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May 16, 2018

Dear Community Member:

Montgomery County began reviewing the deaths of its children in 1997. This is the sixth Report to the Community; it reports on the evaluation of child deaths occurring in the years 2009 through 2016 and provides cumulative data from 1997 through 2016.

A comprehensive, multidisciplinary review is completed for every death of a child residing in Montgomery County. The results of these reviews are shared annually with the State of Ohio as well as contained in this Report. What cannot be captured in this Report is the great loss and sorrow to family, friends and community when a child death occurs. We continue to examine the factors contributing to these children’s deaths, so that we may improve our understanding of how to prevent them.

I wish to express my sincere appreciation to those individuals who volunteer time from their already demanding schedules to serve on the committees associated with the Child Fatality Review Board. These professionals truly make a difference in the lives of the children and families in our community.

We hope you utilize the information presented in this Report and share it with others who have a role in improving the health of children in Montgomery County. No one organization, department, or policy can solve the complex social problems we face as a society. We encourage our community to work collectively to solve the issues we face. By doing so, we will give our children the best opportunity at a safer and healthier future.

Sincerely,

Jeffrey A. Cooper, MS, Chair
Montgomery County Child Fatality Review Board
DEDICATION

The death of a child is a tragic loss for a family, as well as the community. Child fatality review reflects the work of many dedicated professionals in the community who have committed themselves to gaining a better understanding of how and why children die, with an overall desire to improve the lives of children in Montgomery County. It is with deepest sympathy and respect that we dedicate this Report to the memory of those children and families represented within these pages.

ACKNOWLEDGMENTS

This Report is made possible by the support and dedication of the community leaders who serve on the Child Fatality Review Board (CFRB). Acknowledging that the death of a child is a community problem, members of the Child Fatality Review (CFR) give their time and expertise to examine all circumstances that lead to child deaths. We thank them for taking on this task with reverence and compassion, working with a commitment to preventing future fatalities.

We acknowledge the contributions of other agencies in facilitating the CFR program including the Ohio Department of Health’s Office of Health Improvement and Wellness, the Ohio Children’s Trust Fund, state and local vital statistics registrars, and the National Center for Fatality Review and Prevention (NCFRP).

The collaborative efforts of all these individuals and their organizations will help ensure a safer and healthier future for our most precious resource, our children.
EXECUTIVE SUMMARY

This *Report to the Community* is the sixth report of the Montgomery County Child Fatality Review Board (CFRB) covering the deaths of children (less than 18 years of age) in Montgomery County. This *Report* adds data from 593 deaths occurring between 2009 and 2016.

Organization of Report

The *Report* begins with summary data for the 1,628 deaths that the CFRB has reviewed for the period 1997-2016. The rest of the *Report* then focuses on analyzing and mapping data for the years 2009-2016 according to sex, race, manner, age group, preventability, and cause of death. Comparisons of Ohio Child Fatality Review data and other metropolitan Ohio counties were made, when possible, in these sections.

Because most child deaths were the deaths of infants, the *Report* includes an expanded analysis of infant mortality data and related issues. Also included is a section on Perinatal Periods of Risk (PPOR), which is a specialized analytic tool that provides a framework and steps for investigating and addressing the specific local causes of high fetal and infant mortality rates and disparities.

In addition, the CFRB Chair has invited representatives of CFRB organizations to provide information on their initiatives addressing child and infant health. These include Cribs For Kids®, Sport Injuries and Concussions, Safe Kids Greater Dayton, Dayton Police Department Infant Mortality Reduction Initiative, and National and Ohio Equity Institutes.

Key Findings

Reviews by Demographics

- In Montgomery County, most reviewed child deaths (69 percent) are deaths to infants (<1 year). Of the infant deaths, most reviewed cases were <7 days of age (57 percent).
- Across comparison counties and Ohio, infants (<1 year) represented the largest portion of reviewed child deaths. Montgomery County had a higher percentage of child deaths 1 to 9 years of age (eighteen percent) compared to the state (fifteen percent).
- Black children die at a disproportionately higher rate than White children.

Reviews by Manner

- Most reviewed child deaths for Montgomery County and Ohio were natural deaths.
Reviews by Age Group

- Most (79 percent) reviewed infant (<1 year) deaths were due to medical causes; prematurity/low birth weight accounted for half (50 percent) of all medical causes of death.
- External causes of death were higher among children 1 to 4 years (52 percent) and 15 to 17 years of age (70 percent).
- Medical causes of death were higher among children 5 to 9 years (65 percent) and 10 to 14 years of age (59 percent).

Reviews by Preventability

- At least one out of every four child deaths in Montgomery County could have been prevented.
- In general, deaths are more often ruled preventable as the child’s age increases.

Review of Comparison Data

- Overall, Montgomery County’s child death rates are fairly consistent with state and comparison counties. Montgomery County had a higher percentage (18 percent) of reviewed child deaths 1 to 9 years of age than other comparison counties and the state.
- Montgomery County had a lower percentage of White child deaths compared to the state.
- Compared to other counties and Ohio, Montgomery County had the third highest percentage (6 percent) of child deaths due to homicide.

Key Recommendations

The mission of Child Fatality Review (CFR) is to reduce the incidence of child deaths. Through the process of local reviews, communities acknowledge that the circumstances involved in most child deaths are too complex and multidimensional for responsibility to rest within a single individual or agency. This Report acknowledges the collaborative work that has been done to prevent child deaths, and encourages more. It is only through continued collaborative work that we can hope to protect the health and lives of our children.

Based on the findings from this report, the CFRB identified four areas of focus – prematurity, preventable child deaths, tobacco use, and health equity.

- **Recommendation #1:** Identify and implement evidence-based interventions aimed at improving the health of a woman before becoming pregnant, ensuring early access to prenatal care, and increasing healthy behaviors to decrease preterm births.
❖ **Recommendation #2**: Identify and implement evidence-based interventions focused on reducing child accidents.

❖ **Recommendation #3**: Identify and implement evidence-based education and resources on safe sleep environments for infants.

❖ **Recommendation #4**: Identify and implement policies and interventions that promote a smoke-free environment for families, as well as smoking cessation for pregnant women and families.

❖ **Recommendation #5**: As a community, identify and implement policies and interventions to promote health equity.
INTRODUCTION

This Report to the Community examines data concerning child deaths within Montgomery County in a variety of ways. Analyses were conducted by sex, race, age group, manner, cause, and preventability. Additional more in-depth analyses on infant mortality were conducted. This Report:

- Reviews 2009-2016 child death data;
- Reviews 1997-2016 cumulative data (over 1,600 Montgomery County child deaths have been reviewed); and
- Provides observations in comparison to Ohio and urban Ohio counties.

In 1997, a voluntary initiative was established in Montgomery County to review the deaths of all children under the age of 18. This effort established a multi-disciplinary team of experts to conduct these reviews. In 2000, Ohio enacted House Bill 448 mandating that counties conduct child fatality reviews. The Montgomery County Board of County Commissioners named the original volunteer team as the official members of the CFRB. The mission of the group is to prevent future child deaths by identifying and documenting risk factors for child deaths and by supporting the development of interventions and services designed to reduce those risk factors.

The CFRB encompasses multiple child-serving organizations. These leaders promote the cooperation, collaboration, and communication within their agencies that allow the child death review process to work in Montgomery County. The CFRB approves the work and recommendations of the Child Death Prevention Committee and the Child Death Review Committee. (See rosters, Appendices A-B).

Representatives from several of these organizations meet monthly as the Child Death Review Committee to review the death of every child who resided in Montgomery County. During these case review discussions, the known facts of each death are shared by all participating agencies with specific information in relation to the child’s death. Confidentiality of each agency’s information is respected. Specific data are collected in a local, confidential database to develop an understanding of the causes and incidence of child deaths and to help identify trends and patterns. Appropriate data are shared with the Child Death Prevention Committee for further evaluation. The data are also reported to the state of Ohio in aggregate and were used by the Report Writing Group (Appendix C) in writing the Report.

This Report will discuss in detail the trends and patterns that have emerged during the reviews of child deaths in our community.
Peer County Comparisons

Throughout this Report, Montgomery County CFR findings are compared to peer counties and the state. Peer counties were selected based on similar geographic and demographic characteristics; these include Cuyahoga County, Franklin County, and Mahoning County.

Additional comparisons include the nine Ohio Equity Institute (OEI) counties. The Ohio Department of Health (ODH), in collaboration with CityMatCH, has partnered with nine Ohio communities to improve overall birth outcomes and reduce racial disparities in infant deaths.

LIMITATIONS

CFR statistics have been reported as a proportion of the total reviews. This makes analysis of trends over time difficult, as an increase in the proportion of one factor will result in a mathematical decrease in the proportion of other factors. Complex analysis is needed to determine if such changes in proportion represent true trends in the factors of child deaths.

The CFR Case Report Tool and data system record Hispanic ethnicity as a variable separate from race. A child of any race may be of Hispanic ethnicity.

The ICD-10 codes used for classification of vital statistics data in this Report were selected to correspond with the causes of death indicated on the CFR Case Report Tool and may not match the codes used for some causes of death in other reports or data systems. The codes used for this report can be found in the Appendix D.

Since the inception of statewide data collection in 2001, Ohio CFR has used two different data systems, and the latest system has undergone improvements and revisions. Because of the differences in data elements and classifications, data in this Annual Report may not be comparable to data in previous reports. In-depth evaluation of contributing factors associated with child deaths is limited in some cases by small numbers and lack of access to relevant data.
Table 1. Summary Data: The following data provide a summary count and percent by category of deaths of children less than 18 years of age in Montgomery County.

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<td>6</td>
<td>1</td>
<td>17</td>
<td>44</td>
<td>27</td>
</tr>
<tr>
<td>Undetermined</td>
<td>6</td>
<td>6</td>
<td>0</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>41</td>
<td>120</td>
<td>74</td>
</tr>
<tr>
<td><strong>Preventability Determination</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preventabled</td>
<td>20</td>
<td>20</td>
<td>17</td>
<td>23</td>
<td>27</td>
<td>11</td>
<td>19</td>
<td>159</td>
<td>159</td>
<td>379</td>
</tr>
<tr>
<td>Not Preventable</td>
<td>25</td>
<td>28</td>
<td>27</td>
<td>20</td>
<td>15</td>
<td>22</td>
<td>10</td>
<td>167</td>
<td>167</td>
<td>388</td>
</tr>
<tr>
<td>Unsure</td>
<td>30</td>
<td>26</td>
<td>34</td>
<td>35</td>
<td>43</td>
<td>32</td>
<td>39</td>
<td>267</td>
<td>267</td>
<td>490</td>
</tr>
</tbody>
</table>

aDeaths are not reviewed until investigations and/or prosecutions are complete. For this reason, 4 deaths in 2016 were not reviewed prior to this report.

bOther racial/ethnic groups for 2009-2016 include 7 Hispanic, 26 Bi-racial, and several with <6 deaths (Bangladesh, Elsavador, Asian, Chinese, India, Mayan, Islam, other, unknown).

cPreventability discussions began in 2001 and include a total of 1,257 deaths.

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Montgomery County, Ohio

Child Fatality Review Board Report, 2009-2016

8
Maps 1 and 2 show the total number of child deaths and the average annual child death rate (per 100,000 0-17yrs.) by zip code of residence. Although 45417 had the highest number of child deaths (56), the child death rate (92.5 per 100,000) ranked 6th highest among all zip codes. Zip code 45405 accounted for only four percent of Montgomery County’s child population, but had the second highest number of child deaths (50) and the highest child death rate (136.8 per 100,000); a rate more than twice as high as Montgomery County’s (61.4). **Note:** Rates are not calculated for zip codes with less than five deaths due to unreliable data. Child death rates by zip code of residence can be found in Appendix E.
REVIEW FOR 2009-2016 DEATHS

REVIEWS BY DEMOGRAPHIC CHARACTERISTICS

Background

The Montgomery County CFRB reviewed the deaths of 593 children who died between 2009-2016. Child deaths are sentinel events signaling a need for investigation or response. Reviewing these deaths by demographic characteristics such as age, race, and sex allows for the identification of disparities that may exist.

The majority (69 percent) of cases reviewed were infant (<1 year) deaths. Of the infant deaths, 68 percent (or 279 cases) were less than 28 days of age. Due to infant deaths comprising most child deaths in Montgomery County, a separate section of this Report is dedicated to infant mortality (See page 18).
Across all selected counties and Ohio, infants (<1 year) represented the largest portion of reviewed child deaths. Montgomery County had a higher percentage (18 percent) of reviewed child deaths 1 to 9 years of age than all other compared counties and the state.

### Table 2. Comparison of Child Deaths by Age Group, Selected Counties and Ohio, 2015-2016

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Cuyahoga</th>
<th>Franklin</th>
<th>Mahoning</th>
<th>Montgomery</th>
<th>Ohio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reviewed Child Deaths</td>
<td>372</td>
<td>440</td>
<td>53</td>
<td>142</td>
<td>2,587</td>
</tr>
<tr>
<td>&lt;1 year</td>
<td>283</td>
<td>311</td>
<td>41</td>
<td>94</td>
<td>1,751</td>
</tr>
<tr>
<td>#</td>
<td>% 76.1</td>
<td>% 70.7</td>
<td>% 77.4</td>
<td>% 66.2</td>
<td>% 67.7</td>
</tr>
<tr>
<td>1 to 4 years</td>
<td>40</td>
<td>40</td>
<td>2</td>
<td>20</td>
<td>233</td>
</tr>
<tr>
<td>#</td>
<td>% 10.8</td>
<td>% 9.1</td>
<td>% 3.8</td>
<td>% 14.1</td>
<td>% 9.0</td>
</tr>
<tr>
<td>5 to 9 years</td>
<td>34</td>
<td>22</td>
<td>1</td>
<td>6</td>
<td>151</td>
</tr>
<tr>
<td>#</td>
<td>% 7.7</td>
<td>% 5.0</td>
<td>% 1.9</td>
<td>% 4.2</td>
<td>% 5.8</td>
</tr>
<tr>
<td>10 to 14 years</td>
<td>49</td>
<td>34</td>
<td>4</td>
<td>13</td>
<td>188</td>
</tr>
<tr>
<td>#</td>
<td>% 13.2</td>
<td>% 7.7</td>
<td>% 7.5</td>
<td>% 9.2</td>
<td>% 7.3</td>
</tr>
<tr>
<td>15 to 17 years</td>
<td>33</td>
<td>34</td>
<td>9</td>
<td>6</td>
<td>264</td>
</tr>
<tr>
<td>#</td>
<td>% 7.5</td>
<td>% 7.7</td>
<td>% 9.4</td>
<td>% 6.3</td>
<td>% 10.2</td>
</tr>
</tbody>
</table>

### Figure 2. Comparison of Child Death Reviews by Age Group, Selected Counties and Ohio, 2015-2016

From 2009-2016, the number of Black and White child deaths were almost equal (270 vs. 275). Black children were overrepresented in child death reviews (46 percent) compared to their representation in the general Montgomery County child population (24 percent).²

Males were also overrepresented in child death reviews, comprising 58 percent of reviews while accounting for only 51 percent of the population.²

²U.S. Census Bureau. American Community Survey. 5-Year Estimates (2012-2016)
Across all selected counties, both Black babies and males were overrepresented in child deaths. All selected counties had a lower percentage of White child deaths compared to the state.

REVIEW BY MANNER OF DEATH

Background

Manner of death is a classification of deaths based on the circumstances surrounding a cause of death and how the cause came about. The five manner of death categories on the Ohio death certificate are natural, accident, homicide, suicide, and undetermined/unknown/pending. For deaths being reviewed, CFR boards report the manner of death as indicated on the death certificate. For deaths that occurred in 2009-2016, the 593 reviews were classified as follows:

- Sixty-nine percent (406) were natural deaths.
- Seventeen percent (103) were accidents.
- Seven percent (41) were of an undetermined or unknown manner or pending review (labeled “other” in the chart below).
- Four percent (26) were homicides.
- Three percent (17) were suicides.

The majority (69 percent) of reviewed child deaths were natural deaths, followed by accidental deaths (17 percent).
Table 4. Comparison of Child Deaths by Manner of Death, Selected Counties and Ohio, 2015-2016

<table>
<thead>
<tr>
<th>Manner</th>
<th>Cuyahoga</th>
<th>Franklin</th>
<th>Mahoning</th>
<th>Montgomery</th>
<th>Ohio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reviewed Deaths</td>
<td>372</td>
<td>440</td>
<td>53</td>
<td>142</td>
<td>2,587</td>
</tr>
<tr>
<td>Natural</td>
<td>270</td>
<td>317</td>
<td>32</td>
<td>95</td>
<td>1,858</td>
</tr>
<tr>
<td>Accident</td>
<td>75</td>
<td>33</td>
<td>11</td>
<td>26</td>
<td>363</td>
</tr>
<tr>
<td>Homicide</td>
<td>21</td>
<td>30</td>
<td>5</td>
<td>9</td>
<td>74</td>
</tr>
<tr>
<td>Suicide</td>
<td>6</td>
<td>10</td>
<td>5</td>
<td>3</td>
<td>86</td>
</tr>
<tr>
<td>Unknown/Undetermined</td>
<td>0</td>
<td>50</td>
<td>0</td>
<td>9</td>
<td>194</td>
</tr>
</tbody>
</table>

Figure 8. Comparison of Child Deaths by Manner of Death, Selected Counties and Ohio, 2015-2016

Across all selected counties and Ohio, natural deaths represented the largest portion of reviewed child deaths. Compared to all counties and Ohio, Montgomery County had the third highest percentage of (6 percent) child deaths due to homicide.
REVIEWS BY MANNER AND CAUSE OF DEATH

CFR boards select the cause of death category that allows the most information about the circumstances of the death to be recorded in the data system, with a focus on prevention. The cause of death category selected may not match the death certificate. For 2009-2016, the causes of death have been classified by their manner of death.

Figure 9. Reviews of Child Deaths by Manner - Natural, 2009-2016 (n=406)

<table>
<thead>
<tr>
<th>Category</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological System Diseases</td>
<td>44</td>
</tr>
<tr>
<td>Cancer</td>
<td>19</td>
</tr>
<tr>
<td>Congenital Anomalies</td>
<td>76</td>
</tr>
<tr>
<td>Infectious Diseases</td>
<td>20</td>
</tr>
<tr>
<td>Nutrition/Metabolic Disorders</td>
<td>6</td>
</tr>
<tr>
<td>Perinatal Conditions*</td>
<td>227</td>
</tr>
<tr>
<td>Undetermined</td>
<td>9</td>
</tr>
<tr>
<td>All Other Medical Conditions</td>
<td>5</td>
</tr>
</tbody>
</table>

*Perinatal Conditions include, but are not limited to, low birth weight, maternal complications, cord/placental complications, and respiratory complications occurring during the perinatal period. Perinatal is the period beginning after the 20th week of pregnancy through 28 days following birth. See Glossary for additional terms.

Figure 10. Reviews of Child Deaths by Manner - Accidental, 2009-2016 (n=103)

<table>
<thead>
<tr>
<th>Category</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drowning</td>
<td>13</td>
</tr>
<tr>
<td>Fire</td>
<td>7</td>
</tr>
<tr>
<td>Poisoning - Drug Overdose</td>
<td>4</td>
</tr>
<tr>
<td>MVA - Bicycle</td>
<td>4</td>
</tr>
<tr>
<td>MVA - Driver</td>
<td>5</td>
</tr>
<tr>
<td>MVA - Passenger</td>
<td>12</td>
</tr>
<tr>
<td>MVA - Pedestrian</td>
<td>6</td>
</tr>
<tr>
<td>Sleep-Related Suffocation</td>
<td>43</td>
</tr>
<tr>
<td>All Other Accidental Causes</td>
<td>9</td>
</tr>
</tbody>
</table>

MVA = Motor Vehicle Accident

Sleep-related suffocation deaths accounted for the largest proportion (42 percent of cases) of accidental child deaths, followed by motor vehicle accidents (MVAs) (27 percent).
The majority of child homicide deaths were a result of assault (18 cases, 69 percent). The majority of child suicide deaths were a result of hanging (12 cases, 71 percent). Unknown manners of death are a result of not having enough information to decide the most likely cause of death.
Maps 3 and 4 show the total number of accidental child deaths and the average annual accidental death rate (per 100,000 0-17yrs) by zip code of residence. Zip codes 45403, 45406, and 45417 had the highest number of accidental child deaths (9 deaths). Although 45403 accounted for only three percent of Montgomery County’s child population, it accounted for nine percent of all accidental child deaths and had the highest accidental death rate at 27.1 deaths per 100,000 (0-17yrs); a rate more than two and a half times higher than Montgomery County’s (10.6). Note: Rates are not calculated for zip codes with less than five deaths due to unreliable data. Homicide and suicide rates could not be calculated by zip code due to small numbers. Accidental child death rates by zip code of residence can be found in Appendix E.
REVIEWS BY AGE GROUP – INFANT DEATHS (<1 YEAR OF AGE)

Background

Infant mortality is defined as the death of an infant before his or her first birthday. Infant mortality rate (IMR) is the number of infant deaths per 1,000 live births, and is a commonly used indicator of a community’s overall health and well-being. IMR not only measures the risk of infant death, but it can also be used more broadly as an indicator of social determinants of health. Infant deaths are influenced by maternal health, which is impacted by factors such as race/ethnicity, age, residence, marital status, education, income, and health care access.

From 2015-2016, Montgomery County’s overall IMR (6.8 deaths per 1,000 live births) and Black IMR (12.6) decreased (by 9 percent and 10 percent respectively), and the White IMR (5.0) increased (by 11 percent) (Figure 14). Although Montgomery County’s overall IMR has declined since 2009 (from 7.8 to 6.8), it remains 13 percent higher than the Healthy People 2020 goal of 6.0 infant deaths per 1,000 live births. Additionally, the infant mortality racial disparity persists with Black babies dying at a rate 2.5 times higher than White babies in 2016.

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Figure 14. Infant Mortality Rate by Race, Montgomery County, OH 2009-2016

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Map 5 shows the 2015-2016 overall infant mortality rate (IMR) for Ohio counties. Among the nine OEI counties, Montgomery County had the fourth lowest IMR at 7.1 deaths per 1,000 live births (Table 5).

**Note:** An infant mortality rate was not calculated for counties with less than 10 deaths due to unreliable data.
CFR Findings

Montgomery County’s CFRB reviewed 411 infant (<1 year) deaths from 2009-2016. Infant deaths represented 69 percent of all child death cases reviewed.

Figure 15. Reviews of Infant Deaths by Race, Age and Sex, 2009-2016 (n=411)

Black infants accounted for the largest number (193 or 47 percent) of reviewed infant deaths. Most reviewed cases were infant deaths <7 days of age (236 or 57 percent). More than half (239 or 58 percent) of all reviewed cases were male infant deaths.
Infant death reviews were classified by manner and cause. Manner includes natural, accident, homicide, and undetermined deaths. Cause includes medical, external, sudden infant death syndrome (SIDS), undetermined, and unknown deaths. See Appendix D for a table of ICD-10 Codes used for classification of infant death causes.

![Figure 16. Reviews of Infant Deaths by Manner, 2009-2016 (n=411)](image)

![Figure 17. Reviews of Infant Deaths by Cause, 2009-2016 (n=411)](image)

The majority (79 percent) of cases reviewed were natural infant deaths, followed by accidental infant deaths (12 percent). Of the 411 infant deaths, 325 (or 79 percent) were due to medical causes and 55 (or 13 percent) were due to external causes.
Asphyxia accounted for the majority (82 percent) of external causes of infant death. Other external causes included child abuse/neglect, drownings, weapons (including body part), fires, and poisonings. Prematurity/low birth weight (LBW) accounted for the largest proportion (50 percent) of infant deaths due to medical causes, followed by congenital anomalies (20 percent). Other medical causes included perinatal conditions, infections, and other diseases of biological systems.

Figure 18. Reviews of Infant Deaths by External Causes, 2009-2016 (n=55)

Figure 19. Reviews of Infant Deaths by Medical Causes, 2009-2016 (n=325)

LBW – Low Birth Weight
INFANT DEATHS DUE TO PREMATURITY/LOW BIRTH WEIGHT

Background

Preterm birth (PTB) is when a baby is born too early, less than 37 weeks of gestation. Low birth weight (LBW) is when a baby is born too small, less than 2,500g or 5.8lbs. Prematurity/LBW is the leading cause of infant death in Montgomery County.

CFR Findings

Montgomery County’s CFRB reviewed 411 infant deaths from 2009-2016. Infant deaths due to prematurity/LBW represented 39 percent of all infant death cases reviewed.

Figure 20. Reviews of Infant Deaths Due to Prematurity/LBW by Race, Age and Sex, 2009-2016 (n=161)

Black infants accounted for the highest number (85 or 53 percent) of reviewed infant deaths due to prematurity/LBW. Most reviewed cases were deaths to infants <7 days of age (149 or 93 percent of cases). More than half (95 or 59 percent) of all reviewed cases were male infant deaths.
Table 6. Birth History Factors for Reviews of Infant Deaths Due to Prematurity/LBW, 2009-2016 (n=161)

<table>
<thead>
<tr>
<th>Birth History Factors</th>
<th>Black</th>
<th>White</th>
<th>All Races*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reviewed Deaths</td>
<td>85</td>
<td>64</td>
<td>161</td>
</tr>
<tr>
<td>Birthweight</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;500g</td>
<td>53</td>
<td>33</td>
<td>94</td>
</tr>
<tr>
<td>500 to 999g</td>
<td>25</td>
<td>24</td>
<td>52</td>
</tr>
<tr>
<td>1,000 to 1,400g</td>
<td>2</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>1,500 to 2,499g</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Unknown</td>
<td>3</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Maternal Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤19yrs.</td>
<td>15</td>
<td>8</td>
<td>23</td>
</tr>
<tr>
<td>20 to 24yrs.</td>
<td>28</td>
<td>10</td>
<td>42</td>
</tr>
<tr>
<td>25 to 29yrs.</td>
<td>16</td>
<td>26</td>
<td>45</td>
</tr>
<tr>
<td>30 to 39yrs.</td>
<td>23</td>
<td>18</td>
<td>45</td>
</tr>
<tr>
<td>≥40yrs.</td>
<td>3</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Unknown</td>
<td>0</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Maternal Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than High School</td>
<td>24</td>
<td>12</td>
<td>37</td>
</tr>
<tr>
<td>High School Degree/GED</td>
<td>55</td>
<td>31</td>
<td>95</td>
</tr>
<tr>
<td>Bachelor’s Degree or Higher</td>
<td>4</td>
<td>19</td>
<td>24</td>
</tr>
<tr>
<td>Unknown</td>
<td>2</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Maternal Behaviors¹</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Prenatal Care</td>
<td>12</td>
<td>5</td>
<td>17</td>
</tr>
<tr>
<td>Cigarette Smoker</td>
<td>11</td>
<td>17</td>
<td>31</td>
</tr>
</tbody>
</table>

GED = General Equivalency Diploma
*Other races (12 births) included in All Race calculations only.
¹Data missing and excluded from calculations: Prenatal care – 6 births (1 Black, 5 White); Tobacco use – 15 (5 Black, 9 White, 1 Other)
PREVENTABLE INFANT DEATHS

Background
According to the Ohio Administrative Code, a preventable death is that which “an individual or community could have reasonably done something that would have changed the circumstances that led to the child’s death.”

CFR Findings
From 2009-2016, Montgomery County’s CFRB reviewed 57 infant deaths that were identified as preventable. Preventable infant deaths represented 14 percent of all infant death cases reviewed.

Figure 22. Reviews of Preventable Infant Deaths by Race, Age and Sex, 2009-2016 (n=57)

Black infants accounted for the highest number (30 or 53 percent) of reviewed preventable infant deaths. Most reviewed cases were post-neonatal (28 to 364 days) infant deaths (51 or 89 percent). More than half (31 or 54 percent) of all reviewed cases were male infant deaths.
Reviews of preventable infant deaths were classified by manner and cause. Manner includes natural, accident, homicide, and undetermined deaths. Cause includes medical, external, sudden infant death syndrome (SIDS), and undetermined deaths. See Appendix D for a table of ICD-10 Codes used for classification of infant death causes.

The majority (81 percent) of reviewed cases determined “Preventable” were accidental infant deaths. Of the 57 preventable infant deaths, 51 (or 89 percent) were due to external causes.
Asphyxia accounted for the majority (77 percent) of preventable infant deaths due to external causes. Other external causes included child abuse/neglect, drownings, weapons (including body part), fires, and poisonings. Diseases of biological systems accounted for the largest proportion (67 percent) of preventable infant deaths due to medical causes, followed by prematurity/LBW (33 percent).

Figure 25. Reviews of Preventable Infant Death by External Causes, 2009-2016 (n=51)
DEATHS TO CHILDREN 1 TO 4 YEARS OLD

Background

According to the National Center for Health Statistics, the leading causes of death for children aged 1 to 4 years are accidents (unintentional injuries), congenital malformations, deformations or chromosomal abnormalities, and assault (homicide).\(^5\) Similar to national statistics, the leading cause of death for children 1 to 4 years in Montgomery County is accidents (unintentional injuries).

CFR Findings

Montgomery County’s CFRB reviewed 61 deaths to children 1 to 4 years old from 2009-2016. These represent 10 percent of all cases reviewed.

![Figure 26. Reviews of Child Deaths (1 to 4yrs.) by Race, Age and Sex, 2009-2016 (n=61)](image)

Black children accounted for the highest number (28 or 46 percent) of reviewed deaths to children 1 to 4 years old. Most reviewed cases were children 1 to 2 years of age (36 or 59 percent of all cases). The majority (41 or 67 percent) of reviewed cases were male child deaths.

---

Reviews of child deaths (1 to 4 years) were classified by manner and cause. Manner includes natural, accident, homicide, and undetermined deaths. Cause includes medical, external, and undetermined deaths. See Appendix D for a table of ICD-10 Codes used for classification of child death causes.

The majority (41 percent) of cases reviewed were natural child deaths, followed by accidental child deaths (36 percent). Of the 61 child deaths, 32 (or 52 percent) were due to external causes and 27 (or 44 percent) were due to medical causes.
Death by weapon (including body part) accounted for the majority (28 percent) of external causes of death to children 1 to 4 years old. Additional external causes included motor vehicle accidents (MVAs), drownings, and fires. Biological systems diseases accounted for the largest proportion (33 percent) of medical causes of death to children 1 to 4 years old. Other medical causes included congenital anomalies and cancer.

Due to varying external and medical causes, there tends to be a larger percentage of child deaths categorized as “all other.” Falls, poisonings, environmental exposures, and asphyxia deaths were included in this category for external causes. Metabolic disorders and infectious diseases were included in this category for medical causes.

**Figure 29. Reviews of Child Deaths (1 to 4yrs.) by External Causes, 2009-2016 (n=32)**

- **Weapon**: 28%
- **Drowning**: 28%
- **MVA**: 9%
- **Fire**: 16%
- **All Other**: 19%

MVA – Motor Vehicle Accident

**Figure 30. Reviews of Child Deaths (1 to 4yrs.) by Medical Causes, 2009-2016 (n=27)**

- **Biological Systems Diseases**: 33%
- **Congenital Anomalies**: 22%
- **Cancer**: 15%
- **All Other**: 30%
DEATHS TO CHILDREN 5 TO 9 YEARS OLD

Background

According to the National Center for Health Statistics, the leading causes of death for children aged 5 to 9 years are accidents (unintentional injuries), cancer (malignant neoplasms), and congenital malformations, deformations or chromosomal abnormalities. Similar to national statistics, the leading cause of death for children 5 to 9 years in Montgomery County is accidents (unintentional injuries); specifically, motor vehicle accidents (MVAs).

CFR Findings

Montgomery County’s CFRB reviewed 20 deaths to children 5 to 9 years old from 2009-2016. These represent three percent of all cases reviewed.

Figure 31. Reviews of Child Deaths (5 to 9yrs.) by Race, Age and Sex, 2009-2016 (n=20)

White children accounted for half (50 percent) of reviewed child deaths 5 to 9 years old. More than a third of reviewed cases were 7-year-old children (7 or 35 percent of all cases). Male and female child deaths were evenly distributed among reviewed cases (10 cases each).

---

Reviews of child deaths (5 to 9 years) were classified by manner and cause. Manner includes natural, accident, homicide, and undetermined deaths. Cause includes medical, external, and undetermined deaths. See Appendix D for a table of ICD-10 Codes used for classification of child death causes.

The majority (65 percent) of cases reviewed were natural child deaths, followed by accidental child deaths (25 percent). Of the 20 child deaths, 13 (or 65 percent) were due to medical causes and 6 (or 30 percent) were due to external causes.
MVAs accounted for the majority (83 percent) of external causes of death to children 5 to 9 years old, followed by death by weapon (including body part) (7 percent). Biological systems diseases accounted for the largest proportion (33 percent) of medical causes of death to children 5 to 9 years old. Additional medical causes included congenital anomalies and cancer.

Due to varying medical causes, there tends to be a larger percentage of child deaths categorized as “all other.” Metabolic disorders, infectious diseases, and perinatal conditions were included in this category.
DEATHS TO CHILDREN 10 TO 14 YEARS OLD

Background
According to the National Center for Health Statistics, the leading causes of death for children aged 10 to 14 years are accidents (unintentional injuries), cancer (malignant neoplasms), and suicide.\(^5\) Similar to national statistics, the leading cause of death for children 10 to 14 years in Montgomery County is accidents (unintentional injuries).

CFR Findings
Montgomery County’s CFRB reviewed 44 deaths to children 10 to 14 years old from 2009-2016. These represent seven percent of all cases reviewed.

Figure 36. Reviews of Child Deaths (10 to 14yrs.) by Race, Age and Sex, 2009-2016 (n=44)

White children accounted for the majority (59 percent) of reviewed child deaths 10 to 14 years old. More than half of reviewed cases were children 13 to 14 years of age (23 or 52 percent of all cases). Male and female child deaths were evenly distributed among reviewed cases (22 cases each).

Reviews of child deaths (10 to 14 years) were classified by manner and cause. Manner includes natural, accident, homicide, suicide, and undetermined deaths. Cause includes medical, external, and undetermined deaths. See Appendix D for a table of ICD-10 Codes used for classification of child death causes.

The majority (64 percent) of cases reviewed were natural child deaths, followed by accidental child deaths (16 percent). Of the 44 child deaths, 26 (or 59 percent) were due to medical causes and 17 (or 39 percent) were due to external causes.
MVAs accounted for the majority (29 percent) of external causes of death to children 10 to 14 years. Additional external causes included death by weapon (including body part), drowning, and asphyxia. Biological systems diseases accounted for the largest proportion (46 percent) of medical causes of death to children 10 to 14 years old. Additional medical causes included congenital anomalies and cancer.

Due to varying external and medical causes, there tends to be a larger percentage of child deaths categorized as “all other.” Poisonings, neglect/abuse, and dietary allergic reactions were included in this category for external causes. Metabolic disorders, infectious diseases, immunodeficiency disorders, and perinatal conditions were included in this category for medical causes.
DEATHS TO CHILDREN 15 TO 17 YEARS OLD

Background

According to the National Center for Health Statistics, the leading causes of death for children aged 15 to 17 years are accidents (unintentional injuries), suicide, and homicide. Similar to national statistics, the leading causes of death for children 15 to 17 years in Montgomery County are accidents (unintentional injuries) and suicide.

CFR Findings

Montgomery County’s CFRB reviewed 54 deaths to children 15 to 17 years old from 2009-2016. These represent nine percent of all cases reviewed.

![Figure 41. Reviews of Child Deaths (15 to 17 yrs.) by Race, Age and Sex, 2009-2016 (n=54)](image)

White children accounted for more than half (52 percent) of reviewed child deaths 15 to 17 years old. Most reviewed cases were 17-year-old children (25 or 46 percent). More than 60 percent of reviewed cases were male child deaths.

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Reviews of child deaths (15 to 17 years) were classified by manner and cause. Manner includes natural, accident, homicide, suicide, and undetermined deaths. Cause includes medical, external, and undetermined deaths. See Appendix D for a table of ICD-10 Codes used for classification of child death causes.

The majority (33 percent) of cases reviewed were accidental child deaths, followed by natural child deaths (26 percent). Of the 54 child deaths, 38 (or 70 percent) were due to external causes and 16 (or 30 percent) were due to medical causes.
MVAs accounted for the largest proportion (32 percent) of external causes of death to children 15 to 17 years. Additional external causes included death by weapon (including body part), drowning, and asphyxia. Biological systems diseases accounted for the largest proportion (44 percent) of medical causes of death to children 15 to 17 years old. Additional medical causes included congenital anomalies and cancer.

Due to varying external and medical causes, there tends to be a larger percentage of child deaths categorized as “all other.” Poisonings and fires were included in this category for external causes. Infectious diseases and complications due to near drowning were included in this category for medical causes.

**Figure 44. Reviews of Child Deaths (15 to 17yrs.) by External Causes, 2009-2016 (n=38)**

- Weapon: 8%
- Drowning: 21%
- MVA: 32%
- Asphyxia: 11%
- All Other: 29%

**Figure 45. Reviews of Child Deaths (15 to 17yrs.) by Medical Causes, 2009-2016 (n=16)**

- Biological Systems Diseases: 44%
- Congenital Anomalies: 38%
- Cancer: 6%
- All Other: 13%
PREVENTABILITY

Background
In 2001, the CFRB began determining preventability, defined in the Ohio Administrative Code as “the degree to which an individual or community could have reasonably done something that would have changed the circumstances that led to the child’s death.”

CFR Findings
Of the 593 reviews from 2009-2016 that indicated preventability status, 159 (or 27 percent) could have probably been prevented. Preventability differed by manner of death and by age group.

Figure 46. Reviews of Child Deaths by Preventability, 2009-2016 (n=593)

Almost half of reviewed deaths (45 percent) were determined “Unsure” with regards to preventability. This designation is usually due to a lack of information needed to determine preventability of a death.
The percentage of reviewed male cases (30 percent) determined “Preventable” was slightly higher than the percentage of reviewed female cases (23 percent). Overall, preventability of child deaths was similar for males and females.
White children had more deaths determined “Not Preventable” than Black children (31 percent vs. 23 percent). Black children had more deaths that were determined “Unsure” than White children (49 percent vs. 42 percent). Overall, deaths determined “Preventable” were similar among White and Black children.
In general, deaths are more often ruled “Preventable” as the child’s age increases.

The largest percentage of reviewed cases determined “Unsure” was among children <28 days (73 percent). The largest percentage of reviewed cases determined “Preventable” was among children 15 to 17 years old (67 percent).

Preventability of child deaths varied by manner of death. The highest percentage of “Preventable” child deaths was in the homicide category (100 percent), followed by those categorized as accidents (96 percent).
Maps 6 and 7 show the total number of child deaths ruled preventable and the average annual preventable death rate (per 100,000 0-17yrs.) by zip code of residence. Although 45417 had the highest number of preventable child deaths (19), the preventable death rate (31.4 per 100,000) ranked 4th highest among all zip codes. Zip code 45405 accounted for only four percent of Montgomery County’s child population, but had the second highest number of preventable child deaths (15) and the highest preventable death rate (41.0 per 100,000); a rate two and a half times higher than Montgomery County’s (16.5). **Note:** Rates are not calculated for zip codes with less than five deaths due to unreliable data. Preventable child death rates by zip code of residence can be found in Appendix E.
COMMUNITY INITIATIVES

The CFRB Chair invited representatives of CFRB organizations to provide information on their initiatives addressing child and infant health during 2009-2016.

Cribs for Kids®

Unsafe sleep environments are a leading cause of infant death. In 2016, unsafe sleep environments represented nine percent of infant deaths in Montgomery County. Dayton Children’s Hospital is dedicated to improving the health status of children in the community - addressing unsafe sleep practices is one of the many initiatives that has targeted the leading causes of injuries and injury-related death in the Miami Valley.

“It’s heartbreaking to see the devastation families face after a loss of a child – especially when the child dies due to an unsafe sleep practice,” says Elaine Markland, BSN, RN, CPEN, Clinical Resource Nurse in the Trauma and Emergency Center at Dayton Children’s and member of the Infant Mortality and Awareness Prevention Committee at Dayton Children’s.

In 2015, 33 percent of external deaths to infants younger than one year old were due to asphyxia – largely caused by unsafe sleep practices. Dayton Children’s is devoted to ensuring babies reach their first birthday; therefore, a focus is education to parents and caregivers on the importance of safe sleep.

Dayton Children’s is a designated Cribs for Kids® site. Through this program, which is partially funded by the Ohio Department of Health, parents/caregivers needing a safe place for their baby to sleep attend a safe-sleep class provided by trained staff. At the end of the class, parents/caregivers are provided with a Graco Pack ‘n Play portable crib. From 2015-2016, 297 families were educated through community safe sleep classes in order to reduce injury and death to infants.

In Fall 2015, Dayton Children’s became a Gold Certified National Safe Sleep Champion by Cribs for Kids®. The criteria for this award includes hospital staff training and education, a hospital safe sleep policy, parent education and modeling, a wearable blanket program, community and media outreach and affiliation with Cribs for Kids®. As we continue to work in the community on safe sleep it is necessary to ensure that hospital practices are as safe as possible.

*Submitted by Jessica Saunders and Libby Nicholson, Dayton Children’s Hospital*
Safe Kids Greater Dayton

Dayton Children’s is the lead agency of Safe Kids Greater Dayton, which is our region’s leader in childhood injury prevention programming. The Safe Kids Greater Dayton coalition addresses key pediatric safety issues with community programming including child passenger safety, pedestrian safety, home/fire safety, medication poisoning prevention, and bicycle helmet education.

Each year, Safe Kids Greater Dayton supports work on initiatives to decrease pedestrian injury and death. In October 2015, Safe Kids Greater Dayton sponsored a Safe Kids Walk this Way event for International Walk to School day at Ruskin Neighborhood Schools Center to teach children about walking to school safely. Ruskin and other local elementary schools were provided copies of Clifford Takes a Walk to read with their students to learn pedestrian safety habits. Later in October, Safe Kids worked to promote “Be safe, be seen on Halloween” at schools throughout the Dayton region.

“Halloween is the most dangerous night for child pedestrians,” says Abbey Rymarczyk, Safe Kids Greater Dayton coordinator. “We partner with schools and child-serving organizations during Halloween to ensure children in the Dayton region stay safe on such a fun night.” Bike to School Day was held at St. Charles Borromeo Elementary School in Kettering, Ohio in Spring 2016. Since the school is located near two busy streets, the students learned how to safely cross the intersections nearest their school. Students in first and second grade also received a brand-new helmet the week prior to Bike to School Day.

Safe Kids Greater Dayton also supported a Bike to School Day event in Sugarcreek Township at Bell Creek Intermediate School. Students in third, fourth and fifth grade participated in walking and biking events, and had a chance to win one of 20 new bikes. Over 500 children participated in Bike to School Day events. Safe Kids Greater Dayton also participated in the Safe Kids Worldwide Sports Safety program. Through this program, 600 athletes and 75 coaches were trained to recognize the signs of dehydration, over exertion, and concussions.

Motor vehicle crashes are a leading cause of death and disability for children in our community and nationwide. Dayton Children’s holds routine car seat checks at the hospital and throughout the community through the Child Passenger Safety and Education program. We encourage parents to have their car seat or booster seat inspected by a certified child passenger safety technician. These technicians have extensive training in car seats, cars, and seat belt systems and can answer questions and provide information to parents.

Submitted by Jessica Saunders and Libby Nicholson, Dayton Children’s Hospital
Our car seat inspections not only check for recalls, but also ensure that the seats are properly installed. If the safety seat is determined to have been involved in a car crash or has been recalled, the safety technician will install a new one at no charge to the family. In addition, the program provides safety seats to families who cannot afford to purchase one.

**Sports Injuries and Concussions**

Sports injuries, especially traumatic brain injuries, are a leading cause of visits to the emergency department at Dayton Children’s. To ensure our local athletes are as safe as possible on the field, Dayton Children’s Sports Medicine has conducted over a dozen talks to community organizations on the prevention of head injuries, proper equipment use, appropriate stretching, and safe play in 2016-2017. In addition, the hospital administered over 700 baseline and post-concussion tests of children.

“Baseline concussion tests are really important before young athletes begin their season,” says Ashley Stanko, MBA, ATC, “Concussion signs and symptoms can be subjective because a concussion can impact different children in different ways. Getting a baseline test allows us to compare a child’s neurocognitive abilities before and after a potential concussion offering a much more objective approach.”

**Infant Mortality Equity Institutes**

The local focus on infant mortality goes back to at least 2002 when representatives from Public Health - Dayton & Montgomery County (PHDMC), Dayton Children’s Hospital, Miami Valley Hospital, Wright State University, the University of Dayton, and the Montgomery County Human Services Planning and Development Department joined with others from across the state to form the Perinatal Data Use Consortium (PDU). PDU, which continued until 2010, was an Ohio Department of Health-sponsored initiative to engage professionals concerned with maternal and infant health. The program introduced a learning process intended to advance data knowledge and to improve the quality of perinatal practices across systems.

In 2012, the local infant mortality rate (IMR) remained flat while the state and national IMRs were trending down. Concerned about this divergence, PHDMC convened the Infant Mortality Coalition to reduce the local IMR, and to address the racial disparity whereby the Black IMR was three times higher than the White IMR. The Coalition’s membership represented a wide range of community stakeholders, and its existence, structure, and purpose helped Montgomery County become an inaugural member of the Institute for Equity in Birth Outcomes (IEBO) in 2013. IEBO, organized by CityMatCH with funding from The W.K. Kellogg Foundation, is a high-visibility, national movement of urban communities instilling a scientific focus on public health strategies to reduce inequities in birth outcomes. Montgomery

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*Submitted by Jessica Saunders and Libby Nicholson, Dayton Children’s Hospital*

*Submitted by Robert Stoughton, University of Dayton and Sara Paton and Ashley Seybold, Public Health - Dayton & Montgomery County*
County’s inclusion triggered the Ohio Department of Health and CityMatCH to form the Ohio Equity Institute (OEI) in 2013. OEI is comprised of Montgomery County and eight other urban Ohio counties.

The first two infant mortality reduction initiatives started by the IEBO/Infant Mortality Coalition were progesterone therapy and CenteringPregnancy® model of care. Progesterone is an evidence-based therapy shown to reduce preterm birth by more than 30% in women with prior preterm birth and/or short cervix through identification and treatment of appropriate candidates with progesterone prophylaxis. CenteringPregnancy® is an evidence-based health care delivery model that integrates maternal health care assessment, education, and support. Centering promotes patient engagement and community-building, and has been shown to significantly improve infant health outcomes. Since inception, progesterone therapy has expanded. Additionally, two new CenteringPregnancy® sites have been initiated - one through Lifestages and one through Five Rivers Health Centers. In 2017, a third infant mortality initiative began focusing on community engagement.

**Dayton Police Department Infant Mortality Reduction Initiative**

The Dayton Police Department (DPD), recognizing that infant mortality is a serious concern in Montgomery County, sought guidance from Wright State University’s Department of Population and Public Health Sciences (WSU) and Public Health - Dayton & Montgomery County (PHDMC) on involving law enforcement in the efforts to reduce infant deaths. A data protocol was developed to understand where law enforcement interacted with families in the year before the birth of their child.

The data project’s objective was to determine the prevalence of parental-police interaction among Dayton families that experienced an infant death. The data project linked police records and public health vital statistics, something not done before. Results found that more than half of the families identified had some form of police interaction during the year preceding their child’s birth. The plan for this project moving forward will be to incorporate all of Montgomery County infant deaths in the data analysis. These results were vital in determining an intervention for Dayton police as well as opportunities to support expectant parents. Working collaboratively, DPD, WSU, PHDMC, and Help Me Grow/Brighter Futures have initiated an intervention with law enforcement to address infant mortality.

Recently, this project was recognized at two national public health conferences, CityMatCH and American Public Health Associations. The presentations were well-received; conference attendees were not only impressed with the level of community collaboration, but with the original approach to infant mortality reduction.

*Submitted by Kyle Wallace, Ashley Seybold and Sara Paton, Public Health - Dayton & Montgomery County and Wendy Stiver, Dayton Police Department*
CONCLUSIONS AND RECOMMENDATIONS

The CFRB applauds the collaborative efforts within the community to decrease child deaths. These efforts cannot be left to one group or representative body, but rather requires a community working collectively toward a common purpose.

Based on the findings from this Report, the CFRB identified four areas of focus – prematurity, preventable child deaths, tobacco use, and health equity. The CFRB endorses the associated recommendations, which are meant for planning public health interventions and prioritizing resources.

Prematurity. Prematurity was the cause of 39% of all infant deaths and 27% of child deaths in Montgomery County for 2009-2016.

❖ Recommendation #1: Identify and implement evidence-based interventions aimed at improving the health of a woman before becoming pregnant, ensuring early access to prenatal care, and increasing healthy behaviors to decrease preterm births.

Preventable Child Deaths. Accidents are a leading cause of child deaths >1 year of age, most of which are preventable. These include motor vehicle accidents, drowning, and homicides. The leading cause of accidental child deaths were unsafe sleep environments.

❖ Recommendation #2: Identify and implement evidence-based interventions focused on reducing child accidents.

❖ Recommendation #3: Identify and implement evidence-based education and resources on safe sleep environments for infants.

Tobacco Use. Tobacco has many detrimental effects on children, including an increase in preterm births, birth defects, asthma, and SUIDS.

❖ Recommendation #4: Identify and implement policies and interventions that promote a smoke-free environment for families, as well as smoking cessation for pregnant women and families.

Health Equity. Child deaths are disproportionately seen in the Black/African American community, some communities, and in other demographics for specific causes of death.

❖ Recommendation #5: As a community, identify and implement policies and interventions to promote health equity.
Appendix A

Montgomery County
CHILD FATALITY REVIEW BOARD
January 2018

Jeffrey A. Cooper (Chair) Public Health - Dayton & Montgomery County
Nancy A. Banks Dayton Disabilities Services
Bryan Bucklew Greater Dayton Area Hospital Association
Chief Richard Biehl Dayton Police Department
Rhonda A. Corr Dayton Public Schools
Frank DePalma Montgomery County Educational Service Center
Mathias H. Heck, Jr. Montgomery County Prosecuting Attorney
Tom Kelley Department of Job and Family Services
Judge Nick Kuntz Montgomery County Juvenile Court
Sheriff Phil Plummer Montgomery County Sheriff
Chris Williams Miami Valley Regional Crime Laboratory
Appendix B

Montgomery County Child Fatality Review Board
CHILD DEATH REVIEW COMMITTEE
January 2018

Susan Allen, D.O.          Montgomery County Coroner’s Office
Debra B. Armanini         Montgomery County Prosecutor’s Office
Dan Deisher               Montgomery County Job & Family Services
Angela Fields             Stillwater Center
Mike Fox                   Montgomery County Coroner’s Office
Lt. Gregg W. Gaby          Dayton Police Department
Kent Harshbarger, M.D.     Montgomery County Coroner’s Office
Yevetta Hawley            Public Health - Dayton & Montgomery County
Roy Jordan                 Public Health - Dayton & Montgomery County
Helen Jones-Kelley         Alcohol, Drug Addiction and Mental Health Services
Kelly Liker, M.D.          The Children’s Medical Center of Dayton
Libby Nicholson           CARE House
Robert L. Stoughton       Fitz Center for Leadership in Community, University of Dayton; and Montgomery County Office of Family and Children First

STAFF:
Tiffany Terry (chair)      Public Health - Dayton & Montgomery County
Maleka James               Public Health - Dayton & Montgomery County
Sara J. Paton, Ph.D.       Population and Public Health Sciences Department, Wright State University, and Public Health - Dayton & Montgomery County
Ashley L. Seybold          Public Health - Dayton & Montgomery County
Terra Williams             Public Health - Dayton & Montgomery County
Appendix C

Montgomery County Child Fatality Review Board
REPORT WRITING GROUP
January 2018

Sara J. Paton, Ph.D. (Chair) Population and Public Health Sciences Department, Wright State University, and Public Health - Dayton & Montgomery County

Libby Nicholson CARE House

Ashley L. Seybold Public Health - Dayton & Montgomery County

Robert L. Stoughton Fitz Center for Leadership in Community, University of Dayton; and Montgomery County Office of Family and Children First

Tiffany Terry Public Health - Dayton & Montgomery County

Faith Whitt Public Health - Dayton & Montgomery County
CLASSIFICATION OF DEATHS: ICD-10 CODES

For this Report, ICD-10 codes used for classification of vital statistics data were chosen to correspond with the causes of death indicated on the CFR case report tool. Therefore, ICD-10 codes used for this Report may not match the codes used for other reports or data systems, but are consistent with Ohio Department of Health CFR reporting methods.

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<th>Cause of Death</th>
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<tr>
<td>Animal Bite or Attack</td>
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## Montgomery County

### CHILD DEATH (0-17 YEARS) RATES, 2009-2016

**Table 7.** Average Annual Child Death Rates (per 100,000 0-17yrs.) by Zip Code of Residence

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<th>Zip Code</th>
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An asterisk (*) denotes less than five deaths; a rate cannot be calculated due to unreliable data.

*Note:* Rates were calculated using the average number of deaths from 2009-2016 (numerator) divided by the average of two U.S. Census Bureau, American Community Survey, 5-Year Population Estimates from 2009-2013 and 2012-2016.

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GLOSSARY

**Accident** – Death caused by unforeseen or unplanned event.

**Cause of Death** – “The classification of death listed in box 30 on the Ohio death certificate, or an equivalent box on future forms. Examples of causes include, but are not limited to, birth defects, drowning and submersion, electrocution, extreme prematurity, falls, fire and burn, firearms and weapons, pneumonia, poisoning, shaken baby syndrome, sudden infant death syndrome, suffocation and strangulation, vehicular, and other cause.” Section 3701-67-01(A) of the Ohio Administrative Code.  

**Child** – For the purposes of this Report, any human under the age of 18 years.

**Congenital** – Present at birth.

**Fetal Death** – Refers to the spontaneous intrauterine death of a fetus at any time during pregnancy. Fetal deaths later in pregnancy (at 20 weeks of gestation or more) are also sometimes referred to as stillbirths. Most states, including Ohio, report fetal deaths 20 weeks of gestation or more.

**Homicide (Coroner’s definition)** – Death at the hands of another, without reference to intent.  

**Homicide (Criminal definition)** – Death at the hands of another purposely, knowingly, or recklessly and not excusable. If deadly weapon is involved, can also be done negligently.

**Infant** – A liveborn fetus from time of birth through the completion of 364 days of age.

**Manner of Death** – “The classification of death listed in box 32 on the Ohio death certificate, or equivalent box on future forms. The classification is limited to natural, accident, homicide, suicide, and undetermined.” Section 3701-67-01(K) of the Ohio Administrative Code.

**Natural** – Conforming with the usual or ordinary course of nature.

**Neonatal** – Concerning the first 28 days after birth.

**PPOR** – See “Perinatal Periods of Risk.”

**Perinatal** – The period beginning after the 20th week of pregnancy through 28 days following birth.

**Perinatal Conditions** – Including, but not limited to, low birth weight, maternal complications, cord/placental complications, and respiratory complications occurring during the perinatal period.

**Perinatal Periods of Risk** – An analytic process for examining perinatal and infant deaths that encompasses fetal deaths as well as the deaths of infants born alive.
GLOSSARY (CONT’D.)

Preventable – “The degree to which an individual or community could have reasonably done something that would have changed the circumstances that led to the child’s death.” Section 3701-67-01(L) of the Ohio Administrative Code – “A child’s death is considered to be preventable if the community (through reasonable education, etc.) or an individual (through reasonable precaution, supervision, or action) could have done something that could have changed the circumstances that led to the death.” Ohio Department of Health. 8

Sleep-Related Death – The death of an infant that occurred because of suffocation in one of the following circumstances (unsafe sleep environments):

- **Overlay** – An infant dies from suffocation as a result of sleeping with an adult or older child who has rolled on to the infant or against the infant’s face or mouth causing accidental smothering.

- **Positional Asphyxia** – An infant dies from suffocation as a result of sleeping on inappropriate soft bedding or becomes wedged between mattresses, cushions or blankets.

- **Unsafe Sleep Environment** – The deceased infant is found in a place that is not proper for sleeping.

Sudden Infant Death Syndrome (SIDS) – “Sudden death of an infant that remains unexplained after a review of the medical history and a complete death scene investigation in which a thorough postmortem examination is completed including autopsy, fails to demonstrate an adequate cause. A diagnosis of exclusion can be made when no underlying cause of death can be identified. It is not caused by abuse or neglect.” Ohio Department of Health. 8

Suicide – Death intentionally caused by self.

Undetermined – Death in which the manner cannot be determined. (Classified on the death certificate as “Could Not Be Determined.”)

8Centers for Disease Control and Prevention (CDC); Montgomery County Coroner’s Office; Montgomery County Prosecutor’s Office; Ohio Administrative Code; Ohio Department of Health