



**Hamilton County  
Family and Children First Council**

**Child Fatality  
Review Team  
Annual Report  
2007**



# Child Fatality Review Team 2007

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# **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 twelfth 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 Team are:

- To collect 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 for public health or public safety issues for Hamilton County
- To develop uniform protocols and procedures for investigating child deaths

## **CHILD FATALITY TEAM MEMBERSHIP**

Regular Team members are representatives of the following agencies: Children's Services of Hamilton County Department of Job and Family Services, 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 first page of this report.

Meetings are closed to the general public and the media. Only Team members and invited guests are permitted to attend Team 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 Team 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, who 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 Team 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 Team 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 Team, with Team members reporting on any relevant information they might have about the death. The Team 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 III of this report.

## II. CHILD DEATHS 2007

In 2007, there were 176 Hamilton County residents age 17 or younger who died. This represents 6.0% more child deaths than in 2006, and 18.1% more deaths than the average of 149 deaths per year between 1996 and 2006. The number of deaths in each of the last four years has been higher than in any year between 1996 and 2003.

### Hamilton County Child Deaths by Year

Year	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
<b>Hamilton County Child Deaths</b>	138	139	153	135	144	126	138	145	168	187	166	176

This increase in the number of child deaths occurred during the same time period that Hamilton County’s total population under age 18 decreased. These two trends resulted in an increase in the child death rate, as seen in the table on the following page.

**Hamilton County Trends in Child Deaths, Child Population, and Child Death Rate, 2000 - 2006**

Year	2000	2001	2002	2003	2004	2005	2006 <sup>1</sup>
<b>Child Deaths</b>	144	126	138	145	168	187	166
<b>Population &lt; 18</b>	218,174	216,814	214,622	212,349	210,436	208,742	206,309
<b>Child Death Rate (per 10,000)</b>	6.6	5.8	6.4	6.8	8.0	9.0	8.0

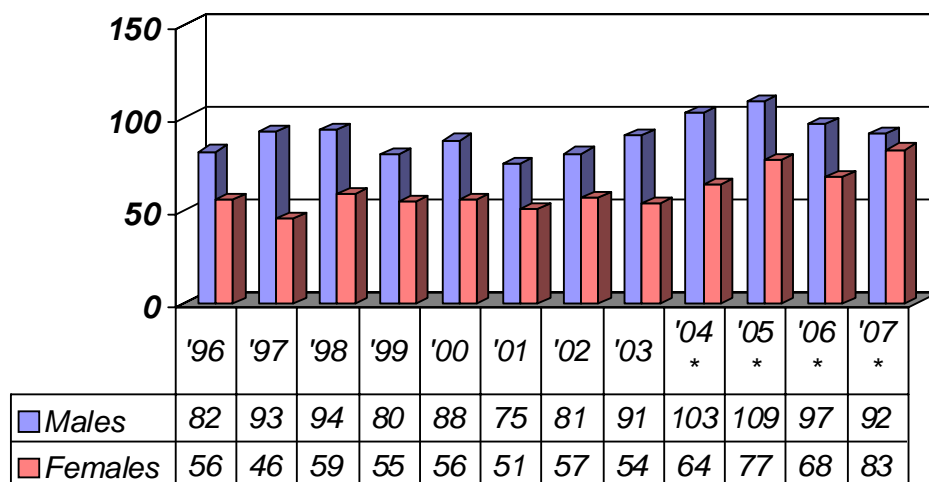
1. No estimates for the population < 18 years old in Hamilton County in 2007 were available as of this writing, and as a result, the child death rate for that year could not be computed.

Source of population estimates: National Center for Health Statistics. Estimates of the July 1, 2000-July 1, 2006, United States resident population from the Vintage 2006 postcensal series by year, county, age, sex, race, and Hispanic origin, prepared under a collaborative arrangement with the U.S. Census Bureau. Available on the Internet from: <http://www.cdc.gov/nchs/about/major/dvs/popbridge/popbridge.htm> (August 2007).

**GENDER**

Of the 176 child deaths in 2007 in Hamilton County, 92 (52.3%) were males and 83 (47.2 %) were females; the gender of 1 (0.5%) could not be determined. Male deaths consistently outnumber female deaths in Hamilton County, as they do throughout the country, although the gap is not as great in 2007 as it has been in prior years, as can be seen in the chart.

**Hamilton County Deaths by Gender**



\*Gender could not be determined for one death in 2004, 2005, 2006 and 2007.

**RACE**

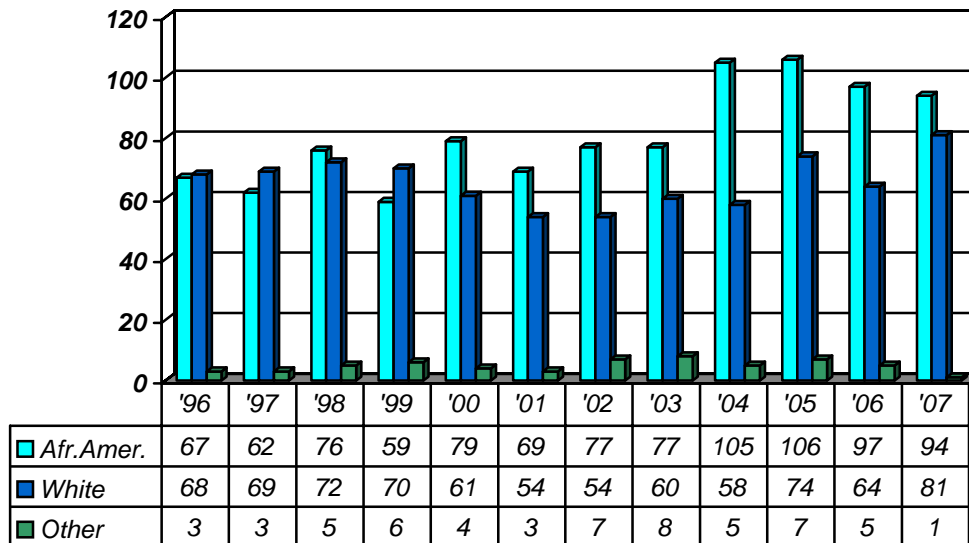
Of the 176 deaths in 2007, most of the children who died were either African American (53.4%) or white (46.0%). The race of one child (0.6%) was unknown. Hispanic is not used as a racial category on the death certificates.

**2007 Hamilton County Child Deaths by Race**

	<b>Number/Percent of Deaths</b>
<b>African American</b>	94 (53.4%)
<b>White</b>	81 (46.0%)
<b>Unknown</b>	1 (0.6%)

As in all previous years since 2000, the number of African American deaths in 2007 was higher than the number of white deaths, as can be seen in the following chart:

**Number of Hamilton County Child Deaths by Race 1996 to 2007**



Since 2000, African Americans have consistently accounted for over 50% of yearly child deaths, as can be seen in the chart below. The percentage of African American deaths has remained fairly stable from 2000 through 2007, with the exception of 2004, when the percentage rose to 62.5%. Although African American deaths continued to outnumber white deaths, the disparity between the two in 2007 is the smallest it has been since 2000.

**Percentage of Hamilton County Child Deaths by Race 2000-2007**

<b>Year</b>	<b>AA</b>	<b>White</b>	<b>Other</b>
<b>2000</b>	54.9%	42.4%	2.8%
<b>2001</b>	54.8%	42.9%	2.4%
<b>2002</b>	55.8%	39.1%	5.1%
<b>2003</b>	53.1%	41.4%	5.6%
<b>2004</b>	62.5%	34.5%	3.0%
<b>2005</b>	56.7%	39.6%	3.7%
<b>2006</b>	58.4%	38.5%	3.0%
<b>2007</b>	53.4%	46.0%	0.6 %

A comparison between the racial composition of Hamilton County’s population and child deaths indicates that child deaths are disproportionately high among African Americans. Although 29.8% of the county’s children under age 18 were African American in 2006, the most recent year available, 58.4% of child deaths in that year were African American. In addition, the child death rate for African Americans was three times the rate for whites – 14.4 deaths per 10,000 children under age 18 compared to 4.8 deaths per 10,000.

**Racial Composition of Population and Child Deaths in Hamilton County**

	<b>AA</b>	<b>White</b>	<b>Other</b>
<b>Total population, 2006</b>	24.2%	70.9%	4.9%
<b>Population &lt;18, 2006</b>	29.8%	62.7%	7.5%
<b>% of child deaths, 2006</b>	58.4%	38.5%	3.0% <sup>1</sup>
<b>Child death rate, per 10,000 population &lt; 18, 2006</b>	14.4	4.8	10.6 <sup>1</sup>

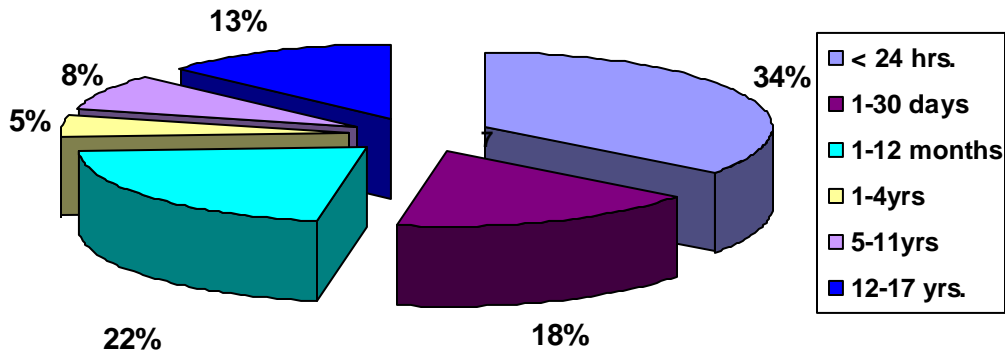
1. Includes 1 death of unknown race.

Sources of population estimates: Racial composition: 2006 American Community Survey, U.S. Census Bureau, (Data are limited to the household population and exclude the population living in institutions, college dormitories, and other group quarters.). Population estimates for rate denominators: National Center for Health Statistics. Estimates of the July 1, 2000-July 1, 2006, United States resident population from the Vintage 2006 postcensal series by year, county, age, sex, race, and Hispanic origin, prepared under a collaborative arrangement with the U.S. Census Bureau. Available on the Internet from: <http://www.cdc.gov/nchs/about/major/dvs/popbridge/popbridge.htm> (August 2007).

**AGE**

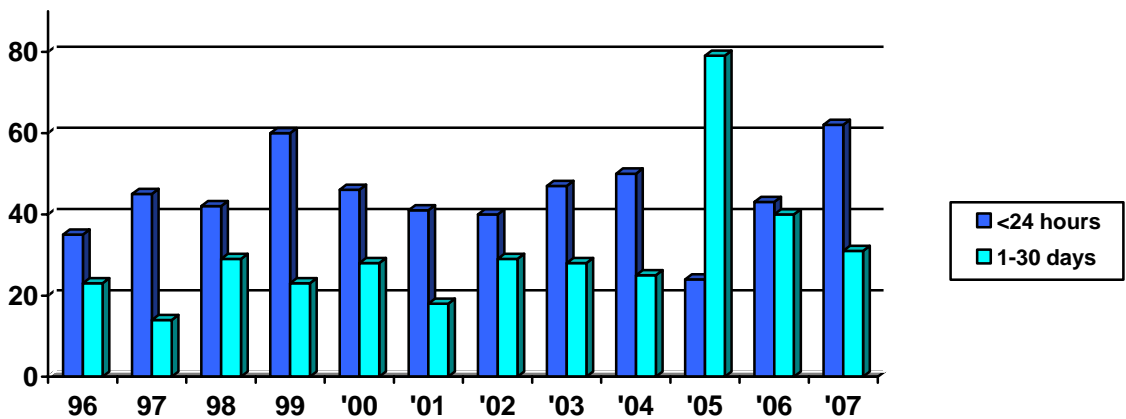
Children aged one month or younger accounted for a little more than half (52%) of the 176 child deaths in 2007, and children less than a year old accounted for three quarters of total deaths. Sixty-two children (34%) were less than 24 hours old at the time of their death, 31 (18%) were between the ages of 1 and 30 days, and 38 children (22%) were between the ages of 1 month and twelve months. Eight (5%) were between the ages of one and four years, 14 children (8%) were between five and eleven years and 23 (13%) were between 12 and 17 years of age.

**Percent of Child Deaths by Age 2007 (n=176)**



For all but one year between 1996 and 2007, the number of child deaths under 24 hours exceeded deaths between the ages of one and thirty days, as is illustrated in the following chart:

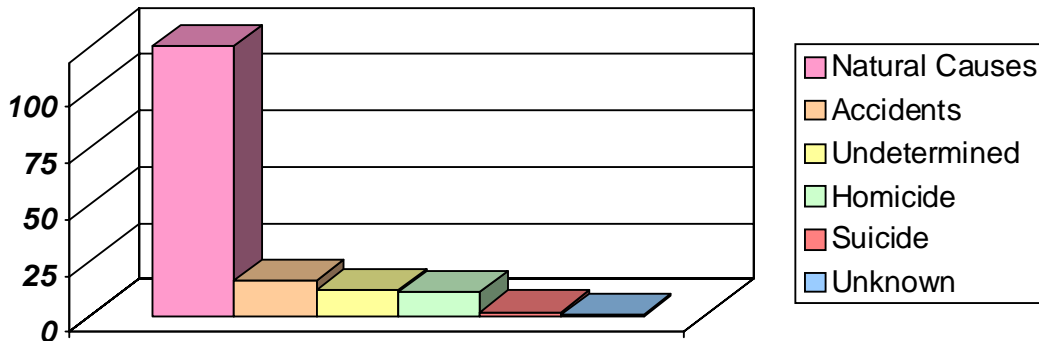
**Deaths < 24 Hours and 1-30 Days 1996-2007**



**CAUSE OF DEATH**

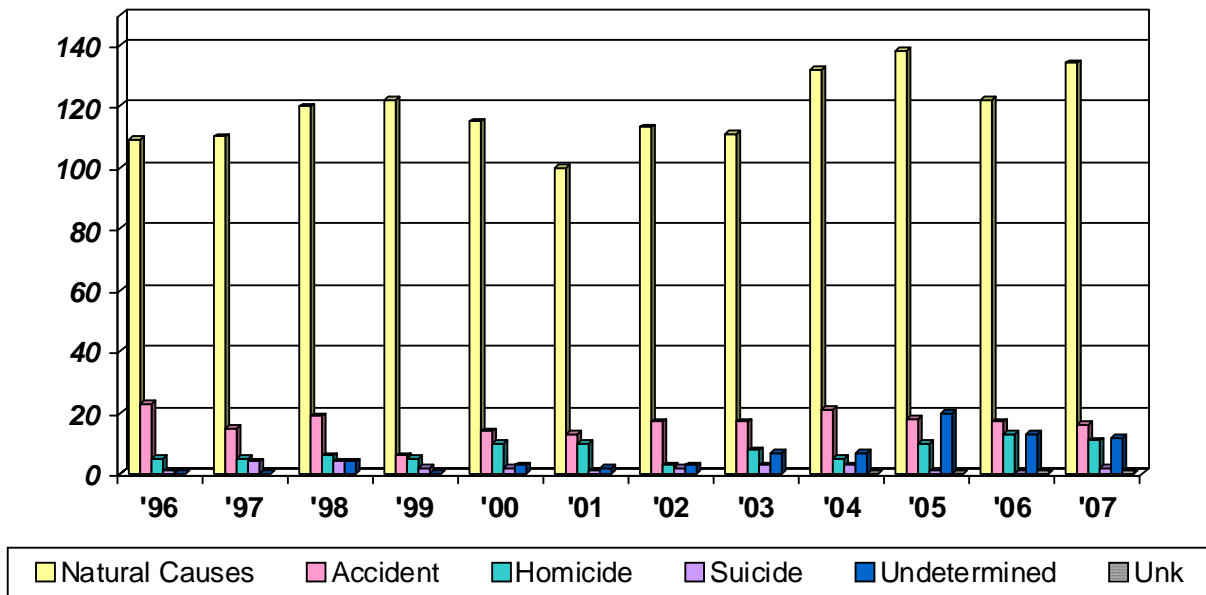
As shown in the following figure, causes of death for Hamilton County children, as classified by the Coroner during 2007, were as follows: 134 (76.1%) were from natural causes, 16 (9.1%) were due to accidents, 11 (6.3%) were a result of homicides, 12 (6.8%) could not be determined, 2 (1.1%) were suicides and 1 (0.6%) was unknown cause of death.

**Causes of All Child Deaths 2007 by Number**



The chart below delineates causes of all deaths from 1996 through 2007. On average, the number of child deaths due to natural causes was higher between 2004 and 2007 than in previous years, and between 2005 and 2007, the average number of deaths due to homicides and undetermined causes was higher than in previous years.

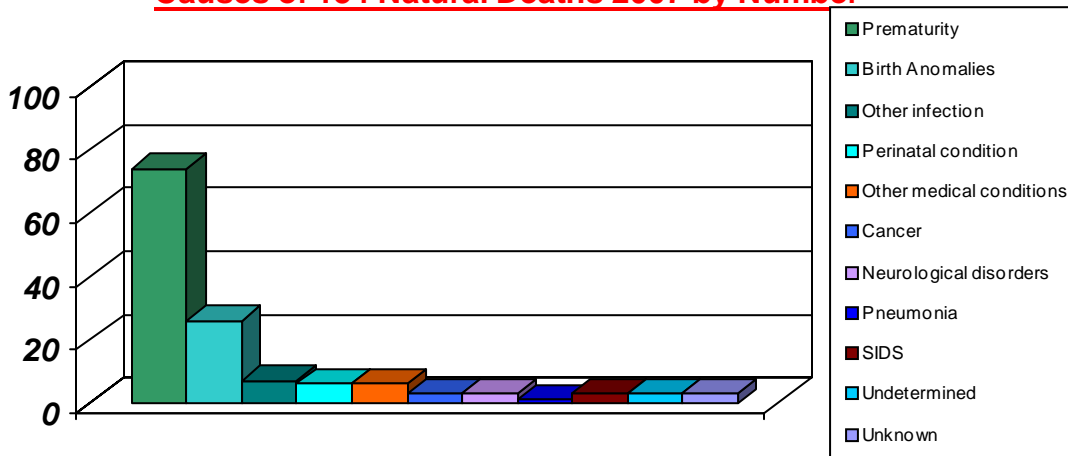
**Cause of Child Deaths by Number 1996-2007**



**CAUSES OF NATURAL DEATHS**

As in past years, the great majority of child deaths were due to “natural” causes -- 134 (76.1%) of the 176 deaths in 2007. As illustrated in the following table, “natural” includes prematurity (74), birth congenital anomalies (26), other infection (7), other perinatal conditions (6), other medical causes (6), cancer (3), neurological disorders (3), Undetermined Medical Cause (3), SIDS (3), and Unknown (3). As in previous years, prematurity accounts for the vast majority of natural deaths, with congenital/birth anomalies being second.

**Causes of 134 Natural Deaths 2007 by Number**

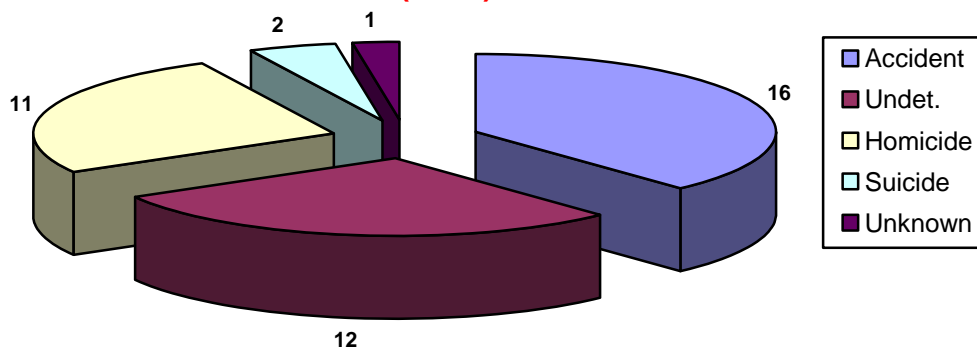


Prematurity continues to be the major reason for the deaths of infants in Hamilton County, accounting for 74 of 131 deaths (56.5%) before one year of age in 2007.

**CAUSES OF DEATHS NOT CLASSIFIED AS NATURAL**

Of the total number of 176 deaths, 42 (23.9%) were not classified as natural. As shown in the following chart, 16 children (38.1% of all “non-natural” child deaths) died as a result of an accident in 2007, the cause of death of 12 (28.6%) children was Undetermined, 11 (26.2%) children died as a result of a homicide, 2 children (4.8%) died as a result of suicide, and one cause of death (2.4%) was unknown.

**Deaths Not Classified as Natural by Number 2007**  
(n=42)



### **DISTRIBUTION OF DEATHS BY RESIDENCE**

Residence at the time of death is reported on the death certificate. According to the death certificates, of the 176 child deaths in Hamilton County, 125 (71.0%) occurred to residents of the city of Cincinnati. By comparison, 34.3% of the county's children under age 18 lived in Cincinnati (2006 American Community Survey, U.S. Census Bureau), indicating that child deaths are overrepresented in Cincinnati compared to the rest of the county. Ten deaths (5.7% of all child deaths) occurred to residents of Colerain Township, while four (2.3%) occurred to residents of Delhi Township, three (1.7%) occurred in Springfield Township and in Sharonville and all other communities had two or fewer child deaths.

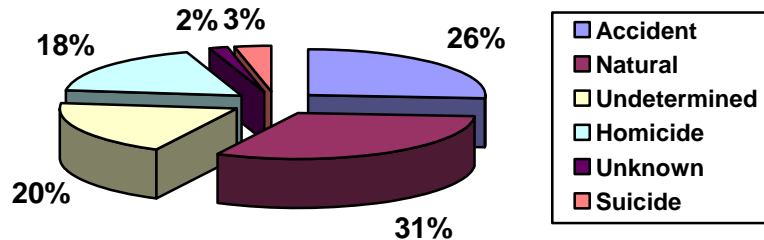
Of the 131 children under the age of one who died, 104 (79.4%) were from the city of Cincinnati.

### **III. FULLY REVIEWED CASES**

Only deaths meeting specified criteria are reviewed in full by the entire team. Those criteria are listed in Section I of this report and include unintentional injuries, homicides, suicides, undetermined causes of death, both those consistent with SIDS and those that are not consistent with SIDS, and all cases known at any time to Hamilton County Children's Services or investigated by law enforcement. Of the 176 child deaths in Hamilton County in 2007, 61 met the criteria for full review (34.7%). 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 team draws conclusions when possible about preventability of each fully reviewed death. The percentage of cases qualifying for full review in the previous years has ranged from 23% to 41%.

Of the 61 cases that met the criteria for full review in 2007, 19 children (31.1%) died of natural causes, 16 (26.2%) died as a result of an accident, 12 (19.7%) were undetermined, 11 (18.0%) died as a result of a homicide, 2 (3.3%) died of suicide and the cause of death of 1 (1.6%) was unknown.

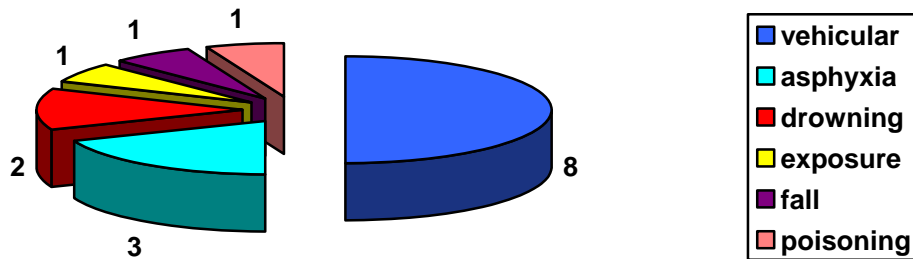
**Cause of Death of Cases Fully Reviewed 2007**  
**(n=61)**



## ACCIDENTAL DEATHS

Of the 16 children who died from accidental causes, the mechanism of injury was as follows: 8 died in a motor vehicle accident, 3 died from asphyxia, 2 died from drowning, 1 died from exposure, 1 died from a fall or crush and 1 died from poisoning.

### Causes of Accidental Deaths in 2007 by Number



Of the three accidental deaths that were due to asphyxia, two were clearly related to inappropriate sleep arrangements; the third may have been related. Though all three of the children were sleeping immediately preceding their death, none of them were sleeping in a crib. All of the asphyxia deaths occurred to children one year of age or younger.

Of the two drowning incidents, one occurred in an above ground pool and one occurred in a lake. One child was two years old and one was fourteen years of age.

Of the eight children killed in traffic accidents, five were passengers in a car/van, two were pedestrians and one was a driver. Six were teenagers, one was ten years of age and one was one year of age.

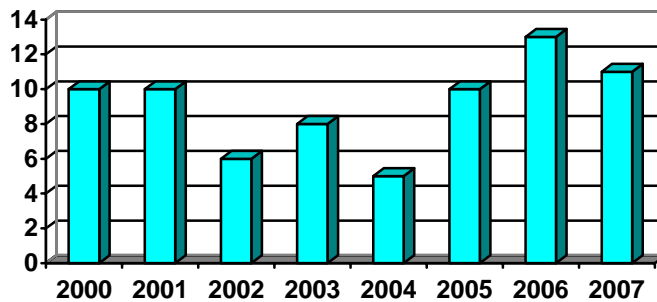
The poisoning was a result of a toxic combination of alcohol and illicit drugs, the fall was from a jet ski and the death from exposure was due to excessive heat exposure.

## **HOMICIDES/CRIMINAL CHARGES**

The cause of death was ruled a homicide in 11 cases in 2007. Eight of the deaths occurred to African American children and three occurred to white children. Ten victims were male and one was female. Six of the victims were teenagers, 3 were between 1 and 10 years of age, and 2 were infants. Criminal charges were filed in seven cases. Three of the perpetrators were biological parents, two of the perpetrators were acquaintances of the victims, two were mother's partner, one was a stranger and three perpetrators were unknown. Firearms were the weapon used in seven of the homicides, a body part was the weapon in three instances, and a sharp instrument was used in one instance.

This is the second largest number of homicides in the past six years. The following chart illustrates the number of homicides that occurred to children since 2000:

**Number of Homicides 2000-2007**



## **UNDETERMINED CAUSE OF DEATH**

The manner of the cause of death is classified 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 manner. This is different than deaths that are classified as Natural Manner with the cause being Undetermined. In the case of a death consistent with Sudden Infant Death Syndrome (SIDS), though there are no specific physical criteria that are specifically attributable to SIDS, it is believed that the child probably died of SIDS because there are no other factors present that could plausibly explain the death. Thus the death is classified as death from a Natural Manner, but the cause is Undetermined; in the form required by the state, however, the cause of those deaths is marked as SIDS, with the manner being natural.

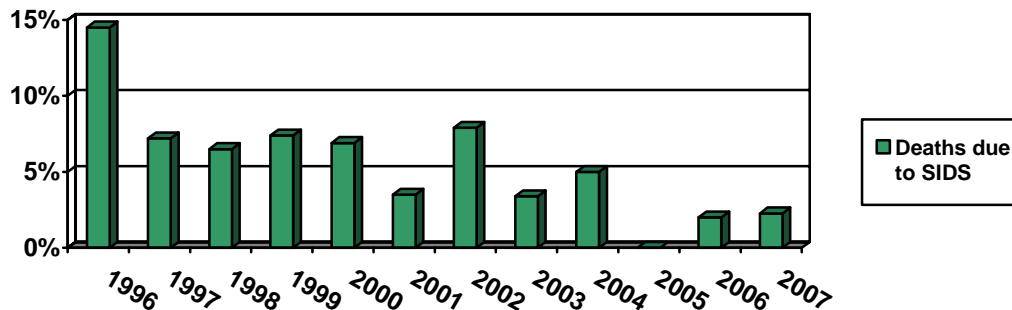
In 2007, of the 176 total deaths, there were 12 deaths (6.8%) that were classified as having died in an Undetermined Manner. All were eleven months of age or younger. Six were female and six were male. Eight children (66.7%) with an Undetermined manner of death were African American and four (33.3%) were White. All were sleeping immediately prior to death. Ten of the 12 (83.3%) were not sleeping in a crib or bassinette at the time of death. Four of the 12 were sleeping with an adult at the time of their death.

## **SIDS DEATHS**

As a diagnosis of exclusion, deaths attributed to Sudden Infant Death Syndrome (SIDS) require a full investigation of the circumstances surrounding the death including a recognized scenario. During 2007 only three of the Hamilton County Child Fatality Review cases had such a characteristic scenario. Two were females and one was male. Two were three months of age and one was four months of age. Two were sleeping on adult mattresses and one was in a crib.

The number of cases attributable to SIDS is much less than in previous years. This may be partially attributable to the fact that a new Coroner took office in 2005 and the department now uses stricter criteria for assigning SIDS as the cause of death than the previous Coroner.

**Percentage of SIDS Deaths 1996-2007**



The decline in SIDS rates and the increase in the death rate of infants dying from Undetermined causes has been noted nationally. In a recent article published in the Journal of Epidemiology by Shapiro-Mendoza, Tomashek, Anderson and Wingo, the following was stated:

“From 1999–2001, the decline in SIDS rates was offset by increasing rates of cause unknown/unspecified and ASSB. Changes in the cause-specific age at death and month of death distributions suggest that cases once reported as SIDS are now being reported as ASSB (accidental suffocation and strangulation) and cause unknown/unspecified. Most of the decline in SIDS rates since 1999 is likely due to increased reporting of cause unknown/unspecified and ASSB.”

## **SLEEPING ARRANGEMENTS**

Inappropriate sleeping arrangements were identified by the team during full review as being present in the death of 17 infants in 2007. Though it could not be conclusively proven in all 17 cases that inappropriate sleeping arrangements were responsible for the deaths, the team noted the presence of inappropriate sleeping arrangements in 17 instances in which death occurred. 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.

## **CASES KNOWN TO CHILDREN'S SERVICES AND/OR HELP ME GROW**

Of total child deaths in 2007, 32 (18.2%) had prior contact with Children's Services. All cases that have had previous contact with Children's Services automatically receive a full review.

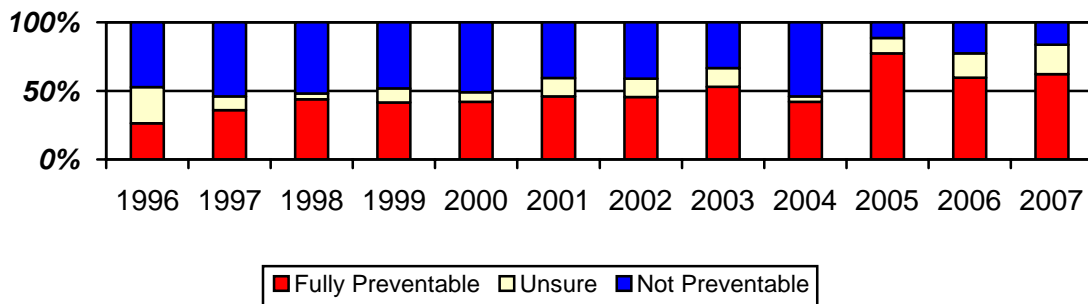
Seventeen (9.7%) of child deaths had received some kind of Help Me Grow services. Help Me Grow is a large county-wide home visitation program that provides new born home visits, support and service coordination to at risk pregnant women and families of children at risk or children with developmental disabilities under the age of 3.

## **PREVENTABILITY**

In every case fully reviewed by the team, the team makes a determination about whether the death was preventable. The Hamilton County Child Fatality Review Team 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." The term "reasonable" is what the team takes most into consideration in making this determination.

Of the 61 cases fully reviewed in 2007 by the Child Fatality Review Team, 38 (62.3%) cases were considered preventable, 10 (16.4%) were considered not preventable and in 13 (21.3%) the team did not have enough information to make a determination. This is the second highest percentage of cases the team has identified as preventable since its inception in 1996, as can be seen in the following chart:

**Preventability of Child Deaths 1996-2007**



Though in almost all instances the team reached consensus about this category, on the rare occasions where consensus was not possible the majority opinion of the team members was adopted by the team.

## **IV. TEAM RECOMMENDATIONS**

At the conclusion of every case receiving full team review, the team decides whether any recommendations should result from the death review. In most instances where the death was categorized as being preventable some recommendations were made.

The following is a summary of the recommendations made by the Child Fatality Review Team as a result of reviews of deaths in 2007.

### **PUBLIC EDUCATION**

As usual, the vast majority of the team recommendations have to do with increasing public awareness of the importance of some well known safety precautions. Almost all of the recommendations below have been made in previous years as well. Deaths reviewed in 2007 resulted in recommendations to reinforce public education in the following areas:

#### **SLEEPING CONDITIONS**

Once again, the issue of inappropriate bedding or problems resulting from co-bedding was a significant factor in many cases. This year recommendations about appropriate sleeping arrangements for children were made in 17 cases (9.7% of all child deaths). In those instances, the team determined that sleeping arrangements were possibly – and sometimes very clearly – a factor in the child’s death. Specifically, the recommendations about sleeping conditions fell into increasing public education in the following four categories:

- The danger of co-bedding (i.e. bed sharing by an infant and an adult or an infant and other children)
- The importance of appropriate bedding (i.e. not surrounded by pillows, blankets, sleeping on firm mattresses, etc.)
- The importance of infants sleeping in cribs
- The importance of placing babies on their backs while sleeping

#### **VEHICULAR ACCIDENTS**

- Wear seat belts
- Hold onto toddlers tightly; keep young children close by when near traffic
- Be especially careful with your car if there are toddlers nearby
- Don’t drive recklessly; don’t speed
- Make sure children understand they should always cross the street at crosswalks

#### **SUPERVISION**

- Be careful who you leave your child with
- Monitor your child or teenager’s associates

#### **DROWNING**

- Watch children intently when anywhere near pools or bodies of water; do not leave toddlers unattended for even a minute when near bodies of water

#### **GUNS**

- Don’t leave loaded firearms accessible to children or teenagers
- Don’t get involved in altercations where guns are being used
- Don’t commit crimes
- Don’t associate with drug dealers

OTHER

- Foster families should drive cars with child proof locks
- State of Ohio should have protocol for how child deaths are investigated so that Ohio counties all follow same protocol and investigatory procedures

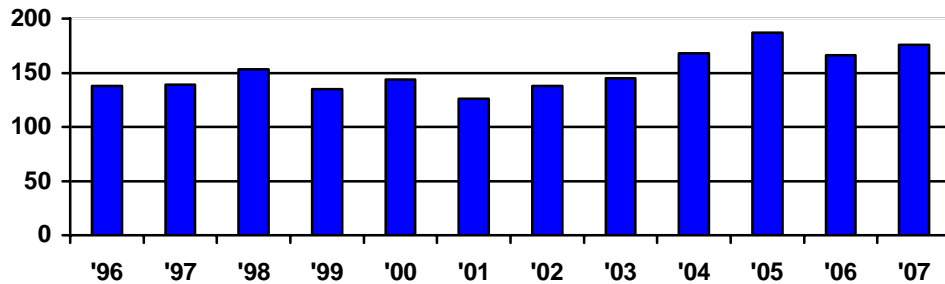
## V. TRENDS AND CONCLUSIONS

This is the twelfth consecutive year that the Hamilton County Child Fatality Review Team has reviewed child deaths in Hamilton County. For the most part, the aggregate data is remarkably similar to past years, although some data from 2007 was notably different from years past. Data of particular interest include the following:

### TOTAL NUMBER OF CHILD DEATHS

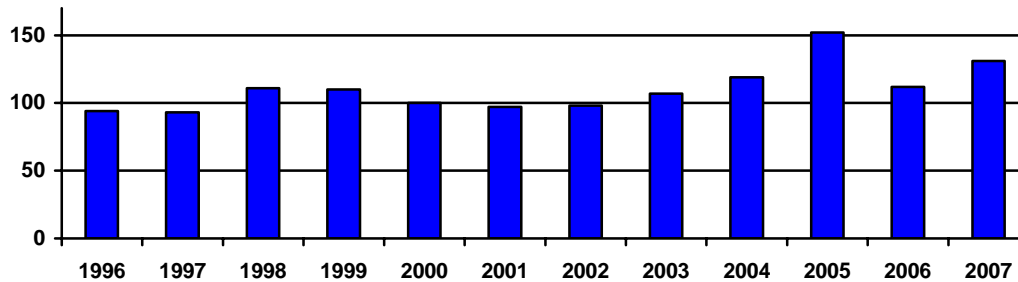
The number of child deaths in 2007 was 6.0% higher than in 2006 and the second highest number of deaths in 12 years. The last four years have been consistently higher in numbers of deaths than in the previous years, as can be seen in the following chart. This increase has occurred in spite of the fact that the number of children under the age of 18 is decreasing as the total population of Hamilton County decreases. These two trends resulted in a steady growth in the child death rate, from 6.6 per 10,000 children in 2000 to 8.0 per 10,000 in 2006, an increase of 21%. (It was not possible to compute the child death rate in 2007, since estimates for the population < 18 years old in Hamilton County are currently unavailable.)

Number of Child Deaths 1996-2007



As in years past, the majority of child deaths in Hamilton County are children under the age of one year. The years of 2004, 2005, 2006 and 2007 have seen the highest number of infant deaths since the Child Fatality Review Team started collecting data, with 2007 being the second highest number since the team began, as illustrated in the following chart:

**Deaths Under 1 Year of Age 1996-2007**



Hamilton County has had higher infant mortality rates (deaths under the age of one year) than the state of Ohio since at least 2000. It should be noted that infant mortality rates in urban areas nationwide tend to be higher than rates in their respective state (Annie E. Casey Foundation, Kids Count Data Center).

**Hamilton County and Ohio Infant Death Rates, 2000-2006**

	2000	2001	2002	2003	2004	2005	2006
<b>Hamilton County</b>	9.9	10.5	9.8	9.6	11.0	13.9	9.7
<b>State of Ohio</b>	7.5	7.6	7.9	7.8	7.7	8.3	7.8

Data were obtained from the Ohio Department of Health Information Warehouse. Infant mortality rate is defined as the number of deaths under 1 year of age per 1,000 live births.

It should also be noted that Hamilton County had the highest infant mortality rate among urban counties in Ohio in 2006, as can be seen in the following chart. In all urban counties, the African American rate was between more than two to more than four times the white rate. In Hamilton County, the African American rate was 2.3 times the white rate.

**Infant Mortality Rate by Race by Urban County 2006**

County	African American	White	Total
<b>Cuyahoga</b>	18.3	4.1	9.5
<b>Franklin</b>	16.3	6.4	9.0
<b>Hamilton</b>	15.4	6.7	9.7
<b>Lucas</b>	19.0	6.2	9.4
<b>Montgomery</b>	13.6	5.3	7.4
<b>Stark</b>	14.7	5.3	6.4
<b>Summit</b>	16.7	5.7	7.7
<b>Ohio</b>	16.7	6.1	7.8

Data were obtained from the Ohio Department of Health Information Warehouse. Infant mortality rate is defined as the number of deaths under 1 year of age per 1,000 live births.

The following table shows the infant mortality rates for African American and white children in Hamilton County between the years 2000 and 2006. The white rate increased slightly during this period, while the African American showed no regular pattern of change. Throughout the period, the African American rate was between more than two to more than three times the white rate. Of the 131 Hamilton County children who died under one year of age in 2007, 63 (48.1%) were African American. (The infant mortality rate in 2007 could not be computed because the number of live births in that year was unknown as of this writing.)

**Hamilton County Infant Mortality Rate by Race 2000-2006**

Year	African American	White	Total
2000	18.5	6.1	9.9
2001	19.5	6.4	10.5
2002	18.1	5.7	9.8
2003	15.9	7.0	9.6
2004	20.6	6.2	11.0
2005	23.7	8.9	13.9
2006	15.4	6.7	9.7

Data were obtained from the Ohio Department of Health Information Warehouse. The infant mortality rate is defined as the number of deaths under 1 year of age per 1,000 live births.

**RESIDENCE**

The vast majority of the 131 infant deaths in 2007 occurred to residents of the city of Cincinnati. A total of 104 (79.4 %) of all infant deaths were Cincinnati residents according to death certificate data. Colerain Township had 4 deaths and no other city or township in Hamilton County had more than 2 deaths.

**DEATHS FROM PREMATUREITY**

A major contributing factor to the high infant mortality rate is the number of deaths due to prematurity. Of the 176 deaths in 2007, 74 (42.0 %) of total child deaths were due to prematurity, according to data collected by the Hamilton County Child Fatality Review Team. The percentage of total deaths due to prematurity has consistently been over 30% since 1998.

Although there are many programs in Hamilton County directed at connecting high-risk women with prenatal care with the hope of decreasing prematurity rates, numbers and percentages of overall deaths due to prematurity have ranged between 39.8% and 46.0% since 2001, as can be seen in the following table:

**Number and Percentage of Overall Deaths Due to Prematurity 1996-2007**

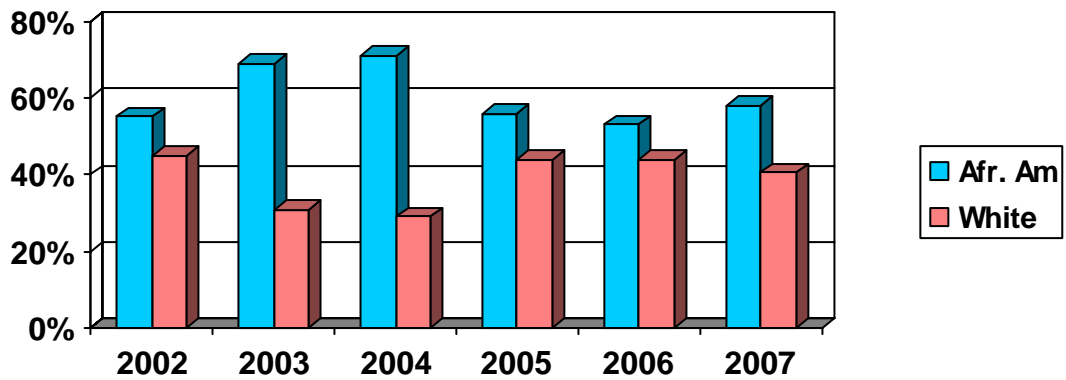
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
<b>Number</b>	39	38	47	59	52	58	54	64	70	78	66	74
<b>Percentage</b>	28.3%	27.5%	30.7%	43.7%	36.1%	46.0%	39.8%	44.1%	41.7%	41.7%	39.6%	42.0%

**RACIAL COMPOSITION OF PREMATURE DEATHS**

Of the 74 premature deaths in 2007, 43 (58.1%) were African American, 30 (40.5%) were white and 1 (1.3%) was of other or unknown race. Fifty-eight (78.4 %) occurred to residents of the city of Cincinnati.

The disparity between African American deaths and white deaths due to prematurity can be seen by the following chart. Although this gap persisted between 2002 and 2007, it was smaller in 2002, 2005, 2006 and 2007 than in 2003 and 2004.

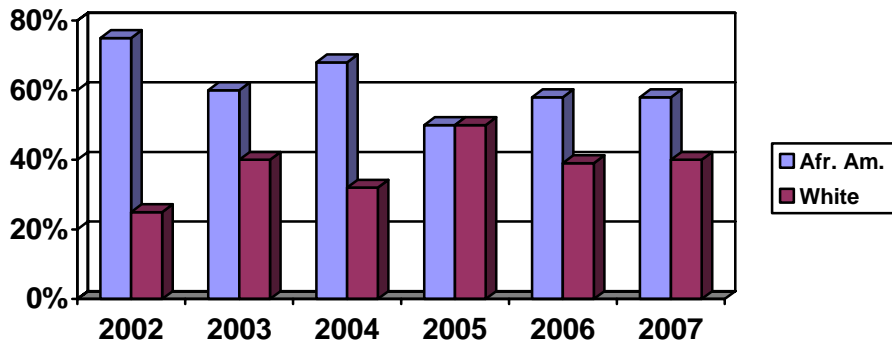
**Percentages of Premature Deaths by Race**  
**2002-2007**



**DEATHS UNDER 24 HOURS**

The disparity between the races can also be seen by examining the race of children under 24 hours of age who died. Of the 62 deaths of infants less than 24 hours of age in 2007, 36 (58.1%) were African American, 25 (40.3%) were white and the race of one was unknown (1.6%). These percent differences are similar to the racial disparities in 2007 among all child deaths in Hamilton County, infant deaths, and infant deaths due to prematurity.

**Percentage of Deaths Under 24 Hours by Race**  
**2002-2007**



## **TRENDS RELATED TO INFANT MORTALITY**

According to the 2008 Hamilton County Maternal Child Community Health assessment currently being compiled for the Hamilton County FCFC Child and Family Health Services Consortium by National Research Center, there are some encouraging trends in data related to infant mortality for Hamilton County, notably:

- There was a marked decline in birth rates in Hamilton County among 15-to-17-year old women between 1991 and 2004 and among 18-to-19-year old women between 1990 and 2003.
- White teens aged 15 to 17 experienced steadily declining birth rates between 1990 and 2006. Birth rates for African Americans in the same age group declined from 1991 to 2005.

However, there are other trends that represent areas of concern:

- Birth rates for both younger and older teens have stabilized and increased slightly during the last two to three years.
- The birth rate for Latino women aged 15 to 17 and 18 to 19 increased dramatically between 1990 and 2006, particularly since 2003.
- After generally decreasing between 1990 and 2002, the percent of women in Hamilton County receiving late or no prenatal care increased every year after 2002, from 9.9% to 12.8% in 2005. This increase was seen among both white and African American women. Throughout the period between 1990 and 2005, the rate for African Americans was two to three times higher than the white rate.
- After remaining steady between 1990 and 2000, the percent of preterm births increased in Hamilton County between 2000 and 2006 and was above the statewide rate nearly every year between 1990 and 2006. This increase was dramatic among Latinos but was also experienced by whites and African Americans.
- The percent of preterm births was higher for the county's teen women and increased among teens aged 15 to 17 years old between 2003 and 2006 and among teens aged 18 to 19 between 2002 and 2006.
- The percent of low birth-weight births increased in both Hamilton County and the state between 1990 and 2006, with Hamilton County having a higher rate than the state every year. The low birth-weight rate was consistently higher among African American women than among white and Latino women.
- Hamilton County's infant mortality rate was above the statewide rate every year between 1990 and 2006. While Ohio's infant mortality rate declined between 1990 and 2006, Hamilton County's rate did not. The rate for African-Americans in Hamilton County was two to three times higher than the white rate in most years during this time period.

- African American women had consistently worse outcomes on a number of birth-related health indicators:
  - Percent receiving late/no prenatal care
  - Percent with preterm births
  - Percent with low birth-weight babies
  - Infant mortality rate

Data for the above information was obtained by National Research Center from the Ohio Department of Health Information Warehouse.

**CHILD MORTALITY RATES**

Child mortality is defined as deaths from ages 1 to 17. The number of child deaths in this age group was somewhat higher in 2006 than in the previous three years due to the higher number of deaths among African American and children of other races in that year. Between 2003 and 2005, the African American child death rate was about twice as high as the white rate. In 2006, it was more than four times the white rate, because of both the increase in African American deaths and the decrease in white deaths. The death rate for children of other races was extremely high in 2006, but the small size of this population often results in large fluctuations in rates.

**Hamilton County Child Mortality Rates by Race, 2003-2006**

<b>Race</b>	<b>2003 Rate (Number)</b>	<b>2004 Rate (Number)</b>	<b>2005 Rate (Number)</b>	<b>2006 Rate (Number)</b>
<b>White</b>	18.1 (24)	19.1 (25)	17.8 (23)	11.8 (15)
<b>African American</b>	34.3 (22)	40.8 (26)	29.8 (19)	51.9 (33)
<b>Other</b>	0.0 (0)	0.0 (0)	0.0 (0)	90.3 (4)
<b>Total</b>	22.9 (46)	25.7 (51)	21.3 (42)	26.7 (52)

Mortality data were obtained from the Ohio Department of Health Vital Statistics; Population estimates came from: National Center for Health Statistics. Estimates of the July 1, 2000-July 1, 2006, United States resident population from the Vintage 2006 postcensal series by year, county, age, sex, race, and Hispanic origin, prepared under a collaborative arrangement with the U.S. Census Bureau. Available on the Internet from: <http://www.cdc.gov/nchs/about/major/dvs/popbridge/popbridge.htm>. (August 2007). The child mortality rate is defined as deaths from ages 1 to 17 per 100,000 population.

**OTHER TRENDS**

In 2007 as in all previous years of child death review, male deaths consistently outnumbered female deaths, although the difference was not as great as in previous years. In addition, African American deaths outnumbered white deaths, as has been the case every year since 2000. The race and gender differences in Hamilton County mirror national data (*Health, United States, 2007*, National Center for Health Statistics, Centers for Disease Control and Prevention, U.S. Department of Health and Human Services).

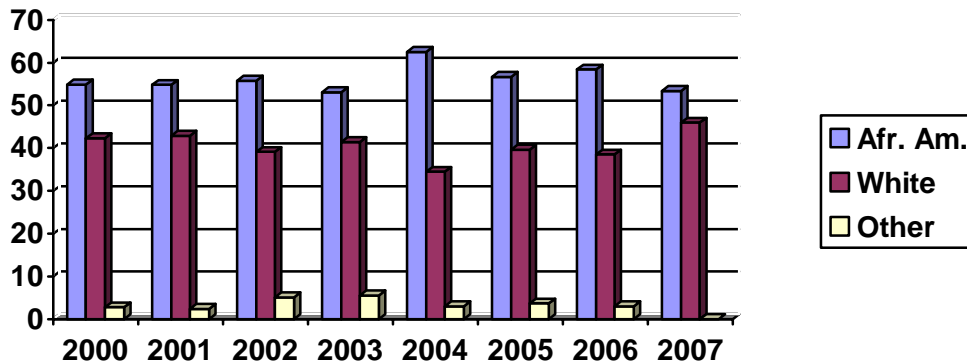
The percentage of teen deaths in 2007 was about average for the period 2003 to 2007. In 2007, 13.1% of deaths occurred to teens, compared with 16.8% in 2006, 7.5% in 2005, 13.7% in 2004 and 10.3% in 2003.

The percentage of children dying from natural causes continues to range between 68% and 75% each year (except for 1999, when the percent was higher), and 2007 was no exception, with 75.6% of the deaths being attributable to natural causes.

**DEATHS BY RACE**

Another noteworthy statistic that appears annually is the disproportionately high percentage of African American deaths among all children less than 18 years of age, infant deaths, and infant deaths due to prematurity. The race gap in child deaths has existed for many years, as can be seen in the chart below.

**Percentage of All Child Deaths by Race**  
**2000-2007**



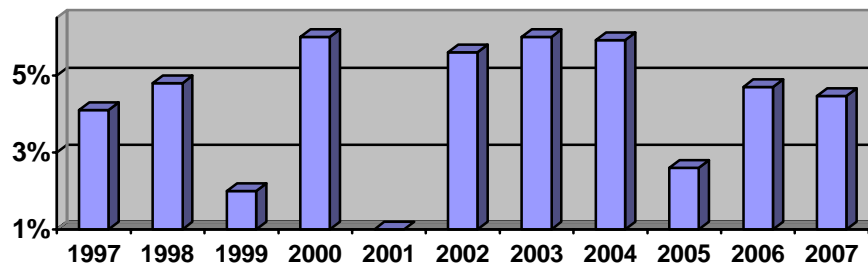
**DEATHS RELATED TO SLEEPING ARRANGEMENTS**

As has been noted in the last several years, there continues to be a large number of deaths related to infants sleeping in inappropriate bedding and/or co-bedding with adults. In 2007, the Child Fatality Review Team again reviewed the deaths where inappropriate sleeping arrangements were noted by the team as present and possibly contributing to the death. There were 17 such deaths. Of the 12 cases that were officially identified as undetermined manner of death, 10 (83.3%) were not sleeping in cribs, and 4 (33.3%) were co-sleeping at the time of death, as were 2 of the 3 asphyxia victims. Of the 3 SIDS deaths, 2 were sleeping in adult beds at the time of death.

## **VEHICULAR DEATHS**

In 2007, 4.0% of child deaths were caused by vehicular accidents. In all but three years since 1997, 4% to 6% of all child deaths have been due to vehicular accidents, as can be seen in the following chart.

**Vehicular Deaths 1997- 2007 by Percentage**



## **HOMICIDES**

2007 saw the second highest number of homicides since the team began reviewing cases 12 years ago. In 2007, 11 children were the victims of homicides. Six were teenagers, two were infants and three were between 1 and 10 years of age. Three of the perpetrators were biological parents, two of the perpetrators were acquaintances of the victims, two were mother's partner, one was a stranger and three perpetrators were unknown. Drugs or the commission of crimes appeared to be involved in several of these homicides.

## **ONGOING CONCERNS**

Sadly, most of the concerns noted in this section are identical to those noted here every year. The high infant mortality rate in Hamilton County (highest or nearly highest among Ohio's urban counties for at least the past four years) and the racial gap in deaths among infants and children of all ages continue to be problematic. In spite of the fact that there are many programs in Hamilton County directed at improving access to and use of prenatal care for high risk pregnant women and many home visitation programs for mothers of high risk young children, the infant mortality rate in Hamilton County remains unacceptably high, particularly among African Americans. More creative methods must be developed to engage high risk mothers in effective programs if we are to seriously impact the high infant mortality rate in Hamilton County.

Another ongoing problem is the problem of inappropriate sleep arrangements, which in 2007 was present in 17 deaths (9.7% of all deaths). Co-sleeping was specifically noted and acknowledged by adults in the home in 4 deaths (2.3% of all deaths). Only 2 of the 12 Undetermined Deaths were sleeping in cribs and none of the 3 suffocation/strangulation deaths occurred to infants sleeping in a crib. These are deaths that could easily have been avoided if only more attention was paid to the importance of appropriate sleeping arrangements for infants.

We do not currently have statistics on how many cribs were actually present in the homes as the state form we are required to use does not specifically ask this question and

first responders to the scene sometimes do not make note of whether a crib is present or not. Therefore, our data are incomplete in that regard. The impression, however, of most responders (i.e. police, coroner, EMS) is that oftentimes a crib is present but it is simply not used. The Family and Children First Council has provided cribs for Help Me Grow families who cannot afford them. However, it often seems to be lack of knowledge rather than the lack of a crib that is the primary factor in placing infants in inappropriate sleeping situations.

Public education efforts have not been very forceful in the areas of the importance of appropriate sleeping arrangements. The Team has made very specific recommendations advising against co-sleeping, to little avail. Co-sleeping as a practice has some very strong advocates who believe it helps mother bond with the infant and encourages breast feeding. Whether or not this is the case, the Team firmly believes that the risks far outweigh any possible benefit that might accrue from co-sleeping. This is most unfortunate, because the Child Fatality Review Team sees many needless deaths every year that could easily be prevented if simple safe sleep precautions were followed.

A very sad statistic in this year's report is the large number of child homicides that occurred in 2007; this was the second largest number of homicides to children since the team began reviewing cases twelve years ago, second only to 2006.

### **PREVENTING FUTURE CHILD DEATHS**

In 2007, the Hamilton County Child Fatality Review Team determined that 62.3% of the 61 fully reviewed cases were preventable, or 21.6% of all child deaths in the county, more than one in five. Most of these deaths, in fact, are easily avoidable, if families would just follow well known, common sense safety precautions. Every year, the team's recommendations consist of fairly obvious safety recommendations: the importance of appropriate bedding for infants and toddlers, the risks of co-bedding, the necessity of the use of child car seats, the need for adequate supervision, the need to keep loaded guns away from children and teens, the importance of seat belts and the like. Of late, the team has tried to stress the importance of appropriate sleeping arrangements for infants and the deaths that result from inattentiveness to the safe sleep needs of infants causes a number of deaths that could easily have been averted. It has been particularly frustrating to see some of our children die such clearly preventable deaths. The Team hopes, however, that with increased attention to the annual findings of the Hamilton County Child Fatality Review Team the deaths of more children can be prevented.

# **HAMILTON COUNTY**

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*FCFC Executive Director:* **Patricia Eber**

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Cincinnati Public Schools

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