The Cuyahoga County Child Fatality Report
Twenty-First Edition

Protecting Our Future

Child Fatalities 2017

The Cuyahoga County
Child Fatality Review Board
Armond Budish, Cuyahoga County Executive

Invest in Children
Cuyahoga County

The Cuyahoga County
Office of Early Childhood
Invest in Children

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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.

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Recommendations

The purpose of the Cuyahoga County Child Fatality Review Board is to decrease the number of preventable child deaths.
The Board reviews the deaths of all children less than 18 years old who live in Cuyahoga County. This confidential review is conducted by an interdisciplinary team who identifies the contributing causes, risk factors, and trends. The Board makes data-driven recommendations to protect the health and safety of all children in the community.

Infant Mortality and Disparities

1. Actively support the mission and key priorities of First Year Cleveland to reduce infant deaths and racial disparities.
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.
2. Continue to educate women and expectant parents about the warning signs of preterm labor, the importance of interconception care, and the significance of a "Life Course Perspective" to decrease the risks of preterm births.
3. Support promising and evidence-based practices that decrease preterm births, such as CenteringPregnancy® and the use of progesterone for high-risk women.
4. Encourage child and family serving agencies to incorporate interconception care and a reproductive life plan as core components of their programs.
5. 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 encompassing a "Life Course Perspective" that identify and modify medical, social, environmental, and behavioral risks throughout a woman's life that can impact future pregnancies.

Sleep Related Deaths

1. 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.
2. Continue to educate childbirth instructors and staff at maternity and pediatric hospitals in Cuyahoga County about the importance of role modeling safe sleep in the hospital, ***educating all caregivers***, and having conversations with families about barriers to safe sleep. Encourage the development of hospital safe sleep policies and a review of safe sleep discharge teaching.
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. Promote the Ohio safe sleep campaign and its educational resources to hospitals and agencies in Cuyahoga County.
5. Support the Ohio law that requires hospitals to provide safe sleep education and to assess for a safe sleep environment at home before discharge.

Medically Related Deaths

1. Reinforce the importance of a medical home for children with chronic illnesses and assess for barriers to compliance with the treatment plan.
2. Reinforce among providers that multiple missed appointments for potentially life-threatening conditions (i.e. asthma, diabetes, acute mental health issues, etc.) are frequently noted in child fatality case reviews. Providers observing such patterns are in a unique position to assess the situation for barriers to compliance and determine if reporting a suspicion of medical neglect is warranted.

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; 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.
4. Monitor the opioid epidemic in Cuyahoga County to identify how and where it is affecting the health, welfare, and safety 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.

Suicide

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

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 who has not yet reached their 18th birthday (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, that leads 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.

Black – A person having origins in any of the black racial groups of Africa. It includes people who self-report their race as "black" 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 Africa. It includes people, who indicate their race is not "white" or "black," such as American Indian or Alaska Native, Asian, and Native Hawaiian or Other Pacific Islander, as well as ethnicities such as Hispanic.

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 mortality rate (IMR) 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. Since 118 infants died during 2017, and there were 14,558 live births, the IMR is 8.1 per 1,000 live births (calculated by taking 118 divided by 14,558 and multiplying by 1,000).*

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

> ***Example:*** *If the white infant mortality rate (IMR) was lower than the black IMR, a racial disparity exists because one racial group (blacks) 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).*

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.

An Overall Look at 2017

There were 188 child deaths, the second-highest total number of deaths in the last eight years.

The total number of child deaths increased by 16 in 2017 to a total of 188. Child deaths between 1 and 9 years old more than doubled (from 15 in 2016 to 31 in 2017) and deaths to children 10 to 17 years old increased by 34%. Infant deaths decreased by 8%. The total number of child deaths for 2017 included 118 infants, 31 children from 1 to 9 years old, and 39 children from 10 to 17 years old **(Table 1)**.

Table 1 Annual Number of Deaths by Age Group

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
Under 1 Year	171	141	140	144	131	133	121	155	128	118	**1,382**
1 - 9 Years	30	42	16	23	30	31	18	25	15	31	**261**
10 - 17 Years	39	30	22	20	21	22	26	20	29	39	**268**
Total	**240**	**213**	**178**	**187**	**182**	**186**	**165**	**200**	**172**	**188**	**1,911**

Infant deaths were the lowest in the last ten years.

One hundred eighteen infants died in 2017. This was ten fewer than 2016 and the lowest number of infant deaths in the last ten years. A decrease was noted in 6 out of the 15 categories for cause of death (the number in parentheses indicates the change in number of deaths): birth defects (-10), sleep related (-8), infection (-5), homicide (-2), other medical causes (-1), and other perinatal complications (-1). The largest increase noted was prematurity related deaths from 69 in 2016 to 82 in 2017. The undetermined other category increased by two deaths, while accidental injury related deaths and drowning increased by one death.

There were 16 more deaths of children between 1 and 9 years.

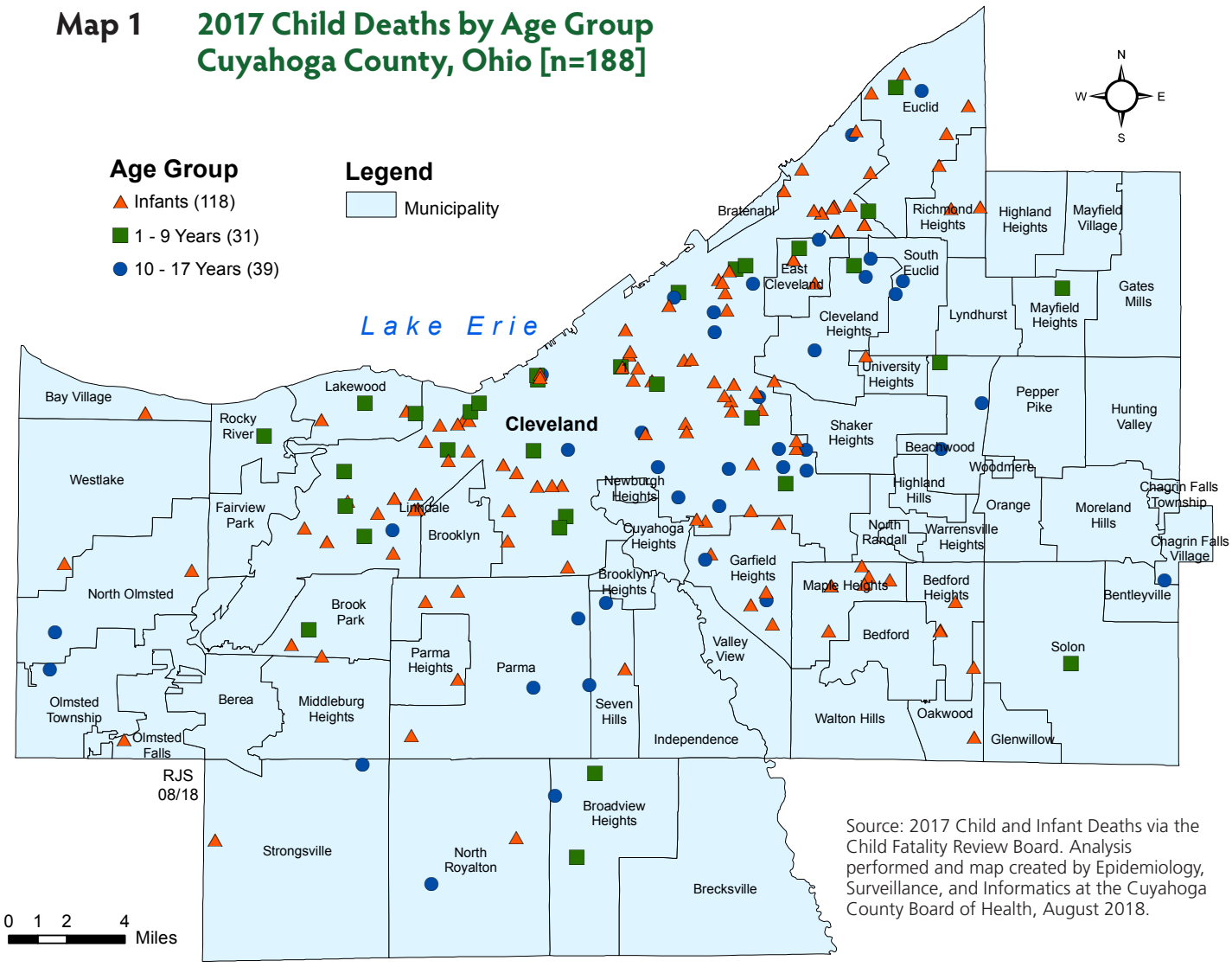
Thirty-one children between 1 and 9 years of age died in 2017. This tied for the second-highest number of deaths in this age group in the last ten years. An increase was noted in 10 out of the 15 cause of death categories: homicide (+4), motor vehicle accident (+3), infection (+3), accidental poisoning (+2), fire (+2), other medical causes (+2), and undetermined other (+2). The only two causes that had fewer deaths in 2017 were cancer (-1) and other perinatal complications (-1).

The number of child deaths between 10 and 17 years tied for the highest in the last ten years.

Thirty-nine children ages 10 to 17 years died in 2017 and tied for the highest number of deaths in this age group in the last ten years. There were seven more homicides and six more suicides in this age category. Accidental poisoning had two more deaths and birth defects had one additional death. The biggest decrease was in other medical causes deaths (-3), while two fewer accidental injury related deaths and one fewer motor vehicle accident death occurred.

An Overall Look at 2017

Map 1 2017 Child Deaths by Age Group Cuyahoga County, Ohio [n=188]



Source: 2017 Child and Infant Deaths via the Child Fatality Review Board. Analysis performed and map created by Epidemiology, Surveillance, and Informatics at the Cuyahoga County Board of Health, August 2018.

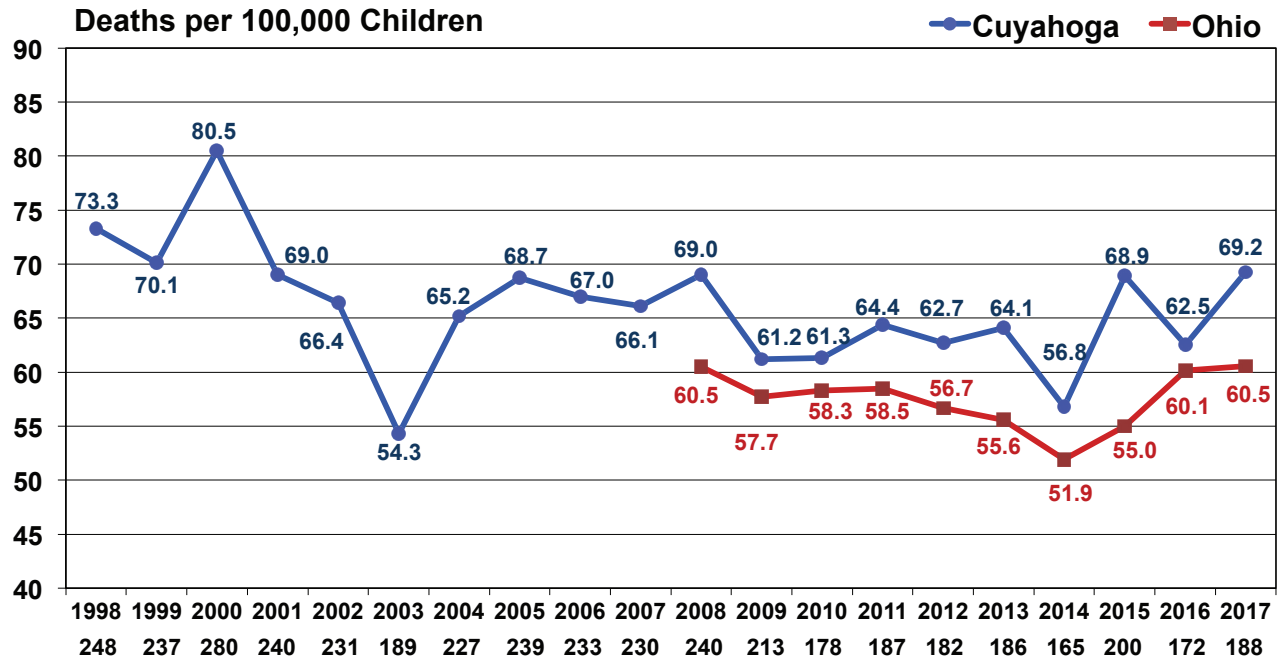
Map 1 shows the number of all child deaths in 2017. The majority of deaths (59%) occurred within the city of Cleveland which has less than one-quarter (23%) of the child population in Cuyahoga County **(Table 6)**. Deaths of children living in the first ring suburbs accounted for 24% and the remaining 17% of children lived in the outer ring suburbs **(Appendix A)**.

Taking a Closer Look

The child death rate was the highest in the last ten years.

Figure 1 gives a historical perspective over the last 20 years in Cuyahoga County, and the last 10 years for the state of Ohio.[1-5] From 2008 to 2017, the county child death rate has been consistently higher than the state of Ohio. The county rate of child deaths in 2017 was the highest in the last ten years. Sixteen more deaths in 2017 led to an 11% increase, which was attributed to a significant rise in the number of child deaths to children ages 1 to 17 years.

Figure 1 Total Child Deaths (age 0 – 17) Cuyahoga County (1998 – 2017) and State of Ohio (2008 – 2017)



Taking a Closer Look

Table 2 Leading Causes of Death by Age Group in 2017

Cause of Death	Under 1 Year	1 - 9 Years	10 - 17 Years	Total
Prematurity	82	0	0	**82**
Birth Defect	12	4	5	**21**
Homicide	0	5	13	**18**
Sleep Related	13	0	0	**13**
Motor Vehicle Accident	0	6	5	**11**
Other Medical Causes	1	4	4	**9**
Suicide	0	0	8	**8**
Accidental - Poisoning	0	3	2	**5**
Other Perinatal Complications	5	0	0	**5**
Undetermined - Other	3	2	0	**5**
Infection	0	3	0	**3**
Accidental - Injury Related	1	1	0	**2**
Cancer	0	1	1	**2**
Drowning	1	0	1	**2**
Fire	0	2	0	**2**
Total	**118**	**31**	**39**	**188**

Table 2 provides a breakdown of the leading causes of death by age group. The majority (65%) of deaths continue to be rooted in medical causes such as prematurity, birth defects, cancer, infection, and other medical conditions **(Table 9)**. While prematurity continues to be the main cause of infant deaths, sleep related was the second leading cause. Motor vehicle accident was the leading cause of death in the 1- to 9-year-old age group for the first time and homicide was the leading cause of death in the 10- to 17-year-old age group.

The cause of death with the largest year-over-year increase was prematurity (from 69 in 2016 to 82 in 2017). Homicide increased by nine deaths, while suicide had six more deaths in 2017. Accidental poisoning and other undetermined deaths had four more deaths. Fire and motor vehicle accidents had an increase of two deaths and drowning had one additional death.

Birth defects had the largest decrease (from 30 in 2016 to 21 in 2017) and sleep related deaths decreased by eight. Other medical causes, other perinatal complications and infection decreased by two deaths. Accidental injury related and cancer had one fewer death in 2017.

Fast Facts

- *Lowest number of infant deaths in the last ten years.*
- *Homicide was the third leading cause of child death.*

Peer County Comparisons 2016

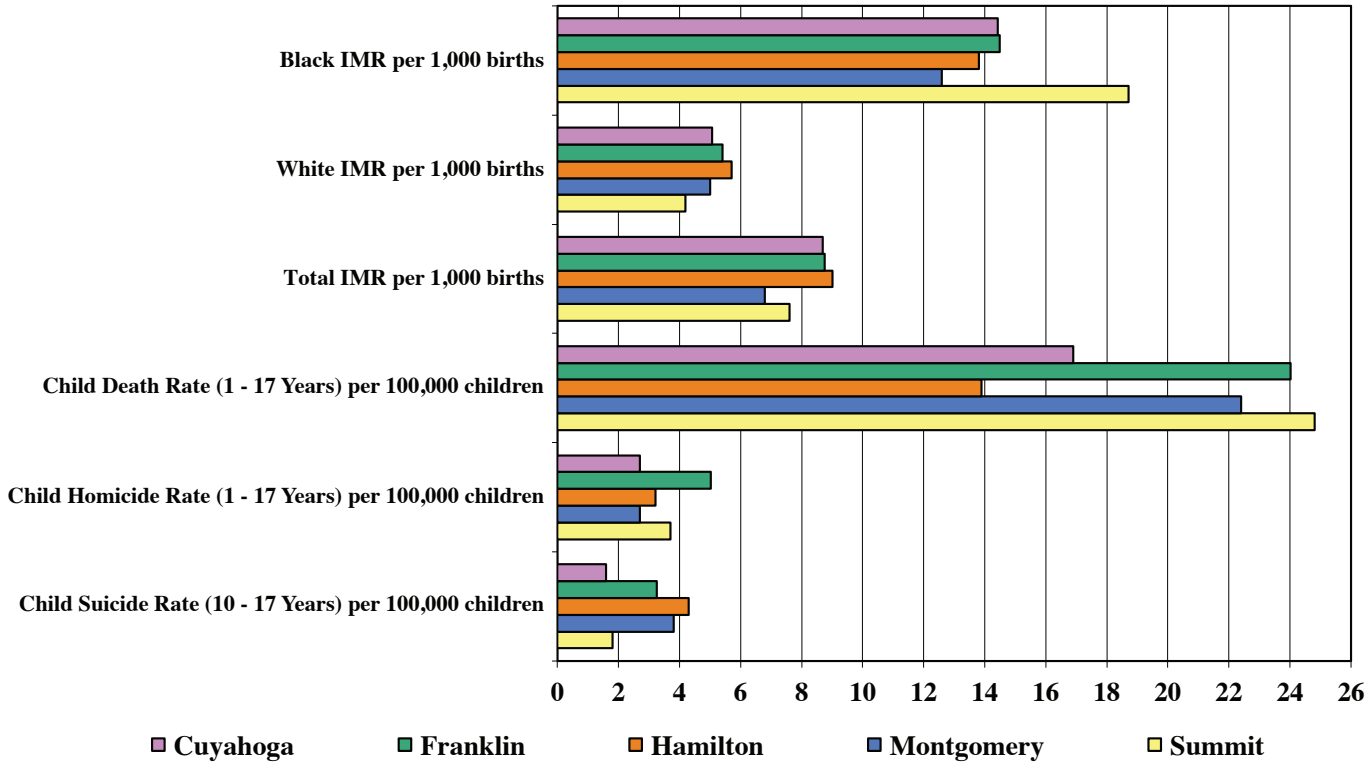
County Infant Mortality Rates

Cuyahoga County had the lowest child homicide rate in 2016.

The Child Fatality Review Board[6] sought data sources that allowed direct comparisons to other large, urban areas in Ohio focusing on child death and infant mortality rates (IMR). The other four counties include Franklin[7] (Columbus area), Hamilton[8] (Cincinnati area), Montgomery[9] (Dayton area), and Summit[10] (Akron area). The 2016 data were the most current data available.

Cuyahoga had the second-lowest white IMR (5.1) and third-lowest black IMR (14.5) and total IMR (8.7) of the five largest counties in Ohio **(Figure 2)**. Cuyahoga had the lowest child suicide death rate and tied with Montgomery for the lowest child homicide rate. The overall child death rate of 16.9 in Cuyahoga was the second-lowest for 2016.

Figure 2. Peer County Comparisons in 2016



Racial and Economic Disparity

Black-white disparity reached a nine-year high in 2017.

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

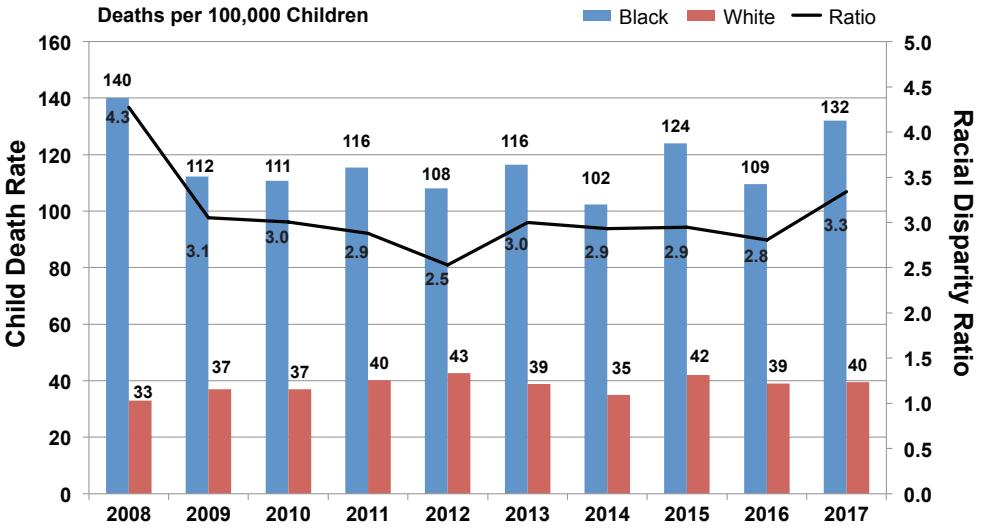
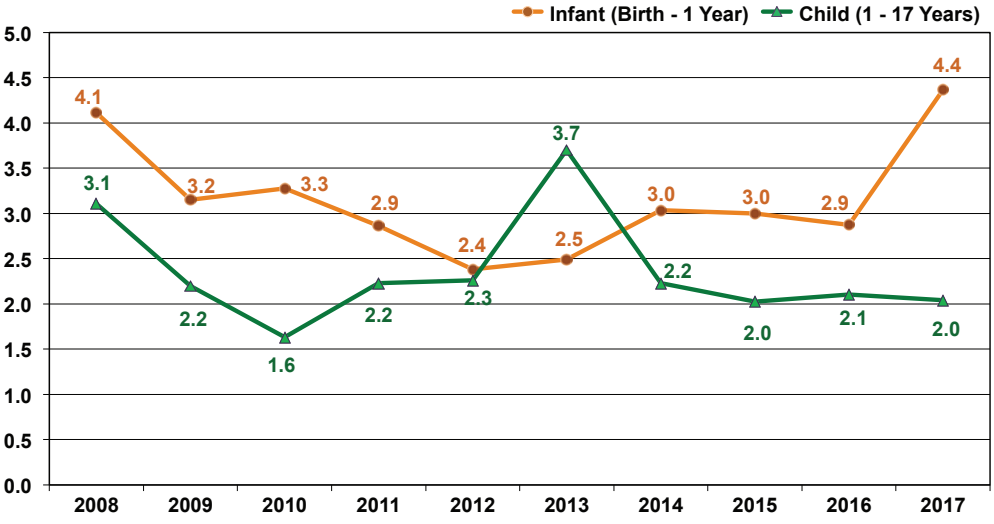


Figure 4. Infant and Child Deaths; Black-White Racial Disparity Ratio



The black-white child death racial disparity increased to a ratio of 3.3 in 2017, which is the highest ratio in the last nine years **(Figure 3)**. The ratio increased because the black child death rate increased by 21%, while the white rate slightly increased by 1%. The black rate of 132 was the second-highest rate in the last ten years **(Table 8)**. The white rate of 40 tied for the third-highest rate over the same time period. Of the 188 child deaths, 129 were black, 57 were white, and two were of all other races.

It is important to look at the racial disparity for infants and children separately, as illustrated in **Figure 4.** The child black-white racial disparity ratio of 2.0 is tied for the second-lowest in the last ten years.

The racial disparity of infant deaths (4.4) was the highest ratio in the last ten years and more than 50% higher than the 2016 ratio (2.9). The preliminary 2017 infant death racial disparity ratio in the state of Ohio is 3.0[11,12] and the 2016 US ratio (most recent data available) is 2.2.[13,14]

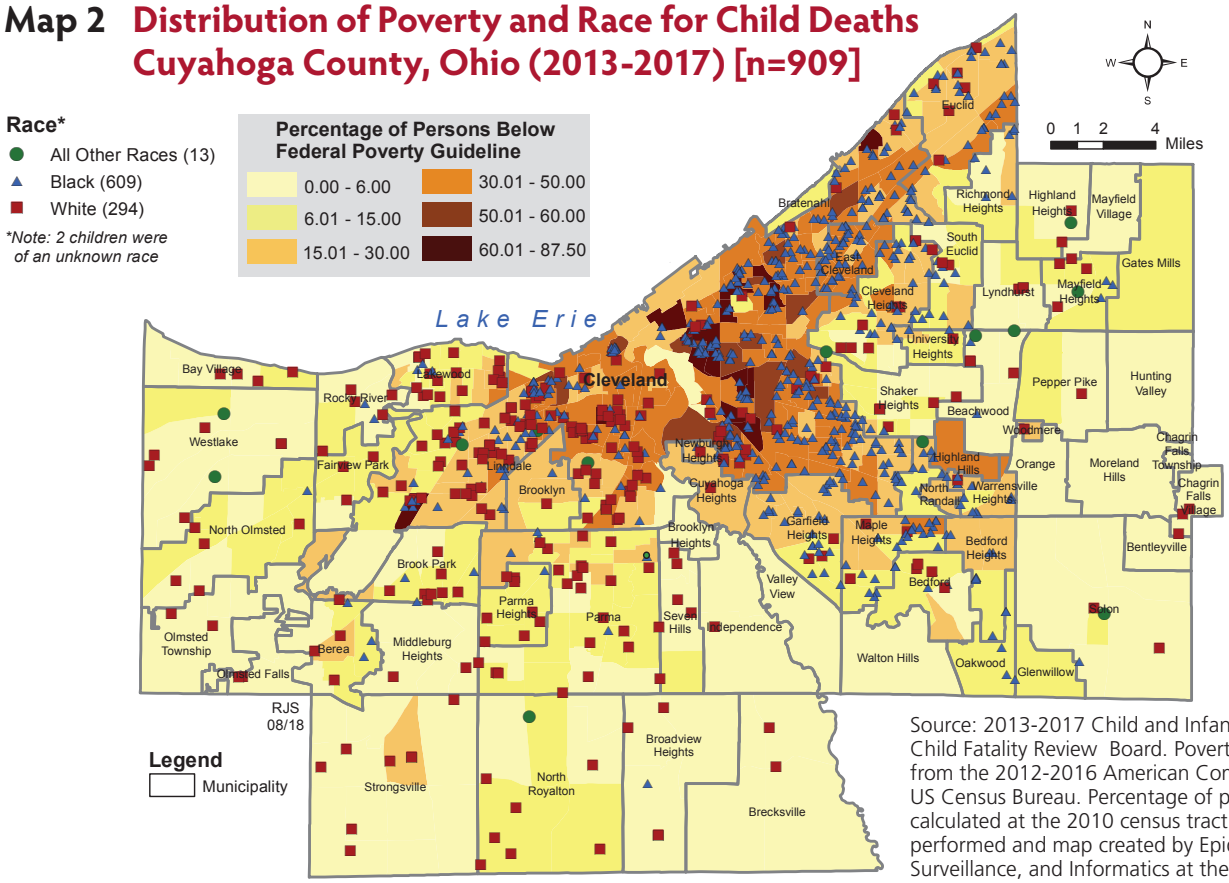
Fast Facts

- *4.4 black infants died for every 1 white infant.*
- *If there was equity in child deaths, 90 black children would have survived.*

First Year Cleveland

First Year Cleveland's mission is "to mobilize the community through partnerships and a unified strategy to reduce infant deaths including racial disparities". There are three key priorities which include reducing racial disparities, addressing extreme prematurity, and eliminating sleep related infant deaths. Race and its effects on long-term stress, in addition to structural racism, will be examined to understand the impact this has on infant mortality. First Year Cleveland has established three action teams within their mobilization strategy charged with addressing racial disparities that include: 1) engage clinical institutions to assess and address racial biases; 2) gain further understanding from African American families who have experienced a loss; and 3) lead research efforts to better understand the role of race and maternal stress on infant deaths.

Map 2 Distribution of Poverty and Race for Child Deaths Cuyahoga County, Ohio (2013-2017) [n=909]



Source: 2013-2017 Child and Infant Deaths via the Child Fatality Review Board. Poverty data obtained from the 2012-2016 American Community Survey, US Census Bureau. Percentage of poverty was calculated at the 2010 census tract level. Analysis performed and map created by Epidemiology, Surveillance, and Informatics at the Cuyahoga County Board of Health, August 2018.

Map 2 illustrates the close relation between poverty, race, and child deaths.[15,16] The highest poverty levels are concentrated in the county's urban core with significantly lower levels of poverty in the outer ring suburbs. Fewer than 6% of people are living below the federal poverty guideline in the lightest shaded area, while the two areas shaded in brown had at least half the population who live in poverty. Nearly one in three (31.8%) black people in Cuyahoga County lived in poverty, compared to only 11.1% of white people.[17] The 2017 federal poverty guideline for a family of four was $24,600.[18]

In the last five years, two black children died for every one child of all other races in Cuyahoga County. The majority of black child deaths occurred on the eastern side of the county, whereas the largest portion of white child deaths occurred on the western side. A higher rate of child deaths also occurred in areas that experience high levels (at least 30 percent) of poverty.

Infant Mortality

Cuyahoga County's IMR is the second-lowest in the last ten years.

The 2017 Cuyahoga County IMR is 8.1 infant deaths per 1,000 live births, the second-lowest rate in the last ten years **(Figure 5)**. The current rate is based on 118 infant deaths among 14,558 live births **(Table 6)**.[19] The county IMR of 8.1 remains significantly higher than the 2017 preliminary Ohio IMR of 7.2,[20,21] and the 2016 United States IMR (most recent data available) of 5.87[22]. *In order for Cuyahoga County to match the 2016 US IMR, 33 infants who died in 2017 would have needed to live.*

Figure 5. Infant Mortality Rate (IMR) per 1,000 Live Births

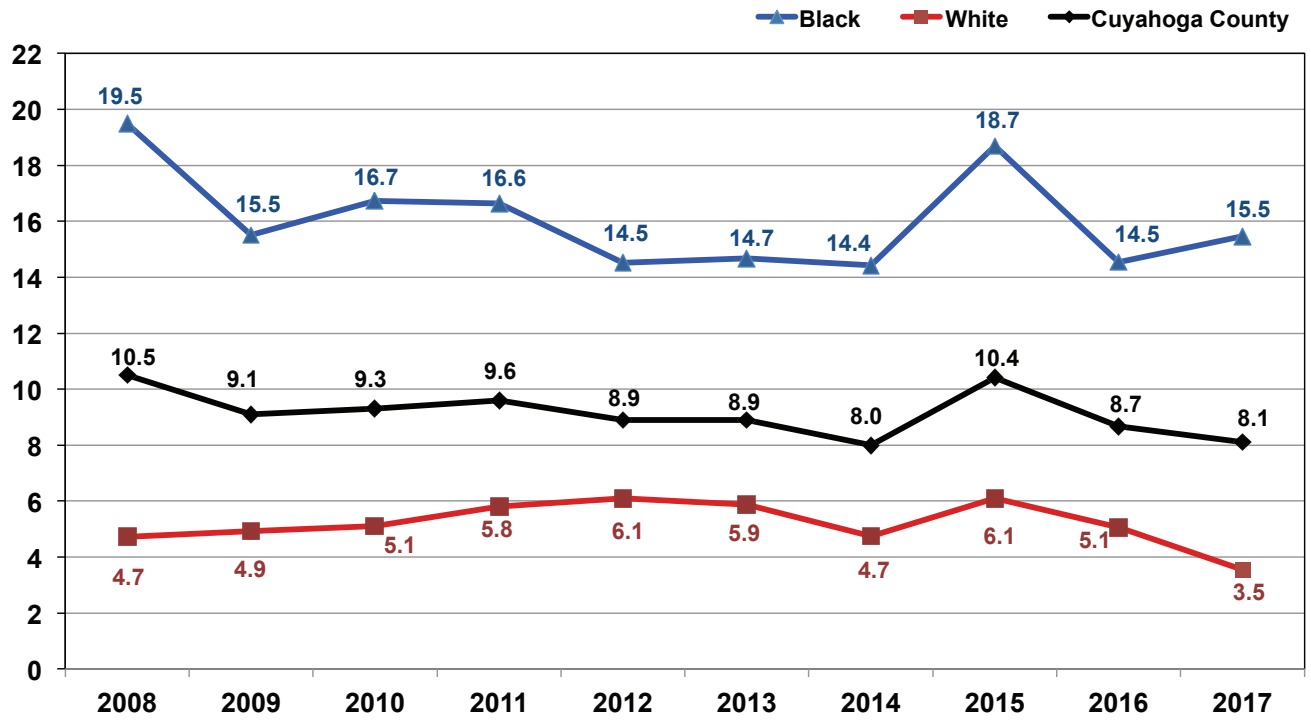
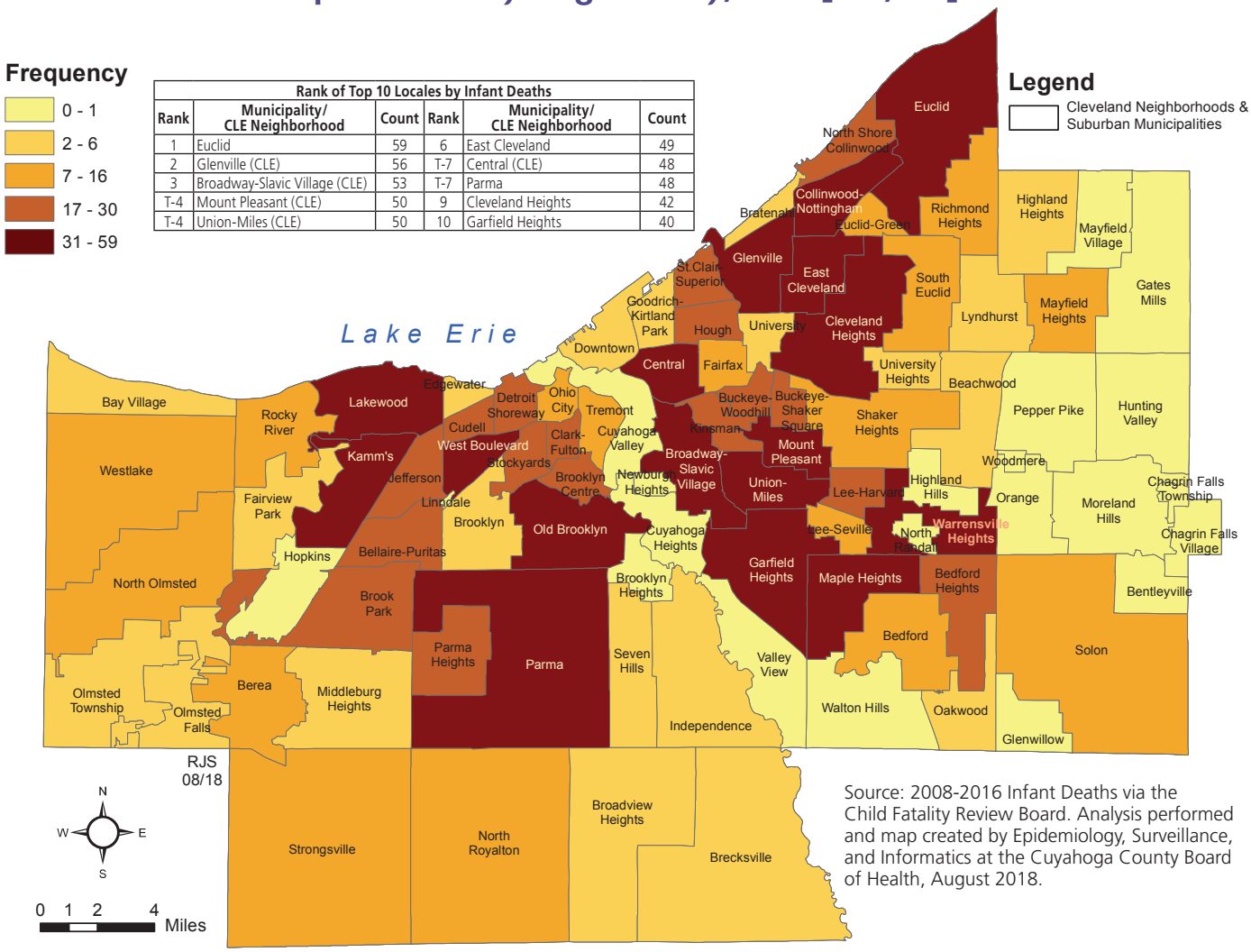


Figure 5 shows that the black IMR of 15.5 was 6% higher than 2016. The white IMR of 3.5 was the lowest rate in the last ten years and decreased by 30%. The overall IMR of 8.1 indicates that 10 fewer infants died in 2017. While the county rate improved in 2017, this rate was 80% higher than the 2020 US Health and Human Services Secretary Advisory Committee on Infant Mortality goal of 4.5.[23]

The most frequent causes of infant death continued to be prematurity (82), sleep related deaths (13), and birth defects (12) (Table 2). These top three causes accounted for 91% of all infant deaths. Of the 11 remaining infant deaths, 6 were medically related, 3 were ruled as undetermined, 1 drowning, and 1 accidental injury related.

Birth defects were the third leading cause of death in 2017. Seventy-five percent of these deaths were due to congenital abnormalities. Half of the deaths had heart and/or brain malformations. The other 25% of birth defects were due to chromosomal anomalies. A big decrease (from 4 in 2016 to 0 in 2017) was noted in the number of neural tube defect deaths.

Map 3 Frequency of 2008-2017 Infant Deaths by Neighborhoods and Municipalities in Cuyahoga County, Ohio [n=1,382]



Rank of Top 10 Locales by Infant Deaths					
Rank	Municipality/ CLE Neighborhood	Count	Rank	Municipality/ CLE Neighborhood	Count
1	Euclid	59	6	East Cleveland	49
2	Glenville (CLE)	56	T-7	Central (CLE)	48
3	Broadway-Slavic Village (CLE)	53	T-7	Parma	48
T-4	Mount Pleasant (CLE)	50	9	Cleveland Heights	42
T-4	Union-Miles (CLE)	50	10	Garfield Heights	40

Source: 2008-2016 Infant Deaths via the Child Fatality Review Board. Analysis performed and map created by Epidemiology, Surveillance, and Informatics at the Cuyahoga County Board of Health, August 2018.

Map 3 shows the frequency of infant deaths for the last ten years. Locations that ranked in the top ten averaged four to six infant deaths each year. The top seven locales with the highest number of infant deaths are located on the eastern side of the county. More specifically, five of these areas are neighborhoods in the city of Cleveland.

Fast Facts

- *10 fewer infants died in 2017.*
- *White IMR of 3.5 was the lowest ever recorded.*

Infant Mortality

Community Actions

The Cleveland Clinic Foundation, MetroHealth Medical Center, and University Hospitals have established infant mortality as a key priority for community outreach.

Ohio Equity Institute (OEI) for Equity in Birth Outcomes Initiatives

The **Cuyahoga County Board of Health (CCBH)** and the **Cleveland Department of Public Health** serve as co-leads of the local OEI collaborative, the Cleveland Cuyahoga Partnership to Improve Birth Outcomes. This initiative explored public health strategies to eliminate health inequities in birth outcomes and improve local and state infant mortality rates and was established in 2014. In 2017, The Cleveland/ Cuyahoga County team selected best practice strategies that include:

- Upstream Approach – decrease preterm births through increased use of progesterone therapy for eligible women.
- Downstream Approach – expand CenteringPregnancy® (group prenatal care).
- Placed Based Approach - provide support to families who reside in zip code 44128 through:
  - Increased breastfeeding support through faith based institutions.
  - Community building events to foster relationship building.
  - Advocate to expand labor and delivery services in the southwest quadrant of the county.

As a result of these efforts:

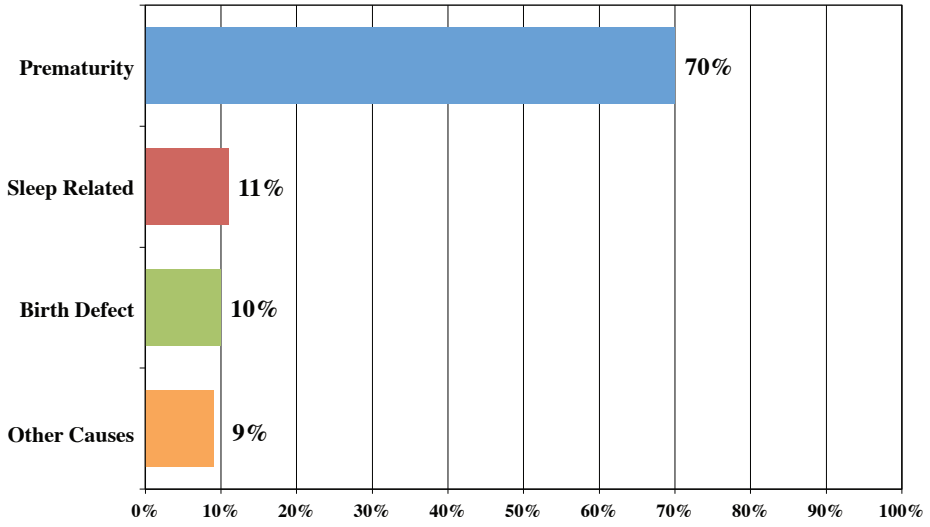
- 135 home visitors have been trained to educate and refer pregnant women for progesterone (17P).
- 100% of the hospitals and federally qualified health centers provide CenteringPregnancy®.
- There is an increased awareness of infant mortality and social determinants of health for residents in zip code 44128, an area targeted due to an average of 8 infant deaths per year.
- $5,000 in mini-grants were awarded to churches and childcare centers to support breastfeeding friendly spaces.

- In August of 2017, OEI organized the third community event, "One Life, One Voice, One Community: Every baby deserves a 1st birthday," to raise awareness of infant mortality and connect community members with resources.
- A Fetal Infant Mortality Review (FIMR) Committee was established to review the root causes of fetal and infant deaths in Cuyahoga County **(Appendix B)**.
- As an OEI county, over the last three years, the Ohio Department of Medicaid awarded First Year Cleveland $4.9 million to expand programs and services to address infant mortality that include:
  - Moms and Babies First to serve an additional 300 families in the first ring east side suburbs.
  - Birthing Beautiful Communities to provide support to neighborhoods in Cleveland and first ring east side suburbs for an additional 100 families.
  - MomsFirst to integrate community liaisons at neighborhood community centers.
  - Cuyahoga Centering Pregnancy Coalition was established and became a certified training center.
  - Nurse Family Partnership to serve an additional 50 families.
  - Safe sleep ambassadors to work within 50 churches in high risk communities.
  - Expand Boot Camp for New Dads to serve an additional 200 new or expectant fathers.

13 more prematurity-related deaths in 2017.

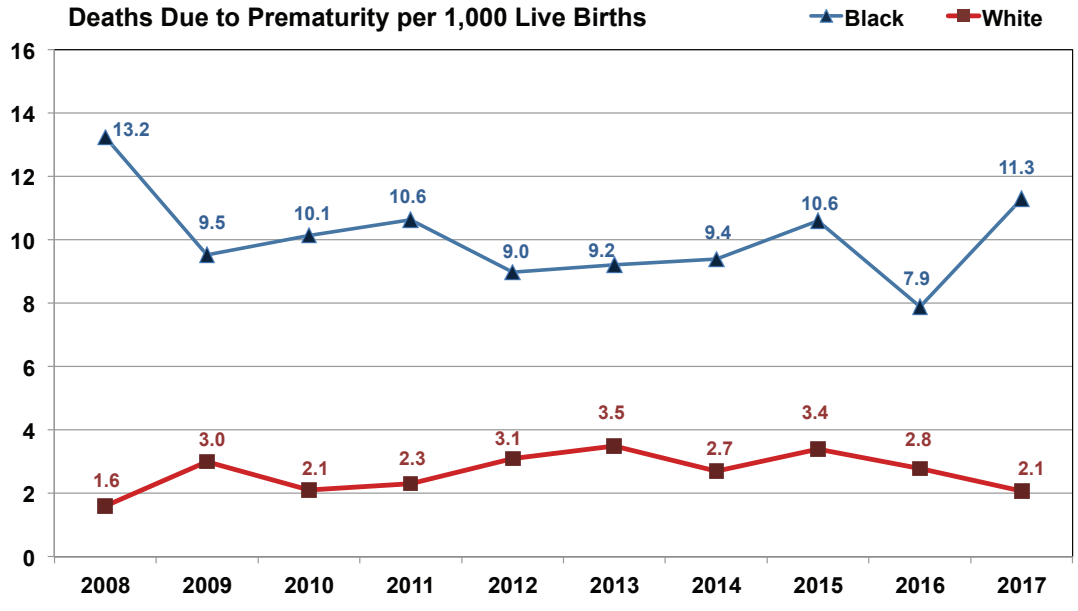
In 2017, 82 infants died due to prematurity, accounting for 70% of all infant deaths, which is the highest proportion in the last ten years **(Figure 6)**. The cause-specific IMR for prematurity is 5.6 deaths per 1,000 live births.[24] This is the third-highest rate in the last ten years (Table 6).

Figure 6. The Impact of Prematurity on Infant Deaths in 2017



The prematurity-related infant mortality rates by race are illustrated in **Figure 7**. The black prematurity death rate of 11.3[25] is the second-highest in the last ten years and over 40% higher than the 2016 rate. The white rate of 2.1[26] decreased by 25% and tied with 2010 for the second-lowest rate in the last ten years. The change within each racial category increased the black-white racial disparity rate to 5.4, which is the second-highest in the last ten years. If the 2017 black prematurity rate was equal to the white rate, the overall black IMR would have decreased from 15.5 to 6.3.

Figure 7. Rates of Infant Death Due to Prematurity by Race



Prematurity

The percentage of preterm births in Cuyahoga County increased from 11.9% in 2016 to 12.1% in 2017.[27,28] The 2017 black preterm birth rate of 16.5% was significantly higher than the white preterm birth rate of 9.4%.[29] The county preterm birth rate was significantly higher than the 2017 Ohio preterm births rate of 10.4%.[30] and the 2017 US preterm rate of 9.9%.[31] *Cuyahoga County would have needed 325 fewer preterm births in 2017 to equal the 2016 US rate.*

Economic, medical, and social risk factors that occurred in at least 10% of the prematurity-related deaths are listed for 2017 **(Table 3)**. Poverty, the most common risk factor, was noted in 84% of the cases. Chorioamnionitis (infection of the membranes surrounding the fetus) was the second-most common risk factor, found in 55% of the prematurity fatalities. Mom with a chronic health condition, cervical insufficiency and previous fetal loss were three risk factors noted in at least 40% of all preterm deaths. Obesity was the leading risk factor in the category "mom with a chronic health condition". Over 45% of the mothers whose infants died from prematurity were obese. The largest year-over-year increase (from 4% in 2016 to 15% in 2017) was missed appointments. Among those deaths due to prematurity where drug use was a risk factor, marijuana was the most commonly used drug.

Table 3 Common Risk Factors Associated with 82 Deaths Due to Prematurity in 2017

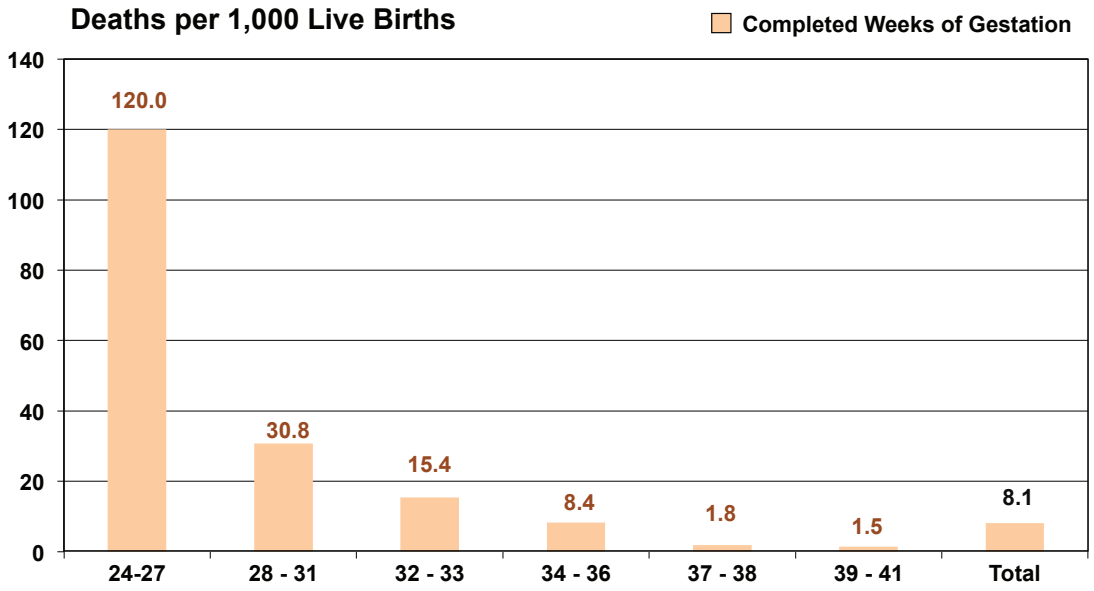
Risk Factor	#	%
Poverty	69	84.1
Chorioamnionitis	45	54.9
Mom with a chronic health condition	39	47.6
Cervical insufficiency	38	46.3
Previous fetal loss	33	40.2
Premature rupture of membranes (PROM)	32	39.0
Parental tobacco use	25	30.5
Birth spacing - Less than 18 months	24	29.3
Maternal history of mental health problems	23	28.0
Sexually transmitted infections - past history	22	26.8
Multiple gestation	20	24.4
Parental illicit drug use	20	24.4
Sexually transmitted infections - during pregnancy	20	24.4
Intrauterine tobacco exposure	19	23.2
Previous preterm delivery	17	20.7
Unplanned pregnancy	16	19.5
Parental education less than high school	15	18.3
Intrauterine drug exposure	14	17.1
Pracental abruption	14	17.1
Missed appointments	12	14.6
Late entry into prenatal care	11	13.4
No prenatal care	10	12.2

Prematurity

Of the 82 infant deaths caused by prematurity, 47 (57%) were male and 65 (79%) were black. More than 60% of infants were born to mothers who lived in the city of Cleveland, 22% lived in a first ring suburb, and only 16% lived in an outer ring suburb. The city of Cleveland percentage is the highest in the last five years. Prematurity continues to be the number one cause of infant death and is defined by a birth before 37 weeks. The majority of deaths occurred to infants born less than 23 weeks gestation (67%). Fifteen percent were born at 23 weeks and the remaining 18% were born between 24 and 34 weeks. Nearly 70% of the infants were born so early that they lived less than 12 hours, but nearly 21% survived more than seven days.

Figure 8 illustrates the 2017 IMR by gestational age (stated in completed weeks of gestation) for infants born 24 weeks or more. For all babies born at 24 to 27 weeks of gestation, the IMR was 120.[32] The graph shows the IMR of infants 28 to 31 weeks (30.8) was twice as high as infants born at 32 to 33 weeks (15.4).[33] The IMR for babies born full term (37 weeks or more gestation) was 1.6.[34] *Full term infants were more than 75 times more likely to survive than those born at 24 to 27 weeks.*

Figure 8 Infant Mortality Rate by Gestational Age



Fast Facts

- *5.4 black infants died due to prematurity for every 1 white infant.*
- *Prematurity accounted for 70% of infant deaths*

Sleep Related Deaths

Fewest number of sleep related deaths in the last ten years.

There were 13 sleep related deaths in 2017, which represents the lowest number of sleep related deaths in the last ten years **(Table 4)**. Eight sleep related deaths were ruled as SUID/undetermined due to potential hazards in the sleep environment, and five were ruled as accidental suffocation. All sleep related deaths involved surface sharing, which is the highest percentage in the last ten years. For the tenth consecutive year, all sleep related deaths involved some type of sleep hazard (such as soft bed surface, position baby was placed for sleep, pillows, blankets, and other items in the sleep environment).

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

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Totals
SIDS	0	0	0	0	0	0	0	1	0	0	**1**
SUID/Undetermined	18	18	23	12	15	10	17	16	13	8	**150**
Accidental Suffocation	4	2	5	7	3	6	2	10	8	5	**52**
Total Number of Deaths	**22**	**20**	**28**	**19**	**18**	**16**	**19**	**27**	**21**	**13**	**203**
Risk Factors Present											
Surface sharing at time of death	11	11	18	9	13	11	10	17	13	13	**126**
Hazards in sleep area	22	20	28	19	18	16	19	27	21	13	**203**
Total Number of Risk Factors	**33**	**31**	**46**	**28**	**31**	**27**	**29**	**44**	**34**	**26**	**329**

Table 5 shows the demographics of the 203 infants who died in a sleep environment in the last ten years. Nearly two-thirds of all sleep related deaths occurred in Cleveland (134), with 25% in first ring suburbs (51), and 9% in outer ring suburbs (18). The three deaths that occurred in the suburbs in 2017 was the lowest number in the last ten years. Cleveland accounted for over 75% of all sleep related deaths in the last year.

Table 5 Sleep Related Death Demographics [n=203]

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
Neighborhood											
Cleveland	15	14	18	11	12	7	14	17	16	10	**134**
First Ring	6	3	7	6	4	8	4	7	4	2	**51**
Outer Ring	1	3	3	2	2	1	1	3	1	1	**18**
Infant's Sex											
Female	13	9	11	6	6	8	11	14	10	7	**95**
Male	9	11	17	13	12	8	8	13	11	6	**108**
Mom's Age											
< 20 Years	7	3	5	1	3	3	7	5	2	0	**36**
20 - 29 Years	12	12	15	12	11	11	10	15	17	11	**126**
30 - 39 Years	2	4	7	5	4	1	2	5	2	2	**34**
≥ 40 Years	0	1	0	0	0	1	0	2	0	0	**4**
Unknown	1	0	1	1	0	0	0	0	0	0	**3**
Infant's Race											
Black	16	16	21	12	14	12	16	21	15	12	**155**
White	6	4	7	7	4	4	3	6	5	1	**47**
Other	0	0	0	0	0	0	0	0	1	0	**1**
Placed Sleep Position[1,2]											
Back	13	10	18	9	12	10	8	13	12	8	**113**
Stomach	7	5	7	6	4	2	7	8	5	4	**55**
Side	2	5	3	4	2	4	3	5	3	0	**31**
Crib Availability[3]											
No	4	3	8	4	7	5	4	4	3	1	**43**
Yes	16	17	20	14	10	10	15	21	18	11	**152**
Unknown	2	0	0	1	1	1	0	2	0	1	**8**

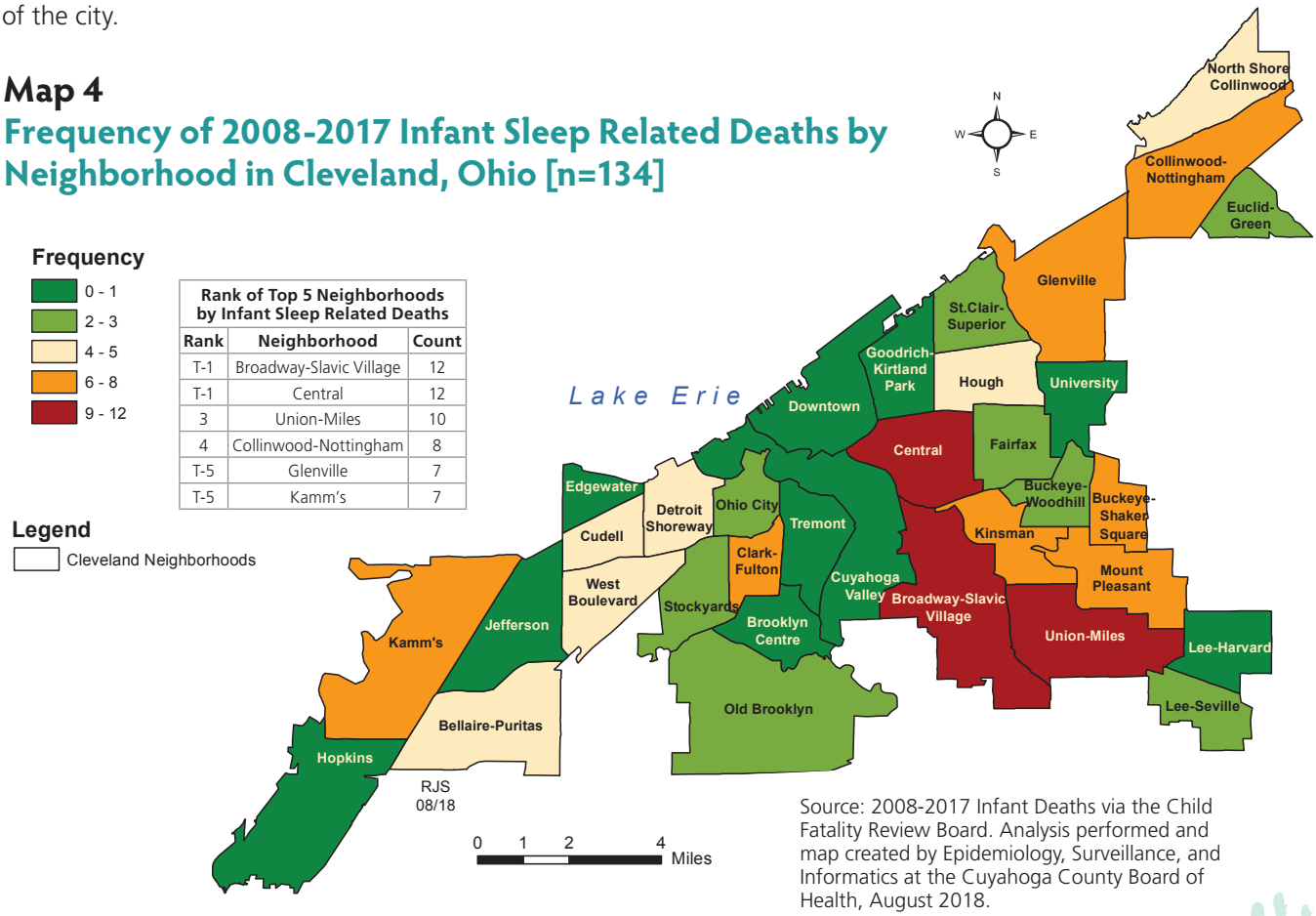
[1] One case in 2014-2017 had unknown sleep position.
[2] Self-reported during medical examiner's death scene investigation.
[3] Either a crib, bassinet or portable crib.

Sleep Related Deaths

The data noted in 2017 are similar with previous years. Over 90% of sleep related deaths occurred among black infants. A slight majority (52%) of deaths occurred to females, and 33% percent of infants placed in a known sleep position were put on their stomach or side. Although 8 infants were placed on their back, all had other risk factors noted such as surface sharing or extra bedding. None of the infants that died in 2017 were placed in a crib. All of the babies were sharing a sleep surface with at least one other person. In 2017, over 90% of these infants had a safe sleep place available. In the last ten years, for those cases with known crib availability, over 75% had a safe sleep space for their baby.

Map 4 illustrates the distribution of sleep related deaths in Cleveland neighborhoods over the last ten years. The three red connected neighborhoods around the southeastern portion of Cleveland averaged at least one sleep related death per year in the last ten years. The top ten neighborhoods in red and orange accounted for almost 60% of all sleep related deaths in Cleveland, and eight of the ten locales reside on the eastern half of the city.

Map 4
Frequency of 2008-2017 Infant Sleep Related Deaths by Neighborhood in Cleveland, Ohio [n=134]



Rank of Top 5 Neighborhoods by Infant Sleep Related Deaths		
Rank	Neighborhood	Count
T-1	Broadway-Slavic Village	12
T-1	Central	12
3	Union-Miles	10
4	Collinwood-Nottingham	8
T-5	Glenville	7
T-5	Kamm's	7

Source: 2008-2017 Infant Deaths via the Child Fatality Review Board. Analysis performed and map created by Epidemiology, Surveillance, and Informatics at the Cuyahoga County Board of Health, August 2018.

Sleep Related Deaths

Figure 9 2008 – 2017 Sleep Related Deaths by Age of Infant [n=203]

Figure 9 illustrates the age of infants when sleep related deaths occurred over a ten-year span. Ninety percent of all sleep related deaths occurred when the infant was six months or younger. Almost 60% of all sleep related deaths happened when the infant was one month to three months old, the peak for sleep related deaths. Unfortunately, 20 sleep related deaths occurred to older infants (7 to 11 months old) in the last ten years.

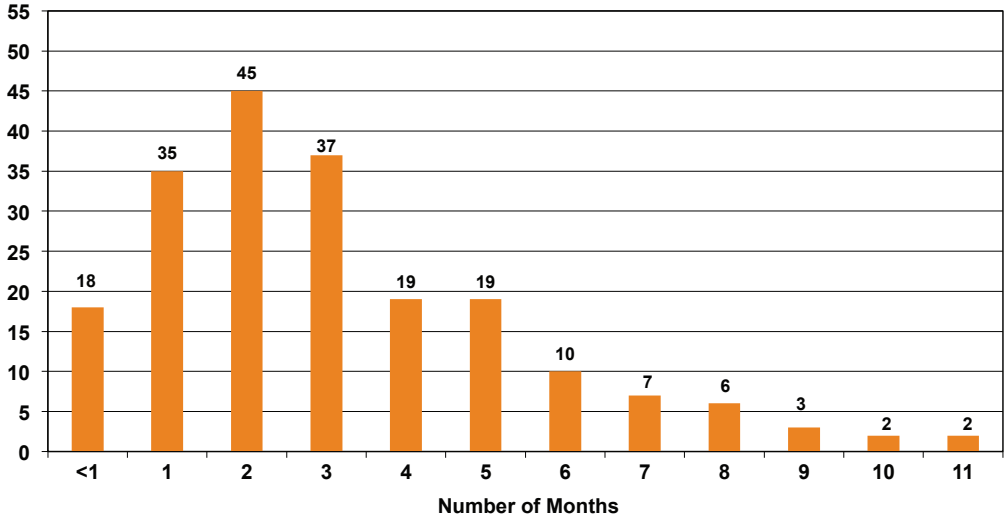
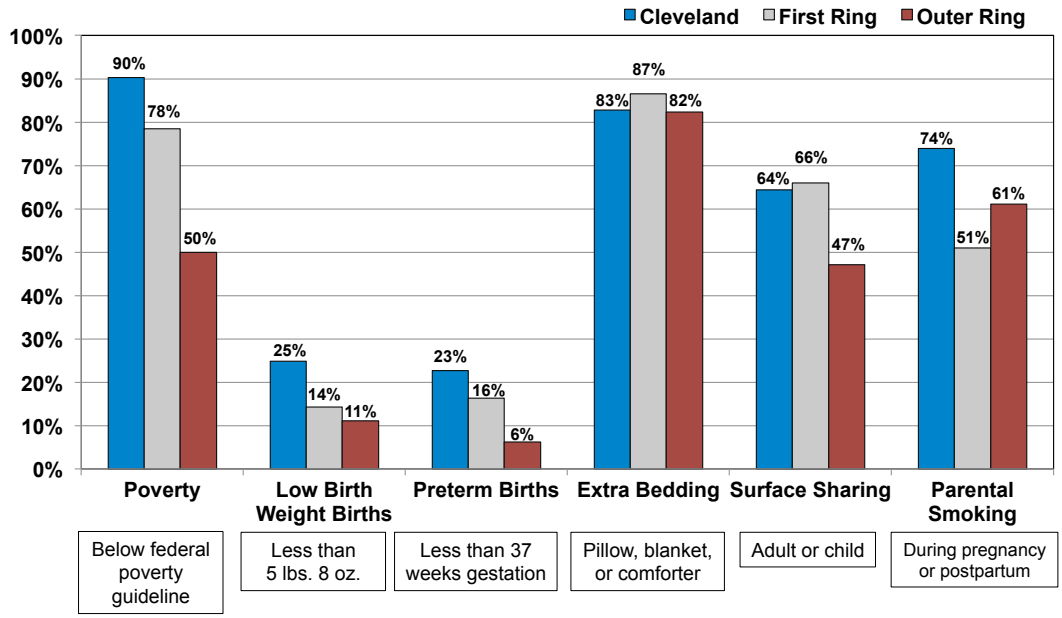


Figure 10 examines the economic, environmental, and medical risk factors noted in sleep related deaths by geographic location. In the last ten years, over 80% of the infants who died from sleep related causes lived in poverty, and that rate increased to almost 95% in the last five years. Less than 20% of infants were born prematurely, and only 21% of infants were considered low birthweight (less than 2,500 grams, or 5 pounds 8 ounces, at birth). In 2017, more than 30% of sleep related cases were preterm and low birthweight births, the highest percentage in the last ten years. While low birthweight and prematurity are noted risks for increasing the chance of SIDS[35], Cuyahoga County data suggest that these medical risk factors are not the primary cause of sleep related deaths.

Figure 10 2008 – 2017 Sleep Related Risk Factors by Neighborhood



Sleep Related Deaths

Environmental risk factors (extra bedding, parental tobacco use, and surface sharing) were commonly found in these cases. In the last ten years, extra bedding was found in 84% of all sleep related deaths, and in 94% of the deaths in the last five years. In 2017, 92% of the infants had at least one piece of extra bedding in the sleep environment. Two-thirds of the deaths had environmental smoking as a risk in the last ten years, and 85% had smoking noted in 2017, highlighting the level of risk with intrauterine and second-hand smoke exposure. From 2008 to 2017, more than 60% of infants shared their sleep surface with another child or adult. *The data suggest that environmental and economic risk factors far outweigh the impact of medical risk factors for sleep related deaths in Cuyahoga County.*

Community Actions

How is the safe sleep message getting to all caregivers?

- Boot Camp for New Dads® is an interactive infant care class taught by experienced dads that is offered at all the hospital systems in Cuyahoga County.
- In 2017, a safe sleep video was produced in partnership with the Cuyahoga County Office of Early Childhood and the Cuyahoga County Fatherhood Initiative targeting fathers and male care givers. This video has been used for safe sleep education in hospitals, clinics, home visiting programs, and the Boot Camp for New Dads program.
- Funding through the Ohio Department of Medicaid supports training for churches to employ safe sleep ambassadors to provide education and support to congregations and community members.
- MetroHealth Medical Center initiated a Safe Sleep Ambassador Program for employees. Over 340 people were trained with many of them residing in high-risk infant mortality zip codes. These men and women ambassadors were encouraged to have infant safe sleep conversations with friends and families in their neighborhoods.
- CCBH is a Cribs for Kids partner, providing one-on-one education, often in the parent's home, and a free portable crib to families. Over 800 families were served in 2017.
- The Barber Shop Outreach Program educates barbers about safe sleep for babies and Boot Camp for New Dads so they can share this information with their clients.
- The Cuyahoga County Division of Children and Family Services (DCFS) evaluates safe sleeping arrangements when conducting home visits or safety checks. All DCFS-involved families with children under the age of 2 receive a presentation by their DCFS worker on how to practice safe sleep. Portable cribs are also distributed to families identified as needing a safe sleep environment.
- "Safe sleep cards" with the message, "Alone, on my Back, in a bare naked Crib," local data about sleep related deaths, and a picture of a safe sleep environment, continue to be circulated throughout Cuyahoga County. They have been distributed to hospitals, home visiting programs, community recreation centers, neighborhood clinics, churches, and family serving agencies.

Fast Facts

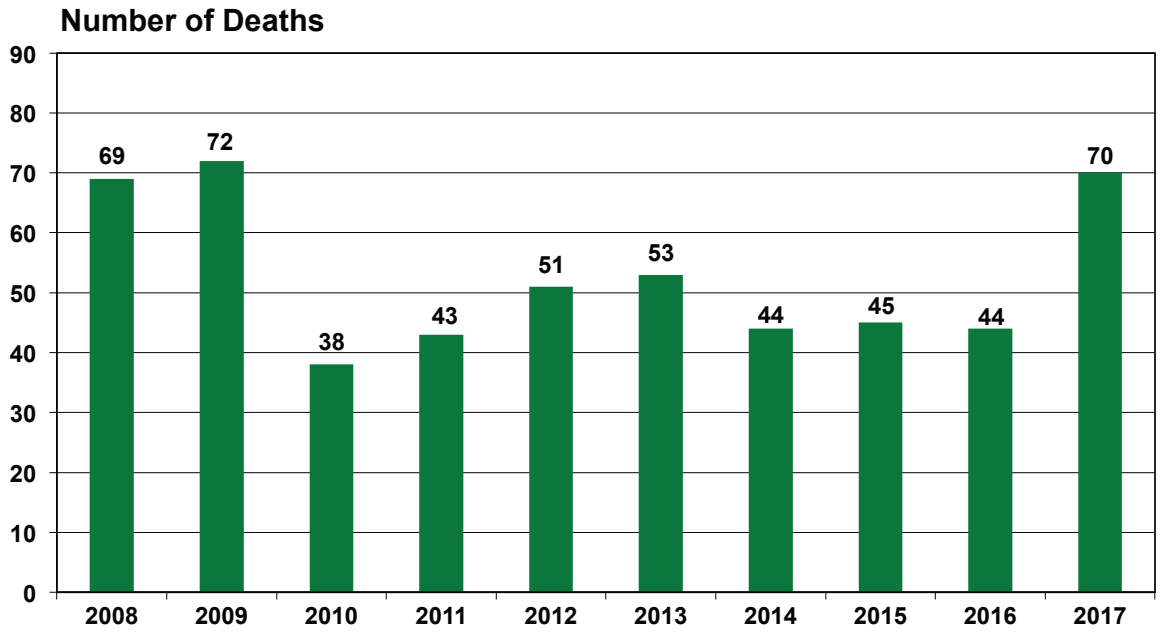
- *13 infants died in unsafe sleep situations; the fewest in the last ten years.*
- *100% had poverty and surface sharing noted as risk factors.*

Child Deaths (1 to 17 Years)

Total number of child deaths second-highest in the last ten years.

Seventy children aged 1 to 17 died in 2017, which was 26 more deaths than 2016, and the highest total number of child deaths in the last eight years **(Figure 11)**. The 2017 county child death rate (1 to 17 years) of 27.3 per 100,000 was much higher than the 2016 rates for the state of Ohio (21.9) and the United States (20.6) (most recent data available).[36-38]

Figure 11 Total Child Deaths per Year (age 1-17)



In 2017, 48 injury related deaths accounted for 69% of all fatalities among 1- to 17-year-olds, which was the highest percentage in the last ten years (Table 9). The 2017 Cuyahoga County injury death rate of 18.7 per 100,000 children 1- to 17 years is 39% higher than the 2016 rate for the state of Ohio (10.4) and 42% higher than the rate for the United States (10.4) (most recent data available).[39,40] These injury related deaths were attributed to: homicide (18), motor vehicle accidents (11), suicide (8), accidental poisoning (5), fire (2), undetermined other (2), accident injury related (1), and drowning (1) (Table 2). The number of children who died as a result of accidental poisoning, fire, homicide, motor vehicle accidents, suicide, and undetermined other increased in 2017.

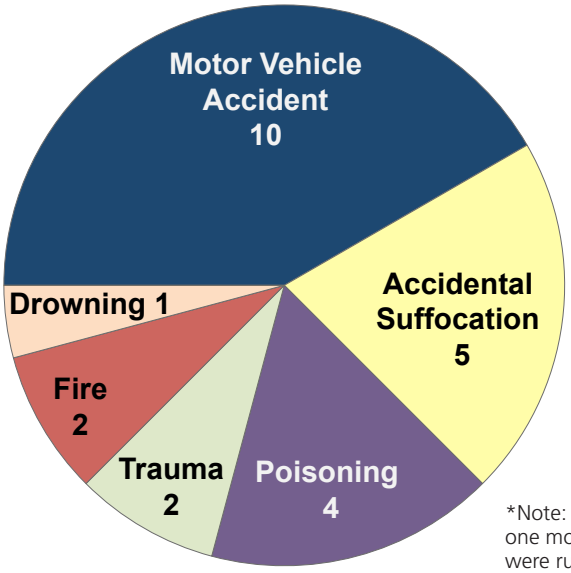
The number of medical related deaths (22) was the fourth-lowest in ten years (Table 9). The causes of death included birth defects (9), other medical causes (8), infection (3) and cancer (2) (Table 2). Cancer, other medical causes, and other perinatal complications decreased, while birth defects and infection increased in 2017.

Unintentional Injury Deaths

2017 had the second-highest number of unintentional injury deaths in the last ten years.

In 2017, 24 children of all ages died as a result of unintentional injuries. This tied with 2009 as the second-highest number in the last ten years. Of the 24 children, 16 were black (67%) and 14 were female (58%). The causes for the 24 unintentional injury deaths are illustrated in **Figure 12**. All 5 accidental suffocation deaths were related to unsafe infant sleep. The 2017 rate for unintentional deaths was 8.8 per 100,000.[41] This rate was higher than the 2016 rates (most recent data available) for Ohio (8.6), and the United States (7.8).[42,43]

Figure 12 Unintentional Injury Deaths in Cuyahoga County in 2017 [n=24]

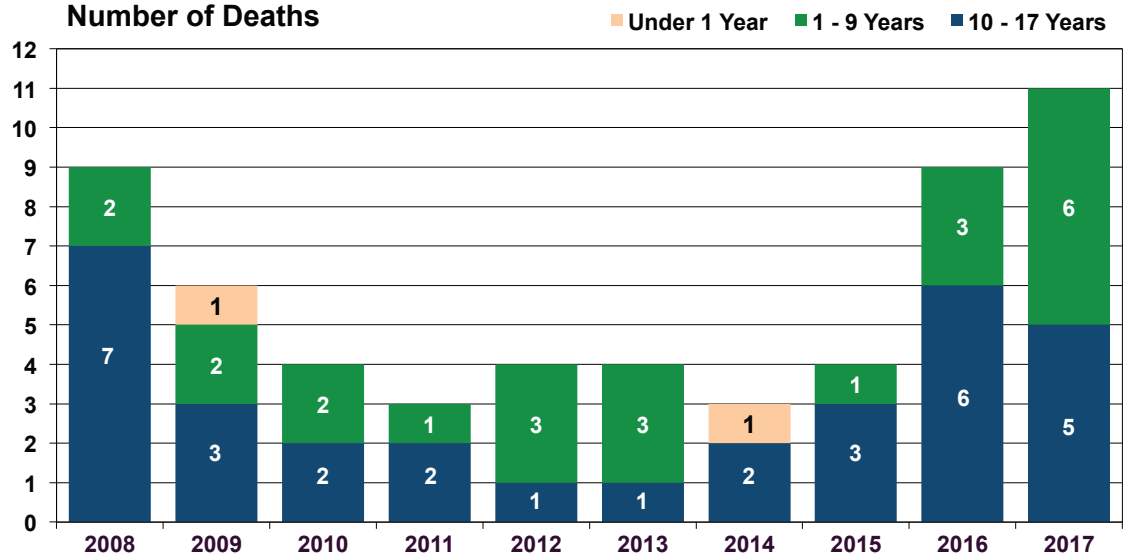


*Note: One drowning and one motor vehicle accident were ruled as homicides and were not included.

Case reviews revealed the four most common risk factors identified in these deaths were poverty (16), child or parent illicit drug use (12), child suspected history of abuse/neglect (12), and parental suspected history of abuse/neglect as a child (11).

Figure 13 gives a historical perspective of the age distribution for traffic related fatalities. This year had the highest number of motor vehicle accident deaths in the last ten years. The 2017 total number of children 1-to 9 years that died (6) was greater than the combined total number of deaths from 2014 to 2016. There were 5 deaths in the 10- to 17-year age group, which was the third-highest number in this age group in the last ten years. There were no infant deaths for the third consecutive year.

Figure 13 Total Motor Vehicle Deaths by Age Group per Year



Unintentional Injury Deaths

Of the 11 motor vehicle deaths, 5 were pedestrians hit by a vehicle and 4 were passengers. The two remaining deaths included a bicyclist that was struck by a vehicle, and an ATV driver that collided with a SUV. The passengers were not wearing seatbelts and speeding was noted as a risk factor. Of the 5 pedestrian-related accidents, 4 children walked in the street or attempted to cross the street when they were struck. One child was on the sidewalk and was hit by a driver who lost control of the vehicle.

Motor vehicle accident related deaths in the US accounted for 41% of all unintentional injury deaths.[44] In 2016 (the most recent data available), deaths from motor vehicle accidents among children in the United States were 3.2 per 100,000 children.[45,46] Cuyahoga County's 2016 rate was slightly higher than the national rate (3.7).[47]

Accidental fire deaths and drownings are two other types of unintentional injuries. In 2017 Cuyahoga County had 2 fatalities in both categories. The two house fires did not have operational smoke detectors. There had been no accidental fire deaths in Cuyahoga County since 2013.
The Cuyahoga County accidental fire death rate (0.74 per 100,000) was twice as high as the 2016 US rate (most recent data available). In the two drowning deaths, lack of adult supervision was a contributing risk factor. The national child drowning death rate in 2016 (1.15 per 100,000) is 56% higher than the 2017 Cuyahoga County rate (0.74 per 100,000).[48-50]

Of the 5 accidental poisoning deaths in 2017, two were opioid related. These deaths highlight a potential emerging trend in our community. According to the Cuyahoga County Medical Examiner's Office, over 550 residents died due to opioid-related overdoses in both 2016 and 2017.

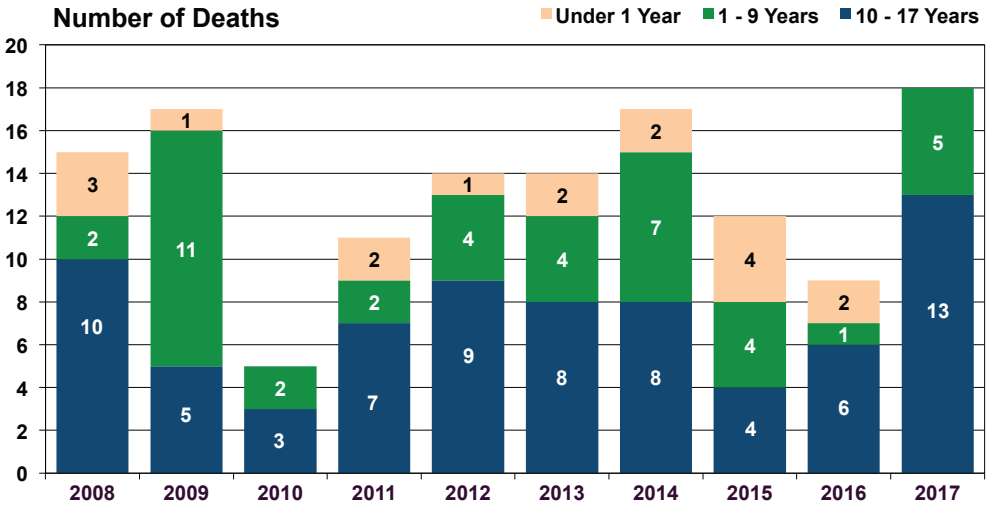
Community Actions

- The **Rainbow Injury Prevention Center** teen traffic safety programs include: "Science of Attention" and "Impact Teen Drivers" which focus on the dangers of distracted driving, "Drive To Stay Alive," and "Click it or Ticket," which encourage safe driving and seat belt use. In 2017 they sponsored a teen driving rodeo for teens and their parents which included an opportunity to have a simulated impaired driving experience.
- The Cuyahoga County Board of Health manages the grants for the "Safe Routes to School" program. Not only do children in kindergarten through eighth grade learn bicycling and walking safety skills, but physical improvements to the infrastructure are also included to ensure safer and more accessible crossings and walkways.

Intentional Injury Deaths

Highest number of homicides and suicides in the last ten years.

Figure 14 Total Child Homicide Deaths by Age Group per Year



Intentional injury deaths include homicide and suicide. The 18 homicides in 2017 resulted in the highest total in the last ten years. **Figure 14** illustrates that 5 children ages 1 to 9 years, and 13 children ages 10 to 17 years, died due to homicide. This was the first time in seven years that no infant died. Thirteen deaths among children ages 10 to 17 years was the highest total in the last ten years. The 5 child deaths among children ages 1 to 9 years was the third-highest in the last ten years.

Homicide was the third-leading cause of child death in 2017. For the 1-17 years age group, homicide was the leading cause of death in Cuyahoga County. Homicide was the third-leading cause of death in Ohio and the fourth-leading cause in United States in 2016 (most recent data available).[51]

Of the 18 homicide victims this year, 13 lived in the city of Cleveland, 15 were boys and 15 were black children. The ages of the children were 1 year (1), 3 years (2), 5 years (2), 12 years (1), 14 years (1), 15 years (3), and 17 years (8). Twelve of the 13 homicides in the 10-17 years age group were gun related. Five homicides to children under 10 years of age were due to physical abuse.

Case reviews revealed the top five risk factors associated with homicide were poverty (15), suspected history of abuse/neglect as a child (13), gun access (12), negative influence of family and/or friends (11), history of child neglect (9), and history of mom with a mental illness (9).

Figure 15 Total Firearm Deaths by Manner per Year

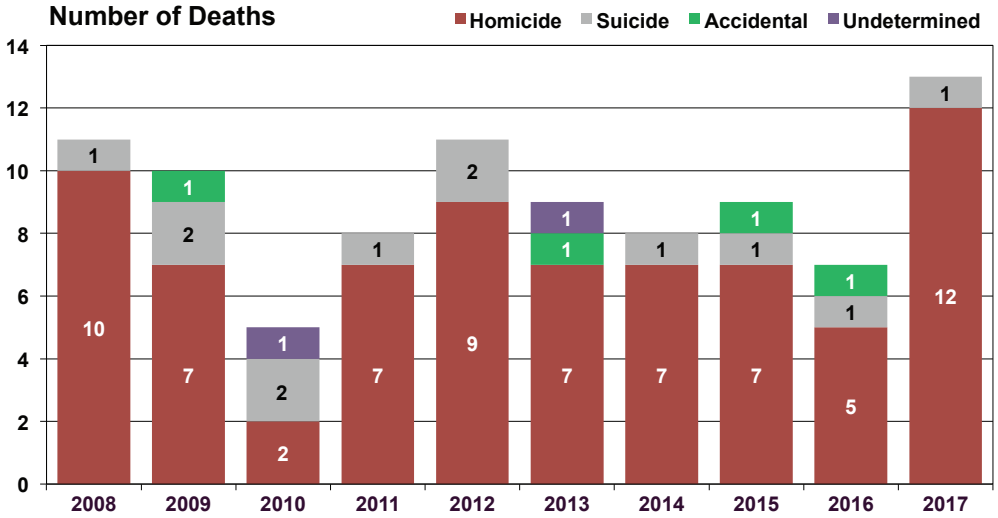


Figure 15 portrays the number of firearm deaths by manner (homicide, suicide, accidental, and undetermined) over a ten-year span. In 2017 there were 13 firearm deaths, the highest number in the last ten years. Twelve deaths were ruled as homicide, which was the highest in the last ten years, and 1 was a suicide. The gun-related homicides and suicide were among children 12-to-17 years old.

Intentional Injury Deaths

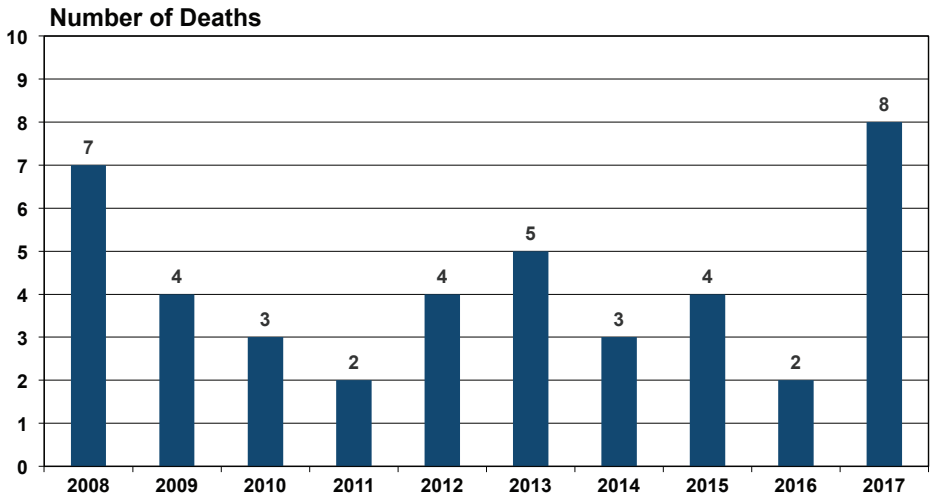
Community Actions

- **Northern Ohio Trauma System, MetroHealth Medical Center**, and the **Cleveland Peacemakers Alliance** started a program to use violence interrupters in the hospital to provide conflict resolution, case management, and referrals to outreach workers.
- The **Cuyahoga County Witness/Victim Service Center (WVSC)** is one of eight communities under the US Department of Justice's Defending Childhood Initiative. This project seeks 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.
- **Cuyahoga County Juvenile Court** has a "Gun Prevention Program" as a means to reduce recidivism and gun violence among youth. It offers discussion of state and federal laws, strategies for decision making in difficult situations, and increases a youth's ability to make better choices that contribute to the safety of themselves and the community.

There were 8 suicides in 2017, which was the highest number in the last ten years (**Figure 16**). Seven children were white and the ages ranged from 13 to17 years old. Four suicides were by hanging, one intentionally overdosed, one intoxicated teen intentionally jumped from a moving car, and one was a self-inflicted gunshot wound. The only risk factor found in at least 50% of cases was suspected history of abuse/ neglect as a child.

According to the CDC, in 2016 (most recent data available), suicide was the second-leading cause of death among 10- to 17-year-olds in Ohio and the United States.[52-53] The Ohio rate (4.3 per 100,000) and US rate (4.6) were significantly lower than the Cuyahoga County rate (6.4).[54] According to the Cuyahoga County Youth Risk Behavior Survey in 2017, more than one in six high school students had seriously considered attempting suicide and one in nine had attempted suicide within the last year.[55]

Figure 16 Total Child Suicide Deaths per Year



Community Actions

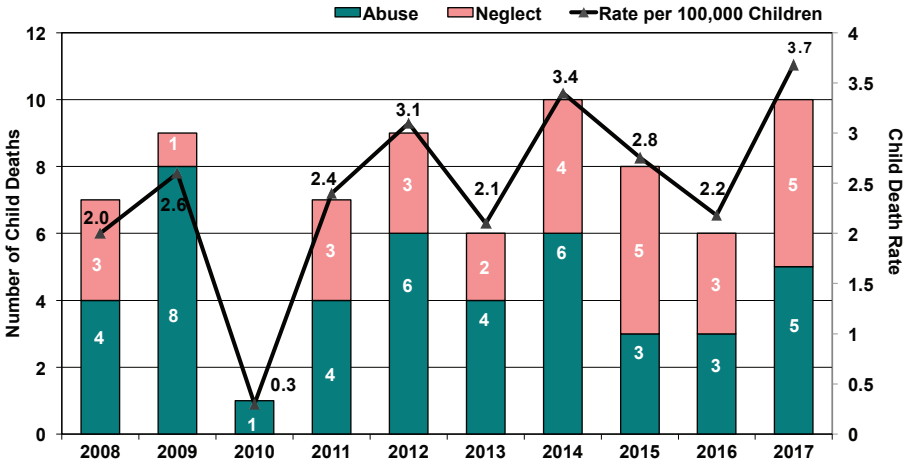
- The **Alcohol, Drug Addiction and Mental Health Services (ADAMHS) Board of Cuyahoga County** promotes the 24-hour Suicide Prevention Hotline, Crisis Text, Crisis Chat, and online behavioral health screenings. There is also a social media campaign that includes targeted ads to youth on Facebook and Twitter.
- YouthMOVE Ohio has a local youth advisory council consisting of a diverse group of adolescents and young adults working to improve services to support youth inclusion, mental wellness, positive supports, and healthy transitions to adulthood.
- The Children's Crisis Response Team ensures that the unique needs of children are addressed in the community. It provides child-specific emergency service that responds to acute psychiatric, crisis situations, in addition to suicidal ideations.

Child Abuse and Neglect

In 2017, there were 10 abuse or neglect related child deaths, which is tied with 2014. In the last ten years, an average of 7 children per year died due to child abuse or neglect. The county rate of child abuse or neglect deaths was 3.7 per 100,000 children, and was a 68% increase from 2016 **(Figure 17)**. The national rate for child fatalities due to abuse or neglect was 2.36 per 100,000 children (federal fiscal year 2016 [October 2015 – September 2016]).[56]

Of the 10 child abuse or neglect victims, 8 were residents of Cleveland and 5 were females. The ages ranged from 2 weeks to 5 years old, with 8 of the deaths occurring to children 3 years of age or younger. Of the 5 neglect cases, 2 involved children ingesting medication and/or illicit drugs, 2 were due to lack of supervision, and 1 was medical neglect of a child. All 5 of the abuse cases were due to trauma and ruled as homicides. The risk factors most often found in the 10 abuse and neglect related deaths included poverty (10), parental tobacco use (8), maternal history of mental illness (8), parental criminal history (6), and neglect or abuse to a victim's parent when they were a child (5).

Figure 17 Child Deaths Due to Abuse and Neglect



In the last five years, 40 children died due to child abuse or neglect. An analysis was conducted to find risk factors about the family of the child victim that were most commonly noted in these deaths. The following risk factors were in at least 40% of all cases: poverty (85%), parental tobacco use (53%), parental criminal history (45%), neglect or abuse to victim's parent when they were a child (43%), maternal history of mental illness (43%), and missed appointments for the child victim (40%).

Community Actions

- The Medical Investigations Unit of the **Division of Children & Family Services (DCFS)** assists families with medically fragile children or those who have suffered from severe abuse. This unit has advance training and experience with complex medical issues and develops relationships with the medical providers to ensure that the children's needs are being met.
- DCFS contracts with Bellfaire to provide a medical case management program for medically neglected, non-custody children. Services include individual service plans, case management to eliminate barriers, and care coordination to link with appropriate resources.
- The Special Investigation Unit at 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 result in changes to procedure and service delivery and contribute to ongoing staff development throughout the agency, particularly in the areas of safety planning and prevention.
- DCFS implemented the Sobriety Treatment and Recovery Teams (START) program to provide intensive interventions to parents with chemical dependency problems during pregnancy or at the birth of the baby. The mission is to protect children exposed to drugs from abuse and neglect.
- DCFS utilizes multiple programs to help parents of any age improve their parenting skills and learn how to engage with their child in an appropriate, safe, and nurturing manner. The programs include:
  - Nurturing Parenting is an evidence based parenting program for the treatment of child abuse and neglect. It fosters positive parenting skills and child-rearing practices. It has home-based services and group sessions.

Community Actions 2017-2018

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. A website, momsfirst.org, was developed in 2017 to provide information about services and events to the community.
  - The goal of MomsFirst is to reduce disparities in infant mortality. The participants are primarily high-risk African American pregnant women and teens. As of March 2018, Cleveland's preliminary 2017 overall infant mortality rate (IMR) was 13.3 infant deaths per 1,000 live births with a white IMR of 6.8 and a black IMR of 18.7. MomsFirst's IMR for participants in 2016 was 6.6. Given that MomsFirst participants are reflective of those women at the highest risk for poor birth outcomes, these 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.
  - 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 system-wide approach to screen and refer women identified as 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 increase in referrals to perinatal mental health providers.
  - MomsFirst also has protocols and carepaths to address toxic stress, intimate partner violence, and substance abuse among their participants, and refer to appropriate agencies.
- The mission of the **March of Dimes** is to improve the health of babies by preventing birth defects, premature birth, and infant mortality. The campaign focus includes: improve health equity, reduce the preterm birth rate, address 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 2017, the Ohio March of Dimes provided funds to expand CenteringPregnancy® at MetroHealth Medical Center, the Cleveland Clinic Foundation, and University Hospitals MacDonald Women's Hospital.
- **Invest In Children** funds 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, environmental tobacco smoke, and maternal stress reduction.
- **MetroHealth Medical Center** has initiated the Nurse Family Partnership program that provides home visiting to first time mothers during pregnancy and for two years following the birth of the baby. This evidence-based community health program is a best practice to decrease preterm births and infant mortality.
- **Bright Beginnings** partners with First Year Cleveland to institute practices to prevent preterm births for families with a previous preterm delivery.

CCBH provides presentations about health, equity, racism, and infant mortality to staff at hospitals in the county in order to highlight the link between population health, policy, medical care, and the community.

Community Actions 2017-2018

Sleep Related Deaths

- In 2017-2018, the **Cuyahoga County Board of Health (CCBH)**, as outreach for the Child Fatality Review Board, continues to provide safe sleep education for medical and nursing staff at maternity and pediatric hospitals throughout the county.
- CCBH partnered with Starting Point to give several safe sleep trainings to employees in daycare centers and in-home daycares.
- The **WIC Program** continues to provide safe sleep information to their clients and has incorporated documentation of the education in the client's chart.
- The **Rainbow Injury Prevention Center** designed a safe sleep postcard that is given to new parents at University Hospitals MacDonald Women's Hospital as a part of the hospital's child safety rounding project. During 2017, the staff visited over 2,800 new mothers to discuss safe sleep and passenger safety.
- **MomsFirst** provides safe sleep education to all participants in the program, with over 1,600 families served in 2017. The project continues to assist families in need of a safe sleep environment in obtaining a portable crib.
- **Bright Beginnings** staff provides safe sleep education and materials to their clients.
- CCBH is a member of the safe sleep work group for First Year Cleveland.

Unintentional Injuries

- The **Rainbow Injury Prevention Center** is dedicated to preventing unintentional injuries.
  - 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 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 and driver attention campaigns aimed at tweens and teens.
  - The Center develops programs to address unintentional injuries with topics about bicycle, sports, pedestrian, and home safety. In 2017 medical students participated in a program that provided safety education to parents of children 1 to 4 years while they were in the pediatric clinic waiting room.
  - The Rainbow Safety Squad provides interactive injury prevention programs to children in grades K-5th.
  - The Rainbow Injury Prevention Center also uses Facebook and Twitter to spread safety messages to a wide audience.

Community Actions 2017-2018

Homicide

- The **Cuyahoga County Division of Children and Family Services (DCFS)** incorporates many programs to best serve their clients.
  - DCFS uses neighborhood collaboratives to support children and families who struggle with social and economic challenges. Services offered include food pantries, emergency rent assistance, budgeting classes, parent support groups, and after school programs. These partnerships play a vital role in prevention efforts that allow children and families to be served safely in their home.
  - DCFS uses Trauma Focused Cognitive Behavior Therapy to help children and families that have been impacted by abuse or violence in the home or community. DCFS utilizes a trauma screening to determine if a child or family could be best served through the program. The most common types of violence reported were sexual abuse and domestic violence.
  - The **Cuyahoga Tapestry System of Care** is designed for children and youth with severe emotional, behavioral, or mental health difficulties and their families. It is a team-based planning process intended to provide individualized and coordinated family-driven care. 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 developed practices for working with parents about gun safety. Through a program with the **Cleveland Division of Police** gun locks are distributed free of charge to parents who are known to have a gun in their home.
- The **Cuyahoga County Witness/Victim Service Center (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 an application assistant for Safe at Home, which is an address confidentiality program that allows victims of crime, violence, and abuse to apply for a confidential address, in order to shield their residence address from public records due to safety concerns.
  - WVSC is lead agency for the **Family Justice Center (FJC)** which is a partnership between Cuyahoga County and the City of Cleveland. The FJC provides collaboration of services to victims of crime, violence, and abuse in a single location through multiple partnerships.
- 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.
- MetroHealth Medical Center collaborated with the **May Dugan Center** and initiated a victim of crime advocacy and recovery program which offers case management and counseling services.
- 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 ADAHMS Board offers the Intensive Parenting Support program which is an early intervention program for children and their parents to learn alternative ways to manage their child's behavior.
- 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.
  - The CALM program is an assessment and referral service for youth that are low-risk domestic violence offenders. It provides an alternative to detention. In 2017 this program was expanded to all of the Cleveland Police districts.

Community Actions 2017-2018

Suicide

- The **Alcohol, Drug Addiction, and Mental Health Services Board of Cuyahoga County** is the lead agency for the coordination of school-based mental health and prevention services. The social-emotional needs of the students are addressed with services and referrals as needed.
- **Cuyahoga County Juvenile Court** has a Mental Health Court that is designed for youth who have been identified as having mental health issues. These children are provided intensive supervision and service coordination.
- The Behavioral Health Juvenile Justice program provides an intensive level of community supervision for youth diagnosed with mental illness or chemical dependence.

Interagency Actions

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

- The partnership between **Bright Beginnings (formerly Help Me Grow)** and the **Cuyahoga County Division of Children and Family Services (DCFS)** continues to strengthen protocols with DCFS. This includes strategies for engaging families who have had a case of substantiated abuse and neglect, as well as improve communication and coordination between the DCFS caseworker and the Bright Beginnings worker. An outreach initiative includes the looping of the Bright Beginnings video in the DCFS waiting room.
- The **Early Childhood Mental Health (ECMH)** centralized system is a cooperative effort with Bright Beginnings, the **Alcohol, Drug Addiction and Mental Health Services Board of Cuyahoga County**, **Invest in Children**, the **Educational Service Center** 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.
- **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. Children are seen by MHMC staff and enrolled in a coordinated tracking program designed to improve their current and long-term health and well-being.

Data Tables

Table 6 Demographic Profiles and Cause Specific Rates

	2012-2016 Census Data[1]	
	Population Under 18 Years	Percent of Population Under 18
Cuyahoga County (Total)	271,499	22
Cuyahoga County (Black)	97,659	26
Cuyahoga County (White)	144,075	18
City of Cleveland	89,502	23

Annual Birth Data[2]	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Cuyahoga County	16,249	15,525	15,108	14,993	14,783	14,920	15,079	14,844	14,747	14,558
% Black	40.5	39.9	39.2	38.9	39.2	39.3	38.2	38.6	38.7	39.5
% White	56.0	56.3	51.9	51.7	51.1	51.2	51.7	51.5	53.6	52.9

Annual Death Data	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Annual Child Deaths	240	213	178	187	182	186	165	200	172	188
Annual Infant Deaths	171	141	140	144	131	133	121	155	128	118
% Deaths to Infants	71.3	66.2	78.7	77.0	72.0	71.5	73.3	77.5	74.4	62.8

Child Mortality/ 100,000 Children	69.0	61.2	61.3	64.4	62.7	64.1	56.8	68.9	62.5	69.2
Annual Total Medical Death Rate	50.3	42.8	46.5	49.3	46.5	47.5	40.7	50.3	45.4	44.9
Cancer	3.2	2.6	1.7	1.4	2.1	1.4	1.7	1.7	1.1	0.7
Annual Total Injury Death Rate	18.7	18.4	14.8	15.2	15.2	16.5	16.5	18.6	17.1	24.3
Homicide	4.3	4.9	1.7	3.8	4.8	4.8	5.9	4.1	3.3	6.6
Motor Vehicle Accident	2.6	1.7	1.4	1.0	1.4	1.4	0.7	1.0	3.3	4.1
Fire	0.0	0.9	0.0	0.3	0.3	0.3	0.0	0.0	0.0	0.7
Drowning	1.1	1.7	0.0	0.7	0.7	1.4	0.3	1.0	0.4	0.7
Suicide[3]	2.1	1.2	1.1	0.7	1.5	1.8	1.1	1.5	0.8	3.1

Infant Mortality/ 1,000 Births	10.5	9.1	9.3	9.6	8.9	8.9	8.0	10.4	8.7	8.1
Neonatal Mortality/ 1,000 Births	7.2	6.5	6.4	6.4	6.5	6.7	6.2	7.3	6.1	6.0
Postneonatal Mortality/ 1,000 Births	3.3	2.6	2.9	3.2	2.4	2.2	1.8	3.2	2.6	2.1
Prematurity	6.3	5.5	5.2	5.3	5.1	5.5	5.5	5.9	4.7	5.6
SIDS Only	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
SIDS and Sleep Related	1.4	1.3	1.9	1.3	1.2	1.1	1.3	1.8	1.4	0.9

[1] 2017 rates use 2012-2016 5-Year American Community Survey (ACS) census data & 2016 rates use the 2011-2015 5-Year ACS census data.

[2] Ohio Department of Health, Ohio Public Health Information Warehouse. Available online at https://odhgateway.odh.ohio.gov/EDWS/DataCatalog (accessed July 07, 2018).

[3] Suicide rate is for children 1-to-17 years. 2007-2015 rates recalculated to remove infants from calculation.

Table 7 Cause of Death by Age Group and Year

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total per Cause
Prematurity											**824**
Under 1 Year	102	85	79	80	76	82	76	87	69	82	
1 - 9 Years	2	1	0	1	0	1	0	0	0	0	
10 - 17 Years	0	0	0	0	1	0	0	0	0	0	
Birth Defect											**313**
Under 1 Year	31	28	20	35	25	23	13	21	22	12	
1 - 9 Years	9	6	5	2	9	9	2	4	4	4	
10 - 17 Years	3	3	4	2	1	3	3	1	4	5	
SIDS and Sleep Related Deaths											**203**
Under 1 Year	22	20	28	19	18	16	19	27	21	13	
Cancer and Other Medical Conditions											**260**
Under 1 Year	13	5	13	7	10	10	9	15	13	6	
1 - 9 Years	10	16	6	11	11	7	5	11	5	8	
10 - 17 Years	10	9	8	5	5	3	10	6	8	5	
Homicide											**132**
Under 1 Year	3	1	0	2	1	2	2	4	2	0	
1 - 9 Years	2	11	2	2	4	4	7	4	1	5	
10 - 17 Years	10	5	3	7	9	8	8	4	6	13	
Suicide											**42**
1 - 9 Years	0	0	0	0	0	0	0	0	0	0	
10 - 17 Years	7	4	3	2	4	5	3	4	2	8	
Motor Vehicle Accident											**55**
Under 1 Year	0	1	0	0	0	0	1	0	0	0	
1 - 9 Years	2	2	2	1	3	3	0	0	3	6	
10 - 17 Years	7	3	2	2	1	1	1	3	6	5	
Accidental Suffocation											**1**
Under 1 Year[1]	0	0	0	0	0	0	0	0	0	0	
1 - 9 Years	0	0	0	0	0	0	0	0	0	0	
10 - 17 Years	0	0	1	0	0	0	0	0	0	0	
Drowning											**25**
Under 1 Year[1]	0	0	0	0	1	0	0	0	0	1	
1 - 9 Years	2	2	0	1	1	3	0	2	0	0	
10 - 17 Years	2	4	0	1	0	1	1	1	1	1	
Fire											**8**
Under 1 Year	0	1	0	0	0	0	0	0	0	0	
1 - 9 Years	0	2	0	1	1	1	0	0	0	2	
10 - 17 Years	0	0	0	0	0	0	0	0	0	0	
Other Accidents[2]											**48**
Under 1 Year	0	0	0	1	0	0	1	1	1	4	
1 - 9 Years	3	2	1	4	1	3	4	4	2	6	
10 - 17 Years	0	2	1	1	0	1	0	1	2	2	
Total per Year	**240**	**213**	**178**	**187**	**182**	**186**	**165**	**200**	**172**	**188**	**1,911**

[1] Excludes those related to sleep environment.

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

Data Tables

Table 8 Annual Number of Child Deaths by Race and Age Group[1]

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
Race and Age Group											
Black											
Under 1 Year	128	96	99	97	84	86	83	107	83	89	**952**
1 - 9 Years	20	23	12	12	17	25	10	15	9	17	**160**
10 - 17 Years	23	18	7	14	14	13	16	10	16	23	**154**
Total	**171**	**137**	**118**	**123**	**115**	**124**	**109**	**132**	**108**	**129**	**1,266**
White											
Under 1 Year	43	43	40	45	46	45	37	47	40	28	**414**
1 - 9 Years	10	19	4	11	13	6	8	9	6	13	**99**
10 - 17 Years	13	12	13	6	7	9	9	9	12	16	**106**
Total	**66**	**74**	**57**	**62**	**66**	**60**	**54**	**65**	**58**	**57**	**619**
Other											
Under 1 Year	0	2	1	2	1	2	0	1	4	1	**14**
1 - 9 Years	0	0	0	0	0	0	0	1	0	1	**2**
10 - 17 Years	3	0	2	0	0	0	1	1	1	0	**8**
Total	**3**	**2**	**3**	**2**	**1**	**2**	**1**	**3**	**5**	**2**	**24**
Missing Race Info	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**2**
Rates of Death											
Black Crude Death Rate[1]	140.1	112.2	110.8	115.5	108.0	116.4	102.4	124.0	109.5	132.1	**117.1**
White Crude Death Rate[2]	32.8	36.8	36.9	40.1	42.7	38.8	34.9	42.0	39.0	39.6	**38.4**
Ratio of Black to White	4.3	3.1	3.0	2.9	2.5	3.0	2.9	2.9	2.8	3.3	**3.1**
Black Death Rate (excl Infants)[3]	37.2	35.4	18.9	25.8	30.8	37.8	25.8	24.8	26.9	43.5	**30.7**
White Death Rate (excl Infants)[4]	12.0	16.1	11.6	11.6	13.6	10.2	11.6	12.2	12.8	21.3	**13.3**
Ratio of Black to White (excl Infants)	3.1	2.2	1.6	2.2	2.3	3.7	2.2	2.0	2.1	2.0	**2.4**
Black Infant Mortality/1,000 Births[5]	19.5	15.5	16.7	16.6	14.5	14.7	14.4	18.7	14.5	15.5	**16.1**
White Infant Mortality/1,000 Births[6]	4.7	4.9	5.1	5.8	6.1	5.9	4.7	6.1	5.1	3.5	**5.2**
Ratio of Black to White IMR	4.1	3.2	3.3	2.9	2.4	2.5	3.0	3.0	2.9	4.4	**3.2**

[1] Total Black deaths/97,659 x 100,000 (2012-2016 census data in Table 6)

[2] Total White deaths/144,075 x 100,000 (2012-2016 census data in Table 6)

[3] Total Black deaths (exclude Infants)/98,642 minus Black live births x 100,000 (2012-2016 census data in Table 6)

[4] Total White deaths (exclude Infants)/148,633 minus White live births x 100,000 (2012-2016 census data in Table 6)

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

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

Table 9 Annual Number of Child Deaths Due to Injury and Medical Causes by Age Group

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
Total Injury Related Deaths											
Under 1 Year	30	27	28	22	20	18	23	31	24	18	**241**
1 - 9 Years	9	19	5	9	10	14	11	10	6	19	**112**
10 - 17 Years	26	18	10	13	14	16	13	13	17	29	**169**
Total	**65**	**64**	**43**	**44**	**44**	**48**	**47**	**54**	**47**	**66**	**522**
Total Deaths from Medical Causes											
Under 1 Year	141	114	112	122	111	115	98	124	104	100	**1,141**
1 - 9 Years	21	23	11	14	20	17	7	15	9	12	**149**
10 - 17 Years	13	12	12	7	7	6	13	7	12	10	**99**
Total	**175**	**149**	**135**	**143**	**138**	**138**	**118**	**146**	**125**	**122**	**1,389**
TOTAL ALL CAUSES	**240**	**213**	**178**	**187**	**182**	**186**	**165**	**200**	**172**	**188**	**1,911**

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

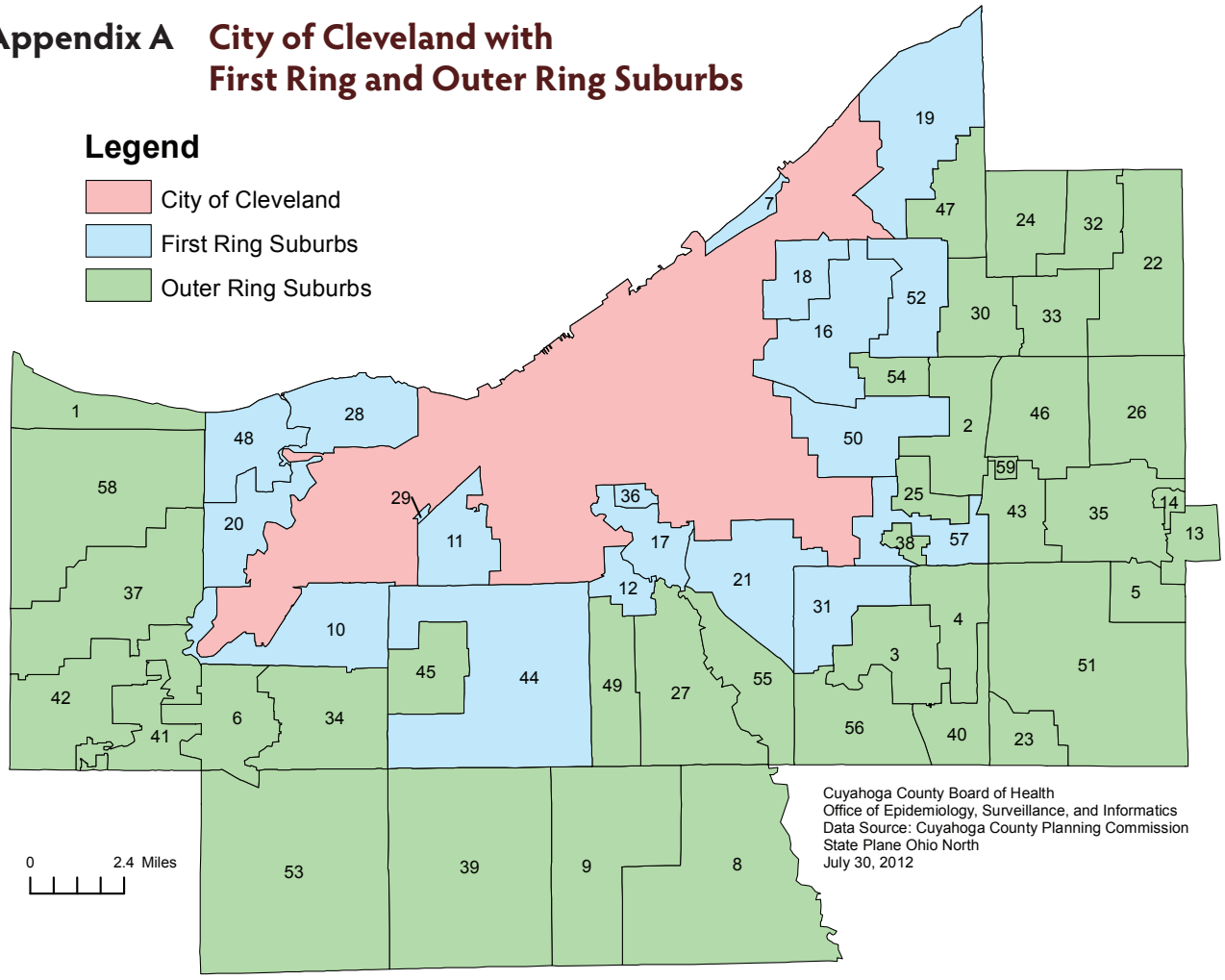
Table 10 Annual Number of Child Deaths by Sex and Age Group

	2008	2009	2010	2011*	2012*	2013	2014*	2015	2016	2017	Total
Sex and Age Group											
Female											
Under 1 Year	77	67	69	63	52	64	49	70	57	52	**620**
1 - 9 Years	15	16	10	11	18	15	10	6	8	13	**122**
10 - 17 Years	15	15	7	5	10	8	10	7	11	9	**97**
Total	**107**	**98**	**86**	**79**	**80**	**87**	**69**	**83**	**76**	**74**	**839**
Male											
Under 1 Year	94	74	71	81	78	69	71	85	71	66	**760**
1 - 9 Years	15	26	6	11	12	16	8	19	7	18	**138**
10 - 17 Years	24	15	15	15	11	14	16	13	18	30	**171**
Total	**133**	**115**	**92**	**107**	**101**	**99**	**95**	**117**	**96**	**114**	**1,069**
TOTAL ALL	**240**	**213**	**178**	**186**	**181**	**186**	**164**	**200**	**172**	**188**	**1,908**

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

Appendix A

Appendix A 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				

Appendix B

CUYAHOGA COUNTY FIMR
FETAL INFANT MORTALITY REVIEW

Program Description:

The Cuyahoga County Board of Health implemented the first county-wide Fetal Infant Mortality Review (FIMR) Program in 2014. This initiative was made available through the Ohio Equity Institute with funding provided by the Ohio Department of Health in collaboration with CityMatCH. The FIMR Program examines local infant mortality issues through the review of infant deaths and fetal deaths, 20 weeks or more gestation.

Cuyahoga County Fetal Death Data:

2015: 142 Fetal Deaths

2016: 124 Fetal Deaths

2017: 96 Fetal Deaths (preliminary data)

Figure 1 Gestational Age of Fetal Deaths (2015-2017) [n=362]

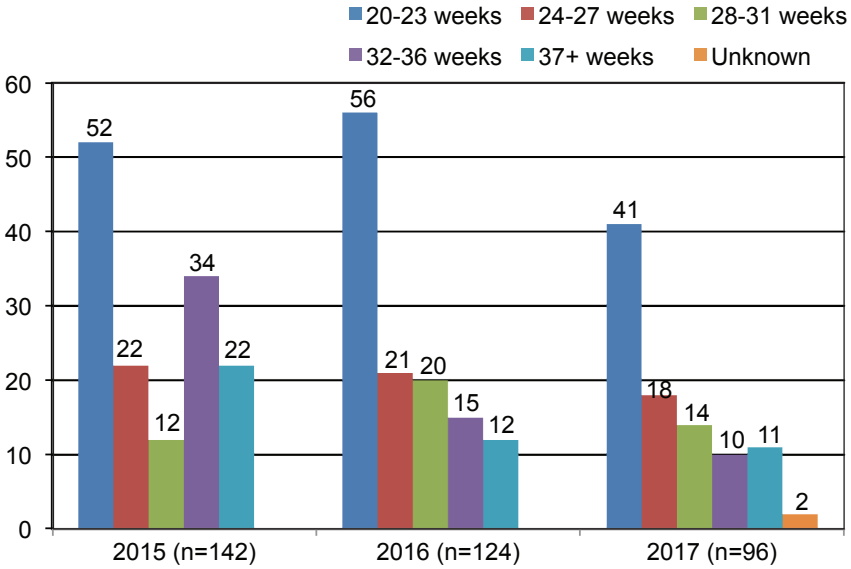


Figure 1 shows the gestational age of all fetal deaths in 2015-2017. Combining all the years indicates that 41.2% of fetal deaths occur before the age of viability (24 weeks gestation), but 58.3% of fetal deaths were at 24 weeks or later. Looking closer, 41.4% of fetal losses occurred in the third trimester (beginning at 28 weeks), a time when babies have a high survival rate. 2017 shows an 11.4% decrease in third trimester losses as compared to 2015.

Figure 2 Fetal Deaths by Race (2015-2017) [n=362]

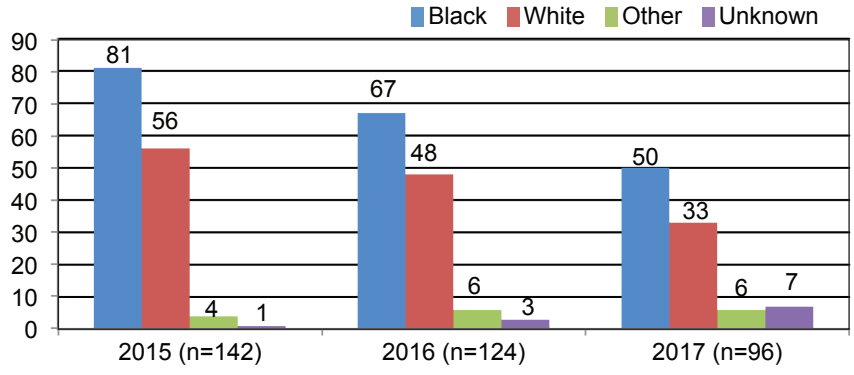


Figure 2 illustrates the racial disparity between black, white, and all other race fetal deaths in Cuyahoga County. The data demonstrate that fetal deaths are more likely to occur to black women (54.7%) than white and all other race women (45.3%).

Appendix B

2014 - 2018 Program Progress:

- Over 750 family support letters were mailed to parents in Cuyahoga County that experienced a fetal or infant loss. The mailings included a county-wide resource brochure that the program developed.
- 30 family interviews were completed.
- 14 FIMR Case Review Team (CRT) meetings were conducted in which 37 cases were reviewed **(Table 1)** and 73 recommendations were developed.
- 7 FIMR Community Action Team (CAT) meetings were convened. The role of CAT is to prioritize recommendations, develop solutions, implement action plans, and monitor progress. Each year, the CAT chooses at least 3 CRT recommendations to implement **(Table 2)**.

Table 1 FIMR Reviewed Cases

Demographics in 2014-2018	
Type of Loss	
Fetal	17
Infant	20
Insurance	
Medicaid	18
Private	19
Mother's Race*	
Black	14
White	19

* 2 Moms were of Hispanic ethnicity and 2 Moms were of another race.

Table 2 2017-2018 FIMR Community Action Team Action Plan

CRT Recommendation	Solutions(s)	Local Action(s)
Develop and implement a community education awareness campaign for progesterone (17P) that also addresses access issues.	Train Cuyahoga County home visiting program staff on the use 17P.	131 home visiting program staff was trained in December 2017.
	Develop and implement a community awareness campaign.	In progress.
Integrate the "One Key Question" in community locations and through home visiting programs to encourage preconception health, family planning, and birth spacing.	Train Cuyahoga County home visiting program staff and community agency staff about the "One Key Question" and family planning options.	Over 200 home visiting staff and over 100 Office of Child Support staff were trained in 2017 and 2018.
Educate the public about the importance of first trimester prenatal care and ensure access to health care providers.	Train Cuyahoga County home visiting program staff on the benefits of CenteringPregnancy® as a prenatal care option.	131 home visiting program staff was trained on December 11, 2017
	Conduct a qualitative research study to gather information from Cuyahoga County pregnant women regarding their prenatal care experiences.	Interviews with Cuyahoga County pregnant women are currently being conducted.
	Develop and implement a community awareness campaign.	In progress.

Footnotes

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[7] Franklin County Child Fatality Review. 2016 Child and infant deaths (received July 3, 2017).

[8] Hamilton County Child Fatality Review. 2016 Child and infant deaths (received July 16, 2017).

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[12] Data on 2017 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. ODH, Center for Public Health Statistics and Informatics (accessed July 10, 2018). The Department specifically disclaims responsibility for any analyses, interpretations, or conclusions.

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[25] Ibid.

[26] Ibid.

[27] Data on 2016 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. ODH, Center for Public Health Statistics and Informatics (accessed July 10, 2018). The Department specifically disclaims responsibility for any analyses, interpretations, or conclusions.

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[32] ODH, Center for Public Health Statistics and Informatics, accessed July 10, 2018.

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[35] Moon RY & AAP Task Force on Sudden Infant Death Syndrome. SIDS and other sleep-related infant deaths: Evidence base for 2016 updated recommendations for a safe infant sleeping environment. Pediatrics. 138(5). Available online at http://pediatrics.aappublications.org/content/early/2016/10/20/peds.2016-2938 (accessed September 8, 2017).

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[38] US Census Bureau. 2016 Annual population estimates, September 25, 2017.

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[43] US Census Bureau. 2016 Population estimates, September 25, 2017.

[44] CDC, WISQARS, July 20, 2018.

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Review Board Membership

Cuyahoga County Child Fatality Review Board Membership 2017

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