The Cuyahoga County Child Fatality Report
Twenty-Second Edition

Protecting Our Future

Child Fatalities 2018

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

The Cuyahoga County
Office of Early Childhood
Invest in Children

*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.*

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 inequities and improve birth outcomes in Cuyahoga County.

Prematurity

1. Support 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, the importance of interconception care, and the significance 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®, progesterone use for high-risk women and appropriate birth spacing.
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.

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, having conversations with families about barriers to safe sleep, and providing tips to help parents continue safe sleep after discharge.
3. Increase home visitor programs and 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 First Year Cleveland Safe Sleep Heroes and the Ohio safe sleep campaign and with their educational resources to hospitals and agencies in Cuyahoga County.

Medically Related Deaths

1. Reinforce the importance of a medical home and care coordination 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.

Interagency

1. Cuyahoga County institutions providing tertiary and emergency medical care and social support to children should begin to investigate opportunities for cross system collaboration and information sharing that will better identify and secure enhanced intervention for those children who have experienced, or are at high risk for, serious or life-threatening injury or medical neglect.

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.

Hispanic – A person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin regardless of race.

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 120 infants died during 2018, and there were 13,872 live births, the IMR is 8.7 per 1,000 live births (calculated by taking 120 divided by 13,872 and multiplying by 1,000).

Inequity – Term used to describe an unfair difference between two groups.

Example: If the white infant mortality rate (IMR) was lower than the black IMR, a racial inequity 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 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.

Protecting Our Future

There were 185 child deaths, three fewer deaths than in 2017.

The total number of child deaths decreased by 3 in 2018 to a total of 185. Child deaths between 10 and 17 years old decreased by 18% (from 39 in 2017 to 32 in 2018). Deaths to children 1 to 9 years old increased by 6%, while infant deaths increased by 2%. The total number of child deaths for 2018 included 120 infants, 33 children from 1 to 9 years old, and 32 children from 10 to 17 years old **(Table 1)**.

Table 1 Annual Number of Deaths by Age Group

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Under 1 Year	141	140	144	131	133	121	155	128	118	120	**1,331**
1 - 9 Years	42	16	23	30	31	18	25	15	31	33	**264**
10 - 17 Years	30	22	20	21	22	26	20	29	39	32	**261**
Total	**213**	**178**	**187**	**182**	**186**	**165**	**200**	**172**	**188**	**185**	**1,856**

Infant deaths were the second-lowest in the last ten years.

One hundred twenty infants died in 2018. This was two more than 2017, but 13 fewer than the average number of infant deaths in the last ten years. The category with the largest increase was birth defects (from 12 in 2017 to 23 in 2018). Infections increased by seven deaths and sleep related had six more deaths. Injury related accident and motor vehicle accident each increased by one death. A major decrease was noted in prematurity (from 82 in 2017 to 61 in 2018), while drowning, other medical causes and other perinatal complications each had one fewer death in 2018.

Second-highest number of child deaths between 1 and 9 years in the last ten years.

Thirty-three children between 1 and 9 years of age died in 2018, which is two more than in 2017. There were three more cancer deaths and two more other perinatal complications deaths. Accidental injury related death, infection and prematurity each had one more death. There were three fewer motor vehicle accident deaths and two fewer poisonings. Birth defects and undetermined deaths had one less death in 2018.

Second-highest number of child deaths between 10 and 17 years in the last ten years.

Thirty-two children ages 10 to 17 years died in 2018; the second highest number of deaths in this age group in the last ten years. There were seven fewer homicides and five fewer suicides in this age category. Birth defects and poisoning had two fewer deaths and motor vehicle accident had one less death. The biggest increase was in cancer and drowning deaths with three in each category. There were two more undetermined deaths, while infection and other medical causes had one additional death.

Map 1 2018 Child Deaths by Age Group
Cuyahoga County, Ohio (n=185)

Age Group
- ▲ Infants (120)
- ■ 1 - 9 Years (33)
- ● 10 - 17 Years (32)

Location
- Municipality

Euclid
Richmond Heights
Highland Heights Mayfield Village
Bratenahl
South Euclid
Gates Mills
East Cleveland
Lyndhurst Mayfield Heights
Cleveland Heights
University Heights
Bay Village
Pepper Pike Hunting Valley
Lakewood
Cleveland
Shaker Heights
Rocky River
Beachwood
Westlake
Woodmere
Fairview Park
Chagrin Falls Township
Linndale
Newburgh Heights
Moreland Hills
Brooklyn
Highland Hills
Orange
Chagrin Falls
Cuyahoga Heights
Warrensville Heights
North Randall
North Olmsted
Brooklyn Heights
Garfield Heights
Maple Heights
Bentleyville
Brook Park
Bedford Heights
Bedford
Solon
Parma Heights
Parma
Seven Hills
Middleburg Heights
Valley View
Olmsted Township
Independence
Walton Hills Oakwood
Berea
Glenwillow
Olmsted Falls

Source: 2018 Child Deaths (Child Fatality Review Board)
and 2018 TIGER Shapefiles (US Census Bureau)
Spatial Reference: NAD 1983 StatePlane OH North FIPS 3401 (Feet)
Created by R. Stacklin, Date: July 29, 2019

0   1.25   2.5   5
Miles

Broadview Heights
Strongsville
North Royalton
Brecksville

Map 1 shows the location of all child deaths in 2018.[1] The majority of deaths (55%) occurred to children residing in the city of Cleveland which has only 26% of the child population in Cuyahoga County **(Table 6).** Deaths of children living in the first ring suburbs accounted for 29% and the remaining 15% of children lived in the outer ring suburbs **(Appendix A).**
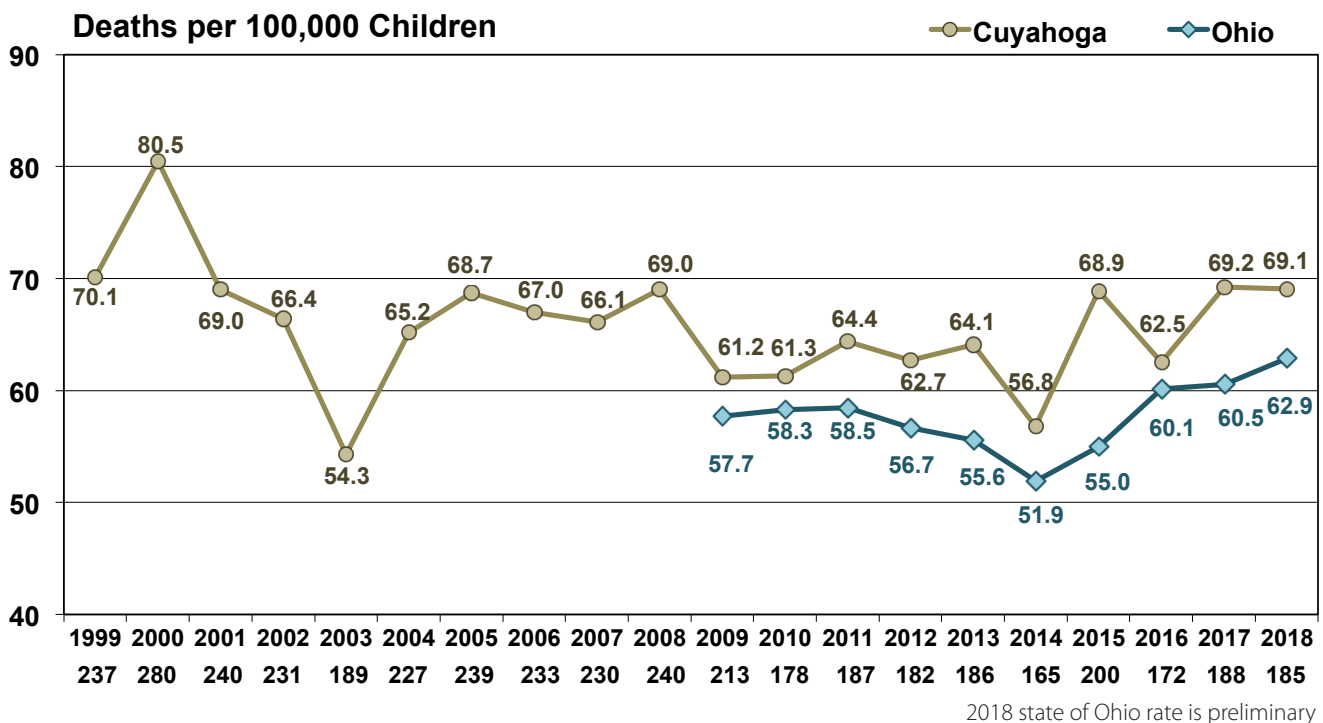
Protecting Our Future

The child death rate was the second-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.[2-5] From 2009 to 2018, the county child death rate has been consistently higher than the state of Ohio. The county rate of child deaths in 2018 was the second-highest in the last ten years. Three fewer deaths in 2018 led to a 2% decrease, which was attributed to a reduction in the number of child deaths to children ages 10 to 17 years.

Figure 1 **Total Child Deaths (age 0 – 17) Cuyahoga County (1999 – 2018) and State of Ohio (2009 – 2018)**

Deaths per 100,000 Children

Cuyahoga / Ohio

Year	Cuyahoga	Ohio	Count
1999	70.1		237
2000	80.5		280
2001	69.0		240
2002	66.4		231
2003	54.3		189
2004	65.2		227
2005	68.7		239
2006	67.0		233
2007	66.1		230
2008	69.0		240
2009	61.2	57.7	213
2010	61.3	58.3	178
2011	64.4	58.5	187
2012	62.7	56.7	182
2013	64.1	55.6	186
2014	56.8	51.9	165
2015	68.9	55.0	200
2016	62.5	60.1	172
2017	69.2	60.5	188
2018	69.1	62.9	185

2018 state of Ohio rate is preliminary

Table 2 Leading Causes of Death by Age Group in 2018

Cause of Death	Under 1 Year	1 - 9 Years	10 - 17 Years	Total
Prematurity	61	1	0	**62**
Birth Defect	23	3	3	**29**
Sleep Related	19	0	0	**19**
Infection	7	4	1	**12**
Homicide	0	5	6	**11**
Other Medical Causes	0	4	5	**9**
Cancer	0	4	4	**8**
Motor Vehicle Accident	1	3	4	**8**
Other Perinatal Complications	4	2	0	**6**
Undetermined – Other	3	1	2	**6**
Accidental Injury Related	2	2	0	**4**
Drowning	0	0	4	**4**
Fire	0	3	0	**3**
Suicide	0	0	3	**3**
Poisoning	0	1	0	**1**
Total	**120**	**33**	**32**	**185**

Table 2 provides a breakdown of the leading causes of death by age group. The majority (68%) of deaths continue to be rooted in medical causes such as prematurity, birth defects, cancer, infection, and other medical conditions **(Table 10)**. While prematurity continues to be the main cause of infant deaths, birth defects were the second-leading cause. Homicide was the leading cause of death in the 1- to 9-year-old age group and 10- to 17-year-old age group.

The cause of death with the largest year-over-year increase was infection (from 3 in 2017 to 12 in 2018). Birth defects increased by eight deaths, while cancer and sleep related had six more deaths in 2018. There were two more deaths due to accidental injury related and drowning. Fire, other perinatal complications and other undetermined fatalities had one additional death.

Prematurity had the largest decrease (from 82 in 2017 to 62 in 2018) and homicide decreased by seven deaths. Suicide decreased by five deaths. Poisoning had four fewer deaths and motor vehicle accidents had three fewer deaths in 2018.

Fast Facts

- *Child death rate was the second-highest in the last ten years.*
- *Infection deaths were the highest in the last ten years.*

Protecting Our Future

## Cuyahoga County had the lowest white infant mortality rate in 2017.

The Child Fatality Review Board[6] sought data sources that allowed direct comparisons to other large, urban areas[7-10] and the state of Ohio,[11] all of whom are focusing on child death and infant mortality rates (IMR). The other four counties include Franklin (Columbus area), Hamilton (Cincinnati area), Montgomery (Dayton area), and Summit (Akron area). The 2017 data were the most current data available.

Cuyahoga had the lowest white IMR (2.8) and second-lowest black IMR (15.6) and third-lowest total IMR (8.1) of the five largest counties in Ohio **(Figure 2)**. Cuyahoga had the second-highest child death rate and child homicide rate, while the child suicide rate was third-highest. The child homicide rate of 7.0 in Cuyahoga was more than twice as high as the state of Ohio rate of 2.8 for 2017.
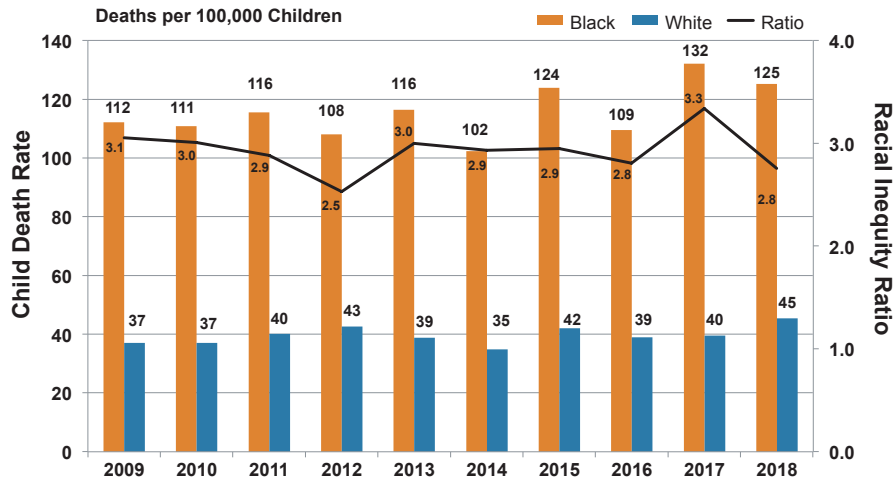
County Infant Mortality Rates

Cuyahoga (8.1)
Summit (7.6)
Franklin (8.8)
Montgomery (6.8)
Hamilton (9.0)

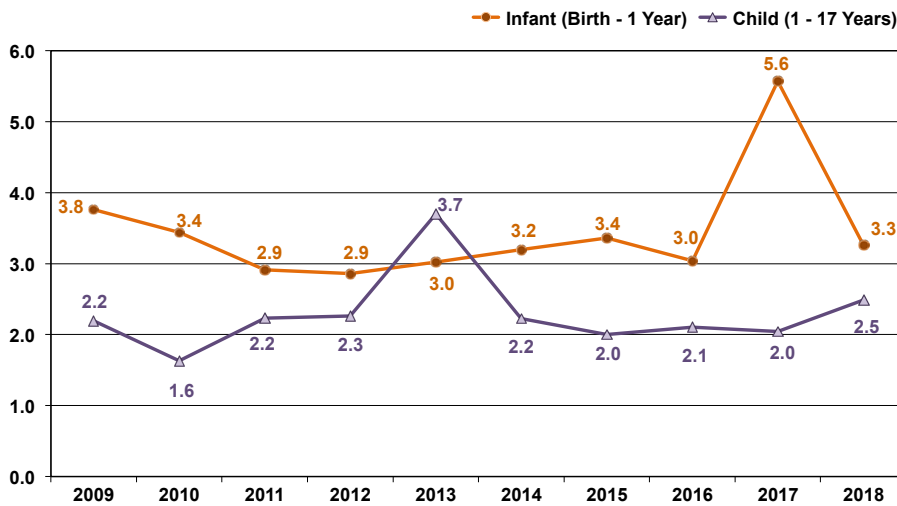**Figure 2** Peer County Comparisons in 2017
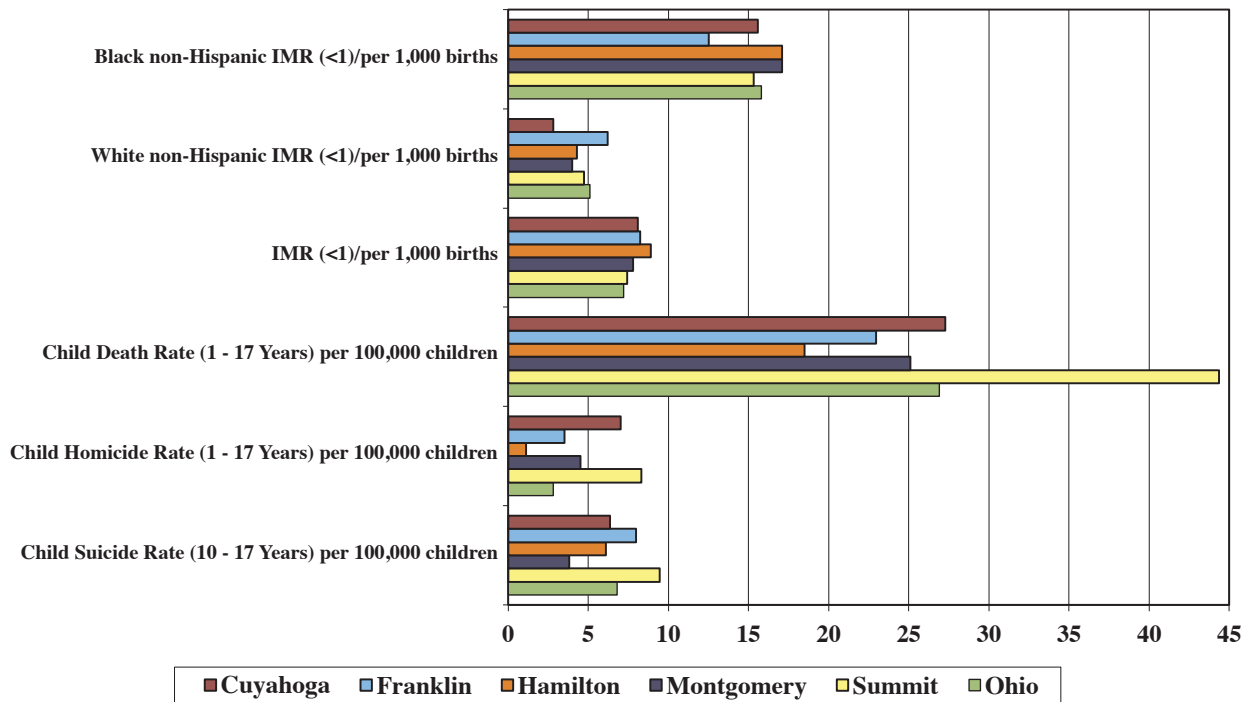
Racial and Economic Inequities

Black-white child death inequity tied for the second-lowest in the last ten years.

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

Deaths per 100,000 Children

Legend: Black, White, Ratio

Year	Black	White	Ratio
2009	112	37	3.1
2010	111	37	3.0
2011	116	40	2.9
2012	108	43	2.5
2013	116	39	3.0
2014	102	35	2.9
2015	124	42	2.9
2016	109	39	2.8
2017	132	40	3.3
2018	125	45	2.8

Child Death Rate (left axis) / Racial Inequity Ratio (right axis)

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

Legend: Infant (Birth - 1 Year), Child (1 - 17 Years)

Year	Infant	Child
2009	3.8	2.2
2010	3.4	1.6
2011	2.9	2.2
2012	2.9	2.3
2013	3.0	3.7
2014	3.2	2.2
2015	3.4	2.0
2016	3.0	2.1
2017	5.6	2.0
2018	3.3	2.5

Note: Infant ratio shows inequity between Black non-Hispanic and White non-Hispanic babies. Child ratio is by race.

The black-white child death racial inequity decreased to a ratio of 2.8 in 2018, which is tied for the second-lowest ratio in the last ten years **(Figure 3)**. The ratio decreased because the black child death rate decreased by 5%, while the white rate increased by 15%. The white rate of 45 was the highest rate in the last ten years. The black rate of 125 was the second-highest rate over the same time period **(Table 9)**. Of the 185 child deaths, 120 were black, 64 were white, and one was of another race.

It is important to look at the racial inequity for infants and children separately, as illustrated in **Figure 4**. The child black-white racial inequity ratio of 2.5 is the second-highest in the last ten years.
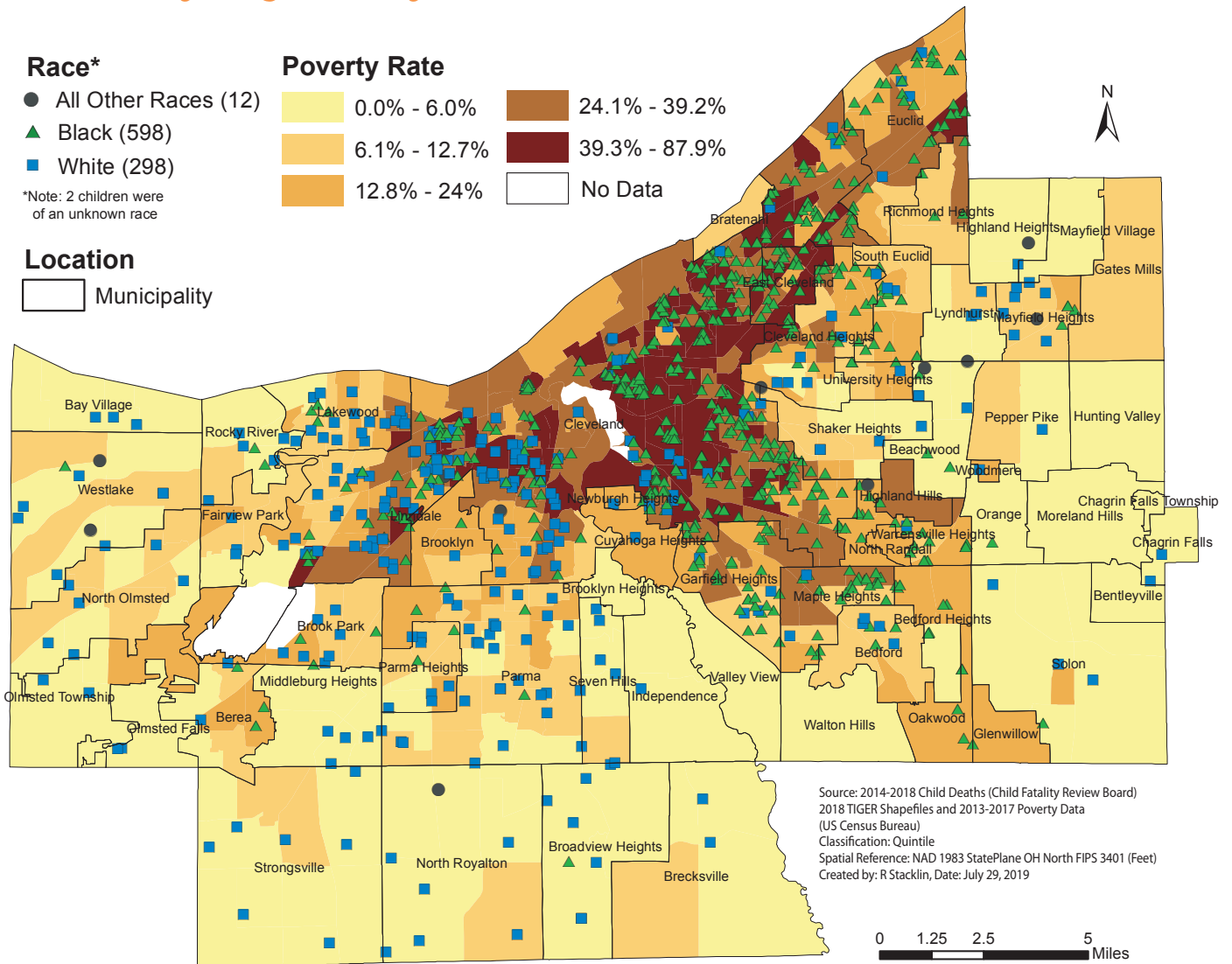
The racial inequity of infant deaths (3.3) was 41% lower than 2017 ratio (5.6). The 2017 infant death racial inequity ratio in the state of Ohio is 3.0[12] and the US ratio is 2.3.[13] (most recent data available).

Fast Facts

- *3.3 black non-Hispanic infants died for every 1 white non-Hispanic infant.*
- *If there was equity in child deaths, 76 black children would have survived.*

Protecting Our Future

Racial and Economic Inequities

Map 2 Distribution of Poverty and Race for Child Deaths
Cuyahoga County, Ohio (2014-2018) [n=910]

Race*
- ● All Other Races (12)
- ▲ Black (598)
- ■ White (298)

*Note: 2 children were of an unknown race

Poverty Rate
- 0.0% - 6.0%
- 6.1% - 12.7%
- 12.8% - 24%
- 24.1% - 39.2%
- 39.3% - 87.9%
- No Data

Location
- Municipality

Source: 2014-2018 Child Deaths (Child Fatality Review Board)
2018 TIGER Shapefiles and 2013-2017 Poverty Data
(US Census Bureau)
Classification: Quintile
Spatial Reference: NAD 1983 StatePlane OH North FIPS 3401 (Feet)
Created by: R Stacklin, Date: July 29, 2019

Map 2 illustrates the close relation between poverty, race, and child deaths.[14,15] The highest poverty levels are concentrated in the county's urban core with significantly lower levels of poverty in the outer ring suburbs. Six percent or fewer of people living in the lightest shaded area were below the federal poverty guideline, while the darkest shade of brown had 39% to nearly 88% of the population who lived in poverty. One in three (33.4%) black people in Cuyahoga County lived in poverty, compared to only 10.8% of white people.[16] The 2018 federal poverty guideline for a family of four was $25,100.[17]

In the last five years, two black children died for every one white child 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 24 percent) of poverty.

Racial and Economic Inequities

COMMUNITY ACTIONS

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

The Cuyahoga County Board of Health (CCBH) serves as the lead 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 2018, under the direction of the Ohio Department of Health, the Cleveland/Cuyahoga County team expanded best practice strategies to include:

- Neighborhood Navigation – identify pregnant women who are currently not engaged in services and provide a connection to home visiting, clinical care and other services.
- Social Determinants of Health Task Force – identify opportunities to adopt policies that impact social determinants of health.
- Placed Based Approach - provide support to families who reside in 44128 through:
  - º Increased breastfeeding support through faith-based institutions.
  - º Community building events to foster relationship building.
  - º Advocate for labor & delivery hospital establishment in local communities.
    - ⇒ As a result of these efforts: 137 home visitors have been trained on all home visiting programs and outreach strategies; formal partnership with Cuyahoga County Health and Human Services to assist with identification of pregnant women in need of services; there is an increased awareness of infant mortality and social determinants of health for residents in 44128 communities; expansion to 44137 began in 2019; development of a mobile app to assist families to locate 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, the Ohio Department of Medicaid has awarded **First Year Cleveland (FYC)** 4.8 million dollars in 2018-2019 to reduce infant deaths. Highlights from the 2018 investment include:

- Moms and Babies First served over 400 expectant mothers in 10 first-ring suburbs of Cuyahoga County.
- Birthing Beautiful Communities provided holistic, community-based maternal care across Cuyahoga County to over 200 African American expectant mothers.
- MomsFirst served over 1000 women with home visiting, education and support services.
- Cuyahoga Centering Pregnancy Coalition served as a certified training center and collectively served over 700 expectant mothers.
- Nurse Family Partnership served over 300 women with case management, prevention, early intervention, and education services.
- The Centers for Families and Children served 60 women with home visiting services.

Protecting Our Future

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

The 2018 Cuyahoga County IMR is 8.7 infant deaths per 1,000 live births, the third-lowest rate in the last ten years **(Figure 5)**. The current rate is based on 120 infant deaths among 13,872 live births (Table 6).[18] The county IMR of 8.7 remains significantly higher than the preliminary 2018 Ohio IMR of 7.55,[19,20] and the preliminary 2018 United States IMR of 5.54.[21] *In order for Cuyahoga County to match the 2018 US IMR, 43 infants who died in 2018 would have needed to survive.*

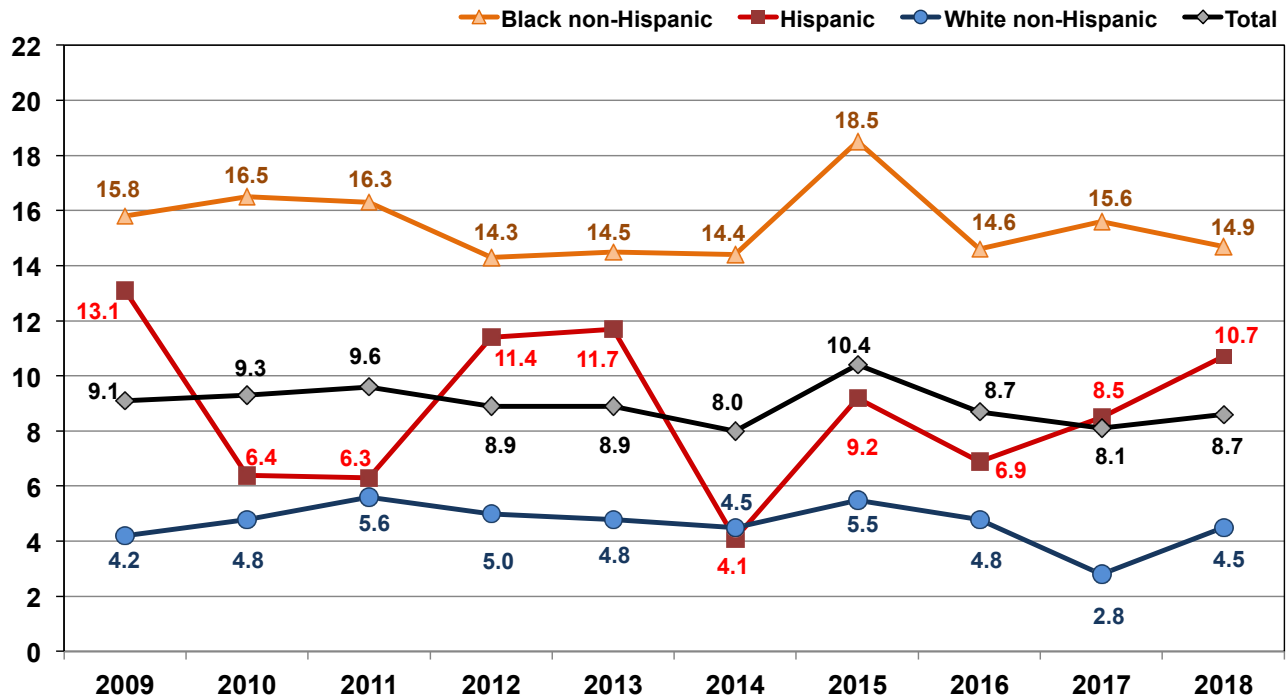### Figure 5 Infant Mortality Rate (IMR) per 1,000 Live Births

Figure 5 shows that the black non-Hispanic IMR of 14.9 was 4% lower than 2017. The white non-Hispanic IMR of 4.5 was tied for the third-lowest rate in the last ten years but increased by 60% from the ten-year low rate of 2.8. The Hispanic IMR of 10.7 was the highest rate in the last five years. The overall IMR of 8.7 was tied for the third-lowest in the last ten years.

The most frequent causes of infant death continued to be prematurity (61), birth defects (23), and sleep related deaths (19) (Table 2). These top three causes accounted for 86% of all infant deaths. Of the 17 remaining infant deaths, 11 were medically related, 3 were ruled as undetermined, 2 accidental injury related, and 1 motor vehicle accident.

Birth defects were the second-leading cause of infant death in 2018. Sixty-two percent of these deaths were due to congenital abnormalities. Nearly half of these deaths had multiple malformations, while another 39% had a heart and/or brain defect. Over 30% of birth defect deaths were due to chromosomal anomalies, while 9% of these deaths were due to neural tube defects.
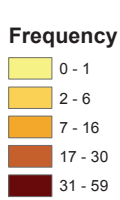
Fast Facts

- *Highest Hispanic IMR in the last five years.*

Map 3 Frequency of 2009-2018 Infant Deaths by Neighborhoods and Municipalities in Cuyahoga County, Ohio [n=1,331]

Frequency

	0 - 1
	2 - 6
	7 - 16
	17 - 30
	31 - 59

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

Location

☐	Cleveland Neighborhoods & Suburban Municipalities
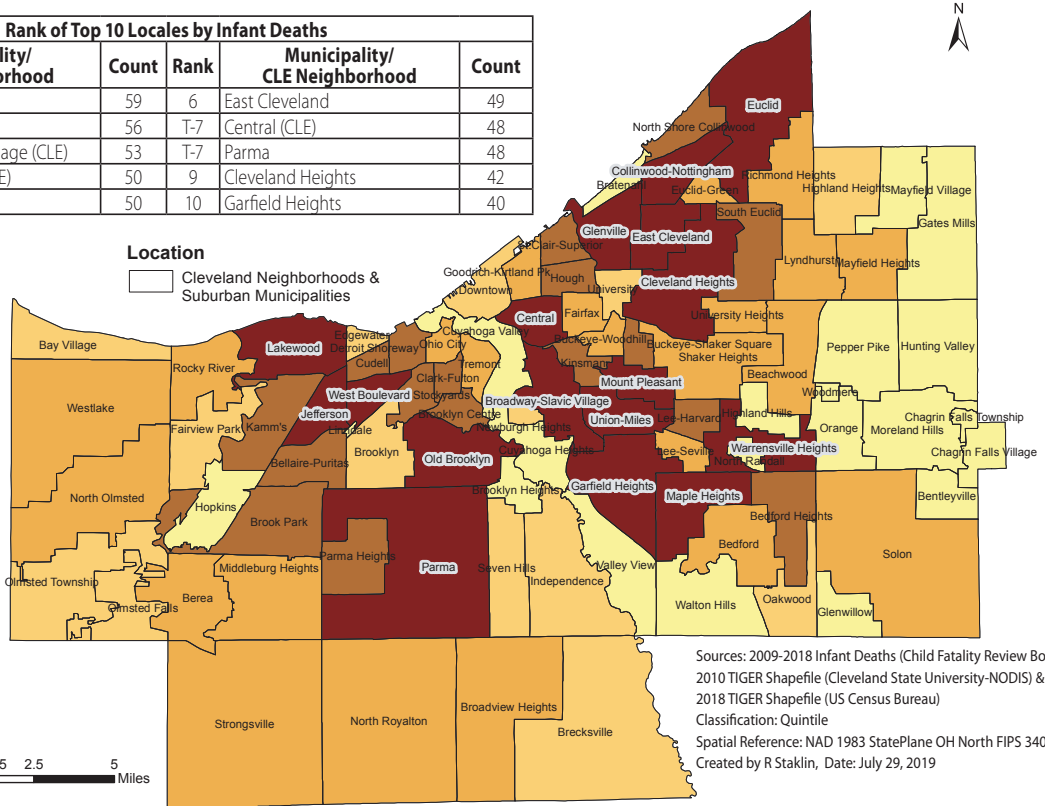
Map 3 shows the frequency of infant deaths for the last ten years.[22,23] Locations that ranked in the top ten averaged four to six infant deaths each year. Nine of the top ten locales with the highest number of infant deaths are located on the eastern side of the county. More specifically, five of these areas are neighborhoods in the city of Cleveland.

Sources: 2009-2018 Infant Deaths (Child Fatality Review Board)
2010 TIGER Shapefile (Cleveland State University-NODIS) &
2018 TIGER Shapefile (US Census Bureau)
Classification: Quintile
Spatial Reference: NAD 1983 StatePlane OH North FIPS 3401 (Feet)
Created by R Staklin, Date: July 29, 2019

0   1.25   2.5   5
Miles

COMMUNITY ACTIONS

"The mission at **First Year Cleveland (FYC)** is to mobilize the community through partnerships and a unified strategy to reduce infant deaths and racial disparities. Our overarching goal is to reduce Cuyahoga County's infant mortality rate from 10.5 in 2015 to 6.0 by 2020, with an explicit focus on reducing black infant deaths.

Recognizing that a new approach was needed to successfully reduce infant deaths in our community, grieving parents and families, frontline caregivers, health care systems, civic and government leaders, faith-based organizations, the City of Cleveland, and Cuyahoga County officials joined together with foundations, hospitals, community-based health care providers and nonprofit leaders to launch FYC in late December 2015 to bring people together to achieve social change."

"To accomplish this, we have activated 11 Action Teams as part of our mobilization strategy. These community teams are bringing partners, parents, and providers together to execute long-term solutions to address our priority areas and meet or exceed our goals:

- Reduce racial disparities: Reduce Cuyahoga County's 2017 infant death disparity rate of 7.2 by 50 percent by the end of 2020 and to zero by 2025.

- Reduce Cuyahoga County's preterm birth rate to less than 10 percent by the end of 2020.

- Eliminate sleep-related deaths: Reduce sleep-related infant deaths from 27 in 2015 to five by the end of 2020."

The **Cleveland Clinic Foundation, MetroHealth Medical Center, and University Hospitals** continue to identify infant mortality as a key priority for community outreach. University Hospitals announced the opening of a labor and delivery unit at its Ahuja site in 2022. This new site will provide access to women living in the southeast side of Cuyahoga County where no labor and delivery service exists.

Home visiting programs for high-risk mothers and infants have been identified as best practice to improve birth outcomes.

- The **MomsFirst Program** uses a community health worker model to provide support to women beginning with prenatal care and continues until a child is 18 months old. Core services include outreach, case management, health education, and interconception care.

- MetroHealth Nurse Family Partnership serves low-income, first-time mothers during their pregnancy and for two years after the birth of the baby.
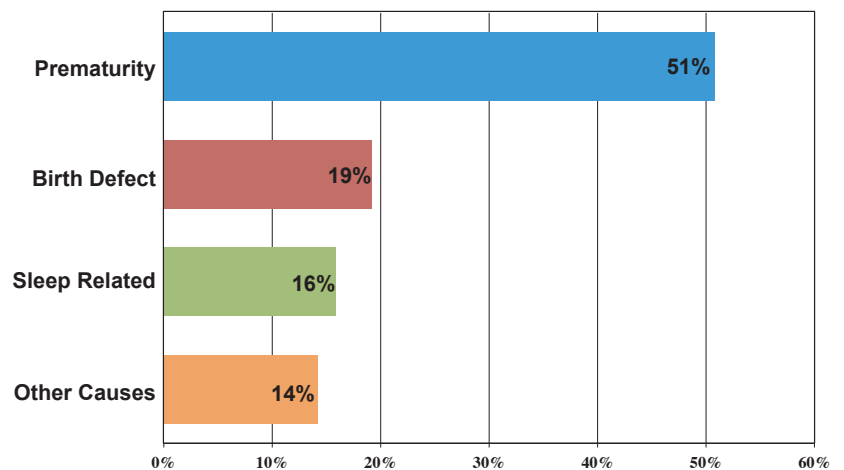
Protecting Our Future

## Lowest number of prematurity related deaths in 2018.

In 2018, 61 infants died due to prematurity, accounting for 51% of all infant deaths, which is the lowest proportion in the last ten years **(Figure 6).** The cause-specific IMR for prematurity is 4.4 deaths per 1,000 live births.[24] This is the lowest rate in the last ten years **(Table 6)**.

The prematurity related infant mortality rates by race are illustrated in **Figure 7**. The black non-Hispanic prematurity death rate of 7.1[25] is the lowest in the last ten years and 37% lower than the 2017 rate. The white rate of 2.3[26] increased by 49%, but was the fourth-lowest rate in the last ten years. The change within each racial category decreased the black-white racial inequity rate to 3.0, which is tied for the lowest in the last ten years. If the 2018 black prematurity death rate was equal to the white death rate, the overall black IMR would have decreased from 14.7[27] to 9.9.[28]

Figure 6 The Impact of Prematurity on Infant Deaths in 2018

Figure 7 Rates of Infant Death Due to Prematurity by Race

Deaths Due to Prematurity per 1,000 Live Births
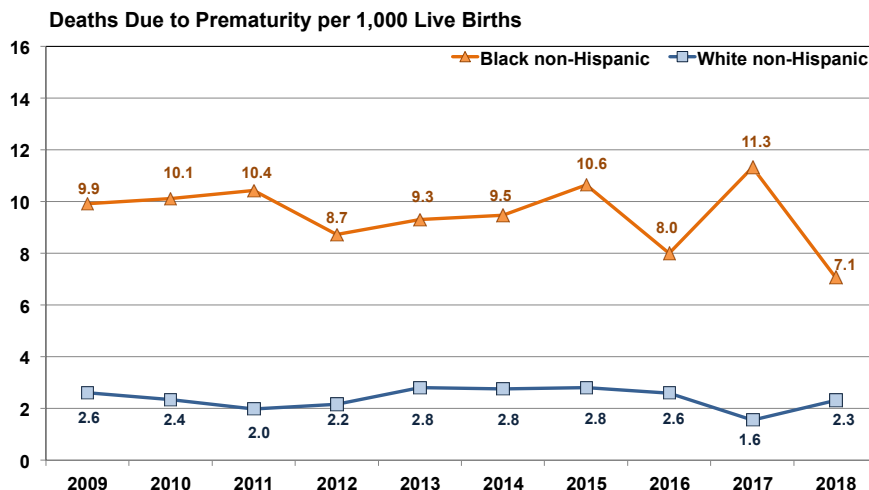
The percentage of preterm births in Cuyahoga County decreased from 12.1% in 2017 to 11.9% in 2018.[29,30] The 2018 black preterm birth rate of 14.9% was significantly higher than the white preterm birth rate of 9.8%.[31] The county preterm birth rate was significantly higher than the 2018 Ohio preterm birth rate of 10.3%,[32] and the 2018 US preterm rate of 10.9%.[33] *Cuyahoga County would have needed 265 fewer preterm births in 2018 to equal the 2018 US rate.*

Prematurity

Economic, medical, and social risk factors that occurred in at least 10% of the prematurity related deaths are listed for 2018 **(Table 3)**. Poverty, the most common risk factor, was noted in 82% of the cases. Chorioamnionitis (infection of the membranes surrounding the fetus) was the second-most common risk factor, found in 71% of the prematurity fatalities. Mom with a chronic health condition, premature rupture of membranes (PROM), cervical insufficiency, and previous fetal loss were four 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 1% in 2017 to 10% in 2018) was a previous infant loss. Among those deaths due to prematurity where drug use was a risk factor, marijuana was the most commonly used drug.

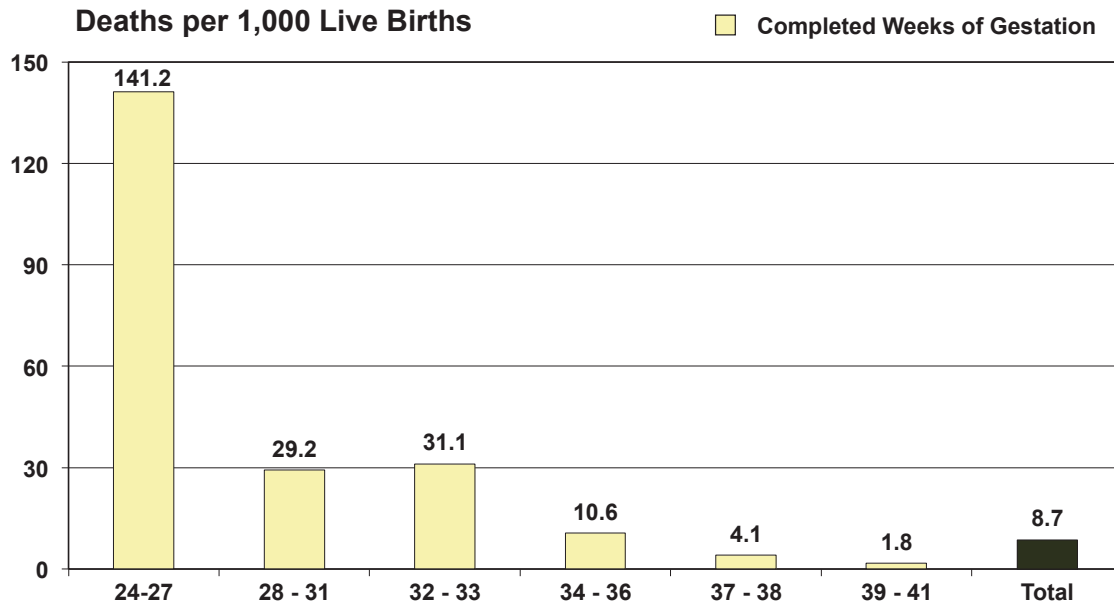**Table 3 Common Risk Factors Associated with 62 Deaths Due to Prematurity in 2018**

Risk Factor	#	%
Poverty	51	82.3
Chorioamnionitis	44	71.0
Mom with a chronic health condition	32	51.6
Premature rupture of membranes (PROM)	29	46.8
Cervical insufficiency	25	40.3
Previous fetal loss	25	40.3
Maternal history of mental health problems	18	29.0
Parental tobacco use	18	29.0
Previous preterm delivery	18	29.0
Sexually transmitted infections - past history	17	27.4
Unplanned pregnancy	16	25.8
Multiple gestation	15	24.2
Parental illicit drug use	15	24.2
Intrauterine tobacco exposure	14	22.6
Late entry into prenatal care	12	19.4
Intrauterine drug exposure	11	17.7
Parental education less than high school	11	17.7
Infection	10	16.1
Birth spacing - Less than 18 months	9	14.5
Missed appointments	8	12.9
No prenatal care	8	12.9
Infertility/ART	7	11.3
Previous infant loss	7	11.3

Of the 62 child deaths caused by prematurity, 44 (71%) were male and 37 (60%) were black non-Hispanic. Infants who lived in the city of Cleveland accounted for 57% of these deaths, 32% lived in a first ring suburb, and only 11% lived in an outer ring suburb. Prematurity continues to be the number one cause of infant death and is defined by a birth before 37 completed weeks. The majority of deaths occurred to infants born less than 23 weeks gestation (68%). Sixteen percent were born at 23 weeks and the remaining 16% were born between 24 and 36 weeks. *Two-thirds of the infants were born so early that they lived less than 12 hours, but 16% survived more than seven days.*

Protecting Our Future

Figure 8 illustrates the 2018 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 141.2.[34] The graph shows the IMR of infants 28 to 31 weeks (29.2) was lower than infants born at 32 to 33 weeks (31.1).[35] The IMR for babies born full term (37 weeks or more gestation) was 2.5.[36] *Full term infants were more than 55 times more likely to survive than those born at 24 to 27 weeks.*

Figure 8 Infant Mortality Rate by Gestational Age

Deaths per 1,000 Live Births ☐ **Completed Weeks of Gestation**

Gestational Age (weeks)	Deaths per 1,000 Live Births
24-27	141.2
28 - 31	29.2
32 - 33	31.1
34 - 36	10.6
37 - 38	4.1
39 - 41	1.8
Total	8.7

Fast Facts

- *Black infant deaths due to prematurity was lowest in the last ten years.*
- *Prematurity accounted for 51% of infant deaths.*

Sleep Related Deaths

Number of sleep related deaths ruled as accidental suffocation was the highest in the last ten years.

There were 19 sleep related deaths in 2018, which is six more than 2017, but slightly below the ten-year average of 20 **(Table 4)**. Twelve sleep related deaths were ruled as accidental suffocation, which is the highest number in the last ten years. Conversely, SUID/undetermined deaths potentially due to hazards in the sleep environment had the fewest number in the last ten years. This year had the highest proportion of babies reported as placed on their backs for sleep (83%). Almost 60% of sleep related deaths involved surface sharing even though 89% of such deaths had a crib or equivalent safe sleep option available. 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

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Totals
Type of Death											
SIDS	0	0	0	0	0	0	1	0	0	0	**1**
SUID/Undetermined	18	23	12	15	10	17	16	13	8	7	**139**
Accidental Suffocation	2	5	7	3	6	2	10	8	5	12	**60**
Total Number of Deaths	**20**	**28**	**19**	**18**	**16**	**19**	**27**	**21**	**13**	**19**	**200**
Risk Factors Present											
Surface sharing at time of death	11	18	9	13	11	10	17	13	13	11	**126**
Hazards in sleep area	20	28	19	18	16	19	27	21	13	19	**200**
Placed Sleep Position[1,2]											
Back	10	18	9	12	10	8	13	12	8	15	**115**
Stomach	5	7	6	4	2	7	8	5	4	0	**48**
Side	5	3	4	2	4	3	5	3	0	3	**32**
Crib Availability[3]											
No	3	8	4	7	5	4	4	3	1	2	**41**
Yes	17	20	14	10	10	15	21	18	11	16	**152**
Unknown	0	0	1	1	1	0	2	0	1	1	**7**

[1]One case in 2014-2018 had unknown sleep position.
[2]Self reported during medical examiner's office death scene investigation.
[3]Either a crib, bassinet or portable crib.

Table 5 shows that nearly two-thirds of all sleep related deaths occurred in Cleveland (133), with 25% in first ring suburbs (49) and 9% in outer ring suburbs (18). For the fourth time in the last five years, more females (10) than males (9) died. For the second consecutive year, all mothers who lost an infant due to a sleep related death were 20 to 39 years of age. Black non-Hispanic infants accounted for 75% of sleep related deaths in the last ten years, and nearly 85% of 2018 deaths.

Protecting Our Future

Table 5 Sleep Related Death Demographics

|	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Neighborhood											
Cleveland	14	18	11	12	7	14	17	16	10	14	**133**
First Ring	3	7	6	4	8	4	7	4	2	4	**49**
Outer Ring	3	3	2	2	1	1	3	1	1	1	**18**
Infant's Sex											
Female	9	11	6	6	8	11	14	10	7	10	**92**
Male	11	17	13	12	8	8	13	11	6	9	**108**
Mom's Age											
< 20 Years	3	5	1	3	3	7	5	2	0	0	**29**
20 - 29 Years	12	15	12	11	11	10	15	17	11	16	**130**
30 - 39 Years	4	7	5	4	1	2	5	2	2	3	**35**
≥ 40 Years	1	0	0	0	1	0	2	0	0	0	**4**
Unknown	0	1	1	0	0	0	0	0	0	0	**2**
Infant's Race[1]											
Black non-Hispanic	16	19	11	14	12	16	21	15	12	16	**152**
Hispanic	1	2	1	0	1	1	1	1	0	1	**9**
White non-Hispanic	3	7	7	4	3	2	5	4	1	2	**38**
Total Number of Deaths	**20**	**28**	**19**	**18**	**16**	**19**	**27**	**21**	**13**	**19**	**200**

[1]One case in 2016 was of another race.

Map 4 illustrates the distribution of sleep related deaths in Cleveland neighborhoods over the last ten years. All of the top six neighborhoods (in red) are located on the east side of Cleveland and accounted for 44% of all sleep related deaths in Cleveland. 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 2009-2018 Infant Sleep Related Deaths by Neighborhoods in Cleveland, OH [n=133]

Rank of Top 6 Neighborhoods by Infant Sleep Related Deaths		
Rank	Neighborhood	Count
1	Broadway-Slavic Village	14
2	Central	12
3	Collinwood-Nottingham	10
T-4	Glenville	8
T-4	Union-Miles	8
6	Mount Pleasant	7

Frequency
- 0 - 1
- 2
- 3 - 4
- 5 - 6
- 7 - 14
- Neighborhood
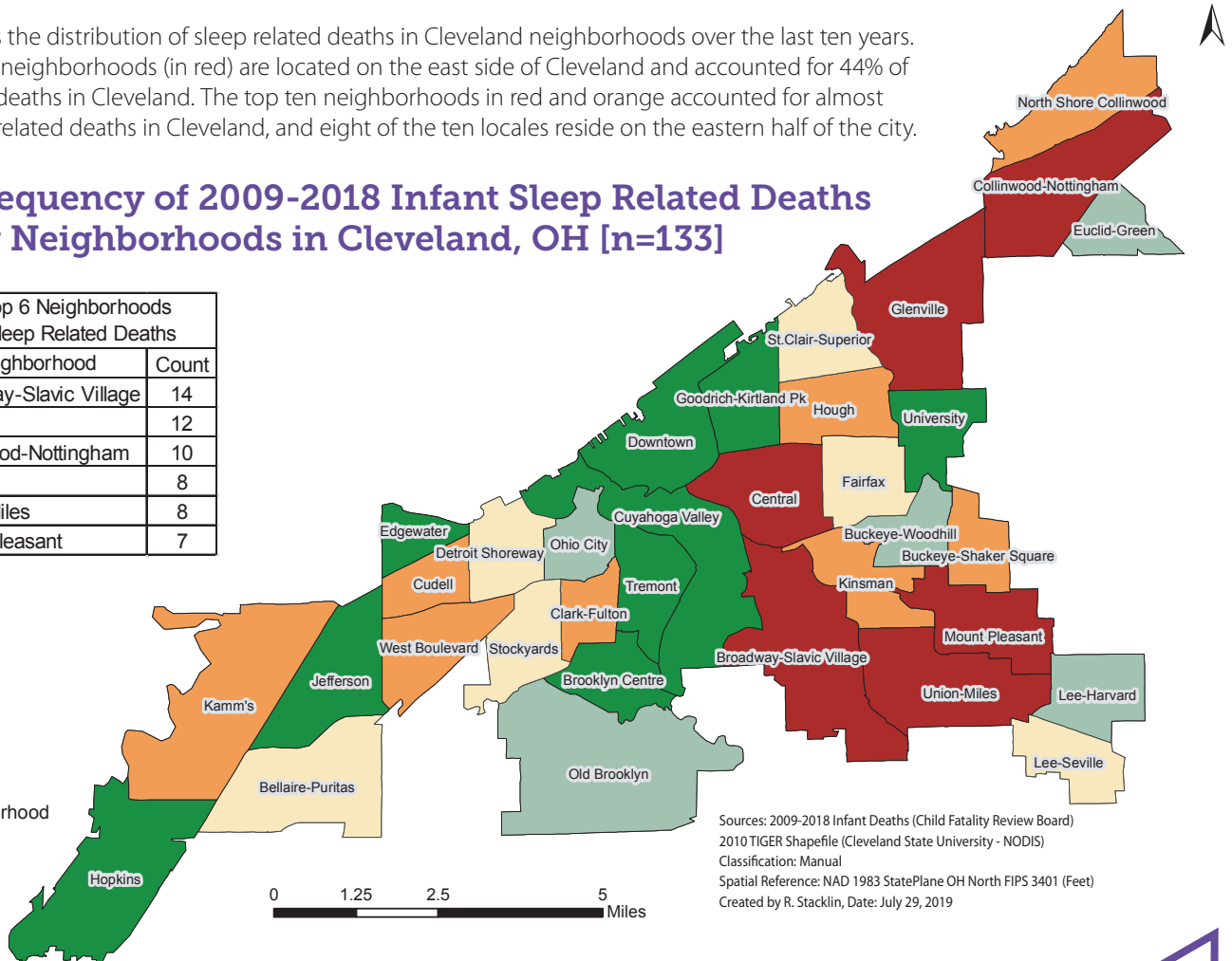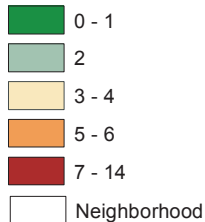
Sources: 2009-2018 Infant Deaths (Child Fatality Review Board)
2010 TIGER Shapefile (Cleveland State University - NODIS)
Classification: Manual
Spatial Reference: NAD 1983 StatePlane OH North FIPS 3401 (Feet)
Created by R. Stacklin, Date: July 29, 2019

Sleep Related Deaths

Figure 9 2009-2018 Sleep Related Deaths by Age of Infant [n=200]

Number of Infant Deaths

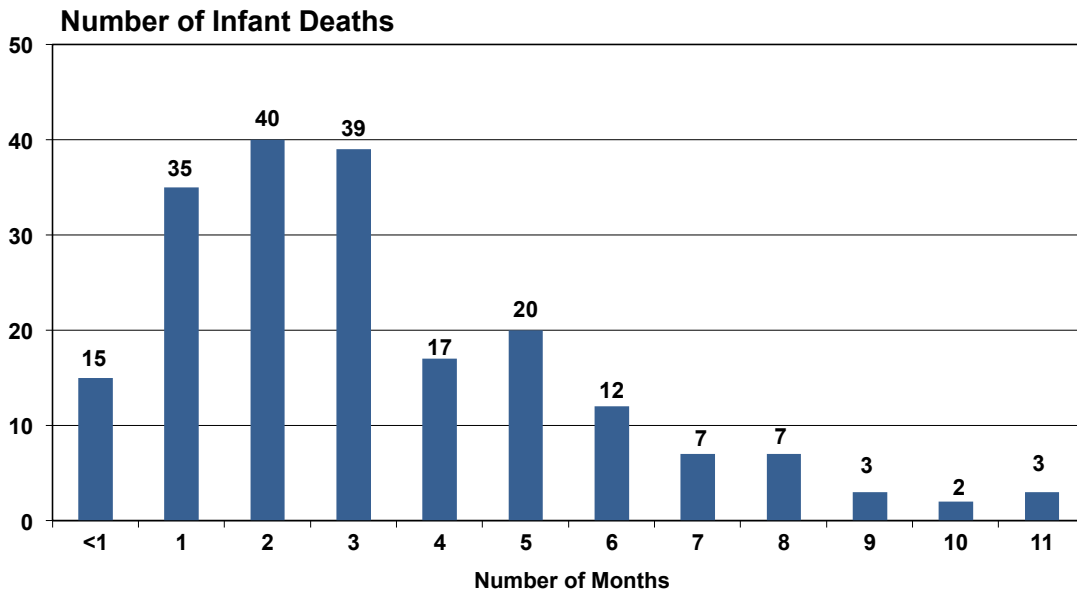| Number of Months	Deaths
<1	15
1	35
2	40
3	39
4	17
5	20
6	12
7	7
8	7
9	3
10	2
11	3

Figure 9 illustrates the age of infants when sleep related deaths occurred over a ten-year span. Nearly 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, at least 1 infant sleep related death occurred to older infants (7 to 11 months old) in each of the last ten years and 22 such deaths over the same time period.

Figure 10 2009-2018 Sleep Related Risk Factors by Neighborhood

Legend: ■ Cleveland ▢ First Ring ■ Outer Ring

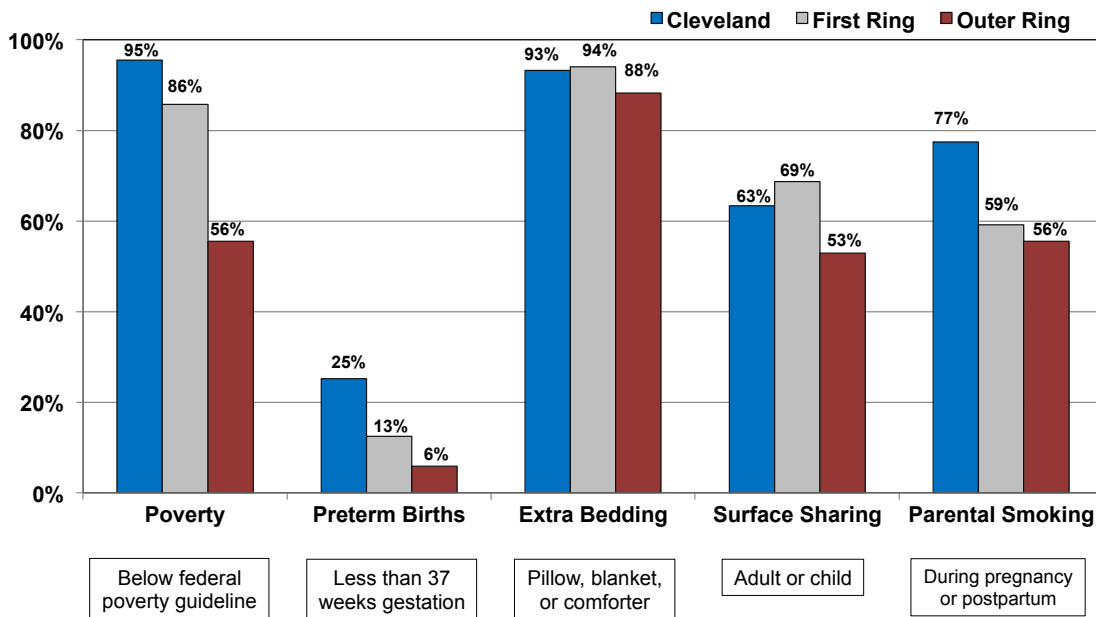| Risk Factor	Cleveland	First Ring	Outer Ring
Poverty (Below federal poverty guideline)	95%	86%	56%
Preterm Births (Less than 37 weeks gestation)	25%	13%	6%
Extra Bedding (Pillow, blanket, or comforter)	93%	94%	88%
Surface Sharing (Adult or child)	63%	69%	53%
Parental Smoking (During pregnancy or postpartum)	77%	59%	56%

Figure 10 examines the economic, environmental, and medical risk factors noted in sleep related deaths by geographic location. In the last ten years, nearly 90% of the infants who died from sleep related causes lived in poverty, and that rate increased to 98% in the last five years. Only twenty percent of infants were born prematurely, but the rate increased to 27% in the last five years. While prematurity is a noted risk factor for increasing the chance of SIDS,[37] Cuyahoga County data suggests that preterm birth is not the primary risk factor in 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 93% of all sleep related deaths, and in 94% of the deaths in the last five years. In 2018, all the infants had at least one piece of extra bedding in the sleep environment. More than 70% of the deaths had environmental smoking as a risk in the last ten years, and 84% had smoking noted in 2018, highlighting the level of risk with intrauterine and second hand smoke exposure. From 2009 to 2018, 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.*

Protecting Our Future

Sleep Related Deaths

Fast Facts

- *200 infant sleep related deaths in the last ten years.*
- *100% had poverty and extra bedding noted as risk factors in 2018.*

COMMUNITY ACTIONS

First Year Cleveland (FYC) Safe Sleep Heroes Action Team

"This team focuses on promoting safe sleep and training others to become Safe Sleep Heroes for babies in our community. Action Team 10 includes parents, grandparents, caregivers, families who have experienced loss, faith-based leaders, neighbors—anyone who cares about preventing sleep related infant deaths and promoting the best sleep practices for babies in their lives and in their community. The participants learn:

- the ABCDs of Safe Sleep.
- the stories of families who have experienced loss because of sleep related deaths.
- how to be a safe sleep advocate for their baby and babies in their community.
- how to engage and educate others on the ABCDs of Safe Sleep."

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 two receive a presentation by their DCFS worker on how to practice safe sleep.

The Cuyahoga County Board of Health (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 in need. In 2018 CCBH served almost 600 families.
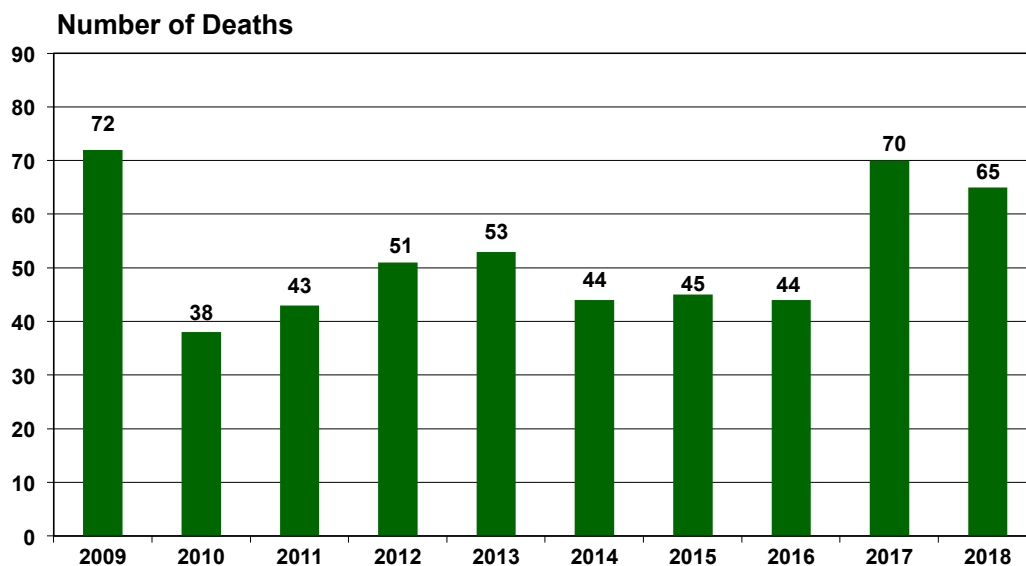
- CCBH provides safe sleep education for medical and nursing staff at maternity and pediatric hospitals. Education is also made available for family serving agencies and for staff and clients of home visiting programs.
- CCBH is providing safe sleep cards with the message, "I sleep Alone, on my Back, in an empty Crib, and Don't smoke around me". This also includes local data about sleep related deaths and a picture of a safe sleep environment. These cards continue to be distributed throughout Cuyahoga County to hospitals, home visiting programs, community centers, neighborhood clinics, churches, and family serving agencies.

Child Deaths (1 to 17 Years)

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

Sixty-five children aged 1 to 17 died in 2018, which was 5 fewer deaths than 2017 **(Figure 11)**. The 2018 county child death rate (1 to 17 years) of 25.7 per 100,000 was higher than the 2017 rates for the state of Ohio (24.0) and the United States (20.5) (most recent data available).[38-40]

Figure 11 Total Child Deaths Per Year (Ages 1 to 17)

Number of Deaths

Year	Deaths
2009	72
2010	38
2011	43
2012	51
2013	53
2014	44
2015	45
2016	44
2017	70
2018	65

In 2018, 34 injury related deaths accounted for 52% of all fatalities among 1- to 17-year-olds **(Table 10)**. The 2018 Cuyahoga County injury death rate of 13.4 per 100,000 children 1- to 17 years was lower than the 2017 rate for the state of Ohio (13.7), but was 17% higher than the rate for the United States (11.2) (most recent data available).[41-43] These injury related deaths were attributed to: homicide (11), motor vehicle accidents (7), drowning (4), fire (3), suicide (3), undetermined other (3), accident injury related (2), and poisoning (1) (Table 2). The number of children who died as a result of homicide, motor vehicle accidents, poisoning, and suicide decreased, while deaths due to accidental injury related, drowning, fire and undetermined other increased in 2018.

The number of medical related deaths (31) was the second-highest in ten years (Table 10). The causes of death included other medical causes (9), cancer (8), birth defects (6), infection (5), other perinatal complications (2), and prematurity (1) (Table 2). Cancer, infection, other medical causes, other perinatal complications, and prematurity increased in 2018.

Protecting Our Future

Unintentional Injury Deaths

Highest number of unintentional injury deaths in the last ten years.

In 2018, 29 children of all ages died as a result of unintentional injuries; the highest number in the last ten years. Of the 29 children, 20 were black (69%), 17 were male (59%) and 17 were city of Cleveland residents. The causes for the 29 unintentional injury deaths are illustrated in **Figure 12**. Twelve of the 14 accidental suffocation deaths were related to unsafe infant sleep. The 2018 rate for unintentional deaths was 10.8 per 100,000.[44] This rate was higher than the 2017 rates (most recent data available) for Ohio (8.7), and the United States (7.7).[45-46]

Case reviews revealed risk factors identified in at least 50% of these deaths include poverty (20), child suspected history of abuse/neglect or domestic violence in the home (18), parental suspected history of abuse/neglect as a child (16), and parental or child illicit drug use (15).

Figure 12 Unintentional Injury Deaths in 2018 [n=29]
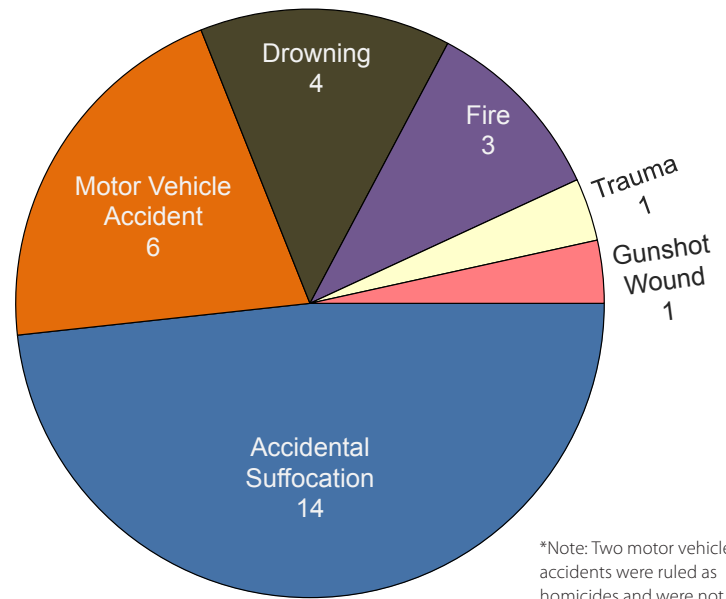
*Note: Two motor vehicle accidents were ruled as homicides and were not included.

Figure 13 Total Motor Vehicle Deaths by Age Group per Year
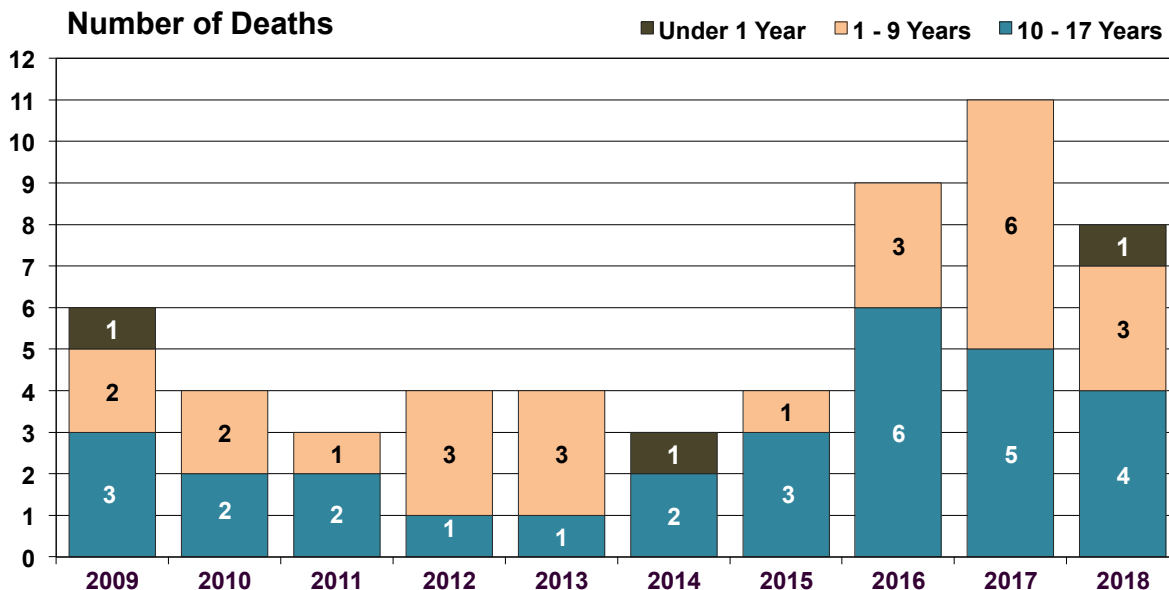
Figure 13 gives a historical perspective of the age distribution for traffic related fatalities. This year had the third-highest number of motor vehicle accidents in the last ten years. The 2018 total number of children 1-to 9 years that died tied for the second-highest in the last ten years. There was one infant death, which was the first such fatality since 2014. There were 4 deaths in the 10- to 17-year age group, which was the third-highest number in this age group in the last ten years.

Unintentional Injury Deaths

Of the 8 motor vehicle deaths, 4 were pedestrians hit by a vehicle, 3 were passengers and 1 was a driver. Two of the passengers were in cars as the drivers were fleeing police. Of the 4 pedestrian-related accidents, 2 children walked into a roadway and 2 children were in the yard/driveway when they were struck.

Cuyahoga County's rate (3.0) was slightly lower than the 2017 state of Ohio (3.4) and the national rate (3.1) (the most recent data available).[47-49] Motor vehicle accident related deaths in the state of Ohio and the US accounted for nearly 40% of all unintentional injury deaths for children of all ages.[50]

Accidental fire deaths and drownings are two other types of unintentional injuries. In 2018, Cuyahoga County had 4 drownings and 3 accidental fire deaths. In three of the four drowning deaths, lack of adequate supervision was a contributing risk factor. The Cuyahoga County child drowning death rate (1.49 per 100,000) was higher than the 2017 state of Ohio (1.27) and US rate (1.10) (most recent data available).[51-53] The three house fires did not have operational smoke detectors. The Cuyahoga County accidental fire death rate (1.12 per 100,000) was nearly three times as high as the 2017 US rate (0.38) (most recent data available).[54-56]

COMMUNITY ACTIONS

The Rainbow Injury Prevention Center teen traffic safety program focuses on key risk areas for teen drivers such as distraction, seat belt use, and inexperience. Outreach activities include: "Science of Attention", "Your Brain Behind the Wheel", and "Impact Teen Driver". In 2018, they sponsored a teen driving rodeo for teens and their parents that included an opportunity to have simulated impaired driving and distracted driving experiences. The Rainbow Injury Prevention Center is also working with local high schools to develop a policy that requires students and parents to review the Ohio Graduated Driver License Law in order to receive a school parking pass.

The Cuyahoga County Board of Health (CCBH) 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.

The Rainbow Injury Prevention Center developed a school-based program to educate elementary students about water safety. The "Swim Safe" program teaches students in K-2nd grade the basics of staying safe in and around water. The "Think, Don't Sink" program lets students in grades 3-5 learn and practice the fundamentals of pool, beach, and boating safety. In order to promote the importance of learning how to swim and prevent drowning, each year the Center participates in the "World's Largest Swimming Lesson." This event creates awareness about the importance of teaching children to swim by encouraging city pools, YMCAs, waterparks and swim schools to get as many people as possible to participate in swimming lessons within a 24-hour period on a specific date. The Center works with local organizations to encourage participation in the event and attends the events to educate parents and children on water safety. In the summer of 2019, the staff from the Rainbow Injury Prevention Center worked with the Cleveland Sports Commission to educate YMCA campers about water safety and what drowning looks like during interactive presentations in Cleveland. They also provide materials on water safety for members of the Safe Kids/Safe Communities Coalition to take into the community.

Protecting Our Future

Twelve asthma related deaths in the last four years.

From 2015 to 2018, there have been 12 children that have died to due to asthma related complications, including four in 2018. The age range was 3-to-17 years with seven deaths that occurred to children less than 10 years of age. Eight deaths were city of Cleveland residents, ten children were black and six were female. Four risk factors were noted in 50% or more of these deaths that include: poverty (9), missed doctor appointments for the child (8), non-compliance with taking asthma medications (7), and child suspected history of abuse/neglect or domestic violence in the home (6).

Emerging Trend Table A:
Asthma Related Death Demographics and Risk Factors (n=12)

Demographics	Count	Risk Factors	Count
Race		Poverty	9
Black	10	Missed Doctor Appointments	8
White	2	Asthma Medication Noncompliance	7
Sex		Suspected History of Abuse/Neglect or Domestic Violence in the Home	6
Female	6		
Male	6	Note: Asthma medication compliance information was missing for two cases.	
Neighborhood			
Cleveland	7		
First Ring	5		

Intentional Injury Deaths

Homicides and suicides both tied for the third-lowest number of deaths in the last ten years.

Intentional injury deaths include homicide and suicide. The 11 homicides in 2018 tied for the third-lowest total in the last ten years. **Figure 14** illustrates that 5 children ages 1 to 9 years, and 6 children ages 10 to 17 years, died due to homicide. This was the second-consecutive year that no infant died due to homicide. The 5 child deaths among children ages 1 to 9 years was tied for the third-highest in the last ten years.

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 the United States in 2017 (most recent data available).[57] The county child homicide rate (4.3 per 100,000) was more than twice as high as the US rate (2.0) in 2017 (most recent data available).[58-60]

Of the 11 homicide victims this year, 7 lived in the suburbs, 7 were boys and 9 were black children. The ages of the children were 1 year (1), 3 years (1), 4 years (1), 8 years (1), 9 years (1), 14 years (1), 16 years (1) and 17 years (4). All six of the homicides in the 10-17 years age group were gun related. Three of the 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 negative influence of family and/or friends (9), child suspected history of abuse/neglect or domestic violence in the home (8), poverty (7), gun access (7), and history of child abuse (7).

Figure 14 Total Child Homicide Deaths by Age Group per Year

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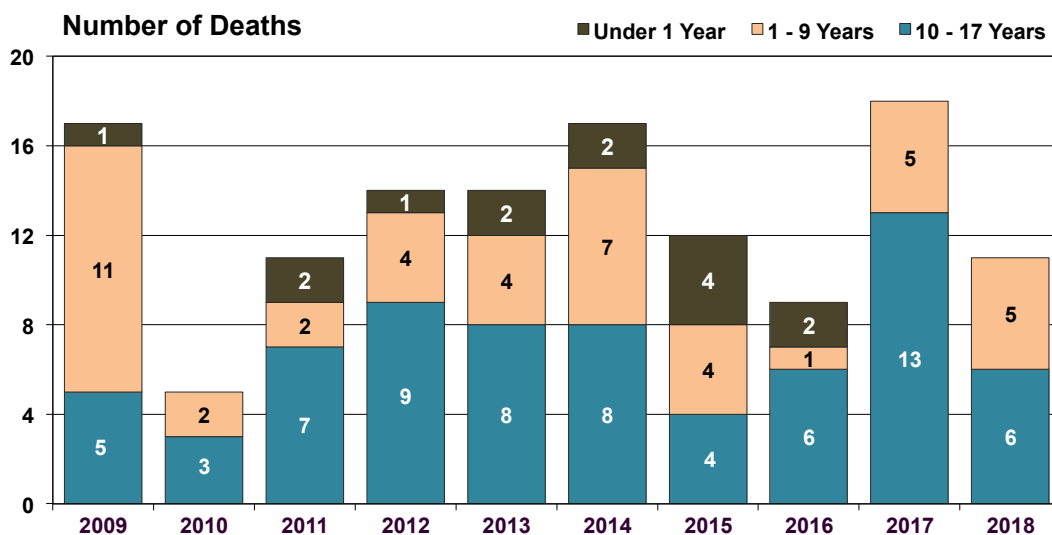
Figure 15 Total Firearm Deaths by Manner per Year

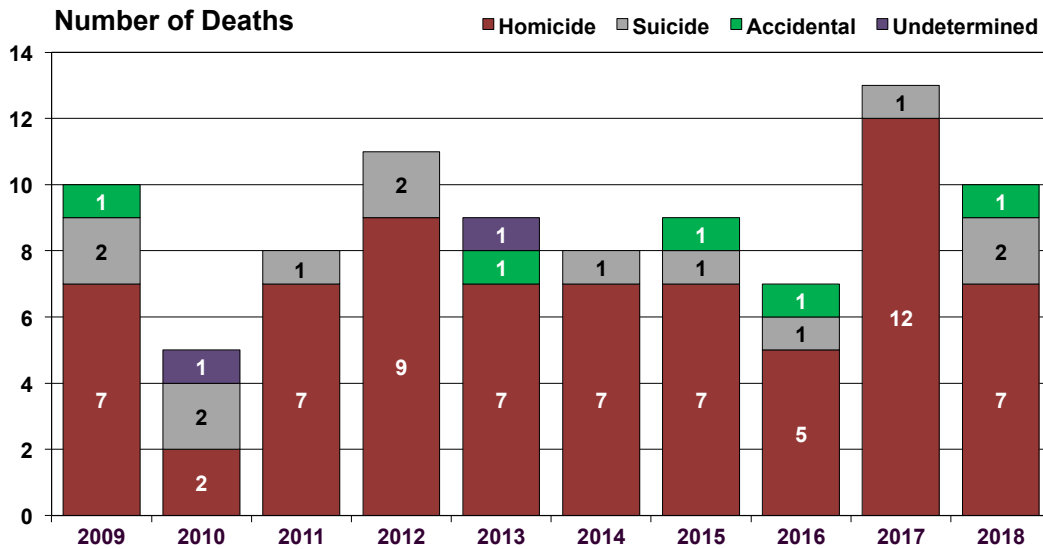**Number of Deaths**   ■ Homicide ■ Suicide ■ Accidental ■ Undetermined

Figure 15 portrays the number of firearm deaths by manner (homicide, suicide, accidental, and undetermined) over a ten-year span. In 2018 there were 10 firearm deaths, which tied for the third-highest number in the last ten years. Seven deaths were ruled as homicide, two were suicide and one was an accidental shooting. The gun related homicides and suicide were among children 9-to-17 years old, while the accidental shooting death occurred to a child under the age of five.

COMMUNITY ACTIONS

Northern Ohio Trauma System, MetroHealth Medical Center and the **Cleveland Peacemakers Alliance** have a program to use violence interrupters in the hospital to provide conflict resolution, case management, and referrals to outreach workers.

Rainbow Babies and Children's Pediatric Trauma Center started the Antifragility Initiative in collaboration with the Center on Urban Poverty and Community Development at the Mandel School of Applied Social Sciences, Cleveland Peacemakers Alliance, and Frontline Services. This is a hospital-based violence intervention program to reduce violent injury recidivism using trauma-informed care principles from bedside engagement through 12 months of holistic, person-centered care. The program also seeks to improve academic and psychological outcomes for children receiving the intervention.

The Cuyahoga County Juvenile Court opened the Intervention Center to direct youth who have been charged with lesser offenses away from the detention center and the juvenile court system. The youth will be assessed for mental health disorders and other issues. Once the needs are identified, the court will connect the youth and family to appropriate resources.

Intentional Injury Deaths

Figure 16 Total Child Suicide Deaths per Year

Number of Deaths
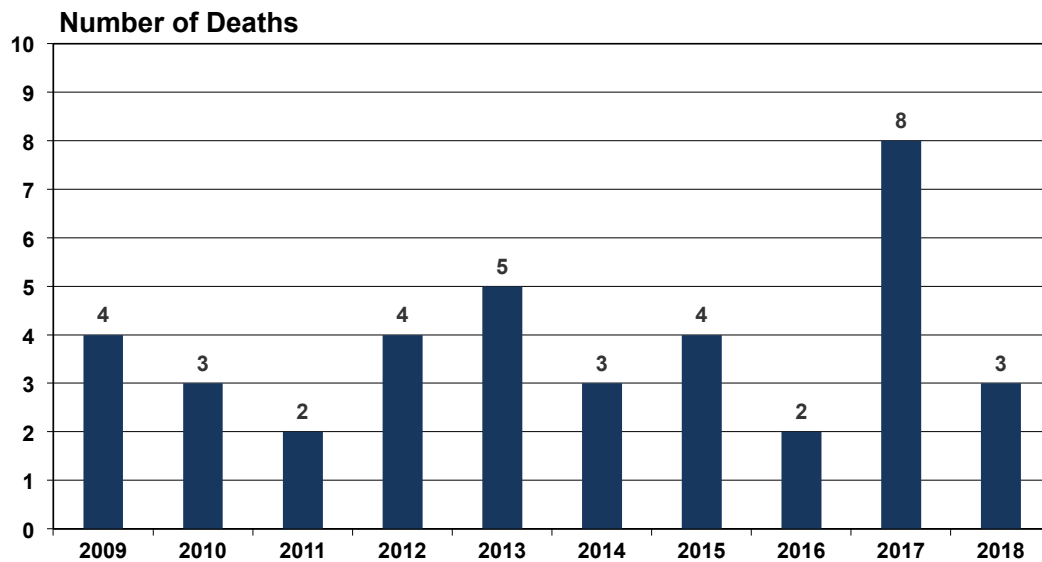
There were 3 suicides in 2018, which was five fewer deaths than in 2017 **(Figure 16)**. Two children were black and the ages ranged from 13 to 16 years old. Two suicides were self-inflicted gunshot wounds and one was by hanging.

According to the CDC, in 2017 (most recent data available), suicide was the second-leading cause of death among 10- to 17-year-olds in Ohio and the United States.[61] The Ohio rate (6.5 per 100,000) and US rate (5.3) were more than twice as high as the 2018 Cuyahoga County rate (2.4).[62-64] According to the Cuyahoga County Youth Risk Behavior Survey in 2018, about one in seven middle school students had seriously considered attempting suicide and nearly one in eleven had attempted suicide within the last year.[65]

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.

- The ADAMHS Board contracts with seven agencies to provide school-based services in multiple school districts. This program provides clinical support to school administration, teachers, parents, and students to ensure that necessary referrals and services are available.

Protecting Our Future

Child Abuse and Neglect

In 2018, there were 8 abuse or neglect related child deaths. In the last ten years, an average of 7 children per year died due to child abuse or neglect **(Figure 17)**. The national rate for child fatalities due to abuse or neglect was 2.32 per 100,000 children (federal fiscal year 2017 [October 2016 – September 2017]).[66] This rate is significantly lower than the 2018 county child abuse or neglect fatality rate of 3.0.[67]

Of the 8 child abuse or neglect victims, 5 were residents of the suburbs, 5 were males and 5 were black. The ages ranged from 5 months to 17 years old, with 7 of the deaths occurring to children 4 years of age or younger. Of the 3 neglect cases, 2 were due to lack of supervision and 1 involved a child ingesting medication and/or illicit drugs. All 5 of the abuse cases were ruled as homicides. The risk factors most often found in the 8 abuse and neglect related deaths included parent of the victim had a mental illness (5) poverty (5), suspected history of neglect or abuse to a victim's parent as a child (5), and history of neglect or abuse to a victim's parent as a child (4).

Figure 17 Child Deaths Due to Abuse and Neglect
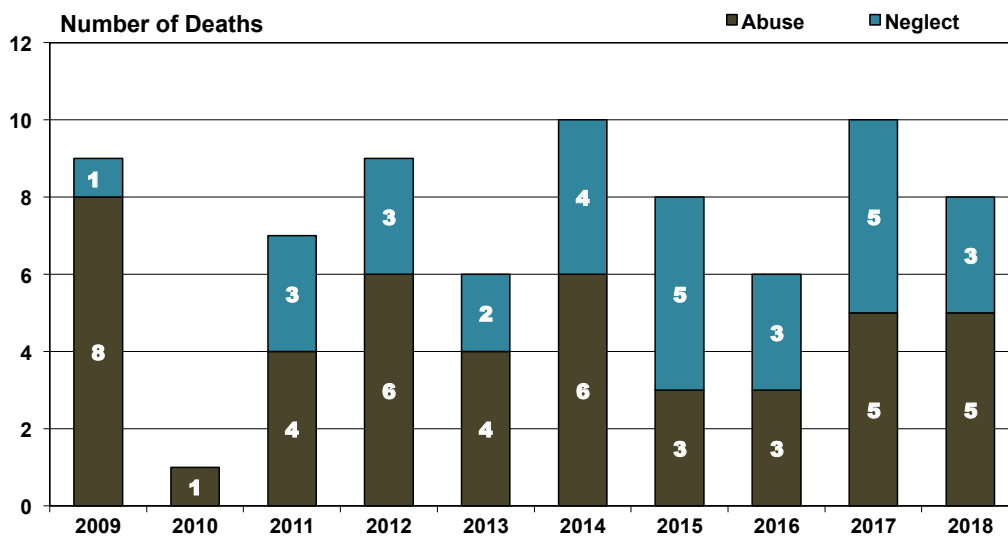
COMMUNITY ACTIONS

The Special Investigation Unit at the **Division of Children & Family Services (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.

- New strategies were developed including an agency-wide campaign to identify, engage, and involve fathers called "DadsMatter2".

- A new intake process was established for children 5 years old and younger that includes an assessment tool.

- DCFS provided monthly "Community Forums" and "In Your Neighborhood" events to educate and respond to the public's questions and concerns.

- 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.

Data Tables

Table 6 Demographic Profiles and Cause Specific Rates

	2013-2017 Census Data[1]	
	Population Under 18 Years	Percent of Population Under 18
Cuyahoga County (Total)	267,791	21
Cuyahoga County (Black)	95,070	26
Cuyahoga County (White)	140,849	18
City of Cleveland	88,912	23

Annual Birth Data[2]	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Cuyahoga County	15,525	15,108	14,993	14,783	14,920	15,079	14,843	14,747	14,558	13,872
% Black non-Hispanic	38.3	38.6	38.4	38.7	38.8	37.8	38.0	38.1	38.8	37.7
% Hispanic	5.9	6.2	6.3	6.5	6.3	6.5	6.6	6.9	7.3	7.4
% White non-Hispanic	51.7	50.6	50.4	49.7	49.9	50.3	50.2	49.6	48.7	49.9

Annual Death Data	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Annual Child Deaths	213	178	187	182	186	165	200	172	188	185
Annual Infant Deaths	141	140	144	131	133	121	155	128	118	120
% Deaths to Infants	66.2	78.7	77.0	72.0	71.5	73.3	77.5	74.4	62.8	64.9

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Child Mortality/ 100,000 Children	61.2	61.3	64.4	68.0	69.5	61.6	68.9	62.5	69.2	69.1
Annual Total Medical Death Rate	42.8	46.5	49.3	46.5	47.5	40.7	50.3	45.4	44.9	47.1
Cancer	2.6	1.7	1.4	2.1	1.4	1.7	1.7	1.1	0.7	3.0
Annual Total Injury Death Rate	18.4	14.8	15.2	15.2	16.5	16.5	18.6	17.1	24.3	22.0
Homicide	4.9	1.7	3.8	4.8	4.8	5.9	4.1	3.3	6.6	4.1
Motor Vehicle Accident	1.7	1.4	1.0	1.4	1.4	0.7	1.0	3.3	4.1	3.0
Fire	0.9	0.0	0.3	0.3	0.3	0.0	0.0	0.0	0.7	1.1
Drowning	1.7	0.0	0.7	0.7	1.4	0.3	1.0	0.4	0.7	1.5
Suicide[3]	1.2	1.1	0.7	1.5	1.8	1.1	1.5	0.8	3.1	1.2

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Infant Mortality/ 1,000 Births	9.1	9.3	9.6	8.9	8.9	8.0	10.4	8.7	8.1	8.7
Neonatal Mortality/ 1,000 Births	6.5	6.4	6.4	6.5	6.7	6.2	7.3	6.1	6.0	5.9
Postneonatal Mortality/ 1,000 Births	2.6	2.9	3.2	2.4	2.2	1.8	3.2	2.6	2.1	2.8
Prematurity	5.5	5.2	5.3	5.1	5.5	5.5	5.9	4.7	5.6	4.4
SIDS Only	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
SIDS and Sleep Related	1.3	1.9	1.3	1.2	1.1	1.1	1.8	1.4	0.9	1.4

[1] 2018 rates use 2013-2017 U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates, 2017 (2012-2016 5-Year Estimates) & 2016 (2011-2015 5-Year Esimates). 2011-2015 rates use 2010 U.S. census data & 2009 rates use 2000 census data.

[2] Ohio Department of Health, Ohio Public Health Information Warehouse. Available online at https://odhgateway.odh.ohio.gov/EDWS/ DataCatalog (accessed July 02, 2019).

[3] Suicide rate is for children 1-to-17 years. 2009-2015 rates recalculated to remove infants from calculation.

Protecting Our Future

Table 7 Cause of Death by Age Group and Year

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total per Cause
Prematurity											**782**
Under 1 Year	85	79	80	76	82	76	87	69	82	61	
1 - 9 Years	1	0	1	0	1	0	0	0	0	1	
10 - 17 Years	0	0	0	1	0	0	0	0	0	0	
Birth Defect											**299**
Under 1 Year	28	20	35	25	23	13	21	22	12	23	
1 - 9 Years	6	5	2	9	9	2	4	4	4	3	
10 - 17 Years	3	4	2	1	3	3	1	4	5	3	
SIDS and Sleep Related Deaths											**200**
Under 1 Year	20	28	19	18	16	19	27	21	13	19	
Cancer and Other Medical Conditions											**262**
Under 1 Year	5	13	7	10	10	9	15	13	6	11	
1 - 9 Years	16	6	11	11	7	5	11	5	8	14	
10 - 17 Years	9	8	5	5	3	10	6	8	5	10	
Homicide											**128**
Under 1 Year	1	0	2	1	2	2	4	2	0	0	
1 - 9 Years	11	2	2	4	4	7	4	1	5	5	
10 - 17 Years	5	3	7	9	8	8	4	6	13	6	
Suicide											**38**
1 - 9 Years	0	0	0	0	0	0	0	0	0	0	
10 - 17 Years	4	3	2	4	5	3	4	2	8	3	
Motor Vehicle Accident											**54**
Under 1 Year	1	0	0	0	0	1	0	0	0	1	
1 - 9 Years	2	2	1	3	3	0	0	3	6	3	
10 - 17 Years	3	2	2	1	1	1	3	6	5	4	
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	1	0	0	0	0	0	0	0	0	
Drowning											**25**
Under 1 Year[1]	0	0	0	1	0	0	0	0	1	0	
1 - 9 Years	2	0	1	1	3	0	2	0	0	0	
10 - 17 Years	4	0	1	0	1	1	1	1	1	4	
Fire											**11**
Under 1 Year	1	0	0	0	0	0	0	0	0	0	
1 - 9 Years	2	0	1	1	1	0	0	0	2	3	
10 - 17 Years	0	0	0	0	0	0	0	0	0	0	
Other Accidents[2]											**56**
Under 1 Year	0	0	1	0	0	1	1	1	4	5	
1 - 9 Years	2	1	4	1	3	4	4	2	6	4	
10 - 17 Years	2	1	1	0	1	0	1	2	2	2	
Total per Year	**213**	**178**	**187**	**182**	**186**	**165**	**200**	**172**	**188**	**185**	**1,856**

[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 Infant Deaths by Ethnicity or Race

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Black non-Hispanic	94	96	94	82	84	82	104	82	88	78	**884**
Hispanic	12	6	6	11	11	4	9	7	9	11	**86**
White non-Hispanic	34	37	42	37	36	34	41	35	20	31	**347**
Subtotal	**140**	**139**	**142**	**130**	**131**	**120**	**154**	**124**	**117**	**120**	**1,317**
All Other Races	1	1	2	1	2	0	1	3	1	0	**12**
Missing Race Info	0	0	0	0	0	1	0	1	0	0	**2**
Total	**141**	**140**	**144**	**131**	**133**	**121**	**155**	**128**	**118**	**120**	**1,331**
Rates of Death											
Black non-Hispanic Infant Mortality / 1,000 Births[1]	15.8	16.5	16.3	14.3	14.5	14.4	18.5	14.6	15.6	14.9	**15.5**
Hispanic Infant Mortality / 1,000 Births[2]	13.1	6.4	6.3	11.4	11.7	4.1	9.2	6.9	8.5	10.7	**8.8**
White non-Hispanic Infant Mortality / 1,000 Births[3]	4.2	4.8	5.6	5.0	4.8	4.5	5.5	4.8	2.8	4.5	**4.7**
Ratio of Black to White IMR	3.8	3.4	2.9	2.9	3.0	3.2	3.4	3.0	5.6	3.3	**3.3**

[1]Total Infant Black non-Hispanic deaths/total Black non-Hispanic live births x 1,000 (annual birth rate in Table 6)
[2]Total Hispanic deaths/total Hispanic live births x 1,000 (annual birth data in Table 6)
[3]Total Infant White non-Hispanic deaths/total White non-Hispanic live births x 1,000 (annual birth data in Table 6)

Table 9 Annual Number of Child Deaths by Race and Age Group

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Race and Age Group											
Black											
Under 1 Year	96	99	97	84	86	83	107	83	89	80	**904**
1 - 9 Years	23	12	12	17	25	10	15	9	17	21	**161**
10 - 17 Years	18	7	14	14	13	16	10	16	23	19	**150**
Total	**137**	**118**	**123**	**115**	**124**	**109**	**132**	**108**	**129**	**120**	**1,215**
White											
Under 1 Year	43	40	45	46	45	37	47	40	28	40	**411**
1 - 9 Years	19	4	11	13	6	8	9	6	13	12	**101**
10 - 17 Years	12	13	6	7	9	9	9	12	16	12	**105**
Total	**74**	**57**	**62**	**66**	**60**	**54**	**65**	**58**	**57**	**64**	**617**
Other											
Under 1 Year	2	1	2	1	2	0	1	4	1	0	**14**
1 - 9 Years	0	0	0	0	0	0	1	0	1	0	**2**
10 - 17 Years	0	2	0	0	0	1	1	1	0	1	**6**
Total	**2**	**3**	**2**	**1**	**2**	**1**	**3**	**5**	**2**	**1**	**22**
Missing Race Info	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**2**
Rates of Death											**Average**
Black Crude Death Rate[1]	112.2	110.8	115.5	108.0	116.4	102.4	124.0	109.5	132.1	125.2	**115.6**
White Crude Death Rate[2]	36.8	36.9	40.1	42.7	38.8	34.9	42.0	39.0	39.6	45.4	**39.6**
Ratio of Black to White	3.1	3.0	2.9	2.5	3.0	2.9	2.9	2.8	3.3	2.8	**2.9**
Black Death Rate (excl Infants)[3]	35.4	18.9	25.8	30.8	37.8	25.8	24.8	26.9	43.5	44.5	**31.4**
White Death Rate (excl Infants)[4]	16.1	11.6	11.6	13.6	10.2	11.6	12.2	12.8	21.3	17.9	**13.9**
Ratio of Black to White (excl Infants)	2.2	1.6	2.2	2.3	3.7	2.2	2.0	2.1	2.0	2.5	**2.3**

[1] Total Black deaths/95,070 x 100,000 (2013-2017 census data)
[2] Total White deaths/140,849 x 100,000 (2013-2017 census data)
[3] Total Black deaths (exclude Infants)/95,070 minus Black live births x 100,000 (2013-2017 census data
[4] Total White deaths (exclude Infants)/140,849 minus White live births x 100,000 (2013-2017 census data)

Protecting Our Future

Table 10 Annual Number of Child Deaths Due to Injury and Medical Causes by Age Group

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Total Injury Related Deaths											
Under 1 Year	27	28	22	20	18	23	31	24	18	25	**236**
1 - 9 Years	19	5	9	10	14	11	10	6	19	15	**118**
10 - 17 Years	18	10	13	14	16	13	13	17	29	19	**162**
Total	**64**	**43**	**44**	**44**	**48**	**47**	**54**	**47**	**66**	**59**	**516**
Total Deaths from Medical Causes											
Under 1 Year	114	112	122	111	115	98	124	104	100	95	**1,095**
1 - 9 Years	23	11	14	20	17	7	15	9	12	18	**146**
10 - 17 Years	12	12	7	7	6	13	7	12	10	13	**99**
Total	**149**	**135**	**143**	**138**	**138**	**118**	**146**	**125**	**122**	**126**	**1,340**
TOTAL ALL CAUSES	**213**	**178**	**187**	**182**	**186**	**165**	**200**	**172**	**188**	**185**	**1,856**

NOTE: Injury related deaths include sleep related accidental suffocation and "undetermined" deaths of infants, but not SIDS deaths.
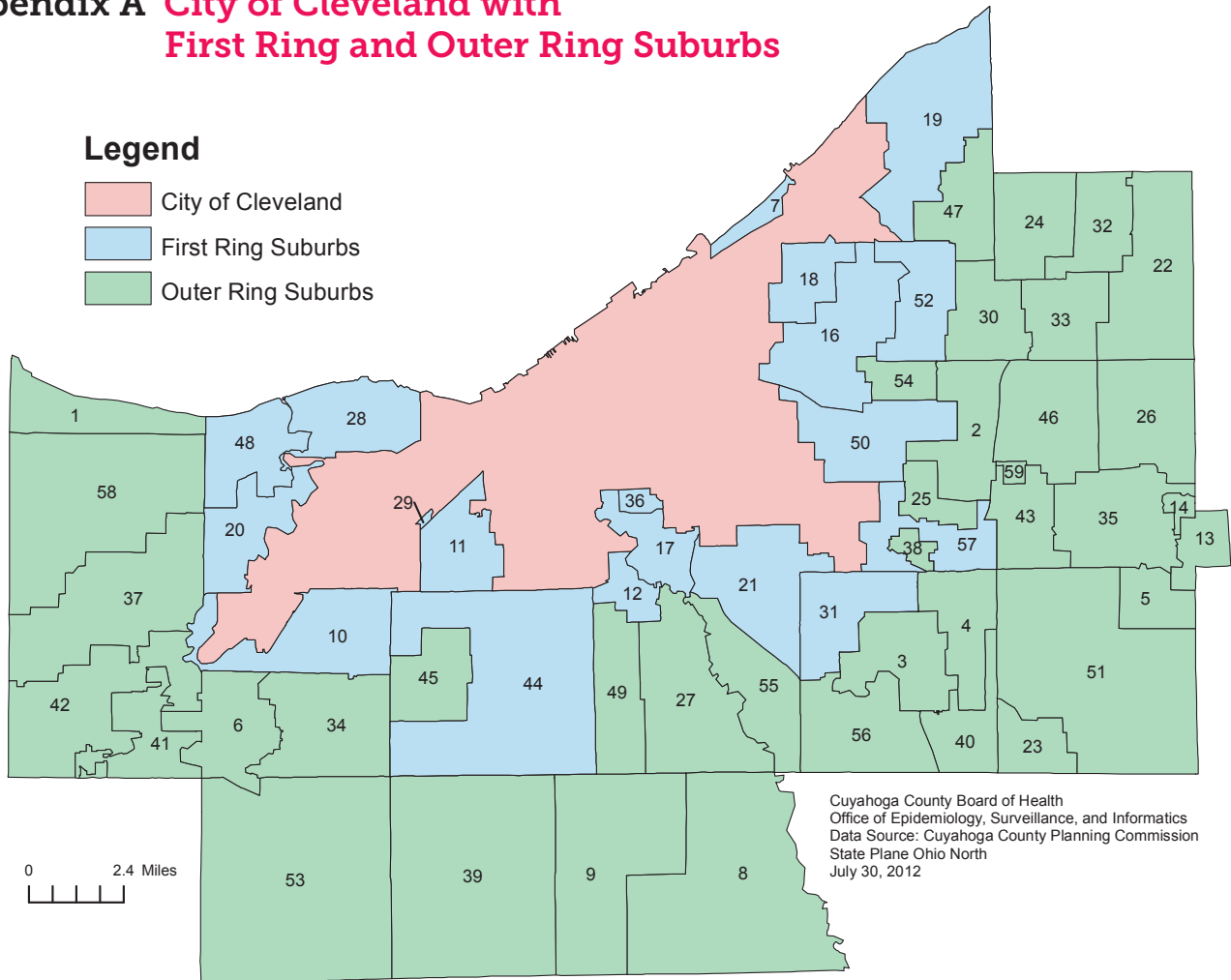
Table 11 Annual Number of Child Deaths by Sex and Age Group

	2009	2010	2011*	2012*	2013	2014*	2015	2016	2017	2018	Total
Sex and Age Group											
Female											
Under 1 Year	67	69	63	52	64	49	70	57	52	43	**586**
1 - 9 Years	16	10	11	18	15	10	6	8	13	17	**124**
10 - 17 Years	15	7	5	10	8	10	7	11	9	7	**89**
Total	**98**	**86**	**79**	**80**	**87**	**69**	**83**	**76**	**74**	**67**	**799**
Male											
Under 1 Year	74	71	81	78	69	71	85	71	66	77	**743**
1 - 9 Years	26	6	11	12	16	8	19	7	18	16	**139**
10 - 17 Years	15	15	15	11	14	16	13	18	30	25	**172**
Total	**115**	**92**	**107**	**101**	**99**	**95**	**117**	**96**	**114**	**118**	**1,054**
TOTAL ALL	**213**	**178**	**186**	**181**	**186**	**164**	**200**	**172**	**188**	**185**	**1,853**

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

Appendix A City of Cleveland with First Ring and Outer Ring Suburbs

Legend

- City of Cleveland
- First Ring Suburbs
- Outer Ring Suburbs

Cuyahoga County Board of Health
Office of Epidemiology, Surveillance, and Informatics
Data Source: Cuyahoga County Planning Commission
State Plane Ohio North
July 30, 2012

0   2.4 Miles

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				

Protecting Our Future

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 at 20 weeks or more gestation.

Figure 1 Number of Fetal Deaths in Cuyahoga County (2015-2018) [n=439]
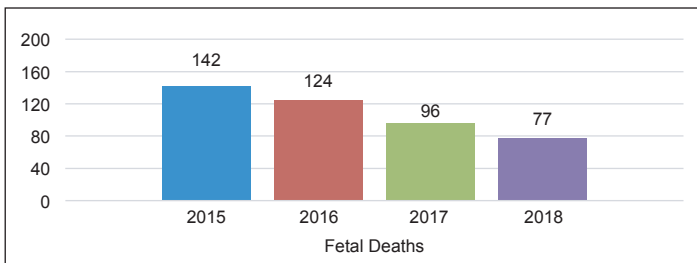
Figure 1 shows in 2018 there was a 45.8% decrease in fetal deaths as compared to 2015. The 2018 Cuyahoga County fetal mortality rate (FMR) was 5.5 per 1,000 live births plus fetal deaths.

Figure 2 Gestational Age of Fetal Deaths (2015-2018) [n=439]
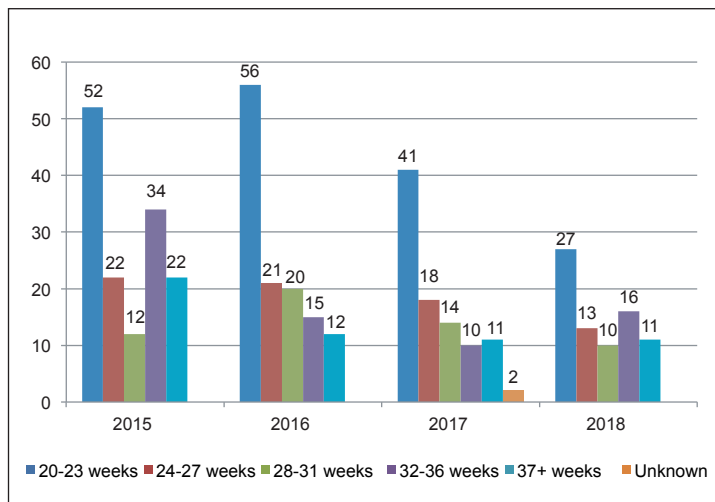
Figure 2 shows the gestational age of all fetal deaths in 2015-2018. This indicates 40.0% of fetal deaths occurred before the age of viability (24 weeks gestation), but 59.5% of fetal deaths were at 24 weeks or later. Looking closer, 42.6% of fetal losses occurred in the third trimester (beginning at 28 weeks), a time when babies have a high survival rate.

Figure 3 Fetal Deaths by Race of the Mother (2015-2018) [n=439]
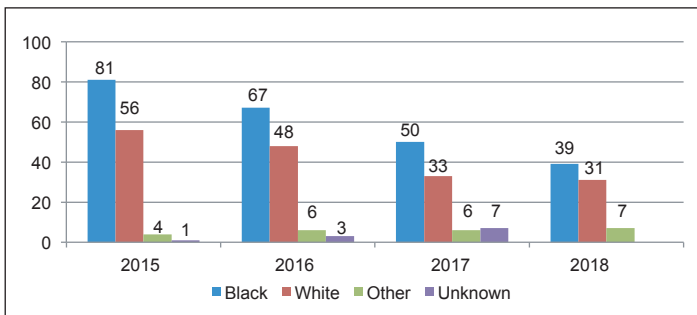
Figure 3 illustrates the fetal deaths by race in Cuyahoga County. In 2018, black women (FMR = 7.3) are more likely to experience a fetal loss than white women (FMR = 4.1).

2014-2018 Program Progress:

- Over 950 family support letters were mailed to parents in Cuyahoga County that experienced a fetal/infant loss. The mailings included a county-wide resource brochure that the program developed.

- 35 family interviews were conducted.

- 18 FIMR Case Review Team (CRT) meetings have been convened in which 55 cases have been reviewed and recommendations were developed **(Table 1)**.

- Over 15 FIMR Community Action Team (CAT) meetings have been convened. The role of CAT is to prioritize recommendations, develop solutions, execute action plans, and monitor progress. Each year, the CAT chooses two CRT recommendations to implement **(Table 2)**.

Table 1 FIMR Reviewed Cases

Demographics in 2014-2018	
Type of Loss	
Fetal	32
Infant	23
Insurance	
Medicaid	31
Private	24
Mother's Race*	
Black	24
White	24

* 2 Moms were of Hispanic ethnicity and
  5 Moms were Other.

Table 2 2018 FIMR Community Action Team Action Plan

CRT Recommendation	Solutions(s)	Local Action(s)
Promote good patient/provider communication including when to go to the hospital due to symptoms.	Present FIMR Patient Data to local providers.	Grand Rounds Presentations are scheduled for the fall of 2018 at all labor and delivery hospitals.
	Educate patients on when to go to the hospital for symptoms and which hospitals have labor and delivery services.	A health literacy wallet card was created to be widely disseminated.
Improve access to labor and delivery hospital care for pregnant moms in the southeast part of Cuyahoga County (44125, 44128, 44137, 44139, & 44146 zip codes).	Increase Labor and Delivery Hospital services in the southeast part of Cuyahoga County while educating patients on where to best seek services.	Information has been presented at local policy decision making committees and action steps are pending. A health literacy wallet card was created to educate patients on location of labor and delivery hospitals.

Protecting Our Future

Footnotes

Suggested citation

The Cuyahoga County Child Fatality Review Board. Protecting our future: Child fatalities for 2018 (22nd ed.). (2019) Cuyahoga County, Ohio.

Footnotes

1   US Census Bureau. 2018 TIGER/Line Shapefiles: US County Subdivisions. Available online at https://www.census.gov/cgi-bin/geo/shapefiles/index.php (accessed June 25, 2019).

2   Ohio Department of Health (ODH), Center for Public Health Statistics and Informatics. Preliminary 2018 Ohio child mortality data (received July 26, 2018). The Department specifically disclaims responsibility for any analyses, interpretations, or conclusions.

3   US Census Bureau. 2013-2017 American Community Survey (ACS) 5-year estimates. Available online at http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml (accessed July 17, 2019).

4   US Census Bureau. 2018 Population estimates. Available online at http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml (accessed July 25, 2019).

5   The Cuyahoga County Child Fatality Review Board. Protecting our future: Child fatalities for 2017 (21st ed.). (2018). Available online at http://protectingourfuture.cuyahogacounty.us/en-US/annual-reports.aspx (accessed July 15, 2019).

6   Ibid.

7   Franklin County Child Fatality Review. 2017 Child and infant deaths (received July 17, 2019).

8   Hamilton County Child Fatality Review. 2017 Child and infant deaths (received July 30, 2019).

9   Montgomery County Child Fatality Review Board. 2017 Child and infant deaths (received July 19, 2019).

10 Summit County Child Fatality Review. 2017 Child and infant deaths (received July 16, 2019).

11 ODH, Center for Public Health Statistics and Informatics. 2017 Ohio child and infant death data (received July 29, 2019).

12 ODH, Deaths to Ohio Infants, 2017. Columbus, OH: ODH. 2018. Available online at https://odh.ohio.gov/wps/portal/gov/odh/know-our-programs/infant-and-fetal-mortality/reports (accessed July 25, 2019).

13 Ely DM, Driscoll AK. Infant Mortality in the United States, 2017: Data from the period linked birth/infant death file. National Vital Statistics Reports, vol 68 no 10. Hyattsville, MD: National Center for Health Statistics. Available online at https://www.cdc.gov/nchs/data/nvsr/nvsr68/nvsr68_10-508.pdf (accessed August 19, 2019).

14 US Census Bureau. 2018 TIGER/Line Shapefiles: Census Tracts. Available online at https://www.census.gov/cgi-bin/geo/shapefiles/index.php (accessed June 25, 2019).

15 US Census Bureau. 2013-2017 Population estimates, July 17, 2019.

16 Ibid.

17 US Department of Health and Human Services (HHS). The 2018 HHS poverty guidelines. Available online at https://aspe.hhs.gov/2018-poverty-guidelines (accessed August 22, 2019).

18 ODH, Center for Public Health Statistics and Informatics. Data on 2018 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. (accessed July 10, 2019).

19 Ibid.

20 ODH, Center for Public Health Statistics and Informatics, July 26, 2018.

21 Centers for Disease and Prevention (CDC), National Center for Health Statistics. 2018 National provisional data from the National Vital Statistics System. Available online at https://www.cdc.gov/nchs/nvss/vsrr/provisional-tables.htm (accessed August 22, 2019).

22 Cleveland State University (CSU), Northern Ohio Data and Information Service (NODIS). 2010 TIGER/Line Shapefile: 2012 city of Cleveland neighborhoods. (received October 1, 2013).

23 US Census Bureau. 2018 TIGER/Line Shapefiles, June 25, 2019.

24 ODH, Center for Public Health Statistics and Informatics, July 10, 2019.

25 Ibid.

26 Ibid.

27 Ibid.

28 Ibid.

29 Ibid.

30 The Cuyahoga County Child Fatality Review Board, July 15, 2019.

31 ODH, Center for Public Health Statistics and Informatics, July 10, 2019.

32 Ibid.

33 Martin JA, Hamilton BE, Osterman MJK. Births in the United States, 2018. NCHS Data Brief, no 346. Hyattsville, MD: National Center for Health Statistics. 2019. Available online at https://www.cdc.gov/nchs/products/databriefs/db346.htm (accessed August 23, 2019).

34 ODH, Center for Public Health Statistics and Informatics, July 10, 2019.

35 Ibid.

36 Ibid.

37 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).

38 US Census Bureau. 2013-2017 Population estimates, July 17, 2019.

39 US Census Bureau. 2017 Population estimates. Available online at http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml (accessed July 25, 2019).

40 CDC, WISQARS, Fatality injury reports, 1999-2017, for national, regional, and states (restricted). Available online at https://webappa.cdc.gov/cgi-bin/broker.exe (accessed July 30, 2019).

41 US Census Bureau. 2013-2017 Population estimates, July 17, 2019.

42 US Census Bureau. 2017 Population estimates, July 25, 2019.

43 CDC, WISQARS, July 26, 2019.

44 US Census Bureau. 2013-2017 Population estimates, July 17, 2019.

45 US Census Bureau. 2017 Population estimates, July 25, 2019.

46 CDC, WISQARS, July 26, 2019.

47 Ibid.

48 US Census Bureau. 2013-2017 Population estimates, July 17, 2019.

49 US Census Bureau. 2017 Population estimates, July 25, 2019.

50 CDC, WISQARS, July 26, 2019.

51 US Census Bureau. 2013-2017 Population estimates, July 17, 2019.

52 US Census Bureau. 2017 Population estimates, July 25, 2019.

53 CDC, WISQARS, July 26, 2019.

54 US Census Bureau. 2013-2017 Population estimates, July 17, 2019.

55 US Census Bureau. 2017 Population estimates, July 25, 2019.

56 CDC, WISQARS, July 26, 2019.

57 Ibid.

58 US Census Bureau. 2013-2017 Population estimates, July 17, 2019.

59 US Census Bureau. 2017 Population estimates, July 25, 2019.

60 CDC, WISQARS, July 26, 2019.

61 Ibid.

62 US Census Bureau. 2013-2017 Population estimates, July 17, 2019.

63 US Census Bureau. 2017 Population estimates, July 25, 2019.

64 CDC, WISQARS, July 26, 2019.

65 Prevention Research Center for Healthy Neighborhoods. 2018 Cuyahoga County Youth Risk Behavior Survey: Trend data. Available online at (accessed August 30, 2019).

66 HHS, Administration for Children and Families, Children's Bureau. Child maltreatment 2017. (2019). Available online at https://www.acf.hhs.gov/cb/research-data-technology/ statistics-research/child-maltreatment (accessed August 30, 2019).

67 US Census Bureau. 2013-2017 Population estimates, July 17, 2019.

Protecting Our Future

Review Board Membership

Cuyahoga County Child Fatality Review Board Membership 2018

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Board Chairperson

Allison Apel, LSW
Cuyahoga County Div. of
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http://protectingourfuture.cuyahogacounty.us