



Hamilton County
Family and Children First Council

CHILD
FATALITY
REVIEW
TEAM

annual report



2010

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Section I. Introduction

The Hamilton County Child Fatality Review Team, which operates under the auspices of the Hamilton County Family and Children First Council, officially began reviewing cases on January 1, 1996. The following report represents the fifteenth full year of child death reviews by the Hamilton County Team.

The purpose of the Hamilton County Child Fatality Review Team is to prevent child deaths by examining the cause of child deaths in the aggregate, making policy recommendations resulting from review of child deaths in Hamilton County and by increasing coordination and communication between agencies and systems. The main goals of the CFRT are:

- To compile uniform statistics on all deaths among children aged 17 and under in Hamilton County
- To accurately identify and document the cause of death of all Hamilton County children
- To identify trends among child deaths in Hamilton County
- To identify causes of death that may be preventable, and make subsequent recommendations about policy changes in public health and public safety for Hamilton County
- To develop uniform protocols and procedures for investigating child deaths

Child Fatality Review Team (CFRT) Membership

Regular CFRT members are representatives of the following agencies: Children's Services of Hamilton County Department of Job and Family Services, Cincinnati Children's Hospital Medical Center, Cincinnati Health Department, Cincinnati Fire Department, Cincinnati Police Division, Hamilton County Coroner, Hamilton County Prosecutor, Hamilton County Sheriff, Hamilton County Public Health, Hamilton County Juvenile Court, Hamilton County Mental Health and Recovery Services Board and the Hamilton County Family and Children First Council (FCFC). A list of the Hamilton County Child Fatality Review Team members can be found on the previous page of this report.

Meetings are closed to the general public and the media. Only CFRT members and invited guests are permitted to attend CFRT meetings. Representatives of other agencies and organizations are occasionally invited to attend when a relevant case is being discussed.

Cases Reviewed

The Hamilton County Child Fatality Review Team screens all deaths of children age 17 years or younger who are residents of Hamilton County at the time of death. The CFRT limits death reviews to residents of Hamilton County and does not review deaths of non-residents who die in Hamilton County. Deaths of Hamilton County children in the custody of the Hamilton County Department of Job and Family Services or under the jurisdiction of Hamilton County Juvenile Court are examined, even if the child is living outside of Hamilton County at the time of death.

Death certificates of all Hamilton County residents under the age of 18 are sent to the Council office by each of the Health Departments in Hamilton County. The FCFC records and stores

demographic data about all the child deaths, such as gender, race, age, residence, etc. The FCFC then sends the death certificates to the Coroner's office, which then reviews each death certificate to categorize the cause of death and to determine whether it qualifies for a full team review by meeting any of the following criteria:

- Homicide
- Suicide
- Unintentional injuries (accidents)
- Undetermined, including presumed SIDS
- Unexpected outcomes (i.e. unexpected death from identified medical causes)
- Unexpected clusters (unusual frequency of deaths from identified medical causes)
- All cases with previous or current Children's Services involvement
- All cases investigated by law enforcement

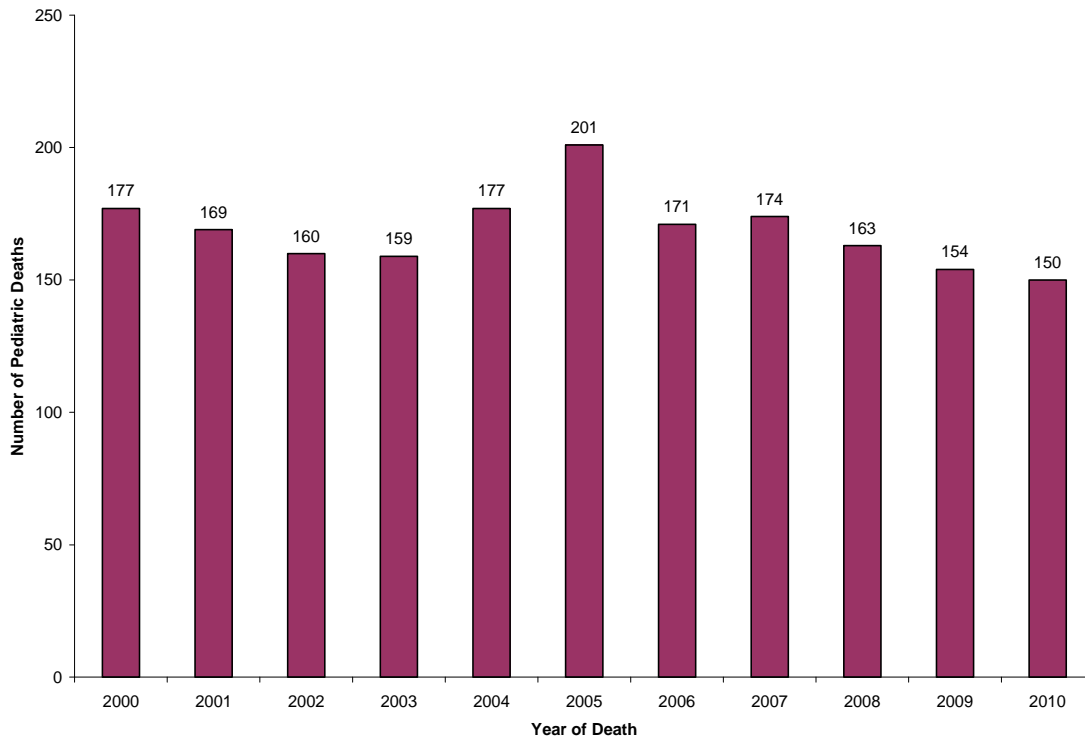
If the Coroner's office determines that the case meets any of the criteria listed above, the case is scheduled for a full CFRT review. Case names are also sent to JFS to determine if there has been any involvement with Children's Services at any time. If there has, that case is automatically put on the list for a full team review. Additionally, any CFRT member can request a full team review of any case they feel would benefit from a full review, whether or not it meets the above criteria.

Full team reviews involve an in-depth examination of the death by the entire CFRT, with members reporting on any relevant information they might have about the death. The CFRT then tries to reach a conclusion about whether or not the death was preventable, based on the knowledge they have of the circumstances leading up to the death. Cases receiving full death reviews are discussed in Section IV of this report.

Section II. Hamilton County Child Deaths 2010

In 2010, there were 150 child deaths in Hamilton County (residents less than 18 years old). This was a 2.6% reduction in the number of child deaths as compared to the number of deaths in 2009. The average number of annual child deaths in Hamilton County from 2000 to 2009 was 171 deaths. The 150 deaths in 2010 were 12.3% less than the 10 year average.

Figure 1: Child Deaths by Year, Hamilton County 2000-2010



The table below (Table 1) displays the child death rate for Hamilton County from 2000-2010. The number of children (less than 18 years old) living in Hamilton County has decreased over this 11 year period; however, the number of child deaths has not declined at the same rate as the child population. The child death rates displayed in Table 1 show an upward trend from 2002-2005 and a subsequent decline from 2006-2010.

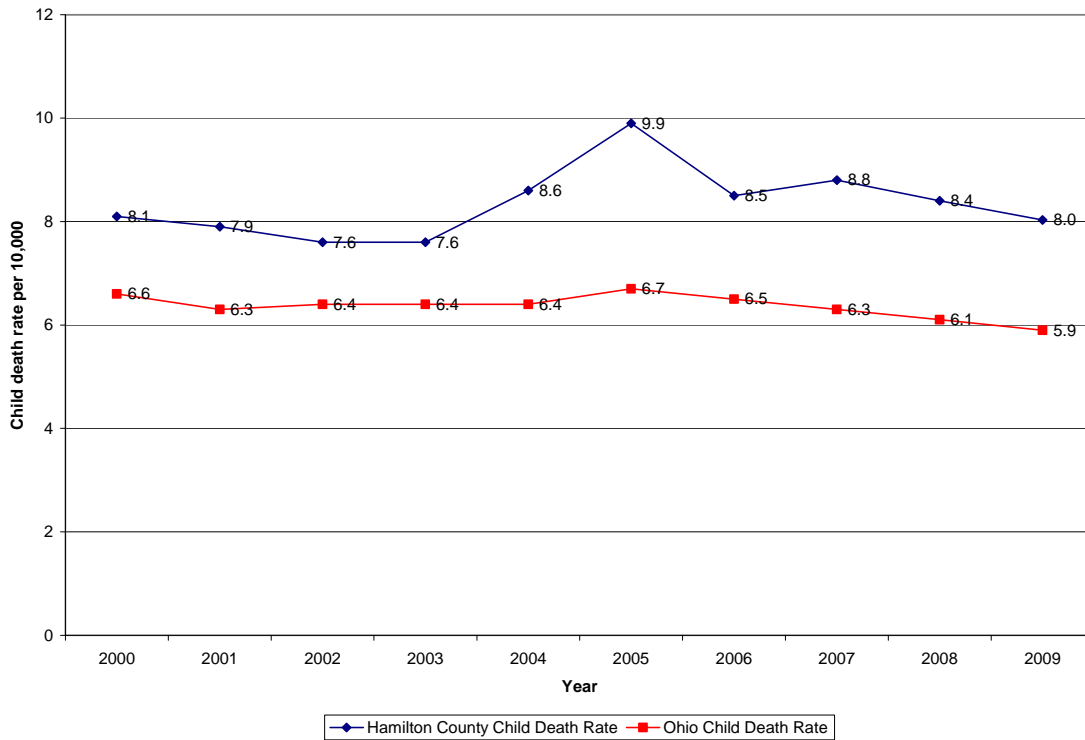
Table 1: Hamilton County Child Death, Child Population and Child Death Rate, 2000-2010

Year of Death	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Number of Child Deaths	177	169	160	159	177	201	171	174	163	154	150
Population 0-17 Years	217,461	214,607	211,754	208,900	206,047	203,194	200,340	197,487	194,633	191,780	188,927
Child Death Rate (per 10,000)	8.1	7.9	7.6	7.6	8.6	9.9	8.5	8.8	8.4	8.0	7.9

Note: Change between 2000 and 2010 in the population at ages 0-17 was calculated from decennial census counts obtained from the U.S. Census Bureau. The census reference date is April 1 of each year; the 10-year change was interpolated linearly to July 1 of each year.

The child death rate in Hamilton County has shown similar pattern as the State of Ohio's rate. Both rates showed downward trends from 2000 to 2003, with upward trends until 2005 with subsequent declines; however, the county's rate has been consistently higher than the State of Ohio child death rate (Figure 2).

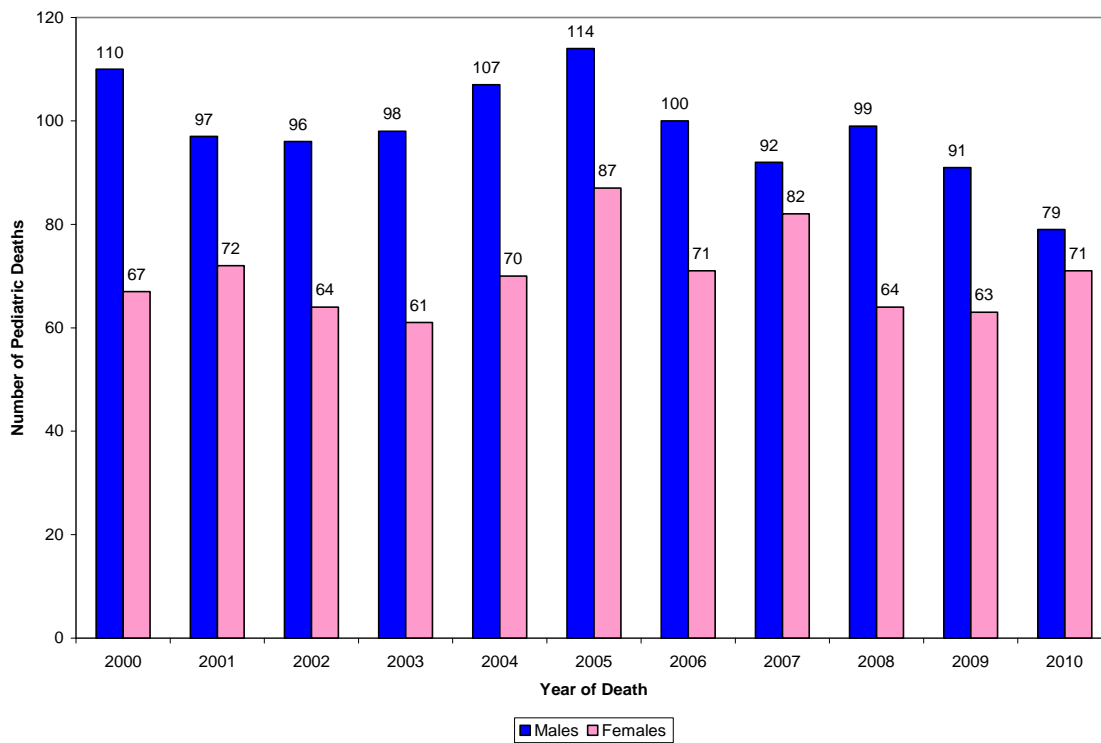
Figure 2: Child Death Rates, Hamilton County and Ohio, 2000-2009



Child Deaths by Gender

Male child deaths have consistently outnumbered female child deaths during the 11 year period displayed in Figure 3, a trend that is mirrored nationally. From 2000 to 2009 in Hamilton County, there was an average of 100 male deaths and 70 female deaths per year. In 2010, there were 79 male deaths (52.7%) and 71 female deaths (47.3%). The number of female deaths was approximately the same as the 10 year average; however, the male deaths were below the 10 year average. The ratio of male to female deaths, 2000-2009, was 1.4 to 1; in 2010, the ratio was 1.1 to 1. A decline in male child deaths may subsequently lead to a decline in child deaths.

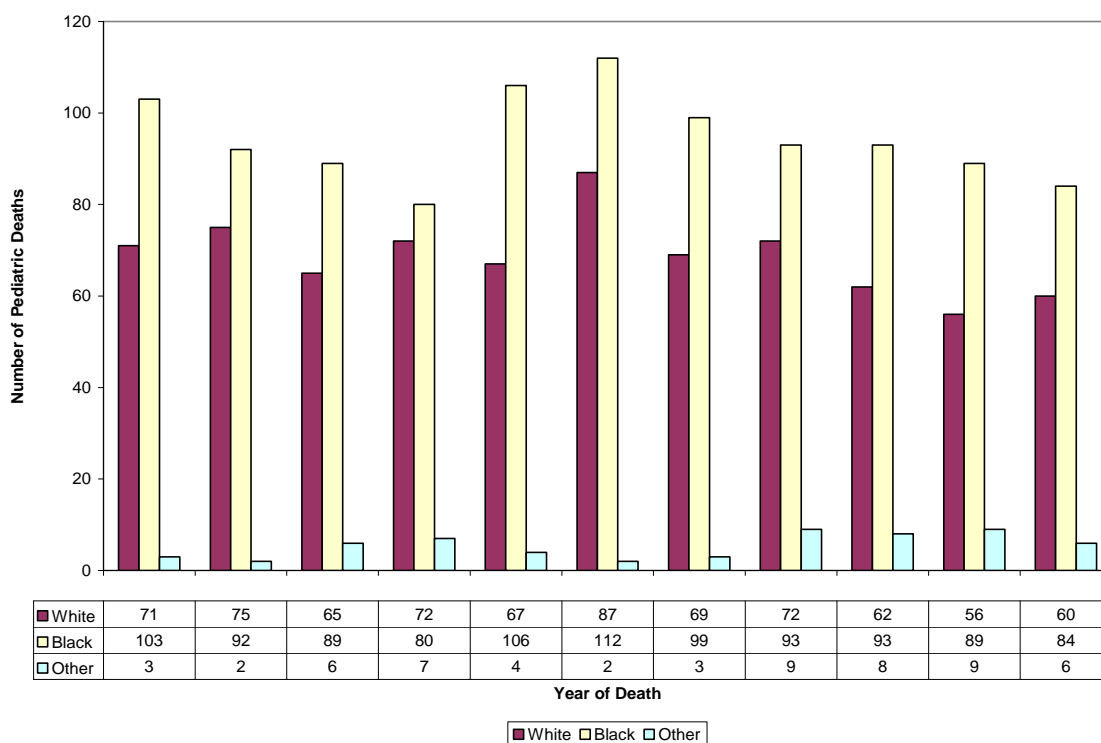
Figure 3: Child Deaths by Gender, Hamilton County 2000-2010



Child Deaths by Racial Group

As in past years, the majority of the children who died in 2010 were black, non-Hispanic (56%). Children whose race was classified as white, non-Hispanic comprised 40% of the child deaths and 4% were considered 'other.' The 'other' race category refers to any child who was not classified as black, non-Hispanic or white, non-Hispanic.

Figure 4: Child Deaths by Race Group, Hamilton County 2000-2010



Although during 2008-2010 less than one-third of Hamilton County children were of black race, this population accounted for more than one-half of child deaths. The child death rate for black children continues to be at least twice that of white children in Hamilton County. Table 2 displays the Hamilton County population by race and the race-specific death rate in 2010.

Table 2: Racial Composition of Population and Child Deaths, Hamilton County, 2010

Race	Black	White	Other
Total Population	25.7%	68.8%	5.5%
Population <18	31.9%	59.4%	8.7%
% of child deaths	56%	40%	4%
Child Death Rate, per 10,000	13.9	5.3	4.0

Child Death by Age at the Time of Death

In Figure 5, the distribution of age at the time of death is illustrated for child deaths in 2010. The highest percentage of deaths occurred among children less than 24 hours old (42%), followed by those who were 1-12 months old (19%) as illustrated in Figure 5. Figure 6 shows the distribution of deaths among children less than 1 month old for the 11 year time period, 2000-2010. As in previous years, the number of deaths of children fewer than 24 hours of age far exceeds the number of children who were between 1 and 30 days at the time of death.

Figure 5: Age at the Time of Death, Hamilton County, 2010 (N=150)

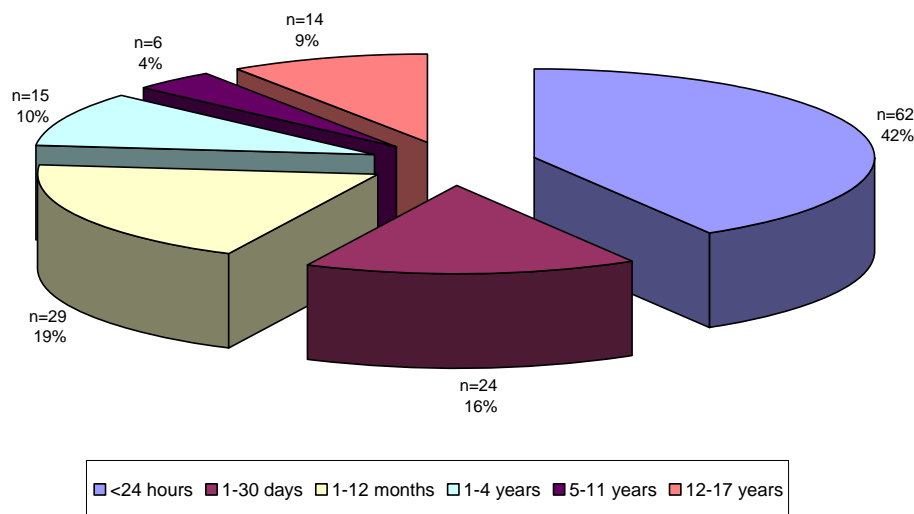
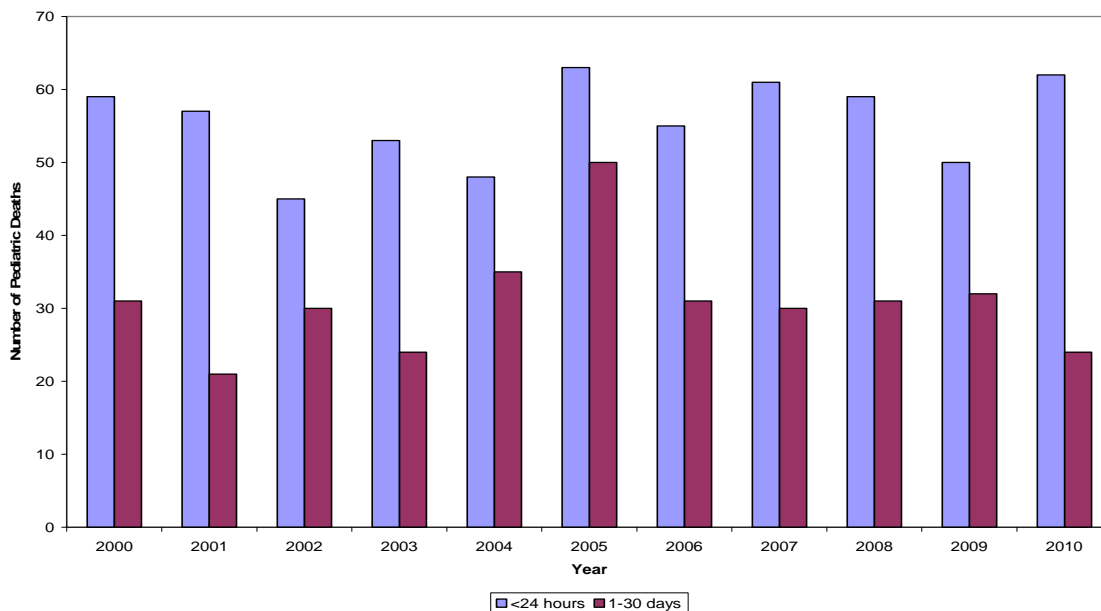


Figure 6: Deaths Less than 24 hours and 1-30 days, Hamilton County, 2000-2010



Cause of Death

The following figure shows the causes of death, as determined by the Office of the Hamilton County Coroner, for children who died in 2010 (Figure 7). Approximately 75% of the deaths were attributed to a medical cause. A medical cause is defined as a death due to a natural medical issue that occurs in the body like heart disease, stroke or congenital defect. The other 25% of the child deaths were classified as undetermined, accident related, homicide, or suicide. As observed in previous years, prematurity was the leading medical-related cause of death in 2010, accounting for 72 of the 111 (64.8%) medical-related deaths. All medical-related causes are presented in Figure 8.

Figure 7: Causes of Child Death, Hamilton County, 2000-2010

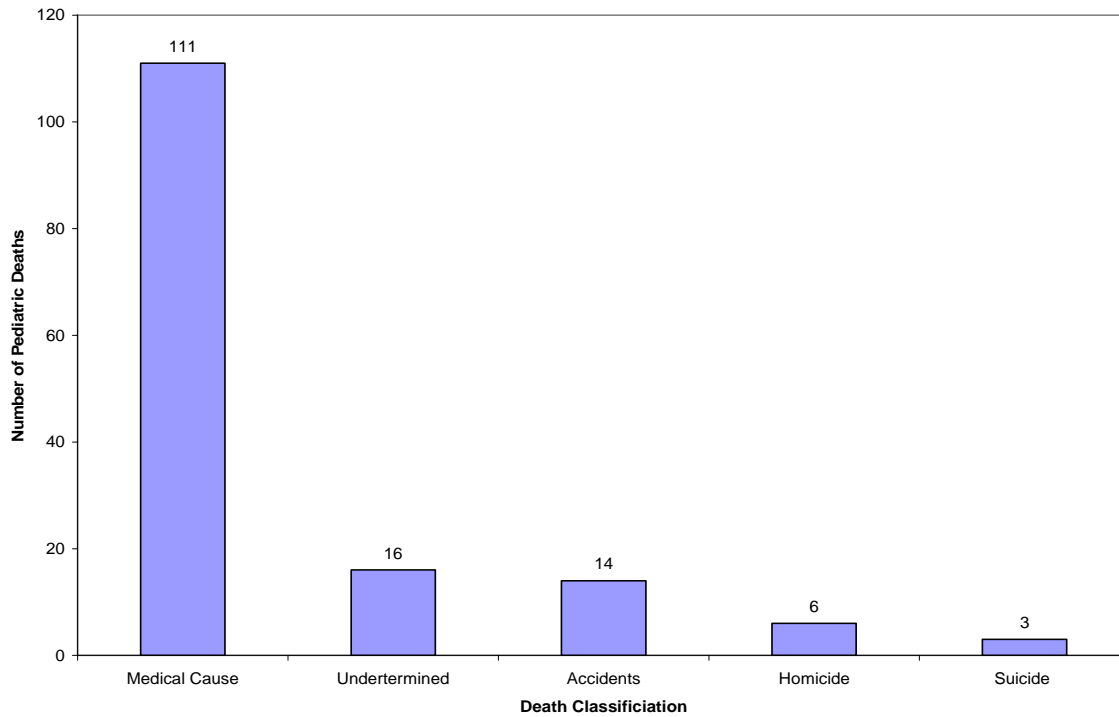
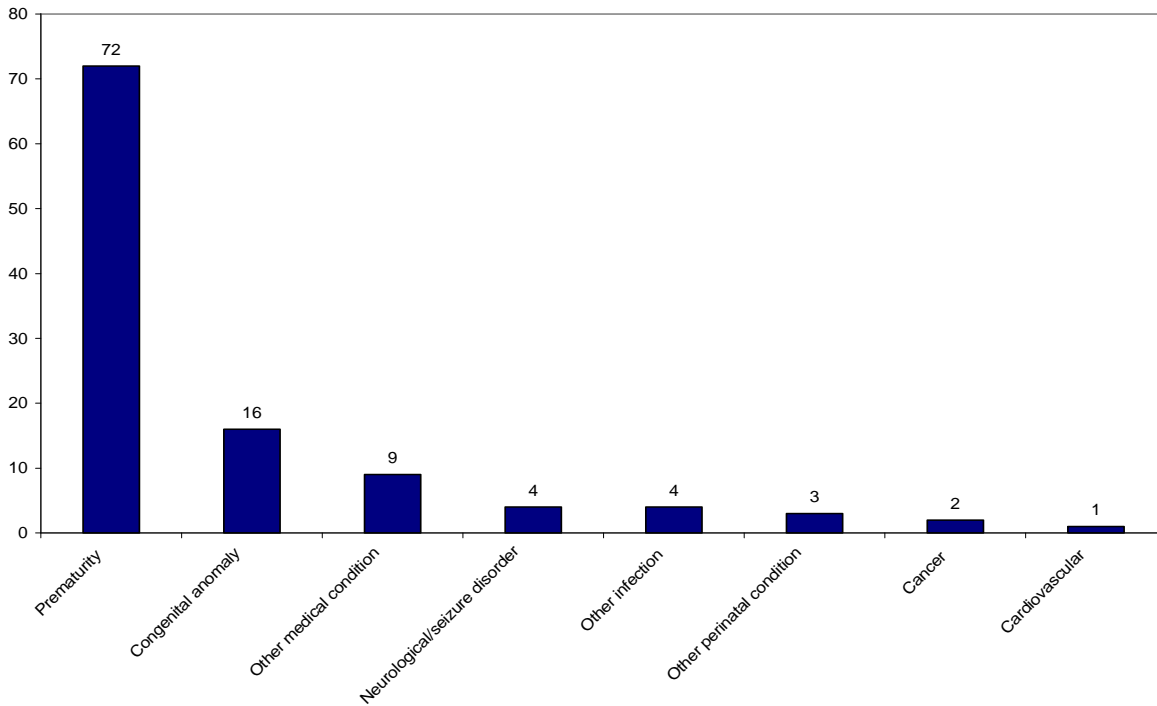


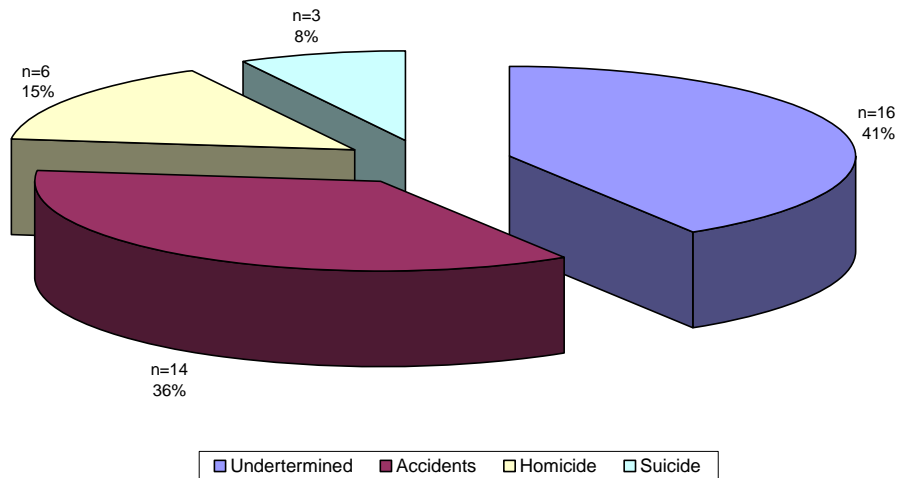
Figure 8: Medical-related Causes of Child Deaths, Hamilton County, 2010



Cause of Death not Classified as Medical

In 2010, there were 39 deaths that were not classified as a medical-related cause (Figure 9). Non-medical categories include homicides, suicides, accidents, and undetermined causes of deaths. The largest proportion (41%) of these deaths was classified as undetermined, which was followed by accidents (36%) (Figure 9).

Figure 9: Causes of Deaths Not Classified as a Medical Cause, Hamilton County, 2010 (N=39)



Deaths by Residence

The child's place of residence at the time of death is identified by the address on the death certificate. In 2010, approximately 61% of the children who died lived in the city of Cincinnati.

Table 3: Pediatric Deaths by Residence, Hamilton County, 2010

City	Number of Deaths	Percent
Anderson Twp	5	3.33
Blue Ash	3	2.00
Cincinnati	91	60.67
Cleves	1	0.67
Colerain Twp	10	6.67
Columbia Twp	1	0.67
Deer Park	2	1.33
Delhi Twp	3	2.00
Forest Park	5	3.33
Golf Manor	2	1.33
Green Twp	3	2.00
Harrison	2	1.33
Harrison Twp	1	0.67
Lockland	1	0.67
Loveland	3	2.00
Miami Twp	2	1.33
N. College Hill	1	0.67
Norwood	4	2.67
Springdale	1	0.67
Springfield Twp	4	2.67
St. Bernard	1	0.67
Sycamore Twp	3	2.00
Wyoming	1	0.67
Total	150	100.02

Note: Number of deaths and percentages in each city may change due to subsequent geo-coding. Total percent is greater than 100% due to rounding.

Section III. Infant Mortality

As in years past, the majority of child deaths in Hamilton County are children under the age of one year. Seventy-seven percent (N=115) of the child deaths in 2010 were infants (Figure 10). The infant mortality rate for black children was double that of white children in Hamilton County and much higher than the overall county rates between 2000 and 2010 (Figure 11).

Figure 10: Infant Deaths, Hamilton County, 2000-2010

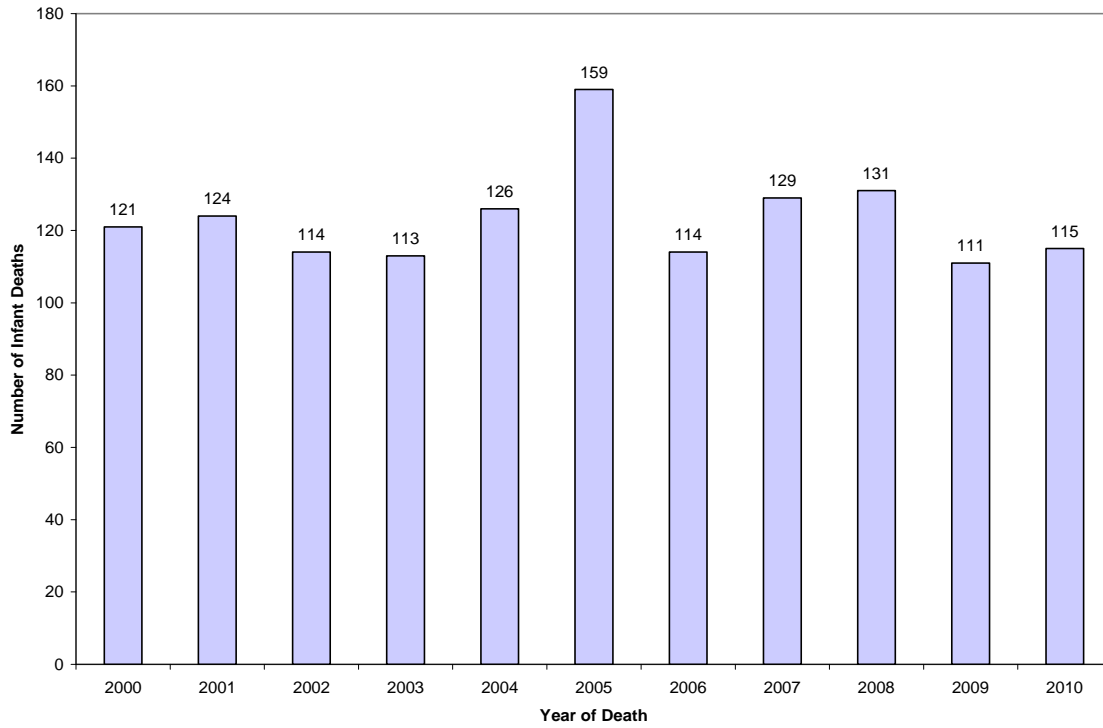
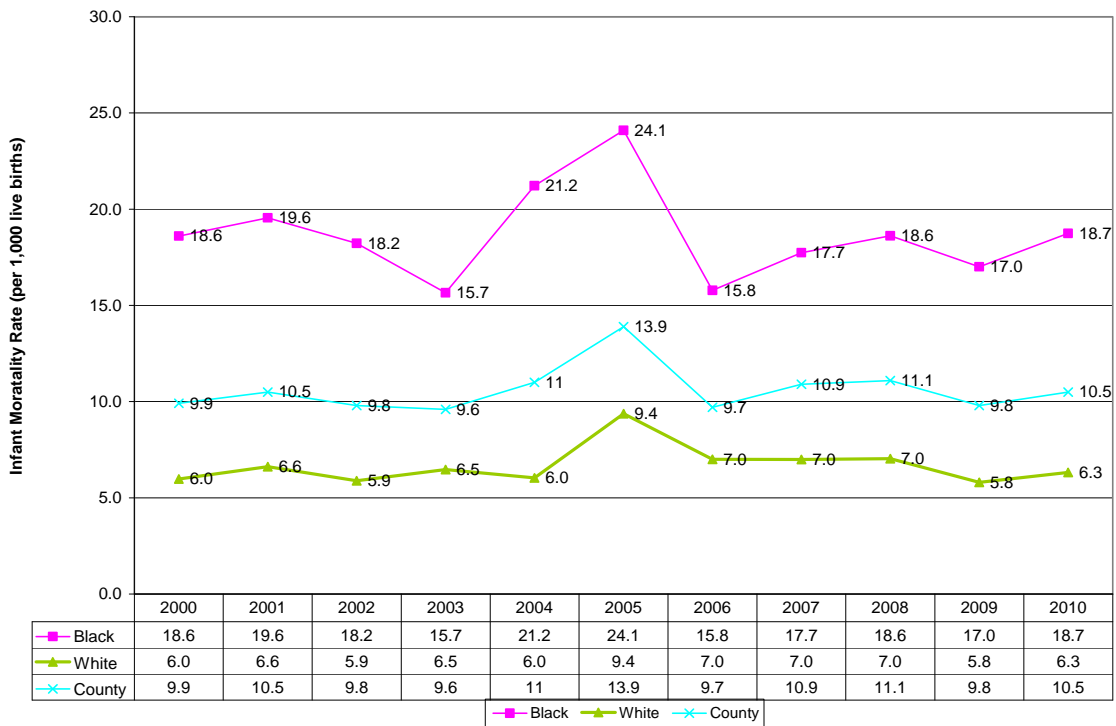


Figure 11: Infant Mortality Rate by Race, Hamilton County, 2000-2010



Note: Births for 2010 were estimated using historical data.

Hamilton County has had higher infant mortality rates than the State of Ohio for several years. Hamilton County has also had higher infant mortality rates than its urban Ohio counterparts, such as Franklin and Cuyahoga counties (Figure 12). In 2010, Hamilton County again had a higher infant mortality rate than all of the urban Ohio counties, as can be seen in Figure 13.

Figure 12: Ohio Metropolitan Counties Infant Mortality Rate, 2000-2010

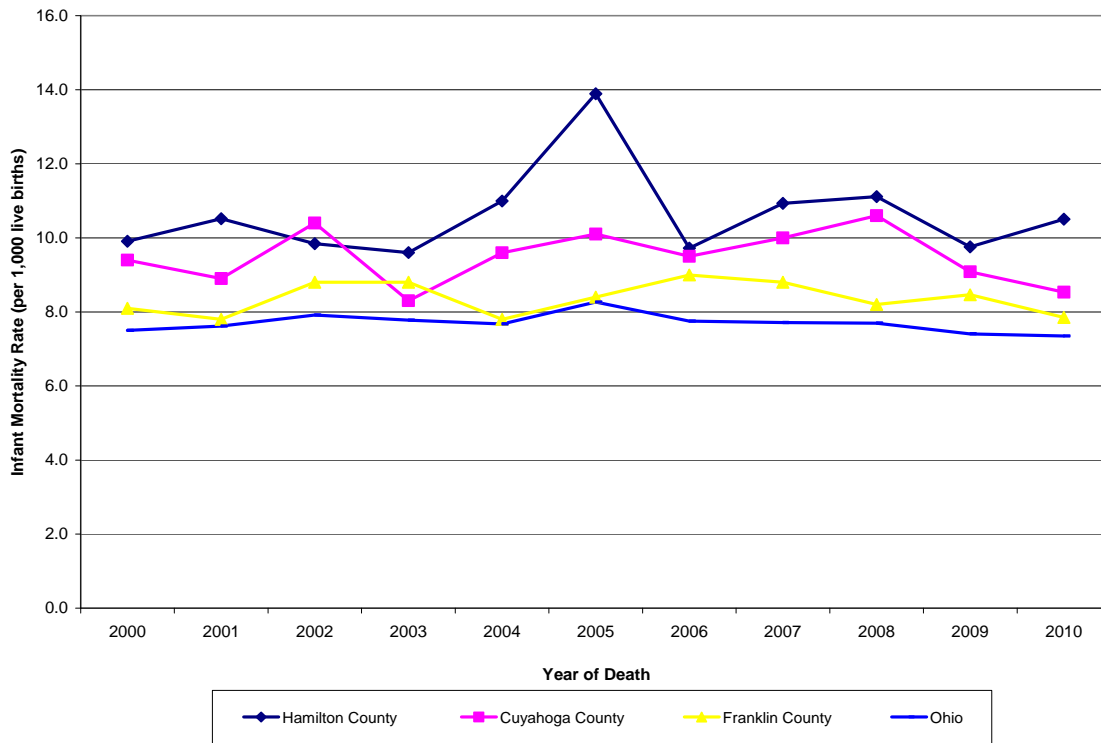
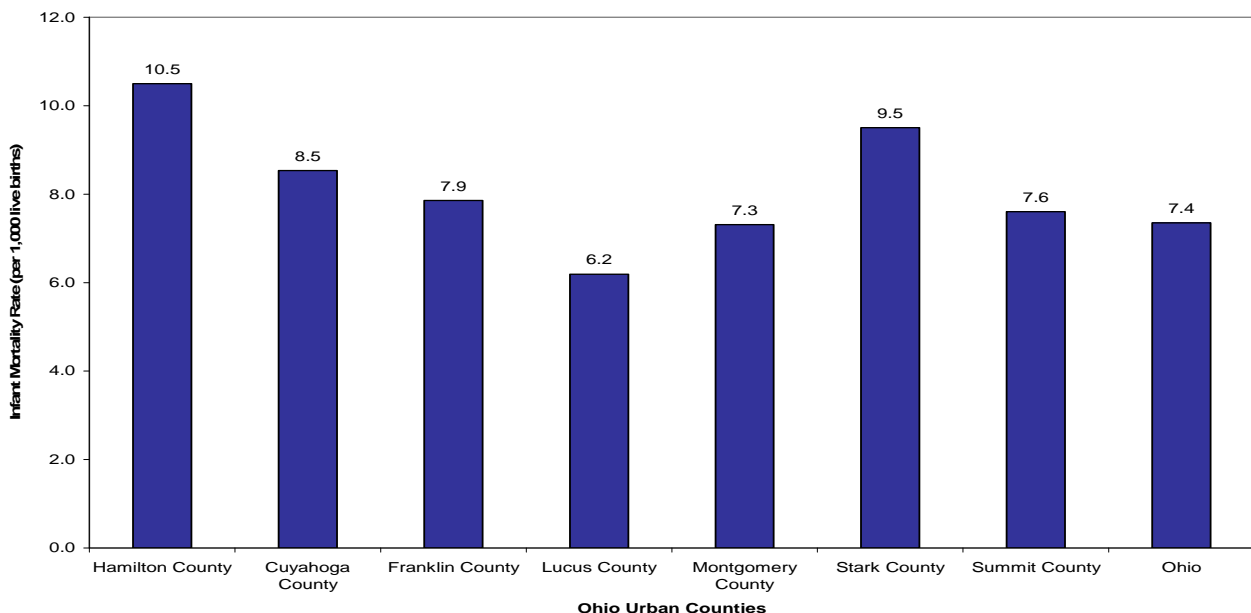


Figure 13: Infant Death Rates by Ohio Urban Counties, 2010



Preterm Births

Preterm birth is the largest contributing factor to infant mortality. Of the 115 infants who died in 2010, 72 (63%) had a cause of death listed as prematurity according to data from the Office of the Hamilton County Coroner. Prematurity has been the leading factor in infant deaths in Hamilton County from 2002-2010 (Table 4).

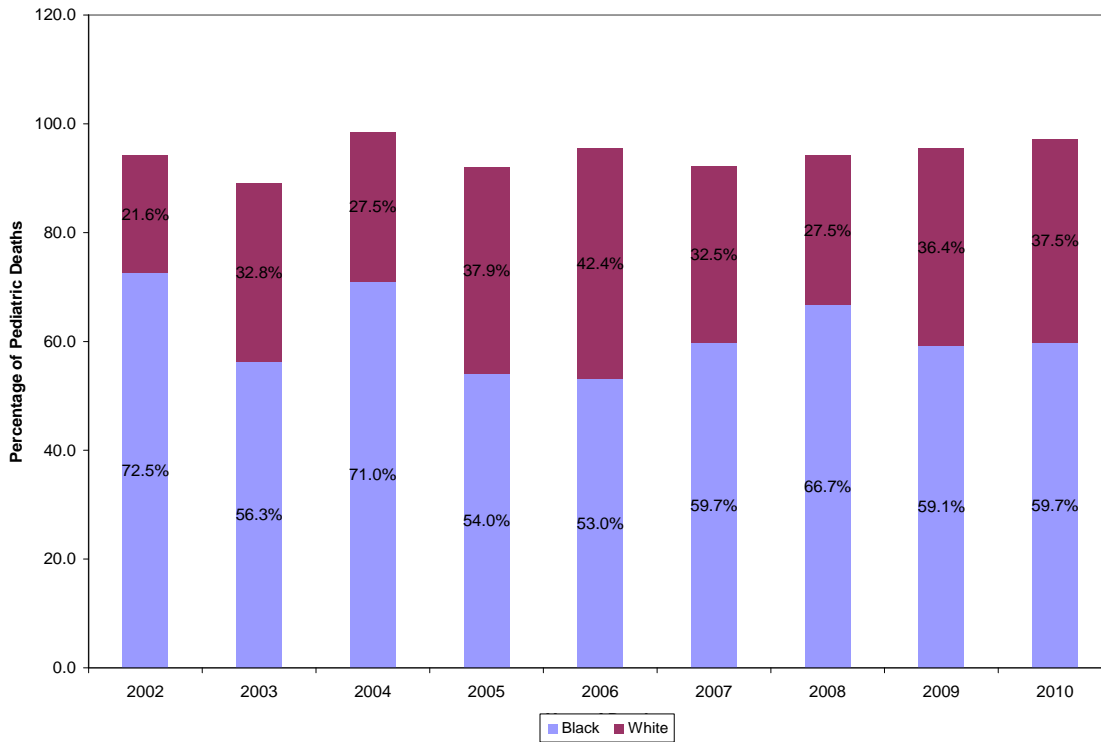
Table 4: Number and Percentage of Overall Infant Deaths Due to Prematurity, 2002-2010

	2002	2003	2004	2005	2006	2007	2008	2009	2010
Number of Deaths due to Prematurity	51	64	69	87	66	77	69	66	72
Number of Infant Deaths	114	113	126	159	114	129	131	111	115
Percentage of Infant Deaths due to Prematurity	44.7%	55.8%	54.8%	54.7%	57.9%	59.7%	52.7%	59.5%	62.6%

Source: The number of deaths due to prematurity is from the CFR data. The number of infant deaths is from the Ohio Department of Health.

Disparities in infant mortality and prematurity are present in Hamilton County as they are in other parts of the state and country. As displayed in the Figure 14, the highest percentage of infant deaths were related to prematurity were black infants in each year displayed (Figure 14).

Figure 14: Percentages of Deaths Caused by Prematurity by Race, Hamilton County, 2002-2010



Source: Child Fatality Review database.

Sixty-two (86%) of the 72 child deaths due to prematurity were matched with data obtained from the ODH vital statistics system. The matched data provided more specific underlying causes of death for 54 of the children. The chart below displays more specific underlying causes of death for children whose cause of death was prematurity as classified by the Office of the Hamilton County Coroner (Table 5). See the Technical Notes for a full description of the methods used to assign an underlying cause of death.

Table 5: ODH Vital Statistics Cause of Death for Infant Classified with a Cause of Death of Prematurity from the Hamilton County Coroner, 2010

ODH Underlying Cause of Death	Number of Deaths
Extremely low birth weight or extreme immaturity, other low birth weight or preterm	22
Newborn affected by other maternal conditions which may be unrelated to present pregnancy	9
Newborn affected by incompetent cervix, premature rupture of membranes, multiple pregnancy, or other maternal complications of pregnancy	9
Necrotizing enterocolitis of newborn	5
Other, specified	5
Respiratory distress of newborn	2
Renal failure and other disorders of kidney	1
Pulmonary hemorrhage originating in the perinatal period	1
Total Matched	54

Infant Mortality Rate by Residence 2010

In 2010, the infant mortality rate for Hamilton County was 10.5. The infant mortality rate for the city of Cincinnati was 12.3; the rate for the balance of Hamilton County was 8.7 (Table 6). Rates for preterm births are also higher in the city of Cincinnati than the balance of Hamilton County (Table 7).

Table 6: Infant Mortality Rate, Hamilton County 2010

Location	Number of Infant Deaths	Number of Births	IMR
Total County	115	10,951	10.5
†City of Cincinnati	68	5,545	12.3
Balance of the County	47	5,406	8.7

Table 7: Preterm Births, Hamilton County, 2010

Location	Number of Preterm Births	Number of Births	Preterm Percentage
Total County	1,240	10,951	11.3%
†City of Cincinnati	691	5,545	12.5%
Balance of the County	549	5,406	10.2%

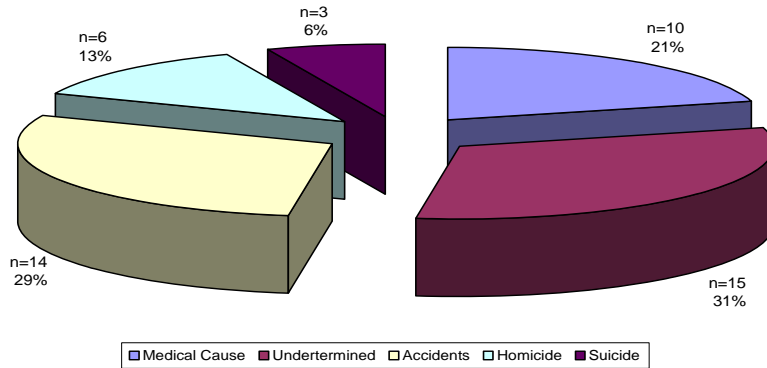
†Geographic assignment was based on provisional data and may change upon subsequent data updates.

Section IV. Cases Reviewed by Child Fatality Review Team

Only deaths meeting specified criteria are reviewed in full by the entire CFRT. Those criteria are listed in Section I of this report and include accidents, homicides, and suicides, undetermined causes of death, all cases known at any time to Hamilton County Children's Services and those investigated by law enforcement. Of the 150 child deaths in Hamilton County in 2010, 48 met the criteria for full review (32%). Cases subject to full team review are discussed in detail by the team, which also examines any relevant information it can obtain about the death and circumstances leading to the death. The CFRT draws conclusions when possible about preventability of each fully reviewed death.

Of the 48 cases that met the criteria for full review in 2010, 15 (31%) were undetermined, 14 (29%) died as a result of an accident, 10 (21%) died of medically related causes, six (13%) died as a result of a homicide and three (6%) committed suicide. Figure 15 displays the causes of deaths for the cases fully reviewed by the Child Fatality Review Team.

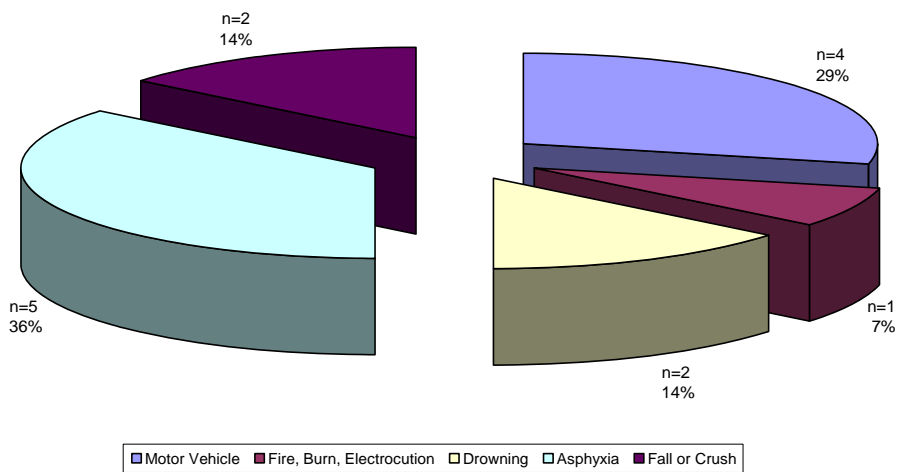
Figure 15: Cause of Death for Reviewed Cases, 2010 (N=48)



Deaths Due to Accidents

There were 14 children ranging from infants to teenagers who died due to accidental causes. Thirty-six percent of the child accident deaths were due to asphyxia, 29% were due to motor vehicular incidents, 14% were due to drowning, 14% due to fire, and 7% due to a fall or crush. Two of the asphyxia cases were due to suffocation from co-bedding and one was due to choking on food. In the drowning cases, one child drowned in an in-ground pool, and the other drowned in a bathtub.

Figure 16: Child Deaths Due to Accidents, Hamilton County, 2010 (N=14)



Undetermined Cause of Death

The cause of death is classified as undetermined when it is not clear exactly what caused the death. In most instances of undetermined deaths, there are possible explanations for the death, but they cannot be conclusively validated so the cause of death is officially listed as undetermined. There were 16 deaths classified as undetermined in 2010. Demographic information about children with undetermined causes of death is displayed in Table 8. Nearly 88% of the children with an undetermined cause of death were infants.

Table 8: Undetermined Cause of Death, Hamilton County, 2010

Number of Deaths	
Gender	
Males	8
Females	8
Race	
White	6
Black	10
Hispanic	0
'Other' Racial/Ethnic Group	0
Age	
<24 hours	0
1-30 days	1
1-12 months	13
1-4 years	2
5-11 years	0
12-17 years	0

Inappropriate Sleep Environments

Inappropriate sleeping arrangements were noted by the CFRT during full review as being present in the death of 16 children in 2010. Fourteen of those children were infants (under one year of age). Though it could not be conclusively proven in all 16 cases that inappropriate sleeping arrangements were responsible for the deaths, the CFRT noted the presence of inappropriate sleeping arrangements in those instances. Inappropriate sleeping arrangements include sleeping in something other than a crib, such as adult beds or couches, co-bedding with adults or other children or animals and/or being surrounded by soft bedding, blankets or pillows.

Table 9 details the sleep location of the children whose death occurred with inappropriate sleeping arrangements noted. Five children were sleeping with adults; two children were sleeping with other children; one was sleeping with a blanket; and one was sleeping with clothing in the sleep environment.

Table 9: Sleep Location of Children with Undetermined Causes of Death, Hamilton County, 2010

Sleep Location	Number of Deaths
Crib	2
Bassinet	2
Adult Bed	5
Playpen/Other Play Structure	1
Couch	3
Other	1
Unknown	1
Total	15

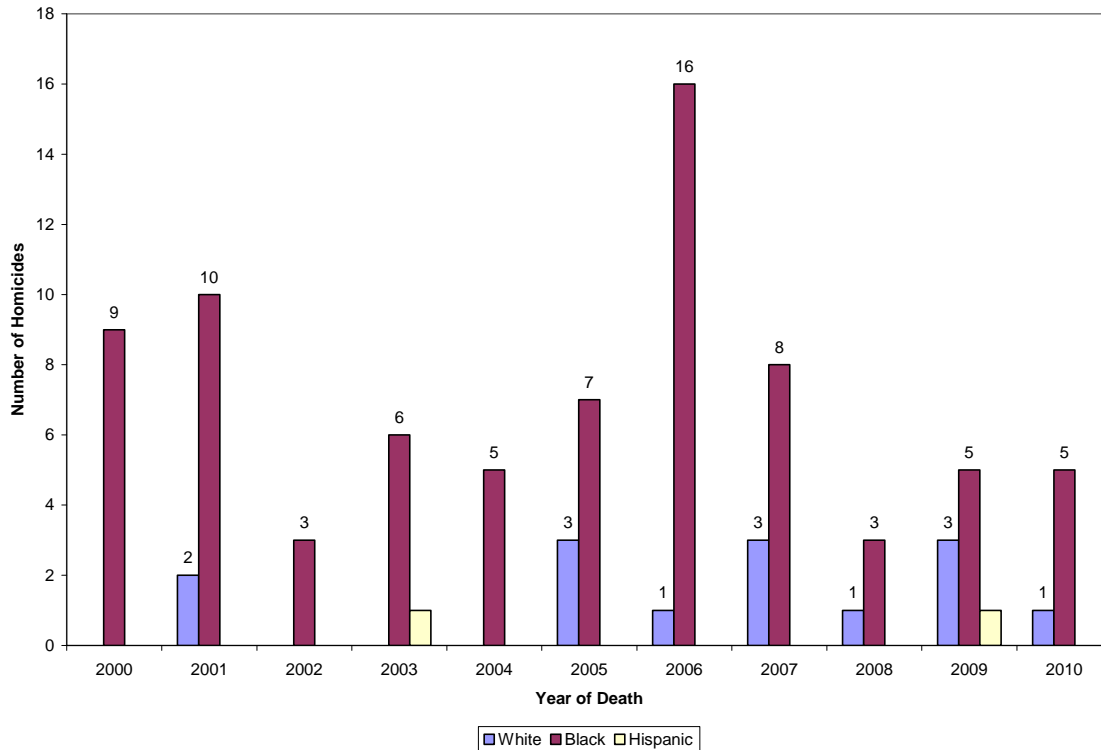
Although only two children were sleeping in cribs, there were cribs present in 10 homes; there were three homes in which no crib was present. In two instances it was unknown if cribs were present.

Homicides

There were six child homicides documented in 2010. Three females and three males were victims of homicides. One child was an infant, three were between one and four years of age, and two were between 12 and 17 years of age. Five of the six children who were victims of homicide in 2010 were black. Five of the six children who were victims of homicide in 2010 were of black race. Weapons were used in five homicides cases and included firearms in two incidents, body parts in two incidents, and in one incident the weapon was unknown. One case did not involve a weapon, and that child was a victim of homicide due to asphyxia. Two perpetrators were biological parents, one was mother's partner, one was a stranger, one was the boyfriend of the legal guardian, and one was unknown. Criminal charges were filed in four of the six 2010 homicides cases.

As they have for the past 11 years, homicides involving children in Hamilton County, black children are more likely to be the victim of a homicide than white children, and males are more likely to be victims than females. (Figure 17)

Figure 17: Child Homicides by Race/Ethnicity, Hamilton County, 2000-2010



Source: Homicides for 2000-2008 are from the ODH vital statistics. 2009 and 2010 are from the CFR database
 Note: No other racial/ethnic groups were victims of homicides.

Suicides

There were three child suicides in 2010. From 2000 to 2008, the average number of suicides was less than two deaths per year. Data from the CFRT for 2009 and 2010 displayed that child suicides in these two years surpassed the 2000 to 2008 average of less than two deaths per year (Table 10). All three children who committed suicide in 2010 were between 12 and 17 years of age.

Table 10: Child Suicides, Hamilton County, 2000-2010

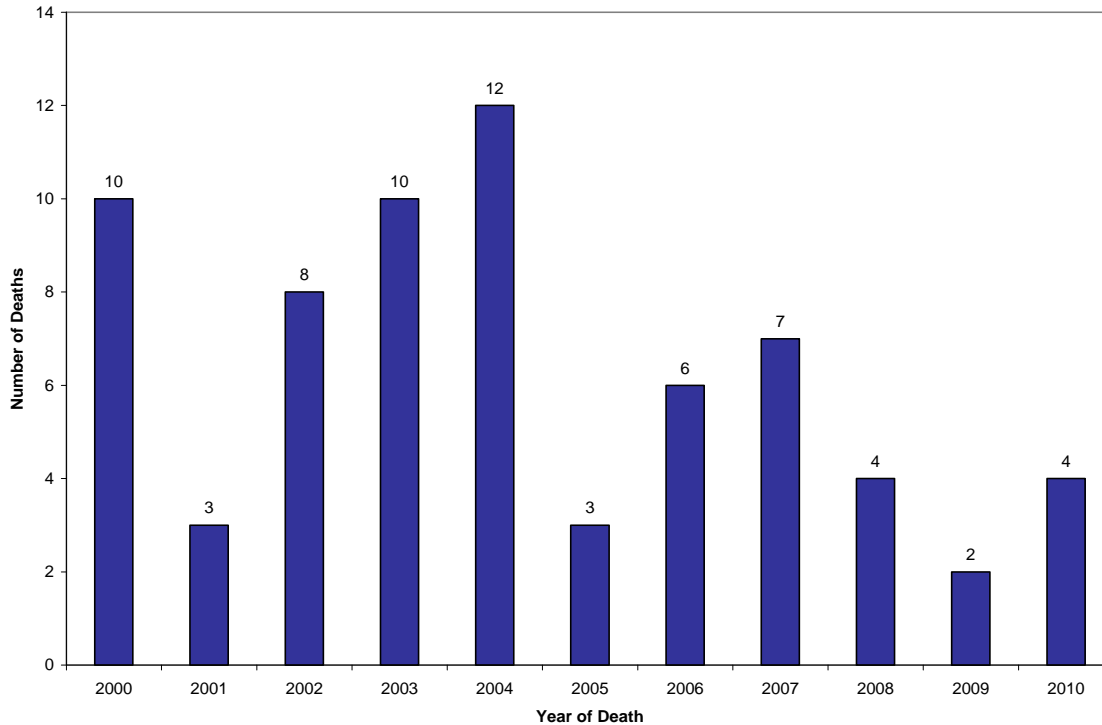
Year of Death	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Number of Suicides	2	1	2	2	3	2	0	2	3	7	3
Gender											
Females	0	0	0	0	1	1	0	0	0	6	1
Males	2	1	2	2	2	1	0	2	3	1	2
Race											
White	0	1	2	2	1	1	0	2	0	5	1
Black	2	0	0	0	2	1	0	1	3	2	2

Note: Suicides for 2000-2008 are from the ODH Statistics database. 2009 and 2010 are from the CFR database.

Vehicular Deaths

In 2010, there were four child vehicular deaths. Two children were drivers, one was a pedestrian, and one was a passenger. Three of the vehicular accidents involved cars and one involved an all terrain vehicle. Two children were between the ages of 12 and 17 years. Appropriate safety restraints were used in three cases.

Figure 18: Child Vehicular Deaths, Hamilton County, 2010



Note: Vehicular Deaths for 2000-2008 are from the ODH vital statistics. 2009 and 2010 are from the CFR database.

Section V. Infant Mortality Community Initiatives

Infant mortality remains one of the most significant health issues in Hamilton County, in which the infant mortality rate is among the highest of all the urban counties in Ohio (Figure 12, Figure 13). The infant mortality rate for black children is two to three times higher than that for white children (Figure 13). The most common cause of infant death was related to prematurity, accounting for 72 of 115 (63%) infant deaths in Hamilton County in 2010 (Table 4). The infant mortality rate in Hamilton County decreased by nearly 12% from 2008 to 2009, but increased to 10.5 deaths per 1,000 live births in 2010. The annual variation in infant mortality rates demonstrates the need for long-term surveillance to monitor evolving trends.

A community coalition has been actively working on the infant mortality issue. In 2009, the Office of Maternal and Infant Health and Infant Mortality Reduction (OMIHIMR) was established as a city/county office at Hamilton County Public Health. The goal of OMIHIMR is to address and subsequently, reduce infant mortality in Cincinnati and Hamilton County to below the national average by 2014. The office facilitates collaboration with infant mortality reduction and prematurity prevention programs, the Fetal and Infant Mortality Review (FIMR) subcommittee of the Child Fatality Review Team, and other community-based health, social service, faith-based and housing agencies. These collaborative efforts are geared to advance women and infant health vitality and support the reduction of infant mortality.

Additionally, the Hamilton County Public Health (HCPH) Division of Epidemiology works to conduct ongoing surveillance of issues pertaining to maternal and infant health. The goal of this work is to characterize local health issues in terms of the populations at risk and to provide timely data regarding the status of existing and emerging health issues in our community. This work can help answer an important question in public health: are local prevention efforts affecting positive change in our community? Equally important, this work can also help guide the focus and strategies of local efforts to mitigate significant health disparities, such as preterm birth and infant mortality.

On a monthly basis, HCPH produces and disseminates surveillance reports that are available to the public. These reports contain current data relevant to the health status of mothers and infants in Hamilton County (e.g., infant mortality rate). In addition to measuring and tracking health issues, HCPH also works collaboratively to examine the distribution of these problems in our population and to assess the impact of modifiable risk factors. The data produced and managed by HCPH is shared widely with partners across the region in order to support evidence-based intervention and decision-making. Their monthly report can be accessed at http://www.hamiltoncountyhealth.org/en/resource_library/reports.html.

Another community initiative formed to examine the infant mortality issue is the Cincinnati-Hamilton County Fetal and Infant Mortality Review (FIMR) which was convened as a subcommittee of the Hamilton County CFRT in July, 2008. The Cincinnati Health Department houses the FIMR staff and hosts a case review team, FIMR. The FIMR team consists of 28 professionals, who represent health departments, hospitals, community and private health service providers, social service agencies, and health insurance companies. The purpose of FIMR is to understand how social, health, environmental, and safety issues affect fetal and infant death in order to make appropriate recommendations for changes in service delivery systems and community resources in Cincinnati and Hamilton County. The full 2010 FIMR report can be found at <http://www.cincinnati-oh.gov/>.

In 2010, FIMR reviewed 36 cases, 24 of which involved an infant death and 12 of which involved a fetal death. These deaths occurred between July 2009 and July 2010. Twenty-one of the reviewed cases contained a maternal interview and three included a survey with questions similar to those asked during an interview. The majority of cases presented for review included both the medical records and maternal interview, but on occasion, one of these elements was missing. Of the 24 infant deaths reviewed in 2010, 15 died of prematurity or prematurity-related causes (63%). Nineteen percent of the reviewed cases included a baby with a congenital anomaly.

FIMR Recommendations

- **Documentation and Data Collection:** Improve collection of information on pregnant mothers' social risk factors and strengthen systems to share information between health care providers.
- **Women's Perinatal Health**

Expand evidence-based programs and services, including home visitation programs, designed to emphasize health and well-being of women before and between pregnancies.

Increase efforts to encourage women to attend postpartum care as well as to enter prenatal care early in pregnancy.

Broaden efforts to a) reduce substance use among pregnant women, b) identify and treat mental health problems, c) identify and treat diabetes in pregnancy.

Improve outreach to women who have had a previous poor birth outcome, enveloping her in services and support aimed at affecting future pregnancies.
- **Preterm Birth Information and Preparation:** Expand community education on the risks of preterm birth while encouraging early entry into pregnancy support programs. Also, study and expand the community's education regarding the use of medications to prevent preterm labor.
- **Patient/Provider Communication:** Support efforts to encourage open communication between providers and patients. This includes the provision of trained interpreters for all patients of Limited English Proficiency (LEP).
- **Stillbirth Assessment:** Enhance efforts to increase our region's knowledge of the causes of stillbirths (fetal deaths).
- **Support to Families Experiencing a Loss:** Enhance systems of communication and billing which affect parents after a perinatal loss.
- **Safe Sleep:** Support systemic efforts to reduce safe sleep through improved understanding of the barriers to safe sleep in Hamilton County and programs that address those barriers.

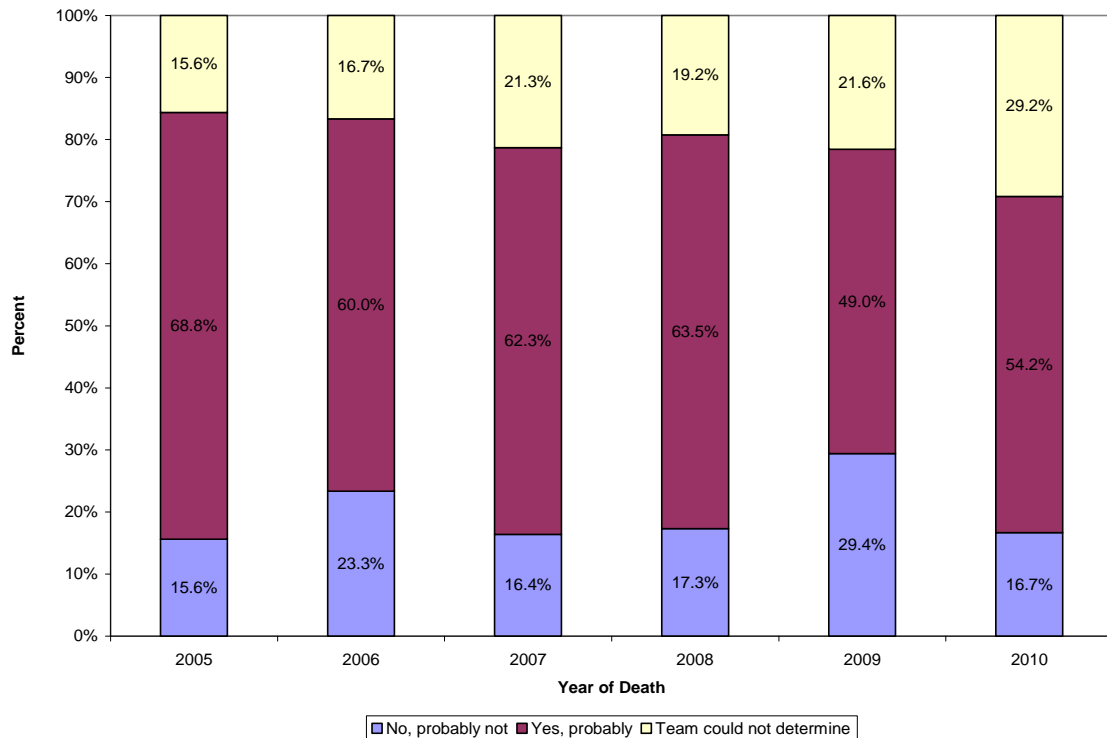
CFRT Cases: Preventability

In every fully reviewed case, the CFRT makes a determination about whether the death was preventable. The Hamilton County CFRT has defined preventable death in the following manner: "A preventable death is one in which, with retrospective analysis, a *reasonable* intervention *probably* would have prevented the death."

Of the 48 cases fully reviewed in 2010 by the Child Fatality Review Team, 26 (54.2%) cases were considered preventable, and 14 (16.7%) were considered not preventable. In 8 (29.2%) of the cases, the team did not have enough information to make a determination, as illustrated in Figure 19.

As seen in Figure 19, the percent of reviewed cases that are deemed preventable has ranged from 49 to 68.8% since 2005. One can hypothesize that if the CFRT had ample time to review all child deaths, the percentage of preventable deaths would be even higher. It is particularly frustrating for the team to see so many of our children die such clearly preventable deaths. It is the hope of the Child Fatality Review Team that with increased community collaborations and increased public awareness about the simple safety precautions that should be taken with children, we can decrease the number of needless child deaths in our county.

Figure 19: Preventability of Cases Reviewed by the Child Fatality Review Team, 2005-2010



CFRT Ongoing Concerns

When possible, the CFRT makes recommendations about what, if anything could have been done to prevent the child death that they have just reviewed. Every year, the vast majority of the recommendations are the same as previous years. The recommendations are generally common safety precautions. As in previous years, the most frequently made recommendations were:

- Be careful who you allow to supervise your children
- Don't drink and drive; drive carefully in school zones; observe speed limits
- Don't allow your children to consume alcohol
- Take suicide threats made by children seriously
- Follow doctor's orders regarding medication for a child
- There should be a minimum age for driving ATVs
- Don't co-bed; always put babies to sleep in cribs; avoid using pillows or blankets in cribs; put babies to sleep on their backs.

Safe Sleep

An ongoing concern that is again reflected in 2010 is the number of deaths in which inappropriate sleeping arrangements are noted. In 2010 inappropriate sleeping arrangements were noted as being present in sixteen instances. Though not always conclusively responsible for the deaths, inappropriate sleeping arrangements were noted as present and possibly contributing to those deaths. This is 43% more cases than 2009, when inappropriate sleep was only noted in 9 instances.

The frustration that CFRT members experience in reviewing repeated deaths where inappropriate sleep arrangements/or co-bedding exist cannot be underestimated. Many of these tragic deaths could easily have been avoided, had simple safe sleep practices been observed.

On a hopeful note, much of the Hamilton County community has been galvanized into action on the safe sleep issue. Spearheaded by the Cincinnati Police Department which adopted safe sleep as a major safety initiative, the Cincinnati Police Department, the Cincinnati Fire Department, the Cincinnati Health Department, the Hamilton County Family and Children First and the Hamilton County Infant Vitality Committee have partnered to prevent child deaths from co-sleeping or inappropriate bedding. Police and firefighters have been trained in the importance of safe sleep and have a referral mechanism for families who do not have cribs or who need other kinds of social service assistance. Donated billboards carry the message "Make sure babies sleep in peace, not rest in it," in strategic neighborhoods around the city. The Cincinnati Health Department is distributing safe sleep pamphlets in their WIC offices and in their clinics. They have also started a help line for families needing cribs. This county-wide initiative involving so many partners from different arenas will provide a county-wide public education campaign regarding the importance of safe sleep that has not been present in Hamilton County to date.

Conclusion

The Center for Disease Control reports that "Ongoing reviews of infant death data by CDC researchers continue to demonstrate that preterm-related deaths account for more than 1/3 of all deaths during the first year of life, and more infants die from preterm causes than from any other

cause. Unfortunately, all preterm infants are at greater risk of death and disability than full-term infants. Infants born preterm are at greater risk for death in the first few days of life, as well as other adverse health outcomes including visual and hearing impairments, intellectual and learning disabilities, and behavioral and emotional problems throughout life. Preterm births also cause substantial emotional and economic burdens for families. Most preterm births occur because labor begins too early or there is a rupture of the fetal membranes before term.”¹

In Hamilton County in 2010, 63% of infant deaths were due to prematurity. Community initiatives described above have been looking for ways to reach out to those who are at highest risk for prematurity to offer support and health care aimed at preventing premature births. These efforts need to continue and to be strengthened if the Hamilton County infant mortality rate is to be significantly impacted.

Additionally, in 2011, the Hamilton County CFRT will continue its partnership with Hamilton County Public Health and will link birth and death data of all infant deaths. This should lead to a wealth of information about cause, effect and possible prevention strategies for premature births.

Accidental, undetermined deaths, homicides and suicides were responsible for 26% of total deaths. Many of these deaths are easily preventable. Greater safety and health education campaigns are very effective in getting the word out about the importance of safety measures such as use of seatbelts, helmets, access to guns and the like. However, laws, public policy and public education can only go so far in impacting behavior. Ultimately, it is up to parents and caretakers to assure that safety measures for their children are observed and to watch over their children responsibly.

Nevertheless, according to the Kids Count Indicator Brief 2009 from the Annie Casey Foundation, “The fact remains that some parents have greater access to child safety information and education than others. Studies show that despite the drop in child mortality, the safety gap between children of more and less educated parents has actually widened (Francis, 2001). Research also indicates that compared with children from better off families, children from poor families generally suffer from more frequent and more serious health problems. Parent education, early childhood interventions, and efforts to reduce poverty all have positive impacts on children’s health and survival (Currie, 2005; Heckman, 2007)².”

It behooves us as a community to provide extra support, parent education, outreach efforts for health care and information about child development needs of young children to those families who experience particularly high levels of stress, including poverty, residing in high risk communities and single parenthood. By helping to assure that all parents have the support and the skills they need to navigate a healthy and safe childhood for their offspring, we could undoubtedly reduce the numbers of preventable deaths in Hamilton County.

¹. Division of Reproductive Health, National Center for Chronic Disease Prevention, March 2, 2011

². Kids Count Indicator Brief 2009; Annie Casey Foundation,

Technical Notes

Glossary of Terms and Abbreviations

IMR: Infant Mortality Rate is the number of infants less than 1 year old who die per 1,000 live births

SIDS: Sudden Infant Death Syndrome

Rate Calculations

Infant Mortality Rate: $\text{Number of Infant Deaths (children less than one year of age)} / \text{Number of Live Births multiplied by 1000}$

Child Death Rate: $\text{Number of child deaths (children 0 to 17 years of age)} / \text{Number of children 0-17 years of age in the population multiplied by 10,000}$

Sources of Data

Data used in this report were obtained from the Hamilton County Child Fatality Review database on April 22, 2010 and from ODH on April 11, 2011. Several datasets were used to provide the best possible data for each analysis in the report. Data obtained from the Ohio Department of Health/ Hamilton County Public Health vital statistics were used to calculate statistics for 2000-2009. All statistics for 2010 were calculated using data obtained from the Hamilton County Child Fatality Review database. However, in the cases of homicides, suicides, and vehicular deaths in 2009-2010, data were used exclusively from Hamilton County Child Fatality Review database.

Notes on Figures and Tables

Figure 1. Child Deaths by Year, Hamilton County, 2010

Data for 2000-2009 are from the Ohio Department of Health/Hamilton County Public Health vital statistics. The numbers listed are used throughout the report.

Figure 8. Medically Related Causes of Child Death, Hamilton County 2000-2010

The cause of death displayed in this figure is the cause of death assigned by the Coroner.

Figure 11. Infant Mortality Rate by Race, Hamilton County, 2000-2010

Births for 2000-2009 are from ODH. 2010 births were estimated by HCPH.

Figure 17. Child Homicides by Race/Ethnicity, Hamilton County, 2000-2010

Homicides for 2000-2008 are from the ODH/ HCPH vital statistics. 2009 and 2010 are from the CFR database. No other racial/ethnic groups were victims of homicides.

Figure 18. Child Vehicular Deaths, Hamilton County, 2010

Vehicular Deaths for 2000-2008 are from the ODH/ HCPH vital statistics. 2009 and 2010 vehicular deaths are from the CFR database.

Table 1. Hamilton County Child Death, Child Population and Child Death Rate, 2000-2010

In previous editions of this report, the most current post-censal population estimates issued by the U.S. Census Bureau were used as denominators to calculate annual child death rates. With the release of 2010 Census population counts in March 2011, the authors determined that recent estimates had been overstating the child population of Hamilton County. Census counts for 2000 and 2010 were used as anchor points, and the 10-year change was assumed to be constant throughout the decade. Census counts for 2000 and 2010 have a reference date of April 1; the population numbers in Table 1 were interpolated to July 1 of each year using a linear change assumption.

Table 4. Number and Percentage of Overall Infant Deaths due to Prematurity, 2002-2010

Prematurity in this table refers to the infants with a primary cause of the death listed as prematurity by the Hamilton County Coroner. Then number of infant deaths is from ODH/HCPH Vital Statistics.

Table 5. ODH Vital Statistics Cause of Death for Infant Classified with a Cause of Death of Prematurity from the Hamilton County Coroner, 2010

Both the Child Fatality Review data set and ODH vital statistics report cause of death, but use different classification schemes. In general, ODH mortality files provide more specific cause listings than the CFR files. For instance, where CFR identifies “prematurity” as the medical cause of death, ODH may provide a more specific cause such as “necrotizing enterocolitis of the newborn” or “extremely low birth weight or extreme immaturity.” In an attempt to better understand the differences in cause-of-death coding, Hamilton County child deaths in 2010 were matched from CFR and ODH vital statistics on four fields common to each file: date of birth, date of death, gender, and a concatenation of last name and first name. Among 72 infant deaths attributed to prematurity by CFR, 62 matches were found in the provisional 2010 ODH mortality file. Cause of death in the ODH mortality file was assigned by incorporating so-called TRX files.

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