

Report of Child Deaths 2002

MAHONING COUNTY CHILD FATALITY REVIEW BOARD

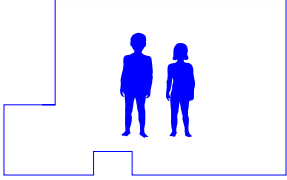
Prepared by

**Tracy Styka, MS
Mahoning County District Board of Health**

June 2003

***Matthew Stefanak
Mahoning County Health Commissioner***

Mahoning County



Child Fatality Review Board

Dear Community Leader:

When a parent dies, we lose our past; when a child dies, we lose our future. Last year 35 children in Mahoning County did not survive to adulthood. We know that the deaths of many of these children were preventable. In January 2000, a group of individuals committed to preventing the needless loss of these young lives began to meet and review the circumstances around each child death.

This report on child deaths in Mahoning County in 2002 represents an organized attempt to identify potential risk factors that led to the deaths and offer recommendations for preventing similar child deaths in the future.

Child fatality review boards have helped to identify preventable risk factors for child deaths in many communities around the State and nation. We hope that you will find our recommendations helpful in addressing risk factors that contributed to the deaths of these 35 children so that the lives of other children may be saved.

Sincerely,

A handwritten signature in black ink, appearing to read "Matthew Stefanak".

Matthew A. Stefanak
Mahoning County Health Commissioner

Table of Contents

➤ Introduction.....	2
Importance of the Child Fatality Review Process	4
Mission.....	5
Structure of the Report	6
Source of Data.....	6
List of Figure and Tables.....	7
➤ Mahoning County Child Mortality Trends 1992-2002.....	8
Total Child Fatalities.....	8
Child Deaths by Age Groups.....	9
Deaths by Sub-Group	
Race.....	12
Gender.....	13
Cause	
Natural.....	14
Injury-Related (Intentional and Unintentional).....	15
➤ Mahoning County 2002 Child Deaths	17
Injury-Related (Intentional and Unintentional).....	19
Infant Mortality.....	19
Infant Mortality Risk Factors.....	21
➤ Recommendations.....	22
➤ Appendices.....	23
Child Deaths in Mahoning County Factsheet – 2002.....	24
Roster of the 2002 Child Fatality Review Board.....	25

Importance of the Child Fatality Review Process

Approximately 50,000 children die in the United States each year. Infants die primarily of problems associated with prematurity; adolescents die largely of trauma following violence or injury, most commonly motor vehicle injury. An estimated 2,000 children in the United States die of child abuse and neglect each year; approximately 40 percent of them are younger than a year old, and the majority are younger than 5 years.

Historically, responsibility for preventing and examining child deaths fell on law enforcement, public safety, and public health agencies working in isolation. However, in recent years, as sensitivity to child abuse and other violence against children has grown among the public and policymakers, these agencies have begun to explore ways to work together as a team to share resources and information. The Child Fatality Review Team process was developed in 1978 in California.

Ohio House Bill 448, enacted in 2000, established a procedure for reviewing child deaths occurring in each county of the state and special review boards to conduct these reviews. Local child fatality review teams tend to be similar in structure and process. Core membership generally includes representatives from the coroner's office, law enforcement, prosecutorial agencies, child protective services, and public health agencies. The teams examine all child fatalities, especially those deaths in which a coroner's services are involved.

Child Fatality Review Teams have been called "a gold mine for injury prevention and control." Effective teams not only provide ongoing systematic review of child deaths, but they also help to document important epidemiological data. Additionally, Child Fatality Review Teams are capable of accelerating progress in the understanding of sudden infant death syndrome (SIDS), missed cases of fatalities resulting from child abuse and neglect, familial genetic diseases, inadequate health care, and other potential public health threats. Finally, Child Fatality Review Teams are in a position to provide data that could initiate policy changes and the development of effective educational programs.

Mission

The mission of the Mahoning County Child Fatality Review Board is to decrease the incidence of preventable fetal and child deaths by:

- Promoting cooperation, collaboration, and communication between all groups, professions, agencies, or entities that serve families and children
- Maintaining a comprehensive database of all fetal and child deaths that occur in Mahoning County in order to develop an understanding of the causes and incidences of those deaths
- Recommending and developing plans for implementing local service and program changes to the groups, professions, agencies, or entities that serve families and children that might prevent fetal and child deaths.

- Advising the Ohio Department of Health of aggregate data, trends, and patterns concerning child deaths.

Representatives from the following agencies have participated in the Child Fatality Review Board:

- Austintown Police Department
- Forum Health Tod Children's Hospital
- Mahoning County Alcohol and Drug Addiction Services Board
- Mahoning County Children Services Board
- Mahoning County Coroner's Office
- Mahoning County District Board of Health
- Mahoning County Mental Health Board
- Mahoning County Prosecutor's Office
- Mahoning County Sheriff's Department
- Mahoning Valley Funeral Directors Association
- Saint Elizabeth Health Center
- Youngstown City Health District
- Youngstown Fire Department
- Youngstown Police Department

The Child Fatality Review Board meets quarterly to review child deaths from the previous quarter and issues an annual report of its findings and recommendations each year.

Structure of the Report

This report is intended to provide a summary of the available information regarding child deaths in our community. It is hoped that, by collecting this information, patterns will emerge that may suggest intervention strategies, and that make it possible to identify areas of child health and safety that have the greatest impact on child deaths. In addition, the effect of intervention strategies implemented may be measured.

The report is divided into three main sections. The first presents data over the 11-year period of 1992-2002. This section provides important insight into child fatality trends in the community and allows the reader to determine if there have been any improvements overall and within groups of interest. The cases are broken down into sub-groups based on either membership (age, gender, race, etc.) or cause of death (natural, injury-related).

The second section of the report includes only deaths that occurred in 2002. An in-depth look at infant mortality for 2002 is also included.

The third and final section of the report provides recommendations from the Child Fatality Review Board on intervention strategies for specific causes of death and offers recommendations for the data collection process.

Sources of Data

The following sources of data have been used in compiling this report:

- Healthy People 2010
- The Mahoning County Child Fatality Review Board
- The Mahoning County District Board of Health – Health Promotion and Assessment Unit
- Office of Juvenile Justice and Delinquency Prevention
- Ohio Department of Health – Data Warehouse
- 1990 and 2000 U.S. Census
- The Youngstown City Health District – Office of Vital Statistics

List of Figures and Tables

Figure 1	Total Mahoning County Child Fatalities 1992-2002
Table 1	Child Deaths by Age Group 1992-2002
Figure 2	Neonatal Deaths per 1,000 Live Births <i>0-27 Days</i> 1992-2002
Figure 3	Infant Deaths per 1,000 Live Births <i>All Infant Deaths (under 1 year)</i> 1992-2002
Figure 4	Child Deaths per 10,000 <i>1-4 Years Old</i> 1992-2002
Figure 5	Child Deaths per 10,000 <i>5-9 Years Old</i> 1992-2002
Figure 6	Child Deaths per 10,000 <i>10-14 Years Old</i> 1992-2002
Figure 7	Child Deaths per 10,000 <i>15-17 Years Old</i> 1992-2002
Table 2	Child Deaths by Race 1992-2002
Figure 8	Child Deaths by Race per 10,000
Table 3	Child Deaths by Gender 1992-2002
Figure 9	Child Deaths by Gender 1992-2002
Table 4	Numbers of Deaths Due to Natural Causes 1992-2002
Figure 10	Natural Deaths by Cause per Year 1998-2002
Figure 11	Injury-Related Child Deaths by Cause 1998-2002
Table 5	Injury-Related Child Deaths by Cause 1998-2002
Figure 12	Child Deaths by Age and Cause 2002
Table 6	Child Deaths by Age Group by Cause in 2002
Figure 13	Injury-Related Child Deaths by Cause 2002
Figure 14	Causes of Infant Mortality 2002
Figure 15	Infant Deaths by Age of Mother 2002
Table 7	Infant Mortality Risk Factors in 2002

Mahoning County Child Mortality Trends 1992-2002

To understand child mortality in the county, it is important to examine the trends over time. The following tables and graphs demonstrate that while there has been some variability over time in the number of child deaths, the trend over the 11-year period between 1992 and 2002 has been downward.

When reviewing the following data we distinguish between infant deaths (under one year of age) and all other child deaths (1 to 17 years). Infant deaths traditionally occur during the neonatal period (2/3 of all infant deaths). Because infant deaths contributed almost 61% of the total child deaths in the county, we examine more closely the deaths that occur among infants.

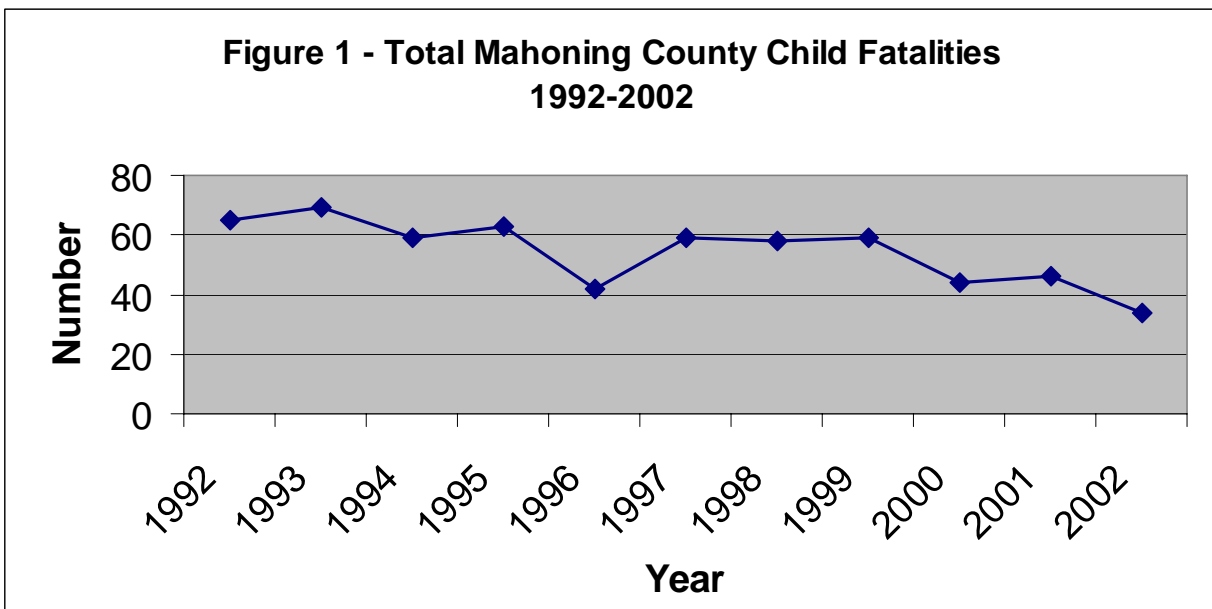


Table 1 – Total Child Deaths by Age Group per Year

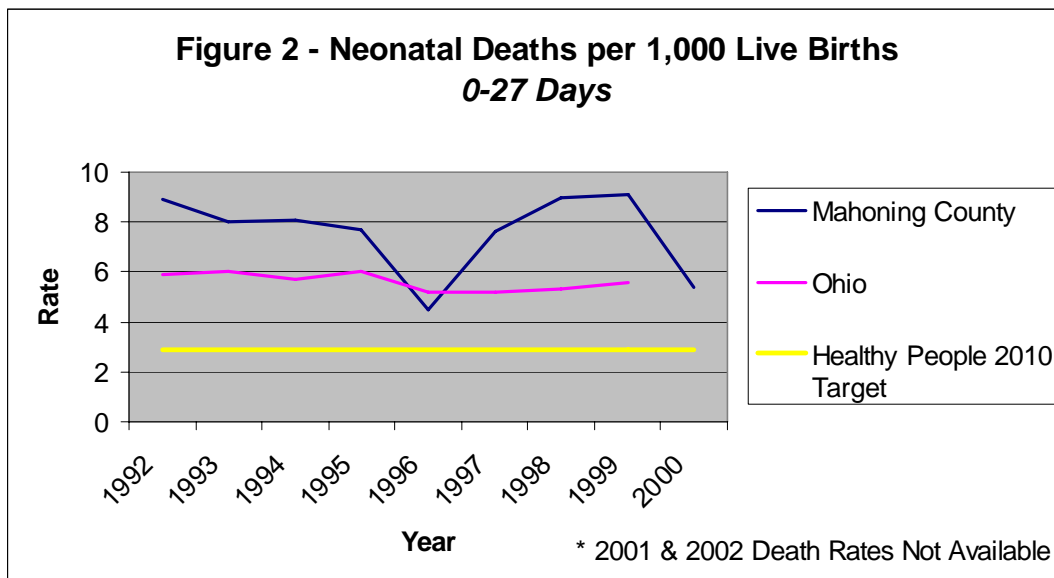
	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Total
0-27 days	32	27	27	26	14	22	28	27	16	18	10	247
28 days-1 year	10	14	14	8	8	12	11	15	5	13	9	119
1-4 years	9	10	3	4	5	8	6	4	3	3	6	61
5-9 years	2	6	3	2	1	1	2	2	3	0	4	26
10-14 years	5	2	2	4	4	4	6	3	8	5	0	43
15-17 years	7	10	10	19	10	12	5	8	9	7	6	103
Total	65	69	59	63	42	59	58	59	44	46	35	599

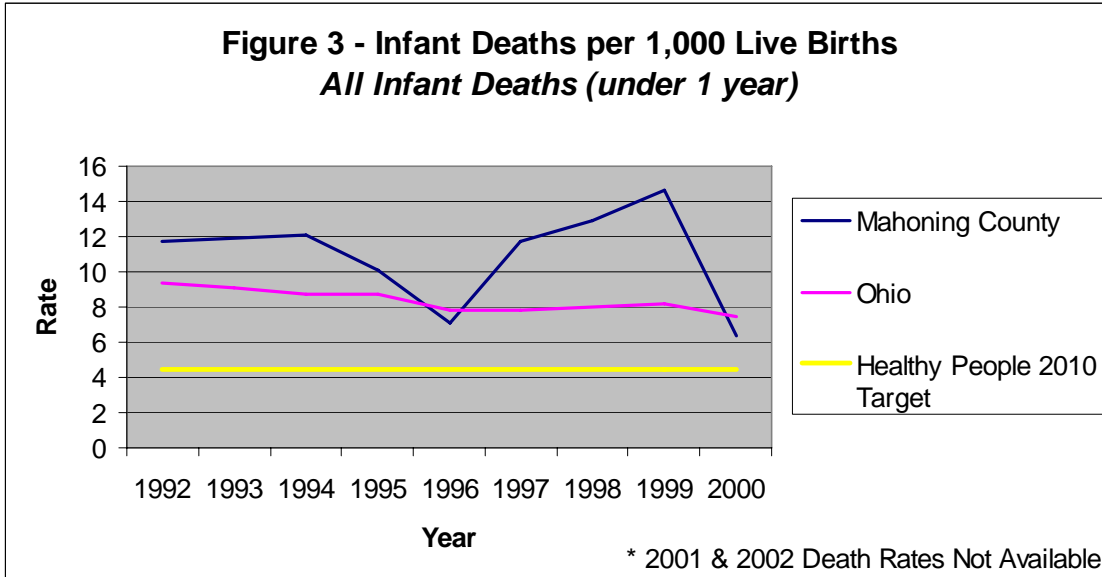
Figure 1 combines infant and child deaths and shows the downward trend in the total number of child deaths in the county over the last 11 years. The sharp decreases in 1996 and 2002 resulted from fewer infant deaths in those same years, as shown in Table 1.

Child Deaths by Age Groups 1992-2002

Infant death is a critical indicator of the health of a population. It reflects the overall state of maternal health as well as the quality and accessibility of primary health care available to pregnant women and infants. Despite steady declines in the 1980s and 1990s, the rate of infant mortality in the United States remains among the highest in the industrialized world.

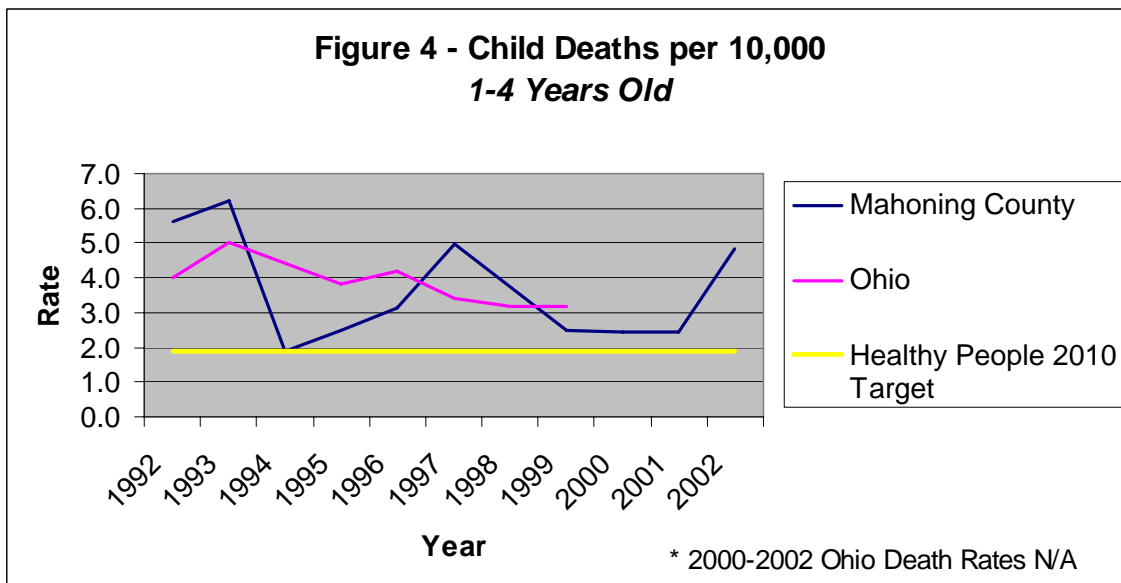
Figures 2 and 3 show the rates of neonatal deaths and all infant deaths for Mahoning County and Ohio, along with the Healthy People 2010 Target. Throughout most of the 1990's, Mahoning County rates were higher than Ohio rates and were significantly higher than the Healthy People 2010 Target.

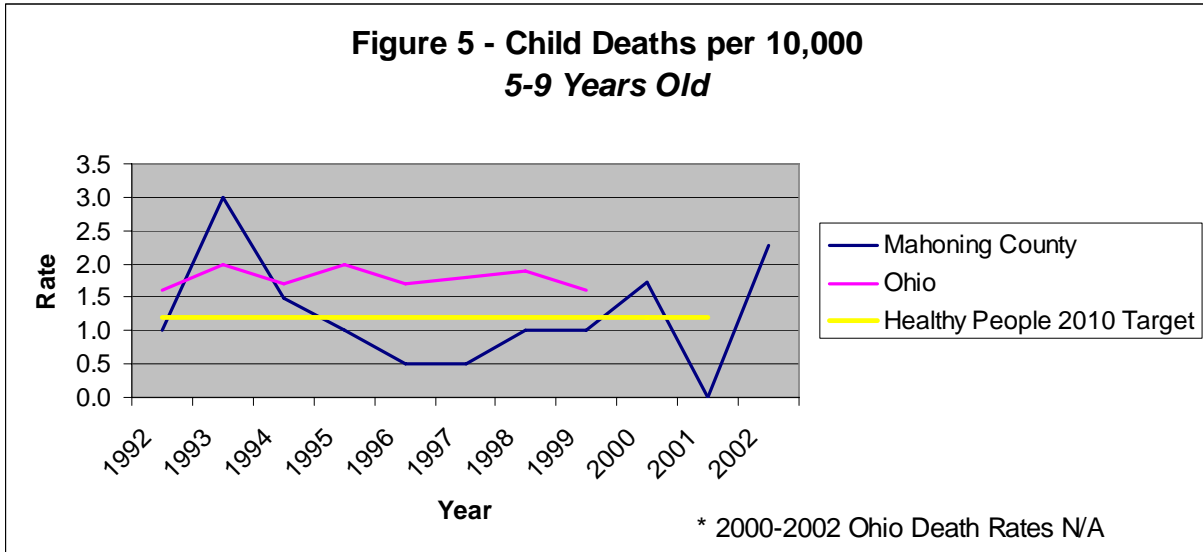




The deaths of children after infancy also present a public health concern and an opportunity for prevention. The leading cause of death for children older than one year is injury. Among children aged 1 to 4 years, the leading injury-related causes of death are motor vehicle crashes, drownings, and fires and burns. Among those aged 5 to 9 years, the leading causes of death include motor vehicle crashes and firearms (including unintentional deaths, homicides, and suicides). These deaths are for the most part, preventable. Other leading causes of death among children that are less likely to be preventable include birth defects, cancer, and diseases of the heart.

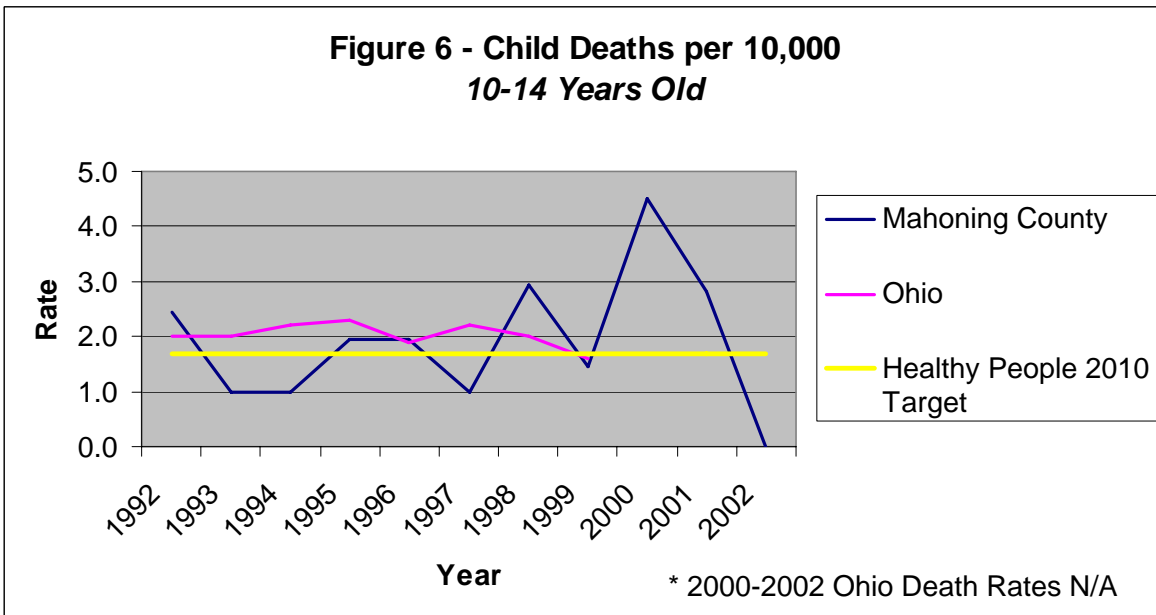
In both Figure 4 and 5, the rates of child death in the respective age groups for Mahoning County have shown significant variability throughout the decade.

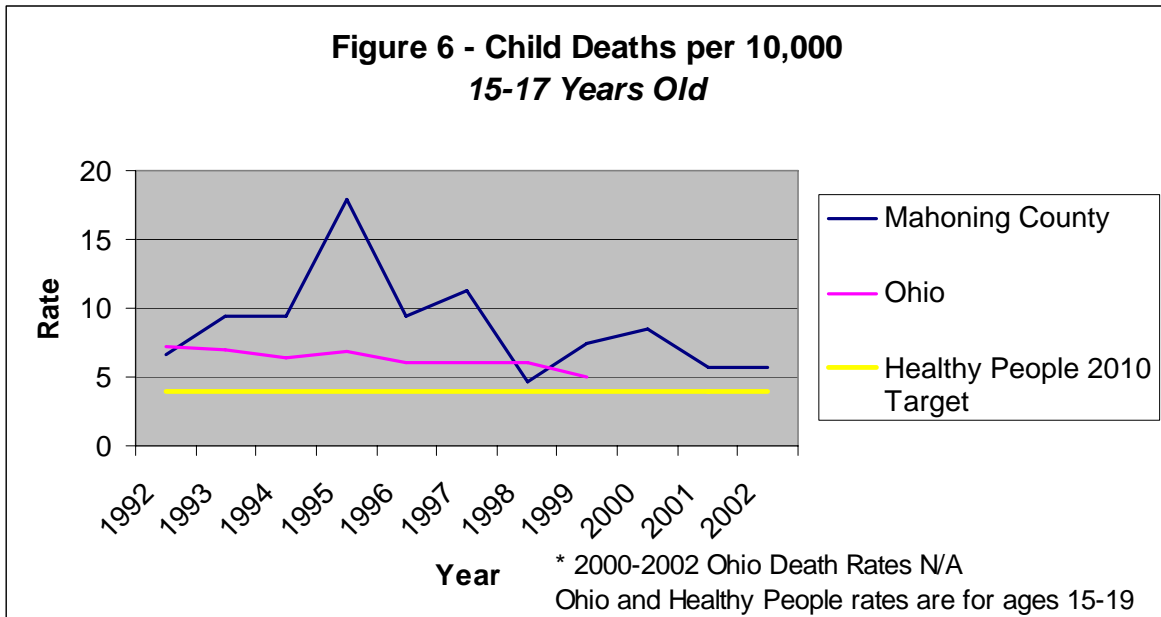




The deaths of adolescents are more likely to be due to external causes than to medical conditions. The leading cause of death for adolescents ages 10-14 and 15-17 is motor vehicle crashes followed by other injuries (such as falls and drownings, homicides and suicides). Most of the total deaths in these age groups, therefore, can be attributed to unnecessary (that is, preventable) causes. Other causes of death for these age groups that are less amenable to prevention strategies include cancer, birth defects, diseases of the heart, and a combination of other causes.

Figures 6 and 7 show that deaths rates declined or remained the same for two successive years in 2001 and 2002 among children ages 10-14 and 15-17 – the first such trend of this length since we began tracking age-specific death rates in 1992.





Child Deaths by Sub-Groups – Race

Table 2 – Child Deaths by Race per Year, Number and Rate per 10,000

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Total
White	43	28	27	28	19	41	30	32	23	29	16	317
Rate	8.7	5.6	5.4	5.6	3.8	8.3	6.0	6.4	4.6	5.8	3.6	
Non-white or multiracial	22	41	32	35	23	18	28	27	21	17	17	281
Rate	14.4	26.9	21.0	22.9	15.1	11.8	18.3	17.8	13.8	8.7	8.7	

In Mahoning County, non-whites make up only 28% of the population under 18 years of age in the 2000 Census. However, they accounted for 50 percent of child deaths in 2002.

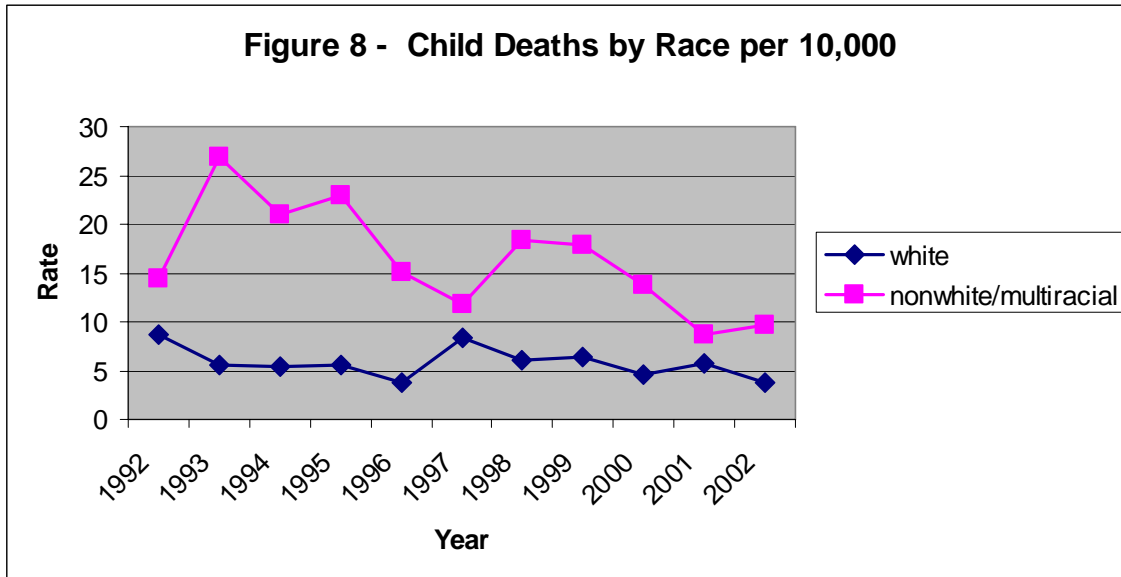


Figure 8 illustrates that a significant racial disparity between whites and non-whites in child deaths exists. However, the gap has narrowed somewhat since 1999.

Child Deaths by Sub-Groups – Gender

Table 3 – Child Deaths by Gender 1992-2002

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Total
Male	29	41	39	42	25	45	30	32	24	25	19	333
Female	36	28	20	20	17	14	28	27	20	21	16	231

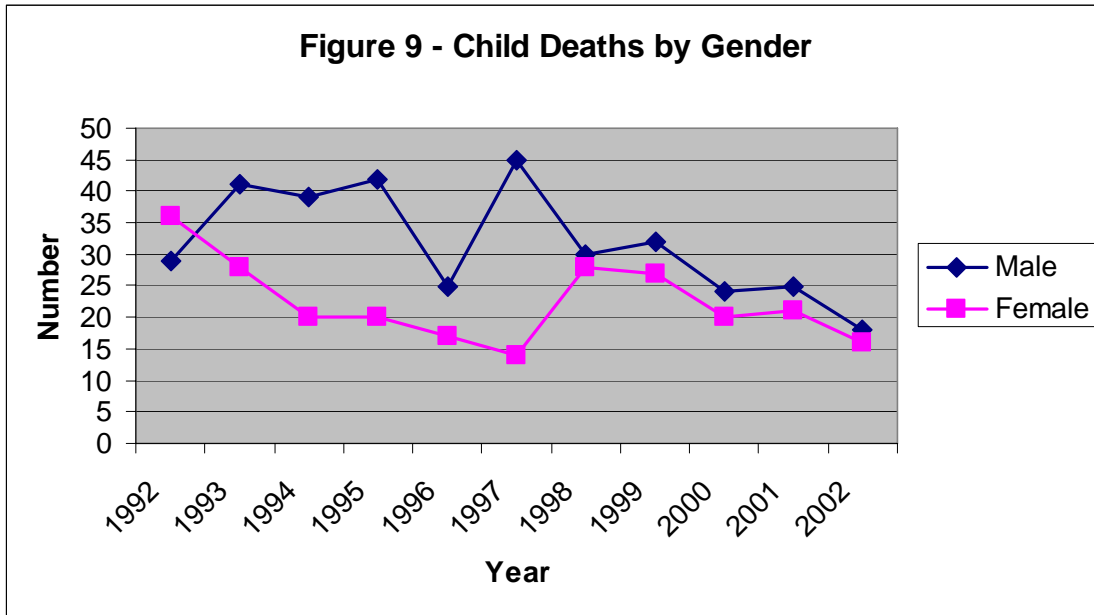


Table 3 and Figure 9 illustrate the gender differences in child deaths. Much of the difference in numbers can be accounted for by the fact that males are known to have poorer survival rates in infancy and suffer more intentional and unintentional injuries in adolescence. In Mahoning County for the years 1992-2002, males accounted for 59 percent of child deaths.

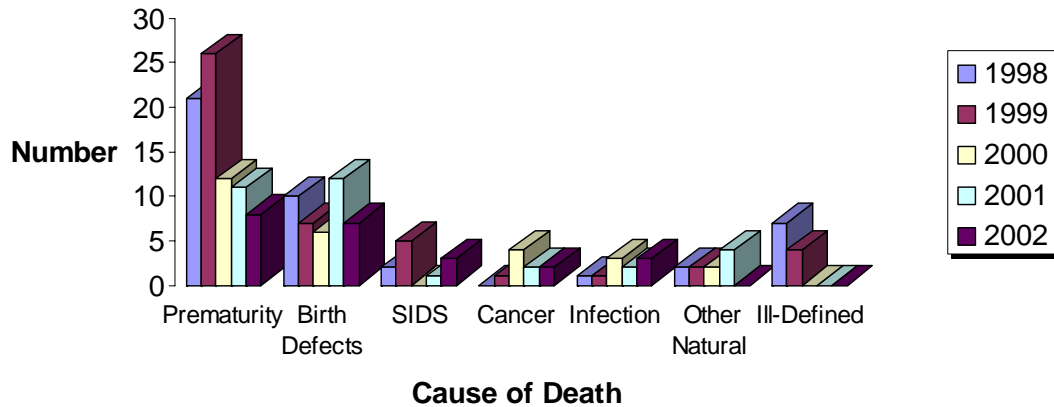
Child Deaths Grouped by Cause – Natural

Table 4 – Numbers of Deaths Due to Natural Causes by Year

Natural Deaths	1998	1999	2000	2001	2002	Total
Prematurity	21	26	12	11	8	78
Birth Defects	10	7	6	12	8	43
SIDS	2	5	0	1	3	11
Cancer	0	1	4	2	2	9
Infection	1	1	3	2	3	10
Other Natural	2	2	2	4	0	10
Ill-Defined	7	4	0	0	0	11
Total	43	46	27	32	23	172

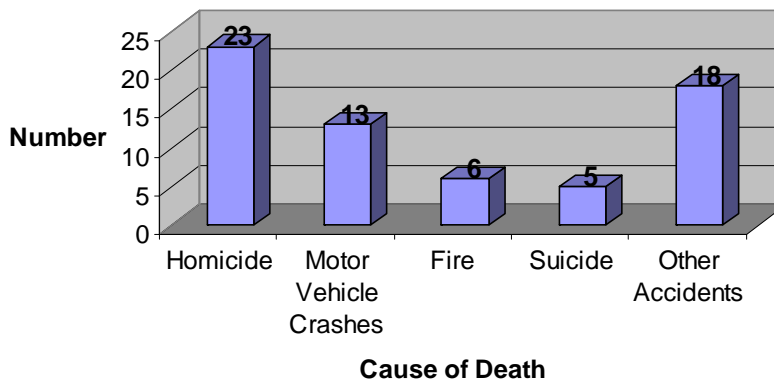
Over the five-year period 1998-2002 there were 172 deaths due to natural causes. Prematurity contributed to almost half (46%) of child deaths due to natural causes over this time period. Birth defects were the second highest contributing to 24% of child deaths due to natural causes. There have been significant decreases in prematurity and birth defects as causes of death during this period.

Figure 10 - Child Deaths by Natural Cause in Mahoning County 1998-2002



Child Deaths Grouped by Cause – Injury-Related (Intentional and Unintentional Deaths)

Figure 11 - Injury-Related Child Deaths by Cause, Mahoning County, 1998-2002



During the years 1998-2002 there were 65 deaths to children from non-natural or injury-related causes. These include homicides, suicides, and accidents. There were 23 homicide deaths which

contributed 35% of all injury-related deaths, and 5 suicide deaths which contributed 8% of all injury-related deaths. The 13 motor vehicle-related deaths accounted for 20% of injury deaths; 6 deaths resulting from fires accounted for 9% and another 18 deaths due to other accidents (i.e. drowning, bicycle crashes, suffocation, and overlays) accounted for 28% of injury deaths. Table 5 presents the numbers of injury deaths during this five-year period.

Table 5 –Injury-Related Child Deaths by Cause of Death 1998-2002

Injuries	1998	1999	2000	2001	2002	Total
Homicide	6	5	6	2	4	23
Motor Vehicle Crashes	3	1	4	2	3	13
Fire	2	3	1	0	0	6
Suicide	2	0	2	1	0	5
Other Accidents	3	4	4	5	2	18
Total	16	13	17	10	9	65

MAHONING COUNTY 2002 CHILD DEATHS

The following section provides expanded information on 35 deaths reviewed by the Child Fatality Review Board that occurred among children in 2002 including natural causes, injury-related causes and infant mortality.

Because 54% of all the deaths that occurred this year were to infants, a comprehensive understanding of the full spectrum of infant mortality is critical. To facilitate understanding, one of the sections focuses exclusively on infant deaths.

Summary

During 2002 there were 34 deaths to child residents of Mahoning County, down from the 46 deaths that occurred in 2001. The Child Fatality Review Board only reviews those deaths that fit review criteria established by the board. The Board reviews unattended deaths, all injury-related deaths or coroner's cases and also any death requested for review by a member of the Board. Input from the broad spectrum of agencies and organizations represented on the Board allowed for a fuller determination of the circumstances and contributing factors surrounding the deaths of these children.

Table 6 – Total Child Deaths by Age Group by Cause in 2002

Cause	0-27 days	28 days-1 year	1-4 years	5-9 years	10-14 years	15-17 years	Total
NATURAL							24
Prematurity	6	1	1				8
Birth Defects	3	3	1	1			8
Cancer			1			1	2
SIDS		3					3
Infection	1	2					3
INJURY-RELATED							11
Motor Vehicle Crashes			1			2	3
Homicide			1	2		1	4
Drowning			1			1	2
PENDING INVESTIGATION				1		1	2
TOTAL	10	9	6	4	0	6	35

From Table 6 we can see that 24 or 69% of the deaths that occurred during the year were related to natural causes. The majority of these natural deaths (78%) were to infants less than one year of age. Overall infant deaths account for 54% of all child fatalities for the year. Among infant deaths, 37% were due to prematurity, 32% were due to birth defects, 16% were due to infection, and 16% were due to SIDS. In 2002, there were increases in deaths due to infections and SIDS while deaths due to injury-related causes were eliminated as compared to 2001.

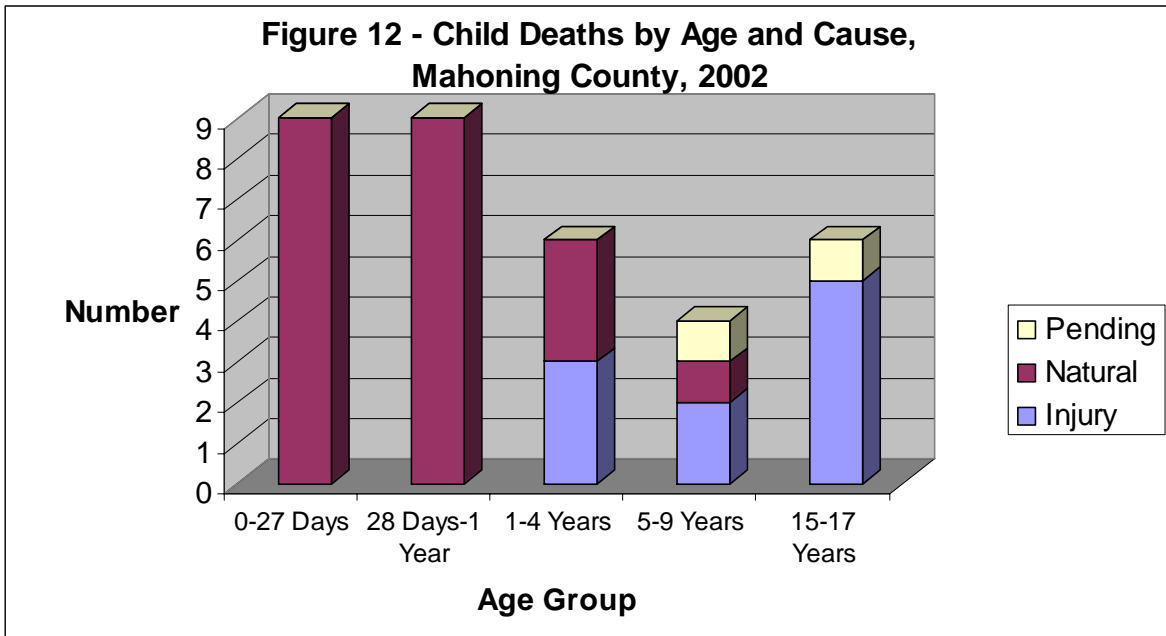
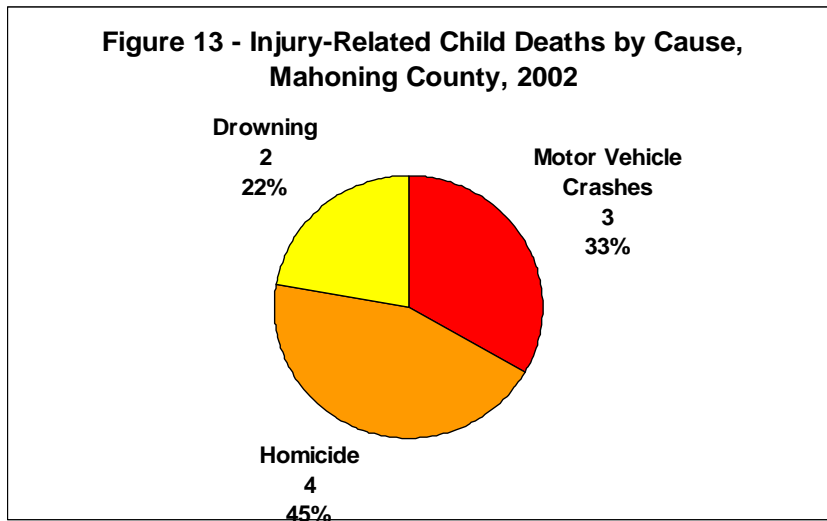


Figure 12 displays the information found in Table 6 in a way that highlights the shift from deaths due to natural causes to deaths from injury-related causes. We can see clearly from this graph that the overwhelming majority of deaths due to natural causes are among infants, while deaths due to injury-related causes are more prevalent with older children (i.e. teenagers).

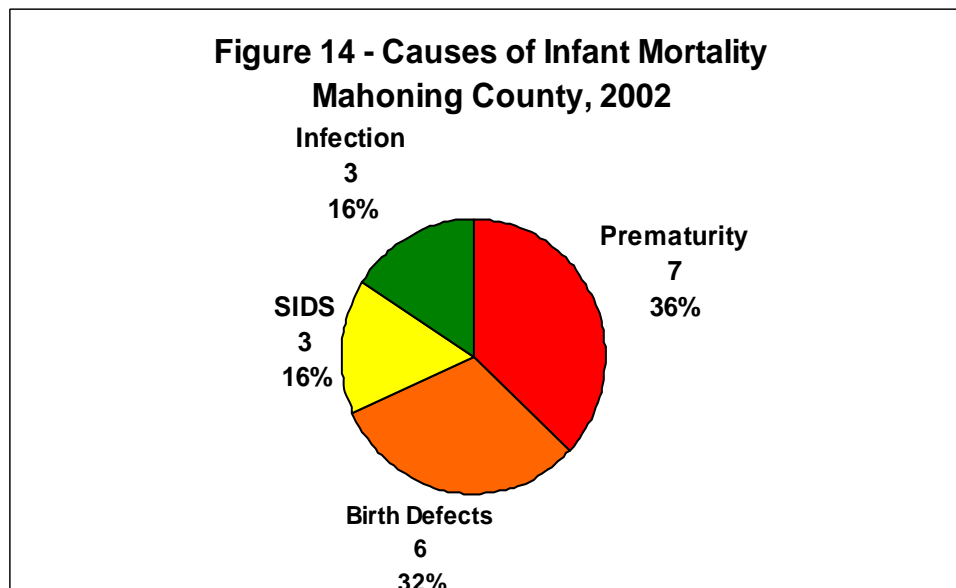
Injury-Related (Intentional and Unintentional) Deaths



In 2002 there were 9 injury-related deaths: 4 homicides, 3 motor vehicle crashes, and 2 drownings. There were fewer injury-related causes of death in 2002 resulting in an increase in the proportion of deaths in each cause.

Infant Mortality 2002

Infant mortality is defined as the death of any child, which occurs between the moment he or she is born alive and his or her first birthday. The legal definition of a live birth in Ohio is, “any products of conceptions, completely expelled from the mother, showing any spontaneous signs of life, including a cord pulse.” Because this definition is very inclusive, many infant deaths in the community occur to babies less than one hour of age.



During 2002 there were 19 infant deaths in Mahoning County. This represents 54% of all deaths to children for the year. From Figure 14 it is apparent that prematurity and birth defects account for the greatest number of infant deaths (13 of the 19 deaths).

Death certificates contain limited information about the contributing factors to infant deaths in Mahoning County. The death certificate does not contain any information about the age of the mother, the course of pregnancy or even the baby's gestational age at delivery. Because prematurity is such an important contributor to infant mortality and to the overall picture of child deaths, obtaining data from birth certificates on known risk factors and contributors helps to devise prevention and intervention strategies. Birth certificates were available for 15 of the 19 infant deaths in 2002.

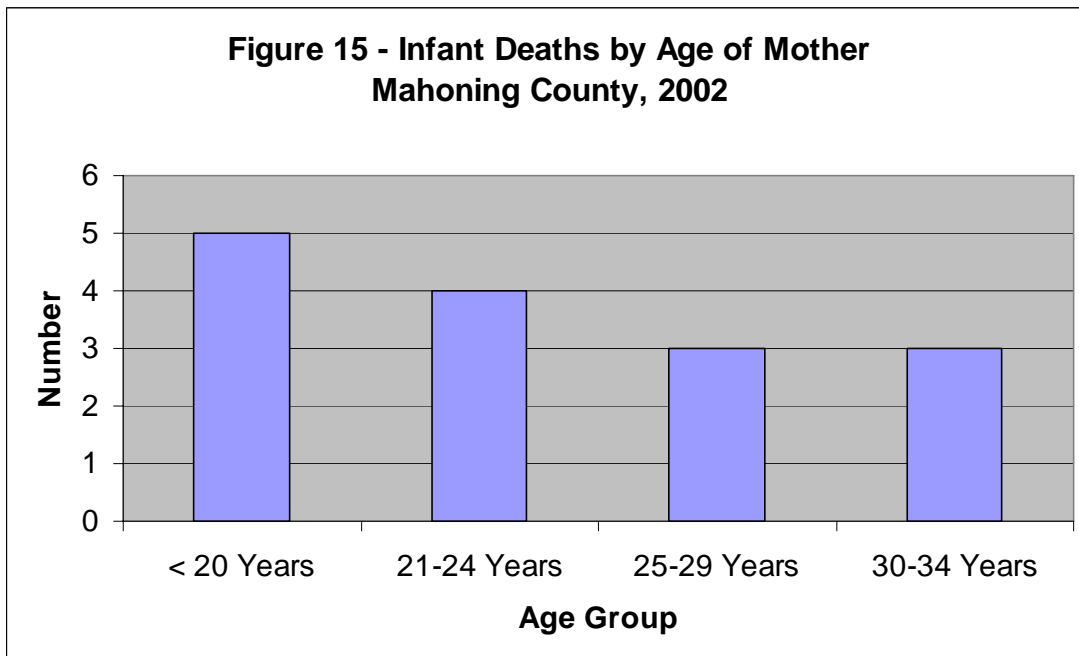


Figure 15 shows that more Mahoning County infants who died in 2002 were born to teen mothers than to any other age group. Reducing teen pregnancy is particularly important because pregnancy and infant loss in a woman's teen years are often strong predictors of future losses.

The health of mothers, infants, and children is of critical importance, both as a reflection of the current health status of a large segment of the U.S. population and as a predictor of the health of the next generation. Table 7 contains additional information about the prevalence of known risk factors for prematurity and infant mortality.

Prenatal care includes three major components: risk assessment, treatment for medical conditions or risk reduction, and education. Each component can contribute to reductions in perinatal illness, disability, and death by identifying and mitigating potential risks and helping women to address behavioral factors, such as smoking and alcohol use that contribute to poor outcomes. Prenatal care is more likely to be effective if women begin receiving care early in

pregnancy. Maternal age also is a risk factor for infant death. Finally, many of these conditions and risk factors disproportionately affect certain racial and ethnic groups. The disparities between white and non-white women in infant death rates are persistent.

Table 7 – Infant Mortality Risk Factors in 2002

Risk Factor	Deaths With Risk Factor 2002	All Births Mahoning Co. 2001
inadequate prenatal care	13.3%	12.8%
tobacco use during pregnancy	27.0%	19.0%
unmarried mother	67.0%	41.4%
teenage mother (19 and under)	33.3%	12.0%
low birth weight	73.3%	9.5%

Recommendations

Mahoning County Child Fatality Review Board 2002 Recommendations

Infants and younger children are more likely to die of natural causes; as a child grows, he or she is more likely to die of injury-related causes. The Board's recommendations are based on this observation.

- Deaths due to natural causes for children 1 year and under:
 - To reduced deaths due to prematurity and birth defects, continue to promote early and adequate prenatal care and smoking cessation during and after pregnancy.
 - To reduce SIDS and deaths due to infections:
 - Continue to promote the practice of placing infants on their backs to sleep to parents and child care providers.
 - Increase utilization of the Help Me Grow newborn home visitation program by new mothers.
- Deaths due to injury related causes for children 1 year and older:
 - To reduce the deaths due to motor vehicle crashes, require that children wear helmets while riding motorcycles, bicycles and all-terrain vehicles.
 - To reduce deaths due to drowning, assure adequate supervision of small children in the bathtub.
 - One child death in 2002 was due to a motor vehicle collision with a vehicle driven by an elderly driver. The Board recommends assessing elderly driver competency on a yearly basis and lower police tolerance for driving infractions.
 - Two deaths classified as homicide were a result of arson. The Board recommends educating the public about the importance of establishing two escape routes from their homes in the event of fire and having working smoke detectors.

APPENDICES

- ◆ Child Deaths in Mahoning County Factsheet – 2002
- ◆ 2002 Child Fatality Review Board Participants

Child Deaths in Mahoning County 2002

Ages

- 35 child deaths in 2002
 - ◆ 19 (54%) deaths were infants (birth-1 year)
 - 9 infant deaths (50%) were neonates (birth-28 days)
 - 9 infant deaths (50%) were post-neonates
 - ◆ 6 deaths (17%) were preschool-age (1-4 years)
 - ◆ 4 deaths (11%) were 5-9 years
 - ◆ 6 deaths (17%) were teens (15-17 years)

Deaths by Age Group by Cause

Cause	0-1 Month	1-12 Months	1-4 Years	5-9 Years	10-14 Years	15-17 Years	Total
Prematurity	6	1	1				8
Birth defects	3	3	1	1			8
SIDS		3					3
Homicide			1	2		1	4
Suicide							0
Motor vehicle accidents			1			3	4
Drowning			1			1	2
Cancer			1			1	2
Infectious disease	1	2					3
Pending/unknown				1			1
Total	10	9	6	4	0	6	35

Residence

- 21 in Youngstown (60%)
- 5 in Austintown (14%)
- 2 in Boardman (6%)
- 2 in Campbell (6%)
- 1 in Poland Township (3%)
- 1 in Springfield Township (3%)
- 1 in New Middletown (3%)
- 1 in Green Township (3%)
- 1 in Struthers (3%)

Race

- 17 were black (48%); 17 were white (48%); 1 was mixed race (4%)

Sex

- 19 were boys (54%); 16 were girls (46%)

Source: Health Promotion and Assessment Unit, Mahoning County District Board of Health

Child Fatality Review Board

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