (1).

The leading risk factor associated with homicide was poverty, while "at-risk child" was the second-most common risk factor. History of suspected domestic violence and/or child abuse was the third-most noted risk factor, and the fourth-leading risk factor was parental and/or child alcohol or drug use. This data suggest that a child's home life and the physical environment in which a child lives, play a major role in the outcome of a child's life.

Figure 18 is a depiction of the number of firearm deaths by manner (homicide, suicide, accidental, and undetermined) over a ten-year span. In 2014, there were 8 firearm deaths, which was the lowest total in the past three years. Seven gun related deaths were homicides and 1 was suicide. Four of the seven gun related homicides involved children 12 years or younger. Since easy access to a gun is a known risk factor in Cuyahoga County, this reinforces the need for safety awareness and tighter controls to ensure that it is not easy for our children to have access to purchasing or acquiring a gun.

Figure 17
Total Child Homicide Deaths by Age Group per Year

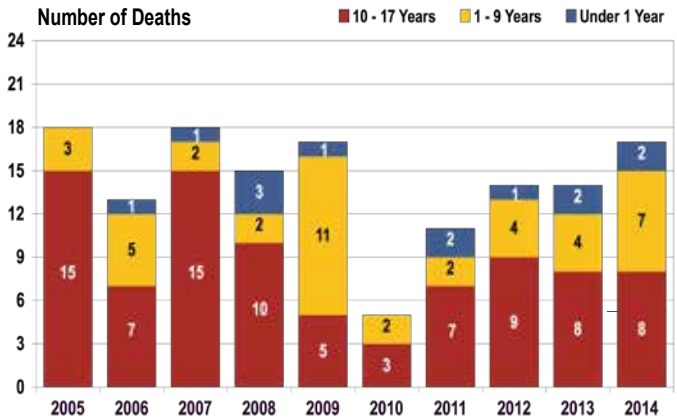
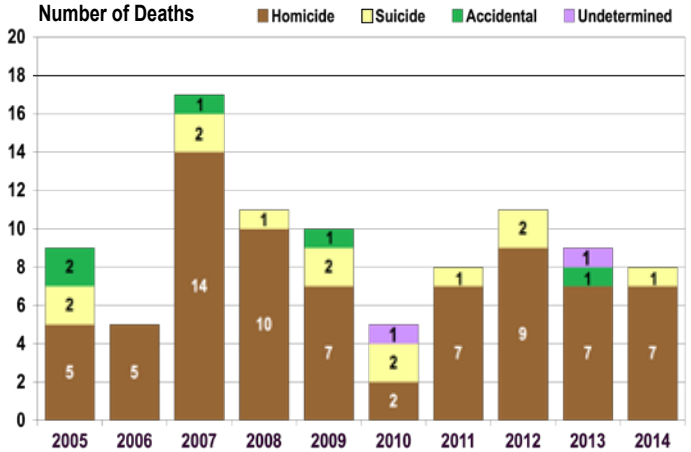


Figure 18
Total Firearm Deaths by Manner per Year



[59] Ibid.

[60] Ibid.

[61] CDC, WISQARS. 5 Leading Causes of Deaths Reports for ages 10-17, National, Regional, and States 1999-2013. Available online at http://www.cdc.gov/injury/wisqars/ (accessed July 17, 2014).

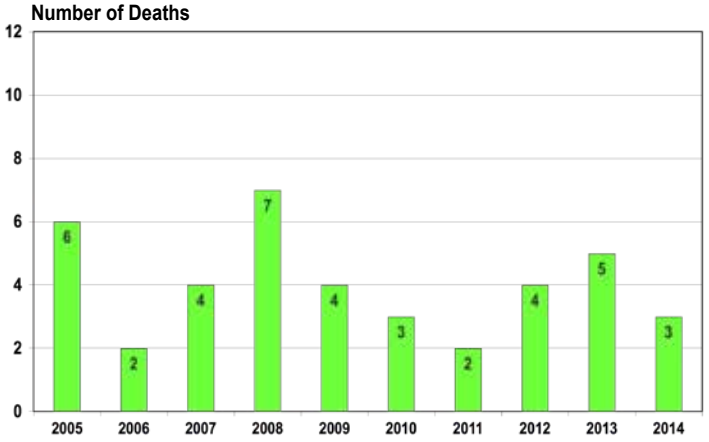
[62] Ibid.

There were 3 suicides in 2014, which is tied for the third-lowest number in the last ten years and the lowest total number of suicides in the last three years (**Figure 19**). All completed suicides were children from 13 to 16 years old, and all 3 were males. The method for two suicides was by hanging and one suicide by self-inflicted gunshot wound. History of suspected domestic violence or child abuse was the only risk factor noted in at least 50% of the cases.

These tragic events do not fully show the gravity of suicide in the adolescent population. According to the CDC in 2013, suicide was the second-leading cause of death for 10- to 17-year-olds for the state of Ohio and the United States (most recent data available).[63] Suicide was the third-leading cause of death for children ages 1 to 17 years in the United States and fifth-leading cause for the same age group in the state of Ohio.[64,65] Over 90% of all suicides in the United States in the 10-17 years age group are completed by strangulation or firearm.[66] More than one in eight Cuyahoga County middle school students has seriously considered attempting suicide and one in ten has attempted suicide.[67] If a child comes to an adult to discuss a problem, it is likely that it is more serious than the child describes. Take action if a child is being bullied, feels depressed, or mentions self-injuring behavior.

Map 6 shows the distribution of homicide and suicide over a period of ten years. In 2014, 13 of the 17 homicides (76%) were residents of Cleveland, but 2 of the 3 suicides (67%) were from the outer ring suburbs. The majority of the homicides in 2014 occurred in areas with a high density of families and individuals living below the poverty guideline, while the majority of suicide deaths occurred in areas that had fewer families living in poverty.

Figure 19 Total Child Suicide Deaths per Year



[63] Ibid.

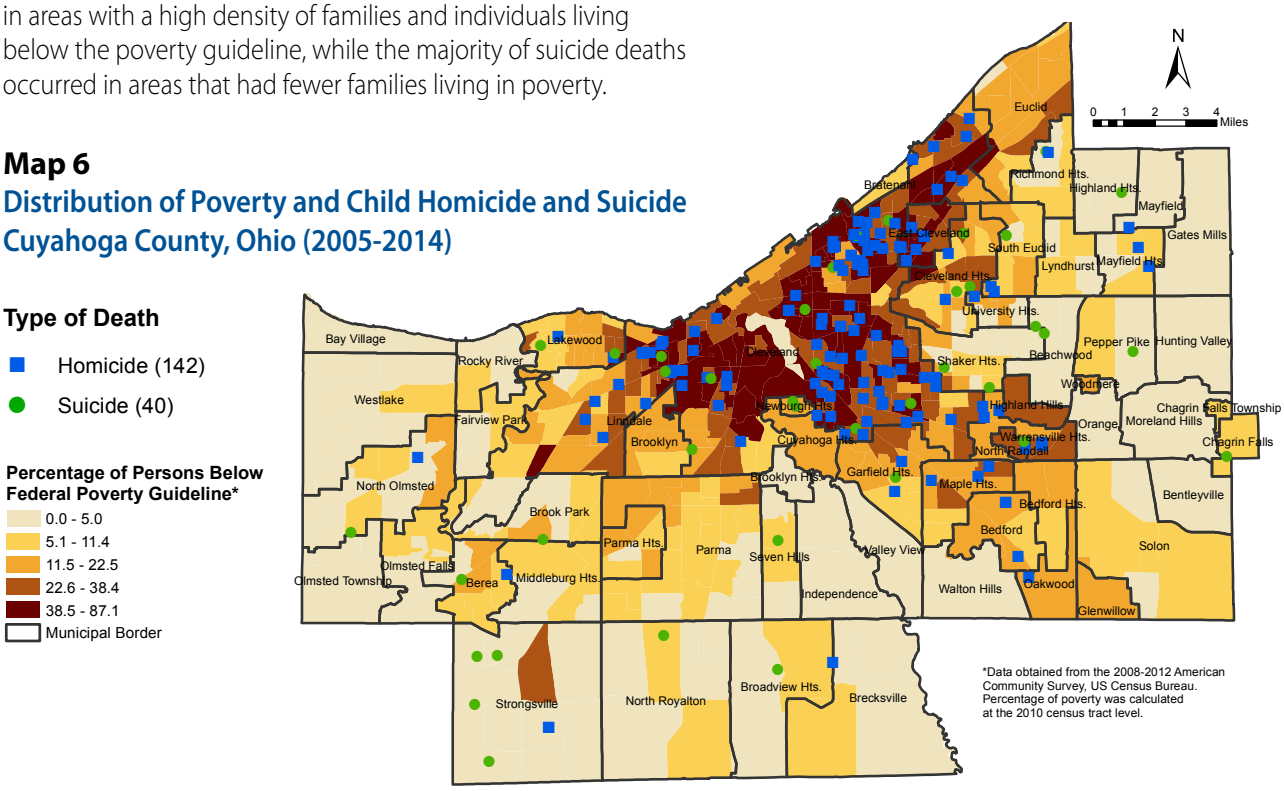
[64] CDC, WISQARS. 5 Leading Causes of Death Reports for ages 1-17. National, Regional, and States 1999-2013. Available online at http://www.cdc.gov/injury/wisqars/leading_causes_death.html (accessed June 26, 2015).

[65] Ibid.

[66] CDC, WISQARS. 5 Leading Causes of Deaths Reports for ages 10-17, National, Regional, and States 1999-2013. Available online at http://www.cdc.gov/injury/wisqars/ (accessed July 17, 2014).

[67] Prevention Research Center for Healthy Neighborhoods. 2014. Cuyahoga County middle school youth risk behavior survey results: Grades 9-12. Available online at http://filecabinet.eschoolview.com/676BA9D6-2AFA-41FE-88AD-D1CCD4F8EAE9/1.%20Overall%20Prevalence_2014.pdf (accessed June 26, 2015).

Map 6
Distribution of Poverty and Child Homicide and Suicide Cuyahoga County, Ohio (2005-2014)



Highest rate of abuse and neglect related deaths in past ten years.

In 2014, the Cuyahoga County rate of child abuse or neglect deaths was 3.4 per 100,000 children, which is the highest rate in the last ten years. In 2013 (the most recent data available), the national rate for child fatalities due to abuse or neglect was 2.0 per 100,000 children.[68]

In 2014, there were 10 abuse or neglect related child deaths which is the highest number of deaths in this category in the last ten years (**Figure 20**). Six of the 10 cases were females and seven of the 10 deaths were minority children. Seven of the 10 deaths were residents of Cleveland. The ages ranged from less than 1 day old to 12 years, with 9 of the deaths occurring in children 2 years or younger. Of the four neglect cases, two involved an overdose, one involved the medical neglect of a child with a chronic illness, and the other case involved a child falling out of a window. Of the 6 child abuse homicides, 5 were due to blunt trauma and one was due to a maternal drug overdose while she was pregnant.

The 32 abuse and neglect cases in the last four years were reviewed for common risk factors and the relationship of the perpetrator to the victim (**Table 7**). More than 60% of the cases involved the biological parent as the perpetrator. Six of the 20 abuse cases involved a parent's partner, acquaintance, or relative of the victim. Criminal history was the most common risk factor for the person responsible in more than 70% the cases (in which background information was available). Almost 70% of the people responsible had a history of child maltreatment as a perpetrator. More than 60% of the perpetrators had history of substance abuse and history of intimate partner violence as a perpetrator. Disability or chronic illness was the other risk factor noted in at least 50% of cases where information was available. More than 35% of the perpetrators were victims of child maltreatment. One study found that the strongest predictor of violent behavior for incarcerated adolescent males was childhood physical neglect.[69] The data talk to the importance of curbing child maltreatment or the cycle of abuse and other negative outcomes will continue to persist for the current generation and possibly future generations.

Figure 20
Child Deaths Due to Abuse and Neglect

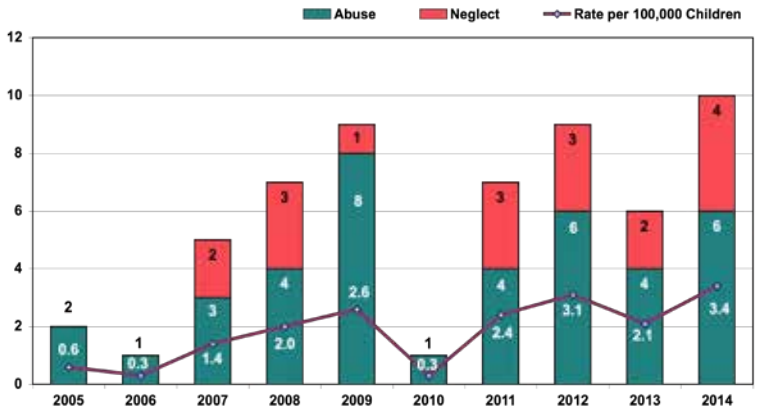


Table 7 Characteristics of Person Responsible for Child Deaths that Occurred as a Result of Abuse or Neglect, Cuyahoga County (2011-2014)

	Abuse (n=20)	Neglect (n=12)	Total (n=32)
Relationship to Child[1]			
Biological parent	13	7	20
Parent's partner	4	1	5
Friend or acquaintance	1	1	2
Other Relative	1	1	2
Adoptive parent	0	1	1
Background of Person Responsible[2]			
Criminal history	12	2	14
History of child maltreatment as perpetrator	7	6	13
History of intimate partner violence as perpetrator	10	2	12
History of substance abuse	9	3	12
Disability or chronic illness	6	5	11
History of child maltreatment as victim	6	1	7
History of intimate partner violence as victim	1	3	4
Drug/alcohol impaired at time of incident	3	0	3

[1]Identification of person responsible was unknown in 2 cases
[2]Background information was missing in 13 cases.

[68] HHS, Administration for Children and Families (ACF), Children's Bureau. (2015). Child maltreatment 2013. Available online at http://www.acf.hhs.gov/sites/default/files/cb/cm2013.pdf (accessed June 26, 2015).

[69] McGuigan W., Atterholt R., & Luchette JA. (2014) Examining violent behavior in incarcerated adolescent males. Annual meeting of the American Sociological Association. San Francisco. Unpublished document.

Our local data suggest that abuse and neglect related deaths occur disproportionately based on age, race, and income. Of the 32 child maltreatment related deaths over the last four years, almost 80% (25) were of all other races. Nationally, the African American rate in 2013 was nearly three times greater than the rate for white children.[70] The national trend of a higher rate for boys does not match the local trend where 19 of the 32 children were females. Almost 80% of these children lived in poverty, and more than 65% were three years old or less. Children with unemployed parents were twice as likely to be victims of child maltreatment than children with employed parents.[71] Another major factor to consider is children of unintended pregnancies are at greater risk of child maltreatment than those whose parents intended to have a child. According to the recommendations from the surgeon general's workshop on violence and public health, "the starting point for effective prevention of child abuse programming is pregnancy planning".[72]

[70] HHS, ACF, Children's Bureau. (2015). Child maltreatment 2013. Available online at http://www.acf.hhs.gov/sites/default/files/cb/cm2013.pdf (accessed June 26, 2015).

[71] HHS, ACF, Children's Bureau. (2010). Fourth national incidence study of child abuse and neglect (NIS-4): Report to Congress. Washington, DC. Available online at http://www.acf.hhs.gov/sites/default/files/opre/nis4_report_congress_full_pdf_jan2010.pdf (accessed July 31, 2015).

[72] Cron T. (1986). The surgeon general's workshop on violence and public health: Review of the recommendations. Public Health Reports Vol. 101 No. 1 pgs 8-14. Available online at http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1477643/pdf/pubhealthrep00185-0010.pdf (accessed July 31, 2015).

Seventy-two percent of families who lost a child have received some level of public assistance.

Community service agencies worked with 72% of families who had a child who died in 2014. This is a 5% decrease from 2013 and the lowest percentage of families served in the last five years.

35 victims or family members were served by only one service agency

26 by two agencies

26 by three agencies

24 by four agencies

7 by five agencies

More than half of the victims or family members were served by two or more agencies and more than one in three (35%) were involved with at least three community service agencies within Cuyahoga County. This is the highest percentage in the last five years and is a 75% increase over last year. The 1-9 years age group had the highest percentage (89%) of children or families served. The 10-17 years group had the next highest percent involved in any services (77%) and infants had the fewest percent of people who were involved with our service agencies (68%). **Table 8** provides a breakdown of services by agency or program and age group.

Table 8

Service Involvement by Agency and Age Group

Type of Involvement	Under 1 Year	1 - 9 Years	10 - 17 Years	Total
DCFS* involved at time of death	21	5	6	**32**
DCFS involvement in prior 12 months	27	9	10	**46**
DCFS involvement ever (mom or child)	63	11	17	**91**
DCFS conducted investigation of death	20	10	7	**37**
Help Me Grow (child)	17	13	8	**38**
Help Me Grow (sibling)	39	6	7	**52**
WIC (mom or child)	20	11	0	**31**
MomsFirst involved at time of death	4	1	0	**5**
MomsFirst involvement ever (mom, child, or sibling)	12	6	3	**21**
Juvenile Justice involved with child	0	3	15	**18**
Juvenile Justice involved with parent	57	9	11	**77**
Total Number of Deaths	**121**	**18**	**26**	**165**
Total Number Served by at Least 1 Agency	**82**	**16**	**20**	**118**
Percent of Children/Families Served	**68%**	**89%**	**77%**	**72%**

* Division of Children and Family Services

Identified risk factors decreased by 3% in 2014.

Table 9 summarizes the total number of families by category of risk. **Appendix B** presents a summary of risk factors within each category. Overall, 98% of the families had one or more documented medical indicators; 74% had poverty indicators; 43% had behavioral risk factors; 43% of children and/or parents used cigarettes, alcohol, or drugs; 41% of children and/or parents had some history of mental health problems; and 34% had some history of domestic violence (child abuse or neglect, partner abuse, custody removal, or other household violence).

The complexity of each individual profile is illustrated by Table 9. The column headed "Total Cases" indicates how many of the 165 families had one or more risk factors in each of the nine different categories. The last three columns show how many families had no additional risk factors in other categories, risk factors in 1-4 other categories, or risk factors in 5-8 other categories. For example, among the 162 families with a medical risk factor, 40 also had risk factors in 5-8 other categories.

Throughout this report, the leading risk factors for different causes of death are listed. For ten years, the number of cases that identified economic risk factors (122 in 2014), such as poverty, surpassed the number of behavioral factors such as late or missed prenatal care, inadequate supervision, drug use, and limited parenting skills. Moderate decreases in risk factors were seen in the following categories: behavioral (22%) and system (19%). Small decreases (less than 10% decrease) in risk factors were seen in the following categories: violence related (9.8%) and environmental (9%). Small increases (less than 10%) in risk factors were seen in the following categories: economic (5%) and medical (1%). Moderate increases in risk factors were seen in the following categories: mental health (26%), social (22%), and substance abuse parent and/or child (21%).

While the risk factors affecting families are complex issues that place them in a multiple-risk-factor profile, we must strive for success in providing and assisting those in need. Thus, cohesive collaboration is necessary at this time when significant reductions of our resources exist in Cuyahoga County. We must ensure the health and well-being of the next generation of future leaders and truly demonstrate our commitment to *Protecting Our Future.*

Table 9 Categories of Risk Factors Identified

	Total Cases (of 165)	Percent (%) of Cases	Total Factors (of 1,568)	Number of Different Categories of Risk		
				0	1 to 4	5 to 8
Medical	**162**	**98.2**	**678**	28	94	40
Economic	**122**	**73.9**	**138**	0	82	40
Behavioral	**71**	**43.0**	**138**	0	35	36
Substance Abuse (parent and/or child)	**71**	**43.0**	**175**	0	33	38
Mental Health	**67**	**40.6**	**112**	0	29	38
Violence Related	**56**	**33.9**	**212**	0	17	39
Social	**38**	**23.0**	**71**	0	10	28
System	**18**	**10.9**	**25**	0	3	15
Environmental	**17**	**10.3**	**19**	0	3	14

The following community actions represent ongoing efforts to reduce preventable deaths in children while others represent new initiatives that build and strengthen existing outreach, education, and service delivery systems.

Prematurity and Infant Mortality

- Beginning with prenatal care through an infant's second year of life, the Cleveland MomsFirst project is designed to improve birth outcomes and ensure a healthy start for babies by providing support to high-risk pregnant women and teens. Core services include outreach, case management, health education, and interconception care. The project also provides screening and referral for perinatal and postpartum depression, substance/alcohol abuse, toxic stress, and intimate partner violence.

- The goal of MomsFirst is to reduce disparities in infant mortality. The participants are primarily high-risk African American pregnant women and teens. Cleveland's 2012 overall infant mortality rate (IMR) was 12.9 infant deaths per 1,000 live births with a white IMR of 11.8 and a black IMR of 15.7. MomsFirst's IMR for participants in 2012 was 6.2, 2013 was 5.6, and 2014 was 5.9. Given that MomsFirst participants are reflective of those women at the highest risk for poor birth outcomes, this data provide strong evidence of a successful program to reduce infant mortality.

    - All MomsFirst sites hold neighborhood consortia meetings to educate the community at large about the following topics: preterm labor, safe sleep, smoking cessation, substance abuse, family planning, STD/HIV/AIDS prevention and testing, intimate partner violence, and perinatal depression.

    - MomsFirst continues to distribute the Baby Basics health literacy curriculum to all mothers enrolled in the project. Baby Basics is a prenatal health guide based on the bestselling book *What to Expect When You're Expecting*. The book provides interactive, culturally sensitive prenatal education for expecting moms and also addresses and supports their need for literacy training and education.

    - MomsFirst hosted a "Baby Buggy Walk in the Park" in recognition and support of Infant Mortality Awareness Month. This event was successful in reaching expectant mothers, fathers, new parents, grandparents, and caregivers with interactive educational activities and exhibits promoting safe sleep practices, eating healthy on a budget, and physical fitness. Other vendors for community resource information included prenatal care, WIC services, Boot Camp for Dads, breastfeeding, and foodbank services.

    - The women served by MomsFirst are at an elevated risk for depression due to both pregnancy and socioeconomic factors. Depression can affect a pregnant woman's functional status and her ability to obtain prenatal care, eat properly, and avoid dangerous behaviors. Untreated depression during pregnancy is associated with spontaneous abortion, preterm delivery, and other adverse effects. The Cleveland Regional Perinatal Network developed a systemwide approach to screen and refer women identified at risk for perinatal depression by establishing universal screening and referral protocols at several health care institutions and community agencies. As a result of these protocols, there has been a significant rise in referrals to perinatal mental health providers.

- The mission of the March of Dimes is to improve the health of babies by preventing birth defects, premature birth, and infant mortality. The Ohio campaign focus is to reduce disparities in preterm birth rates, improve the health of women before and between pregnancies, advance perinatal quality improvement, and expand preterm birth research. Additionally, March of Dimes grants are awarded to programs and research that focus on this mission.

    - In 2015, the Ohio March of Dimes provided funds to enhance mental health services for pregnant women in the CenteringPregnancy® programs at University MacDonald Women's Hospital.

    - In 2015, the March of Dimes provided research funding to Case Western Reserve University, MetroHealth Medical Center, and the Cleveland Clinic Foundation.

- MetroHealth Medical Center offers a high-risk prematurity clinic to help parents of fragile preterm babies avoid sleep related deaths, optimize infant development, and develop positive parenting and feeding skills.

- Invest In Children works to ensure a comprehensive early childhood system for families with young children by funding organizations that work with pregnant parents to improve birth outcomes and reduce infant mortality. They also provide newborn visits to low income families. Messages for parents are woven throughout all of their programs including information about prenatal and interconception health, safe sleep, and environmental tobacco smoke.

Prematurity and Infant Mortality *(cont.)*

- The Cuyahoga County Board of Health (CCBH) provides training sessions for MomsFirst staff members and educational classes for MomsFirst clients on the topics of infant mortality, preterm labor, prematurity, and safe sleep.
- The CCBH also has representation on the Ohio Collaborative to Prevent Infant Mortality. Its mission is to prevent infant mortality and improve the health of women and children throughout Ohio with the use of evidence-based approaches and education.
- CCBH has also partnered with the Cleveland Department of Public Health, the Ohio Department of Health, and CityMatCH to become members of the Ohio Institute for Equity in Birth Outcomes (OEI). This three-year initiative is exploring public health strategies to eliminate health inequities in birth outcomes and improve local and state infant mortality rates. The Cuyahoga County OEI team has selected strategies that include expanding CenteringPregnancy® as the downstream approach and decreasing unplanned pregnancies through awareness and utilization of family planning as the upstream approach. In June 2015, OEI organized a community event "One Life, One Voice, One Community: every baby deserves a 1st birthday" to raise awareness of infant mortality.
- CCBH provides presentations about health, equity, and infant mortality to the staff at hospitals in Cuyahoga County.
- The Division of Children and Family Services continues to maintain its Sobriety, Treatment, and Recovery Team (START) department which focuses on children born exposed to or addicted to drugs or alcohol. The staff has additional training and expertise in the area of chemical dependency and addiction to provide these families with support and assistance.

Birth Defects

- The Ohio Chapter of the March of Dimes advocacy efforts in Ohio include the continuation of Ohio's Birth Defects Registry (Ohio Connections for Children with Special Needs), recommendations to improve and expand the Newborn Screening Program, the use of folic acid to prevent neural tube defects, and screening all newborns for critical congenital heart disease.
- Invest In Children funds organizations that 1) work with pregnant parents to improve birth outcomes 2) provide support to families with a child with a delay or disability and 3) provide support to families and childcare providers working with children with special needs.
- The Rainbow Injury Prevention Center is home to the first and only special needs car seat program in Northeast Ohio. Many special needs children have challenges that prevent them from fitting correctly into a conventional child restraint, placing them at risk for additional injury. Rainbow provides specialized car seats to patients on a loaner basis or at a reduced cost.

Sleep Related Deaths

- In 2014-2015, the Cuyahoga County Board of Health (CCBH), as outreach for the Child Fatality Review Board, continued to provide safe sleep education for the medical and nursing staff at maternity and pediatric hospitals throughout the county.
- CCBH became a "**Safe to Sleep Champion**®" by completing the training and educational outreach activities that were required by the Eunice Kennedy Shriver National Institute of Child Health and Human Development.
- CCBH has been an active member of the statewide Ohio Injury Prevention Partnership's safe sleep subcommittee, which was responsible for the development of the Ohio safe sleep campaign that was introduced in May 2014.
- The "safe sleep cards" with the A, B, C safe sleep message, local data about sleep related deaths, and a picture of a safe sleep environment continue to be circulated throughout Cuyahoga County. Over 10,000 cards have been distributed to hospitals, home visiting programs, community recreation centers, neighborhood clinics, churches, and family serving agencies.
- CCBH continues to participate in maternity licensure visits at local birthing hospitals. Areas of discussion include the number of sleep related deaths in the county, the importance of role modeling safe sleep in the hospital, and incorporating a discussion of safe sleep with parents and family members before discharge. A tour of the nursery and patients' rooms also provides opportunities for education.
- CCBH also provided safe sleep presentations to foster parents and members of the Fatherhood Initiative.
- The WIC Program continues to provide safe sleep information to their clients during visits.
- The Division of Children and Family Services (DCFS) implemented a procedure to ensure that all DCFS-involved families with children under the age of one receive a safe sleep presentation from their DCFS worker. Pack-n-plays were also distributed to families identified as being in need of a safe sleep environment.

Sleep Related Deaths *(cont.)*

- In response to the number of sleep related deaths in Greater Cleveland, the Rainbow Injury Prevention Center designed a safe sleep postcard that is given to new parents at MacDonald Women's Hospital as a part of the hospital's child safety rounding project. During 2014, the staff visited over 2,800 new mothers.
- MomsFirst provides safe sleep education to all participants in the program with over 2,000 families served in 2014. The project continues to assist families in need of a safe sleep environment in obtaining a pack-n-play.
- In 2015, MomsFirst's partnered with the CCBH to host three interactive safe sleep baby showers in neighborhoods with the highest infant mortality rates. The 200 community members at the events were educated about how to safely place a baby to sleep.
- MomsFirst distributed safe sleep materials to senior adults through the City of Cleveland Department of Aging and safe sleep posters and materials were distributed through the Cleveland Public Library system.
- Safe sleep fliers continue to be included with birth certificates mailed to parents.
- The nurses from the CCBH Welcome Home Newborn Visiting program discuss safe sleep and how to calm a crying baby during their visits with families. From 2014-2015, there were 1,997 newborn visits completed.
- Help Me Grow staff provides safe sleep education and materials to their clients.

Unintentional Injuries

- The Rainbow Injury Prevention Center is dedicated to preventing unintentional injuries. The Center's mission is threefold 1) to work directly with children and families through education and outreach to decrease injury risk and improve well-being 2) to share creative ideas, resources, and information with all members of the Greater Cleveland community and 3) to advance the body of knowledge in unintentional injury prevention research.
  - As Greater Cleveland's child passenger safety experts, the staff operates free Car Seat Inspection Stations; provides low-cost car seat distribution for income-qualified families; offers infant car seat consultations for expectant parents; develops educational campaigns such as "Face the Facts/ Face the Back" to keep children rear facing until at least 2 years of age; conducts free car seat checkup events; leads booster seat promotion efforts; and designs seat belt promotion campaigns aimed at tweens and teens.
  - The Center promoted child pedestrian safety by coordinating the International Walk to School Day activities in 21 local schools for more than 6,700 students.
  - The teen seat belt program includes, "The Science of Attention," which focuses on the dangers of distracted driving, "Seat Belt Survivor," and "Click it for a Ticket" to encourage safe driving and seat belt use. These programs reached over 2,500 students.
  - The Center launched the Rainbow Safety Squad to bring health and safety messages to elementary students by engaging the children in multimedia activities. The topics include bicycle, water and sports safety, motor vehicle crash physics, and physical activity.
  - In 2014, the staff visited over 2,800 new mothers at MacDonald Women's Hospital to provide safety information about car seats and childproofing the home.
  - The Rainbow Injury Prevention Center also uses Facebook and Twitter to spread safety messages to a wide audience.
- The Protecting Our Future website provides injury prevention newsletters on topics such as water, fire and gun safety, supervision of children, and safe sleep for infants.
- MetroHealth Medical Center providers include education on safe infant sleep and adequate adult supervision of children as part of well-child checkups.
- The Cleveland Division of Police and its Bureau of Community Policing donated gun locks to Help Me Grow that can be given to families when gun safety issues are identified in the home. Education on safe gun storage is also provided.

Homicide

- The Division of Children and Family Services (DCFS) incorporates the Family to Family Four Core Principles into their practice model 1) A child's safety is paramount 2) Children belong in families 3) Families need the support of strong communities and 4) Public child-welfare systems must partner with the broader community to achieve strong, positive outcomes for children.

  - DCFS currently contracts with 14 neighborhood collaborative sites. These partnerships play a vital role in prevention efforts that allow children and families to be served safely in their home.

  - The Special Investigation Unit at the DCFS, in conjunction with the Practice Evaluation Unit, continues to perform a comprehensive record review for all fatalities in which the deceased child was involved with the agency at the time of the fatality and/or during the previous 12 months. Lessons learned from investigations contribute to ongoing staff development throughout the agency, particularly in the areas of safety planning and prevention.

  - DCFS continues to contract with three evidence-based parenting programs. Parent Child Interaction Therapy (PCIT) is an evidence-based parent training intervention that teaches caregivers of children ages 2-7 years specific behavior management techniques as they play with their child. PCIT focuses on improving the caregiver-child relationship and increasing children's positive behaviors. Trauma-Focused Cognitive Behavioral Therapy (TF-CBT) is an evidence-based child-and-parent-focused therapy designed to help children and adolescents ages 3-17 years face and overcome the effects of trauma, and to engage the parent/caregiver as an effective support and partner in their child's recovery. Alternatives for Families-Cognitive-Behavioral Therapy (AF-CBT) is an in-home/ outpatient-based therapy used to treat trauma in families with physically coercive/abusive parents and their children ages 5-18 years. This program is designed for physically abused children who present behavior and adjustment problems, poor social competence, and deficits in relationship skills.

  - DCFS has added a program to provide Multi-Systemic Therapy (MST) to families with at-risk teens. MST services provide intensive, in-home therapy-based services to the family for up to six months.

  - The Cuyahoga Tapestry System of Care has expanded and serves more families with at-risk youth. Tapestry uses wraparound services to meet a family's needs. The focus is on building a team of natural and formal supports in the community to "wrap around" the family and develop a plan of care.

  - DCFS has developed a Multi-System Kids (MSK) unit to focus on youth who are involved in multiple county systems.

  - The Medical Investigations Unit at the DCFS serves families with medically fragile children or children who have suffered severe abuse. The workers in this unit have advanced training and experience with complicated medical issues and have developed relationships with the medical providers. This enables them to ensure that the children's needs are being met. The unit has re-educated the staff on chronic health issues such as asthma and diabetes.

  - DCFS is implementing trauma-focused interventions in partnership with the county's Defending Childhood Initiative. DCFS uses a trauma screening tool for every child who is the subject of an investigation to identify children in need of trauma-informed services. Through clinical consultations, this has assisted the staff to find and implement the most effective services for families.

- The Cuyahoga County Witness/Victim Service Center (WVSC) is an official site of the US Department of Justice's Defending Childhood Initiative. The focus of this project is to not only prevent violence, but also to identify and treat children who are experiencing trauma as a result of exposure to violence in their homes, schools, or communities. More than 150 professionals have been trained to assess for trauma in children and over 16,000 children have been screened to determine if services for evidence-based treatment are needed. The DCFS and the Cuyahoga County Common Pleas Court, Juvenile Division, have been key partners to ensure that children are screened and referred appropriately.

Homicide *(cont.)*

- WVSC manages the Children Who Witness Violence program, which provides immediate crisis stabilization to children in the aftermath of exposure to violence.
- WVSC promotes child and family safety by being the home of the Violence Against Women Safe Havens Grant, a program providing supervised visitation and safe exchange services through a contract with the Domestic Violence & Child Advocacy Center.
- WVSC is available for outreach and education in the community. Presentations to schools, human/social service providers, medical personnel, and law enforcement are a means of linking the Center to the needs of the community.

- The Cleveland Division of Police has made it a policy to refer all children who witness any violent situation to the Children Who Witness Violence program.
- The MetroHealth Medical Center departments of pediatrics and social work present information on domestic violence, child abuse and neglect, substance abuse, and mental health issues for the medical providers throughout the system.
- The Cuyahoga County Family Drug Court works with parents whose children are alleged to be abused or neglected, and who are at risk of losing their children because of drug dependency. This intensive program is designed to reduce the time that a child may spend in placement while the parent receives treatment.
- In concert with the Defending Childhood Initiative, the Alcohol, Drug Addiction and Mental Health Services (ADAMHS) Board of Cuyahoga County has a network of adolescent treatment agencies specializing in services to teenagers, in addition to its school-based and community prevention programming.
- The Cuyahoga County Juvenile Court has many interventions and programs to assist youth who are in their system.
  - The Juvenile Detention Alternatives Initiative is a nationwide program that is being used in Cuyahoga County to develop options other than the use of a detention center for court-involved youth.
  - Effective Practices in Community Supervision is a new intervention method used by probation officers to help offenders make positive changes in their thinking and behavior so they will be less likely to commit a new crime.
  - Juvenile Court has a School-Based Probation Unit. In this partnership with the schools, school-based probation officers provide control, supervision, and incentives that delinquent youth often need to attend school regularly and comply with school rules.
  - Cognitive Behavioral Therapy is a day treatment program for youth who are struggling to meet the conditions of their probation. This year a parenting component was added to address the needs of the parents whose children are in this program.

Suicide

- The purpose of the Alcohol, Drug Addiction and Mental Health Services (ADAMHS) Board of Cuyahoga County's suicide prevention awareness campaign is to reach as many citizens of Cuyahoga County with the message: "Do you know someone thinking about suicide?" In 2014, a direct mail postcard campaign was initiated for households in cities with higher suicide rates. The county campaign continues to direct people who are in need of help or more information to the ADAMHS Board of Cuyahoga County's 24-hour suicide prevention, mental health information and referral line for adults and children (216) 623-6888. This hotline is operated by FrontLine Service. Crisis Chat is an online emotional support for anyone who is depressed or thinking of suicide. Crisis Text is a new emotional support service. These tools are particularly appealing to children and teens. Suicide is the third-leading cause of death among teenagers and young adults ages 10-24, and is the fifth-leading cause of death among 5-14 year olds. Accordingly, the campaign targets all age groups including children and their families.
  - The ADAMHS Board is the lead agency for the coordination of school-based mental health and prevention services. The mental health needs of students are identified and addressed by on-site clinicians who provide counseling, community support services, assessment, prevention, and consultation. This collaboration between community agencies, public systems, and school personnel increases the opportunity to prevent more serious difficulties, including suicide.
  - The ADAMHS Board's prevention providers deliver alcohol and drug prevention programs in the schools. These programs focus on reducing the likelihood of behavioral health problems.
- Cuyahoga County Juvenile Court has a Mental Health Court that targets youth who have been identified with mental health issues. These children are provided intensive supervision and service coordination.

Suicide (cont.)

- The Behavioral Health Juvenile Justice program is an initiative designed to reduce the potential for deeper involvement in the juvenile court system by implementing comprehensive evidence-based treatment for identified at-risk youth, ages 12-17 years.

Interagency Actions

As a result of the Child Fatality Review Program, interagency communication and collaboration have been strengthened.

- The partnership between Help Me Grow (HMG) and the Division of Children and Family Services (DCFS) continues to benefit from the creation of a liaison position for the two systems. This individual is responsible for ensuring referrals contain needed information to successfully engage families, troubleshooting system-to-system issues, increasing the sharing of information between systems, and ultimately helping families to stay engaged in services longer.
- The Early Childhood Mental Health (ECMH) centralized system is a cooperative effort with Help Me Grow, the Alcohol, Drug Addiction and Mental Health Services Board, the Cuyahoga County Board of Developmental Disabilities, Invest in Children, the Educational Service Center of Cuyahoga County, and DCFS. This serves as a single point of entry for children, from birth to 6 years, who may be experiencing emotional, behavioral, and social problems.
- HMG, MomsFirst, and the Ohio Infant Mortality Reduction Initiative collaborate in their roles and responsibilities to support the joint service delivery system for expectant families and families with young children.
- MetroHealth Medical Center (MHMC) hosts a quarterly meeting with DCFS to improve collaboration between the two agencies and to update policy information.
- Children in foster care are often survivors of abuse or unsafe living arrangements. To meet the needs of these special youngsters, MHMC and DCFS initiated a Medical Home for Children in Foster Care program. Over 1,000 children have been seen by MHMC staff and enrolled in a coordinated tracking program designed to improve their current and long-term health and well-being.

Infant Mortality and Disparities

1. Incorporate the recommendations of the Ohio Collaborative to Prevent Infant Mortality into Cuyahoga County initiatives.

2. Promote the strategies of the Ohio Institute for Equity in Birth Outcomes to eliminate racial disparities and improve birth outcomes in Cuyahoga County.

Prematurity

1. Support the efforts of the March of Dimes in the areas of research and public awareness regarding the causes, risk factors, and lifelong effects of prematurity. Continue to educate women and expectant parents about the warning signs of preterm labor and the importance of a "Life Course Perspective" to decrease the risks of preterm births.

2. Support promising and evidence-based practices that decrease preterm births, such as CenteringPregnancy® and the use of progesterone for high-risk women.

3. Encourage child and family serving agencies to incorporate interconception care and a reproductive life plan as core components of their programs.

4. Promote a seamless system for perinatal services that also addresses the complex needs of many pregnant women by linking them to services for chronic health problems, drug treatment, and mental health counseling.

Birth Defects

1. Encourage programs that encompass a "Life Course Perspective" that identify and modify medical, social, and behavioral risks throughout a woman's life that can impact future pregnancies.

2. Support the use of folic acid to prevent neural tube defects, newborn screening to identify and treat rare disorders, and genetic counseling for couples at risk for a genetic abnormality prior to pregnancy.

Sleep Related Deaths

1. Continue to educate the childbirth instructors and the staff at maternity and pediatric hospitals in Cuyahoga County about the importance of role modeling safe sleep in the hospital and educating all caregivers. Encourage the development of hospital safe sleep policies and a review of safe sleep discharge teaching.

2. Provide data to the birthing hospitals regarding the number of sleep related deaths for infants born at their facility.

3. Increase family serving agencies' awareness of the components of a safe infant sleep environment by providing staff training on risk factors, local sleep related fatality data, and the most recent American Academy of Pediatrics safe sleep recommendations.

4. Partner with family serving agencies to provide safe sleep education to other infant caregivers such as grandparents, relatives, and friends with a focus on providing a safe sleep environment in any location.

5. Promote the Ohio safe sleep campaign and its educational resources in Cuyahoga County.

6. Support the new Ohio law that requires hospitals to provide safe sleep education and to assess for a safe sleep environment at home before discharge.

7. Connect the Division of Children and Family Services and Juvenile Justice with the Boot Camp for Dads Program.

Unintentional Injuries

1. Support the Safe Kids/Safe Communities Coalition in their comprehensive efforts to prevent injuries and educate the community on safety issues that include child passenger seats/restraints; teen drivers; pedestrian, bus, and bicycle safety; unintentional poisoning; and fire, water, and sports safety.

2. Partner with child/family agencies to disseminate the message stressing the importance of adequate and appropriate adult supervision of children in homes, around water, and in neighborhoods.

3. Reinforce the importance of gun safety in the home – unloaded, locked, and out of the reach of children.

Homicide

1. Promote the use of 24-hour parenting hotlines as a safe and confidential resource for parents in crisis.

2. Support educational programs that assist parents and guardians in understanding age appropriate behaviors, using alternative methods of discipline, and choosing suitable caregivers.

3. Support domestic and teen dating violence education and programs that help families identify warning signs, outline actions to take, especially for escalating behaviors, provide access to counseling and emergency shelter, and initiate early intervention to limit the effects on children in the home.

4. Advocate for community-based safe haven centers for teens, to provide supervised activities and programs after school and on weekends.

5. Provide information to all Cuyahoga County police departments about resources available to children and families through 211 and the Defending Childhood Initiative.

Suicide

1. Support school programs for depression awareness, bullying, and suicide prevention that also include resources for assistance.


DATA
TABLES

Table 10 Annual Number of Gun Related Deaths by Manner, Age, and Gender

BOYS Cause of Death	Age	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
Undetermined	14	0	0	0	0	0	1	0	0	0	0	1
	16	0	0	0	0	0	0	0	0	1	0	1
Total		0	0	0	0	0	1	0	0	1	0	2
Accidental	3	1	0	0	0	0	0	0	0	0	0	1
	15	0	0	0	0	1	0	0	0	0	0	1
	16	1	0	1	0	0	0	0	0	0	0	2
Total		2	0	1	0	1	0	0	0	0	0	4
Suicide	13	0	0	0	0	1	0	0	0	0	0	1
	14	0	0	2	0	0	0	0	0	0	1	3
	15	1	0	0	0	1	0	0	0	0	0	2
	16	0	0	0	0	0	0	0	1	0	0	1
	17	1	0	0	0	0	2	1	0	0	0	4
Total		2	0	2	0	2	2	1	1	0	1	11
Homicide	2	0	0	0	0	2	0	0	0	0	1	3
	10	0	0	0	0	0	0	0	1	0	0	1
	11	1	1	0	0	0	0	0	0	0	0	2
	12	0	0	0	0	0	0	0	0	0	1	1
	13	0	0	1	1	0	0	0	0	0	0	2
	14	0	1	0	0	0	0	0	0	0	0	1
	15	1	0	1	2	0	0	0	1	0	2	7
	16	1	1	2	2	1	0	3	1	2	0	13
	17	2	1	9	2	3	2	3	1	4	0	27
Total		5	4	13	7	6	2	6	4	6	4	57
TOTAL ALL BOYS		9	4	16	7	9	5	7	5	7	5	74

GIRLS Cause of Death	Age	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
Accidental	6	0	0	0	0	0	0	0	0	1	0	1
Total		0	0	0	0	0	0	0	0	1	0	1
Suicide	16	0	0	0	0	0	0	0	1	0	0	1
	17	0	0	0	1	0	0	0	0	0	0	1
Total		0	0	0	1	0	0	0	1	0	0	2
Homicide	1	0	0	0	0	0	0	0	1	0	0	1
	5	0	0	0	0	1	0	0	0	0	1	2
	6	0	1	0	0	0	0	0	1	0	0	2
	10	0	0	0	0	0	0	0	2	0	0	2
	11	0	0	0	1	0	0	0	0	0	0	1
	12	0	0	1	0	0	0	0	0	0	1	2
	14	0	0	0	0	0	0	0	1	0	0	1
	15	0	0	0	1	0	0	1	0	0	0	2
	16	0	0	0	0	0	0	0	0	1	0	1
	17	0	0	0	1	0	0	0	0	0	1	2
Total		0	1	1	3	1	0	1	5	1	3	16
TOTAL ALL GIRLS		0	1	1	4	1	0	1	6	2	3	19

TOTAL CHILDREN		9	5	17	11	10	5	8	11	9	8	93

Table 11 Demographic Profiles and Cause Specific Rates[1]

	2010 Census Data	
	Population Under 18 Years	Percent of Population Under 18
Cuyahoga County (Total)	290,262	23
Cuyahoga County (White)	154,615	19
Cuyahoga County (All Other Races)	135,647	29
City of Cleveland	97,657	25

Percent of Total County Child Population in Cleveland	**34**
Percent of Total County Child Population All Other Races	**47**

Annual Birth Data[2]	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Cuyahoga County	16,354	16,682	16,450	16,249	15,525	15,108	14,993	14,783	14,920	15,049
% White[3]	57.7	57.9	56.1	56.0	56.4	51.9	51.7	51.7	51.6	52.0

Annual Death Data	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Annual Child Deaths	239	233	230	240	213	178	187	182	186	165
Annual Infant Deaths	164	166	162	171	141	140	144	131	133	121
% Deaths to Infants	68.6	71.2	70.4	71.3	66.2	78.7	77.0	72.0	71.5	73.3

Child Mortality / 100,000 Children	68.7	67.0	66.1	69.0	61.2	61.3	64.4	62.7	64.1	56.8
Annual Total Medical Death Rate	52.6	49.1	49.4	50.3	42.8	46.5	49.3	46.5	47.5	40.7
Cancer	2.9	2.3	2.9	3.2	2.6	1.7	1.4	2.1	1.4	1.7
Annual Total Injury Death Rate	16.1	17.8	16.7	18.7	18.4	14.8	15.2	15.2	16.5	16.2
Homicide	5.2	3.7	5.7	4.3	4.9	1.7	3.8	4.8	4.8	5.9
Motor Vehicle Accident	1.1	1.1	0.9	2.6	1.7	1.4	1.0	1.4	1.4	0.7
Fire	0.0	1.1	1.1	0.0	0.9	0.0	0.3	0.3	0.3	0.0
Drowning	1.4	2.0	1.1	1.1	1.7	0.0	0.7	0.7	1.4	0.3
Suicide	1.7	0.6	1.1	2.0	1.1	1.0	0.7	1.4	1.7	1.0

Infant Mortality / 1,000 Births	10.0	10.0	9.8	10.5	9.1	9.3	9.6	8.9	8.9	8.0
Neonatal Mortality / 1,000 Births	7.9	7.3	6.8	7.2	6.5	6.4	6.4	6.5	6.7	6.2
Postneonatal Mortality / 1,000 Births	2.1	2.7	3.0	3.3	2.6	2.9	3.2	2.4	2.2	1.8
Prematurity	6.5	6.3	5.9	6.3	5.5	5.2	5.3	5.1	5.5	5.1
SIDS Only	0.2	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SIDS and Sleep Related	1.0	1.1	1.3	1.4	1.3	1.9	1.3	1.2	1.1	1.3

[1] Yellow shaded boxes are 2014 birth estimates provided by the Ohio Department of Health.

[2] Ohio Department of Health, Ohio Public Health Information Warehouse. Available online at https://odhgateway.odh.ohio.gov/EDWS/DataCatalog (accessed July 8, 2015).

[3] This percentage is for a comparison against all births with a known race and/or ethnicity.

Table 12 Annual Number of Child Deaths Due to Injury and Medical Causes by Age Group

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
Total Injury Related Deaths											
Under 1 Year	17	24	21	30	27	28	22	20	18	23	**230**
1 - 9 Years	10	16	12	9	19	5	9	10	14	11	**115**
10 - 17 Years	29	22	25	26	18	10	13	14	16	13	**186**
Total	**56**	**62**	**58**	**65**	**64**	**43**	**44**	**44**	**48**	**47**	**531**
Total Deaths from Medical Causes											
Under 1 Year	147	142	141	141	114	112	122	111	115	98	**1,243**
1 - 9 Years	20	15	21	21	23	11	14	20	17	7	**169**
10 - 17 Years	16	14	10	13	12	12	7	7	6	13	**110**
Total	**183**	**171**	**172**	**175**	**149**	**135**	**143**	**138**	**138**	**118**	**1,522**
Total All Causes	**239**	**233**	**230**	**240**	**213**	**178**	**187**	**182**	**186**	**165**	**2,053**

NOTE: Injury related deaths include sleep related accidental suffocation and “undetermined” deaths of infants, but not SIDS deaths.

Table 13 Cause of Death by Age Group and Year

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total per Cause
Prematurity											**897**
Under 1 Year	107	105	97	102	85	79	80	76	82	76	
1 - 9 Years	1	0	1	2	1	0	1	0	1	0	
10 - 17 Years	0	0	0	0	0	0	0	1	0	0	
Birth Defects											**350**
Under 1 Year	26	28	31	31	28	20	35	25	23	13	
1 - 9 Years	11	5	6	9	6	5	2	9	9	2	
10 - 17 Years	2	2	3	3	3	4	2	1	3	3	
SIDS and Sleep Related Deaths											**198**
Under 1 Year	16	18	22	22	20	28	19	18	16	19	
Cancer and Other Medical Conditions											**285**
Under 1 Year	15	10	9	13	5	13	7	10	10	9	
1 - 9 Years	9	11	14	10	16	6	11	11	7	5	
10 - 17 Years	14	13	7	10	9	8	5	5	3	10	
Homicide											**142**
Under 1 Year	0	1	1	3	1	0	2	1	2	2	
1 - 9 Years	3	5	2	2	11	2	2	4	4	7	
10 - 17 Years	15	7	15	10	5	3	7	9	8	8	
Suicide											**40**
1 - 9 Years	0	0	0	0	0	0	0	0	0	0	
10 - 17 Years	6	2	4	7	4	3	2	4	5	3	
Motor Vehicle Accident											**43**
Under 1 Year	0	0	0	0	1	0	0	0	0	1	
1 - 9 Years	0	2	2	2	2	2	1	3	3	0	
10 - 17 Years	4	2	1	7	3	2	2	1	1	1	
Accidental Suffocation											**4**
Under 1 Year [1]	0	0	0	0	0	0	0	0	0	0	
1 - 9 Years	1	0	2	0	0	0	0	0	0	0	
10 - 17 Years	0	0	0	0	0	1	0	0	0	0	
Drowning											**34**
Under 1 Year	0	1	0	0	0	0	0	1	0	0	
1 - 9 Years	2	4	2	2	2	0	1	1	3	0	
10 - 17 Years	3	2	1	2	4	0	1	0	1	1	
Fire [2, 3]											**14**
Under 1 Year	0	0	0	0	1	0	0	0	0	0	
1 - 9 Years	0	3	3	0	2	0	1	1	1	0	
10 - 17 Years	0	1	1	0	0	0	0	0	0	0	
Other Accidents [4]											**46**
Under 1 Year	0	3	2	0	0	0	1	0	0	1	
1 - 9 Years	3	1	1	3	2	1	4	1	3	4	
10 - 17 Years	1	7	3	0	2	1	1	0	1	0	
Total per Year	**239**	**233**	**230**	**240**	**213**	**178**	**187**	**182**	**186**	**165**	**2,053**

[1] Excludes those related to sleep environment.

[2] In 2005, there were 8 fire deaths in a single arson fire which are included in Homicide.

[3] In 2006, there were 8 fire deaths, with 4 of those caused by a single arson (included in Homicide) and 4 caused accidentally (included in Fire).

[4] Includes falls, poisoning, violence of undetermined origin, and other accidents.

Table 14 Annual Number of Child Deaths by Race and Age Group[1]

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
Race and Age Group											
White											
Under 1 Year	53	43	55	43	43	40	45	46	45	37	**450**
1 - 9 Years	16	12	10	10	19	4	11	13	6	8	**109**
10 - 17 Years	13	16	11	13	12	13	6	7	9	9	**109**
Total	**82**	**71**	**76**	**66**	**74**	**57**	**62**	**66**	**60**	**54**	668
All Other Races											
Under 1 Year	111	123	107	128	98	100	99	85	88	83	**1,022**
1 - 9 Years	14	18	23	20	23	12	12	17	25	10	**174**
10 - 17 Years	32	20	24	26	18	9	14	14	13	17	**187**
Total	**157**	**161**	**154**	**174**	**139**	**121**	**125**	**116**	**126**	**110**	1,383
Total All	**239**	**232**	**230**	**240**	**213**	**178**	**187**	**182**	**186**	**164**	2,051
Missing Race Info	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**
Rates of Death											**Average**
Crude Death Rate White[2]	40.8	35.3	37.8	32.8	36.8	36.9	40.1	42.7	38.8	34.9	**37.7**
Crude Death Rate All Other Races[3]	107.0	109.7	104.9	118.5	94.7	89.2	92.2	85.5	92.9	81.1	**97.6**
Ratio of All Other Races to White	2.6	3.1	2.8	3.6	2.6	2.4	2.3	2.0	2.4	2.3	**2.6**
Death Rate (excl Infants) White[4]	14.6	10.9	12.0	16.0	15.4	11.0	11.6	13.6	10.2	11.6	**12.7**
Death Rate (excl Infants) All Other Races[5]	27.2	33.7	33.0	29.4	27.9	15.5	20.2	24.1	29.6	21.0	**26.2**
Ratio of All Other Races to White (excl Infants)	2.2	1.9	3.1	2.7	1.8	1.4	1.7	1.8	2.9	1.8	**2.1**
Infant Mortality / 1,000 Births White[6]	5.6	4.5	6.0	4.7	5.0	4.9	5.8	6.1	5.9	4.8	**5.3**
Infant Mortality / 1,000 Births All Other Races[7]	16.0	17.5	14.8	17.9	14.4	13.1	13.7	11.8	12.3	11.6	**14.3**
Ratio of All Other Races to White IMR	2.9	3.9	2.5	3.8	2.9	2.7	2.4	1.9	2.1	2.4	**2.7**

[1] Yellow shaded boxes are based on adjusted estimates from unconfirmed delivery hospital data.

[2] Total White deaths/154,615 x 100,000 (2010 census data in Table 11)

[3] Total All Other Races deaths/135,647 x 100,000 (2010 census data in Table 11)

[4] Total White deaths (excl Infants)/154,615 minus White live births x 100,000 (2010 census data in Table 11)

[5] Total All Other Races deaths (excl Infants)/135,647 minus All Other Races live births x 100,000 (2010 census data in Table 11)

[6] Total Infant White deaths/total White live births x 1,000 (annual birth data in Table 11)

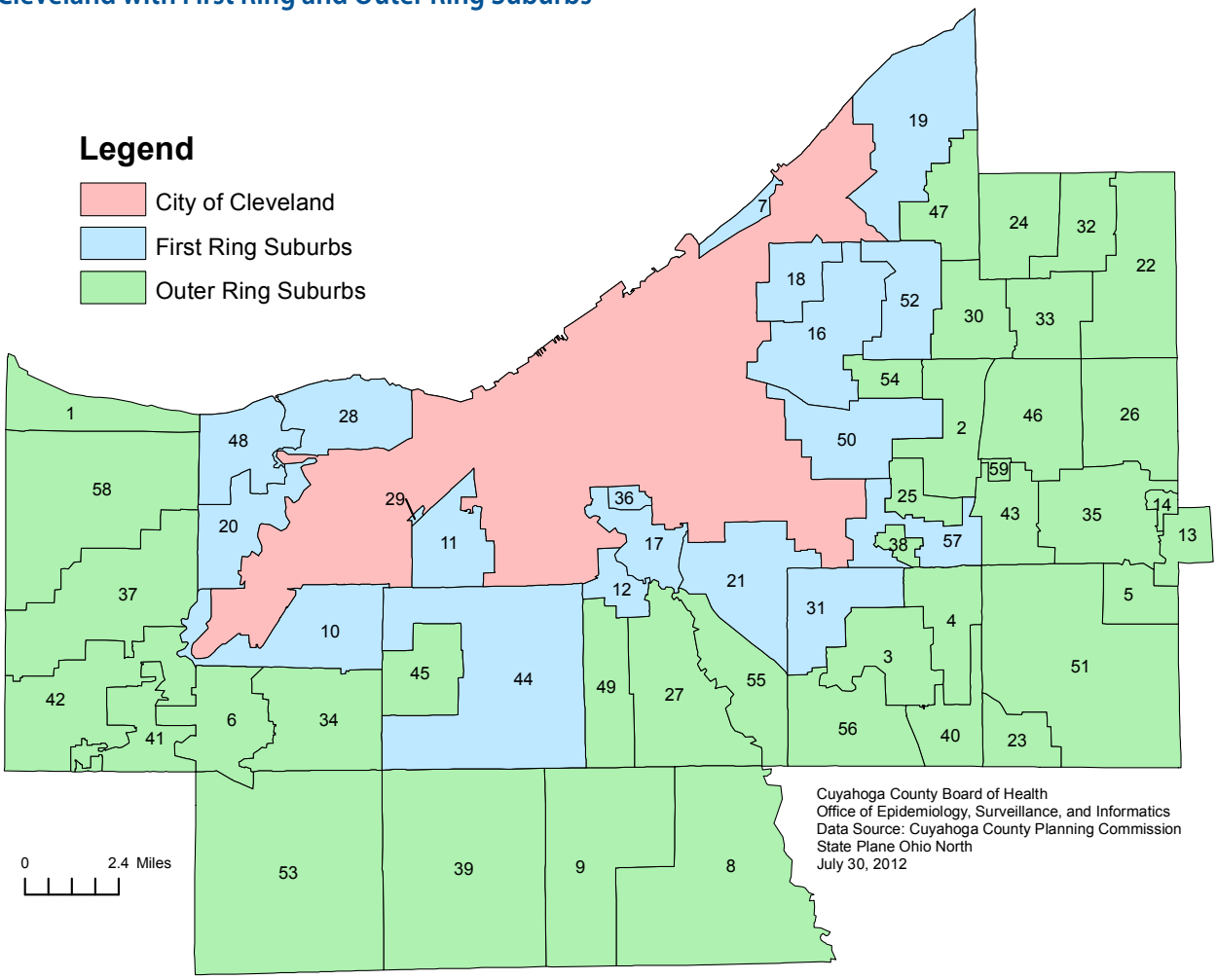
[7] Total Infant All Other Races deaths/total All Other Races live births x 1,000 (annual birth data in Table 11)

Table 15 Annual Number of Child Deaths by Gender and Age Group

	2005	2006*	2007	2008	2009	2010	2011*	2012*	2013	2014*	Total
Gender and Age Group											
Male											
Under 1 Year	95	91	93	94	74	71	81	78	69	71	**817**
1 - 9 Years	15	15	16	15	26	6	11	12	16	8	**140**
10 - 17 Years	36	23	26	24	15	15	15	11	14	16	**195**
Total	**146**	**129**	**135**	**133**	**115**	**92**	**107**	**101**	**99**	**95**	**1,152**
Female											
Under 1 Year	69	74	69	77	67	69	63	52	64	49	**653**
1 - 9 Years	15	16	17	15	16	10	11	18	15	10	**143**
10 - 17 Years	9	13	9	15	15	7	5	10	8	10	**101**
Total	**93**	**103**	**95**	**107**	**98**	**86**	**79**	**80**	**87**	**69**	**897**
TOTAL ALL	**239**	**232**	**230**	**240**	**213**	**178**	**186**	**181**	**186**	**164**	**2,049**

* In 2006, 2011, 2012, and 2014, one infant had unknown gender.

City of Cleveland with First Ring and Outer Ring Suburbs



Number	Municipality	Number	Municipality	Number	Municipality
1	Bay Village	22	Gates Mills	41	Olmsted Falls
2	Beachwood	23	Glenwillow	42	Olmsted Township
3	Bedford	24	Highland Heights	43	Orange
4	Bedford Heights	25	Highland Hills	44	Parma
5	Bentleyville	26	Hunting Valley	45	Parma Heights
6	Berea	27	Independence	46	Pepper Pike
7	Bratenahl	28	Lakewood	47	Richmond Heights
8	Brecksville	29	Linndale	48	Rocky River
9	Broadview Heights	30	Lyndhurst	49	Seven Hills
10	Brook Park	31	Maple Heights	50	Shaker Heights
11	Brooklyn	32	Mayfield	51	Solon
12	Brooklyn Heights	33	Mayfield Heights	52	South Euclid
13	Chagrin Falls	34	Middleburg Heights	53	Strongsville
14	Chagrin Falls Township	35	Moreland Hills	54	University Heights
16	Cleveland Heights	36	Newburgh Heights	55	Valley View
17	Cuyahoga Heights	37	North Olmsted	56	Walton Hills
18	East Cleveland	38	North Randall	57	Warrensville Heights
19	Euclid	39	North Royalton	58	Westlake
20	Fairview Park	40	Oakwood	59	Woodmere
21	Garfield Heights				

*Summary of Risk Factors in 2014**

Mother's Medical Risk Factors

Chronic illness
- -Obesity
- -Hypertension
- -Diabetes

Preterm labor
Premature rupture of membranes (PROM)
Previous fetal loss
Previous infant loss
Previous preterm delivery
Prior history of sexually transmitted infections (STI)
STI – during current pregnancy
Chorioamnionitis
At-risk maternal age
Bacterial vaginosis
Positive beta strep
Multiple gestation
Pre-eclampsia (PET)
Incompetent cervix
Abruption
Oligohydramnios
Polyhydramnios
17P not used but indicated

Pediatric Medical Risk Factors

Intrauterine growth retardation (IUGR)
Prematurity
Failure to thrive
Congenital anomalies
Infection
Chronic illness
Technologically dependent
Developmentally delayed
Apnea spells
Recent upper respiratory infection
Cancer
Injury/trauma

Economic Risk Factors

No insurance
Medicaid eligibility issues
Poverty
Frequent moves
Living in public shelter
Homeless

Behavioral Risk Factors

No prenatal care
Late entry into prenatal care
Missed appointments, mother
Missing immunizations
Missed appointments, child
Self medication, child
Early onset parenting
Current parent less than 18 years old
Refused services offered
Bedsharing
Inadequate supervision
Poor parenting
Unsafe sleep arrangement
Lack of child safety
Car restraint not used
Truancy, child
Delinquency, child
Aggression, child
Family planning not used, unplanned pregnancy

Parental Substance Use

Tobacco
Alcohol
Illicit drugs
Prescription drugs

Child Substance Abuse

Tobacco
Alcohol
Illicit drugs
Prescription drugs
Intrauterine drug exposure
Intrauterine tobacco exposure

Violence Related Risk Factors

Partner abuse
Child abuse
Child neglect
Medical neglect
History of reports for suspected domestic violence or child maltreatment
History of custody removal
History of child exposure to violence within the family
Evidence of previous unexplained injuries
Parental criminal history
Child criminal history
Parental history of abuse or neglect as a child
Parental history of custody removal as achild
Multigenerational reported abuse, neglect, or domestic violence

Mental Health Risk Factors

Maternal history of mental illness
Paternal history of mental illness
Parental education less than high school
Multiple family stresses
School problems, child
ADD/ADHD, child
Depression, child
History of suicide attempts, child
Self-injurious behavior, child
Child psychiatric diagnosis
Sexual identity issues, child

Environmental Risk Factors

No functional smoke detector
Secondhand smoke
Deplorable housing
Transportation inadequate

Social Risk Factors

Lack of support of family/friends
Negative influence of family/ friends
Gang involvement
At-risk child
Social isolation
Lack of paternal involvement
Language difficulties
Cultural beliefs about health
Gun access

System Risk Factors

Multiple providers/sites, mother
Multiple providers/sites, child
At-risk, no toxicology screen, parent
Inadequate patient/child education
Dissatisfaction with system
Inadequate medical assessment
Inadequate reunification
Daycare concerns
Systems issues (health care, Division of Children and Family Services, law enforcement, school, juvenile court, mental health, etc.)

* In addition to the risk factors listed here, there is an "Other" option for each category for unlisted risk factors.

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