PREVENTING CHILD DEATHS

Report and Recommendations on the Review of 2013 and 2014 Child Deaths

Mahoning County Child Fatality Review Board

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 child deaths that occur in Mahoning County in order to develop an understanding of the causes and incidences of those deaths*
- *Recommending local services 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*

Introduction

The Ohio General Assembly established the Child Fatality Review (CFR) program in 2000 to identify potential risk factors that lead to child deaths and to offer recommendations for the prevention similar deaths in the future. Each county is required to establish a CFR Board that must review the deaths of children under 18 years of age residing in that county. The Mahoning County District Board of Health coordinates the CFR Board in Mahoning County with representation from the county coroner, local law enforcement, the children services board, the alcohol and drug addiction services board, mental health services, the city health and vital stats departments, and area physicians. The Mahoning County CFR Board reviews all infant and child deaths in the county but a more thorough review is prepared and discussed when a death has been investigated by the coroner, which includes any death unattended by a physician or a death due to either an intentional or unintentional injury.

This report contains information from the Mahoning County Child Fatality Review Board's review of child deaths that occurred in Mahoning County in 2013 and 2014. It reflects the work of many dedicated professionals in the community who have committed themselves to gaining a better understanding of how and why these deaths have occurred.

Trends in Child Deaths

The child mortality rate for Ohio has decreased from 64 deaths per 100,000 children in 2008 to 58 in 2012. The mortality rate has dropped 13% since Ohio CFR was established in 2000. *(Ohio Child Fatality Review, Fourteenth Annual Report, September 2014).* In Mahoning County, the child mortality rate in 2013 was 66 deaths per 100,000 children under the age of 18 and decreased to 48 in 2014. Figure 1 depicts the overall downward trend of child deaths in Mahoning County with a high of 69 total deaths in 1993 to a low of 23 total child deaths in 2014. From 2000 to 2014, the child mortality rate has dropped by over 30%.

Key Findings of 2013 and 2014 Child Deaths

Of the 32 deaths reviewed for 2013 and 23 deaths reviewed for 2014, 67.3% (n=37), were for children less than 1 year of age. Figure 2 represents the age distribution of the child deaths. Of the child deaths, 61.8% (n=34) were male verses 38.2% female (n=21); 50.9% (n=28) were black, 45.5% were white (n=25), and 3.6% were considered "other" (n=2)." In Mahoning County, whites account for 81% of the population, however, they

accounted for 45.5% of the child deaths. This illustrates that a significant racial disparity exists between whites and non-whites child deaths. The majority of deaths (56.4%, n=31) occurred among residents of the city of Youngstown, just under 13% of the deaths were residents of Boardman, and the remaining deaths occurred in the various cities and townships in Mahoning County.

Manner of death explains how the death occurred. There are five manner of death categories on the Ohio death certificate: natural, accident, homicide, suicide, and unknown/undetermined. Natural was the most common manner of death accounting for 70.9% of the children under the age of 18, followed by 20% accident, and 9.1% homicide. See Figure 3 for a comparison of the manner of deaths from 2010-2014 with the State of Ohio in 2012 *(Ohio Child Fatality Review, Fourteenth Annual Report, September 2014).* The graph depicts a slight upward climb in natural deaths from 2010 to 2014 with a decrease in all other manners of death (accident, homicide, suicide, and unknown/undetermined).

Figure 1: Number of Child Deaths, Mahoning County, Birth to 17 Years of Age, 1992-2014

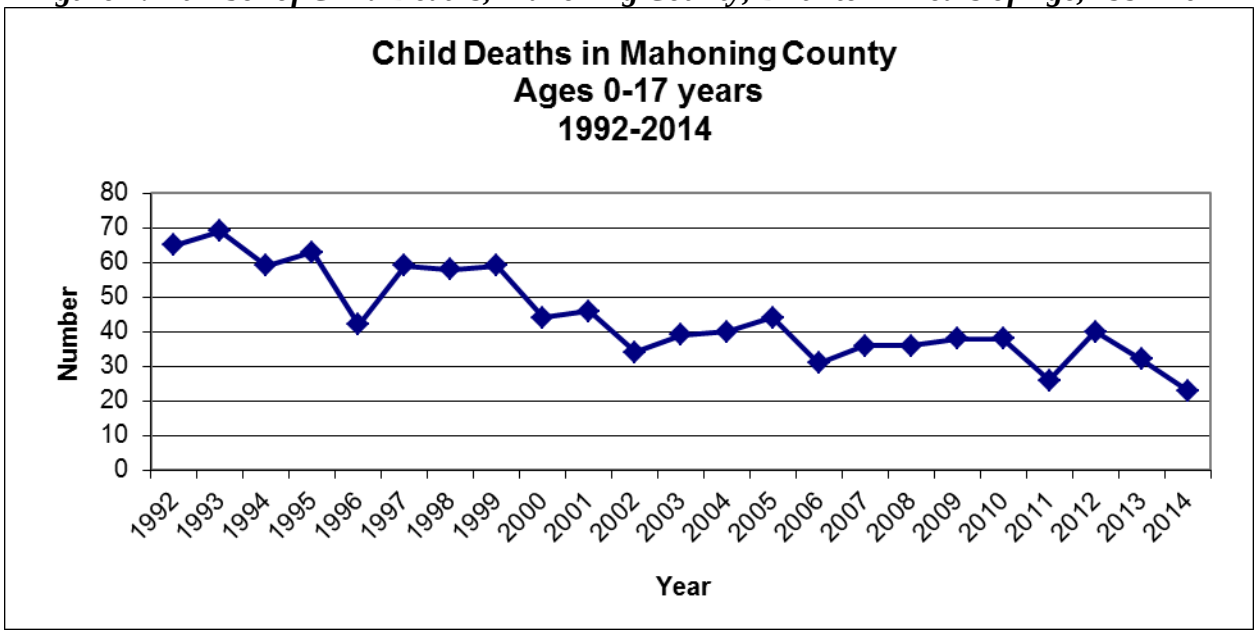


Figure 2: Age Distribution of Child Deaths, Mahoning County, 2013-2014

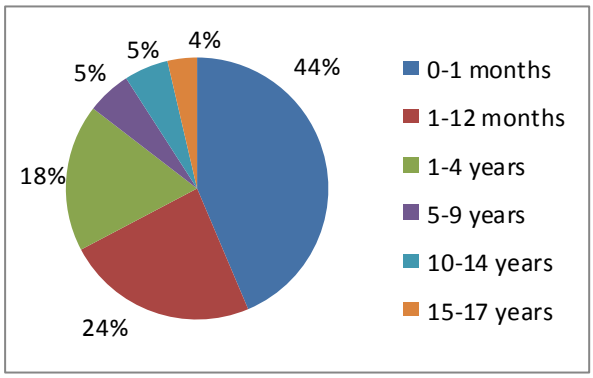


Figure 3: Manner of Child Deaths, Mahoning County, Birth to 17 Years of Age, 2010-2014 Comparison

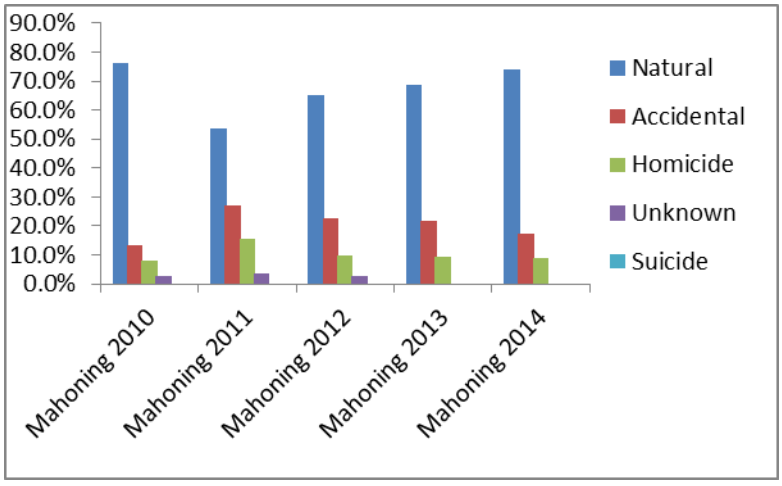


Table 1 summarizes each of the 55 child deaths in 2013 and 2014 by manner and cause of death by age group. Natural deaths are primarily caused by disease/medical causes. Some deaths by medical causes are believed to be unpreventable, but others, under certain circumstances, may be prevented through better preconception and pregnancy health, earlier or more consistent prenatal care and smoking cessation counseling, or through early detection and prompt, appropriate treatment. **Prematurity** and **congenital anomalies** were the most common medical causes of natural deaths in 2013 and 2014 which is consistent with previous years.

External causes of death (injury related, either intentional or unintentional) accounted for approximately 30% of the 2013 and 2014 deaths. **Asphyxia or positional asphyxia** is the most frequent external cause of a death followed by homicide deaths due to being struck by a person/object. The number of cases of homicide by being struck by a person/object increased from 4 deaths in the eight year-period of 2004-2012 with an additional 3 deaths in 2013 and 2014 alone resulting in a total of 7 incidences.

Table 1: Manner and Cause of Deaths by Age Group, 2013 and 2014

Manner	Cause	0-1 Months	1-12 Months	1-4 Years	5-9 Years	10-14 Years	15-17 Years	Total
Natural								**39 (70.9%)**
	Congenital Anomalies	3	3	1				**7**
	Neurological		1	1	2			**4**
	Prematurity	16						**16**
	Pneumonia and other Infections	2	1	5				**8**
	Cancer				1	1		**2**
	Other Medical	1	1					**2**
Accident								**11 (20%)**
	Drowning			1				**1**
	Asphyxia or positional asphyxia	2	5					**7**
	Gunshot			1				**1**
	Vehicular			1		1		**2**
Homicide								**5 (9.1%)**
	Gunshot/Stabbing						2	**2**
	Struck by person/object		2			1		**3**
Total		**24 (43.6%)**	**13 (23.6%)**	**10 (18.2%)**	**3 (5.5%)**	**3 (5.5%)**	**2 (3.6%)**	**55**

Table 2 lists cumulative Mahoning County child death data from 2004 to 2014 by manner and cause of death by age group. Between 2004-2014, prematurity alone accounted for over half (53.4%) of the child deaths due to natural causes and 36.7% of all deaths. Prematurity combined with congenital anomalies accounted for 76.9% of the natural deaths. A disproportional amount of the natural deaths occurred to males, blacks, half lived in the city of Youngstown, and too many (77.3%) of our children who died due to natural causes did not live to celebrate their first birthday.

External causes of death, regardless of the manner of death (accident, homicide, or suicide), asphyxia (27.6%) and weapon related injuries (25%) are the leading external causes of child deaths in Mahoning County for the ten-year period between 2004-2014. Motor vehicle crashes accounted for 19% of deaths due to external causes. As with natural causes, males, blacks, and those living in the city of Youngstown are over represented.

Table 2: Manner and Cause of Deaths by Age Group, 2004 - 2014

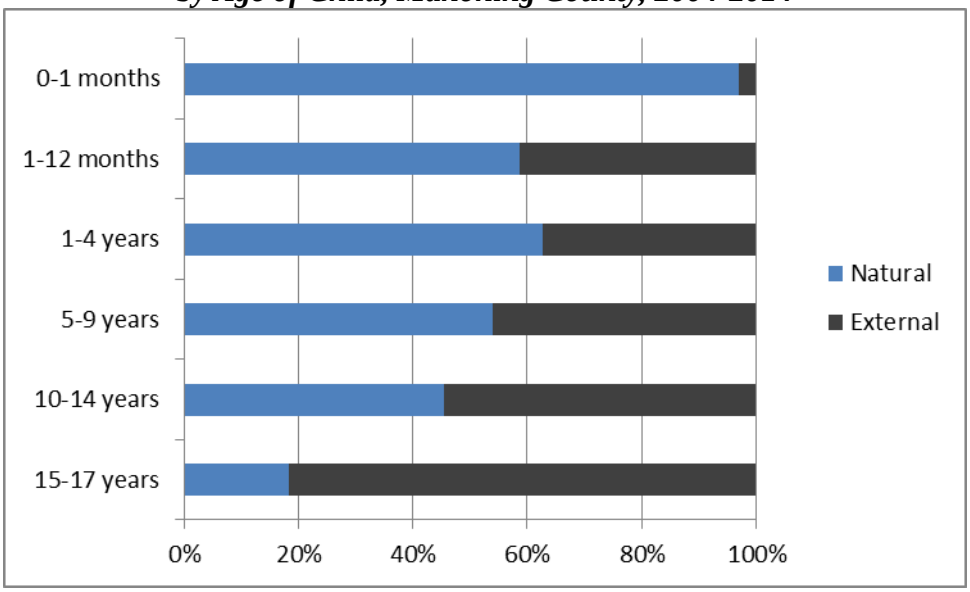
Manner	Cause	0-1 Months	1-12 Months	1-4 Years	5-9 Years	10-14 Years	15-17 Years	Total
Natural								**264 (68.75%)**
	Neurological		1	2	3		1	**7**
	Cancer		1	3	5	7	2	**18**
	SIDS		6					**6**
	Cardiovascular			1		1	3	**5**
	Pneumonia and other infections	5	8	6	1	1		**21**
	Congenital Anomaly	28	13	14	5	1	1	**62**
	Prematurity	126	14	1				**141**
	Other Medical	1	1				2	**4**
Accident								**71 (18.49%)**
	Fall or crush			1				**1**
	Poisoning			1		1	1	**3**
	Drowning		1	3	2		2	**8**
	Fire or burn					2		**2**
	Vehicular			3	4	4	11	**22**
	Asphyxia or positional asphyxia	5	26		1			**32**
	Gunshot			1		1		**2**
Homicide								**39 (10.16%)**
	Gunshot			1	3	2	21	**27**
	Struck by Person/Object		3	3		1		**7**
	Fire			2	2			**4**
	Malnutrition		1					**1**
Suicide						1	5	**6 (1.56%)**
Unknown			2	1		1		**4 (1.04%)**
Total		**165 (42.97%)**	**77 (20.05%)**	**44 (11.46%)**	**26 (6.77%)**	**22 (5.73%)**	**50 (13.02%)**	**384**

Overall, looking at the child death data from 2004-2014, 63% of the deaths were of infants less than 1 year of age. The top five causes of deaths to children under the age of 18 are:

- Prematurity (36.7%)
- Congenital Anomalies (16.1%)
- Asphyxia and Positional Asphyxia (8.3%)
- Gunshot Injuries (7.6%)
- Motor Vehicle Crashes (5.7%)

As a child ages, Figure 4 highlights the shift from deaths due to natural cause to deaths due to external causes.

Figure 4: Natural versus External Causes of Death, by Age of Child, Mahoning County, 2004-2014



After the review of child deaths for the five-year period 2008-2012 in Ohio, the following trends were noted according to the *Ohio Child Fatality Review, Fourteenth Annual Report, September 2014:*

- The percentage of deaths from external causes due to asphyxia increased from 28% in 2008 to 32% in 2012. Asphyxia is the leading external cause of death for children. When looking at infants deaths, 59% of the infant deaths due to external causes were due to asphyxia.
- The percentage of deaths from external causes due to vehicular crashes decreased from 27% in 2008 to 21% in 2012. Even though there is a decrease in vehicular crashes, it remains the leading external cause of death, accounting for 32%, for children older than 1 year.

Preventive Measures

Infant Deaths

The CFR Board recommends the continued support of the M/Y Birth Outcome Equity Team. The team is a motivated group of individuals and agencies who are working together to decrease the alarming high infant mortality rate in Mahoning County and reduce racially disparate birth outcomes. Data analyzed by the team indicated that low education, poverty, and inadequate birth spacing were significant risk factors in infant mortality. Projects that are under way to tackle the issues are: increasing the use of progesterone in high-risk moms to reduce preterm births; initiating *Centering Pregnancy* and *Empowering Moms* to provide necessary social support and education to pregnant and parenting woman; educating women and providers regarding the use of long-acting reversible contraception (LARC) to reduce unwanted pregnancies and abortions; and increasing birth spacing between subsequent pregnancies. A Fetal Infant Mortality Review (FIMR) program is also being formed. FIMR reviews fetal and infant deaths and looks at a variety of factors that affect the health of the mother, fetus, and infant so that more can be learned about how to reduce fetal and infant mortality rates.

Accidental Infant Deaths in a Sleep Environment

The CFR Board recommends continued safe sleep education throughout all facets of the community. The *Cribs for Kids* program was initiated to provide a safe sleep environment to caregivers who are unable to provide a safe sleep environment to their infants. Modeling of safe sleep behaviors must also take place in childcare and hospital settings.

Every week in Ohio, three babies die in unsafe sleep environments. All caregivers must follow the ABCs of safe sleep– *Alone. Back. Crib. Every baby, every sleep*! For more information on safe sleep practices and on the steps the state is taking to prevent these deaths from happening, go to www.safesleep.ohio.gov.

Unintentional Deaths

The CFR Board supports the work of the Mahoning Valley Safe Kids Coalition on their education efforts to prevent unintentional injuries. Education and outreach is suggested on appropriate and proper supervision of small children in and around bodies of water. The Mahoning Valley Safe Kids Coalition also actively provides education on motor vehicle safety and the proper use of seat belts and car seats.

Homicide Deaths

The CFR Board recommends the following to reduce homicide deaths:

- Appropriate and proper supervision of small children in homes where weapons might be present
- Education and outreach to children on how to access help when in an abusive or neglect situation
- Education and outreach on parenting skills, stress management, the importance of a support system, family planning/contraception options, and paternal involvement

Dedication and Acknowledgements

We respectfully dedicate this report to the memory of the children whose lives have been cut short and to the families who have been impacted by these child deaths. These families have endured one of the most difficult journeys in life. To them, we express our deepest sympathy.

We want to express our appreciation to the individuals and agencies who serve on the CFR Board for their professional expertise to work toward preventing future child deaths. Special thanks the Youngstown City Health District for providing copies of birth and death certificates and to Dr. Joseph Ohr and the investigators of the Mahoning County Coroner's Office for their expertise and compassion.

Together we can prevent many child deaths and create a safer and healthier environment for our children.

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