
Child Deaths IN MICHIGAN



Michigan Child Death
State Advisory Team
Twelfth Annual
**EXECUTIVE
REPORT**

**A Report on Reviews
conducted in 2013**

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.

Nick Lyon, Director
Michigan Department of Health and Human Services,

The Michigan Child Death State Advisory Team is submitting this 12th annual report on child deaths in Michigan as required by law (1997 PA 167 MCL 722.627b). In 2013, 1,310 children died in Michigan. Black children died at a rate 2.3 times that of white children; infant deaths accounted for 61 percent of all child deaths in Michigan.

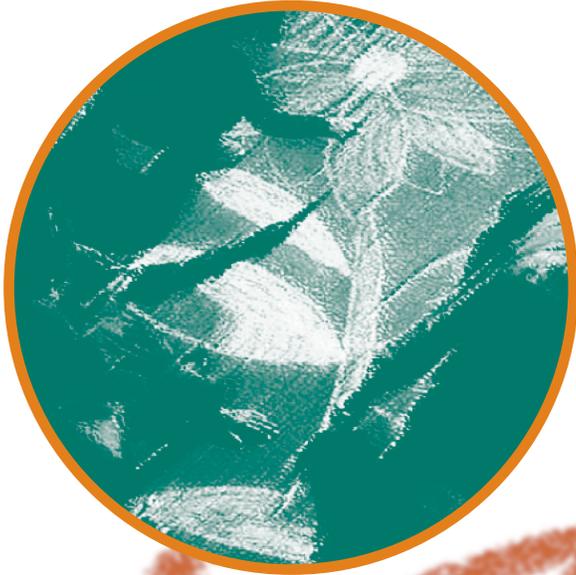
The child death review process provides a critical opportunity to identify the causes and circumstances of children's deaths to prevent future deaths, injuries and disabilities. For each death reviewed, a multidisciplinary team from the child's community met to determine the circumstances that led to the death and ways to prevent similar deaths.

Over 1,400 community representatives participate in the 77 teams that cover the state. In 2013, representatives from 60 counties reviewed 569 child deaths and determined that more than half (62 percent) were preventable. In this report, the Child Death State Advisory Team presents multiple strategies to prevent child deaths, based in part on the information collected on the cases reviewed.

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

MICHIGAN CHILD DEATH
STATE ADVISORY TEAM

Child Deaths IN MICHIGAN



MICHIGAN CHILD DEATH STATE ADVISORY TEAM

TWELFTH ANNUAL REPORT

A REPORT ON REVIEWS
CONDUCTED IN 2013



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 ARLAN MEEKHOF, MAJORITY LEADER, MICHIGAN STATE SENATE

THE HONORABLE KEVIN COTTER, SPEAKER OF THE HOUSE, MICHIGAN HOUSE OF REPRESENTATIVES



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INTRODUCTION

Children are not supposed to die. The death of a child is a profound loss, not only for the child's parents and family, but also for the larger community. To reduce the numbers of these losses, we must first understand how and why 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 Health and Human Services (MDHHS). 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 child 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 information pertaining to 569 deaths reviewed in 2013 by local teams.

MDHHS 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. 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 attends 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 MDHHS 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 through the Infant Health Unit at MDHHS. In 2013, FIMR conducted intensive reviews of infant deaths in 11 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 Fatality Review and Prevention, and submit the information to the CDR program office at MPH. 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.

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. More populous counties typically 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. However, 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 deaths. For specific data requests, or for more information not presented in this report, contact MPH 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.

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.

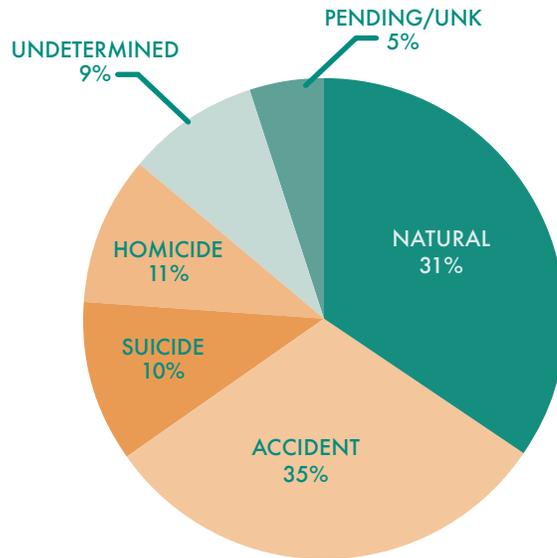
Of the total child deaths in the state for 2013, 71 percent were natural, and 17 percent were accidental, including, but not limited to deaths from fires, drownings, car crashes and suffocations. These two largest categories of manner have not varied by more than a few percentage points for several years.*

Local teams reviewed 569 child deaths in 2013. The largest portions were those classified as accidental

*Source: Division for Vital Records and Health Statistics, MDHHS

deaths and natural deaths (35 percent and 31 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 2013 by Manner

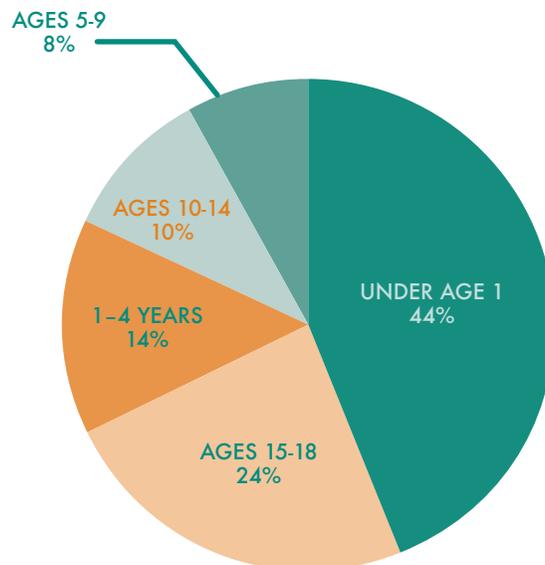


Data Source: Michigan Child Death Review

The deaths of infants (children under age 1) in 2013 accounted for 61 percent of all child deaths ages 0-18 in Michigan. In 2013, deaths of children under age 1 accounted for 44 percent of cases reviewed in Michigan.

Deaths of children ages 15-18 were the next most frequently reviewed, accounting for 24 percent of all deaths reviewed in 2013. 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 2013 by Age



Data Source: Michigan Child Death Review

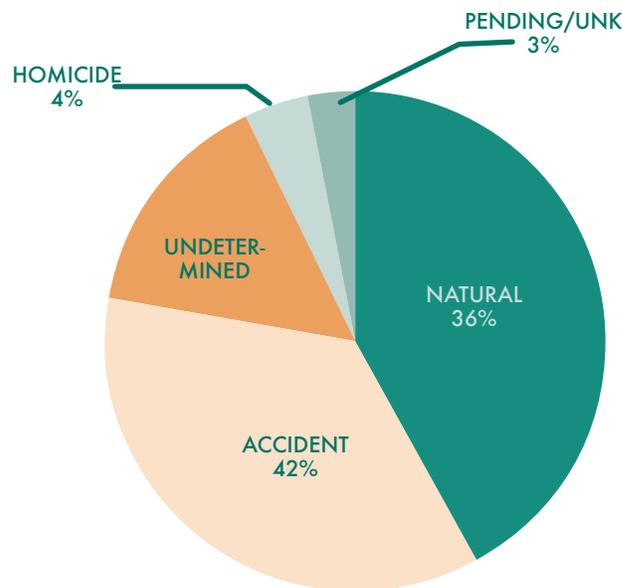
In previous years, the largest percentage of infant deaths reviewed was classified as natural. However, starting in 2012 and again in 2013, the largest percentage of infant deaths reviewed was classified as accident. Over 93 percent (95) of the accidental infant deaths reviewed in 2013 were due to asphyxia. 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 2013 were due to birth-related conditions: prematurity (birth at less than 37 weeks gestation) at 30 percent; and congenital anomalies (birth defects) and other perinatal conditions at 30 percent.

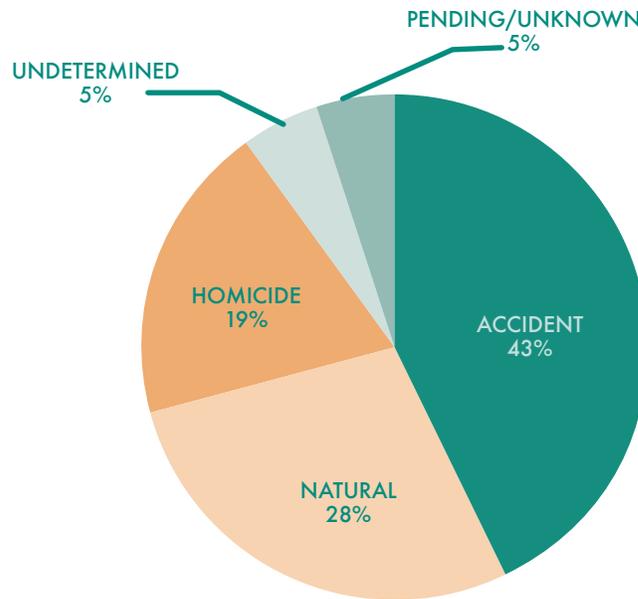
The scope of infant mortality in Michigan is addressed in greater detail in the section of this report entitled *Fetal Infant Mortality Review (FIMR) in Michigan*.

Percentage of Deaths to Infants < 1 Reviewed in 2013 by Manner



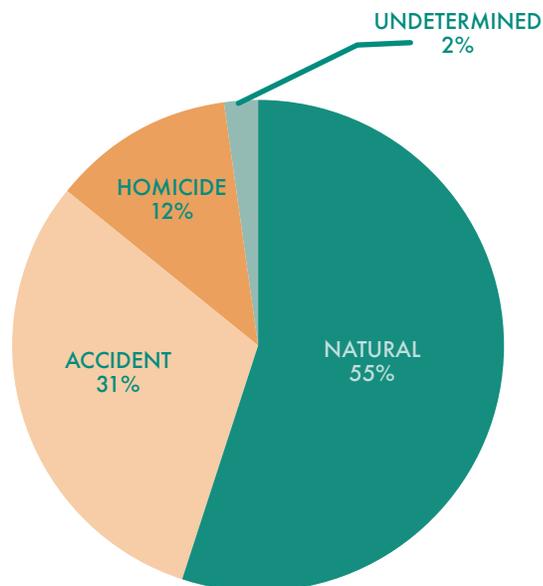
Data Source: Michigan Child Death Review

Percentage of Deaths to Children Ages 1-4 Reviewed in 2013 by Manner



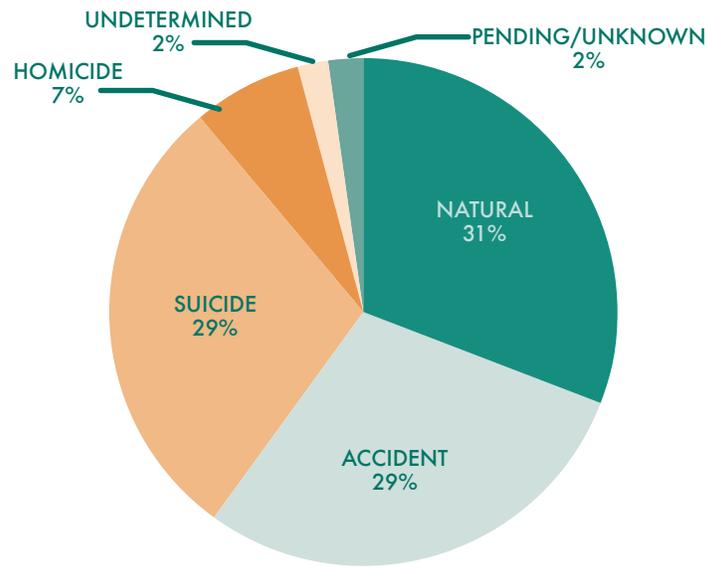
Data Source: Michigan Child Death Review

Percentage of Deaths to Children Ages 5-9 Reviewed in 2013 by Manner



Data Source: Michigan Child Death Review

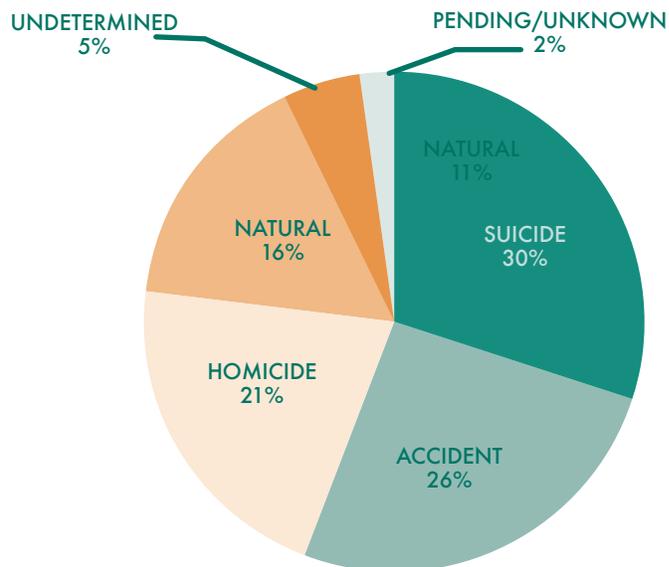
Percentage of Deaths to Children Ages 10-14 Reviewed in 2013 by Manner



Data Source: Michigan Child Death Review

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

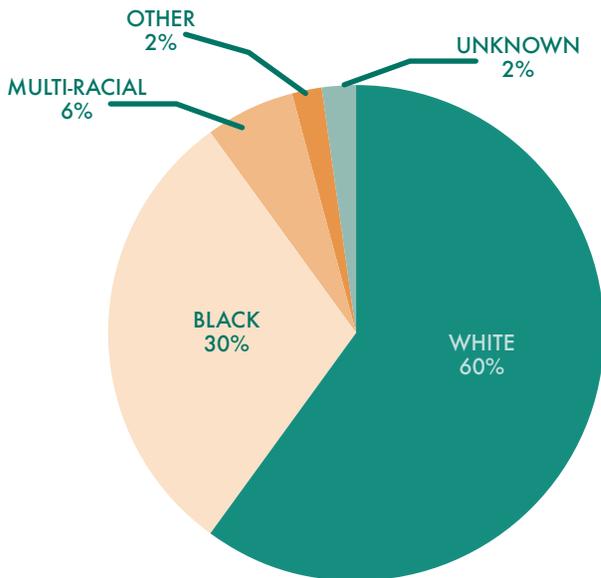
Percentage of Deaths to Children Ages 15-18 Reviewed in 2013 by Manner



Data Source: Michigan Child Death Review

In 2013, blacks made up about 19 percent of the population ages 0 – 18 years in Michigan, but accounted for 33 percent of the total child deaths, and 30 percent of the child deaths reviewed in that same year. This overrepresentation has remained consistent throughout the years that the CDR process has operated in Michigan.

Percentage of Child Deaths Reviewed in 2013 by Race



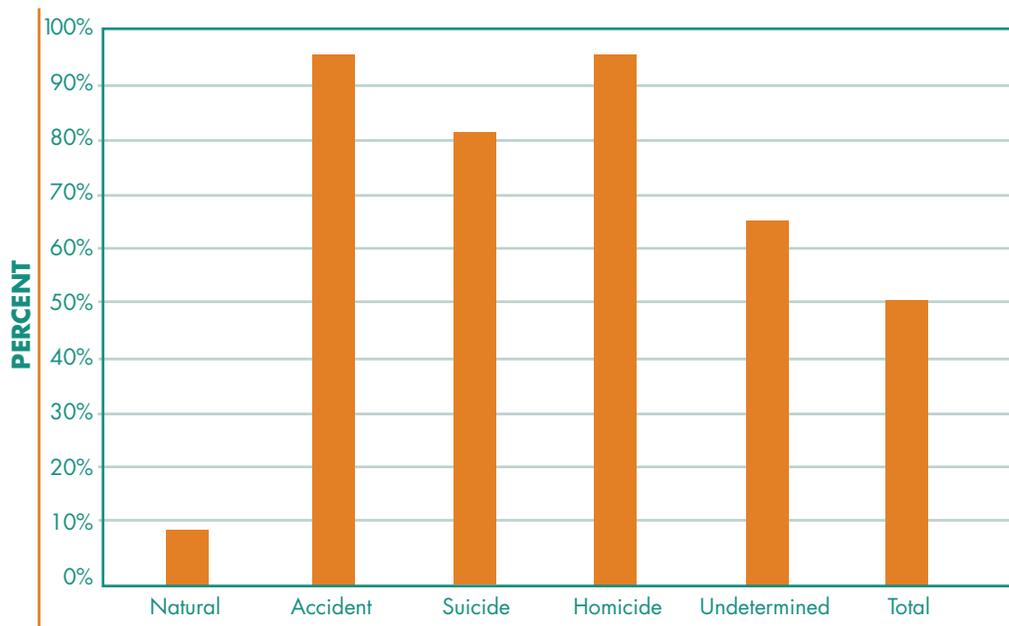
Data Source: Michigan Child Death Review

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 2013 were preventable (over 61 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 (78 percent). Local teams consider specific risk factors such as unsafe sleep environments when making preventability determinations.

Percentage of Preventable Child Deaths Reviewed in 2013 by Manner



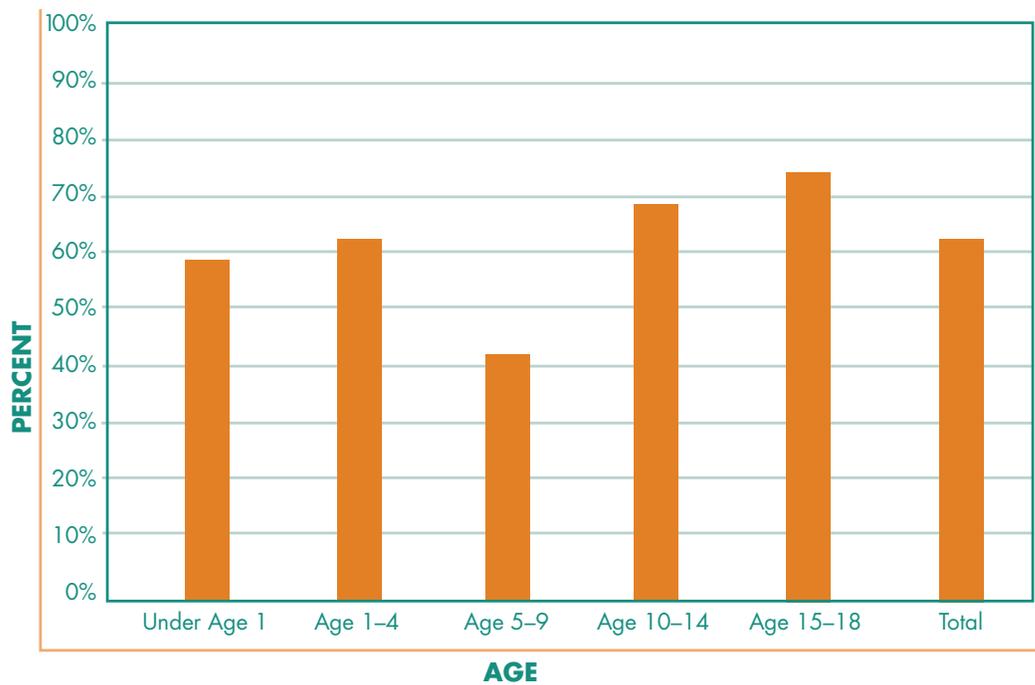
Data Source: Michigan Child Death Review.

* National Center for the Review and Prevention of Child Death Case Report Data Dictionary, January 2008.

Consistent with prior years, in 2013, local review teams considered deaths in the age 15-18 range as more preventable than deaths of younger children. On average, teams found that about 60 percent of the deaths of children ages 0-14 were preventable. This increased to 77 percent in the age 15-18 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 2013 were those that occurred in the age 5-9 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 2013 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 significantly 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.

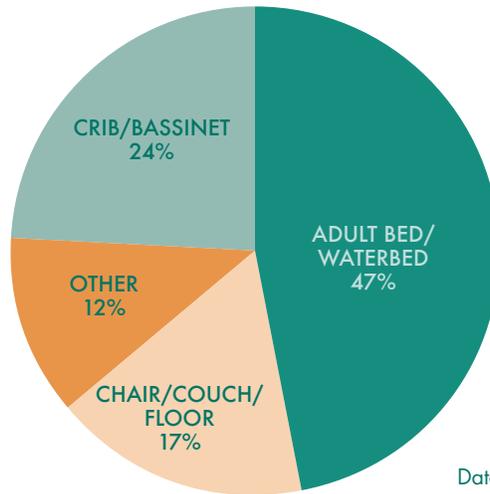
In locations where the most thorough and vigorous scene investigations and caregiver interviews are conducted, the number of deaths to infants who were known to have been on their backs, alone and in a crib free of suffocation hazards dropped to nearly zero. There are many ways that infants' airways 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) developed a list of infant safe sleep guidelines to prevent these events.

Although sleep-related infant deaths occur in all types of families, there are groups at elevated risk. A variety of socio-cultural factors likely contribute to the fact that Blacks, American Indians and families with low income have experienced sleep-related infant deaths at higher rates than other groups.

According to the Centers for Disease Control and Prevention's SUID 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 150 such deaths that were reviewed by local CDR teams in 2013.

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. Twenty-four percent of the sleep-related deaths reviewed in 2013 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.

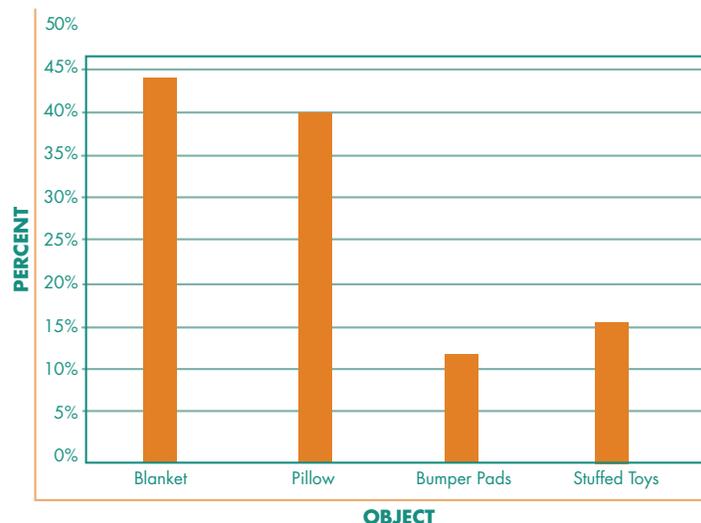
Percentage of Sleep-Related Infant Deaths Reviewed in 2013 by Incident Sleep Place



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 24 percent of sleep-related infant deaths reviewed that occurred in a safe infant sleep location, many involved suffocation hazards in the child’s immediate sleep environment. In 44 percent of these cases reviewed in 2013, 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, there were more than one of these items present in the infant’s sleep environment at the time of death.

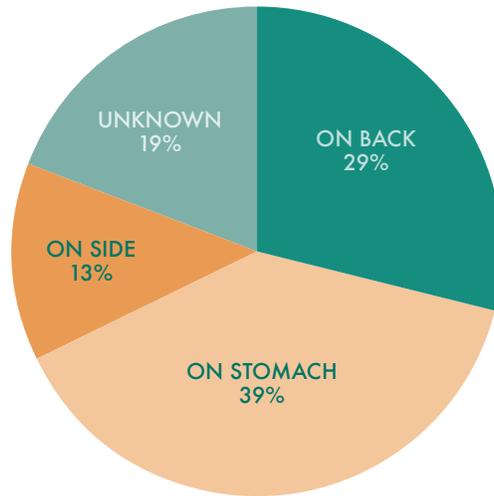
Percentage of Sleep-Related Deaths Reviewed in 2013 where Sleep Place was Crib/Bassinet by Objects in Sleep Environment



Data Source: Michigan Child Death Review

The AAP guidelines state that infants should always be placed to sleep on their backs. In 29 percent of the sleep-related deaths reviewed in 2013, the infants were reportedly found unresponsive on their backs. In 19 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.

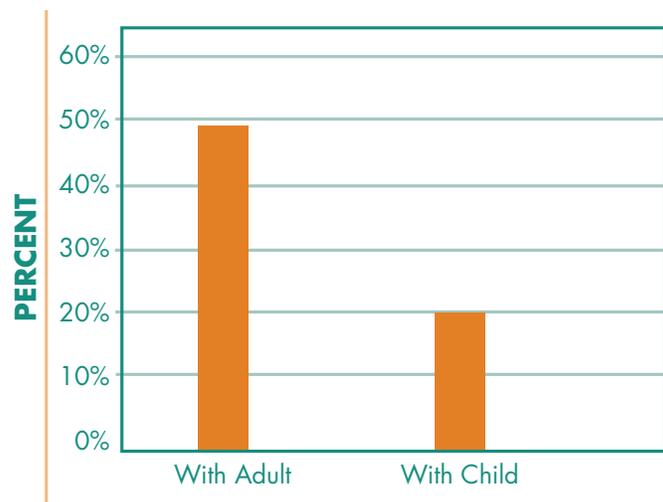
Percentage of Sleep-Related Infant Deaths Reviewed in 2013 by Found Position



Data Source: Michigan Child Death Review

The AAP recommends that infants sleep on a surface separate from adults or other children. In 49 percent of the sleep-related deaths reviewed in 2013 the infant was sleeping with at least one adult at the time of death, and in 20 percent they 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 2013 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 serve 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 and preservation 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.** Michigan Department of Health and Human Services: 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. **Evaluate Legislation.** Michigan Health and Hospital Association: In coordination with MDHHS, evaluate the effectiveness and impact of PA 122 passed in 2014 requiring that birthing hospitals provide safe sleep education to all new parents prior to discharge. Conduct an assessment of how hospitals across the state are meeting this new requirement and evaluate its effectiveness.
5. **Fund Research.** Michigan Legislature: Fund a research study to determine what educational messaging, styles and techniques are most effective at influencing parents’/caregivers’ beliefs and practices when it comes to their children’s sleep environments.
6. **Expand Public Service Announcement Campaign.** Michigan Department of Health and Human Services: To increase public awareness about sleep related-infant death, work to get the already available PSAs disseminated statewide and played more frequently in each market.

- Promote the DOSE Program.** Michigan Department of Health and Human Services: Utilizing the Emergency Medical Services professionals trained in the Direct On Scene Education (DOSE) Program, expand this caregiver education to more EMS and Medical First Responders across the state.

Suicides

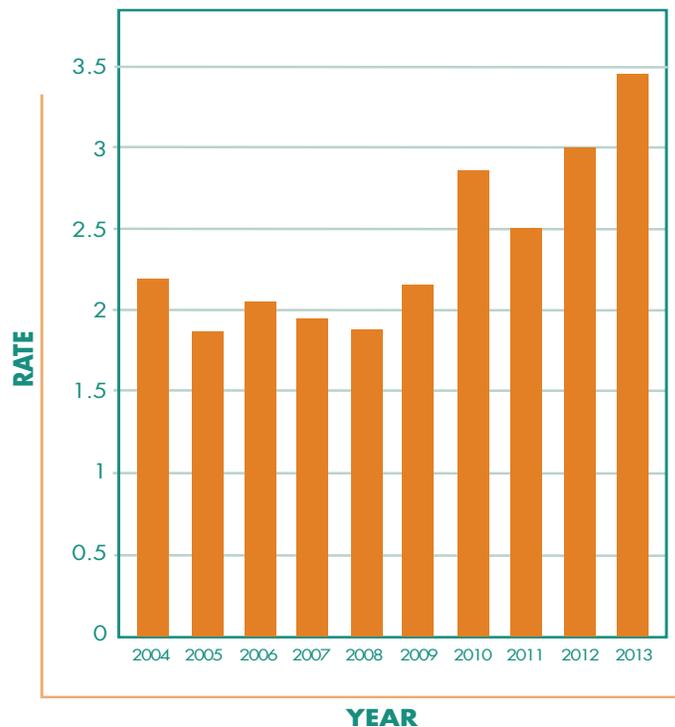
Of all the types of child death highlighted in this report, one category stands apart - those in which the child had a deliberate hand in his or her death. In some cases, young people have had a long history with mental health services, substance abuse and school issues, family discord and/or run-ins with the law. In others, there is very little in the way of “red flags” before the fatal event occurs. 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, youth suicide in Michigan has increased. From 2004 to 2013, suicide rates among those ages 0-18 years old increased 57 percent.

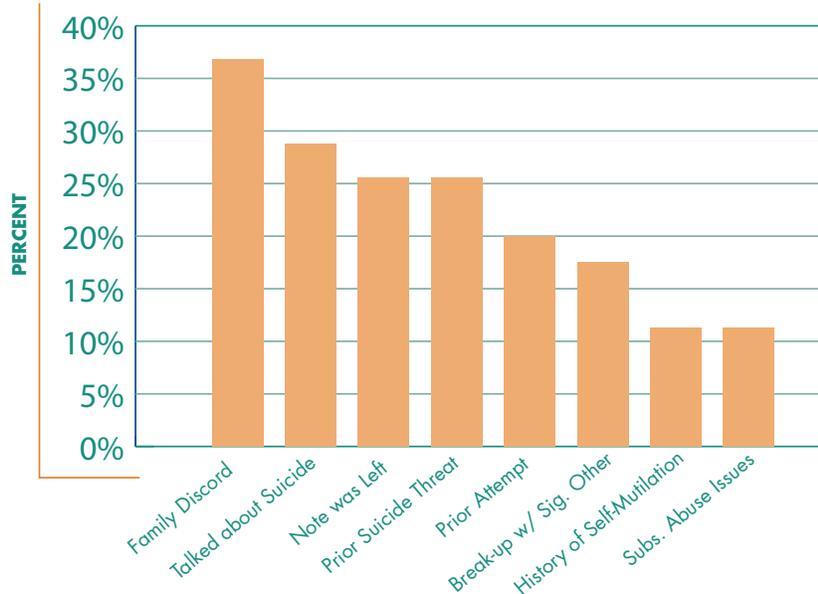
Suicide Rates*
Michigan Residents Ages 0-18, 2004 - 2013



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

Teams reviewed 55 youth suicides in 2013. As part of the review process, local teams report known precipitating events and/or cumulative stressor histories. In 2013, for the cases in which this information was available, two of the top four factors most frequently identified included prior mentioning (29 percent) or threatening (26 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 in 2013 by Stressor/Prior Event



Data Source: Michigan Child Death Review

When the information was available, almost half of the youth whose suicides were reviewed in 2013 had been prior victims of child abuse or neglect (49 percent). This is greater than the percentage for all child death cases reviewed in 2013 (33 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 community-based, 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:

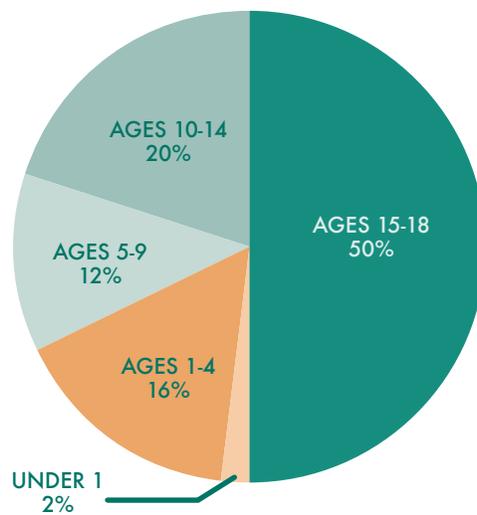
1. **Increase Outreach.** Local Community Mental Health: Increase outreach to raise awareness among community professionals regarding available mental health services for children and youth.
2. **Assess Barriers to Access.** Michigan Department of Health and Human Services: Conduct a statewide assessment to examine barriers to access to mental health services for children and youth.
3. **Increase Intervention Skills.** All State Employees and Others who Work With At-Risk Youth: Increase ability to recognize and respond to suicidal thoughts in youth by attending proven strategy training programs such as safeTALK and ASIST.
4. **Train Safety Planning.** Michigan Department of Health and Human Services: Increase the availability of immediate safety planning training across the state for CPS and foster care workers, clinicians and others who work with at-risk youth.

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' driving inexperience and increased likelihood of risk-taking behavior. These risks increase with each additional teen passenger in the vehicle.

Local teams reviewed 56 child deaths involving motor vehicles in 2013. Half (28) were to teens ages 15-18, the same number as all the other ages combined. Fifty-five percent of all motor vehicle deaths reviewed in 2013 involved male victims.

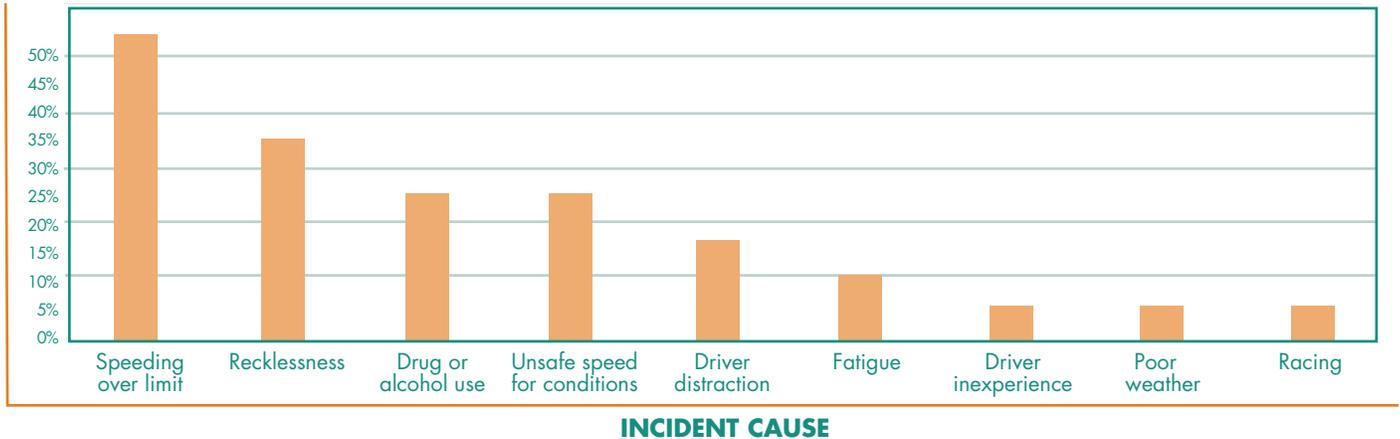
Percentage of Motor Vehicle Deaths Reviewed in 2013 by Age



Data Source: Michigan Child Death Review

When reviewing deaths of children in motor vehicles, local review teams identify as many causes of the incident as applicable. Fifty-five percent of the motor vehicle deaths reviewed, involving a teen who was responsible for the crash, listed speeding as the cause for the incident, and in 25 percent, unsafe speed for conditions was listed. These categories are not mutually exclusive. In 2013, drug or alcohol use was considered a factor in 25 percent of these crashes.

Percentage of Teen Motor Vehicle Deaths Reviewed in 2013 by Cause of Incident*



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

In 15 percent of cases, driver distraction was cited as a cause of the incident. However, an accurate number of deaths due to distracted driving by teens remains difficult to gather. 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, 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.

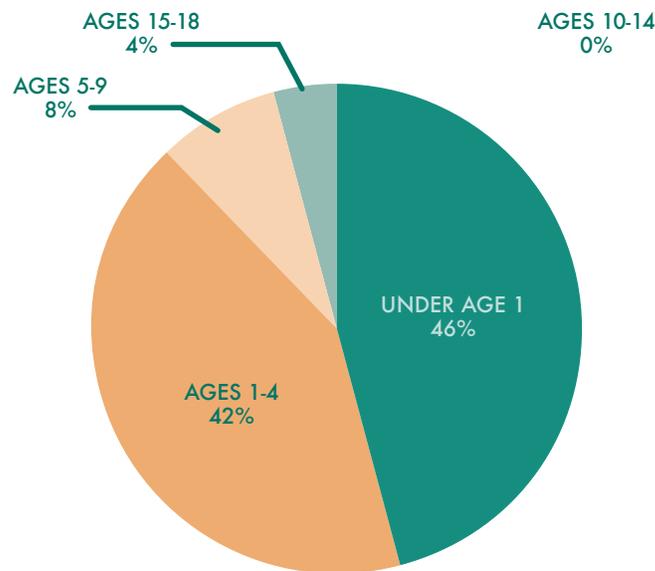
Child Abuse and Neglect Deaths

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 that concluded 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 24 abuse-related and 64 neglect-related fatalities reviewed in 2013. When local teams reviewed a child's death, they were asked to indicate if they believed 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 subjectively determined that abuse and/or neglect either caused or contributed to the child's death. As such, they do not reflect official counts of abuse or neglect fatalities as reported by other entities, such as MDHHS's CPS Program Office or the 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 2013 by Age

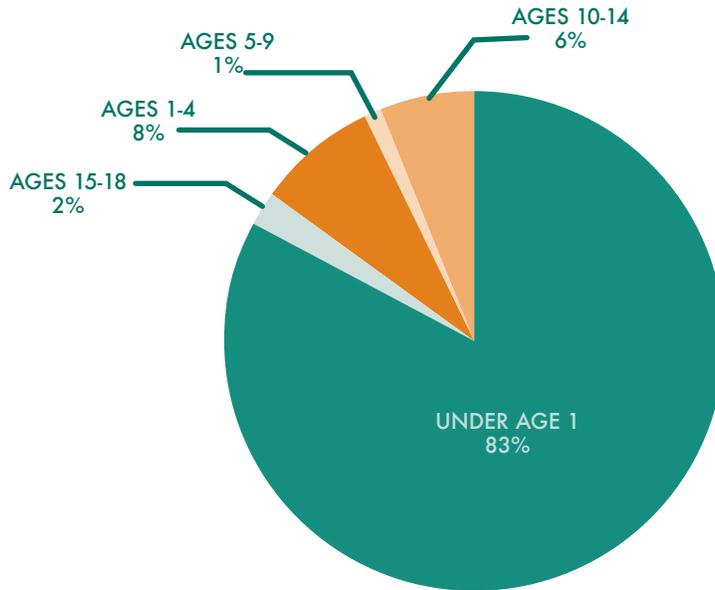


Data Source: Michigan Child Death Review

*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 2013. Although this finding is due in large part to the level of care necessary to keep babies healthy, another factor is that local teams believed that many sleep-related infant deaths amounted to neglect, 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 2013 by Age



Data Source: Michigan Child Death Review

Local teams reviewed 14 fatalities of children residing in foster care in 2013. Five were ruled suicides, four were accidental, three were ruled natural and one each were homicide and undetermined manner.

The Child Death State Advisory Team also functions as Michigan’s federally mandated Citizen Review Panel (CRP) on Child Fatalities. The CRP met 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 MDHHS, the collection of relevant materials and a thorough case review. As a result, the State Advisory Team/CRP identified the following recommendations.

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

1. **Enhance Resource Awareness.** Michigan Departments of Health and Human Services 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 MDHHS office to offer annual mandated reporter training to teachers and other school professionals.
3. **Train Medical Professionals and Other Direct Service Providers.** Michigan Department of Licensing and Regulatory Affairs: As part of licensing standards, require training through the Children’s Protective Services (CPS) Program Office for medical professionals on failure to thrive and medical neglect, as well as on their duty as mandated reporters to file a complaint with MDHHS when child abuse or neglect is suspected.

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

4. **Continue and Enhance Training.** Michigan Department of Health and 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.
5. **Enhance Domestic Violence Programs:** Michigan Department of Health and Human Services: Provide additional funding for enhanced domestic violence services for families based on the Safe and Together Model.
6. **Enhance Technological Resources:** Michigan Department of Health and Human Services: Create a smart phone application that would provide definitions, pictures and basic medical terms for suspected child abuse injuries for use by CPS workers in the field.



FETAL INFANT MORTALITY REVIEW (FIMR) IN MICHIGAN

This section was authored by the Infant Health Section of MDHHS.

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. In 2013, there were 11 active FIMR sites in Michigan, establishing a FIMR presence in the communities which account for approximately 75 percent of the state’s infant mortality and nearly 95 percent of the black infant mortality. A 21-county regional FIMR was 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 CDR processes. Both operate under the guiding principle that local, multidisciplinary review aids in better understanding of how to prevent future deaths. They also 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, although the number of infant deaths has decreased over time, it has remained fairly stable over the last few years, as shown in Figure 1.

Figure 1 – Infant Deaths Michigan, 1989 - 2013

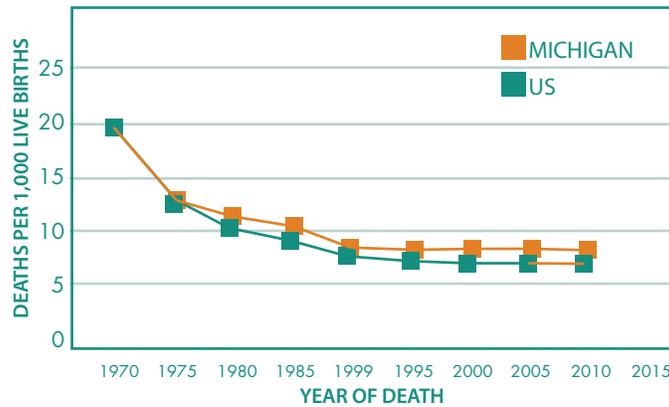


Source: Division for Vital Records & Health Statistics, 1989-2013. MDHHS

The Persistent Problem of Infant Mortality in Michigan

Infant mortality rates continue to be higher for Michigan than for the United States as a whole. In 2013 in Michigan, there were 799 infant deaths resulting in an infant mortality rate of 7.0 per 1,000 live births, compared to the U.S. rate of 6.0. Michigan ranks 36th among states for overall infant mortality (National Center for Health Statistics, CDC, 2010 Linked Birth and Death File).

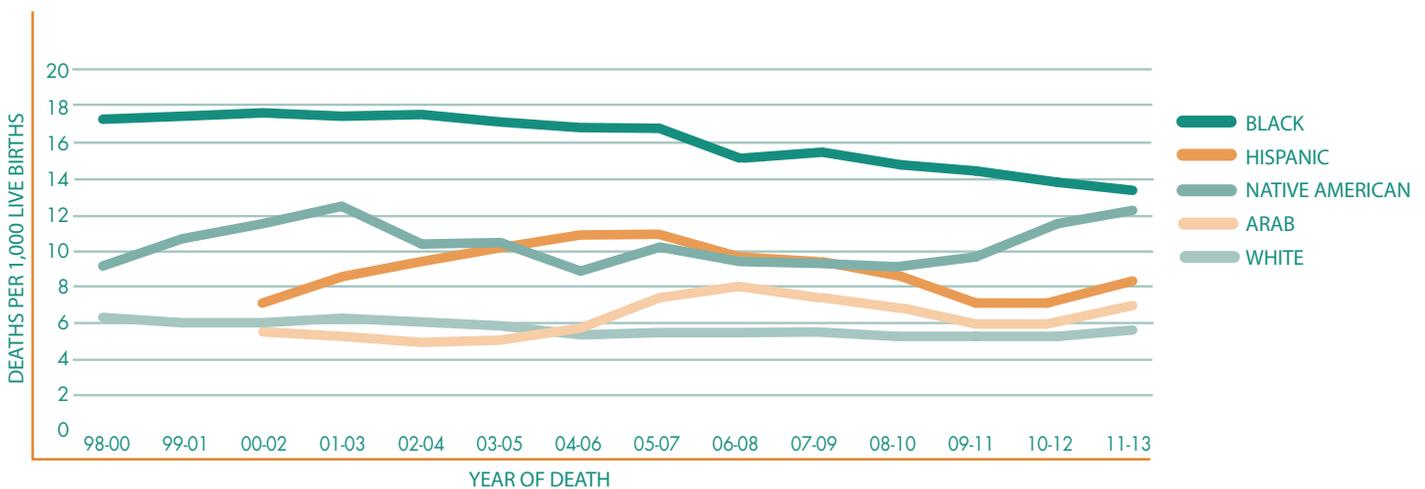
Figure 2 – Infant Mortality Rate Michigan & US, 1970-2013



Source: Division for Vital Records & Health Statistics, 1970 - 2013, MDHHS.

One of Michigan's most significant challenges is the persistent disparities between the black infant mortality rate and the rate for white infants. In 2013, the United States white infant mortality rate was 5.0, and the black rate was 11.2, creating a ratio of black to white infant mortality of 2.2/1. Michigan's 2013 white infant mortality rate of 5.7 and black rate of 13.1 are significantly higher than the U.S. rate, with black infants dying at a ratio of 2.3 times higher than white infants. Michigan ranks 37th for black infant mortality out of the 39 states with an adequate number of deaths in the numerator to calculate a rate.

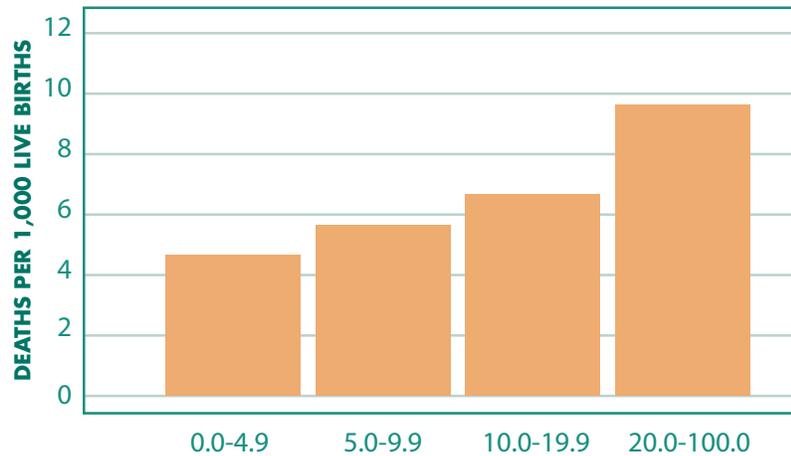
Figure 3 – Michigan Infant Mortality Trend Rates by Race and Ancestry



Source: Division for Vital Records & Health Statistics, 1998 - 2013, MDHHS.

In Michigan, infant death rates by Census Tract Poverty 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 2011 and 2013, the infant mortality rate in the wealthiest tracts was 4.7 deaths per 1,000 live births and in the poorest the rate was 9.8 deaths per 1,000 live births, as shown in Figure 4.

Figure 4 – Infant Mortality Rates by Census Tract Poverty Level, Michigan Residents, 2011-2013



NOTE: This scale is based on the percent of people living below the poverty line in a census tract.

Source: Division for Vital Records & Health Statistics, MDHHS.

FIMR and Life Course Theory

To address these persistent disparities, the then Michigan Department of Community Health 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 utilizing vital statistics and population-based data. Many of the sites had exposure to LCT, but had not had formal training and an in-depth understanding of the model. An educational symposium was held in Spring 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). These teams strive to be culturally diverse and include members who represent the racial and ethnic make-up 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 dedicated group of members, both staff and volunteers, who come together around a common table to work at improving the care of and services to women, infants, children and families.

From January 1, 2013 to December 31, 2013, local CRTs held 81 meetings, reviewing 203 cases of fetal and infant death. Maternal interviews were conducted for 25 of those, giving direct insight into the mothers' experiences before and during pregnancy. The interviews convey a mother's story of her encounters with local service systems. Over 65 CAT meetings were held in those local communities to move recommendations of the CRTs to action.

	YEAR BEGUN	2013
Saginaw	1991	13
Kalamazoo	1998	4
Genesee	1999	24
Oakland	2000	22
Calhoun	1991 – 1994 (resumed in 2000)	7
Kent	2001	60
City of Detroit	2001	6
Jackson	2003	10
Berrien	2003	13
Macomb	2005	16
Muskegon	2007	21
Allegan	2010	7

Figure 5 – MI FIMR Communities' 2013 Infant Mortality Rates Compared to the State Rate of 7.0 for 2013



Examples of Local Initiatives Resulting from FIMRs

Allegan

Allegan County has been working to build a strong, multidisciplinary CRT, including law enforcement and physicians. Medication labels giving the signs and symptoms of pre-term labor for prenatal vitamins have been approved. Allegan County is now looking for an underwriter and sustainability of labeling.

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 received a grant from the Heart of Cook Foundation for \$3,500. The money allows the county to continue a crib give-away program called Baby's Own Bed and funds safe sleep packages of fitted crib sheets and sleep sacks for program partners. Additionally, two different Rotary clubs provided funding to purchase additional safe sleep packages as well as do a county-wide billboard media blitz about unsafe sleep.

Calhoun

The Maternal Infant Health Commission has used the local FIMR report in Calhoun County to help identify priority issues to focus upon for the next year. Focuses include prenatal tobacco cessation, infant safe sleep and breastfeeding. Subcommittees have begun meeting and coalitions formed to discuss, and put into action, ideas for the promotion of tobacco cessation, educating providers (day care and obstetricians) and community members on safe sleep practices, as well as promoting breastfeeding.

City of Detroit

During 2013, the Detroit CRT examined cases of deaths of preterm infants. The Great Start Collaborative - Wayne's Pediatric and Family Health Action Team - served as CAT. The primary intervention of the CAT was educating its members and the larger community about the underlying causes of infant mortality and the importance of comprehensive women's health care to address the persistently high rates of low birth weight and preterm births in Detroit.

Genesee

In recognition of Infant Mortality Awareness Month, the Genesee County Health Department aired a dramatic public service announcement in September regarding the importance of never sleeping with a baby. In partnership with the (then) Genesee County Department of Human Services and other members of the Safe Sleep Coalition, a Family Day was held to specifically bring awareness to infant safe sleep. The event took place on September 14 at a local community center. Numerous agencies attended. Using pack-n-plays and dolls, participants were shown safe and unsafe sleep environments.

Jackson

Driven by the high number of FIMR reviews identifying unsafe sleep environments as contributing to infant deaths, Jackson County has continued safe sleep presentations to CPS, nursing students and MIHP staff and has instituted "in-hospital" sleep sack use to compliment the take-home program. FIMR also identified a lack of maternal dental care, which prompted the development of a local dental referral sheet. Due to a high rate of pregnant women who smoke (30.4 percent), the county has worked with local obstetricians, MIHP and WIC clinics to increase referrals to smoking cessation programs. A community meeting was held to better coordinate efforts in providing bereavement services. High rates of prematurity prompted continued distribution of "signs and symptoms of preterm labor" stickers to local pharmacists to affix to prenatal vitamins.

Kalamazoo

In Kalamazoo County, FIMR is housed within the federal Healthy Start project. In 2013, the FIMR coordinator position was vacant for a period of time, which resulted in a lower number of cases that were abstracted and reviewed. Other factors affecting the number of abstracts completed involved inconsistent and untimely retrieval of abstract information.

Kent

In 2013, Kent County completed six safe sleep presentations to providers and to families. The county also held an event for fathers: Super DADS (Dads Against Dangerous Sleep) – September 26. A family planning in-service was held on April 4, as well as multiple health equity and social justice dialogues throughout the year. A conference entitled Perinatal Mood Disorders: Components of Care was held October 25-26.

Macomb

Macomb Health Department hosted Safe Sleep Expos in 2013. The Expos were organized and run the by their Community Action Team using grant funds for this purpose.

Oakland

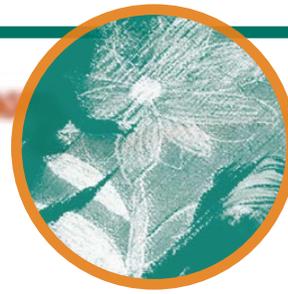
Oakland County's "Best Start for Babies" coalition combines the FIMR CAT and the expertise of Oakland County's Nurse Family Partnership staff. Supported by FIMR findings, the CAT adopted safe sleep as its priority for 2013. This initiative was also supported by the (then) MDCH Safe Sleep grant awarded to Oakland County in 2013.

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 www.michigan.gov/midashboard/0,4624,7-256-58012-,00.html. Over the past several years, the then Michigan Department of Community Health (MDCH) worked with experts from Michigan's hospitals and health care community, universities, and local health departments, as well as the state's 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: 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 Jeff Spitzley, spitzleyj2@michigan.gov.



APPENDIX

Total Numbers of Resident Child Deaths* and Number of Reviews by County, 2013**

County	Total Deaths, 2013	Total Reviews, 2013
Alcona	0	0
Alger	1	0
Allegan	15	4
Alpena	3	0
Antrim	6	0
Arenac	5	1
Baraga	2	2
Barry	8	8
Bay	6	7
Benzie	2	0
Berrien	22	20
Branch	5	3
Calhoun	16	6
Cass	7	5
Charlevoix	2	0
Cheboygan	0	0
Chippewa	5	6
Clare	4	0
Clinton	5	2
Crawford	4	3
Delta	3	0
Dickinson	5	1
Eaton	15	5
Emmet	2	0
Genesee	80	37
Gladwin	3	2
Gogebic	3	2
Grand Traverse	4	9
Gratiot	6	0
Hillsdale	6	6
Houghton	4	6
Huron	3	1
Ingham	45	17
Ionia	8	2
Iosco	5	2
Iron	0	0
Isabella	5	5
Jackson	21	13
Kalamazoo	42	18

continued

County	Total Deaths, 2013	Total Reviews, 2013
Kalkaska	5	0
Kent	68	22
Keweenaw	0	0
Lake	2	0
Lapeer	9	11
Leelanau	1	3
Lenawee	12	8
Livingston	15	11
Luce	1	1
Mackinac	1	1
Macomb	95	8
Manistee	0	0
Marquette	2	5
Mason	2	1
Mecosta	5	4
Menominee	2	0
Midland	11	16
Missaukee	1	4
Monroe	24	18
Montcalm	6	0
Montmorency	2	0
Muskegon	27	10
Newaygo	7	3
Oakland	121	38
Oceana	1	0
Ogemaw	2	3
Ontonagon	1	0
Osceola	2	1
Oscoda	0	1
Otsego	4	0
Ottawa	43	3
Presque Isle	1	0
Roscommon	1	2
Saginaw	29	9
St. Clair	11	11
St. Joseph	11	10
Sanilac	5	5
Schoolcraft	0	2
Shiawassee	9	7
Tuscola	7	6
Van Buren	9	11
Washtenaw	28	6
Wayne	343	130
Wexford	5	5
Unknown	1	0
Total	1310	569

*Source: Michigan Department of Health and Human Services, Division for Vital Records and Health Statistics.

**Source: Michigan Child Death Review, MPHI



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



Permission to quote or reproduce materials from this publication is granted when acknowledgement is made.

This report is also available at 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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