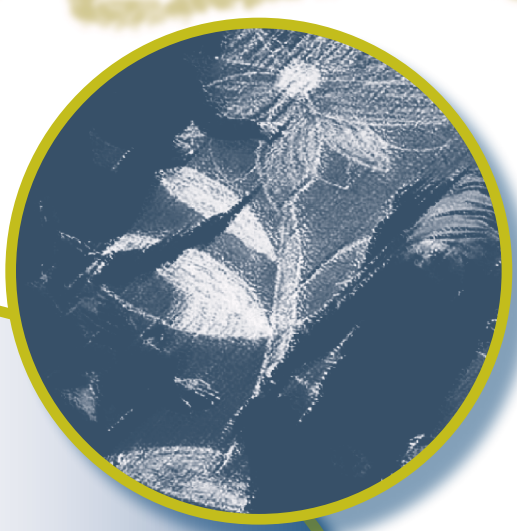
Child Deaths IN MICHIGAN



Michigan Child Death
State Advisory Team
Thirteenth Annual
EXECUTIVE REPORT

A Report on Reviews conducted in 2014

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 13th annual report on child deaths in Michigan as required by law (1997 PA 167 MCL 722.627b). In 2014, 1,237 children died in Michigan. Black children died at a rate 2.1 times that of white children; infant deaths accounted for 61 percent of all child deaths in Michigan.

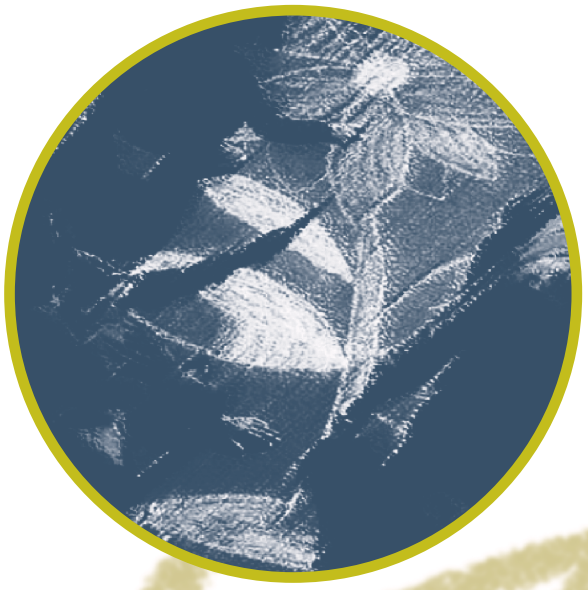
The child death review process provides a critical opportunity to identify the causes and circumstances of children's deaths to prevent future deaths, injuries and disabilities. For each death reviewed, a multidisciplinary team from the child's community met to determine the circumstances that led to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

More than 1,400 community representatives participate in the 77 teams that cover the state. In 2014, representatives from 55 counties reviewed 469 child deaths and determined that almost two-thirds (64 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

THIRTEENTH ANNUAL REPORT

A REPORT ON REVIEWS CONDUCTED IN 2014

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

Keeping Kids Alive©

MICHIGAN CHILD DEATH
STATE ADVISORY TEAM
2014

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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. 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 469 deaths reviewed in 2014 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. MPHI has also facilitated 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, investigative protocols, formatted local and state mortality data and a program website. MPHI staff helps teams with case identification, guidance on team functioning, 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 2014, 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 Fatality Review and Prevention, 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: http://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 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.**

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. "Unknown" in these graphs indicates that the team had no access to the official manner of death at the time of review.

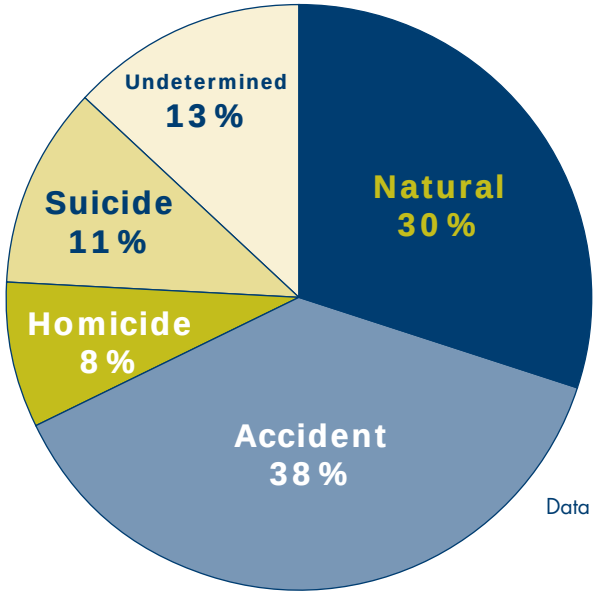
Of the total child deaths in the state for 2014, 70 percent were natural deaths, while 19 percent were accidental deaths, including, but not limited to deaths from fires, drownings, motor vehicle crashes and suffocations. These two largest categories of manner have not varied by more than a few percentage points for several years.*

Local teams reviewed 469 child deaths in 2014. The largest portions were those classified as accidental

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

deaths and natural deaths (38 percent and 30 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 2014 by Manner

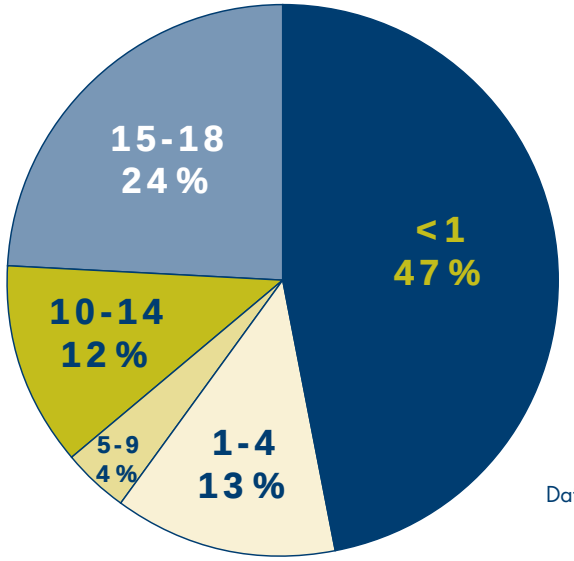


Data Source: Michigan Child Death Review

The deaths of infants (children under age 1) in 2014 accounted for 61 percent of all child deaths ages 0-18 in Michigan. In 2014, deaths of children under age 1 accounted for 47 percent of all 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 2014. 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 2014 by Age



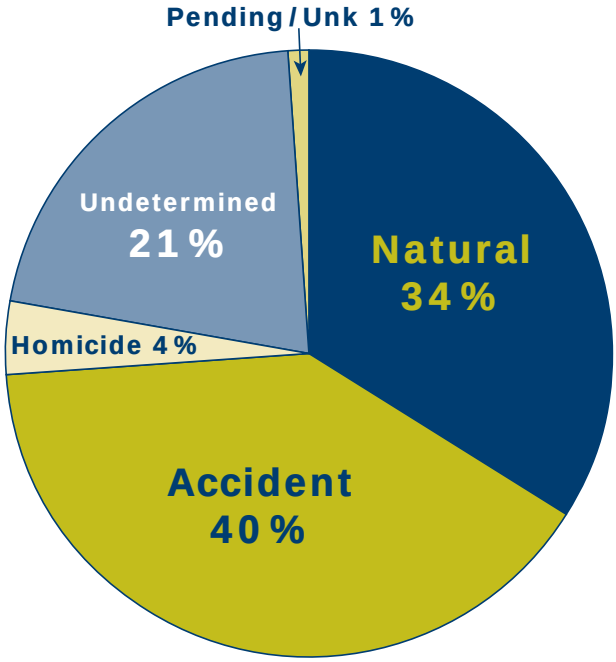
Data Source: Michigan Child Death Review

In 2014, the largest percentage of infant deaths reviewed was classified as accident (40 percent). Over 90 percent of the accidental infant deaths reviewed in 2014 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.

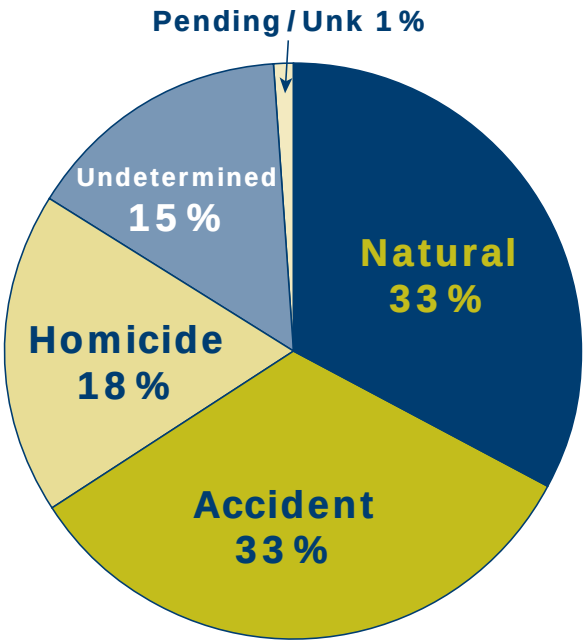
More than half of the natural infant deaths reviewed in 2014 were due to birth-related conditions: prematurity (birth at less than 37 weeks gestation) at 19 percent; and congenital anomalies (birth defects) and other perinatal conditions at 31 percent. The scope of infant mortality in Michigan is addressed 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 2014 by Manner



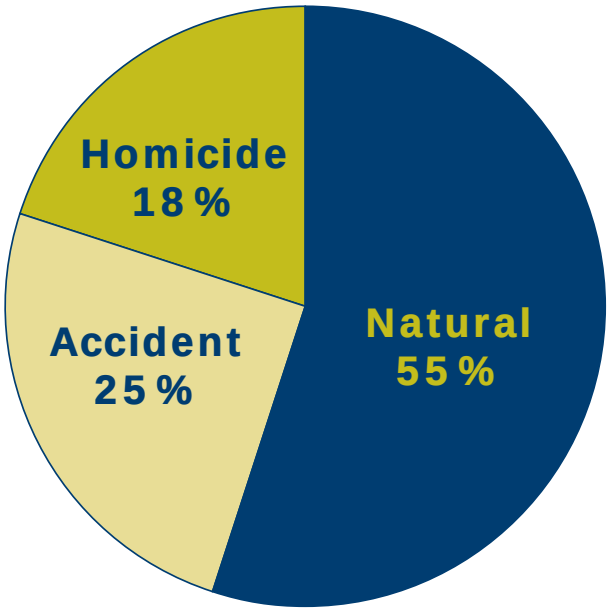
Data Source: Michigan Child Death Review

Percentage of Deaths to Children Ages 1-4 Reviewed in 2014 by Manner



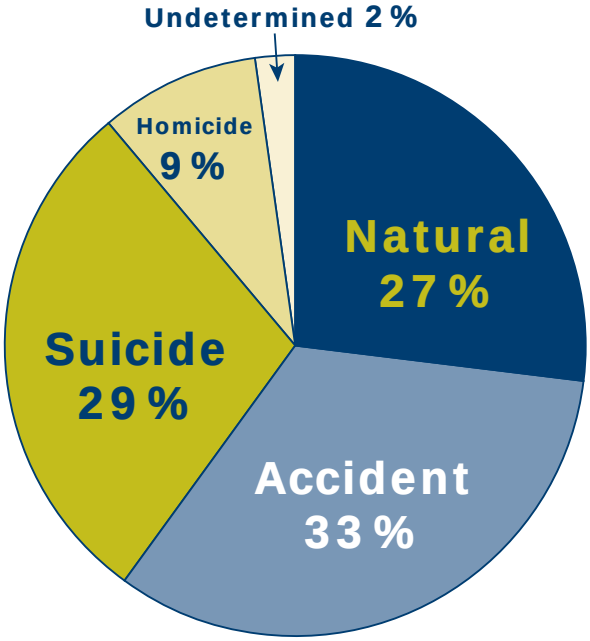
Data Source: Michigan Child Death Review

Percentage of Deaths to Children Ages 5-9 Reviewed in 2014 by Manner



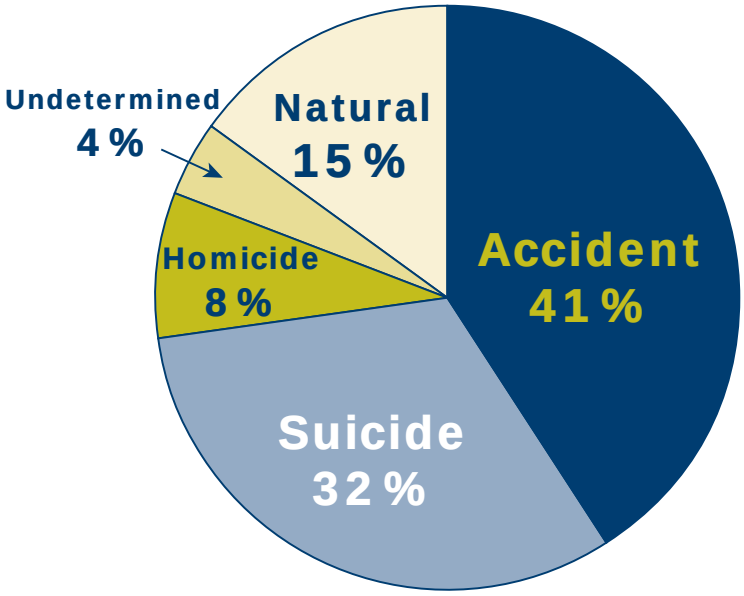
Data Source: Michigan Child Death Review

Percentage of Deaths to Children Ages 10-14 Reviewed in 2014 by Manner



Data Source: Michigan Child Death Review

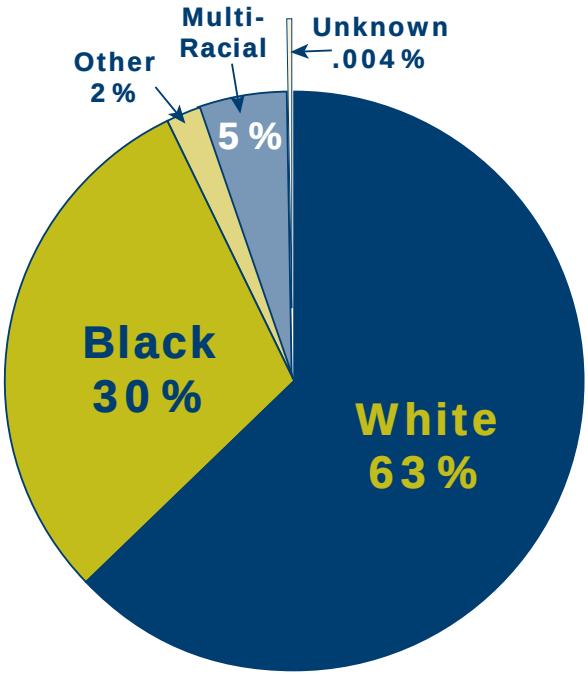
Percentage of Deaths to Children Ages 15-18 Reviewed in 2014 by Manner



Data Source: Michigan Child Death Review

In 2014, blacks made up about 17 percent of the population ages 0-18 years in Michigan, but accounted for 32 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 Deaths to Children Ages 0-18 Reviewed in 2014 by Race



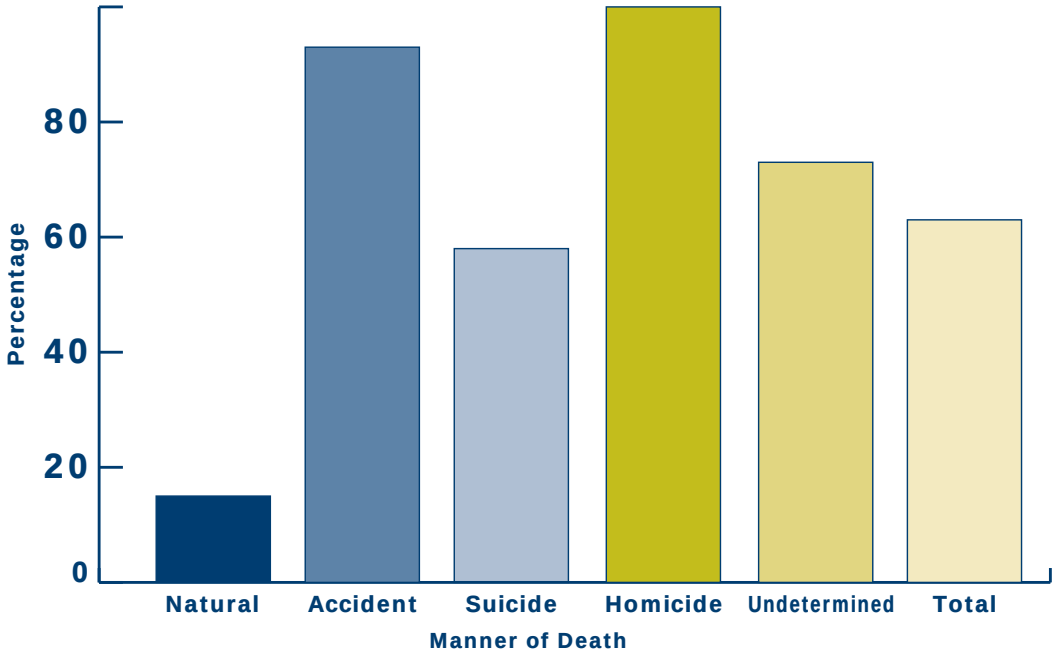
Data Source: Michigan Child Death Review

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, all of the homicides and nearly all of the accidents reviewed were determined by local teams to have been preventable. For all types of deaths, the teams determined that nearly two-thirds (64 percent) of those reviewed in 2014 were preventable.

The graph below shows that a significant percentage of deaths classified as undetermined were deemed preventable. Most (77 percent) of these were sleep-related infant deaths. Local teams consider specific risk factors such as unsafe sleep environments when making preventability determinations.

Percentage of Preventable Child Deaths Reviewed in 2014 by Manner



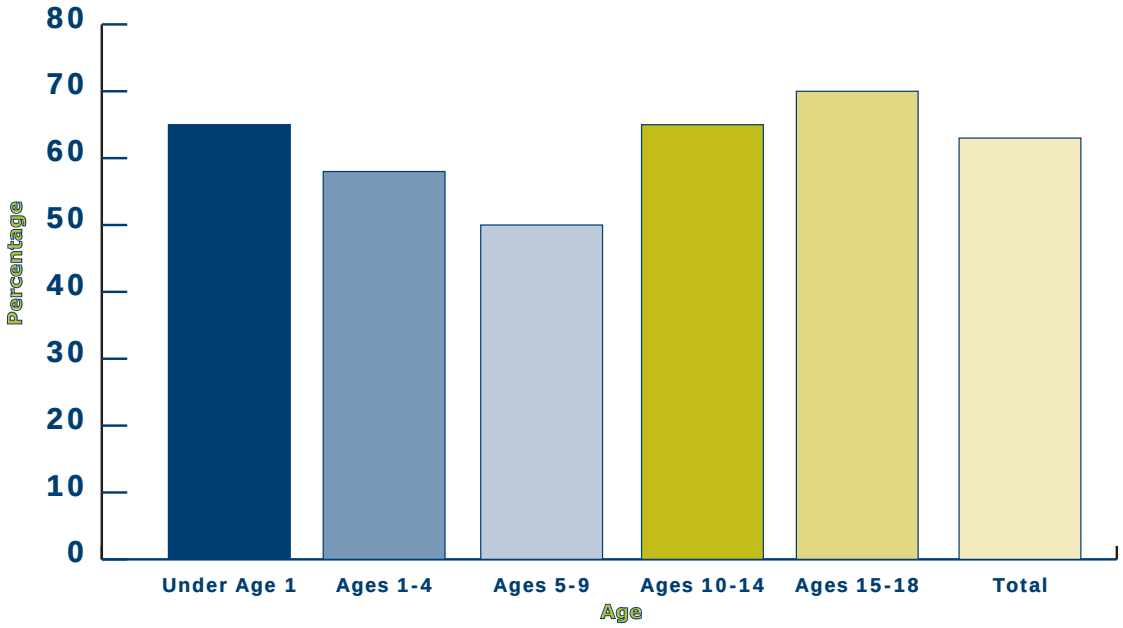
Data Source: Michigan Child Death Review.

* National Center for Fatality Review and Prevention Case Report Data Dictionary, January 2008.

Consistent with prior years, in 2014 local review teams considered deaths in the age 15-18 year range as being 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 70 percent in the 15-18 year 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 2014 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 2014 by Age



Data Source: Michigan Child Death Review

SELECTED CAUSES OF DEATH AND RECOMMENDATIONS FOR POLICYMAKERS

Sleep-Related Infant Deaths

In the past and leading up through the 1990s, 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. Over the last couple of decades, efforts to improve the quality of death scene investigations in these types of cases have grown statewide and nationally. 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 on death certificates as being from a number of causes, including: SIDS, positional asphyxia and undetermined/SUID. Because of this variety of terminology and the historical prominence of the term SIDS – which was seen as a mysterious and unpreventable type of infant death – the public may be confused about how these deaths actually occur and the importance of following infant safe sleep guidelines in order to prevent them.

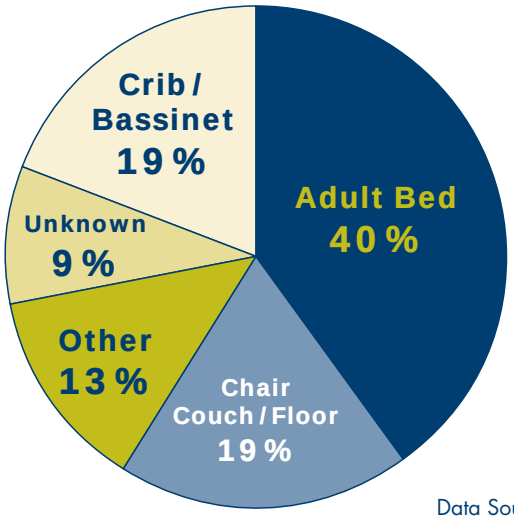
In locations where the most thorough scene investigations and caregiver interviews are conducted, the number of deaths of infants who were known to have been on their backs, alone and in a crib free of suffocation hazards dropped to nearly zero. There are many ways that infants' airways can become blocked 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 can and do occur in all types of families, there are groups at elevated risk. A variety of socio-cultural factors 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.

Since 2010, Michigan has been one of a number of states funded by the Centers for Disease Control and Prevention to work within the CDR process to gather very detailed information on every sleep-related infant death that occurs in the state. In this way, SUIDs are unlike any other type of death in this report, in that the total number of deaths in the state will equal the number reviewed. In 2014, there were 152 sleep-related infant deaths in Michigan.

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. Eighty-one percent of the sleep-related infant deaths in Michigan in 2014 occurred in locations unsafe for infant sleep. In 40 percent of the cases, the infant died after being placed to sleep on an adult bed.

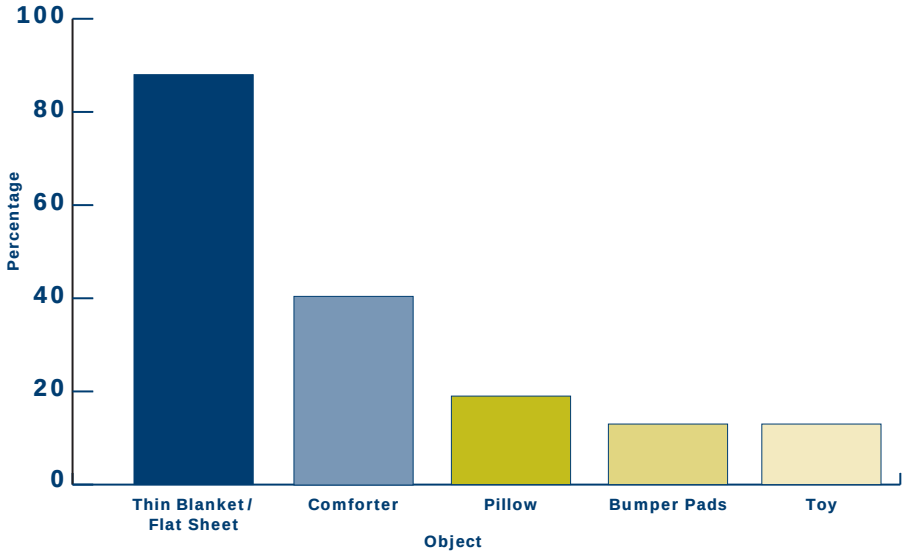
Percentage of 2014 Sleep-related Infant Deaths by Sleep Location



Data Source: Michigan Child Death Review/SUID Case Registry

According to the AAP, loose blankets, pillows, comforters and stuffed toys should not be present in an infant's sleep environment. Of the 19 percent of sleep-related infant deaths that occurred in a safe infant sleep location, many involved suffocation hazards in the child's immediate sleep environment. In 86 percent of these cases in 2014, 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.

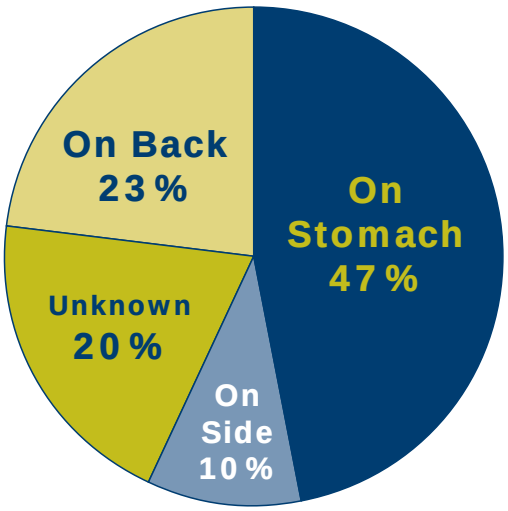
Percentage of Sleep-Related Deaths in 2014 where Sleep Place was Crib/Bassinet by Objects in Sleep Environment



Data Source: Michigan Child Death Review/SUID Case Registry

The AAP guidelines state that infants should always be placed to sleep on their backs. In 23 percent of the sleep-related deaths in 2014, the infants were reportedly found unresponsive on their backs. In 20 percent of the cases, information about the position in which the infant was found unresponsive was inadequate. 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.

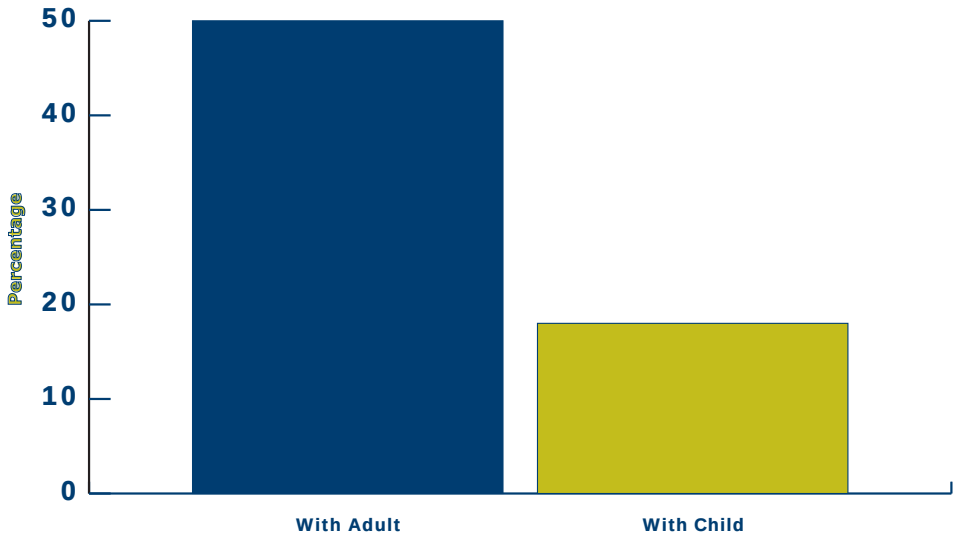
Percentage of 2014 Sleep-related Infant Deaths by Found Position



Data Source: Michigan Child Death Review/SUID Case Registry

The AAP recommends that infants sleep on a surface separate from adults or other children. In 50 percent of the sleep-related deaths in 2014, the infant was sleeping with at least one adult at the time of death, and in 18 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 Deaths in 2014 by Sleep Surface Sharing



Categories are not mutually exclusive. Data Source: Michigan Child Death Review/SUID Case Registry

Recommendations to Policymakers to Prevent Sleep-Related Infant Deaths:

1. **Develop Specific Education that Targets High-Risk Populations.** *Michigan Department of Health and Human Services:* Develop safe sleep training resources that can be adapted for use by non-traditional educators in populations that experience higher rates of sleep-related infant death. These could include a variety of trusted community members, such as faith leaders, private employers, domestic violence shelters, parole officers, alcohol and drug rehab personnel and financial assistance workers. This would be in addition to the expansion of the Direct On-Scene Education (DOSE) program that utilizes first responders in teaching safe sleep to families.

2. **Train Professionals with Consistent Messaging.** *Michigan Department of Health and Human Services:* Modeled on the mandate from 2015 that all child welfare workers receive consistent training on safe sleep and how to deliver messaging to families, explore methods by which other professions can incorporate safe sleep education and message delivery in their operations. These professions could include medical providers and local health department staff.

3. **Optimize Use of Media in Raising Awareness.** *Michigan Department of Health and Human Services:* Increase resources to conduct evaluation of the current messaging and methodologies used and identify areas where the public awareness plan can be improved to best communicate to at-risk populations. Increase resources and efforts to ensure the maximum reach of safe sleep messaging. Using "real" language about what these deaths entail, giving statistics for how often these deaths occur, and securing someone with major name recognition to advance the message may increase effort impact. These efforts may include prime time television ads, billboards, use of social media and email blasts.

4. **Utilize Risk Management and Risk Reduction Communication Techniques to Increase Safe Sleep Compliance.** *Michigan Department of Health and Human Services:* Provide a standardized toolkit that gives all providers the same information and messaging and saturate the media market to demonstrate the seriousness and scope of the issue.

5. **Develop and Implement Well Identified Strategic and Statewide Safe Sleep Plan and Resource Adequately.** *Michigan Department of Health and Human Services:* Establish a coordinated plan to prioritize and institutionalize safe sleep into all health and human service systems and raise awareness statewide. Such an effort could utilize community-based, multi-disciplinary teams to assist in these efforts, especially in areas of the state that experience the highest rates of sleep-related infant death; partner with birthing hospitals to ensure quality safe sleep education to parents; and use predictive analytics to further target safe sleep messaging.

6. **Provide Appropriate Incentives to Promote Safe Sleep Practices.** *All State and Local Agencies that Service Families:* Utilize available resources or find sponsors to help incentivize safe sleep practices by families. These could take the form of give-away programs that provide resources such as pack and plays (portable cribs) with accompanying sheets and sleep sacks (wearable blankets), or gift cards to families utilizing services who demonstrate safe sleep practices.

7. **Create a Safe Sleep Module for the Michigan Model of Health Education.** *Michigan Department of Education and Michigan Department of Health and Human Services:* Develop safe sleep education module to be implemented in the Michigan Model program and rolled into the state's curriculum for K-12 schools.

Suicides

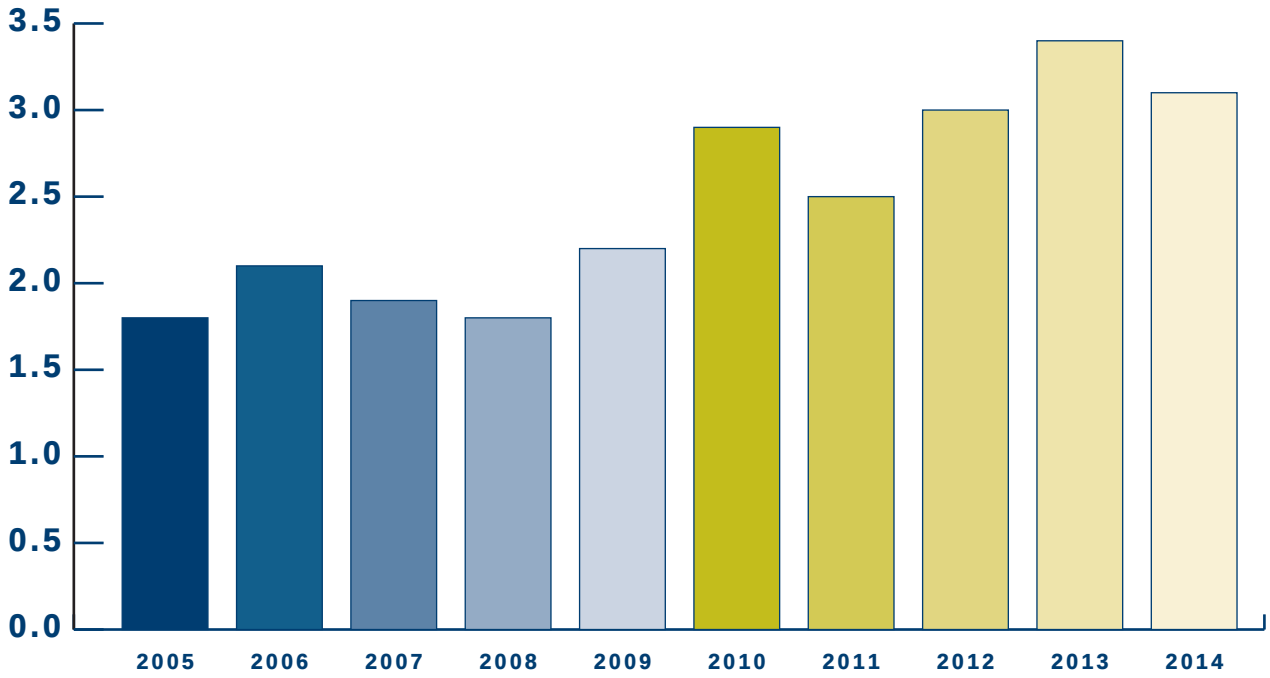
Of all the types of child death highlighted in this report, one category stands apart – those in which the child had a deliberate hand in his or her death. In some cases, young people have had a long history with mental health services, substance abuse and school issues, family discord and/or run-ins 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 United States. 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 2005 to 2014, suicide rates among those 18 years old and under have increased 67 percent.

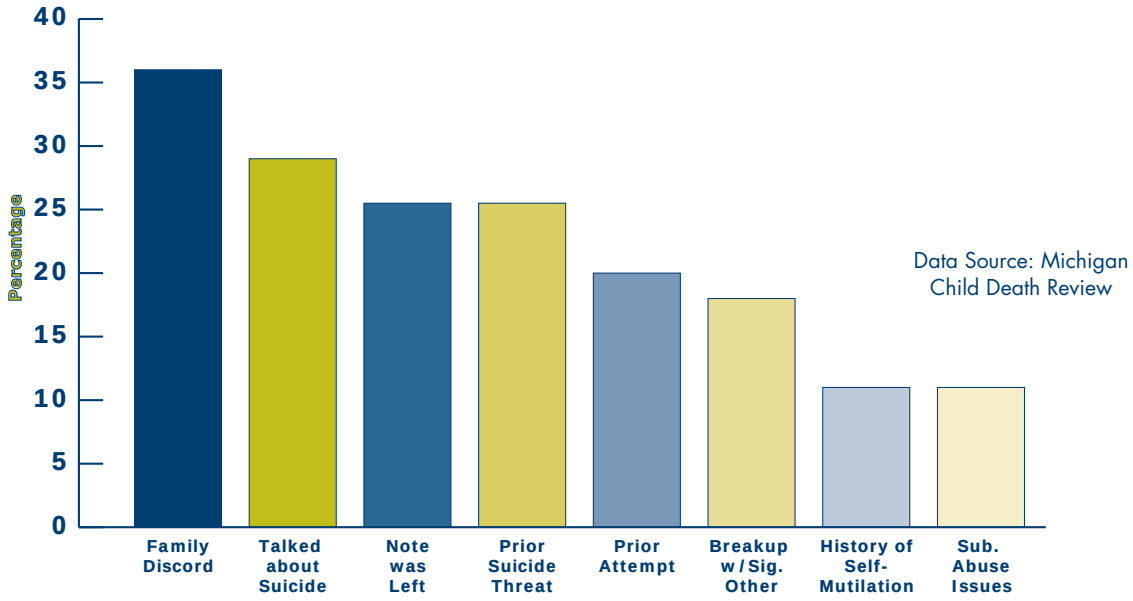
Suicide Rates
Michigan Residents Ages 18 and Under, 2005 – 2014



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

Teams reviewed 52 youth suicides in 2014. As part of the review process, local teams report known precipitating events and/or cumulative stressor histories. In 2014, 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 2014 by Stressor/Prior Event



When the information was available, over a third of the youth whose suicides were reviewed in 2014 had been prior victims of child abuse or neglect (36 percent). This is greater than the percentage for all child death cases reviewed in 2014 (27 percent).

Local teams report that it has become increasingly difficult to connect teens with appropriate mental health services when needed. Teams discuss the narrow 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 Resources to Ensure Identification in the Mental Health and EMS/ER Systems and Access to Services.** *Michigan Legislature:* Increase resource allocation for state mental health system to ensure early identification of youth in need of services and the access to those services. This may require a focus on child psychiatry residency and the utilization of new technologies to increase access in the most underserved areas of the state.

2. **Implement Consistent Strategies to Address Suicide Prevention in Schools.** *Michigan Department of Education:* Encourage schools across the state to address suicide prevention utilizing consistent best practice strategies. Within those strategies, offer mental health resources in all schools. Expand and enhance existing resources and programming, including alternatives to out-of-school suspensions and expulsions; early education regarding the effects of bullying and enforcement of anti-bullying policies; adult mentoring opportunities for students; and emotional intelligence/coping skills instruction in all grades.

3. **Strengthen Peer Education and Support.** *School Districts and Local Human Service Delivery Organizations:* Expand peer-based education and support programming available in communities. These might include promotion of OK2SAY, implementing Sources of Strength in schools, creating Power of One groups, or supporting other community peer-based support networks. Ensure that these efforts include middle school-aged students.

4. **Train Parents/Alternative Caregivers and Professionals Involved with Youth.** *Michigan Departments of Education and Health and Human Services:* Provide training opportunities for professionals under licensure who work with youth (emergency room staff, educators, substance abuse counselors, EMS, and others) in identifying and responding to suicidality, in programs such as safe Tell, Ask, Listen, KeepSafe (safe TALK), Applied Suicide Intervention Skills Training (ASIST), and Question Persuade Refer (QPR). The trainings should also be offered to parents, all other school staff (clerical, custodial, bus drivers, etc.), and other community members. Licensed mental health providers should be given opportunities for suicide specific, clinically focused trainings such as Assessing and Managing Suicide Risk (AMSR) or Recognizing and Responding to Suicide Risk: Essential Skills for Clinicians (RRSR).

5. **Optimize Media Resources to Reach Suicidal Youth.** *Michigan Department of Health and Human Services:* Increase resources to expand the amount and variety of media resources for community awareness of youth suicide and supportive messaging for youth. These may include PSAs that emphasize help seeking and provide information on finding help, emphasize that suicide is preventable, raise community awareness of the effects of bullying, encourage parental involvement and review of their children's social media use, and social media campaigns aimed at providing resource information to troubled youth.

6. **Enhance and Organize Coordination of State Efforts.** *Michigan Legislature:* Realign the state's infrastructure to more effectively address mental health issues using a systems approach. Such an infrastructure could coordinate efforts around the state such as hotlines and youth support groups.

7. **Identify At-Risk Groups for Targeted Prevention.** *Michigan Department of Health and Human Services:* Enhance identification of youth most at risk for suicide and target prevention efforts with appropriate support and messaging. This could include better identification and support for specific groups such as youth who identify as LGBTQ or those involved in the justice system, using messaging that addresses their specific needs, as well as community education regarding high-risk individuals.

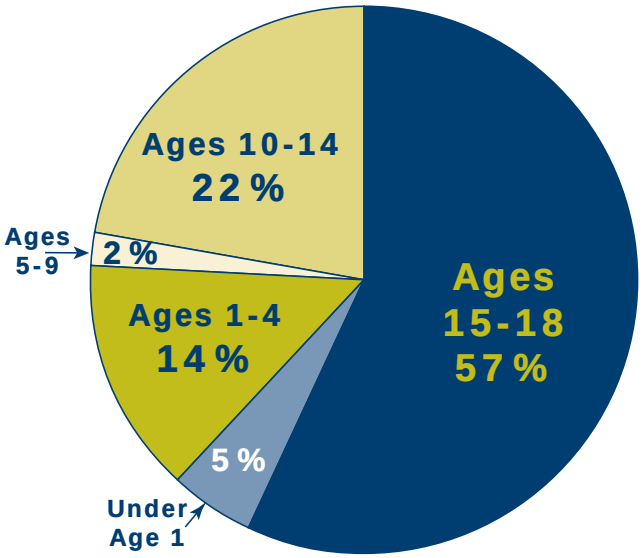
8. **Focus Efforts on Youth Protective Factors.** *All State and Local Entities that Serve Children:* Develop a focus on "upstream" suicide prevention through policies and practices supported by the best available evidence and research regarding youth protective factors, such as connectedness, building coping skills and resiliency in young clients.

Motor Vehicle Deaths

New teen drivers are at 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 58 child deaths involving motor vehicles in 2014. Over half of these deaths (33) were to teens ages 15-18, more than all the other ages combined. Two-thirds (39) of all motor vehicle deaths reviewed in 2014 involved male victims.

Percentage of Child Motor Vehicle Deaths Reviewed in 2014 by Age

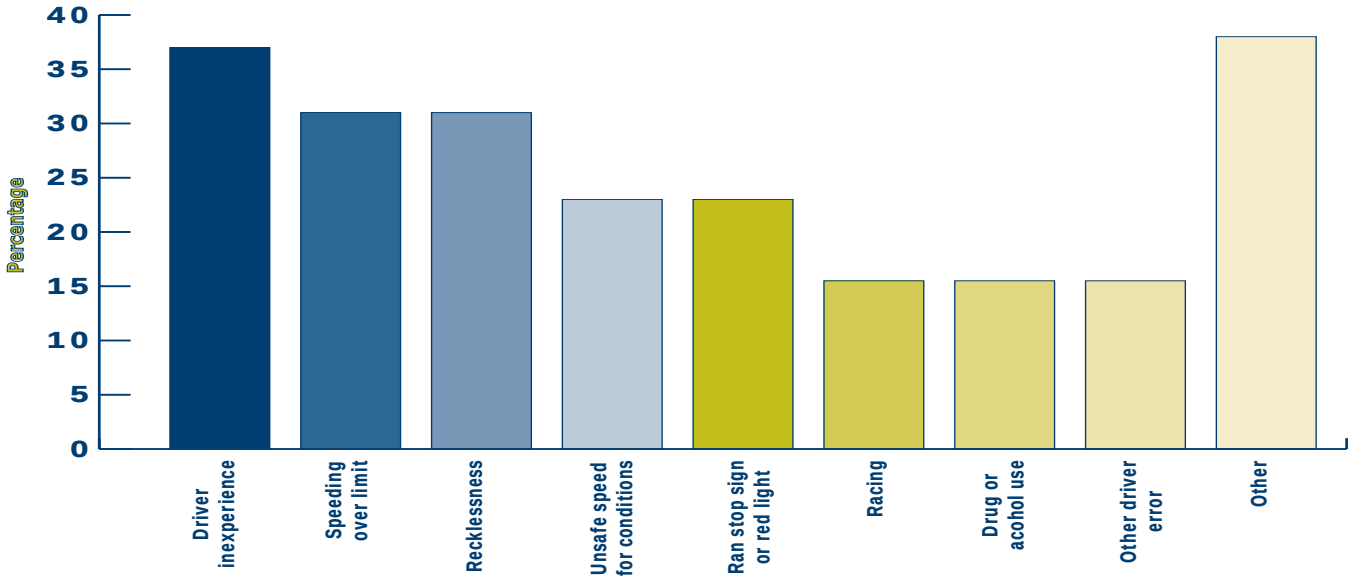


Data Source: Michigan Child Death Review

When reviewing deaths of children in motor vehicles, local review teams identify as many causes of the incident as applicable. Fifty-four percent of the motor vehicle deaths reviewed in 2014 where a teen was responsible for the crash listed speeding over the limit (31 percent) or unsafe speed for conditions (23 percent) as the cause for the incident. Driver inexperience (39 percent) and recklessness (31 percent) were also identified as frequent factors in the crashes. These categories are not mutually exclusive.

In 8 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 were speeding or ran a stop sign or red light, etc., may have done so because they were distracted, but the crash was attributed to the more obvious cause.

Percentage of Teen Motor Vehicle Deaths Reviewed in 2014 by Cause of Incident*



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

Recommendations to Policymakers to Prevent Youth Motor Vehicle Deaths:

1. **Update Michigan Law to Better Protect Children.** *Michigan Legislature:* Enact legislation to update Michigan's child safety seat laws to currently accepted national standards.

2. **Use Technology to Increase Safety.** *Michigan Department of Health and Human Services:* Promote awareness and use of apps that allow for monitoring of young drivers. *All Driver's Education Providers in Michigan:* Automatically enroll students in programs that send notifications to parents if their child under the age of 18 is stopped by law enforcement and explore the use of simulated driving situations for driver's education students.

3. **Enhance Driver Training.** *Governor's Traffic Safety Advisory Commission:* Consider extending driver's education requirements to drivers above the age of 18, and including information regarding child safety seats and current restraint laws into all driver's training.

4. **Strengthen Michigan's Graduated Driver's License (GDL) Standards.** *Michigan Legislature:* Review the current GDL provisions with the goal of strengthening the standards, such as removing the current exemptions for the teen passenger restriction provision. *Office of Highway Safety Planning:* Further analyze the factors involved in child passenger and driver fatalities to better inform legislative efforts and prevention initiatives regarding motor vehicle deaths.

5. **Increase Availability of Child Safety Seats and Training.** *Michigan Department of Health and Human Services:* Increase resources for child safety seat giveaway programs and the training for professionals to inspect them at seat check events, including law enforcement officers, hospital personnel and CPS workers; consider adding questions about child safety seat use to benefits forms.

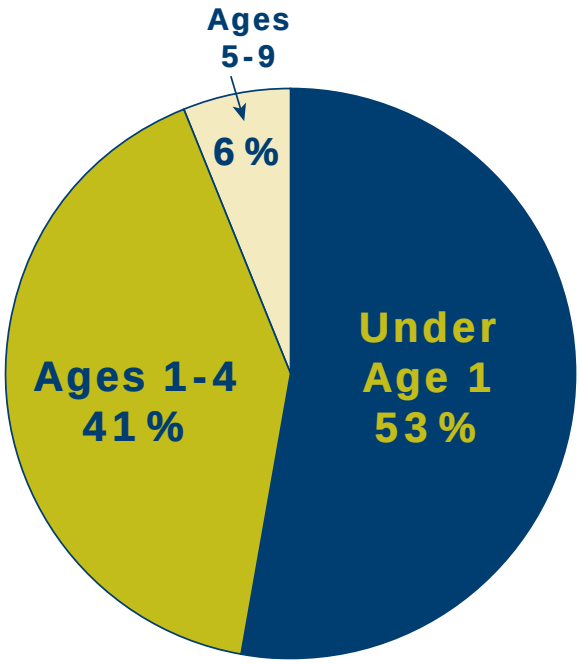
Child Abuse and Neglect Deaths

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 17 abuse-related and 32 neglect-related fatalities reviewed in 2014. 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. 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 reported by other entities, such as MDHHS's CPS Program Office or the Division for Vital Records and Health Statistics.

Infants under age one 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 2014 by Age

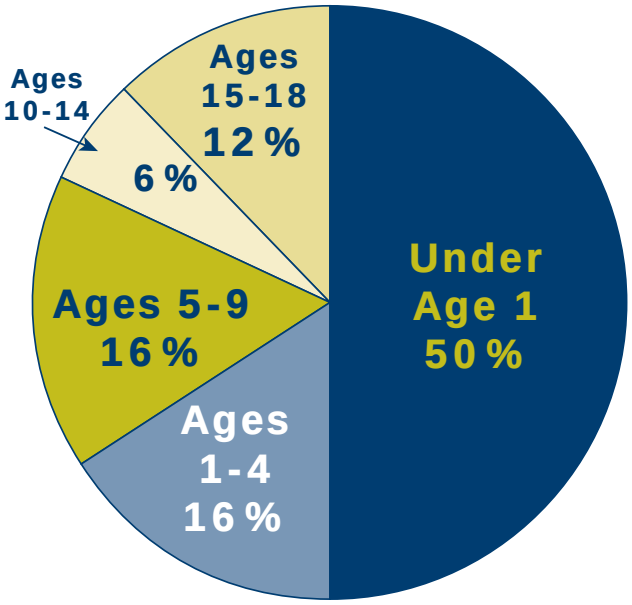


Data Source: Michigan Child Death Review

*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 one to be at the highest risk for neglect-related fatality in 2014.

Percentage of Child Neglect Deaths Reviewed in 2014 by Age



Data Source: Michigan Child Death Review

Local teams reviewed eight fatalities of children residing in foster care in 2014.

The Child Death State Advisory Team also functions as Michigan's federally mandated Citizen Review Panel (CRP) on Child Fatalities. The CRP met three times to examine deaths of children in 2014 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 has identified the following recommendations.

Recommendations to Policymakers to Prevent Child Abuse and Neglect Deaths:

1. **Increase Workers' Ability to Manage Cases with Medical Involvement.** *Michigan Department of Health and Human Services:* Provide Children's Protective Services workers with enhanced training and supports in order to enhance their decision-making in cases where information about medical conditions play a role in the child's safety. This could be accomplished in a variety of ways:
   - Integrate information regarding the most frequent medical issues in child welfare cases into the annual mandatory worker training, including when to obtain medical evaluations on children and how/when to obtain second opinions from specialists.

- Amend policy to require follow-up with the child's medical provider(s) as a collateral contact to verify any medical diagnoses reported by caregivers.
- Modeled after the program in San Bernardino County, California, consider contracting with public health nurses to provide periodic in-house consultation to local MDHHS offices for cases involving medical issues.
- Create a position within the Department of Child Abuse Pediatrician with staff, who, with immunity and universal privilege, could evaluate complex medical cases.

2. **Review State Statute.** *Michigan Department of Education:* Work with the CPS and Family Preservation Programs Office to conduct an interdisciplinary review of the current state statutes regarding home schooling for the purposes of ensuring that all children receive similar level of benefit from Child Protection Law.

3. **Utilize Available Analysis Methods.** *Michigan Department of Health and Human Services:* With the most current nationally accepted practices, utilize predictive analytics methods in investigations to help assess the impact of the most commonly seen risk factors in homes where caregivers are present who are unrelated to the child(ren).

4. **Review Policy and Practice.** *Michigan Department of Health and Human Services:* Create a task force to conduct a multi-year review of outcomes in cases where investigations involved transfers from one county to another; use the findings and recommendations of the task force to improve policy and practice in such cases.

FETAL INFANT MORTALITY REVIEW (FIMR) IN MICHIGAN

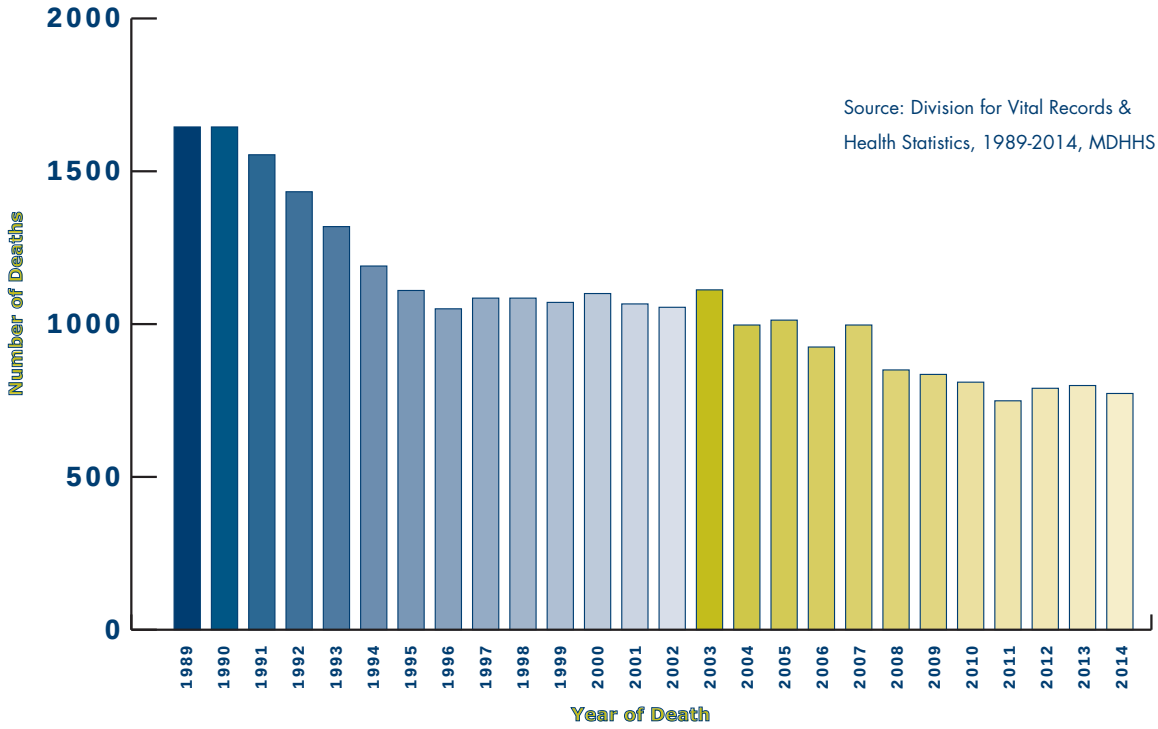
This section was authored by the Infant Health Section of MDHHS.

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 infant health outcomes.

There are many similarities between the FIMR and CDR processes. Both operate under the guiding principle that local, multidisciplinary review aids in understanding 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. The two main differences between FIMR and CDR processes are that FIMR reviews only consist of de-identified case information and that prior to the review, the FIMR team tries to obtain an interview with the mother of the deceased infant. The interviews convey the mother's story of her encounters with local service systems, bringing a different perspective and data source to the review table.

In Michigan, although the number of infant deaths has decreased over time, over the past few years, it has remained fairly stable, as shown in Figure 1.

Figure 1: Infant Deaths Michigan, 1989-2014



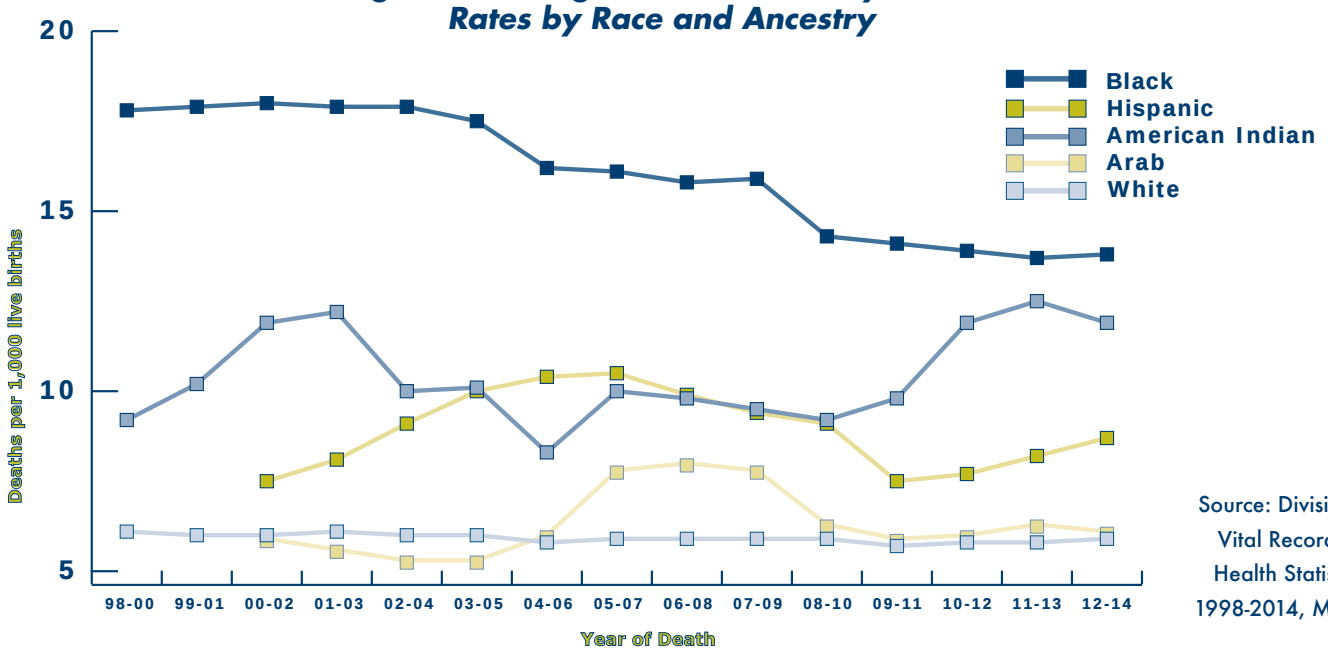
The Persistent Problem of Infant Mortality in Michigan

Infant mortality rates continue to be higher for Michigan than for the United States as a whole. In 2014, there were 773 infant deaths in Michigan, resulting in an infant mortality rate of 6.8 per 1,000 live births, compared to the U.S. infant mortality rate of 5.8. Michigan ranked 43rd out of the 50 states for overall infant mortality. (National Center for Health Statistics, CDC).

Figure 2: Infant Mortality Rate, Michigan & United States, 1970-2014

One of Michigan's most significant challenges is the persistent racial disparity between the black and white infant mortality rates. In 2014, the US white infant mortality rate was 5.1, and the black rate was 10.4, creating a ratio of black to white infant mortality of two-to-one. Michigan's 2014 white infant mortality rate of 5.3 and black rate of 13.3 are significantly higher than the U.S. rates, with black infants dying at a ratio of 2.5 times higher than white infants. Michigan ranks 37th for black infant mortality out of the 40 states with an adequate number of deaths in the numerator to calculate a rate. A substantial disparity also exists between the white and American Indian infant mortality rates in Michigan.

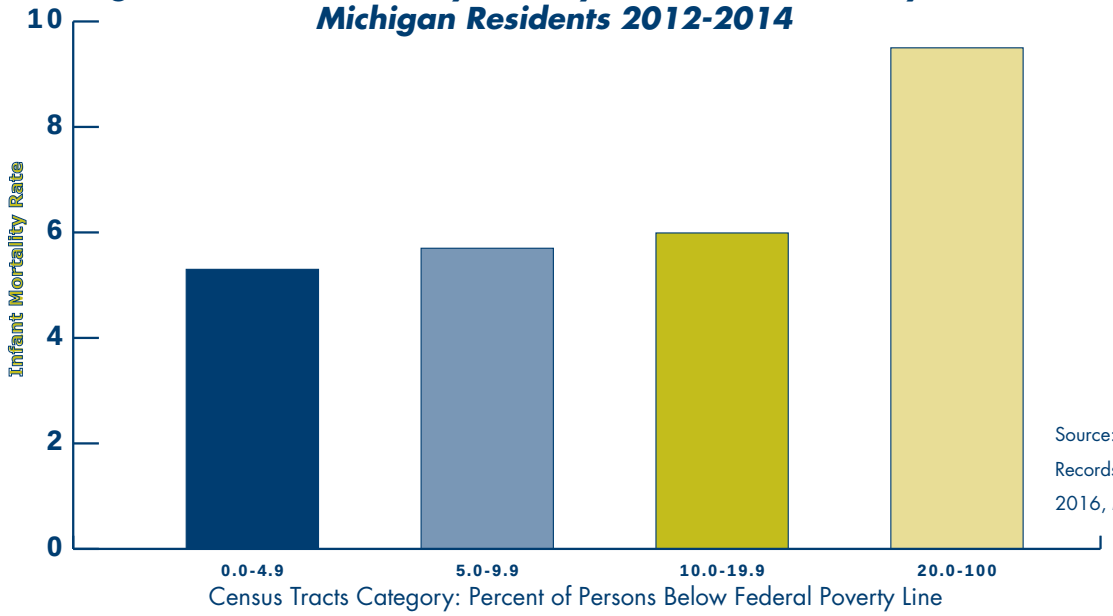
Figure 3: Michigan Infant Mortality Trend Rates by Race and Ancestry



Source: Division for Vital Records & Health Statistics, 1998-2014, 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 2012 and 2014, the infant mortality rate in the wealthiest tracts was 5.2 deaths per 1,000 live births and in the poorest the rate was 9.6 deaths per 1,000 live births, as shown in Figure 4.

Figure 4: Infant Mortality Rate by Census Tract Poverty Level, Michigan Residents 2012-2014



Source: Division for Vital Records & Health Statistics, 2016, 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.

Status of Local FIMR Teams

There were 13 active FIMR sites in Michigan in 2014; 10 of the 13 counties with the greatest infant mortality and disparities in infant mortality in the state had an active FIMR team to address these issues. The teams establish a FIMR presence in the communities which accounted for approximately 60 percent of the state's infant mortality and about 80 percent of the black infant mortality.

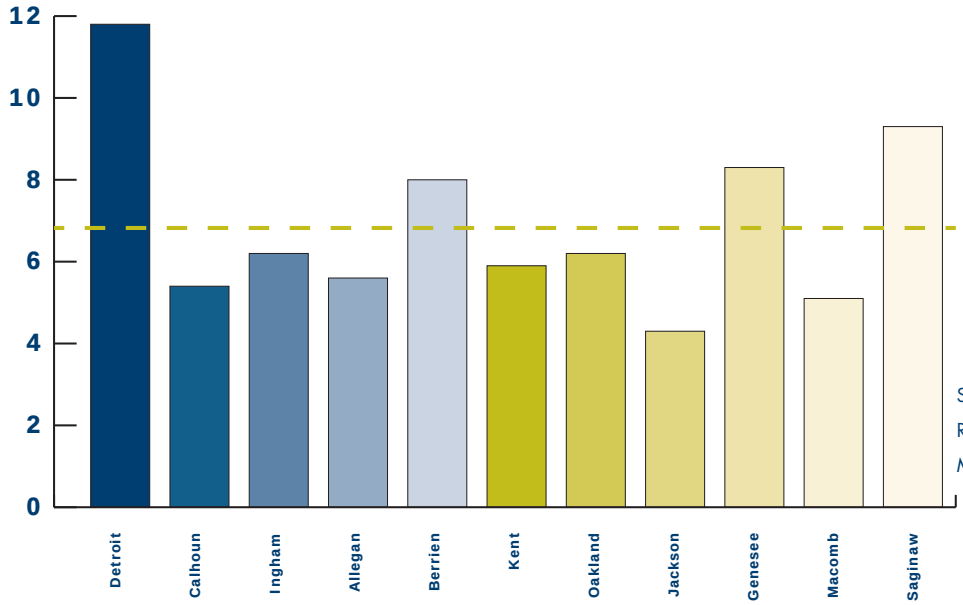
Most review teams met on a monthly basis, and Michigan FIMR programs utilize the two-tiered structure of multidisciplinary Community Review Teams (CRTs) and locally owned Community Action Teams (CATs). These teams strive to be culturally diverse and include members who represent the racial and ethnic makeup 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 and services for women, infants, children and families.

From January 1, 2014, to December 31, 2014, local CRTs held 76 meetings, reviewing 175 cases of fetal and infant death. Maternal interviews were conducted for 16 of those, giving direct insight into the mothers' experiences before, during and after pregnancy. Over 60 local CAT meetings were held in those communities to move recommendations of the CRTs to action.

***http://www.hrsa.gov/ourstories/mchb75th/images/rethinkingmch.pdf**

County	Year Begun	# of Cases Reviewed in 2014	Meetings Held
Saginaw	1991	6	3
Kalamazoo	1998	4	3
Genesee	1999	24	11
Oakland	2000	24	12
Calhoun	1991 – 1994 (resumed in 2000)	4	2
Kent	2001	57	9
City of Detroit	2001	12	9
Jackson	2003	10	10
Berrien	2003	12	6
Macomb	2005	15	8
Inter-Tribal Council	2007	0	0
Allegan	2010	7	3
Ingham	2012	0	0

Figure 5: MI FIMR Communities' 2014 Infant Mortality Rates Compared to the State Rate of 6.8 for 2014



Source: Division for Vital Records & Health Statistics, MDHHS, 2016

Examples of Local Initiatives Resulting from FIMRs

Berrien County

Responding to an alarmingly high number of Sudden Unexpected Infant Deaths in the community, all with elements of unsafe sleep as identified by FIMR reviews, Berrien County applied for and 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, safe sleep training is done for all home visiting staff in an attempt to provide consistent messaging to all families receiving home visiting services in their communities.

Calhoun County
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. Some areas that have been a focus are prenatal tobacco cessation, infant safe sleep and breastfeeding. Subcommittees and coalitions have been 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
In response to needs identified through their FIMR process, Detroit has been working on multiple initiatives, including developing a Detroit Crib Bank, enhancing referrals to grief counseling services for bereaved families, enhanced linkages and promotion of local and state-based smoking cessation programs, and coordinated referrals to home visiting services.

Inter-Tribal Council
An exciting initiative that has developed out of previous FIMR findings is the intergenerational infant safe sleep educational events that have taken place in six tribal communities. Previous findings indicated a high number of unsafe sleep factors present in SUIDs. To better empower families to make good choices about safe sleep, tribes have been using the bond between elders and young parents to educate about infant safe sleep practices. At community gatherings, elders and young parents come together to make traditional crafts and hear a presentation about safe sleep. Then the elders have a chance to teach the young parents about the rationale and importance of safe infant sleep in a culturally sensitive way. These events have been highly attended and preliminary evaluations indicate that attendees gain significant knowledge and confidence about infant safe sleep.

Jackson County
Driven by the high number of FIMR reviews identifying unsafe sleep environments as causing or contributing to infant deaths, Jackson County has continued safe sleep presentations to CPS, nursing students, EMTs and MIHP staff, as well as "in-hospital" sleep sack use to compliment the take-home program. 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.

Kent County
Kent County's FIMR team has recognized the missed opportunities in educating families about safe sleep through first responders. As a result, they are meeting to see how they can implement a DOSE (Direct On-Scene Education) program in their community. DOSE is an innovative attempt at eliminating sleep-related infant deaths due to suffocation, strangulation or positional asphyxia by using first responders to identify and remove hazards while delivering education on-scene, during emergency and non-emergency 911 calls. Kent County also provided a First Responder's Infant Death Scene Investigation Training.

Macomb County
Macomb County Health Department's CAT has held multiple Safe Baby Expos and workshops. At these events, attendees receive education on infant safe sleep and car seat safety. Additional vendors provide resources and health information to attendees.

Oakland County
Oakland County's Best Start for Babies coalition combines the FIMR CAT and the expertise of the county's Nurse Family Partnership staff. Supported by FIMR findings, the CAT adopted safe sleep as its priority for 2013 and 2014. This initiative was also supported by the (then) MDCH Safe Sleep grant awarded to Oakland County in 2013 and continued for 2014. Through this grant, they are able to continue infant safe sleep community education efforts. The CAT also promotes breastfeeding awareness, highlighting the Baby-Friendly Hospital designations in their area. They are also working on providing education and information to the community on infant care, infant development and maternal depression.

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 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 Advisory Committee, to identify strategies to address this complex issue.

In August 2012, Michigan's Infant Mortality Reduction Plan was released, revealing a statewide plan to reduce and prevent infant mortality in Michigan. The strategies in this plan 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 Infant Mortality Website at: **http://www.michigan.gov/infantmortality**. The website serves 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 Susanna Joy 517-335-9017 or joys@michigan.gov.

continued

APPENDIX

Total Numbers of Resident Child Deaths*, and Number of Reviews by County, 2014**

County	Total Deaths, 2014	Total Reviews, 2014
Alcona	1	1
Alger	0	0
Allegan	11	5
Alpena	5	0
Antrim	0	0
Arenac	3	3
Baraga	1	0
Barry	1	0
Bay	11	3
Benzie	1	5
Berrien	23	27
Branch	5	0
Calhoun	20	6
Cass	12	1
Charlevoix	2	2
Cheboygan	0	0
Chippewa	6	2
Clare	3	7
Clinton	6	4
Crawford	0	0
Delta	4	0
Dickinson	1	0
Eaton	12	9
Emmet	3	1
Genesee	56	25
Gladwin	4	2
Gogebic	2	3
Grand Traverse	8	13
Gratiot	8	11
Hillsdale	2	1
Houghton	4	0
Huron	4	1
Ingham	33	9
Ionia	7	5
Iosco	5	3
Iron	1	0
Isabella	3	2
Jackson	20	10
Kalamazoo	31	11
Kalkaska	4	0
Kent	82	27

County	Total Deaths, 2013	Total Reviews, 2013
Keweenaw	0	0
Lake	1	0
Lapeer	8	3
Leelanau	5	3
Lenawee	15	1
Livingston	21	13
Luce	2	0
Mackinac	0	0
Macomb	78	10
Manistee	4	0
Marquette	1	0
Mason	3	0
Mecosta	5	2
Menominee	5	0
Midland	10	6
Missaukee	2	7
Monroe	10	6
Montcalm	5	3
Montmorency	1	1
Muskegon	27	6
Newaygo	10	3
Oakland	124	17
Oceana	6	0
Ogemaw	1	3
Ontonagon	2	0
Osceola	0	2
Oscoda	3	0
Otsego	3	3
Ottawa	31	12
Presque Isle	2	0
Roscommon	5	4
Saginaw	34	5
St. Clair	13	13
St. Joseph	11	4
Sanilac	5	0
Schoolcraft	0	0
Shiawassee	4	2
Tuscola	7	3
Van Buren	5	3
Washtenaw	34	3
Wayne	320	127
Wexford	8	0
Unknown	1	5
Total	**1237**	**469**

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

**Source: Michigan Child Death Review, MPHI

ACKNOWLEDGMENTS

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, Children's Protective 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.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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