Child Deaths **IN MICHIGAN**

Michigan Child Death
State Advisory Team
Eleventh Annual
EXECUTIVE REPORT

A Report on Reviews conducted in 2012

A report on the causes and trends of child deaths in Michigan based on findings from community-based Child Death Review Teams with recommendations for policy and practice to prevent child deaths.

The Michigan Department of Human Services
Michigan Public Health Institute

STATE OF MICHIGAN
DEPARTMENT OF HUMAN SERVICES
LANSING

RICK SNYDER
GOVERNOR

MAURA D. CORRIGAN
DIRECTOR

June 18, 2014

The Honorable Rick Snyder, Governor
Honorable Members of the Michigan Legislature

I am submitting this eleventh annual report on child deaths in Michigan in accordance with 1997 PA 167. In 2010*, 1,399 children died in Michigan. Black children died at a rate 2.7 times that of white children, and each year, infant deaths (children under age 1) have accounted for approximately half of all child deaths in Michigan and nationwide.

The child death review process provides a critical opportunity to learn about the causes and circumstances of children's deaths in order to prevent future deaths, as well as injuries and disabilities. For each death assigned for review, a multidisciplinary team from the child's community met to determine the circumstances that led to the death and ways to prevent similar deaths.

Over 1,400 community representatives participate in the 77 teams that cover the state. In 2012, representatives from 54 counties reviewed 556 child deaths and determined that more than half (58 percent) were preventable. In this report, the Michigan Child Death State Advisory Team presents multiple strategies to prevent future child deaths. The report includes recommendations for increased education campaigns, a provision of resource materials and support for legislation to prevent sleep-related infant deaths, a comprehensive, multi-departmental approach to preventing teen suicide, strengthening the licensing system and revisions to driver education programs in order to prevent motor vehicle deaths, and enhancements to awareness and training for human service professionals to prevent child abuse and neglect deaths.

Reducing infant mortality and preventable child deaths will require sustained efforts at the state and local levels. I appreciate the priority that this administration has placed on addressing infant safe sleep initiatives and decreasing infant mortality, highlighted in its MiDashboard initiative. Childhood mortality is a crucial indicator of the overall health and welfare of Michigan and the department shares your commitment to reduce preventable deaths and improve Michigan's performance in this area.

Sincerely,

Maura D. Corrigan

*2011 and 2012 mortality statistics are not available at the time this report is prepared.

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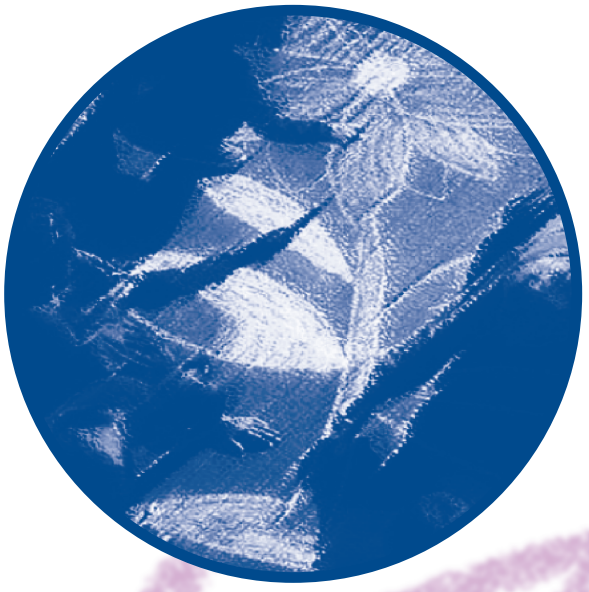
Child Deaths IN MICHIGAN



MICHIGAN CHILD DEATH STATE ADVISORY TEAM

ELEVENTH ANNUAL REPORT

A REPORT ON REVIEWS CONDUCTED IN 2012

MISSION

TO UNDERSTAND **HOW** AND **WHY CHILDREN DIE** IN MICHIGAN,
IN ORDER TO TAKE **ACTION** TO **PREVENT** OTHER **CHILD DEATHS**.

SUBMITTED TO

THE HONORABLE RICK SNYDER, GOVERNOR, STATE OF MICHIGAN

THE HONORABLE RANDY RICHARDVILLE, MAJORITY LEADER, MICHIGAN STATE SENATE

THE HONORABLE JASE BOLGER, SPEAKER OF THE HOUSE, MICHIGAN HOUSE OF REPRESENTATIVES

Keeping Kids Alive©

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INTRODUCTION

Children are not supposed to die. The death of a child is a profound loss, not only to the child's parents and family, but also to the larger community. In order to reduce the numbers of these tragic losses, we must first understand how and why our children are dying.

The Child Death Review (CDR) program was implemented in Michigan in 1995 to conduct in-depth reviews of child deaths and identify ways to prevent them. Multidisciplinary teams of local community members examine the circumstances that led to the deaths of children in their jurisdictions. Required members of local teams include: the county medical examiner's office, the county prosecutor's office, local law enforcement, and representatives from the county court, county health department and county office of the Michigan Department of Human Services (DHS). Local teams may add further membership or invite guests as necessary, including emergency medical services, physicians, records staff, schools, community mental health, or other service providers. Based on their review findings, these teams recommend actions aimed at preventing future deaths.

The Michigan Child Death State Advisory Team was established by Public Act 167 of 1997 (MCL 722.627b) to "identify and make recommendations on policy and statutory changes pertaining to child fatalities and to guide statewide prevention, education and training efforts." The law also requires the State Advisory Team to publish an annual report on child fatalities. The present report includes 556 deaths reviewed in 2012 by local teams.

DHS has established a contract with the Michigan Public Health Institute (MPHI) to manage the CDR program. The contract requires MPHI to provide annual training for team members and statewide training on child death procedures. In recent years, MPHI has also hosted regional trainings around the state for professionals involved in the investigations of children's deaths. Annual regional meetings of local CDR team coordinators are held throughout the state. MPHI staff attend local CDR meetings to provide technical assistance and encourage prevention efforts. Program support materials produced include resource guides for effective reviews, protocol manuals, investigative protocols, formatted local and state mortality data, prevention resources and a program website. MPHI staff helps teams with case identification, research on causes of death, county and cause-specific data analysis, and other types of technical assistance and support as needed.

The Michigan CDR program has established working relationships with numerous diverse organizations throughout the state to promote child health and safety. The program also maintains a productive working relationship with DHS that has led to the implementation of innovative strategies to better protect children and prevent deaths. MPHI staff also assists in administering the Fetal and Infant Mortality Review Program (FIMR), funded by the Michigan Department of Community Health (MDCH). In 2012, FIMR conducted intensive reviews of infant deaths in 13 communities. Michigan's collaboration of CDR and FIMR is recognized as a national model.

SCOPE OF THE DATA

The information presented in this report is based on data provided by the local county CDR teams. The teams complete a standardized data reporting tool developed by the National Center for the Review and Prevention of Child Deaths, and submit the information to the CDR program office at MPHI. This reporting tool was developed with input from many states through their CDR programs. This comprehensive document can be viewed on the Michigan CDR web site: www.keepingkidsalive.org.

It is important to note that not all child deaths in the state are reviewed. Local teams select cases to review, based on the number of deaths that occur, the resources available in the county, and the team's ability to access case information. Larger counties typically must limit their reviews to those cases that fall under the jurisdiction of the county medical examiner, which are primarily non-natural deaths. Non-natural deaths are generally regarded as more preventable, and information concerning these types of deaths may be more readily available to the local teams.

The CDR data presented in this report does not account for every child death in the state, but through examination of the case information on deaths that were reviewed, the resulting data assists in the identification of emerging issues, problematic trends and key risk factors that can be used to prevent future deaths. For specific data requests, or for more information not presented in this report, contact MPHI at keepingkidsalive@mphi.org.

Please note: **When referring to "deaths reviewed," data was derived from the local team reviews. When referring to "total deaths," data was derived from official mortality statistics for the state, which are based on death certificates.**

Continuing challenges with transitioning the state from paper death certificates to the Electronic Death Record System (EDRS) have significantly delayed the issuance of the official mortality statistics by the Division for Vital Records and Health Statistics at MDCH. Because state statute requires that official mortality statistics be included in this report, the latest data available, which is for calendar year 2010, has been used.

CHILD DEATH REVIEW DATA OVERVIEW

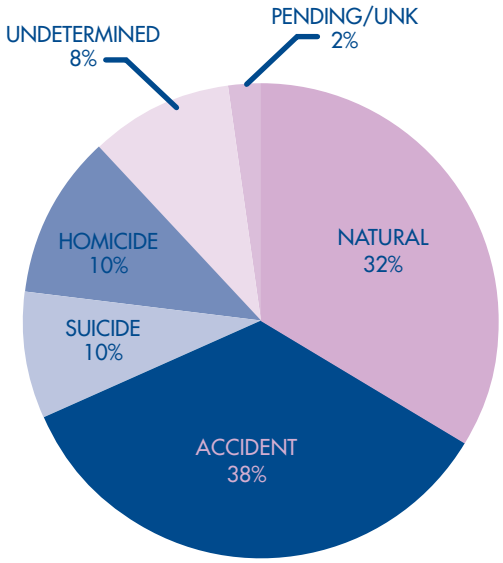
Manner, Age and Race

Two types of death determination are reported on death certificates: cause and manner. Cause refers to the actual disease, injury or complications that directly resulted in the death. Manner refers to the circumstances of the death. There are five possible manners: natural, accident, suicide, homicide or undetermined. Within each of the five manners of death, there can be multiple causes of death. For example, natural deaths include causes such as cancer, birth defects and prematurity. Homicides include causes such as blunt force trauma and multiple gunshot wounds. An undetermined manner of death indicates that the medical examiner felt there was not enough information – especially regarding intent of the decedent or others involved in the death - to assign one of the other manners of death. Unknown in these graphs indicates that the team had no access to the official manner of death at the time of review.

Of the total child deaths in the state for 2010 (cause and manner data for 2011 and 2012 were not available at the time that this report was prepared), 69 percent were natural deaths, while 19 percent were accidental deaths, including, but not limited to deaths from fires, drownings, car crashes and suffocations. These two largest categories of manner are nearly identical in percentage to those from the previous four years (Source: Michigan Department of Community Health, Division for Vital Records and Health Statistics).

Local teams reviewed 556 child deaths in 2012. The largest portions were those classified as accidental deaths and natural deaths (38 percent and 32 percent, respectively). The difference in percentages between total deaths and reviewed deaths is due to the fact that the most populous counties in Michigan review very few of their natural deaths, while reviewing most, if not all, of their accidental deaths.

Percentage of Child Deaths Reviewed in 2012 by Manner

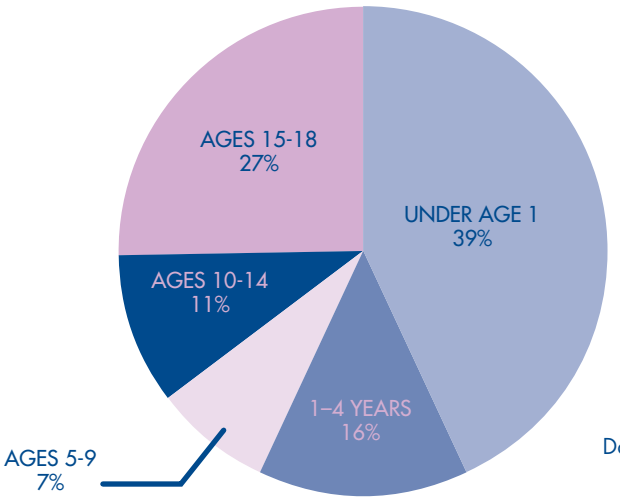


Data Source: Michigan Child Death Review

The deaths of infants (children under age 1) account for approximately half of all child deaths ages 0-18, both in Michigan and nationwide. In 2012, deaths of children under age 1 accounted for 39 percent of all cases reviewed in Michigan.

Deaths of children ages 15-18 were the next most frequently reviewed, accounting for 27 percent of all deaths reviewed in 2012. Compared with other age groups, a higher percentage of deaths in the 15-18 age range were attributed to accidents, homicides and suicides, and were therefore more likely to be reviewed.

Percentage of Child Deaths Reviewed in 2012 by Age



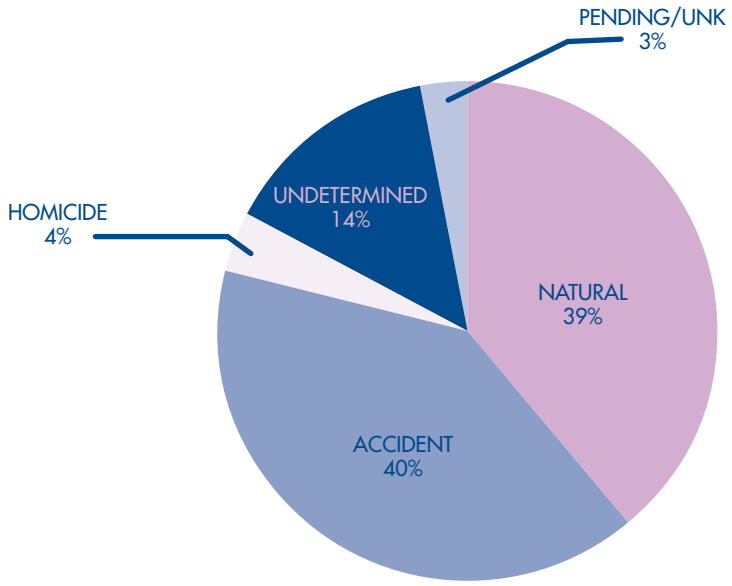
Data Source: Michigan Child Death Review

In previous years, the largest percentage of infant deaths reviewed was classified as natural. However, in 2012 the largest percentage of infant deaths was classified as accident. Over 89% (77 deaths) of the accidental infant deaths reviewed in 2012 were due to asphyxia. These are infants that suffocated in unsafe sleep environments. This type of death is addressed later in this report.

Additionally, of all age groups, infants made up the largest percentage of deaths ruled undetermined by medical examiners. This was largely due to the diagnostic shift away from use of the term "Sudden Infant Death Syndrome" (SIDS) when an infant is found unresponsive in a sleep environment. Consistent with the national trend, medical examiners in Michigan are more frequently referring to these as "Sudden Unexpected Infant Deaths" (SUIDs) with the manner of death classified as undetermined, if there is not enough evidence or detailed information regarding the death scene to officially classify the death as an accidental asphyxia.

The next largest percentage of infant deaths reviewed was classified as natural. More than half of the natural infant deaths reviewed in 2012 were due to birth-related conditions: prematurity (birth at less than 37 weeks gestation) at 26 percent; and congenital anomalies (birth defects) and other perinatal conditions at 28 percent. The scope of infant mortality in Michigan is addressed in greater detail in the section of this report entitled Fetal Infant Mortality Review (FIMR) in Michigan.

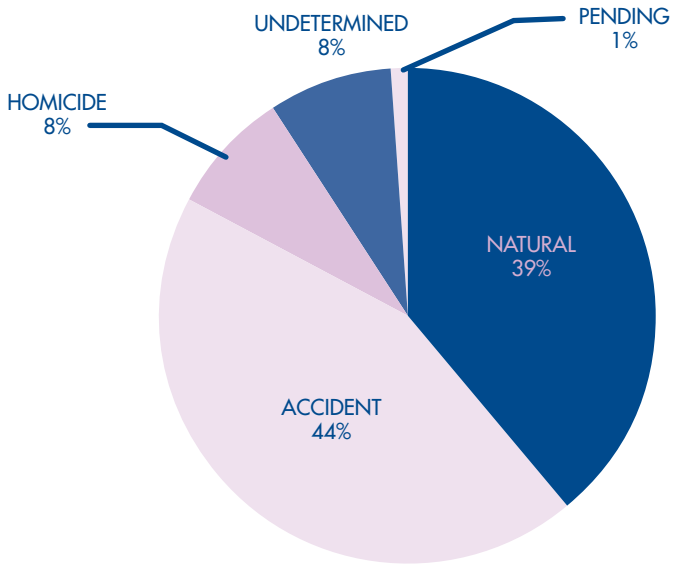
Percentage of Infant Deaths < 1 Reviewed in 2012 by Manner



Data Source: Michigan Child Death Review

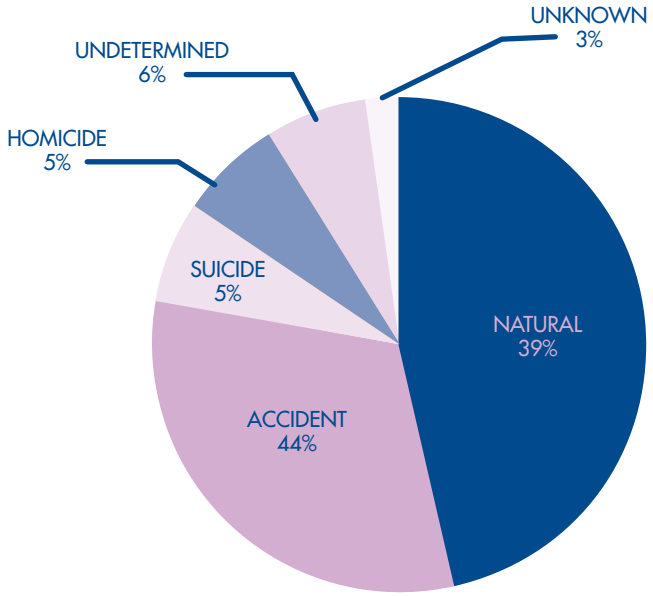
As children age, the incidence of death due to external causes (accidents, homicides and suicides) tends to increase.

Percentage of Child Deaths Ages 1-4 Reviewed in 2012 by Manner



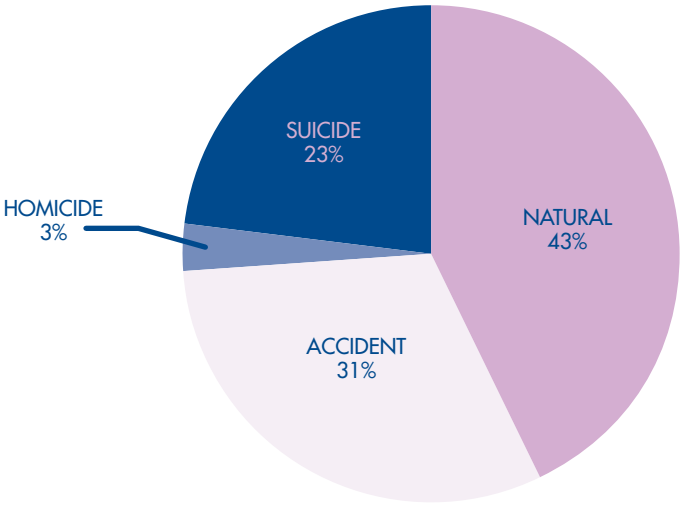
Data Source: Michigan Child Death Review

Percentage of Child Deaths Ages 5-9 Reviewed in 2012 by Manner



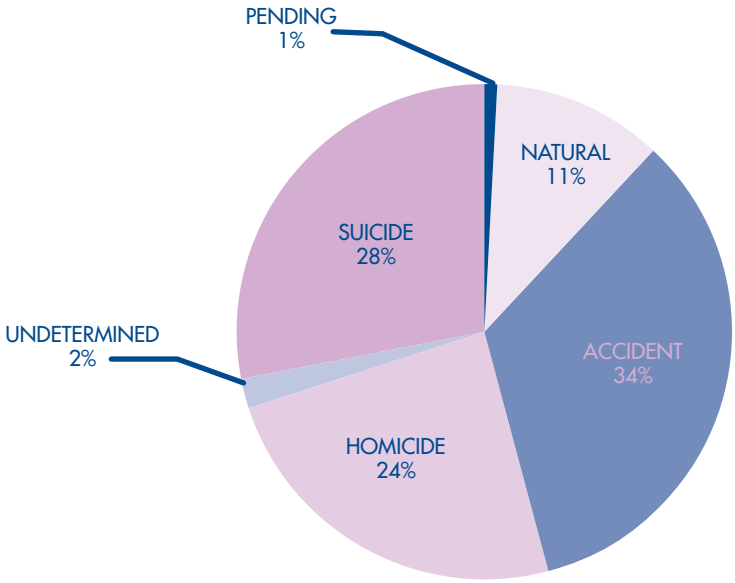
Data Source: Michigan Child Death Review

Percentage of Child Deaths Ages 10-14 Reviewed in 2012 by Manner



Data Source: Michigan Child Death Review

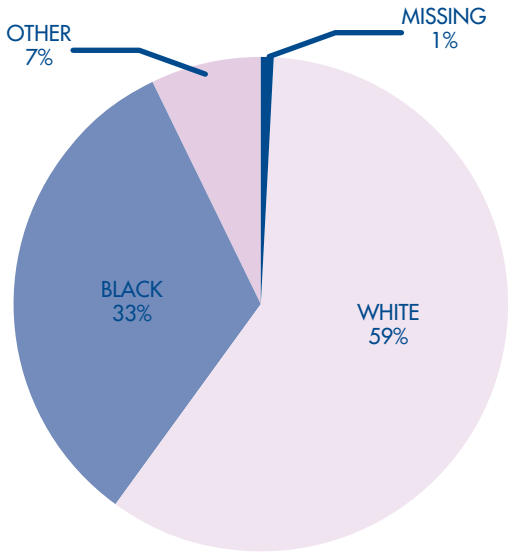
Percentage of Child Deaths Ages 15-18 Reviewed in 2012 by Manner



Data Source: Michigan Child Death Review

In 2010*, blacks made up about 14 percent of the population in Michigan, but accounted for 36 percent of the total child deaths, and 31 percent of the child deaths reviewed in that same year (33 percent in 2012). This overrepresentation has remained consistent throughout the years that the CDR process has operated in Michigan.

Percentage of Child Deaths Reviewed in 2012 by Race



Data Source: Michigan Child Death Review

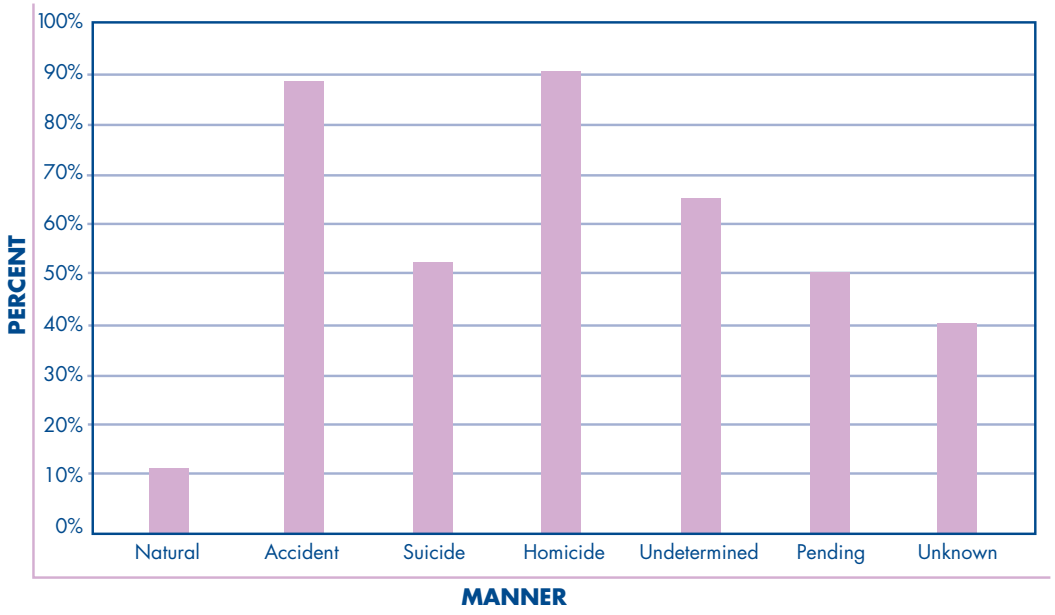
*2011 and 2012 population data was not available at the time this report was prepared.

Preventability

Local teams define a child's death as preventable "if the community or an individual could reasonably have changed the circumstances that led to the death."* Each team decides if cases meet this criterion. Using this standard, nearly all accidents and homicides were determined by local teams to have been preventable. Consistent with review findings in previous years, the teams determined that **more than half of all deaths reviewed in 2012 were preventable (58 percent).**

The graph below shows that a significant percentage of deaths classified as undetermined were deemed preventable. Most of these were sleep-related infant deaths (82 percent). Local teams consider specific risk factors such as unsafe sleep environments when making preventability determinations.

Percentage of Preventable Child Deaths Reviewed in 2012 by Manner



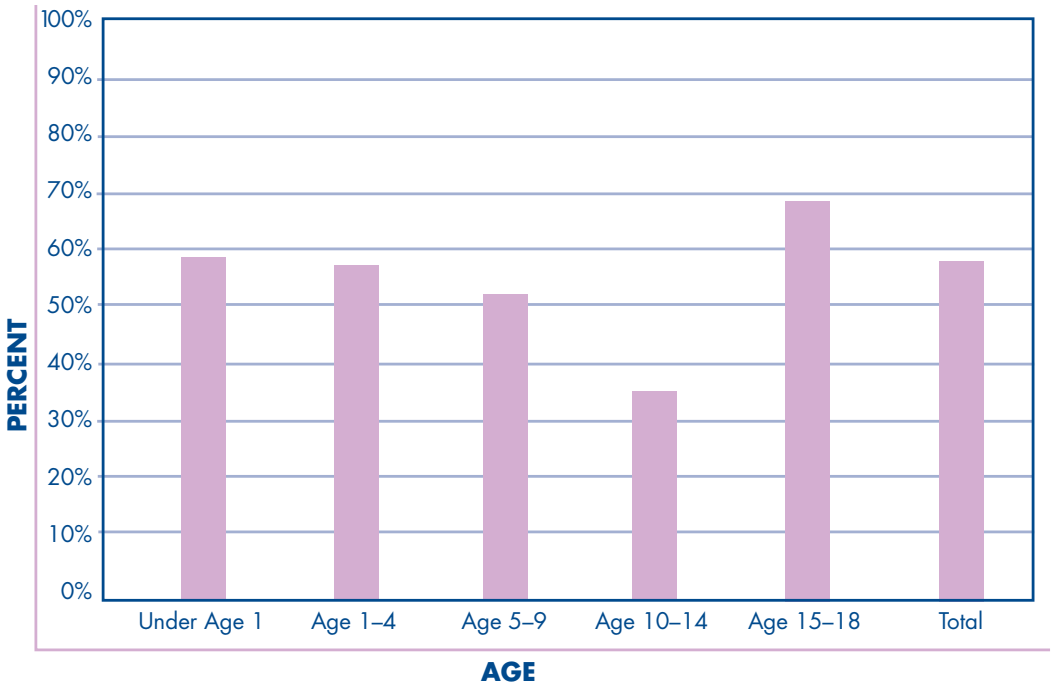
Data Source: Michigan Child Death Review.

* National Center for Child Death Review Case Report Data Dictionary, January 2008.

Consistent with prior years, in 2012, local review teams considered deaths in the 15-18 age range as more preventable than deaths of younger children. On average, teams found that about half of the deaths of children ages 0-14 were preventable. This increased to 69 percent in the 15-18 age range. This was due to the fact that the majority of older teen deaths were due to accidents, homicides and suicides, which were viewed by local teams as more preventable than natural deaths.

The deaths considered least preventable by local teams in 2012 were those that occurred in the 10 - 14 age range. Children in this age range had a larger proportion of natural deaths than any other age range reviewed.

Percentage of Preventable Child Deaths Reviewed in 2012 by Age



Data Source: Michigan Child Death Review

SELECTED CAUSES OF DEATH AND RECOMMENDATIONS FOR POLICYMAKERS

Sleep-Related Infant Deaths

During the past several decades, the diagnosis of Sudden Infant Death Syndrome (SIDS) was often made when an infant died suddenly and unexpectedly in his or her sleep, and no medical cause for the death could be identified. In the past 10 years, there have been statewide and national efforts to improve the quality of death scene investigations in these types of cases. As a result, better information is now available on the circumstances surrounding these deaths, including details about the infant's sleep environment.

The use of the term "SIDS" has decreased dramatically in Michigan. Due to improved investigations, medical examiners are determining more sleep-related infant deaths to be caused by positional asphyxia (suffocation). If medical examiners do not believe that there is enough evidence in the case to make a suffocation determination, they are more often using the term "Sudden Unexpected Infant Death" (SUID), rather than "SIDS."

The graphs in this section include deaths designated by medical examiners as: SIDS, positional asphyxia, and undetermined/SUID. Because of this variety of terminology and the historical prominence of the term "SIDS," which many believed to be a mysterious and unpreventable type of infant death, the public may be confused about what really causes these deaths and the importance of following infant safe sleep guidelines in order to prevent them.

In locations where the most thorough and vigorous scene investigations and caregiver interviews are conducted, the number of deaths to infants who were known to have been on their backs, alone and in a crib free of suffocation hazards drops to nearly zero. There are many ways that babies' airways can become blocked during sleep: by suffocation hazards such as pillows, thick blankets, stuffed toys and bumper pads; by being face down on soft bedding; by couch cushions and other inappropriate sleep surfaces; by becoming wedged between an adult bed mattress and the wall or headboard; and in many cases, by an adult or other child's body if they are asleep on the same surface with the infant. The American Academy of Pediatrics (AAP) has developed a list of infant safe sleep guidelines to prevent these tragic events.

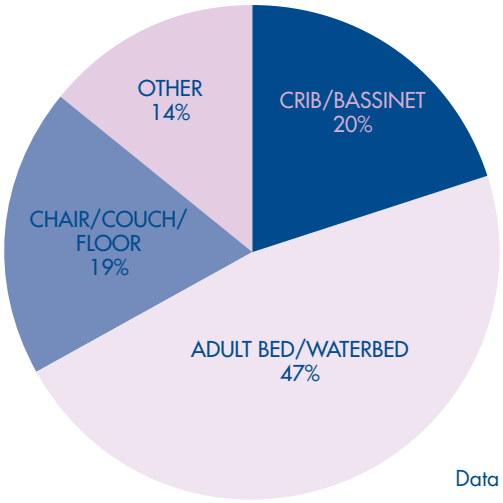
If all of the sleep-related infant deaths were prevented in Michigan, the state's infant mortality rate – 7.1 per 1,000 live births in 2010 (the latest year for which this data is available), well above the national rate of 6.1 – would drop to 6.2. Preventing sleep-related death is relatively simple. A safe sleep environment for every baby in Michigan would bring us closer to the goal identified by Governor Snyder in his MiDashboard initiative and of those involved in public health, health care and other human service fields, significantly reducing the infant mortality rate in this state.

Although sleep-related infant deaths can and do occur in all types of families, there are groups at elevated risk. Blacks, American Indians and low-income families have experienced sleep-related infant deaths at higher rates than other groups.

According to the Centers for Disease Control and Prevention's Sudden Unexpected Infant Death Case Registry Project in Michigan, approximately 140 babies die each year related to unsafe sleep environments. The percentages in the following graphs are based on 119 such deaths that were reviewed by local CDR teams in 2012. Since 1996, local teams have reviewed almost 2,000 sleep-related infant deaths.

The AAP has defined a safe infant sleep location as a safety-approved crib, bassinet or portable crib with a firm mattress and tight-fitting sheet. Only 20 percent of the sleep-related deaths reviewed in 2012 occurred in an AAP safe infant sleep location. Over three-quarters of the deaths occurred in locations unsafe for infant sleep. In almost half (47 percent) of the deaths reviewed, the infant died after being placed to sleep on an adult bed.

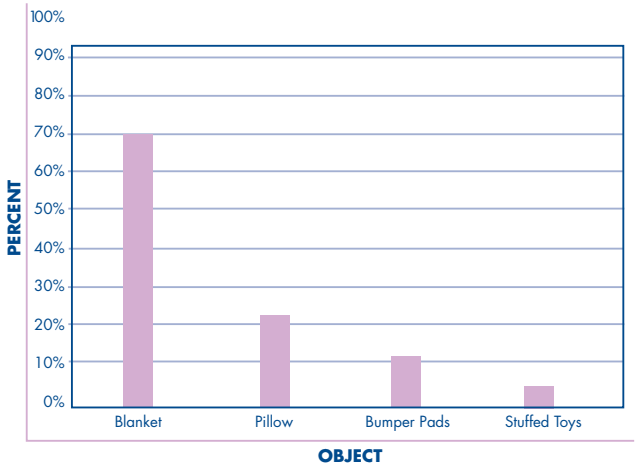
Percentage of Sleep-Related Infant Deaths Reviewed in 2012 by Incident Sleep Place



Data Source: Michigan Child Death Review

According to the AAP, loose blankets, pillows, comforters and stuffed toys should not be present in an infant's sleep environment. Of the 20 percent of sleep-related infant deaths reviewed that did occur in a safe infant sleep location, many involved suffocation hazards in the child's immediate sleep environment. In 70 percent of these cases reviewed in 2012, blankets were present in the crib, bassinet or portable crib at the time of the death. The items shown in this graph are not mutually exclusive; in some cases,

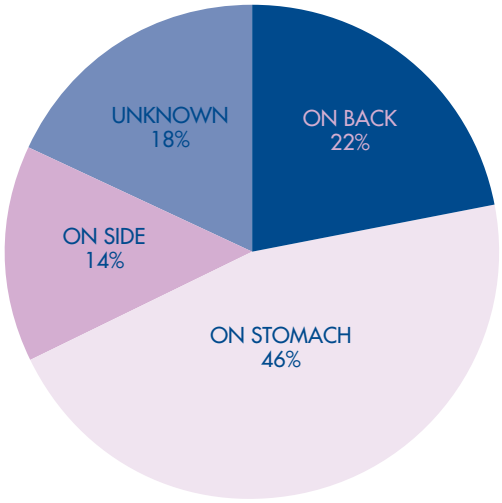
Percentage of Sleep-Related Deaths Reviewed in 2012 where Sleep Place was Crib/Bassinet by Objects in Sleep Environment



Data Source: Michigan Child Death Review

there were more than one of these items present in the infant's sleep environment at the time of death. The AAP guidelines state that infants should always be placed to sleep on their backs. In 22 percent of the sleep-related deaths reviewed in 2012, the infants were reportedly found unresponsive on their backs. In 18 percent of the cases, local teams did not have information about the position in which the infant was found unresponsive. Collecting more complete information at the death scene, including doll re-enactment of the exact position of the infant when found, provides a better understanding of how and why infants are dying.

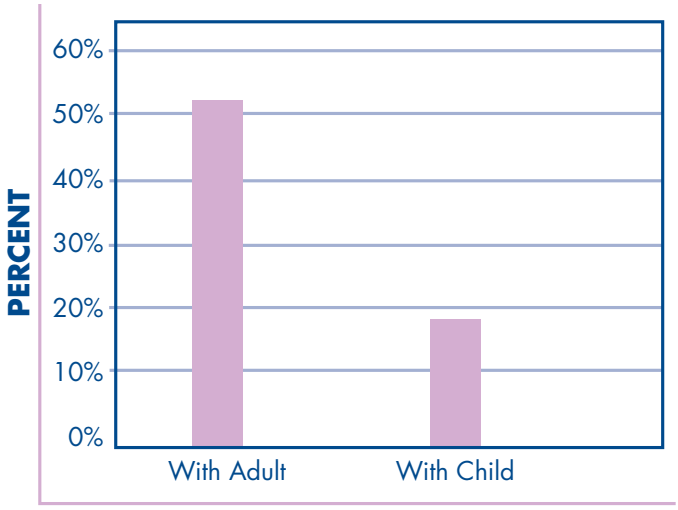
Percentage of Sleep-Related Infant Deaths Reviewed in 2012 by Found Position



Data Source: Michigan Child Death Review

The AAP recommends that infants sleep on a surface separate from adults or other children. In 2012, there were 62 sleep-related deaths reviewed in which the infant was sleeping with at least one adult at the time of death, and 21 were sleeping with at least one other child. Since these categories are not mutually exclusive, some infants may have been sleeping with both adults and other children at the time of their deaths.

Percentage of Sleep-Related Infant Deaths Reviewed in 2012 by Sleep Surface Sharing



Categories are not mutually exclusive.

Data Source: Michigan Child Death Review

Recommendations to Policy Makers to Prevent Sleep-Related Infant Deaths:

1. **Adopt a "No Missed Opportunity" Infant Safe Sleep Education Campaign.** All state agencies that work with children and families: Implement and maintain an infant safe sleep education campaign, including multiple strategies to inform and influence the behavior of all persons who care for infants, as well as their support persons. This can be accomplished through the following actions:

- Use sleep-related suffocation language to clarify what needs to be prevented, which is suffocation, not a random and mysterious cause of death.
- Proactively address the impacts of poverty, affordable housing, and access to resources when designing services for high-risk families and infants.
- Use presentations and other materials that are relevant and accessible to all cultures and populations with emphasis on the racial and income disparities that put infants at greater risk for suffocation deaths.

2. **Develop Enhanced Provider Outreach and Education.** Michigan Department of Licensing and Regulatory Affairs and other relevant regulatory agencies: For licensing and accreditation purposes, require demonstrated core competencies in infant safe sleep for professionals who work in health care and other human service delivery fields, including:

- Hospital personnel such as nurses, doctors, patient care assistants, lactation consultants and all other personnel who interact with new parents.
- Home visiting program workers and prevention services personnel.
- Preconception care, prenatal care, pediatric and family care providers.
- Federally Qualified Health Centers and Primary Care Associations personnel.
- Post-secondary schools of medicine, nursing, social work, psychology, health education and health communication.

3. **Produce Resource Materials.** The Michigan Department of Community Health: Coordinate the statewide development, updating and dissemination of infant safe sleep resource materials for use by a wide variety of disciplines, including visual aids such as doll re-enactment photos.

4. **Enact Legislation.** The Michigan Legislature: Fund a research study to determine what educational styles and techniques are most effective at influencing parents'/caregivers' beliefs and practices when it comes to their children's sleep environments.

Suicides

Of all the types of child death highlighted in this report, one category stands apart - those in which the child had a deliberate hand in producing the sad statistic. As a state, as communities, as agencies and as individuals, we all do what we can to keep kids alive. When it is the child in question who makes the decision to end his or her young life, the resulting shock waves can be felt in broad circles.

In some cases, young people have had a long history with mental health services, substance abuse and school issues, family discord and/or run-ins with the law. In others, there is very little in the way of "red flags" before the fatal event occurs. Of course, there are still more that fall somewhere in between.

According to the CDC, for ages 10-24, suicide is the third leading cause of death in the U.S. Risk factors for youth suicide include:

- History of previous suicide attempts
- Family history of suicide
- History of depression or other mental illness
- Alcohol or drug abuse
- Stressful life event or loss
- Easy access to lethal methods
- Exposure to the suicidal behavior of others

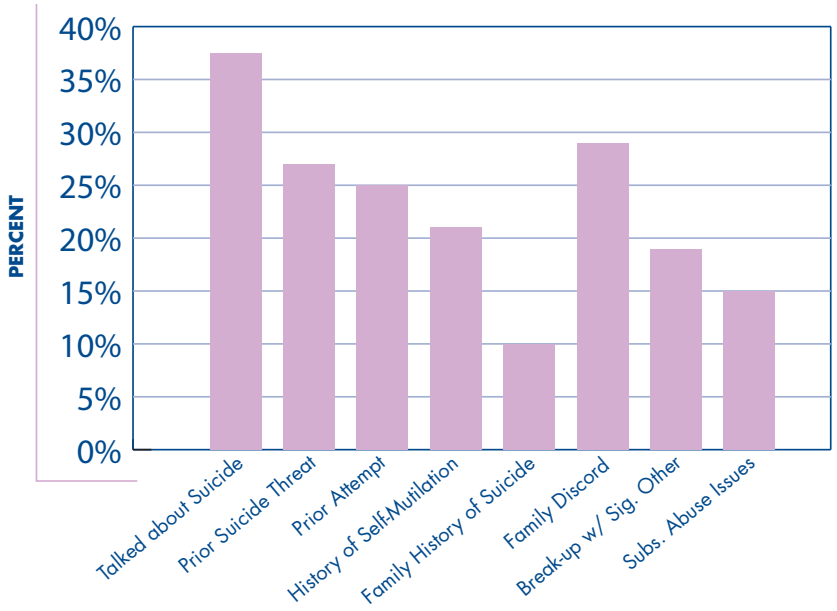
Unfortunately, the trend in youth suicide in Michigan has been on the increase. For the last two years in which official mortality statistics were available, suicides through the age of 18 were higher than the average for the previous eight years. For 2010, the youth suicide rate represented a 30 percent increase over the next highest rate within that time frame (2004/2009).

Rate* of Suicides in Michigan Through Age 18, by Year

*Rate per 100,000 population. Source: Division for Vital Records and Health Statistics, MDCH

Teams reviewed 57 youth suicides in 2012. As part of the review process, local teams report any known precipitating events and/or cumulative stressor histories. In 2012, for the cases in which this information was available, the factors most frequently identified included prior mentioning (38 percent) or threatening (27 percent) of suicide by the victim in conversation with others. This highlights the need for families, friends and service providers to take all references to suicide seriously.

Percentage of Youth Suicides Reviewed by Stressor/Prior Event



Data Source: Michigan Child Death Review

It should also be noted that when the information was available, over half of the youth whose suicides were reviewed in 2012 had been prior victims of child abuse or neglect (53 percent). This is significantly above the percentage for all child death cases reviewed in 2012 (35 percent).

Local teams report that it has become increasingly difficult to connect teens with appropriate mental health services when needed. Teams discuss the ever-narrowing range of options of children's mental health care resources in their communities. The lack of long-term, comprehensive mental health care has been identified as a barrier when it comes to preventing youth suicide.

Recommendations to Policy Makers to Prevent Youth Suicides:

1. **Enact Legislation.** Michigan Legislature: Enact legislation that would mandate mental health services be provided as a benefit of private or public health insurance.

2. **Increase Outreach.** Local Community Mental Health: Increase community outreach to raise awareness among communities regarding available mental health services for children and youth.

3. **Assess Barriers to Access.** Michigan Department of Community Health: Conduct a statewide assessment to examine barriers to access to mental health services for children and youth.

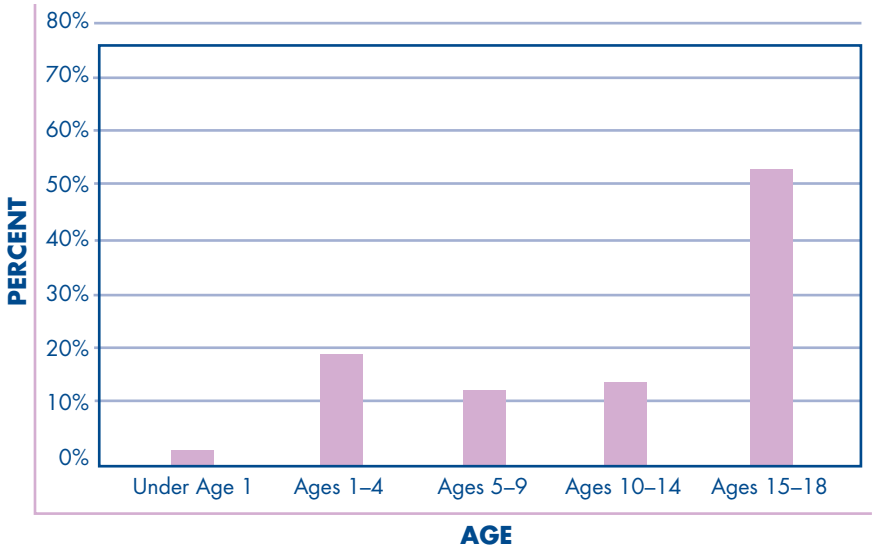
4. **Increase Awareness.** Michigan Department of Human Services: Increase Child Protective Services workers' knowledge of the importance of mental health screening for children on their caseloads, as well as their ability to perform those screens.

Motor Vehicle Deaths

New teen drivers are at very high risk for causing motor vehicle crashes. According to the National Highway Traffic Safety Administration, teenagers are involved in three times as many fatal crashes as drivers of all ages. This statistic is attributed in part to teens' inexperience behind the wheel and increased likelihood of risk-taking behavior. These risks increase with each additional teen passenger in the vehicle.

Local teams reviewed 69 child deaths involving motor vehicles in 2012. Over half of these deaths (36) were to teens ages 15-18, more than all the other ages combined (33). Sixty-one percent of all motor vehicle deaths reviewed in 2012 involved male victims.

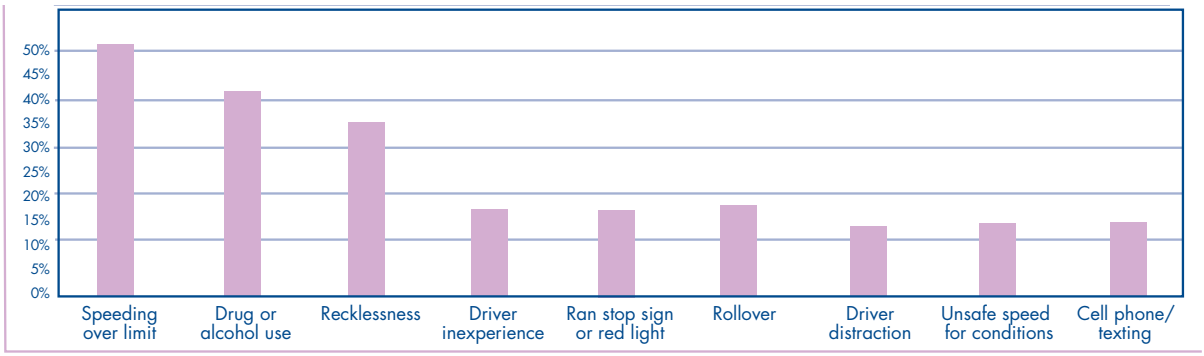
Percentage of Motor Vehicle Deaths Reviewed in 2012 by Age



Data Source: Michigan Child Death Review

When reviewing deaths of children in motor vehicles, local review teams can identify as many causes of the incident as applicable. Fifty-eight percent of the motor vehicle deaths reviewed where a teen was responsible for the crash listed speed (whether over the limit or unsafe for conditions) as at least one of the causes. In 2012 drug or alcohol use was considered a factor in 42 percent of these crashes; in the 2011 case reviews, teams cited this as a cause in 28 percent of the cases. It is unclear whether this represents a true increase in incidence or whether the teams were more aware of this information at the time of review.

Percentage of Motor Vehicle Deaths Reviewed in 2012 by Incident Cause*



*Graph only includes teen drivers who were responsible for the incident.
Data Source: Michigan Child Death Review

In 12 percent of these cases, driver distraction was cited as a cause of the incident. Cell phone usage/ texting was also cited as a cause of the incident in 12 percent of cases. However, true numbers of deaths due to distracted driving by teens remains difficult to gather because, in many cases, the deceased victim was the driver and sole occupant of the vehicle at the time of the crash. In addition, some of the at-fault teen drivers who rolled their vehicles, or who drove too fast may have done so because they were distracted at the time, but the crash was attributed to the more obvious cause.

Recommendations to Policy Makers to Prevent Youth Motor Vehicle Deaths of Youth:

1. **Strengthen Licensing System.** The Michigan Legislature: Strengthen the current graduated licensing system by removing the exceptions to the teen passenger restrictions for teen drivers holding Level Two Intermediate Licenses.

2. **Revise Driver Education.** The Michigan Department of State: Partner with the Office of Highway Safety Planning to conduct ongoing comprehensive review and revision of driver education programs throughout the state to ensure that instructors and curricula meet minimum requirements.

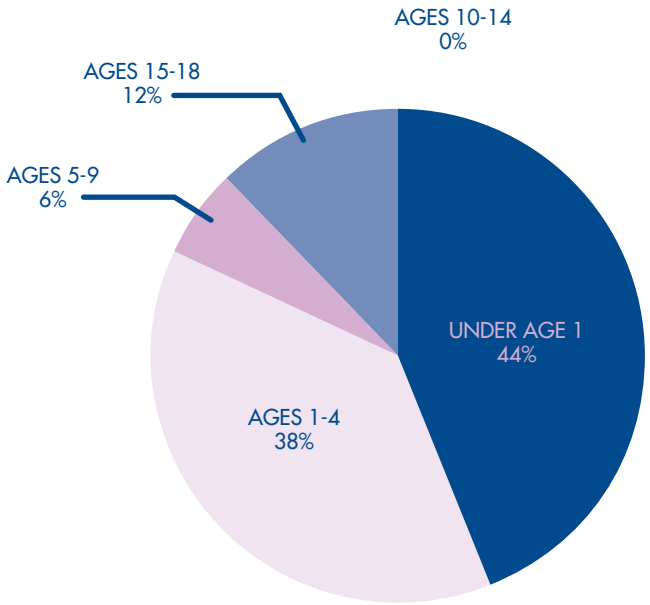
Child Abuse and Neglect Deaths

Identification of child abuse and neglect fatalities presents unique challenges. A study published in Pediatrics (2002) that reviewed nine years of children's death certificates estimated that about half of child abuse and neglect deaths were coded inconsistently on death certificates. The Centers for Disease Control and Prevention (CDC) has funded state-level surveillance projects which concluded that local review teams are the most accurate way to identify deaths due to child abuse and neglect.*

The percentages of deaths reported in the graphs in this section are based on 16 abuse-related and 58 neglect-related fatalities reviewed in 2012. When local teams review a child's death, they are asked to indicate if they believe that someone caused or contributed to the child's death by any action or inaction on his or her part. These numbers represent those cases wherein the teams indicated that abuse and/or neglect either caused or contributed to the child's death. As such, they will not be reflective of official counts of abuse or neglect fatalities reported by other entities, such as DHS or MDCH's Division for Vital Records and Health Statistics.

Infants under age 1 and children ages 1-4 continue to be at an increased risk of abuse fatality over all other age groups, which is consistent with national trends.

Percentage of Child Abuse Deaths Reviewed in 2012 by Age

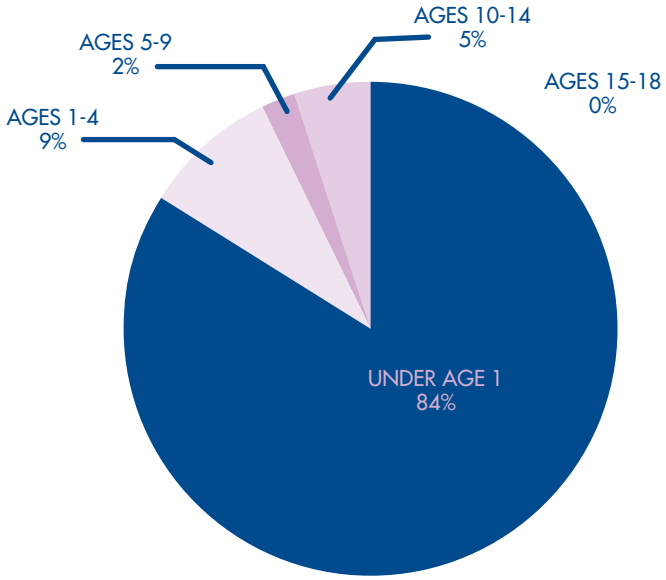


Data Source: Michigan Child Death Review

*McCurdy J, Wetterhall S, Gibbs D, & Farris T. Child Maltreatment Surveillance: Recommended Model System CDC, May 22, 2006.

As with abuse-related deaths, local teams found infants under age 1 to be at the highest risk for neglect-related fatality in 2012. Although this finding is due in large part to the level of care necessary to keep babies healthy, another factor is that local teams identified many sleep-related infant deaths as neglectful, especially if the parents admitted that they were taught about safe sleep but did not practice it, or if there was drug or alcohol use by caregivers who then overlaid their infants during sleep.

Percentage of Child Neglect Deaths Reviewed in 2012 by Age



Data Source: Michigan Child Death Review

Local teams reviewed only three fatalities of children residing in foster care in 2012. Two of those were ruled natural and one accidental by medical examiners. Over the previous three years, the average number of child deaths reviewed each year who were living in foster care was nine.

The Child Death State Advisory Team also functions as Michigan's federally mandated Citizen Review Panel (CRP) on Child Fatalities. The CRP meets quarterly to examine deaths of children who were involved in the child protection system. This examination is a specialized, multi-step process that involves the identification of cases with the assistance of DHS, the collection of relevant materials and a thorough case review. As a result, the State Advisory Team/CRP has identified the following recommendations.

Recommendations to Policy Makers to Prevent Child Abuse and Neglect Deaths:

1. **Enhance Resource Awareness.** Michigan Departments of Human Services, Community Health and Education: Ensure that human service professionals working with high-risk families are knowledgeable about, and make appropriate referrals to, state and community resources such as evidence-based home visiting programs and other primary and secondary prevention services.

2. **Train School Professionals.** Michigan Department of Education: Encourage school districts to partner with their local DHS office to offer annual mandated reporter training to teachers and other school professionals.

3. **Train Medical Professionals and Other Direct Service Providers.** Michigan Bureau of Health Professions: As part of licensing standards, require training through DHS for medical professionals on failure to thrive and medical neglect, as well as on their duty as mandated reporters to file a complaint with Children's Protective Services (CPS) when child abuse or neglect is suspected.

   All supervisors of paraprofessionals and community health workers who provide direct services to families: Provide training for workers on identifying children who are undernourished, or have unmet medical needs, as well as on the responsibility for filing complaints with CPS when any type of neglect or abuse is suspected.

4. **Continue and Enhance Training.** Michigan Department of Human Services: Provide annual updated training to CPS and foster care workers on the identification and assessment of mental health and substance abuse service needs of families involved in the child protection system. In addition to initial training, it is recommended that child welfare workers be offered advanced mental health and substance abuse training annually.

FETAL INFANT MORTALITY REVIEW (FIMR) IN MICHIGAN

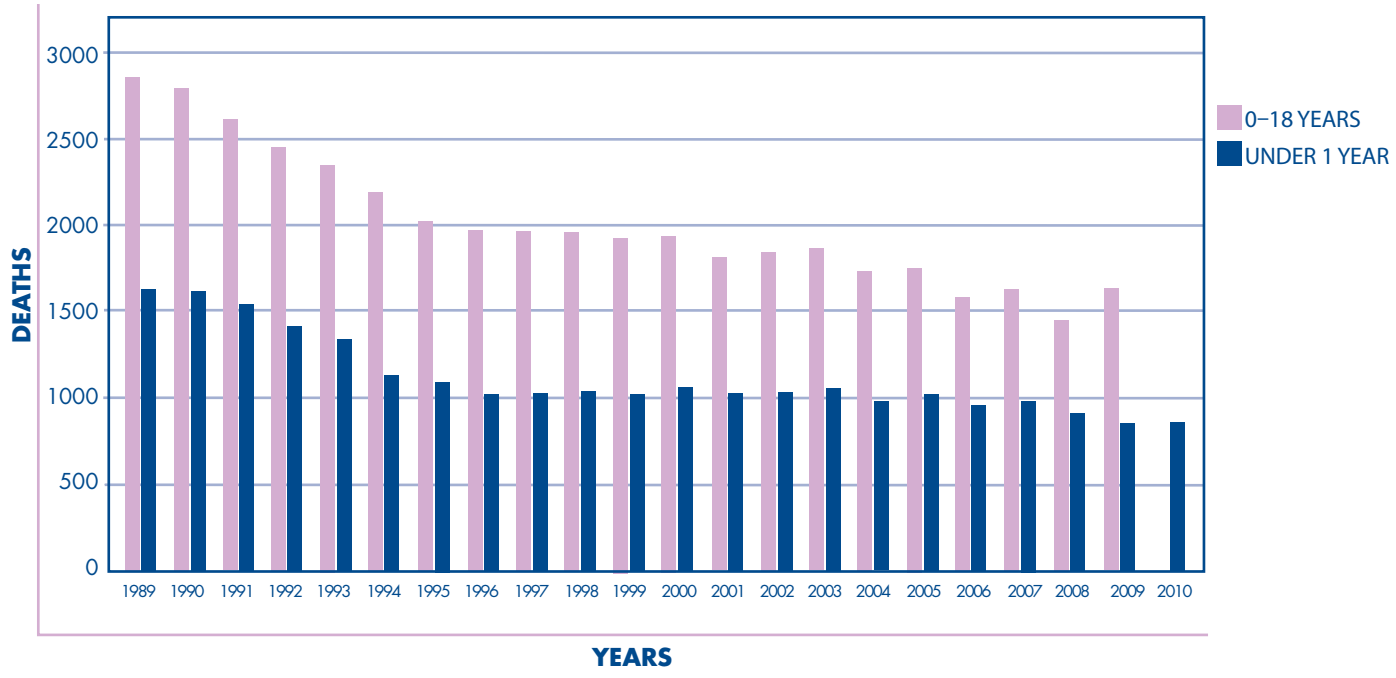
This section was authored by the Michigan Department of Community Health.

FIMR is a process dedicated to the identification and examination of factors that contribute to fetal and infant deaths through the systematic evaluation of individual cases. The goal of FIMR is to find patterns of need in a community or gaps in the perinatal health delivery system for the purpose of finding solutions to improve future outcomes. There are currently 13 active FIMR sites in Michigan, establishing a FIMR presence in the communities which account for approximately 75% of the state's infant mortality and nearly 95% of the black infant mortality. A 21 County "Regional" FIMR is under development in Northern Michigan, an area that is largely rural in nature, but has significant service delivery and access to care issues.

There are many similarities between the FIMR and the CDR processes. Both operate under the guiding principle that local, multidisciplinary review aids in better understanding of how to prevent future deaths and improve the lives of babies, children, and families. FIMR and CDR have in common the objective of identifying gaps between the availability of services in the community and the needs of children and their families. Outcomes from both processes are related to increased communication and understanding among all agencies represented in the review process.

In Michigan, over half of all of the deaths to children under the age of 18 are infants under one, as shown in Figure 1.

Figure 1 — Michigan Child Deaths 0 – 18 years, 1989 – 2010*

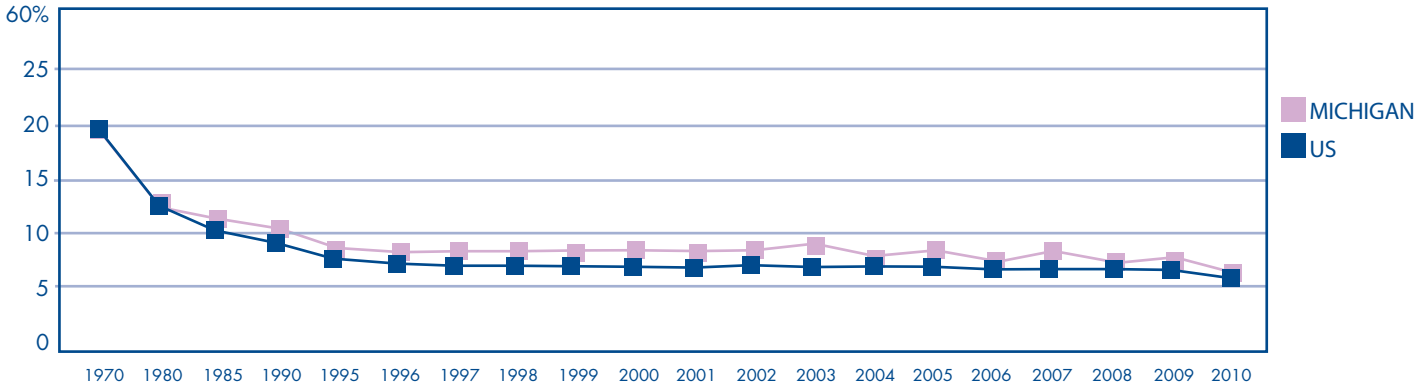


*Data for 2011 and 2012 were not available at the time this report was prepared.

The Persistent Problem of Infant Mortality in Michigan

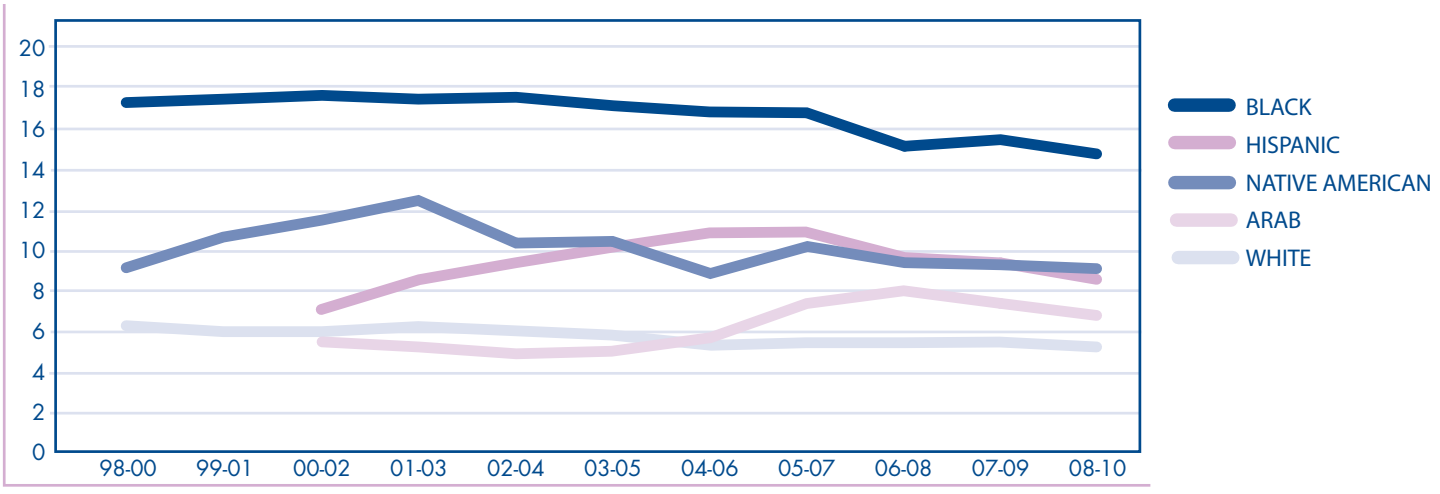
Infant mortality (IM) continues to be higher for Michigan than for the United States as a whole. In 2010 in Michigan, there were 817 infant deaths resulting in an IM rate of 7.1 per 1,000 live births compared to the US infant mortality rate of 6.1. Michigan currently ranks 37th among states for overall infant mortality (3 year average, 2005-2007, National Center for Health Statistics, CDC).

Figure 2 — Michigan Infant Death Rate compared to the US



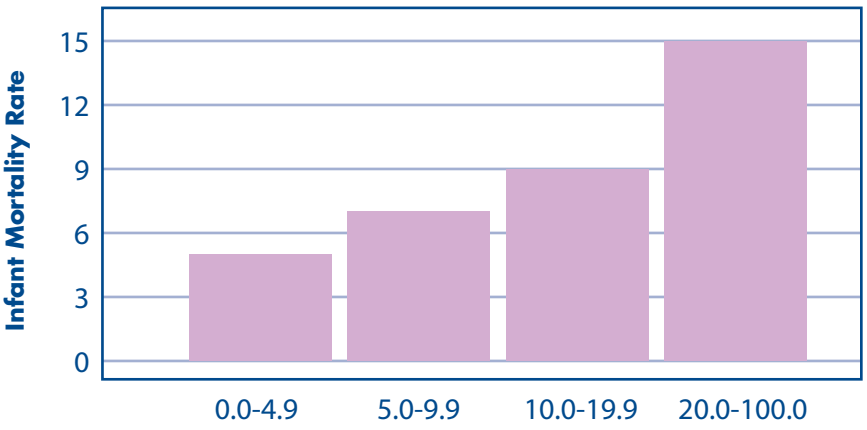
One of Michigan's most significant challenges is the persistent disparities between the black infant mortality rate and the rate for white infants. The provisional United States white IM rate is 5.2, and the black rate is 11.6, creating a ratio of black to white IM of 2.2/1. Michigan's 2010 white rate of 5.5 and black IM rate of 14.2 are significantly higher than the US rates, with black infants dying at a ratio of 2.6 times higher than white infants. Michigan currently ranks 39th among states for overall infant mortality and 47th among states for black infant mortality.

Figure 3 — Michigan Infant Mortality Trend Rates by Race and Ancestry, Three-year Averages, 1998 – 2010



In Michigan, infant death rates by census tract poverty tend to further illustrate the need to understand the influences of place, race and class both to reduce infant deaths and to improve maternal-preconception health. The lowest infant death rates occur in the wealthiest census tracts, and as the percent of poverty climbs, so does the mortality rate. For example, between 2007 and 2009, the infant mortality rate in the wealthiest tracts was 5.4 deaths per 1,000 live births and in the poorest the rate was 13 deaths per 1,000 live births, as seen below.

Figure 4 — Infant Death Rates by Census Tract Poverty Michigan Residents, 2007-2009



FIMR and Life Course Theory

To address these persistent disparities, the Michigan Department of Community Health wrote for and was awarded a small grant from the National FIMR Resource Center to integrate Life Course Theory into FIMR. According to the Maternal and Child Health Bureau: "Life Course Theory (LCT) is a conceptual framework that helps explain health and disease patterns – particularly health disparities – across populations and over time." Instead of focusing on differences in health patterns one disease or condition at a time, LCT points to broad social, economic and environmental factors as underlying causes of persistent inequalities in health for a wide range of diseases and conditions across population groups. LCT is population focused, and firmly rooted in social determinants and social equity models. Though not often explicitly stated, LCT is also community (or "place") focused, since social, economic and environmental patterns are closely linked to community and neighborhood settings. While LCT has developed in large part from efforts to better understand and address disparities in health and disease patterns, it is also applied more universally to understand factors that can help everyone attain optimal health and developmental trajectories over a lifetime and across generations.*

By its very nature, the qualitative FIMR methodology offers a unique strategy for analyses of individual and community factors, which significantly affect health disparities and are not discoverable through analyses of vital statistics and population based data. Many of the sites have had exposure to the LCT, but have not had formal training and an in-depth understanding of the model. An Educational Symposium was held in the spring of 2013, to help focus FIMR team members to examine more in depth how differential exposures to risk factors and protective factors over the life course affect developmental trajectories and contribute to disparities in birth outcomes.

*http://mchb.hrsa.gov/lifecourse/rethinkingmchlifecourse.pdf

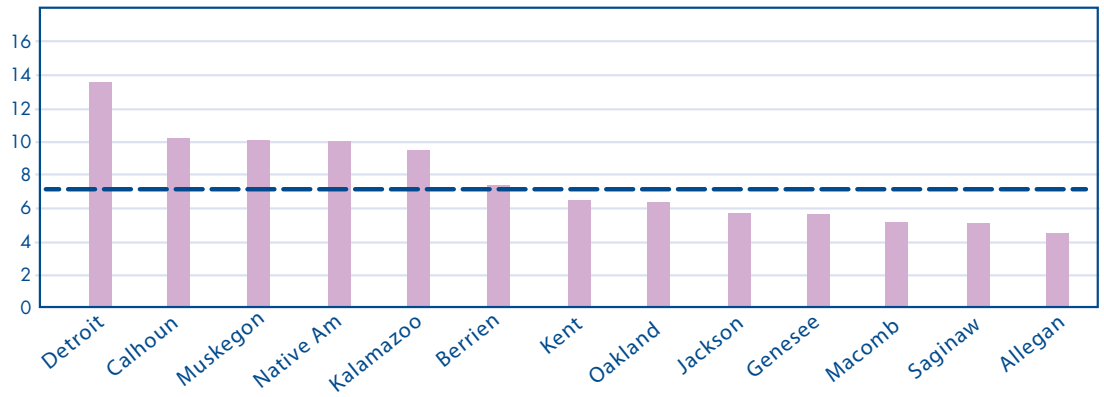
Status of Local FIMR Teams

Most review teams meet on a monthly basis, and all Michigan FIMR programs utilize the two-tiered structure of multidisciplinary Community Review Teams (CRTs) and locally owned Community Action Teams (CATs). The Michigan CRTs and CATs strive to be culturally diverse and include members who represent the racial and ethnic make of the community they serve. While each community is unique in its assets and capacity, what all Michigan FIMR programs have in common is a truly dedicated group of members, both staff and volunteers, who come together around a common table to work at improving the care and services of women, infants, children, and families.

From January 1, 2012 to December 31, 2012, local teams held 82 meetings, and reviewed 205 cases of fetal and infant death. Maternal interviews were conducted for 46 of those, giving direct insight into the mothers' experiences before and during pregnancy. The interviews convey the mother's story of her encounters with local service systems. Over 60 Community Action Team Meetings were held in those local communities to move recommendations to action.

County	Year Begun	# of Cases Reviewed in 2012
Saginaw	1991	21
Kalamazoo	1998	3
Genesee	1999	10
Oakland	2000	21
Calhoun	1991 – 1994 *(resumed in 2000)*	14
Kent	2001	49
City of Detroit	2001	2
Jackson	2003	7
Berrien	2003	17
Native American	2003	4
Macomb	2005	22
Muskegon	2007	31
Allegan	2010	4

Figure 5 Compares Michigan FIMR Communities Infant Mortality Rates for 2010 with the State Rate of 7.1 for 2010



Examples of Local Initiatives Resulting from FIMRs

Kent
Kent County began to use Life Course Theory concepts in writing their community's Annual FIMR report, and is using the Life Course 12-point Plan to frame their recommendations and the actions taken by the Community Action Team.

Saginaw
The Saginaw County FIMR team shares information that helps inform the Saginaw County Health Improvement Plan and the Community Health Improvement process. A series of Health Equity Movement Round Table Discussions have now been launched in response to Saginaw's persistent disparities in infant mortality.

Oakland
Oakland County's "Best Start for Babies" coalition combines the FIMR Community Action Team and the expertise of Oakland County's Nurse Family Partnership staff. Supported by FIMR findings and the need to raise awareness for breastfeeding, the coalition has secured a grant to assist them in achieving a "Baby Friendly" designation. They have created a Resource Guide for breastfeeding and a set of "Please Breastfeed Here" posters for use by member agencies as well as others in community settings. WIC held its second annual Breastfeeding Walk in August 2012 with the support of "Best Start for Babies" members.

Calhoun
The Maternal Infant Health Commission has used the local FIMR report in Calhoun County to help them identify priority issues to focus upon for the next year. One area that has been a focus is prenatal tobacco cessation. A subcommittee has begun meeting to discuss ideas for the promotion of tobacco cessation and for initiatives that would assist women in quitting.

Jackson
Driven by the high number of FIMR reviews identifying unsafe sleep environments as cause and contributors to infant deaths in Jackson County, the FIMR Community Action Team wrote for and received a grant from the March of Dimes and Meridian Health Plan for crib purchases. Safe Sleep presentations have been offered to the home visiting staff of the County's Maternal and Infant Health Program and to nursing students at the University of Michigan.

Muskegon
FIMR reviews have shown that a very high percentage of infant deaths in the Muskegon community were unintended and unwanted pregnancies. A Family Planning Task Force has been formed and educational materials as well as baskets of condoms are being distributed in non-traditional venues such as hair/nail salons and beauty supply stores. The Family Planning Task Force organized two trainings for prenatal care providers and OB residents in the Muskegon community. The first, on how local FIMR data points to the importance of preconception planning, took place on Feb. 22nd, 2012. The second training, on Feb. 24th, 2012, was a presentation by environmental health specialist, Dr. Schettler. His honorarium was covered by a grant from the March of Dimes.

Berrien
Responding to an alarmingly high number of Sudden Unexpected Infant Deaths in the community, all with elements of unsafe sleep identified by FIMR reviews, Berrien County applied for and received a grant from the Heart of Cook Foundation for $2,500. The money allows them to continue a crib give-away program called Baby's Own Bed (BOB) and funds safe sleep packages of fitted crib sheets and Halo sleepers for the Nurse Family Partnership home visiting program.

Macomb
Driven by high numbers of FIMR cases where moms had received less than adequate prenatal care, a bookmark was created with factual, step by step guidance on how and where to apply for prenatal care within Macomb County. The creation of a quarterly newsletter by the Family Health Services of Macomb County also disseminates prenatal care information.

Allegan
FIMR findings have helped Allegan county to identify that many women having poor pregnancy outcomes had not been referred to support services. They have forged a closer partnership with the Department of Human Services to ensure that eligible clients are referred to the Maternal Infant Health Program, Children's Special Health Care Services and other support services.

FIMR as Part of the State of Michigan's Overall Strategy to Reduce Infant Mortality

Governor Rick Snyder continues to shape the state's vision for health and wellness, and has made infant mortality reduction a priority, which is publicly monitored on the Michigan Dashboard at http://www.michigan.gov/midashboard/0,4624,7-256-58012—,00.html. Over the past several years, the Michigan Department of Community Health (MDCH) has worked with experts from Michigan's hospitals and health care community, universities, and local health departments, as well as the MDCH Infant Mortality Steering Committee to identify strategies to address this complex issue.

In August 2012, MDCH released Michigan's Infant Mortality Reduction Plan, a statewide plan to reduce and prevent infant mortality in Michigan. The strategies in this plan will build on new and existing partnerships, current program efforts, and new medical research, while addressing social issues and disparities. A specific recommendation of the Infant Mortality Reduction Plan is to: expand and support current FIMR activities to identify communities with [high rates of] infant deaths. To review the full plan, visit Michigan's newly launched Infant Mortality Website at: http://www.michigan.gov/infantmortality. The website will serve as a resource for both families and providers with a variety of topics such as infant safe sleep, prenatal care, food and nutrition, family planning and more.

The state FIMR support program provides technical assistance to local communities and coordination of team activities, including: team organization; hands-on skills for abstracting, interviewing and conducting team meetings; moving recommendations to action; resources on best practices in prevention; and links with other child health, safety, and protection sources. For more information about Michigan's FIMR program, contact Sally Meyer, meyers9@michigan.gov.

APPENDIX

Total Numbers of Resident Child Deaths, 2010 and Number of Reviews by County, 2012

County	Total Deaths* 2010**	Number of Reviews 2012
Alcona	3	0
Alger	0	0
Allegan	17	9
Alpena	5	0
Antrim	4	3
Arenac	2	1
Baraga	1	0
Barry	9	6
Bay	15	4
Benzie	4	0
Berrien	23	10
Branch	8	3
Calhoun	21	3
Cass	5	6
Charlevoix	1	0
Cheboygan	1	0
Chippewa	6	3
Clare	4	5
Clinton	7	2
Crawford	0	0
Delta	5	0
Dickinson	6	0
Eaton	12	8
Emmet	4	0
Genesee	60	29
Gladwin	3	3
Gogebic	2	0
Grand Traverse	6	0
Gratiot	7	0
Hillsdale	5	2
Houghton	4	1
Huron	4	2
Ingham	30	23
Ionia	9	4
Iosco	4	7
Iron	3	0
Isabella	8	10
Jackson	19	9
Kalamazoo	42	12

continued

County	Total Deaths* 2010**	Number of Reviews 2012
Kalkaska	2	0
Kent	84	33
Keweenaw	0	0
Lake	1	2
Lapeer	11	0
Leelanau	3	6
Lenawee	22	4
Livingston	19	10
Luce	0	0
Mackinac	0	1
Macomb	87	5
Manistee	4	0
Marquette	3	7
Mason	6	9
Mecosta	5	3
Menominee	2	0
Midland	6	3
Missaukee	1	0
Monroe	16	18
Montcalm	9	4
Montmorency	1	0
Muskegon	32	11
Newaygo	4	0
Oakland	136	44
Oceana	6	1
Ogemaw	3	2
Ontonagon	1	0
Osceola	4	0
Oscoda	0	0
Otsego	2	4
Ottawa	36	3
Presque Isle	1	0
Roscommon	2	2
Saginaw	27	11
St Clair	15	20
St Joseph	10	4
Sanilac	4	3
Schoolcraft	0	0
Shiawassee	8	4
Tuscola	8	7
Van Buren	9	12
Washtenaw	36	10
Wayne	397	138
Wexford	7	10
Total	1399	556

*Source: Michigan Department of Community Health, Division for Vital Records and Health Statistics

**2011 and 2012 mortality statistics were not available from the Michigan Department of Community Health, Division for Vital Records and Health Statistics at the time that this report was prepared.

ACKNOWLEDGEMENTS

We wish to acknowledge the dedication of the more than 1,400 volunteers from throughout Michigan who serve our state and the children of Michigan by serving on Child Death Review Teams. It is an act of courage to acknowledge that the death of a child is a community problem. Their willingness to step outside of their traditional professional roles, and examine all of the circumstances that lead to child deaths, and to seriously consider ways to prevent other deaths, has made this report possible.

Many thanks to the local Child Death Review Team Coordinators for volunteering their time to organize, facilitate and report on the findings of their reviews. Because of their commitment to the child death review process, this annual report is published.

The Michigan Department of Community Health, Office of the State Registrar, Division for Vital Records and Health Statistics has been especially helpful in providing child mortality data and in helping us to better understand and interpret the statistics on child deaths.

The Michigan Department of Human Services provides the funding and oversight for the Child Death Review program, which is managed by contract with the Michigan Public Health Institute.

This report is also available at **www.michigan.gov/dhs** and **www.keepingkidsalive.org**.

This report is written in memory of all of the children in Michigan who have died. The Michigan Child Death State Advisory Team issues this report with the hope that it will encourage additional efforts, both in local communities and among our state leaders, to keep every child in Michigan safe and healthy.

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