

Child Fatalities 2010

Protecting Our Future

The Cuyahoga County Child Fatality Report
Fourteenth Edition



The Cuyahoga County Child Fatality Review Committee

Edward FitzGerald

Cuyahoga County Executive





*We dedicate this report to all the families
who mourn the death of their child.*

*The community honors their memory
by pledging itself to a course of action that strives
to prevent the death of another.*

Infant – A person under 1 year of age.

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

Cause of Death – Event that causes a physical problem, no matter how brief or prolonged, 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.

All Other Races – A person who does not have ancestry in any of the original peoples of Europe, the Middle East, or North Africa. It includes people who indicate their race is not “White” or report entries such as Black or African American, American Indian or Alaska Native, Asian, and Native Hawaiian or Other Pacific Islander.

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

Example: The infant death rate is expressed as the number of deaths that occurred among infants 1 to 364 days old who were born alive during a given year divided by the number of live births that occurred in the same year multiplied by 1,000. Therefore, if 200 infants died during 2009 and there were 16,000 live births during the same year, the infant death rate would be 12.5 per 1,000 live births (calculated by taking 200 divided by 16,000 and multiplying by 1,000).

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

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

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

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

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

Inner Ring Suburbs of Cleveland – Municipalities whose borders touch some portion of the city of Cleveland. See Map 5 in data tables section.

Outer Ring Suburbs of Cleveland – Municipalities whose borders don’t touch some portion of the city of Cleveland. See Map 5 in data tables section.

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There were 178 child deaths in 2010, lowest total number of deaths in 20 years.

In 2010 we saw the lowest number of child deaths in the county in 20 years. The large decrease in deaths for children between 1 and 9 years old accounted for the majority of the decrease compared to 2009. The total number of child deaths for 2010 included 140 infants, 16 children between 1 and 9 years old, and 22 children between 10 and 17 years old.

Table 1 shows the number of deaths by age group since 2001.

One fewer infant died in 2010

Birth defects accounted for the largest decrease in infant deaths (from 28 in 2009 to 20 in 2010). Other leading causes of death in infants that also decreased included prematurity, homicide, cancer, fire, and motor vehicle accidents. Other medical causes of death saw a 250% increase (from 2 in 2009 to 7 in 2010) and sleep related fatalities had a 40% increase (from 20 in 2009 to 28 in 2010).

Twenty-six fewer deaths to children between 1 and 9 years

Sixteen children between 1 and 9 years of age died in 2010, which is the lowest total for this age group in the last twenty years. Deaths in every category in this age group decreased in 2010, and the largest drop occurred in homicides as the number decreased from 11 in 2009 to 2 in 2010. No deaths due to prematurity, drowning, fire, poisoning, undetermined medical cause, and undetermined injury related occurred in 2010.

Eight fewer deaths in children between 10 and 17 years

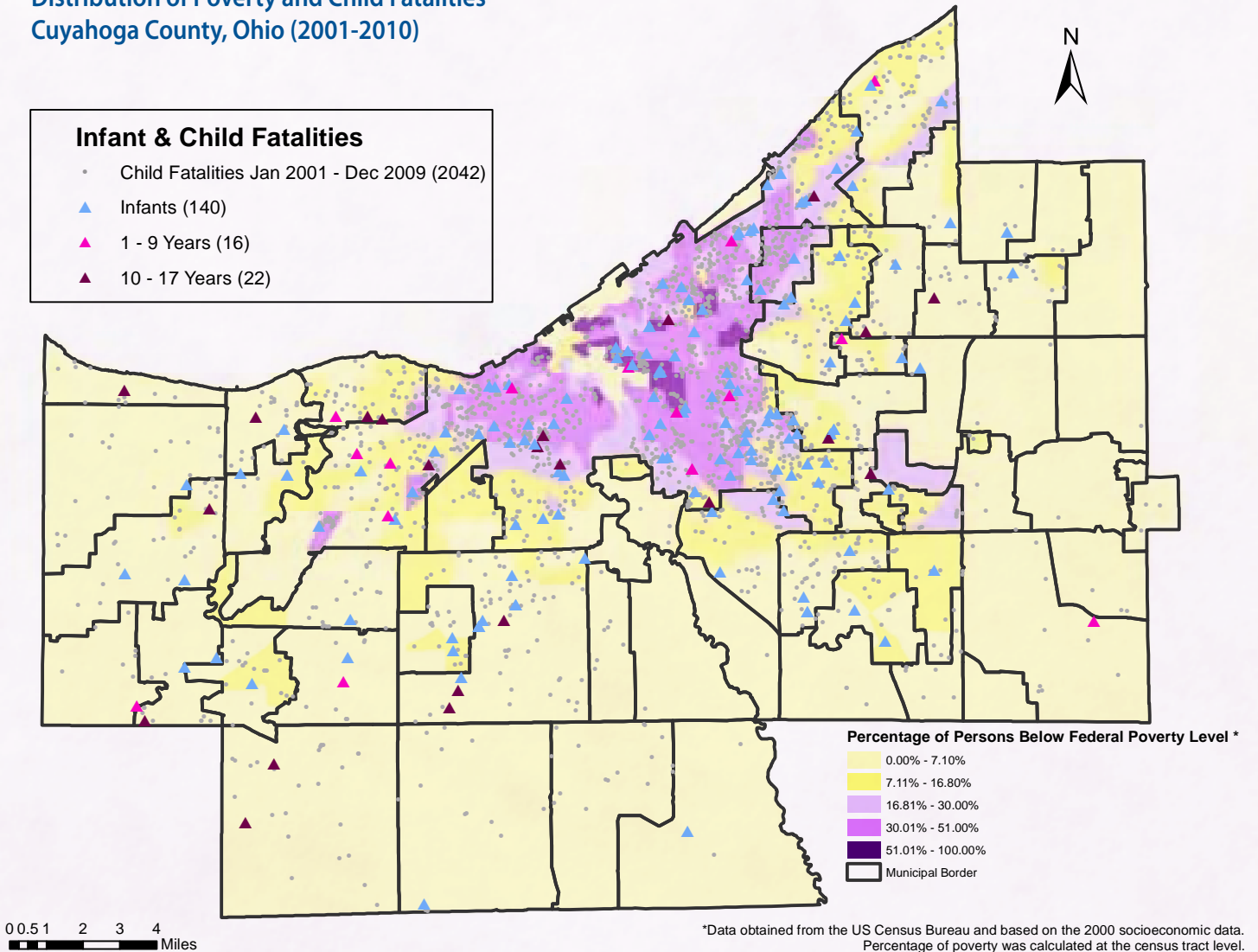
Twenty-two children between 10 and 17 years died in 2010. This was the second lowest total number of deaths in this age group in the last twenty years (21 deaths in 2003). For the third year in a row, deaths due to homicide decreased (10 in 2008, 5 in 2009, and 3 in 2010), and for the second consecutive year homicide is no longer the leading cause of death in this age group. Birth defects and other medical causes accounted for the largest numbers of deaths for the 10- to 17-year-olds. Deaths due to cancer, infection, motor vehicle accident, and suicide decreased. Undetermined injury related deaths increased by two in 2010.

Table 1
Annual Number of Deaths by Age Group

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Total
Under 1 Year	154	173	136	161	164	166	162	171	141	140	1568
1 - 9 Years	40	21	32	30	30	31	33	30	42	16	305
10 - 17 Years	46	37	21	36	45	36	35	39	30	22	347
Total	240	231	189	227	239	233	230	240	213	178	2220

Map 1

Distribution of Poverty and Child Fatalities
Cuyahoga County, Ohio (2001-2010)



Note: Based on 2000 socioeconomic data from the US Census Bureau, darker regions represent higher numbers of persons per square mile living below the federal poverty level. Technical assistance and census data provided by Northern Ohio Data and Information Services, Maxine Goodman Levin College of Urban Affairs, Cleveland State University.

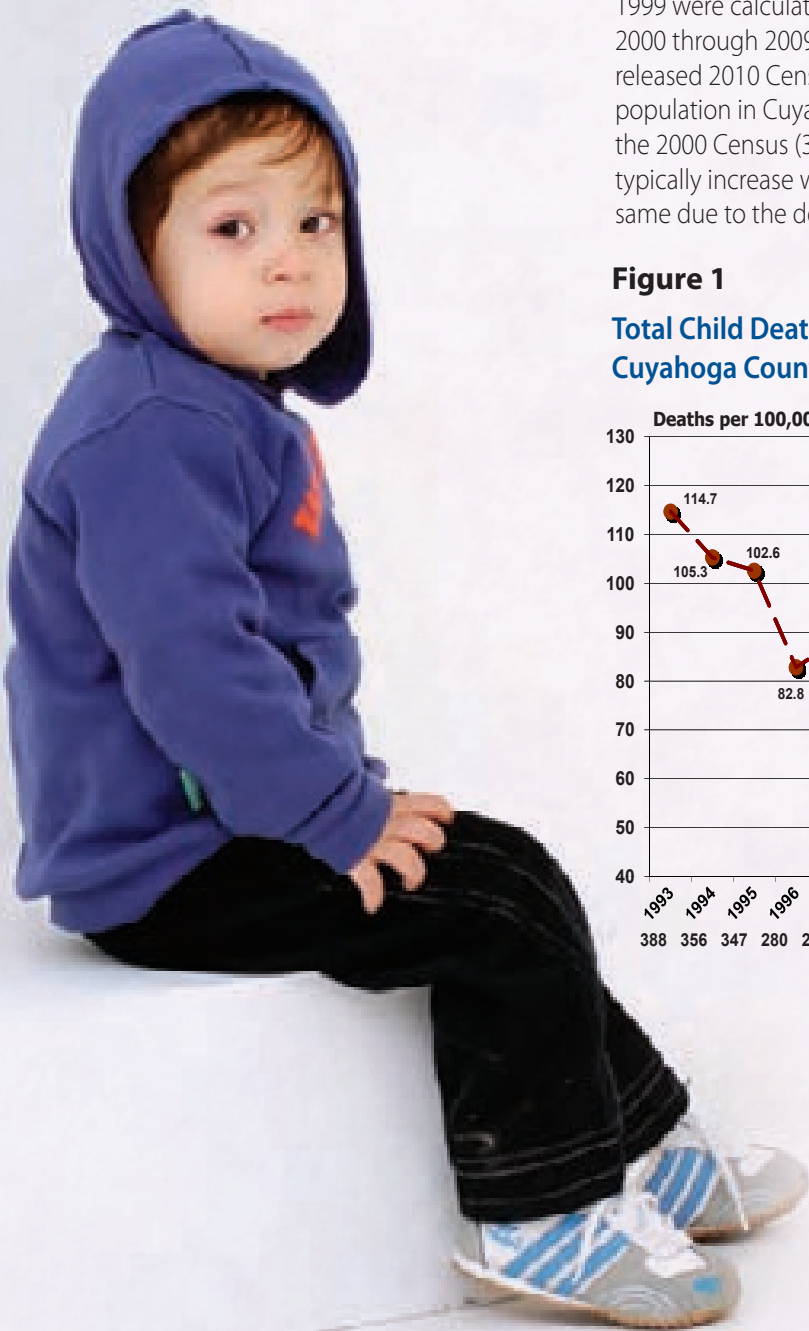
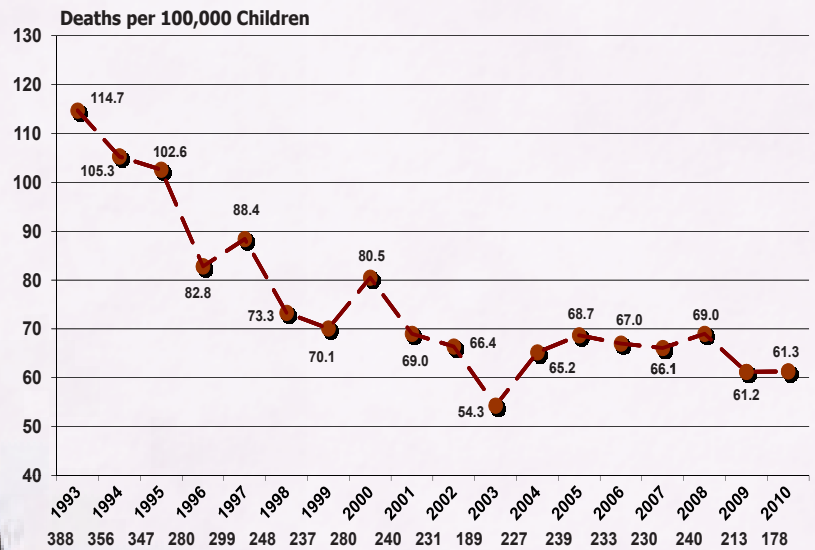
Map 1 above illustrates that the distributions of poverty and child deaths are closely related. Deaths from prior years are included to highlight that the distribution patterns of deaths appear to be more populated in geographic areas that tend to have a higher percentage of community members living below the federal poverty line. For example, the 2010 federal poverty rate for a family of three was \$18,310.¹ As competing needs for limited resources continue to increase, such information should be used to target intervention strategies to neighborhoods and communities having the highest density of poverty and the greatest number of deaths.

1 US Department of Health and Human Services. The HHS poverty guidelines for the remainder of 2010. Available online at <http://aspe.hhs.gov/poverty/10poverty.shtml> (accessed August 17, 2011).

Despite significant decreases in the county population, the child death rate is similar to the 2009 rate.

Figure 1 illustrates the stabilization of the rate of child deaths in 2010 as well as gives a historical perspective. Thirty-five fewer deaths led to a 16.4% decrease in the overall number of child deaths in Cuyahoga County. This is the lowest total since we began tracking in 1993. Rates from 1993 through 1999 were calculated by using 1990 US Census data, and the rates from 2000 through 2009 were calculated using the 2000 Census data. The newly released 2010 Census data were available for this reporting year. The child population in Cuyahoga County has dropped by almost 60,000 between the 2000 Census (347,990)² and the 2010 Census (290,262).³ Although rates typically increase when population totals decrease, our rates stayed the same due to the decrease in the number of child deaths.

Figure 1
Total Child Deaths (age 0-17)
Cuyahoga County (1993-2010)



² US Census Bureau. 2000 census of population and housing; Summary file 1. Available online at <http://factfinder.census.gov> (accessed July 25, 2011).

³ US Census Bureau. 2010 census of population and housing; Summary file 1. Available online at <http://factfinder2.census.gov> (accessed July 25, 2011).

TAKING A CLOSER LOOK

Table 2 provides a breakdown of the leading causes of death by age group. It shows that a large majority (76%) of deaths continue to be rooted in medical related causes such as prematurity, birth defects, cancer, infections, and other medical conditions. Over 80% of these deaths occur in children under 1 year of age, which is the highest ratio of infant deaths to total number of deaths in the last fifteen years.

The drastic decrease in child deaths in 2010 was mainly distributed in five causes of death: homicide, birth defects, prematurity, cancer, and drowning. Homicide had the largest decrease from 17 in 2009 to 5 in 2010, and birth defects had 8 fewer deaths. The number one cause of death, prematurity, had 7 fewer deaths this year. Drowning and cancer each saw 6 fewer losses in 2010 compared to 2009. There were no deaths in 2010 due to fire, drowning, poisoning, or accidental gunshot wound.



Table 2

Leading Causes of Death by Age Group in 2010

Cause of Death	Under 1 Year	1 - 9 Years	10 - 17 Years	Total
Prematurity	79	0	0	79
Birth Defects	20	5	4	29
Sleep Related	28	0	0	28
Other Medical Causes	7	3	4	14
Infections	4	1	1	6
Homicide	0	2	3	5
Cancer	0	2	3	5
Motor Vehicle Accident	0	2	2	4
Suicide	0	0	3	3
Other Perinatal Complications	2	0	0	2
Undetermined - Injury Related	0	0	2	2
Unintentional Injury	0	1	0	1
Total	140	16	22	178

There were 28 sleep related deaths in 2010, which are 8 more than 2009, however, the number of sleep related deaths has remained relatively stable over the past ten years with an average of 21 deaths per year. Other medical causes had a 75% increase in total number of deaths (14 deaths in 2010 compared to 8 deaths in 2009).

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



Cuyahoga County child death rate is higher than the state average.

We wanted to compare Cuyahoga County's infant and child mortality rates with other large, urban counties – Franklin (Columbus area), Hamilton (Cincinnati area), Montgomery (Dayton area), and Summit (Akron area). **Appendix A** graphically illustrates how these counties compare to each other and to the state.⁴ The 2009 data are collected by the Ohio Department of Health and are distributed by the Center for Public Health Statistics and Informatics. These data are the most current available.

Appendix A reveals that Cuyahoga County has a lower infant mortality rate (IMR) than Hamilton and Montgomery, as well as the lowest reported mortality rate for white infants. However,

we have the highest racial disparity for infant deaths in the five largest urban counties in Ohio. This racial disparity is an unfortunate occurrence seen not only in Cuyahoga County, but also in other urban areas throughout the nation.

Cuyahoga County had the highest child death rate (26.0) and homicide rate (5.9) in 2009 for the counties represented. While these rates are alarming, the estimated 2010 rates show significant decline to 13.8 for child death and 1.8 for homicide. It is important to remember that child protection is the responsibility of the entire community, whether they are mandatory reporters working in the field or citizens watching their neighborhoods.

⁴ Data on 2010 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.

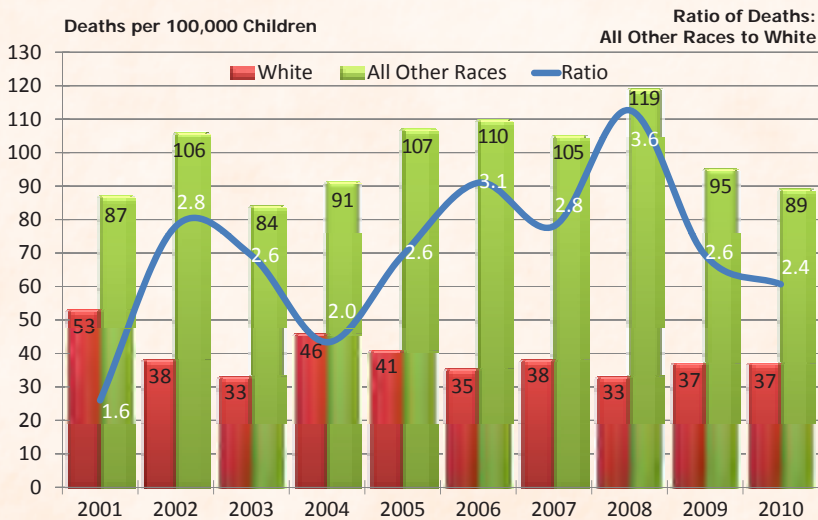


Minority children are almost two and a half times more likely to die.

There was a slight reduction in the racial disparity between white and all other race children with a ratio of 2.4 in 2010 down from 2.6 in 2009 (Figure 2). This decrease in disparity is attributable to the decrease in the death rate for children of all other races (shown as green bars in Figure 2). The sober truth is minority children are still more than twice as likely to die as white children, but it appears that the ratio of deaths is starting to trend lower from the peak in 2008. Since infant deaths contributed disproportionately to the overall mortality rates and are the primary component of racial disparity, it is important to look at the disparity ratios for infants (birth to less than 1 year) and children (1 to 17 years) separately.

Racial disparity for both age groups is illustrated in Figure 3. In 2010 the racial disparity of deaths among children ages 1-17 decreased for the third consecutive year since the peak in 2007 and was the second lowest ratio in the last ten years. The largest decrease was seen among white children ages 1-9 years. In 2009, 19 died while only 4 deaths occurred this year – the lowest death total among any age group in the last fifteen years. Significant decreases were also found in minority children deaths for 1-9 years old and 10-17 years old (47.8% and 50% respectively) (refer to Table 13).

Figure 2
Child Death Rates by Race (age 0-17)

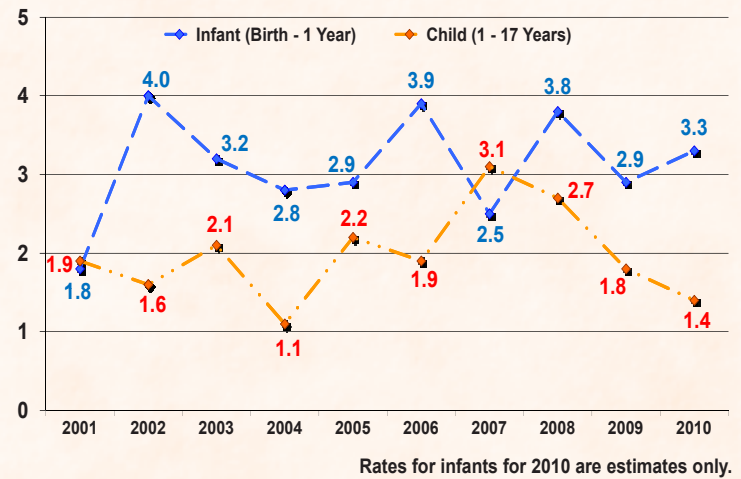


The graph shows that more than three minority infants died for every one white infant. Since 2006, minority infants account for over 70% of all infant deaths. Efforts to decrease this ratio need to be ongoing to attempt to eliminate racial disparities in Cuyahoga County.

As noted in previous reports, poverty and race have a tremendous impact on health outcomes in the US. Map 1 clearly illustrates the link between poverty and child death. Child deaths are clustered in areas where there are higher percentages of persons living below the poverty level. Additionally, **Map 2** illustrates the link between race, poverty, geographical location, and child death.

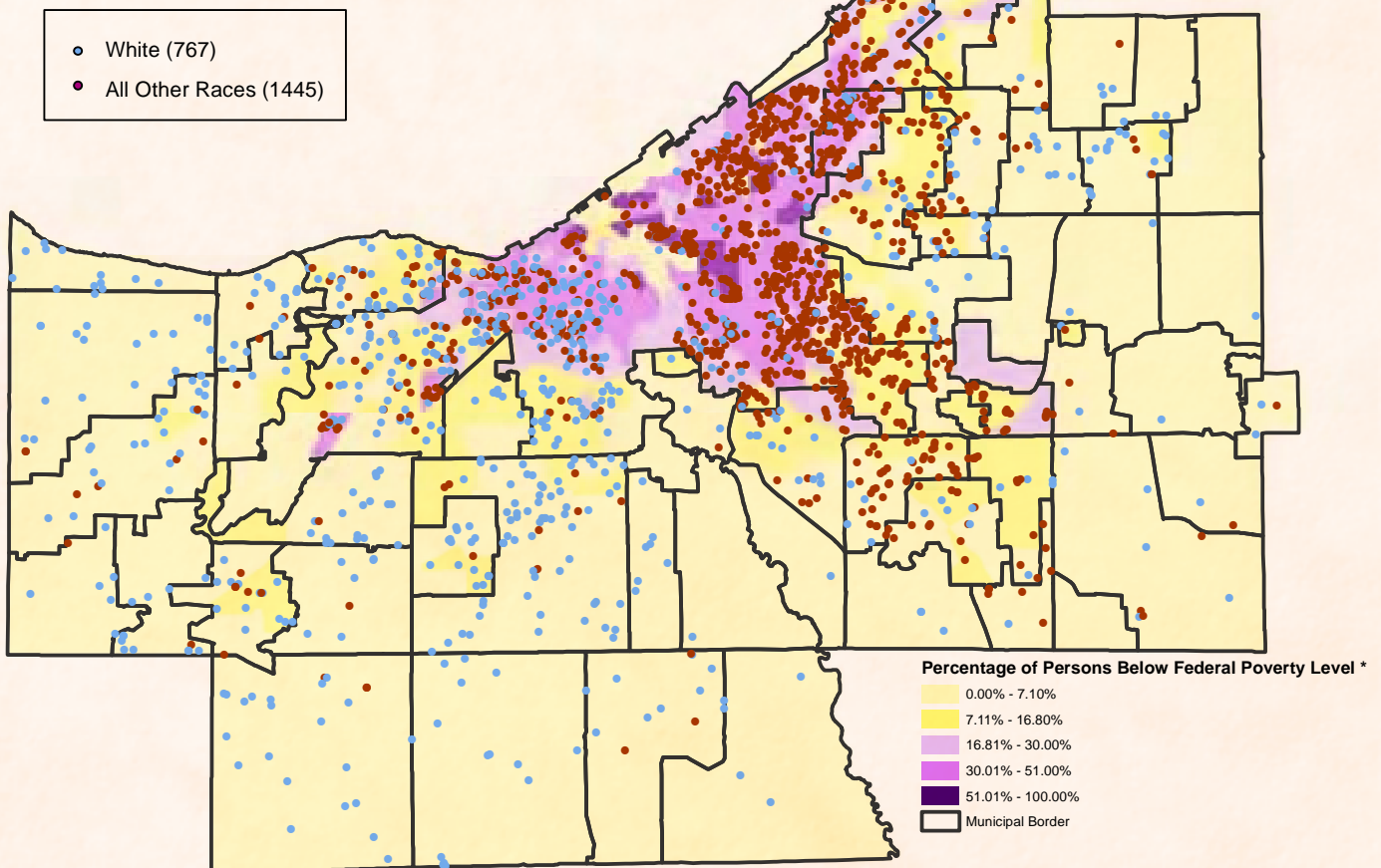
Figure 3

Racial Disparity Ratios



Map 2

Distribution of Poverty and Race for Child Deaths Cuyahoga County, Ohio (2001-2010)



0 0.5 1 2 3 4 Miles

*Data obtained from the US Census Bureau and based on the 2000 socioeconomic data. Percentage of poverty was calculated at the census tract level.

Infant mortality rate drops 0.3% in 2010.

Although there was a slight decrease in infant mortality this year, it continues to be the single largest contributor overall to child death (**Figure 4**). The 2010 estimated IMR for Cuyahoga County is 8.8 deaths per 1,000 live births⁵ based on a report of 140 infant deaths among 15,963 live births according to preliminary data received from the Ohio Department of Health. Our local IMR of 8.8 remains higher than the Ohio rate of 7.7 in 2009⁶ and the estimated US rate of 6.4 for 2009⁷ (the most recent data available).

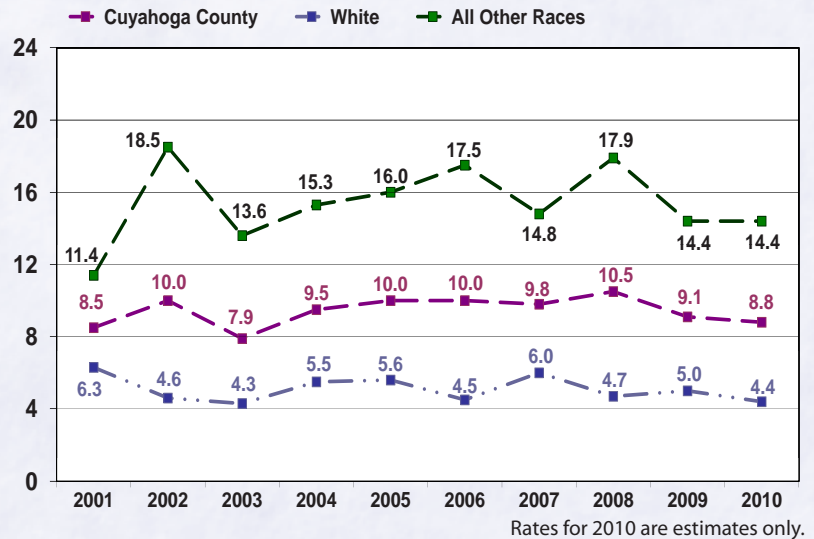
While the overall IMR is under 9 for the first time in seven years, Figure 4 shows the large racial disparity of infant deaths. In the last five years, three times as many minority infants perished compared to white infants.

In 2010, the most frequent causes of infant death continued to be prematurity (79), birth defects (20), and sleep related deaths (28) – see Table 2. The top three causes accounted for 90.7% of all infant deaths, which is more than 3% lower than 2009.



Figure 4

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



⁵ These data were provided by the Center for Public Health Statistics and Informatics, Ohio Department of Health (provided October 11, 2011). "The Department specifically disclaims responsibility for any analyses, interpretations or conclusions."

⁶ Data on 2010 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.

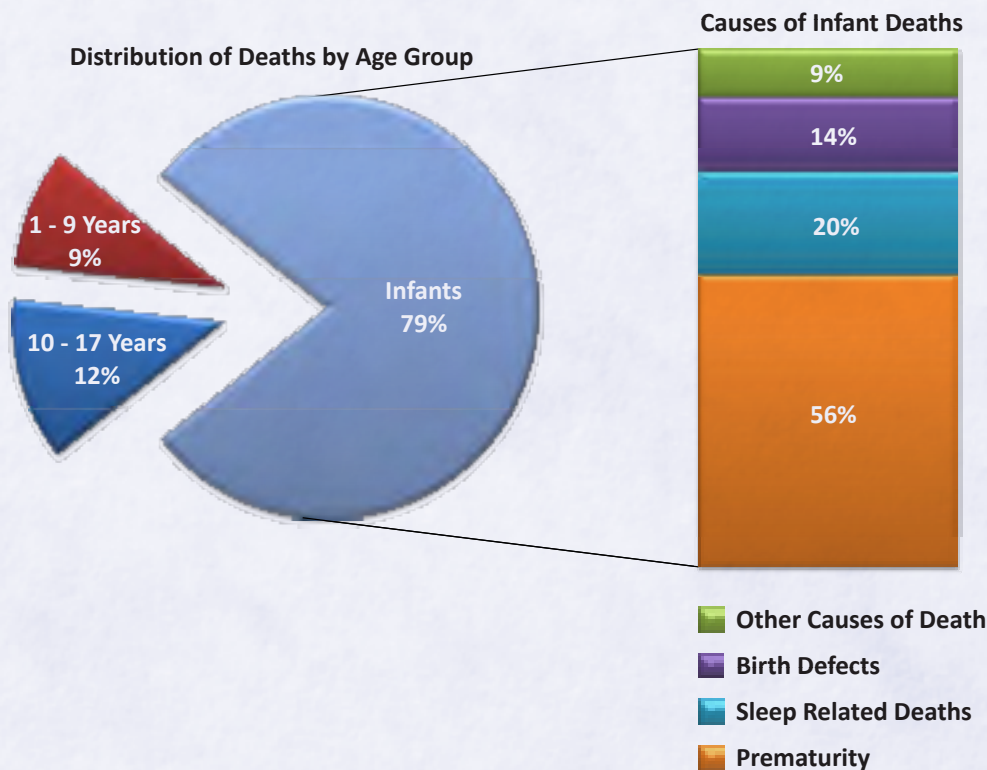
⁷ Kochanek KD, Xu JQ, Murphy SL, et al. Deaths: Preliminary data for 2009 [online]. National vital statistics reports; vol 59, no 4. Hyattsville, MD: National Center for Health Statistics. 2011.

Prematurity accounts for 56% of infant deaths and 44% of overall child deaths in 2010.

In 2010, 79 infants died due to prematurity, accounting for 56% of the infant deaths (Figure 5). The 2010 cause-specific IMR for prematurity is 4.9 deaths per 1,000 live births.⁸ Prematurity remains the single leading cause of death for children of all ages in Cuyahoga County (44% of the total).

The 2010 prematurity IMR of 4.9 is down from 2009 when it was 5.5 per 1,000 live births. This is the lowest prematurity IMR in the last seven years (Table 10). Part of this decrease may be attributed to an overall decrease in preterm births. The preterm birth rate for the US, Ohio, and Cuyahoga County all decreased. The US decreased from 12.7% in 2007 to 12.2% in 2009.⁹ The Ohio rate decreased from 12.9% in 2007 to 12.3% in 2009, and Cuyahoga County's preterm birth rate for 2007 was 15% while the 2009 preliminary preterm birth rate is 12%,¹⁰ the most current data available.

Figure 5
The Impact of Prematurity on Child Deaths in 2010



⁸ Data on 2010 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.

⁹ Hamilton BE, Martin JA, Ventura SJ. Births: Preliminary data for 2009 [online]. National vital statistics reports; vol 59, no 3. National Center for Health Statistics. 2010.

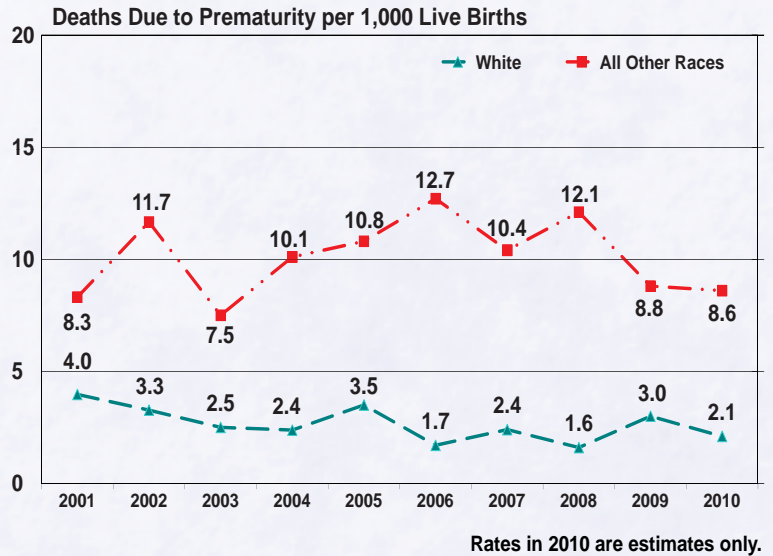
¹⁰ These data were provided by the Center for Public Health Statistics and Informatics, Ohio Department of Health (provided July 16, 2011). "The Department specifically disclaims responsibility for any analyses, interpretations or conclusions."

PREMATURITY

The impact of prematurity and racial disparity in all infant deaths is illustrated in **Figure 6**. In 2010, infants of all other races were more than four times more likely to die due to prematurity than white infants (this was calculated by dividing the prematurity infant death rate among all other races by the prematurity infant death rate among whites). The all other race prematurity death rate of 8.6 represents the lowest rate since 2003, and has decreased by almost 30% since the 2008 rate of 12.1.

In 2010, poverty remained the most frequent risk factor associated with prematurity with almost two-thirds of the cases having one or more economic risk indicators, which is a 10% increase over 2009. The second and third most common risk factors among this group were premature rupture of membranes (PROM) and incompetent cervix. Sexually transmitted infections among the mothers who had infants die of prematurity significantly increased in 2010 to 37%, the highest total in six years and 77% higher than last year.

Figure 6
Rates of Infant Death
Due to Prematurity by Race



National statistics differ on rate of premature births, but approximately 10% - 15% of all births have gestations ending prior to 37 weeks. Prematurity is the number one cause of child death, and the costs of one premature birth are equivalent to the costs associated with ten full term births.¹¹ While the direct cause of prematurity is not fully understood, researchers have found measures to help fight against premature births. Since 2003, the American College of Obstetricians and Gynecologists recommend that progesterone (sometimes called 17P) be given when a woman is currently pregnant with one baby and had a previous preterm delivery. Studies have shown women using progesterone had significantly less premature births compared to women taking a placebo drug. Current research is attempting to identify why premature births occur so all mothers, especially first-time mothers, can be properly educated to ensure full term pregnancies.

Previous fetal loss was seen in 29.1% of all prematurity cases in 2010, which is a 92.7% increase compared to the 2009 percentage of 15.1%. Maternal history of mental health problems was present in almost one-quarter of prematurity linked deaths. Other risk factors associated with prematurity are summarized in **Table 3**.

According to the March of Dimes, the cause of prematurity is unknown in approximately 40% of the cases. However, studies show that there may be four main routes leading to preterm birth. These are infections/inflammation, maternal or fetal stress, uterine bleeding, and overstretching of the uterus.¹² Some of the risk factors we found to be common among deaths due to prematurity in our county seem to be consistent with these routes, especially with regard to infection.

Of the 79 children who died of prematurity in our community, 63 (80%) were born so early that they only lived for twelve hours or less and only 8 (10%) survived more than seven days. Furthermore, 64 (81%) were born prior to 24 weeks, usually considered to be the age of viability. Gestational age was unknown for 1 of the infant deaths due to prematurity, and the remaining 14 (18%) were born between the gestational ages of 24 and 35 weeks. Of the 79 child deaths due to prematurity, 42 (53%) were male and 60 (76%) were races other than white.

Table 3
Common Risk Factors Associated with 79 Deaths Due to Prematurity

Risk Factor	#	%
Poverty	52	65.8
Premature rupture of membranes (PROM)	33	41.8
Incompetent cervix	31	39.2
Chorioamnionitis (Uterine infection)	30	38.0
Sexually transmitted infections	29	36.7
Previous fetal loss	23	29.1
Mom with a chronic health problem	22	27.8
Previous preterm delivery	22	27.8
Intrauterine tobacco exposure	20	25.3
Maternal history of mental health problems	19	24.1
Multiple gestation	17	21.5
Late entry into prenatal care	14	17.7
No prenatal care	11	13.9
At-risk maternal age	10	12.7
Intrauterine drug exposure	9	11.4
Parental alcohol abuse	9	11.4
Placental abruption	8	10.1
Infection in child	8	10.1
Unplanned pregnancy	8	10.1
History of domestic violence	7	8.9
Pre-eclamptic toxemia (PET)	5	6.3
Bacterial vaginosis	5	6.3
Early onset parenting	4	5.1

¹¹ March of Dimes. Prematurity campaign. Available online at http://www.marchofdimes.com/mission/prematurity_costs.html (accessed on August 5, 2011).

¹² March of Dimes. Prematurity: Why women deliver early? Available online at http://www.marchofdimes.com/prematurity_indepth.html (accessed on August 5, 2011).

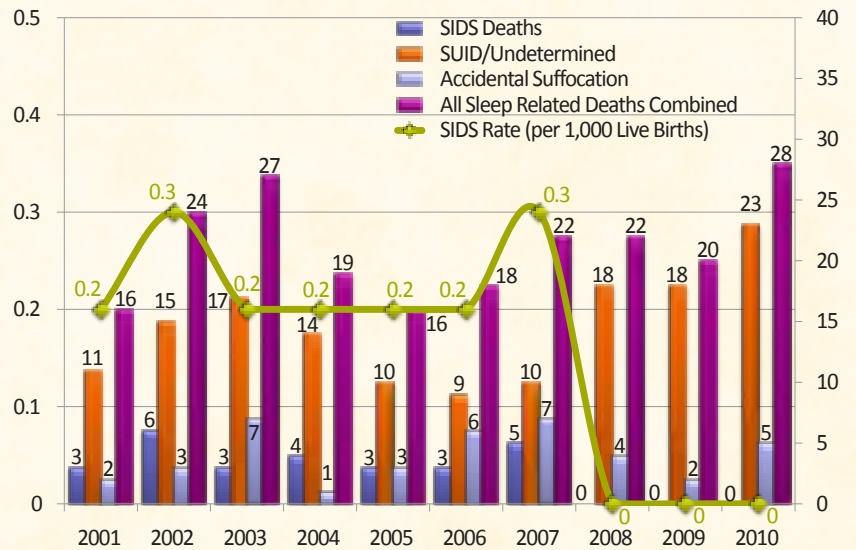
SLEEP RELATED DEATHS

*Cuyahoga County experiences
highest number of sleep related
deaths in the past ten years.*



There are three types of sleep related deaths: 1) Sudden Infant Death Syndrome (SIDS); 2) Accidental Suffocation; and 3) Sudden Unexplained Infant Death (SUID)/Undetermined. **SIDS** is a sudden, unexplained death of an infant less than one 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. **Accidental suffocation** is a result of another person lying on the baby, wedging of the baby, or the baby's face in a soft surface such as a pillow, blanket, or bumper pad. **SUID/Undetermined** is ruled as the cause of death when an exact reason cannot be found, but the scene investigation indicates that there were dangers in the baby's sleep area. **Figure 7** illustrates the number and types of sleep related deaths that have occurred in Cuyahoga County over a ten-year span.

Figure 7
Sleep Related Deaths



In Cuyahoga County, there were 28 sleep related deaths in 2010, which is a 40% increase from 2009 and the most sleep related deaths in the last decade. A large increase was seen in the number of sleep related deaths involving bedsharing. In 2010 there were 18 bedsharing deaths, the highest number in the past ten years. For the third straight year, no SIDS related fatalities occurred. This drop may be a result of changes in diagnosis and death scene investigation as a result of the Sudden Unexplained Infant Death Investigation (SUIDI) initiative recommended by the Centers for Disease Control and Prevention. Accidental suffocation was associated with 5 deaths, while 23 were ruled undetermined due to potential hazards in the sleep environment. Of the 28 sleep related deaths, 18 of these involved bedsharing (the baby was sharing the bed surface with one or more people) and all 28 involved some type of sleep hazard (such as soft bed surface; position baby was placed; pillows, bumper pads, and other items in sleep environment) (**Table 4**).

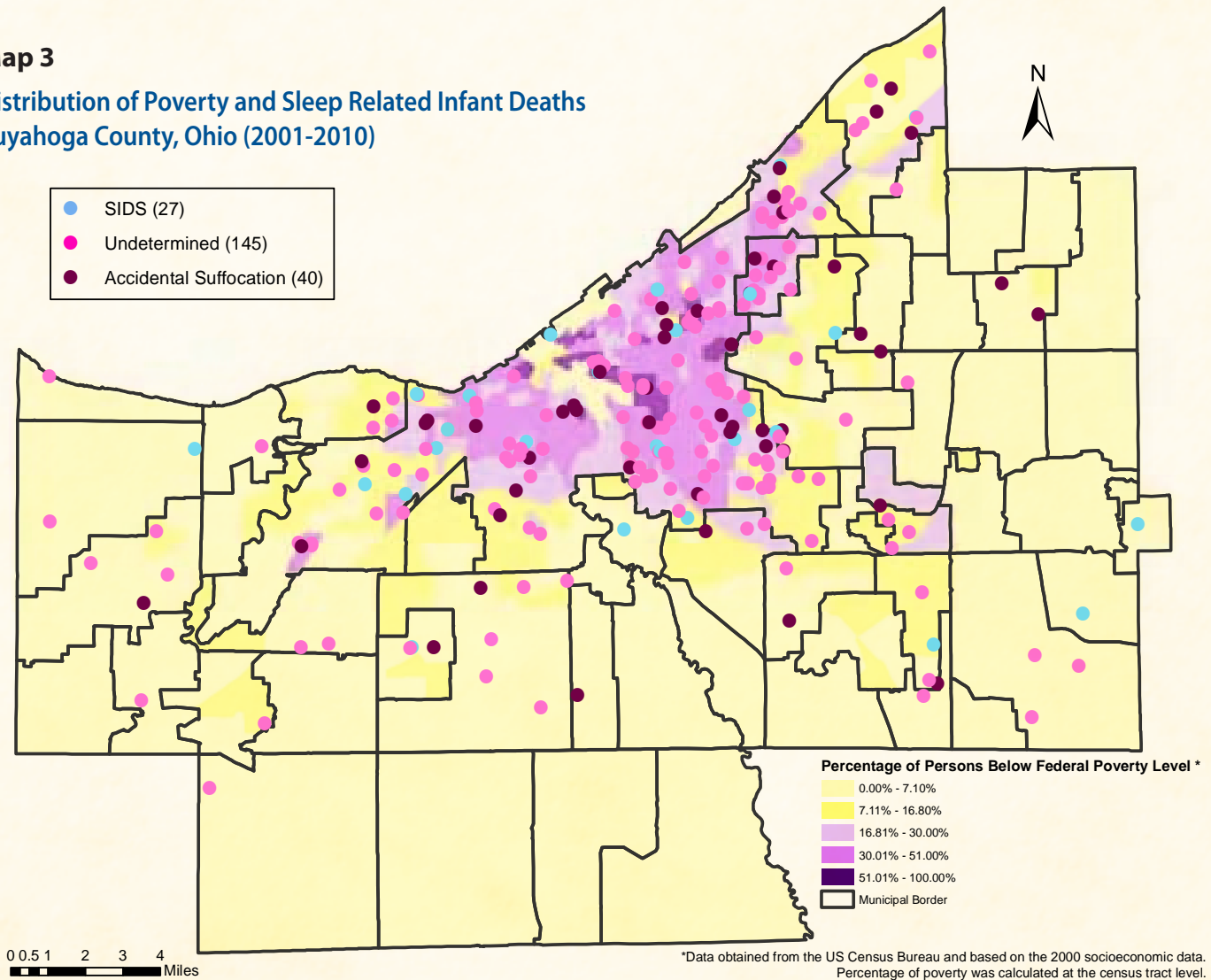
Table 4
Number of Sleep Related Deaths by Type and Presence of Risk Factors

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Total
SIDS	3	6	3	4	3	3	5	0	0	0	27
SUID/Undetermined	11	15	17	14	10	9	10	18	18	23	145
Accidental Suffocation	2	3	7	1	3	6	7	4	2	5	40
Total Number of Deaths	16	24	27	19	16	18	22	22	20	28	212
Risk Factors Present											
Bedsharing at time of death	11	12	13	9	10	12	12	11	11	18	119
Hazards in sleep area	2	15	23	12	14	14	20	22	20	28	170
Total Number of Risk Factors	13	27	36	21	24	26	32	33	31	46	289

SLEEP RELATED DEATHS

Map 3

**Distribution of Poverty and Sleep Related Infant Deaths
Cuyahoga County, Ohio (2001-2010)**



Map 3 illustrates the distribution of these three types of death over the past ten years. The majority of cases ruled undetermined occurred in the city of Cleveland in areas where there are high concentrations of children and persons living at or below the poverty level.

Due to the steady increase of deaths from 16 in 2005 to 28 in 2010, we decided to take a deeper look into sleep related deaths and see if any associations can be made to help us understand which factors (medical, sleep environment, and/or economical) might be contributing to these deaths. In the last six years, we have lost 126 infants or an average of 21 babies per year. In other words, there is one fewer kindergarten class each year in Cuyahoga County.

¹³ (Hamilton, 2010)

Table 5 shows that approximately two-thirds of sleep related deaths in the last six years occurred in Cleveland (82) with fewer deaths occurred in the inner ring suburbs (27) and outer ring suburbs (17). The inner ring suburbs are all municipalities that have one portion of their border touching the city of Cleveland. All outer ring suburbs have no boundaries touching the border of Cleveland. **Map 5** (on page 44) shows the list of municipalities that are in the inner ring and outer ring suburbs.

Over 75% of infants who died from sleep related issues from 2005 to 2010 were born to mothers under the age of 30. This is important to note because in 2009 women under 30 accounted for nearly 63% of all births in the US. While 35% of mothers who delivered in the US were between 30 and 39 years old, only 17% of mothers in the same age group had children die due to sleep related complications.¹³

Table 5

Sleep Related Death Demographics

	2005	2006	2007	2008	2009	2010	Total
Neighborhood							
Cleveland	12	9	14	15	14	18	82
Inner Ring	3	3	5	6	3	7	27
Outer Ring	1	6	3	1	3	3	17
Infant's Gender							
Female	9	9	13	13	9	11	64
Male	7	9	9	9	11	17	62
Mom's Age							
< 20 Years	2	4	3	7	3	5	24
20 - 29 Years	10	9	14	12	12	15	72
30 - 39 Years	1	4	2	2	4	7	20
≥ 40 Years	0	1	0	0	1	0	2
Unknown	3	0	3	1	0	1	8

We chose to look at seven factors: two medical factors (low birth weight and prematurity) and five environmental/economic factors [bedsharing (with adult or child), sleep position (stomach, back, or on side), sleep surface, sleeping objects (pillows, comforter, or blanket), and poverty]. We wanted to see whether their environment and/or economic situation contributed to their deaths or if medical factors played a more significant role.

The average number of medical factors remained relatively stable although an increase was noted for Cleveland from 2008 to 2010 (Table 6). On the other hand, environmental and economic factors increased steadily from 1.9 factors per sleep related death in 2005 up to 3.5 factors in 2010. Part of the increase in risk factors identified can be attributed to improved data collection through advances in the medical examiner's scene investigation protocols and the amount of detailed information gathered by the interdisciplinary Child Fatality Review Committee.

Table 6

Average Number of Sleep Related Deaths by Risk Factors

		2005	2006	2007	2008	2009	2010
Medical	Cleveland	0.4	0.6	0.4	0.1	0.3	0.6
Medical	Inner Ring	0.3	1	0.4	0.7	0	0.3
Medical	Outer Ring	0	0.8	0.7	0	0.3	0
Average Number of Medical Risk Factors		0.4	0.7	0.4	0.3	0.2	0.4
Environmental & Economic	Cleveland	1.8	2.4	2.9	3.1	3	3.8
Environmental & Economic	Inner Ring	2.7	2.3	3	3	3.3	3
Environmental & Economic	Outer Ring	0	1.2	1.7	2	2.3	2.7
Average Number of Environmental & Economic Risk Factors		1.9	2	2.8	3	3	3.5
Total Average Number of Sleep Related Risk Factors		2.3	2.7	3.2	3.3	3.2	3.9

The breakdown in Figure 8 shows that where an infant lives is of interest in sleep related deaths. Over 70% of infants in Cleveland were born into poverty while only 12% of outer ring infants had similar economic hardships. This hardship may have had an impact on the number of infants who had to share a bed with another person. Medical examiner scene investigations have found that the percentage of households without a crib or bassinette doubled in 2010. About 1 in 8 outer ring suburban infants who died in sleep related cases were sleeping with another person. More than 1 in 5 Cleveland infants and almost 1 in 5 inner ring suburban infants shared a bed. In the same breath, almost 90% of inner ring infants had extra bedding (pillow, blanket, or comforter) in their sleep environment, while 75% of Cleveland babies and less than 60% of outer ring cases had the same risk factors.



SLEEP RELATED DEATHS

Almost 80% of Cleveland infants and over 70% of inner ring infants were full term births (pregnancies lasting 38 or more weeks) while less than 65% of outer ring infants made it to full term. Interestingly, only 56% of mothers in the outer ring delivered their child under 30 years old where as 85% of Cleveland and inner ring mothers were less than 30 years of age. The data suggest that mothers 30 and older have a greater risk for premature births. Almost two-thirds of Cleveland's sleep related victims were normal weight births (greater than 5 pounds 8 ounces or 2500 grams) while only 52% of inner ring children had a normal birth weight at delivery. The data suggest that the economic and environmental backdrop plays a more prominent role than medical factors for sleep related deaths.

Figure 9 shows that an increase in unemployment rates tends to correspond with a higher number of sleep related deaths. Studies suggest that unemployment does increase overall stress and depression.^{14, 15} Depression was associated with negative and disengaged parenting that can affect the well-being of infants. It was noted that these parents were less likely to place infants on their backs and had fewer well-child care visits.¹⁶

These data show that education should be geared toward young mothers about the real hazards that bedsharing and soft bedding inside a crib create for an infant. Although the message is simple, "Babies should sleep alone, on their backs, in bare naked cribs," parents often receive mixed messages

Figure 8
Sleep Related Factors by Neighborhood (2005-2010)

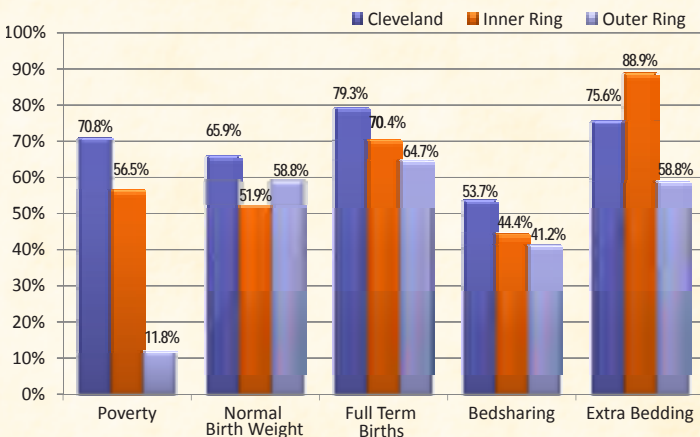


Figure 9
Number of Sleep Related Deaths and Cuyahoga County Unemployment Rate



about safe sleep from relatives, the media, and even health care workers. A qualitative study asked African American mothers why they didn't follow the safe sleep message, and a lack of consistency was brought up, "Each pregnancy they always stress (that babies should sleep) on the back. But in my last pregnancy, the nurse brought the baby back to my room, he was on his stomach. I thought it was odd that the nurse had placed him on his stomach..."¹⁷ The importance of role modeling safe sleep has been addressed by the Cuyahoga County Child Fatality Review Committee. From 2010 to the present there has been a major focus on educating physicians, nurses, and staff in maternity units and pediatric hospitals throughout the county about the need to role model safe sleep in the hospital. It is imperative that health care providers incorporate the safe sleep message into their practice. This includes discussing safe sleep prenatally; role modeling safe sleep from the time the baby is born to reinforcing the message and addressing parents' concerns at well-child visits for the first year of life. Community organizers, medical personnel, and public health officials must understand the impact a strong, cohesive message has on the general public. This message must provide information for guardians to take action and place their child on his back, without objects and other people in the sleep environment.

¹⁴ Walid MS, Zaytseva N. The relationship of unemployment and depression with history of spine surgery. (2011). *The Permanente Journal*; 15(1): 19-22.
¹⁵ Nagatomi K, Ishitake T, Hara K, Shigemoto A, Hoshiko M, Tsuji Y, Yamaguchi Y, Tamaki H, Furumura M, and Muramoto J. Association between the transition from unemployment to re-employment after abrupt bankruptcy and the depressive symptoms. (2010). *Kurume Medical Journal*; 57(3): 59-66.
¹⁶ National Research Council and Institute of Medicine. (2009). *Depression in parents, parenting, and children: Opportunities to improve identification, treatment, and prevention*. Washington, DC: The National Academies Press.
¹⁷ Moon RY, Oden RP, Joyner BL, and Ajao TI. Qualitative analysis of beliefs and perceptions about sudden infant death syndrome in African-American mothers: Implications for safe sleep recommendations. (2010). *Journal of Pediatrics*; 157(1): 92-97.

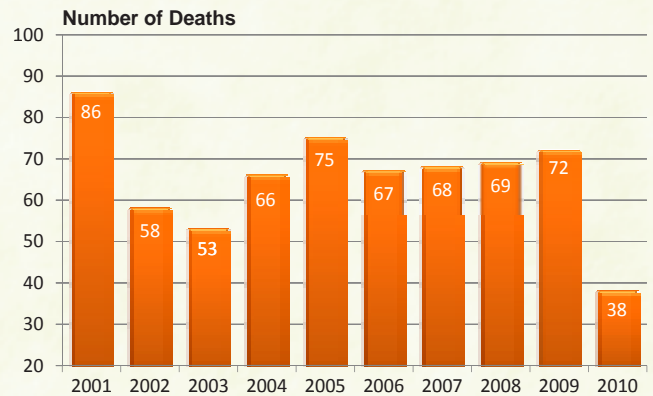
Fewest deaths in this age group in the last 20 years.

Thirty-eight children between the ages of 1 and 17 died in 2010, representing a 47% decrease in deaths for this age group. **Figure 10** shows that the average for the preceding nine years was 68 deaths per year with the 2010 total of 38 being the lowest number of deaths for this age group in the last 20 years.

In 2010, deaths due to medical causes accounted for 61% of deaths in this age group. These 23 medical deaths were attributed to: birth defects (9); other medical causes (7); cancer (5); and infections (2) (Table 2). The number of children in this age group who died as a result of cancer, infections, and prematurity decreased and the number of deaths due to other medical causes increased. The number of birth defects remained the same in 2010.

There were 15 injury related deaths to 1- to 17-year-olds in 2010, which is the lowest number of injury related deaths in the last ten years. The 2010 injury related death total is more than two and one-half times lower than the 37 deaths due to injury that occurred in 2009. The causes of all injury related deaths in this age group were homicide (5); motor vehicle accident (4); suicide (3); undetermined injury related (2); and unintentional injury (1) (Table 2).

Figure 10
Total Child Deaths per Year (age 1-17)



There is a 33% decrease in the overall number of unintentional injury deaths.

In 2010, 16 children of all ages died as a result of unintentional injuries, which is a 33% decrease compared to 2009. These 16 deaths include: 5 accidental suffocation, 4 sudden unexplained infant deaths (SUID), 4 motor vehicle accidents (MVA), 1 premature infant death (the mother had a positive toxicology at the time of delivery), 1 trauma, and 1 medical. All 5 accidental suffocation deaths were related to unsafe sleep environments (infants were found with face in soft bedding and/or pillows). The 4 sudden unexplained infant deaths (SUID) were also associated with unsafe sleeping conditions and therefore ruled as unintentional injuries. A prior motor vehicle injury resulted in a neurological condition that led to 1 medical unintentional injury death. **Figure 11** provides a graphic illustration of this breakdown.

Case reviews revealed that the most common risk factors identified in these deaths were poverty (13); drug and/or alcohol abuse by either a parent, the child, or both (12); history of reports for suspected domestic violence or child abuse (8); parental criminal history (6); and mother with a history of mental illness (6).

Figure 11

Unintentional Injury Deaths in Cuyahoga County (2010)

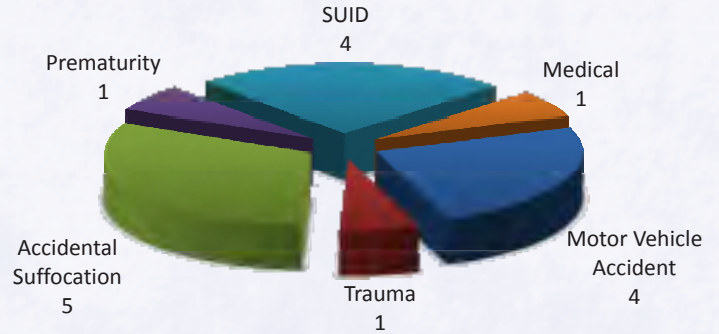
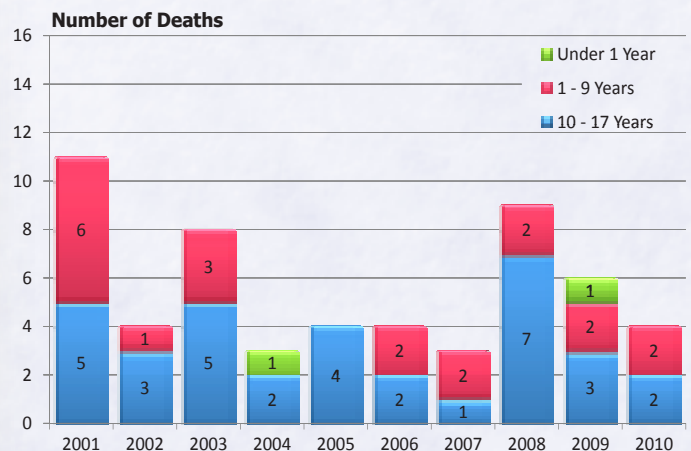


Figure 12 gives a historical perspective on the age distribution of traffic related fatalities. This year is tied for the second lowest number of MVA deaths when compared to 3 MVA deaths that occurred in 2004 and 2007. This marks the fifth straight year of 2 deaths in the 1-9 years old group. There have also been only 2 infant deaths in the last 10 years. Deaths due to MVAs remain a problem both locally and nationally. In 2007 (the most recent data available), motor vehicle accidents were the leading cause of injury related deaths among children ages 1 to 17 years in the United States.¹⁸

Figure 12

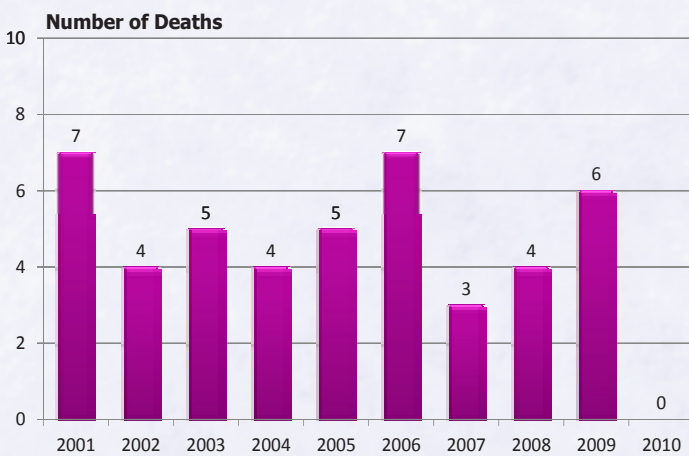
Total Motor Vehicle Deaths by Age Group per Year



¹⁸ Centers for Disease Control and Prevention (CDC), National Center for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS). Leading Causes of Death Reports, 1999-2007. Available online at <http://webappa.cdc.gov/sasweb/ncipc/leadcaus10.html> (accessed on July 7, 2011).



Figure 13
Total Drowning Deaths per Year

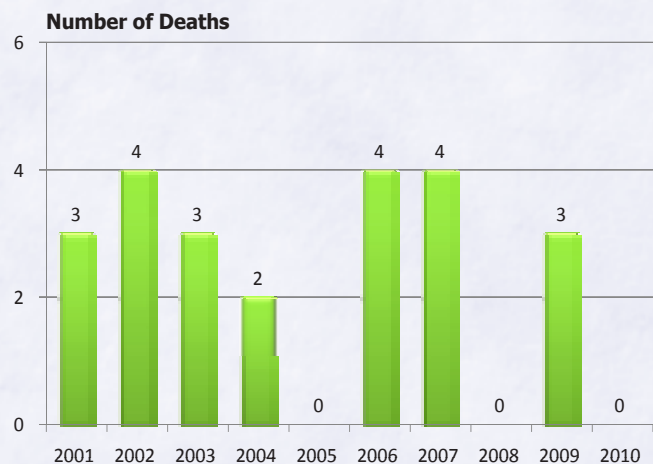


Of the 4 motor vehicle deaths, 1 was the driver, 1 was a passenger, and 2 were pedestrians. The teen driver who died was driving a stolen car at a high rate of speed. The passenger who perished was using a seat belt, but the driver of her vehicle failed to yield and turned into on-coming traffic. One pedestrian darted between two parked cars, ran into the street, and was then hit by on-coming traffic. The other pedestrian was playing in the driveway and was struck by a car. These deaths show the importance of defensive driving, the need for attentive adult supervision, and the need to be aware of the environment and possible dangers that exist around every corner.

Figure 13 illustrates the number of drowning deaths over the past decade. Since 2001, 45 children drowned in Cuyahoga County. Drowning is the third leading cause of injury related deaths for children ages 1 to 17 years in the United States.¹⁹

¹⁹ (CDC, July 7, 2011)

Figure 14
Total Accidental Fire Deaths per Year



In 2010, no children drowned in Cuyahoga for the first time since 1999. While there were no drowning deaths in 2010, we must remain vigilant about the potential dangers for children, especially the most vulnerable children, ages 0-4 years, when they are in or around water.

As shown in **Figure 14**, there were no fire related deaths in 2010, the third absence of accidental fire related deaths in the last six years. However, one child died in 2010 due to arson and 8 children died in 2005 in an intentionally set fire. These deaths were ruled as homicide. We will continue to monitor deaths due to fire and the associated risk factors, but it appears that the public's awareness of the necessity to have smoke detectors and semi-annually check batteries is helping to reduce the number of accidental fire deaths.

Homicides hit lowest mark in last 20 years; fewest suicides since 2006.

Intentional injury deaths include homicide and suicide.

Figure 15 illustrates that 2 children between the ages of 1 and 9, and 3 children between the ages of 10 and 17 died due to homicide in 2010. Five homicides were the fewest number in the last 20 years and no infant homicides occurred for the first time since 2005 and the second time in the last ten years.

Typically, the majority of homicide deaths occur in the 10-17 years old group, and 60% of all homicides in 2010 fell into this age category. Homicide dropped from the fourth to the sixth leading cause of death among all age groups, and fell from the leading cause of death to third most populous cause of death among 1- to 9-year-olds.

Among the homicide victims were 4 boys and 1 girl, with all of the children being African American. The ages of the children were 2 years (2), 16 years (1), and 17 years (2). Of the 5 homicides, 2 (40%) were gun related. Firearm related deaths are discussed in more detail below. The remaining homicides were due to fire (1), physical abuse (1), and asphyxia (1).

The leading risk factor associated with homicide was having a family history of domestic violence. Poverty, negative influence of family/friends, and school problems were the second most prevalent risk factors. The data suggest that a child's home life has a major impact on the outcome of a child's life.

Figure 16 is a graphic depiction of the number of firearm deaths by manner (homicide, suicide, accidental) over a 10-year span. In 2010, there were 5 firearm deaths, which included 2 homicides, 2 suicides, and 1 undetermined. All the gun related deaths were male and 60% were African American. The gun related homicides included two 17-year-old children who were

Figure 15
Total Child Homicides per Year by Age Group

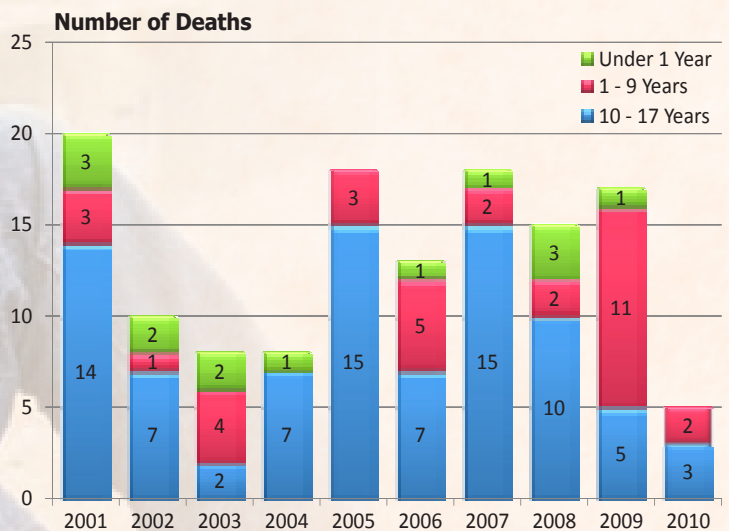
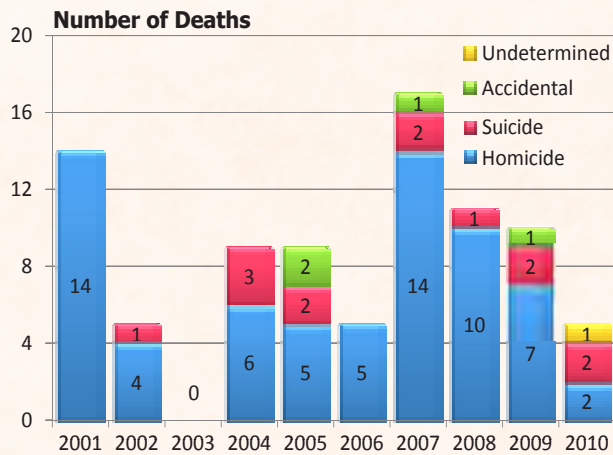


Figure 16
Firearm Deaths by Manner and Year

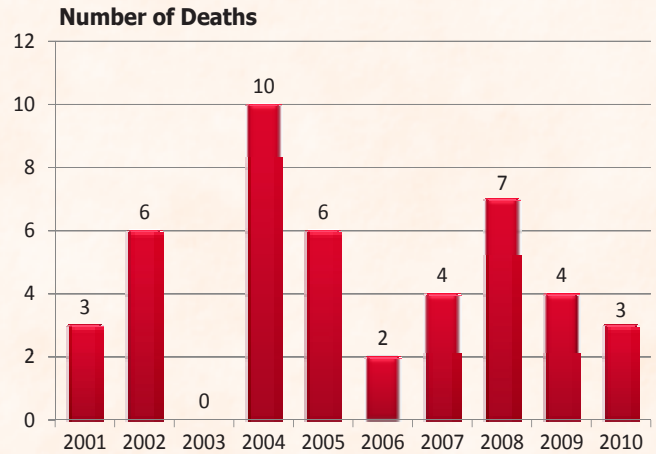


shot in gang related events. Three other gun related deaths include two suicides (both 17 years old) and one was ruled as undetermined. Since gun access is a known risk factor in Cuyahoga County, this reinforces the need for safety awareness and proper safekeeping of guns for both children and adults.

In 3 of the firearm deaths the weapon was not licensed. As discussed on the Protecting Our Future website (www.protectingourfuture.cuyahogacounty.us), it is imperative that adults limit a child's access to a gun. The message is "Unload it. Lock it. Store the ammunition separately. Hide the key so that children can't find it." Studies show that just talking to children about gun safety is not enough. It is an adult's responsibility to store a gun properly to ensure a child's well-being by creating a safe environment.

There were 3 suicides in 2010 (Figure 17). All 3 completed suicides were 17-year-old males. The method of suicide included self-inflicted gunshot wounds (2) and hanging (1). Three of the cases had a history of substance abuse, 2 were impaired by drugs at the time of the incident, and 3 had a history of mental illness. In addition, 2 of the cases had a history of child maltreatment. These tragic events do not fully show

Figure 17
Total Child Suicides per Year



the gravity of suicide in the adolescent population. According to the American Academy of Child & Adolescent Psychiatry, completed suicide is the third leading cause of death for 15- to 24-year-olds and fourth leading cause of death for children aged 10-14. It is estimated that 10-25 suicides are attempted per completed suicide.²⁰ Males are four times more likely to complete a suicide, but females are twice as likely to attempt a suicide.²¹



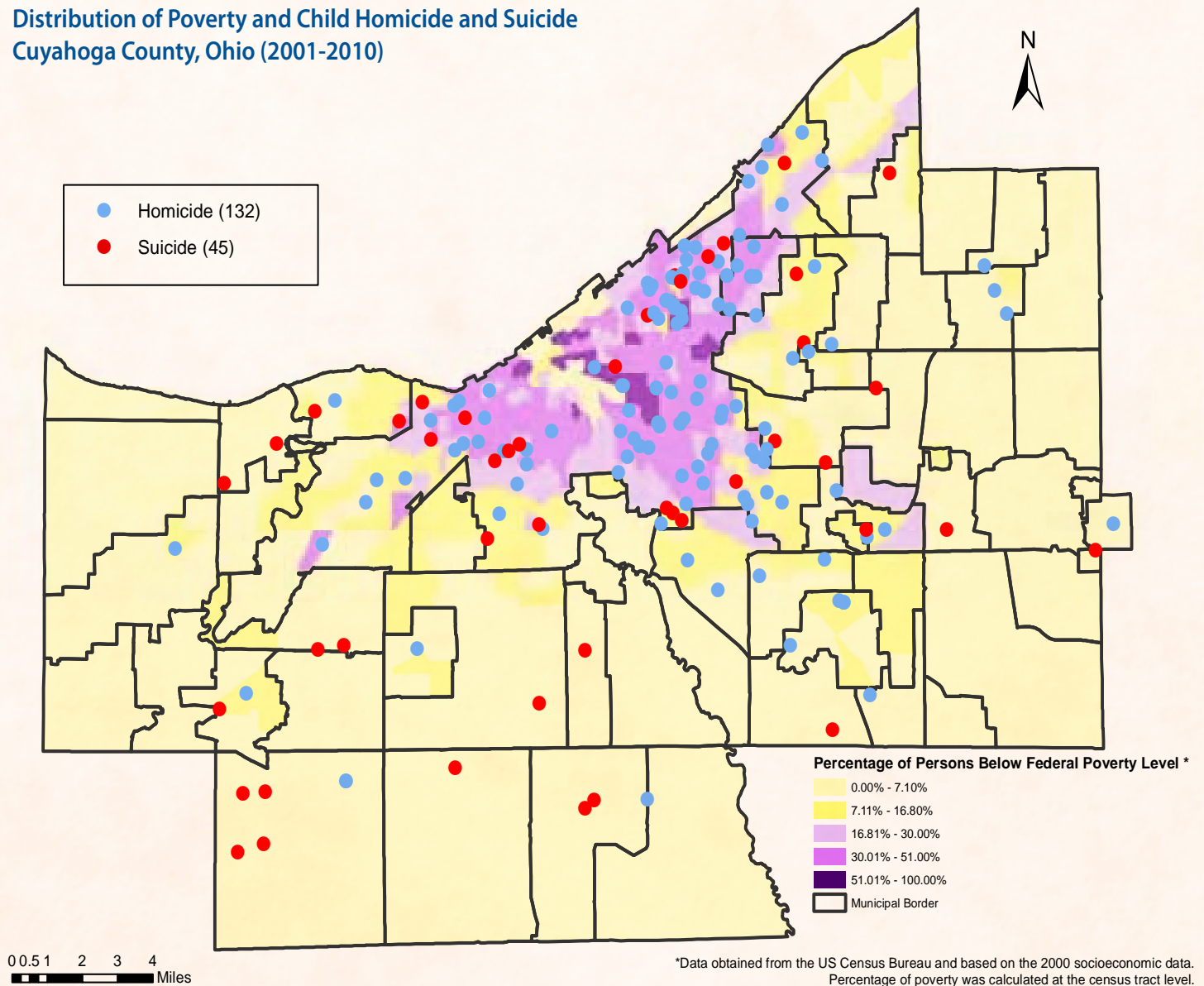
²⁰ American Academy of Pediatrics. Some things you should know about preventing teen suicide. Available online at <http://www.aap.org/advocacy/childhealthmonth/preventeensuicide.htm> (accessed August 10, 2011).

²¹ TeenHelp.org. Teen suicide facts. Available online at <http://www.teensuicidestatistics.com/statistics-facts.html> (accessed August 24, 2011).

INTENTIONAL INJURY DEATHS

Map 4

Distribution of Poverty and Child Homicide and Suicide Cuyahoga County, Ohio (2001-2010)



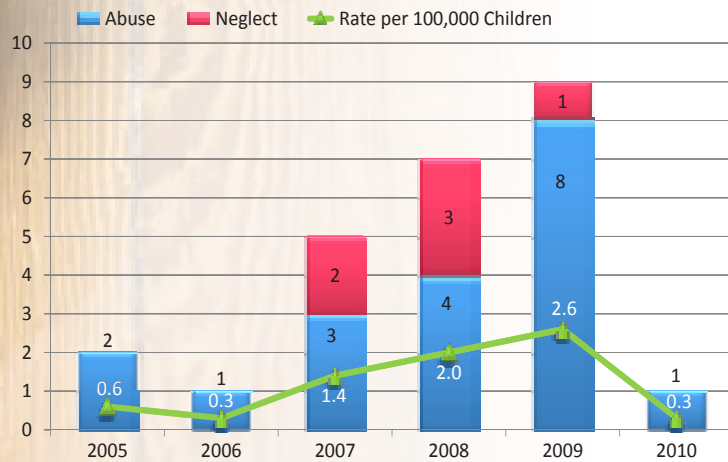
Map 4 shows the distribution of homicides and suicides over a period of ten years. In 2010, only 1 of the 5 homicides (20%) was a resident of Cleveland and only 1 of the 3 (33%) suicides resided in Cleveland. The majority of the homicides occurred in areas with a high density of families and individuals living below the poverty level. Suicide deaths were more evenly distributed among areas with a high density of poverty and areas with a low density of poverty.

There is a significant decrease in deaths due to abuse and neglect.

In 2010, there was 1 child death caused by scalding burns (**Figure 18**). The county rate of child abuse or neglect deaths was 0.3 per 100,000 children. In 2009 (the most recent data available), the national rate for child fatalities due to abuse or neglect was 2.3 per 100,000 children, which is the same number as 2008.^{22,23}

In a 2008 study 434 physicians reported that 28% of all possible child abuse and neglect cases were not reported. Not reporting suspicious injuries that may be caused by abuse is a first-degree misdemeanor in the state of Ohio. Doctors cited lack of education on how to interpret injuries as child abuse or normal injuries and having close, interpersonal relationships with clients as two main reasons they didn't report suspicious injuries.²⁴ Further education is needed for people required to report suspicious injuries to ensure that the rate of underreporting of child abuse and neglect is decreased significantly.

Figure 18
Child Deaths Due to Abuse and Neglect



²² US Department of Health and Human Services; Administration for Children and Families; Administration on Children, Youth and Families; Children's Bureau. (2010). Child Maltreatment 2009. Available online at http://www.acf.hhs.gov/programs/cb/stats_research/index.htm#can (accessed on August 2, 2011).

²³ US Department of Health and Human Services; Administration for Children and Families; Administration on Children, Youth and Families; Children's Bureau. (2010). Child Maltreatment 2008. Available online at http://www.acf.hhs.gov/programs/cb/stats_research/index.htm#can (accessed on August 2, 2011).

²⁴ Jones R, Flaherty EG, Binns HJ, Price LL, Slora E, Abney D, Harris DL, Christoffel KK, and Sege RD. Clinicians' description of factors influencing their reporting of suspected child abuse: Report of the child abuse reporting experience study research group. (2008). Available online at <http://www.pediatrics.aappublications.org/content/122/2/259.full.html> (accessed September 2, 2011).

Eighty percent of families who lost a child have received some level of city or county assistance.



Table 7
Service Involvement by Agency and Age Group

Community service agencies worked with 80% of the families that had a child who died in 2010. This is a 4% decrease from 2009 and a 6% decrease from 2008.

- 38 victims or family members were served by one service agency
- 34 by two agencies
- 39 by three agencies
- 27 by four agencies
- 4 by five agencies
- 1 by six agencies

Approximately 60% of victims or family members were served by two or more agencies and 40% were involved with at least three community service agencies within Cuyahoga County. **Table 7** provides a breakdown of services by agency or program and age group.

Type of Involvement	Under 1 Year	1 - 9 Years	10 - 17 Years	Total
DCFS* involved at time of death	16	2	2	20
DCFS involvement in prior 12 months	26	3	6	35
DCFS involvement ever (mom or child)	72	12	14	98
DCFS conducted investigation of death	18	2	3	23
Help Me Grow (child)	7	7	1	15
Help Me Grow (sibling)	32	3	1	36
WIC (mom or child)	88	10	1	99
MomsFirst involved at time of death	5	0	0	5
MomsFirst involvement ever (mom, child, or sibling)	9	1	0	10
Witness/Victim involved at time of death (mom or child)	0	0	1	1
Witness/Victim involvement ever (mom or child)	8	1	2	11
Juvenile Justice involved with child	1	2	8	11
Juvenile Justice involved with parent	72	8	10	90
Total Number of Deaths	140	16	22	178
Total Number Served by at Least 1 Agency	111	15	17	143
Percent of Children/Families Served	79%	94%	77%	80%

* Department of Children and Family Services

Economic risk factors increase by 14% in 2010.

Table 8 summarizes the total number of families by category of risk. **Appendix B** presents a summary of risk factors within each category. Overall, 92% of the families had one or more documented medical indicators; 67% had poverty indicators; 42% had behavioral risk factors; 40% of children and/or parents used cigarettes, alcohol, or drugs; 31% of children and/or parents had some history of mental health problems; and 30% had some history of domestic violence (child abuse or neglect, partner abuse, custody removal, or other household violence).

The complexity of each individual profile is illustrated by Table 8. The column headed "Total Cases" indicates how many of the 178 families had one or more risk factors in the different categories. The last three columns show how many families had no additional risk factors in other categories, additional factors in 1-4 other categories, or additional factors in 5-8 other categories out of 9 possible risk categories. For example, among the 164 families with a medical risk factor, 33 also had risk factors in 5-8 other categories.

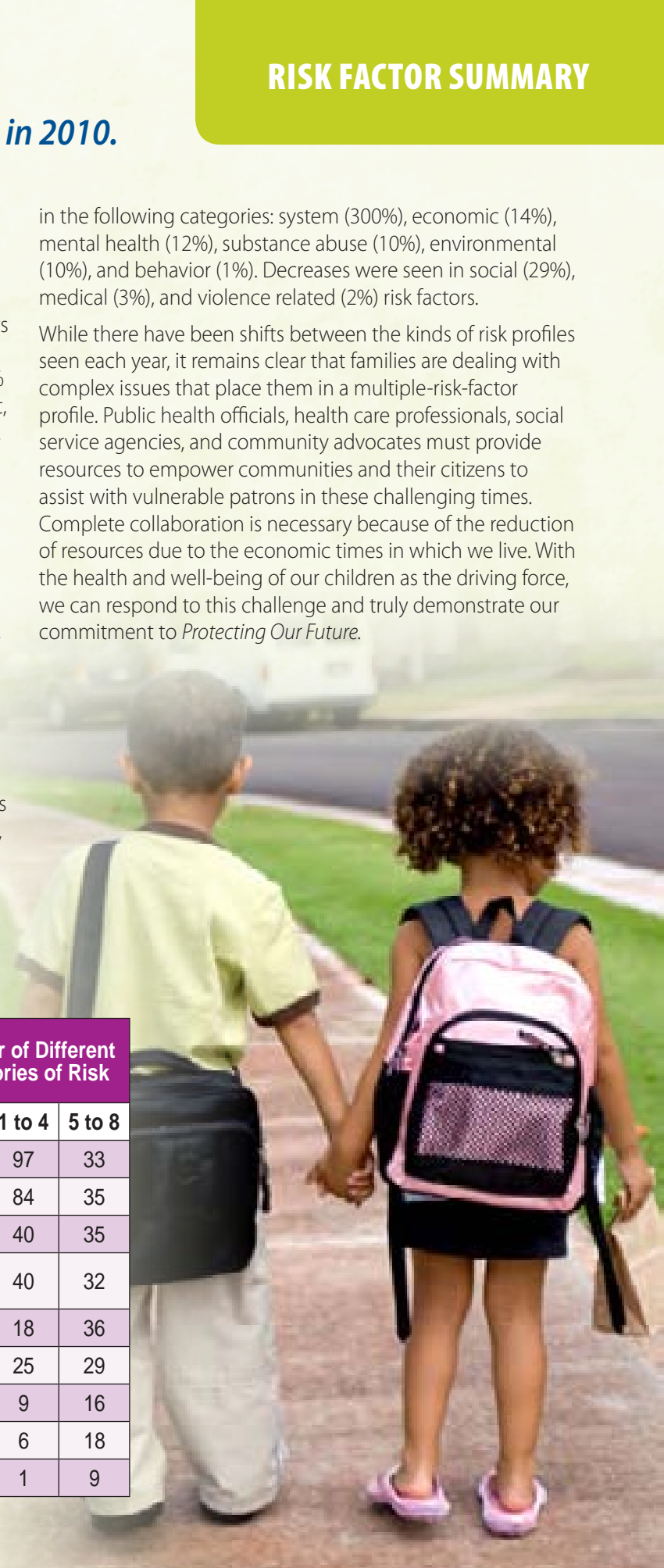
Throughout this report the leading risk factors for different causes of death are listed. For six years in a row the number of cases that identified economic risk factors (119 in 2010), such as poverty, surpassed the number of behavioral factors such as late or missed prenatal care, inadequate supervision, drug use, and limited parenting skills. Increases in risk factors were seen

in the following categories: system (300%), economic (14%), mental health (12%), substance abuse (10%), environmental (10%), and behavior (1%). Decreases were seen in social (29%), medical (3%), and violence related (2%) risk factors.

While there have been shifts between the kinds of risk profiles seen each year, it remains clear that families are dealing with complex issues that place them in a multiple-risk-factor profile. Public health officials, health care professionals, social service agencies, and community advocates must provide resources to empower communities and their citizens to assist with vulnerable patrons in these challenging times. Complete collaboration is necessary because of the reduction of resources due to the economic times in which we live. With the health and well-being of our children as the driving force, we can respond to this challenge and truly demonstrate our commitment to *Protecting Our Future*.

Table 8
Categories of Risk Factors Identified

	Total Cases (of 178)	Percent (%) of Cases	Total Factors (of 1414)	Number of Different Categories of Risk		
				0	1 to 4	5 to 8
Medical	164	92.1	658	34	97	33
Economic	119	66.9	133	0	84	35
Behavioral	75	42.1	140	0	40	35
Substance Abuse (parent and/or child)	72	40.4	178	0	40	32
Violence Related	54	30.3	146	0	18	36
Mental Health	55	30.9	81	1	25	29
Social	25	14.0	36	0	9	16
Environmental	25	14.0	29	1	6	18
System	10	5.6	13	0	1	9



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

- 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 interconceptional care.
 - Program capacity has been increased through annual *Invest In Children* funding to serve an additional 300 families prenatally.
 - 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, and perinatal depression.
 - Funding was received from the Mt. Sinai Foundation to support "Breast For Success," a new initiative to support mothers in their decision to breastfeed. A certified lactation counselor has been hired and components have been built in for fathers and breastfeeding doulas. Overall, breastfeeding promotes health and helps to prevent disease. Specific infant benefits include greater immunity, fewer infections, protection from SIDS, higher intelligence, less diabetes, and less childhood obesity, as well as other long-term health effects.
 - To improve Interconceptional Care Services around Healthy Weight, MomsFirst is building partnerships with organizations that focus on healthy weight, exercise, and nutrition to identify programs that clients can utilize. Obesity adds the burden of chronic disease and potential health risks to mother and baby. Scientific evidence indicates that pre-pregnancy body mass index is an independent predictor of many adverse outcomes in pregnancy.
 - MomsFirst continues to distribute the Baby Basics health literacy curriculum to all mothers enrolled in the project. Baby Basics is a prenatal health guide based on the best selling book *What to Expect When You're Expecting*. The book provides interactive, culturally sensitive prenatal education for expecting moms and also addresses and supports their need for literacy training and education.
- MomsFirst, in collaboration with a number of community partners, hosted the Third Annual Happy Healthy Babies Event in September 2010 in recognition of National Infant Mortality Awareness month. This event was successful in reaching expectant mothers, dads, new parents, grandparents, and caregivers with interactive educational activities and exhibits promoting prenatal care, safe sleep, fatherhood services, medical homes, and infant mortality awareness. A representative for Text4Baby from Washington DC attended the event to promote the free mobile information service that provides timely health information to pregnant women and new mothers through the baby's first year.
- The mission of the March of Dimes is to improve the health of babies by preventing birth defects, premature birth, and infant mortality. In January of 2003, the Ohio Chapter of the March of Dimes launched a multi-year campaign aimed at addressing the serious problem of prematurity. As part of a nationwide effort by the organization, the Ohio campaign continues to focus on increasing public awareness of the severity of prematurity and educating expectant parents on the warning signs of preterm labor. Additionally, the effort includes continuing education opportunities for health professionals and directing funding to prematurity related research.
 - In 2009, the Ohio March of Dimes participated in the Governor's Infant Mortality Task Force. The task force developed ten recommendations for preventing infant mortality in Ohio. The group formed an ongoing consortium to make progress on the recommendations. In 2010, the March of Dimes co-chaired this consortium.
 - In 2011, the Ohio March of Dimes provided funds for the expansion of the CenteringPregnancy program at University Hospitals MacDonal Women's Hospital. The goal of this program is to improve birth outcomes and increase breastfeeding rates.
- MetroHealth continues to offer a high-risk prematurity clinic to help parents of fragile preterm babies avoid SIDS, encourage optimal development, and learn positive parenting and nutritional concepts.
- The Cuyahoga County Board of Health conducted two training sessions for 72 MomsFirst staff members on the topics of preterm labor, prematurity deaths, grieving, and safe sleep.

Prematurity (continued)

- The Cuyahoga County Board of Health also provided two preterm labor education sessions to 32 MomsFirst clients.
- Families served prenatally continue to benefit from the Help Me Grow home visiting curriculum that emphasizes healthy prenatal habits, the importance of prenatal care, and preparing for childbirth.
- Through the work of *Invest In Children's* (IIC) Perinatal Strategy Committee – which brings together service providers, experts in the field, and local stakeholders – efforts are underway to: 1) ensure a seamless system of perinatal services in Cuyahoga County and 2) decrease the rate of poor birth outcomes in Cuyahoga County. As an example, families may access any service in the system by engaging with just one service, a concept known as “no wrong door.” IIC has also made it possible for multiple service providers, working with the same family, to work collaboratively in a coordinated way. IIC has assisted in developing information systems that enable service providers to better coordinate their efforts. Lastly, *Invest In Children* has sponsored a rigorous, objective evaluation of these service strategies to demonstrate their impact.

Birth Defects

- The Ohio Chapter of the March of Dimes advocacy efforts in Ohio include: maintaining health insurance coverage for pregnant women and children covered under Medicaid; extending Medicaid coverage for women between pregnancies; supporting Ohio's birth defects registry system (Ohio Connections for Children with Special Needs); continuing to evaluate and improve Ohio's Newborn Screening Program; and restoring the Mothers' and Children's Safety Net Services funding in Ohio's budget.
- *Invest In Children* funds organizations that: 1) work with pregnant parents to improve birth outcomes; 2) provide support to families with a child with a delay or disability; 3) encourage the establishment and use of a medical home; and 4) provide support to families and childcare providers working with children with special needs.
- The Rainbow Injury Prevention Center is home to the first and only special needs car seat program in Northeast Ohio. Many special needs children have challenges that prevent them from fitting correctly into a conventional child restraint, placing them at risk for additional injury. Rainbow provides specialized car seats to patients on a loaner basis or at a reduced cost. Fifty special child restraints were loaned to patients' families during 2010.

Sleep Related Deaths

- In 2010-2011 the Cuyahoga County Board of Health (CCBH), as outreach for the Child Fatality Review Committee, focused on educating the medical and nursing staff in maternity hospitals about the importance of role modeling safe sleep in the hospital. This is a critical component to ensure that parents will continue to provide a safe sleep environment at home. It was also emphasized that providing information was not enough. Role modeling and eliciting a discussion of safe sleep with parents and family members prior to discharge were essential. Twenty-one safe sleep presentations were given at hospitals throughout the county with 330 staff attending.
- The Cuyahoga County Board of Health continues to present safe sleep educational programs to infant care specialists and nanny students at the Alexandria School.
- In 2010-2011 the Cuyahoga County Board of Health partnered with MomsFirst at several events to provide safe sleep education to 115 pregnant or parenting women, fathers, and family members.
- A presentation of the Child Fatality Report with a focus on safe sleep was given to 50 home visiting and school nurses at CCBH. This was also presented to 24 new pediatric nurses at the Cleveland Clinic Foundation.
- The “safe sleep cards” with local data about sleep related deaths on one side and safe sleep messages on the other side continue to be distributed to hospitals, EMS, WIC, and family serving agencies.
- In 2010-2011 the Cuyahoga County Board of Health participated in 11 maternity licensure visits at local hospitals. Areas of discussion included the number of sleep related deaths in the county, the importance of role modeling safe sleep in the hospital, and incorporating a discussion of safe sleep with parents and family members before discharge. A tour of the nursery and patients' rooms also provided opportunities for education.
- As an outreach for the Child Fatality Review Committee, the Department of Health and Human Services and the CCBH partnered with MetroHealth Medical Center in 2011 for a year-long safe sleep campaign. The campaign included safe sleep education for staff, local data regarding sleep related deaths, safe sleep posters displayed throughout the hospital, and handouts for patients. Safe sleep information and interviews with a pediatrician were posted on MetroHealth's website.
- The WIC program continues to provide safe sleep information to their clients during visits.

Sleep Related Deaths (continued)

- The Department of Children and Family Services continues to distribute safe sleep information to families with infants.
- Help Me Grow continues to distribute safe sleep information to over 5,000 families participating in their ongoing services each year.
 - Families receiving home visitation services benefit from the Help Me Grow curriculum chapter on safe sleep.
 - All families complete a health and safety checklist with an emphasis on a safe sleeping environment.
- MomsFirst continues to assist families in need of a safe sleep environment obtain a crib or portable sleeping unit (Pack-n-Play). During the first six months of 2011, 65 cribs and 25 Pack-n-Plays were distributed to needy project participants.
- MomsFirst became a Text4Baby partner in 2010, promoting the free mobile information service that provides timely health information to pregnant women and new moms through the baby's first year. The Pregnancy Module includes:
 - "Get a crib to keep your baby safe while he sleeps. Call 1-800-311-BABY (2229) today & ask about options for low-cost cribs."
 - "Babies sleep safest on their backs in their cribs. Do NOT put pillows, blankets, toys, stuffed animals or sleep positioners in the crib."
- The Text4Baby Infant Module includes:
 - "Babies should ALWAYS sleep on their backs. They breathe better & are LESS likely to choke. Tell this to everyone who cares for your baby."
 - "The safest way for baby to sleep is alone on her back on a firm mattress in a crib. Never put baby to sleep on a sofa, chair or other soft surface."
 - "Infant pajamas are safe for your baby to wear to sleep. But no fluffy blankets or pillows in the crib. Blankets & pillows can raise the risk of SIDS."
 - "Babies are safest sleeping alone, on their back, in a crib, with no extra soft things, like stuffed animals near them."

Unintentional Injuries

- The Rainbow Babies & Children's Hospital Injury Prevention Center is dedicated to preventing unintentional injuries. The Center's mission is three fold: 1) to work directly with children and families through education and outreach to decrease injury risk and improve well-being; 2) to share creative ideas, resources, and information with all members of the greater Cleveland community; and 3) to advance the body of knowledge in unintentional injury prevention research.
 - As Greater Cleveland's child passenger safety experts, the staff operates a free Car Seat Inspection Station, provides low-cost car seat distribution for income-qualified families, offers infant seat classes for expectant parents, conducts car seat checkup events, leads booster seat promotion efforts, and designs seat belt promotion efforts aimed at "tweens" and teenagers. In 2010 there was also a multicultural seat belt promotion to address cultural concerns about seat belt usage.
 - Each October the Center organizes a countywide effort to promote pedestrian safety during International Walk to School Week.
 - The Center collaborates with the Northern Ohio Poison Control Center to increase community awareness about the dangers of poisoning for children. The staff distributes a poison prevention curriculum for students from kindergarten through sixth grade. They also conduct presentations to PTAs and parents' groups, and participate in health and safety fairs that focus on caregivers of young children.
 - The presence of a working smoke detector can mean the difference between life and death when a fire breaks out in a house or an apartment, yet residents of the highest risk areas – low income urban neighborhoods – are the least likely to have working smoke alarms. During 2010, the Rainbow Injury Prevention Center provided 150 smoke detectors free of charge to greater Clevelanders and provided 47 fire safety education programs to Cleveland area children through appearances at Safety Towns, schools, and recreation centers. The staff also presented *Learn Not to Burn* which discusses how smoke alarms work, how fires start, and how to evacuate a burning building for children in kindergarten through fourth grade.
- The Protecting Our Future website provides injury prevention newsletters on topics such as water, fire, and gun safety; supervision of children; and safe sleep for infants.

Unintentional Injuries (continued)

- A health and safety checklist is completed by all families in the Help Me Grow program in order to identify potential household and environmental hazards.
- The Help Me Grow home visiting curriculum addresses appropriate supervision of infants and young children.
- MetroHealth providers include education on safe infant sleep and adequate adult supervision for children as part of well-child checkups.
- The Cuyahoga County Witness/Victim Service Center provides information and education about the importance of educating clients who access services regarding a wide variety of issues related to safe infant sleep practices, adequate adult supervision, and general infant safety.

Homicide

- The Department of Children and Family Services (DCFS) currently contracts with 14 neighborhood collaborative sites. This is part of a prevention effort that allows children and families to be served safely in their home.
- The Special Investigation Unit at the DCFS continues to perform a comprehensive record review for all fatalities in which the deceased child was involved with the agency at the time of the fatality and/or during the previous 12 months. Lessons learned from investigations contribute to ongoing staff development throughout the agency, particularly in the areas of safety planning and prevention.
- DCFS began two new evidence-based parenting programs in 2011. PCIT is an evidence-based parent training intervention that teaches caregivers specific behavior management techniques as they play with their child. PCIT focuses on improving the caregiver-child relationship and increasing children's positive behaviors. TF-CBT is an evidence-based child and parent focused therapy, designed to help children and adolescents face and overcome the effects of trauma, and to engage the parent/caregiver as an effective support and partner in their child's recovery.
- DCFS has added a program to provide Multi-Systemic Therapy (MST) to families with at-risk teens. MST services provide intensive, in-home therapy based services to the family for up to 6 months. The Cuyahoga Tapestry System of Care has also joined the DCFS and is expanding to be able to serve more families with at-risk youth. Tapestry System of Care uses wraparound services to meet a family's needs. The focus is on building a team of natural and formal supports in the community to "wrap around" the family and develop a plan of care.

Homicide (continued)

- In 2010 a task force for the DCFS was created that involved a panel of 30 professionals from a wide variety of social service and legal fields. Their charge was to develop specific recommendations focusing on decision points related to the reunification process; a review of and recommendations on permanency; as well as recommendations to expand the agency's service delivery model related to evidence-based practice. The Department of Children and Family Services is currently implementing many of the recommendations for the reunification process.
- In 2010-2011 the Cuyahoga County Witness/Victim Service Center (WVSC) was instrumental in convening multiple partners in the Defending Childhood Initiative. Cuyahoga County was one of eight sites in the country selected to participate. The focus of this project is to identify, prevent, and treat children regarding exposure to all forms of violence in their homes, schools, or communities.
- The WVSC hosted the planning process for creating a one-stop-shop for family violence victims in Cuyahoga County. The Family Justice Center will hopefully reduce homicides, increase victim safety, strengthen empowerment for victims, and reduce re-victimization, through more effective collaboration of services and increased prosecution of offenders.
- The Cuyahoga County Witness/Victim Service Center also serves as an agency participant on the Cuyahoga County Domestic Violence Coordinating Council and participates in presentations and facilitation of discussion groups at various high schools on topics of domestic violence and violence in teen relationships.
- The Witness/Victim Service Center further promotes child safety by being the home of the Violence Against Women Safe Havens Grant, a program providing supervised visitation and safe exchange services through a contract with the Domestic Violence Center.
- The WVSC is available for outreach and education in the community. Presentations to schools, human/social service providers, medical personnel, and law enforcement are means of linking the Center to the needs of the community at large.
- The Family Drug Court works with parents whose children are alleged to be abused or neglected and are at risk of losing their children because of drug dependency.
- Case School of Medicine students regularly receive lectures on child abuse issues during their clinical pediatric clerkships at MetroHealth Medical Center. MetroHealth pediatric residents receive training in the behavioral effects of child abuse.

Homicide (continued)

- The Alcohol, Drug Addiction and Mental Health Services (ADAMHS) Board of Cuyahoga County has a network of adolescent treatment agencies that specialize in services to teenagers and conduct special workgroups to promote understanding of issues such as family and community violence.
- In 2011, the Cuyahoga County Board of Health presented "Child Abuse and Neglect Fatalities in an Urban Setting" at the American Public Health Association national conference. This presentation incorporated five years of local data and recognized that child fatality review teams were a best practice to assess the number, circumstances, and risk factors for child maltreatment deaths.

Suicide

- The purpose of the Alcohol, Drug Addiction and Mental Health Services (ADAMHS) Board of Cuyahoga County's Suicide Prevention Awareness Campaign is to reach as many citizens of Cuyahoga County with the message: "Do you know someone thinking about suicide?" and direct people who are in need of help or more information to the ADAMHS Board of Cuyahoga County's 24-hour suicide prevention, mental health information and referral line for adults and children – 216-623-6888. This hotline is operated by Mental Health Services, Inc. Suicide is the third leading cause of death among teenagers and young adults ages 15-24, and is the fifth leading cause of death among 5- to 14-year-olds. Accordingly, the campaign targets all age groups, including children and their families.
- In the School-based Mental Health Services Program, the mental health needs of students are identified and addressed by on-site clinicians who provide counseling, community support services, assessment, prevention, and consultation. This collaboration among community agencies, public systems, and school personnel increases the opportunity to prevent more serious difficulties, including suicide.
- The ADAMHS Board of Cuyahoga County has taken the lead, in collaboration with school districts, community mental health agencies, and substance abuse prevention services within the schools. Through these services, youth with emotional or behavioral problems or who are at risk for substance abuse are identified earlier, and access to services is improved. The program provides prevention and early intervention to enhance social/emotional development and prevent more serious problems. Intensive treatment is available, when needed.

Suicide (continued)

- During the 2010-2011 school year, school-based mental health services were delivered to more than 3,000 students in the Cleveland Metropolitan School District's schools. There are also a number of collaborative ventures in many of the suburban school districts. In addition, substance abuse prevention programs are offered regularly throughout the county and reach tens of thousands of youth each year.
- The ADAMHS Board maintains administrative oversight of the Families and Schools Together (FAST) program. FAST is a national evidence-based substance abuse prevention curriculum that has demonstrated powerful results in strengthening family cohesion, a major factor in helping to keep/meet the basic needs of children, including safety and success.
- A video produced by the ADAMHS Board, *Living With It: Youth Talk About Depression*, continues to be distributed to schools and organizations. The video is part of a kit that gives suggestions for use, fact sheets, and recommended actions for teachers to take if they suspect a child is depressed. The Parent2Parent Network continues to sponsor events about youth and depression that feature the video followed by a question and answer session with panel experts.
- Cuyahoga County Juvenile Court has a Mental Health Court that targets youth who have been identified with mental health issues.
- The Behavioral Health / Juvenile Justice project is a community-based model alternative to secure care in detention environments for adolescent female juvenile offenders with serious behavioral issues. Female youth are served in this project in lieu of out-of-home placement. This is a collaboration with Juvenile Court, the ADAMHS Board, Family and Children First Council, and the Department of Children and Family Services.
- Delinquency Drug Court is a voluntary program for non-violent youth with substance abuse issues. New services have been added for youth exhibiting mental health symptoms as well as substance abuse disorders.

Interagency Actions

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

- The Help Me Grow (HMG) and the Department of Children and Family Services (DCFS) interagency agreement was finalized to include protocols for co-serving families to increase continued participation in HMG services when cases are closed with DCFS, as well as improved communication protocols and information sharing. This enhanced partnership also included the creation of a jointly shared liaison position between the two systems with the goals of increasing appropriate referrals from DCFS to HMG and assisting with cross system services in order to keep families in HMG services beyond their involvement with DCFS. Since the creation of this position, referrals from DCFS to HMG have increased by 40%.
- Help Me Grow; the Alcohol, Drug Addiction and Mental Health Services (ADAMHS) Board; and the Department of Children and Family Services (DCFS) collaborated on a grant-funded initiative to increase early identification and access to early childhood mental health services for children of families involved with DCFS. Through this partnership, HMG and ADAMHS are exploring the creation of a liaison position between the two systems to improve cross-system services of families.
- MetroHealth hosts ongoing monthly meetings with DCFS to improve collaboration between the two agencies and to update policy information.
- The Witness/Victim Service Center (WVSC) collaborates with the Department of Children and Family Services in developing enhanced strategies such as the requirement to assess for domestic violence related issues at the time of initial contact with a family, and then continuously throughout that family's involvement with DCFS. As the county home of the Children Who Witness Violence Program, WVSC staff is participating in DCFS workers' training in recognizing trauma. The training that is being offered by Mental Health Services, Inc. is part of a project funded by the Substance Abuse and Mental Health Services Administration.

RECOMMENDATIONS

Prematurity

1. Support the efforts of the March of Dimes to increase public awareness of the severity of prematurity and the need to educate expectant parents about the warning signs of preterm labor.
2. Encourage child and family serving agencies to incorporate interconception care as a core component of their programs.
3. Promote a seamless system for perinatal services that also addresses the complex needs of many pregnant women by linking them to services for chronic health problems, drug treatment, and mental health counseling.

Birth Defects

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

Sleep Related Deaths

1. Continue to educate the staff in maternity units and pediatric hospitals throughout Cuyahoga County about the importance of role modeling safe sleep in the hospital.
2. Increase family serving agencies' awareness of the components of a safe infant sleep environment by providing staff trainings on risk factors, local sleep related fatality data, and current safe sleep recommendations.
3. Partner with family serving agencies to provide safe sleep education to other infant caregivers such as grandparents, relatives, and friends.
4. Seek funding for a focus group study with mothers and other caregivers to identify concerns and barriers that impede families from following the safe sleep message: "Babies sleep safest... Alone, on their backs, and in a 'bare naked' crib."

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 and bicycle safety, unintentional poisoning, and fire 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.

Homicide

1. Support parental and community education to increase awareness of the importance of selecting a safe and appropriate person to care for your child.
2. Promote the use of 24-hour parenting hotlines as a safe and confidential resource for parents in crisis.
3. Advocate for community-based safe haven centers for teens that 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.

Data
Tables



Table 9

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

BOYS	Cause of Death	AGE	YEAR										Total
			2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Undetermined	14	0	0	0	0	0	0	0	0	0	0	1	1
	Total	0	0	0	0	0	0	0	0	0	0	1	1
Accidental	3	0	0	0	0	1	0	0	0	0	0	0	1
	15	0	0	0	0	0	0	0	0	1	0	0	1
	16	0	0	0	0	1	0	1	0	0	0	0	2
	Total	0	0	0	0	2	0	1	0	1	0	0	4
Suicide	13	0	0	0	0	0	0	0	0	1	0	0	1
	14	0	0	0	0	0	0	2	0	0	0	0	2
	15	0	1	0	0	1	0	0	0	1	0	0	3
	16	0	0	0	1	0	0	0	0	0	0	0	1
	17	0	0	0	0	1	0	0	0	0	0	2	3
	Total	0	1	0	1	2	0	2	0	2	2	2	10
Homicide	2	0	0	0	0	0	0	0	0	2	0	0	2
	11	0	0	0	0	1	1	0	0	0	0	0	2
	12	1	0	0	0	0	0	0	0	0	0	0	1
	13	2	0	0	0	0	0	1	1	0	0	0	4
	14	0	0	0	1	0	1	0	0	0	0	0	2
	15	2	0	0	0	1	0	1	2	0	0	0	6
	16	1	4	0	1	1	1	2	2	1	0	0	13
	17	3	0	0	3	2	1	9	2	3	2	2	25
Total	9	4	0	5	5	4	13	7	6	2	2	55	
TOTAL ALL BOYS	9	5	0	6	9	4	16	7	9	5	70		

GIRLS	Cause of Death	AGE	YEAR										Total
			2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Suicide	14	0	0	0	1	0	0	0	0	0	0	0	1
	17	0	0	0	1	0	0	0	1	0	0	0	2
	Total	0	0	0	2	0	0	0	1	0	0	0	3
Homicide	3	1	0	0	0	0	0	0	0	0	0	0	1
	5	0	0	0	0	0	0	0	0	1	0	0	1
	6	0	0	0	0	0	1	0	0	0	0	0	1
	11	0	0	0	0	0	0	0	1	0	0	0	1
	12	0	0	0	0	0	0	1	0	0	0	0	1
	14	1	0	0	0	0	0	0	0	0	0	0	1
	15	1	0	0	0	0	0	0	1	0	0	0	2
	16	2	0	0	0	0	0	0	0	0	0	0	2
17	0	0	0	1	0	0	0	1	0	0	0	2	
Total	5	0	0	1	0	1	1	3	1	0	0	12	
TOTAL ALL GIRLS	5	0	0	3	0	1	1	4	1	0	0	15	
TOTAL CHILDREN	14	5	0	9	9	5	17	11	10	5	85		

Table 10
Demographic Profiles and Cause Specific Rates¹

	2010 Census Data										
	Population Under 18 Years	Percent of Population Under 18									
Cuyahoga County (Total)	290,262	23	Percent of Total County Child Population in Cleveland								34
Cuyahoga County (White)	154,615	19									
Cuyahoga County (All Other Races)	135,647	29	Percent of Total County Child Population All Other Races								47
City of Cleveland	97,657	25									
Annual Birth Data²	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Cuyahoga County	18,188	17,375	17,252	16,932	16,354	16,682	16,450	16,249	15,525	15,963	
% White	62.3	61.5	61.2	59.6	57.7	57.9	56.1	56.0	56.4	56.4	
Annual Death Data	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Annual Child Deaths	240	231	189	227	239	233	230	240	213	178	
Annual Infant Deaths	154	173	136	161	164	166	162	171	141	140	
% Deaths to Infants	64.2	74.9	72.0	70.9	68.6	71.2	70.4	71.3	66.2	78.7	
Child Mortality / 100,000 Children	69.0	66.4	54.3	65.2	68.7	67.0	66.1	69.0	61.2	61.3	
Annual Total Medical Death Rate	50.3	52.6	39.9	48.3	52.6	49.1	49.4	50.3	42.8	46.5	
Cancer	2.3	2.6	2.6	3.7	2.9	2.3	2.9	3.2	2.6	1.7	
Annual Total Injury Death Rate	18.7	13.8	14.4	17.0	16.1	17.8	16.7	18.7	18.4	14.8	
Homicide	5.7	2.9	2.3	2.0	5.2	3.7	5.7	4.3	4.9	1.7	
Motor Vehicle Accident	3.2	1.1	2.3	2.3	1.1	1.1	0.9	2.6	1.7	1.4	
Fire	1.4	1.1	0.9	0.9	0.0	1.1	1.1	0.0	0.9	0.0	
Drowning	2.0	1.1	1.4	1.1	1.4	2.0	1.1	1.1	1.7	0.0	
Suicide	0.9	1.7	0.0	2.9	1.7	0.6	1.1	2.0	1.1	1.0	
Infant Mortality / 1,000 Births	8.5	10.0	7.9	9.5	10.0	10.0	9.8	10.5	9.1	8.8	
Prematurity	5.5	7.0	4.4	5.5	6.5	6.3	5.9	6.3	5.5	4.9	
SIDS Only	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.0	0.0	0.0	
SIDS and Sleep Related	0.9	1.4	1.6	1.1	1.0	1.1	1.3	1.4	1.3	1.8	

¹ Shaded boxes are 2010 Birth Estimates provided by the Ohio Department of Health. The 2010 race data for births was not available at time of report; therefore, the percent of white births for 2009 was used as an estimate for 2010.

² Ohio Department of Health, Vital Statistics Department (<http://dwhouse.odh.ohio.gov/datawarehousev2.htm>). Data generated on July 15, 2011.

Table 11
Annual Number of Child Deaths Due to Injury and Medical Causes by Age Group

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Total
Total Injury Related Deaths											
Under 1 Year	16	20	26	25	17	24	21	30	27	28	234
1 - 9 Years	22	7	13	9	10	16	12	9	19	5	122
10 - 17 Years	27	21	11	25	29	22	25	26	18	10	214
Total	65	48	50	59	56	62	58	65	64	43	570
Total Deaths from Medical Causes											
Under 1 Year	138	153	110	136	147	142	141	141	114	112	1334
1 - 9 Years	18	14	19	21	20	15	21	21	23	11	183
10 - 17 Years	19	16	10	11	16	14	10	13	12	12	133
Total	175	183	139	168	183	171	172	175	149	135	1650
Total All Causes	240	231	189	227	239	233	230	240	213	178	2220

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

Table 12
Cause of Death by Age Group and Year

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Total per Cause
Prematurity	974										
Under 1 Year	100	121	76	93	107	105	97	102	85	79	
1 - 9 Years	1	1	0	1	1	0	1	2	1	0	
10 - 17 Years	0	0	0	1	0	0	0	0	0	0	
Birth Defects	326										
Under 1 Year	23	18	15	26	26	28	31	31	28	20	
1 - 9 Years	6	2	6	0	11	5	6	9	6	5	
10 - 17 Years	3	2	2	0	2	2	3	3	3	4	
SIDS and Sleep Related Deaths	213										
Under 1 Year	16	24	27	20	16	18	22	22	20	28	
Cancer and Other Medical Conditions	352										
Under 1 Year	12	8	16	20	15	10	9	13	5	13	
1 - 9 Years	11	11	13	21	9	11	14	10	16	6	
10 - 17 Years	16	14	8	10	14	13	7	10	9	8	
Homicide	132										
Under 1 Year	3	2	2	1	0	1	1	3	1	0	
1 - 9 Years	3	1	4	0	3	5	2	2	11	2	
10 - 17 Years	14	7	2	7	15	7	15	10	5	3	
Suicide	45										
1 - 9 Years	0	1	0	0	0	0	0	0	0	0	
10 - 17 Years	3	5	0	10	6	2	4	7	4	3	
Motor Vehicle Accident	56										
Under 1 Year	0	0	0	1	0	0	0	0	1	0	
1 - 9 Years	6	1	3	0	0	2	2	2	2	2	
10 - 17 Years	5	3	5	2	4	2	1	7	3	2	
Accidental Suffocation	16										
Under 1 Year ¹	0	0	0	0	0	6	0	0	0	0	
1 - 9 Years	0	0	1	4	1	0	2	0	0	0	
10 - 17 Years	1	0	0	0	0	0	0	0	0	1	
Drowning	45										
Under 1 Year	0	0	0	0	0	1	0	0	0	0	
1 - 9 Years	3	0	2	2	2	4	2	2	2	0	
10 - 17 Years	4	4	3	2	3	2	1	2	4	0	
Fire ^{2,3}	25										
Under 1 Year	0	0	0	0	0	0	0	0	1	0	
1 - 9 Years	5	3	3	2	0	3	3	0	2	0	
10 - 17 Years	0	1	0	0	0	1	1	0	0	0	
Other Accidents ⁴	45										
Under 1 Year	0	0	0	0	0	6	2	0	0	0	
1 - 9 Years	5	1	0	0	3	1	1	3	2	1	
10 - 17 Years	0	1	1	4	1	7	3	0	2	1	
Total per Year	240	231	189	227	239	242	230	240	213	178	2229

¹ Excludes those related to sleep environment.

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

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

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

Table 13

Annual Number of Child Deaths by Race and Age Group¹

		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Total
Race & Age Group												
White												
	Under 1 Year	71	49	45	55	53	43	55	43	43	40	497
	1 - 9 Years	14	11	14	17	16	12	10	10	19	4	127
	10 - 17 Years	22	16	7	20	13	16	11	13	12	13	143
	Total	107	76	66	92	82	71	76	66	74	57	767
All Other Races												
	Under 1 Year	78	124	91	105	111	123	107	128	98	100	1065
	1 - 9 Years	26	10	18	13	14	18	23	20	23	12	177
	10 - 17 Years	23	21	14	16	32	20	24	26	18	9	203
	Total	127	155	123	134	157	161	154	174	139	121	1445
	Total All	234	231	189	226	239	232	230	240	213	178	2212
	<i>Missing Race Info</i>	6	0	0	1	0	1	0	0	0	0	8
Rates of Death												Average
	Crude Death Rate White ²	53.2	37.8	32.8	45.7	40.8	35.3	37.8	32.8	36.8	36.9	39.0
	Crude Death Rate All Other Races ³	86.5	105.6	83.8	91.3	107.0	109.7	104.9	118.5	94.7	89.2	99.1
	Ratio of All Other Races to White	1.6	2.8	2.6	2.0	2.6	3.1	2.8	3.6	2.6	2.4	2.6
	Death Rate (excl Infants) White ⁴	19.0	14.2	11.0	19.4	15.1	14.6	10.9	12.0	16.0	11.7	14.4
	Death Rate (excl Infants) All Other Races ⁵	35.0	22.1	22.8	20.7	32.9	27.2	33.7	33.0	29.4	16.3	27.3
	Ratio of All Other Races to White (excl infants)	1.9	1.6	2.1	1.1	2.2	1.9	3.1	2.7	1.8	1.4	2.0
	Infant Mortality/1,000 Births White ⁶	6.3	4.6	4.3	5.5	5.6	4.5	6.0	4.7	5.0	4.4	5.1
	Infant Mortality/1,000 Births All Other Races ⁷	11.4	18.5	13.6	15.3	16.0	17.5	14.8	17.9	14.4	14.2	15.4
	Ratio of All Other Races to White IMR	1.8	4.0	3.2	2.8	2.9	3.9	2.5	3.8	2.9	3.2	3.1

¹ Shaded boxes are based on adjusted estimates from unconfirmed delivery hospital data.

² Total White deaths/154,615 x 100,000 (2010 Census data in Table 10)

³ Total All Other Races deaths/135,647 x 100,000 (2010 Census data in Table 10)

⁴ Total White deaths (excl Infants)/154,615 minus White live births x 100,000 (2010 Census data in Table 10)

⁵ Total All Other Races deaths (excl Infants)/135,647 minus All Other Races live births x 100,000 (2010 Census data in Table 10)

⁶ Total Infant White deaths/total White live births x 1,000 (annual birth data in Table 10)

⁷ Total Infant All Other Races deaths/total All Other Races live births x 1,000 (annual birth data in Table 10)

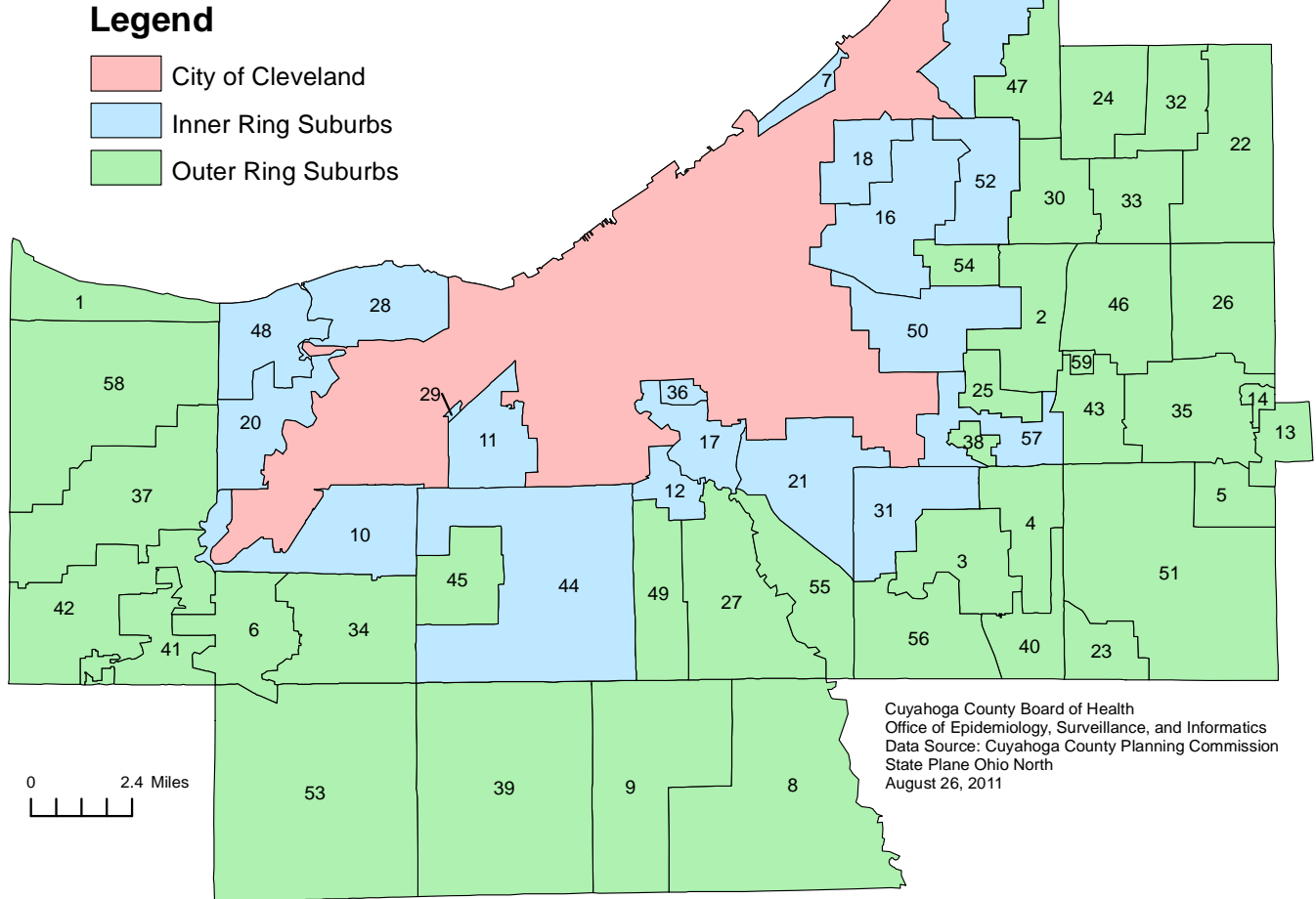
Table 14
Annual Number of Child Deaths by Gender and Age Group

	2001	2002	2003	2004	2005	2006*	2007	2008	2009	2010	Total
Gender & Age Group											
Male											
Under 1 Year	90	90	80	87	95	91	93	94	74	71	865
1 - 9 Years	24	15	17	13	15	15	16	15	26	6	162
10 - 17 Years	34	25	16	21	36	23	26	24	15	15	235
Total	148	130	113	121	146	129	135	133	115	92	1262
Female											
Under 1 Year	64	83	56	74	69	74	69	77	67	69	702
1 - 9 Years	16	6	15	17	15	16	17	15	16	10	143
10 - 17 Years	12	12	5	15	9	13	9	15	15	7	112
Total	92	101	76	106	93	103	95	107	98	86	957
TOTAL ALL	240	231	189	227	239	232	230	240	213	178	2219

* In 2006, one infant had unknown gender.

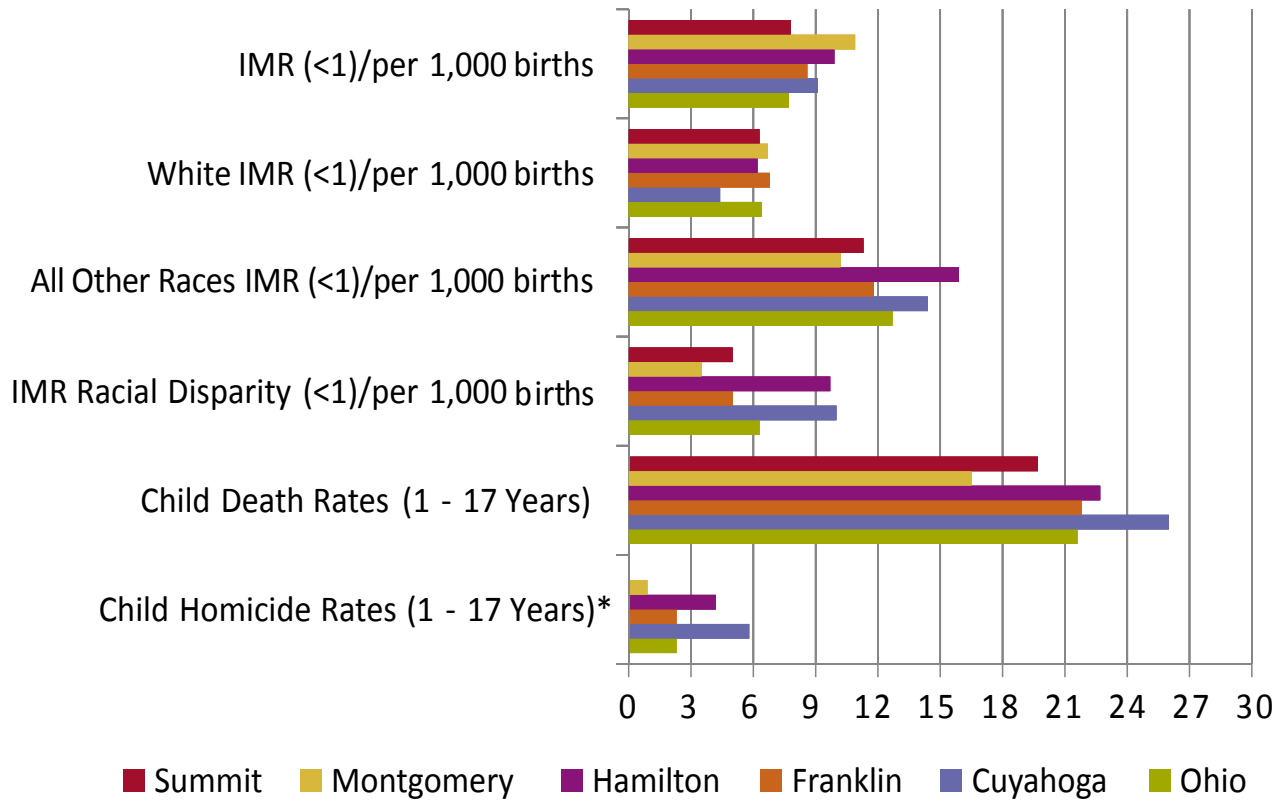
Map 5

City of Cleveland with Inner 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				

Peer County Comparisons in 2009



*Child homicide data was not available for Summit County for 2009.

Summary of Risk Factors in 2010*

Mother's Medical Risk Factors

Chronic illness
Preterm labor
Premature rupture of membranes (PROM)
Previous fetal loss
Previous infant loss
Previous preterm delivery
Sexually transmitted infections (STI)
Chorioamnionitis
At-risk maternal age
Bacterial vaginosis
Positive beta strep
Multiple gestation
Pre-eclampsia (PET)
Incompetent cervix
Abruptio
Oligohydramnios
Polyhydramnios

Pediatric Medical Risk Factors

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

Economic Risk Factors

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

Behavioral Risk Factors

No prenatal care
Late entry into prenatal care
Missed appointments, mother
Missing immunizations
Missed appointments, child
Self medication, child
Early onset parenting
Bedsharing
Inadequate supervision
Poor parenting
Unsafe sleep arrangement
Lack of child safety
Car restraint not used
Truancy, child
Delinquency, child
Aggression, child
Family planning never used
Family planning not used, unplanned pregnancy

Parental Substance Abuse

Tobacco
Alcohol
Illicit drugs
Prescription drugs

Child Substance Abuse

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

Violence Related Risk Factors

Partner abuse
Child abuse
Child neglect
Medical neglect
History of reports for suspected domestic violence or child maltreatment
History of custody removal
History of child exposure to violence outside of the home
Evidence of previous unexplained injuries
Parental criminal history

Mental Health Risk Factors

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

Environmental Risk Factors

No functional smoke detector
Secondhand smoke
Deplorable housing
Transportation inadequate

Social Risk Factors

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

System Risk Factors

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

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



Cuyahoga County

Child Fatality Review Committee Membership 2010

David Bruckman, MS, MT(ASCP)
Scott Kennedy
Committee Chairpersons

Andrea Arendt, RN, MPH
Cuyahoga County Board of Health
5550 Venture Drive
Parma, Ohio 44130

David Bruckman, MS, MT(ASCP)
Cleveland Dept. of Public Health
75 Erievue Plaza, 3rd Floor
Cleveland, Ohio 44114

Linda Cohen, LSW, MSW
Cuyahoga County Juvenile Court
3343 Community College
Cleveland, Ohio 44115

Lorrie Considine, RN, BSN
Cuyahoga County Board of Health
5550 Venture Drive
Parma, Ohio 44130

Daralynn Constant, LISW
Child Protection Program
Rainbow Babies & Children's Hosp.
11100 Euclid Avenue
Cleveland, Ohio 44106

Cuyahoga County Coroner's
Death Scene Investigation Team
11001 Cedar Avenue
Cleveland, Ohio 44106

Deanna Dahl-Grove, M.D.
Div. of Pediatric Emergency Med.
Rainbow Babies & Children's Hosp.
11100 Euclid Avenue
Cleveland, Ohio 44106

Anna Faraglia, J.D.
Cuy. County Prosecutor's Office
Justice Center – Ninth Floor
1200 Ontario Street
Cleveland, Ohio 44113

Mark Feingold, M.D.
MetroHealth Medical Center
2500 MetroHealth Drive
Cleveland, Ohio 44109

Nina Fielden
Cleveland Clinic Foundation
9500 Euclid Avenue
Cleveland, Ohio 44195

Monica Fundzak, NNP
MetroHealth Medical Center
2500 MetroHealth Drive
Cleveland, Ohio 44109

Megan Graham
**Cuyahoga County Witness/
Victim Service Center**
310 W. Lakeside Road, Suite 300
Cleveland, Ohio 44113

Rakhi Gupta, M.D.
Cleveland Clinic Foundation
9500 Euclid Avenue
Cleveland, Ohio 44195

Lisa Isham, MS, RD, LD
Cuyahoga County Board of Health
5550 Venture Drive
Parma, Ohio 44130

Scott Kennedy
Dept. of Children & Family Services
3955 Euclid Avenue
Cleveland, Ohio 44115

Carol Lindsay, M.D.
Perinatologist

Mary Louise Madigan
**Cuyahoga County Office of
Health and Human Services**
1219 Ontario Street, Room 424
Cleveland, Ohio 44113

Lori Mago, MPA
Help Me Grow Collaborative
2421 Community College
Cleveland, Ohio 44115

Lisa Matthews, MBA
MomsFirst
Cleveland Dept. of Public Health
75 Erievue Plaza
Cleveland, Ohio 44114

Nancy McCrickard, ND, RN
**Cleveland Metropolitan
School District**
1440 Lakeside Avenue
Cleveland, Ohio 44114

Lolita McDavid, M.D., MPA
Rainbow Babies & Children's Hosp.
11100 Euclid Avenue
Cleveland, Ohio 44106

Frank Miller, M.D.
Cuyahoga County Coroner
11001 Cedar Avenue
Cleveland, Ohio 44106

Barbara Riley, MPA
Cuyahoga County WIC Program
5202 Memphis Avenue
Cleveland, Ohio 44144

Diane Roberts, LISW
Department of Social Work
MetroHealth Medical Center
2500 MetroHealth Drive
Cleveland, Ohio 44109

Sgt. Dan Rowley
Bureau of Special Investigations
Cleveland Police Department
1300 Ontario Street
Cleveland, Ohio 44113

Kitty Russ, RN
Fairview Hospital
18101 Lorain Avenue
Cleveland, Ohio 44111

Richard Stacklin, MEd
Cuyahoga County Board of Health
5550 Venture Drive
Parma, Ohio 44130

Therese Wallace
Dept. of Children & Family Services
3955 Euclid Avenue
Cleveland, Ohio 44115

Cynthia Vrabel, M.D.
Mental Health Services, Inc.
1744 Payne Avenue
Cleveland, Ohio 44114

Leshia Yarbrough-Franklin
**Alcohol, Drug Addiction &
Mental Health Services Board**
2012 West 25th Street, 6th Floor
Cleveland, Ohio 44113



**For more information on the Child Fatality Review Program,
contact either of the following individuals or go to:**

<http://protectingourfuture.cuyahogacounty.us>

Mary Louise Madigan

Cuyahoga County Office of
Health and Human Services
(216) 698-2521

Lorrie Considine, RN, BSN

Cuyahoga County
Board of Health
(216) 201-2001 ext. 1529

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The Cuyahoga County Board of Health

James Coates, RS
Lorrie Considine, RN, BSN
Chris Kippes, MS
Richard Stacklin, MEd



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