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# Child Deaths **IN MICHIGAN**



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Michigan Child Death  
**State Advisory Team**  
Tenth Annual  
**E X E C U T I V E**  
**R E P O R T**

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**A Report on Reviews  
conducted in 2011**

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.





STATE OF MICHIGAN  
DEPARTMENT OF HUMAN SERVICES  
LANSING

RICK SNYDER  
GOVERNOR

MAURA D. CORRIGAN  
DIRECTOR

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

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

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

In 2011, nearly 1,200 community representatives in 56 counties reviewed 590 child deaths and determined that more than half (62 percent) were preventable. In this report, the Michigan Child Death State Advisory Team presents multiple strategies to prevent future child deaths. The report includes recommendations for increased education campaigns to prevent drug overdoses by teens, and new laws requiring health practitioners to uniformly educate parents on how to prevent sleep-related infant deaths.

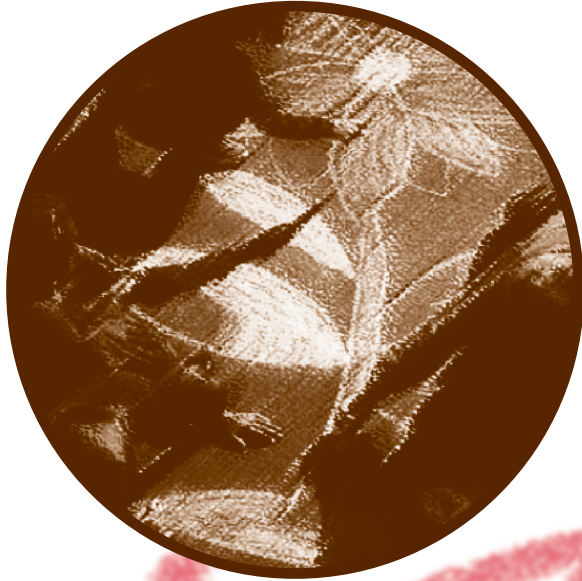
Reducing infant mortality and preventable child deaths will require sustained efforts at the state and local levels. I appreciate the priority that this administration has placed on decreasing infant mortality, highlighted in its MiDashboard initiative. Childhood mortality is a crucial indicator of the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

Sincerely,

A handwritten signature in cursive script, reading "Maura D. Corrigan".

Maura D. Corrigan, Director  
Department of Human Services

# Child Deaths IN MICHIGAN



## MICHIGAN CHILD DEATH STATE ADVISORY TEAM

## TENTH ANNUAL REPORT

A REPORT ON REVIEWS  
CONDUCTED IN 2011

### MISSION

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

### SUBMITTED TO

THE HONORABLE RICK SNYDER, GOVERNOR, STATE OF MICHIGAN

THE HONORABLE RANDY RICHARDVILLE, MAJORITY LEADER, MICHIGAN STATE SENATE

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



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2011**

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## INTRODUCTION

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

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

The Michigan Child Death State Advisory Team was established by Public Act 167 of 1997 (MCL 722.627b) to "identify and make recommendations on policy and statutory changes pertaining to child fatalities and to guide statewide prevention, education and training efforts." The law also requires the State Advisory Team to publish an annual report on child fatalities. The present report includes 590 deaths reviewed in 2011 by local teams.

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

The Michigan CDR program has established working relationships with numerous diverse organizations throughout the state to promote child health and safety. The program also maintains a productive working relationship with DHS that has led to the implementation of innovative strategies to better protect children and prevent deaths. MPHI staff also manage the Fetal and Infant Mortality Review Program (FIMR), funded by the Michigan Department of Community Health (MDCH). In 2011, FIMR conducted intensive reviews of infant deaths in 14 communities. Michigan's collaboration of CDR and FIMR is recognized as a national model.

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## SCOPE OF THE DATA

The information presented in this report is based on data provided by the local county CDR teams. The teams complete a standardized data reporting tool developed by the National Center for the Review and Prevention of Child Deaths, and submit the information to the CDR program office at 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](http://www.keepingkidsalive.org).

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

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

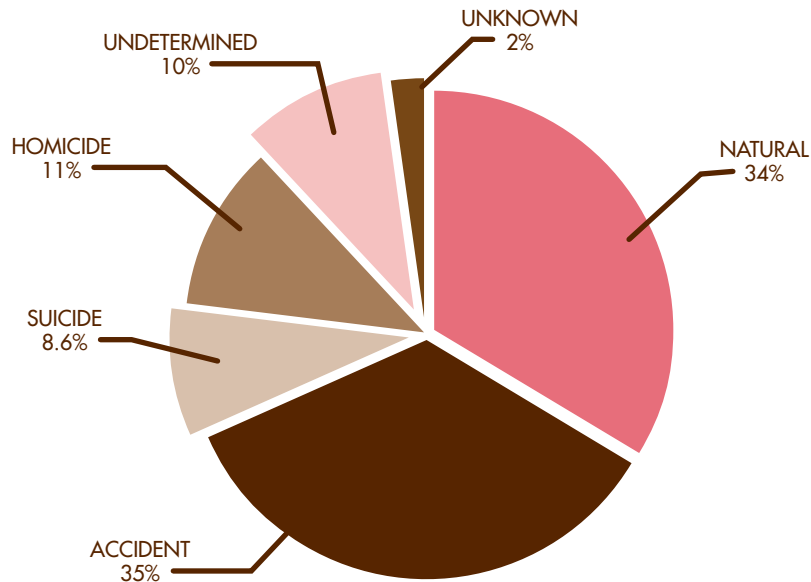
Two types of death determination are reported on death certificates: cause and manner. Cause refers to the actual disease, injury or complications that directly resulted in the death. Manner refers to the circumstances of the death. There are five possible manners: natural, accident, suicide, homicide 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.

Of the total child deaths in the state for 2010 (cause and manner data for 2011 was not available from the Vital Statistics Office when this report was prepared), 69 percent were natural deaths, while 19 percent were accidental deaths, including, but not limited to deaths from fires, drownings, car crashes and suffocations. These two largest categories of manner are nearly identical in percentage to the previous four years.\*

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

Local teams reviewed 590 child deaths in 2011. The largest portions were those classified as accidental deaths and natural deaths (35 percent and 34 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.

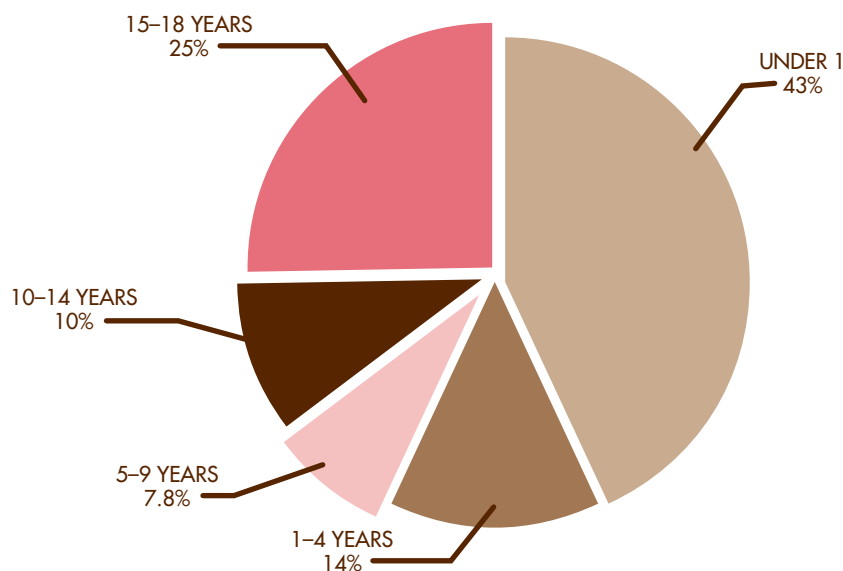
**Percentage of Child Deaths Reviewed in 2011 by Manner**



The deaths of infants (children under age one) account for approximately half of all child deaths ages 0-18, both in Michigan and nationwide. In 2011, deaths of children under age one accounted for 43 percent of all cases reviewed in Michigan.

Deaths of children ages 15-18 were the next most frequently reviewed, accounting for 25 percent of all deaths reviewed in 2011. 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.

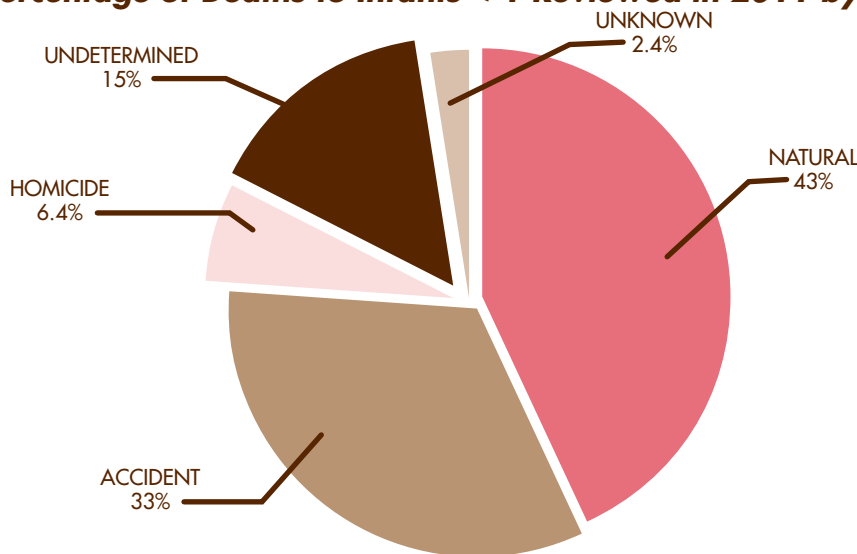
**Percentage of Child Deaths Reviewed in 2011 by Age**



The largest percentage of infant deaths reviewed was classified as natural. Almost two-thirds of natural infant deaths reviewed in 2011 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 32 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*.

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 classify the death as accidental suffocation.

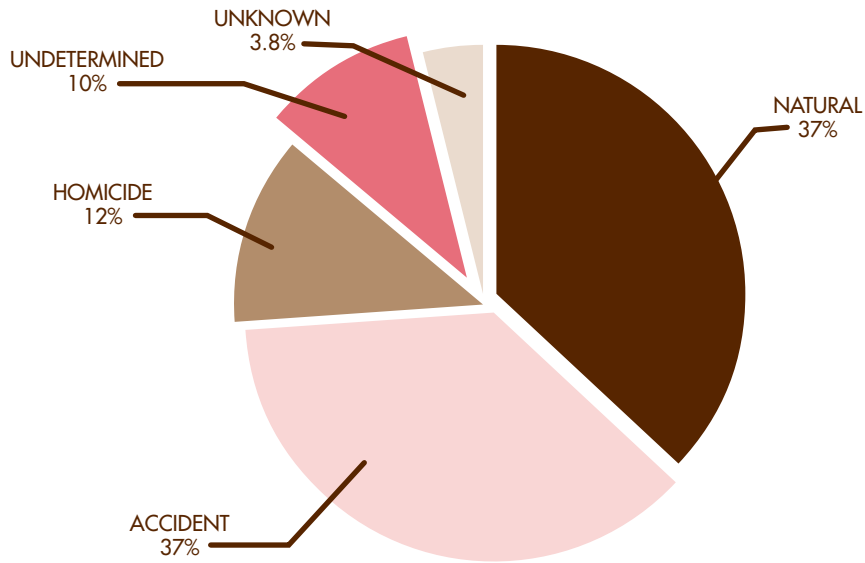
**Percentage of Deaths to Infants < 1 Reviewed in 2011 by Manner**



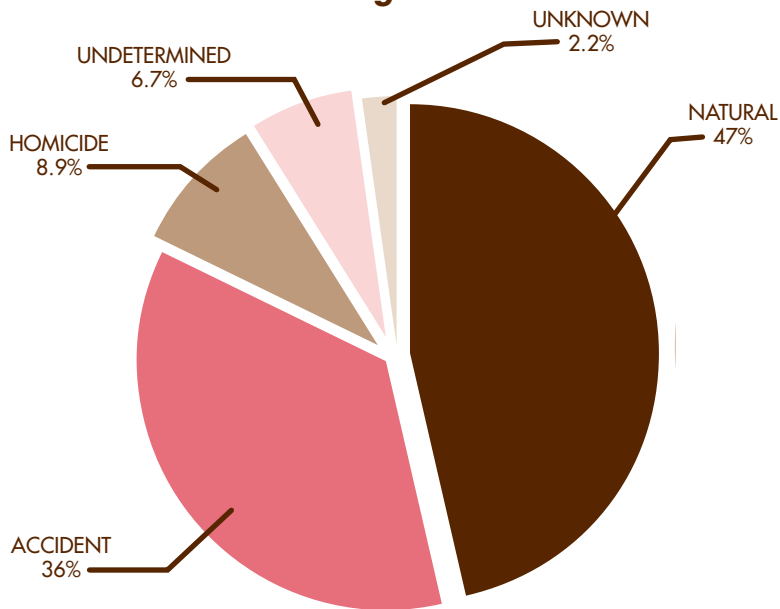
The vast majority of infant deaths classified as accidental by medical examiners were due to suffocation in a sleep environment. Of all accidental infant deaths reviewed in 2011, 88 percent (73 deaths) were due to sleep-related suffocation. This type of death is addressed later in this report.

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

**Percentage of Deaths to Children Ages 1-4 Reviewed in 2011 by Manner**

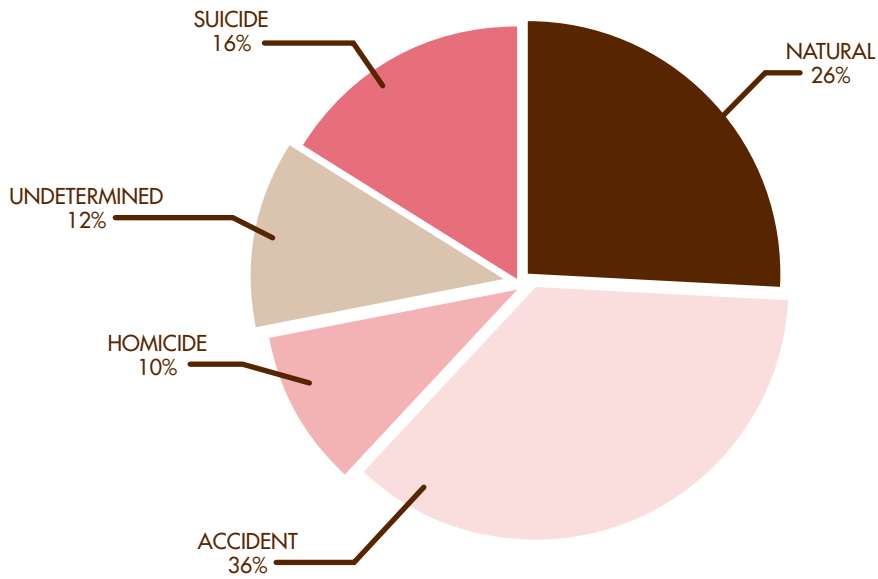


**Percentage of Deaths to Children Ages 5-9 Reviewed in 2011 by Manner**

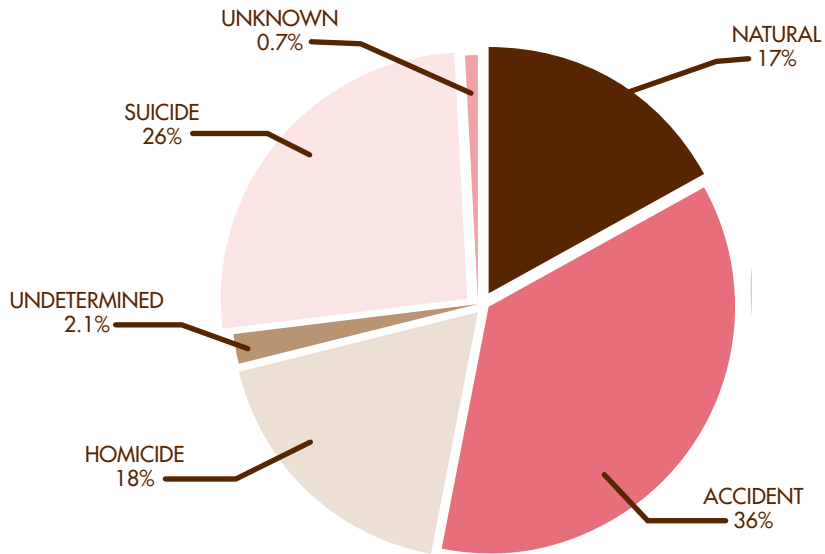


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**Percentage of Deaths to Children Ages 10-14 Reviewed in 2011 by Manner**

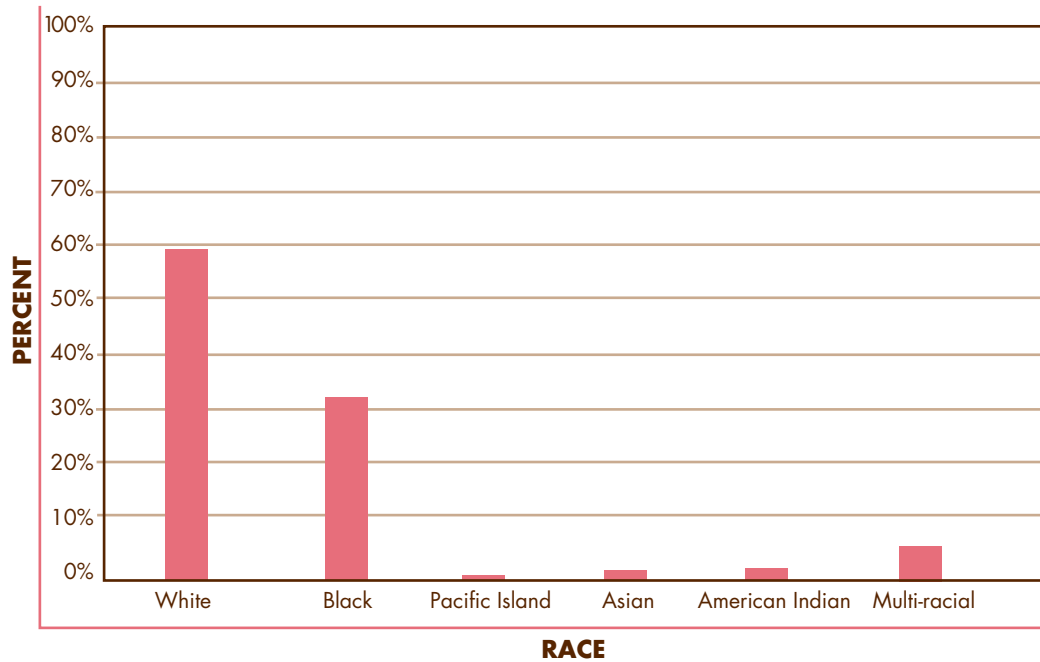


**Percentage of Deaths to Children Ages 15-18 Reviewed in 2011 by Manner**



In 2010\*, blacks made up about 14 percent of the population in Michigan, but accounted for 36 percent of the total child deaths, and 31 percent of the child deaths reviewed in that same year (32 percent in 2011). This overrepresentation has remained consistent throughout the years that the CDR process has operated in Michigan.

**Percentage of Child Deaths Reviewed in 2011 by Race**



\*2011 mortality data was not available at the time this report was prepared.

## Preventability

Local teams define a child's death as preventable "if the community or an individual could reasonably have changed the circumstances that led to the death."\* Each team decides if cases meet this criterion. Using this standard, nearly all accidents and homicides were determined by local teams to have been preventable. Consistent with review findings in previous years, the teams determined that **more than half** of all deaths reviewed in 2011 **were preventable (62 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. Local teams consider specific risk factors such as unsafe sleep environments when making preventability determinations.

**Percentage of Preventable Child Deaths Reviewed in 2011 by Manner**

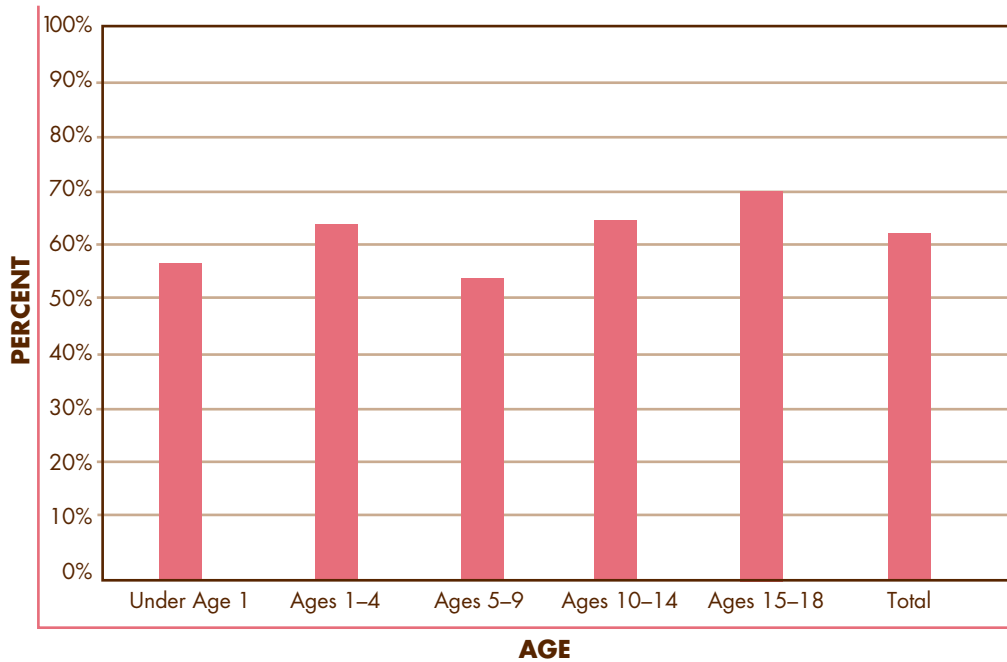


\* National Center for Child Death Review Case Report Data Dictionary, January 2008.

Consistent with prior years, in 2011, local review teams considered deaths in the 15-18 age range as more preventable than deaths of younger children. Teams found that nearly 60 percent of the deaths to children ages 0-14 were preventable. This increased to 70 percent in the 15-18 age range. This was due to the fact that the majority of older teen deaths were due to accidents, homicides and suicides, which were viewed by local teams as more preventable than natural deaths.

The deaths considered least preventable by local teams in 2011 were those that occurred in the 5-9 age range. Children in this age range had a larger proportion of natural deaths than any other age range reviewed.

**Percentage of Preventable Child Deaths Reviewed in 2011 by Age**



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# SELECTED CAUSES OF DEATH AND RECOMMENDATIONS FOR POLICYMAKERS

## *Sleep-Related Infant Deaths*

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

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

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

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

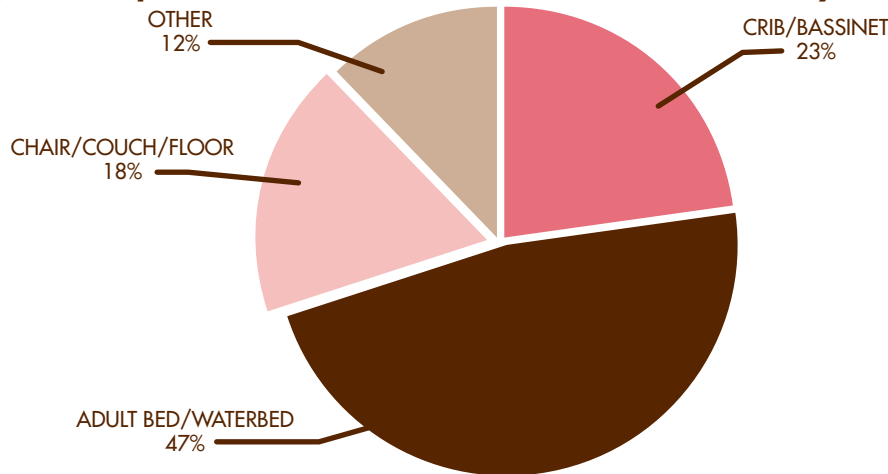
If all of the sleep-related infant deaths could be prevented in Michigan, the state's infant mortality rate — 7.1 per 1,000 live births in 2010 (the latest year for which this data is available), well above the national rate of 6.1 — would drop to 6.2. The root causes of prematurity, low birth weight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

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

The percentages in the following graphs are based on 133 deaths reviewed in 2011 where the local team indicated that the sleep environment was a factor in the death. Since 1996, local teams have reviewed almost 2,000 sleep-related infant deaths.

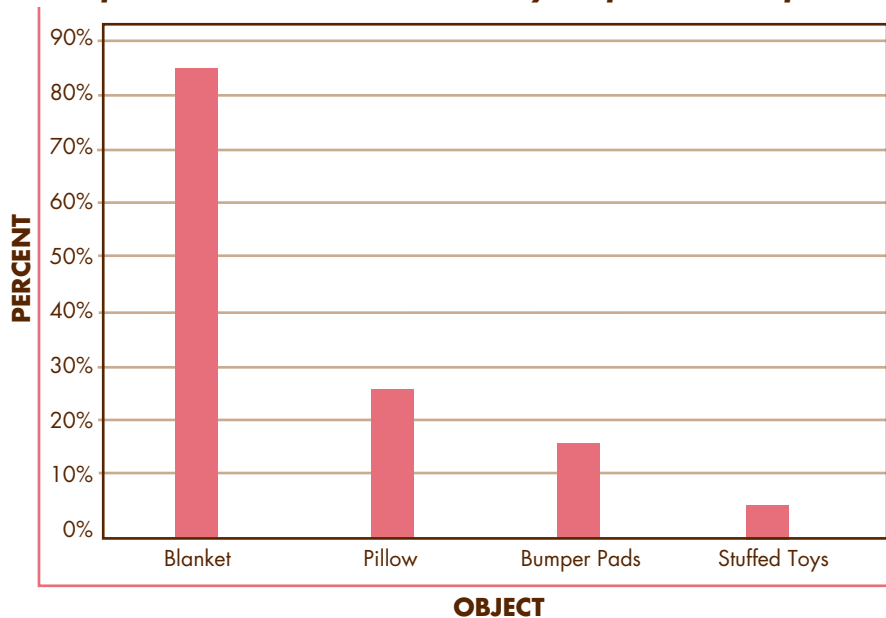
The AAP has defined a safe infant sleep location as a safety-approved crib, bassinet or portable crib with a firm mattress and tight-fitting sheet. Only 23 percent of the sleep-related deaths reviewed in 2011 occurred in an AAP safe infant sleep location. Over three-quarters of the deaths occurred in 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 2011 by Incident Sleep Place**



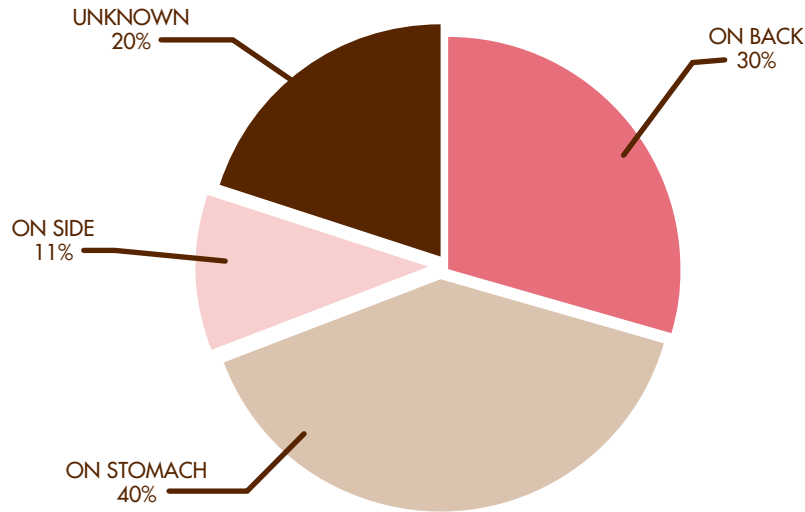
According to the AAP, loose blankets, pillows, comforters and stuffed toys should not be present in an infant’s sleep environment. Of the 23 percent of sleep-related infant deaths reviewed that did occur in a safe infant sleep location, many involved suffocation hazards in the child’s immediate sleep environment. In 84 percent of these cases reviewed in 2011, 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 2011 where Sleep Place was Crib/Bassinet by Objects in Sleep Environment**



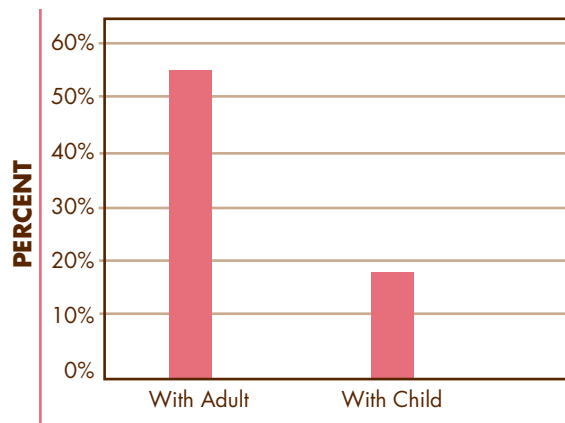
The AAP guidelines state that infants should always be placed to sleep on their backs. In 30 percent of the sleep-related deaths reviewed in 2011, the infants were reportedly found unresponsive on their backs. In 20 percent of the cases, local teams did not have information about the position in which 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 2011 by Found Position**



The AAP recommends that infants sleep on a surface separate from adults or other children. In 2011, there were 72 sleep-related deaths reviewed in which the infant was sleeping with at least one adult at the time of death, and 24 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 Reviewed in 2011 by Sleep Surface Sharing**



Categories are not mutually exclusive.

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

1. **Adopt a “No Missed Opportunity” Infant Safe Sleep Education Campaign.** All state agencies that work with children and families: Implement and maintain an infant safe sleep education campaign, including multiple strategies to inform and change 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 contribute to infant suffocation deaths.
  
2. **Develop Enhanced Provider Outreach and Education.** Michigan Department of Licensing and Regulatory Affairs and other relevant regulatory agencies: For licensing and accreditation purposes, require demonstrated core competencies in infant safe sleep for professionals who work in health care and other human service delivery fields, including:
  - Hospital personnel such as nurses, doctors, patient care assistants, lactation consultants and all other personnel who interact with new parents.
  - Home visiting program workers and prevention services personnel.
  - Preconception care, prenatal care, pediatric and family care providers.
  - Federally Qualified Health Centers and Primary Care Associations personnel.
  - Post-secondary schools of medicine, nursing, social work, psychology, health education and health communication.
  
3. **Produce Resource Materials.** The Michigan Department of Community Health: Coordinate the statewide development, updating and dissemination of infant safe sleep resource materials for use by a wide variety of disciplines.
  
4. **Enact Legislation.** The Michigan Legislature: Based on HB 47 (Act 73 of 2010) in Pennsylvania, enact legislation requiring hospitals and nurse midwives to uniformly educate new parents on how to prevent sleep-related infant deaths.

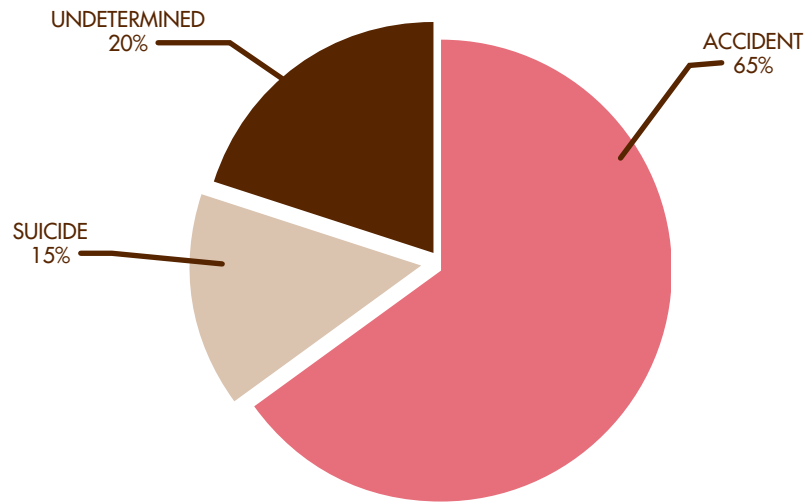
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## Poisonings/Overdoses/Acute Intoxications

Poisoning occurs when a substance not meant for human consumption is ingested and causes harm; overdose is when a substance for which a safe dosage has been established (e.g., pain medications and other types of prescription drugs) is taken in excess and causes harm; and acute intoxication is when a substance for which no safe dosage has been established (e.g., cocaine and other types of illegal drugs) is ingested and causes harm.

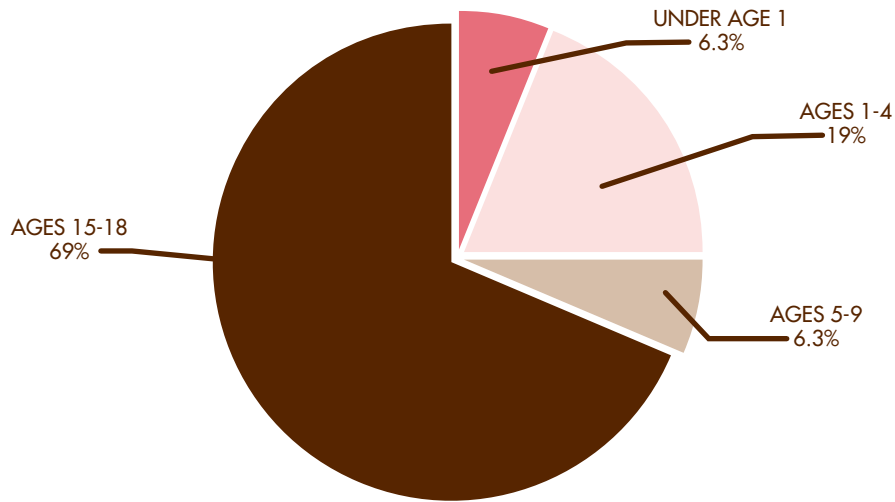
The greatest portion of all poisonings, overdoses, and acute intoxications reviewed in 2011 was accidental. In some cases, the medical examiner cannot be certain whether a teen's overdose was a result of suicide or an accident, and will classify the manner of death as undetermined. In 2011, there were no such cases reviewed that were determined to be homicides.

**Percentage of Reviews of Child Poisoning, Overdose, or Acute Intoxication Deaths in 2011 by Manner**



Regarding accidental poisoning or overdose deaths to children, the general public likely thinks of toddlers getting into cleaning products or medicines. Young children can and do ingest toxic substances, but the vast majority who die from accidental poisoning or overdose are actually teens. These deaths often involve the abuse of one or more prescription or illegal drugs. In 2011, there were no such cases reviewed in the 10-14 age range.

**Percentage of Accidental Poisoning, Overdose, or Acute Intoxication Deaths Reviewed in 2011 by Age**



The number of accidental teen overdoses, especially involving prescription drugs, has increased over the past several years. Between 1999 and 2003, an average of five such deaths occurred per year. Between 2004-2010, that average nearly tripled to 14 deaths per year. Teen males accounted for two-thirds of accidental overdoses or acute intoxications reviewed in 2011.

**Recommendations to Policy Makers to Prevent Poisonings/Overdoses/Acute Intoxications:**

- 1. Implement Education Campaign.** State Board of Education:
  - Adopt a model policy regarding substance abuse, including the signs and symptoms of prescription drug abuse and the potential for overdose when teens have access to prescription medications.
  - Support resources for the Michigan Model for Health and comprehensive school health coordinators.
  - Encourage all school districts to form coordinated school health councils.
- 2. Target Prevention.** All local human service agencies that work with teens and their families: Collaborate with the Regional Substance Abuse Coordinating Agency and Michigan Youth Opportunities Initiative in your area to implement evidence-based youth substance abuse prevention campaigns.
- 3. Implement Take-Back Programs.** Michigan State Police, Michigan Sheriff’s Association and Michigan Chiefs of Police: Institute prescription drug take-back programs to reduce the availability and accessibility of unused prescription drugs by unauthorized users.\*

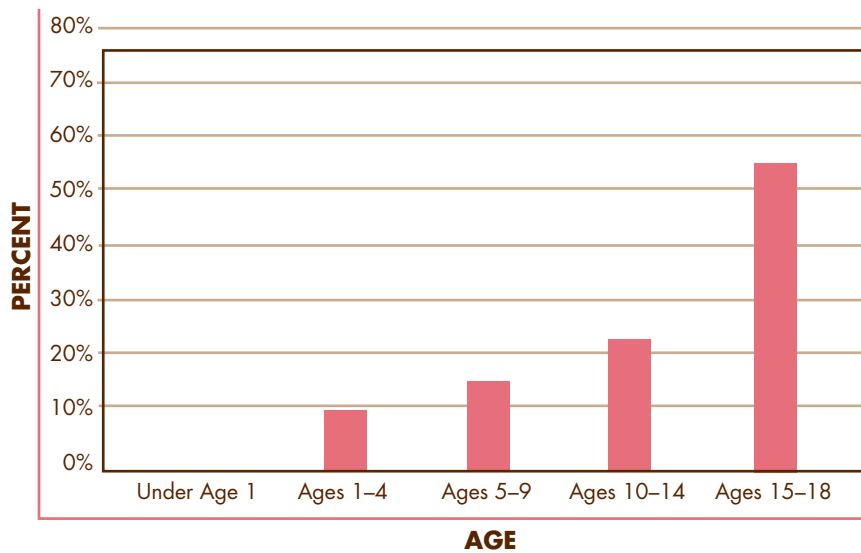
\* For more information on how to set up such a program, contact the DEA – Detroit Division at (313) 226-7536.

## Motor Vehicle Deaths

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

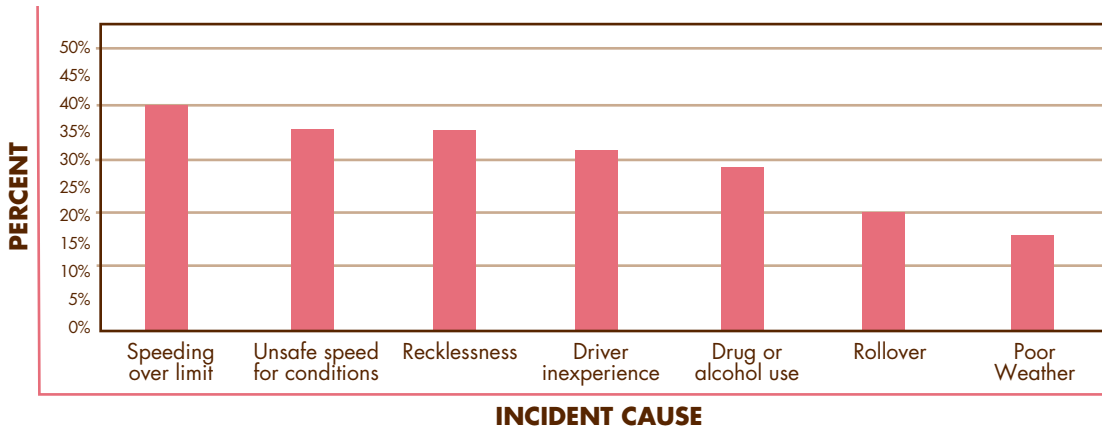
Local teams reviewed 63 child deaths involving motor vehicles in 2011. Over half of these deaths (34) were to teens ages 15-18, more than all the other ages combined (29). Sixty-two percent of all motor vehicle deaths reviewed in 2011 involved male victims. There were no motor vehicle deaths reviewed in 2011 involving infants under age one.

**Percentage of Motor Vehicle Deaths Reviewed in 2011 by Age**



When reviewing deaths to children in motor vehicles, local review teams can identify as many causes of the incident as applicable. Just over three-quarters of the motor vehicle deaths reviewed where a teen was responsible for the crash listed speed (whether over the limit or unsafe for conditions) as at least one of the causes (76 percent). While drug or alcohol use was considered a factor in 28 percent of these crashes, teams were more likely to cite driver inexperience, recklessness and/or speeding as a cause of the crash.

**Percentage of Motor Vehicle Deaths Reviewed in 2011 by Incident Cause\***



\*Graph only includes teen drivers who were responsible for incident.

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

**Recommendations to Policy Makers to Prevent Motor Vehicle Deaths:**

1. **Strengthen Licensing System.** The Michigan Legislature: Strengthen the current graduated licensing system by removing the exceptions to the teen passenger restrictions for teen drivers holding Level Two Intermediate Licenses.
2. **Revise Driver Education.** The Michigan Department of State: Partner with the Office of Highway Safety Planning to conduct ongoing comprehensive review and revision of driver education programs throughout the state to ensure that instructors and curricula meet minimum requirements.

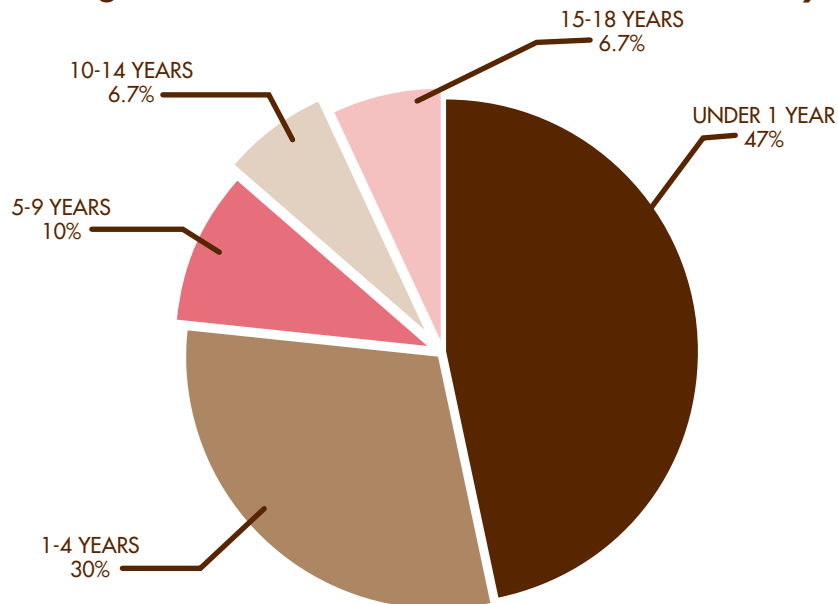
## Child Abuse and Neglect Deaths

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

The percentages of deaths reported in the graphs in this section are based on 30 abuse-related and 89 neglect-related fatalities reviewed in 2011. When local teams review a child's death, they are asked to indicate if they believe that someone caused or contributed to the child's death by any action or inaction on their part. These numbers represent those cases wherein the teams indicated that abuse and/or neglect either caused or contributed to the child's death. As such, they will not be reflective of official counts of abuse or neglect fatalities reported by other entities, such as DHS or MDCH's Division for Vital Records and Health Statistics.

Infants under age 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.

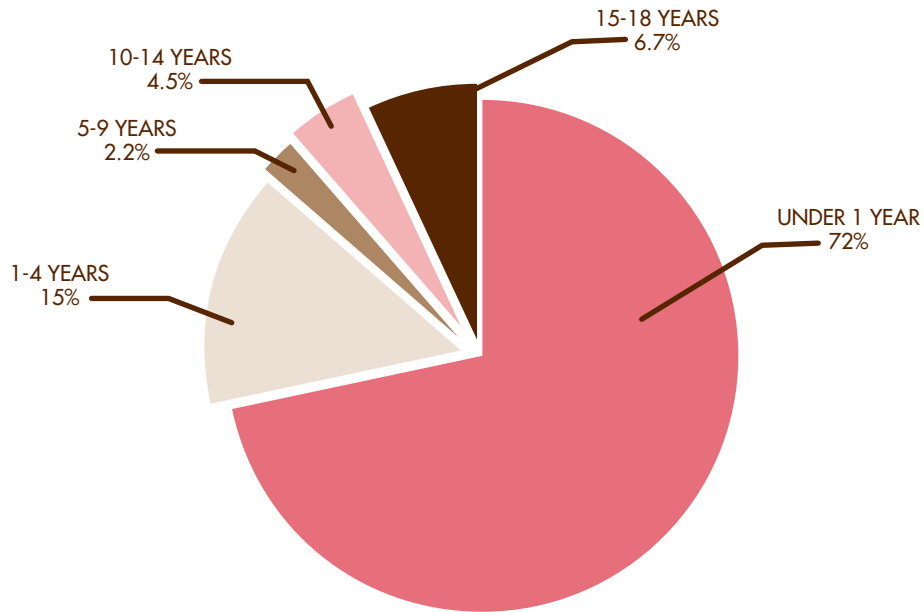
**Percentage of Child Abuse Deaths Reviewed in 2011 by Age**



\*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 2011. Although this finding is due in large part to the level of care necessary to keep babies healthy, another factor is that local teams identified many sleep-related infant deaths as neglectful, especially if the parents admitted that they were taught about safe sleep but did not practice it, or if there was drug or alcohol use by caregivers who then overlaid their infants during sleep.

**Percentage of Child Neglect Deaths Reviewed in 2011 by Age**



Local teams reviewed eight fatalities of children residing in foster care in 2011. Seven of those were ruled natural or accidental by Medical Examiners, while one was designated as undetermined manner.

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

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

1. **Enhance Resource Awareness.** Michigan Departments of Human Services, Community Health and Education: Ensure that human service professionals working with high-risk families are knowledgeable about, and make appropriate referrals to, state and community resources, such as the Maternal Infant Health Program and other primary and secondary prevention services.
2. **Train School Professionals.** Michigan Department of Education: Encourage school districts to partner with their local DHS office to offer annual mandated reporter training to teachers and other school professionals.
3. **Train Medical Professionals and Other Direct Service Providers.** Michigan Bureau of Health Professions: As part of licensing standards, require training through DHS for medical professionals on failure to thrive and medical neglect, as well as on their duty as mandated reporters to file a complaint with Children’s Protective Services (CPS) when child abuse or neglect is suspected.

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

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



# FETAL INFANT MORTALITY REVIEW (FIMR) IN MICHIGAN

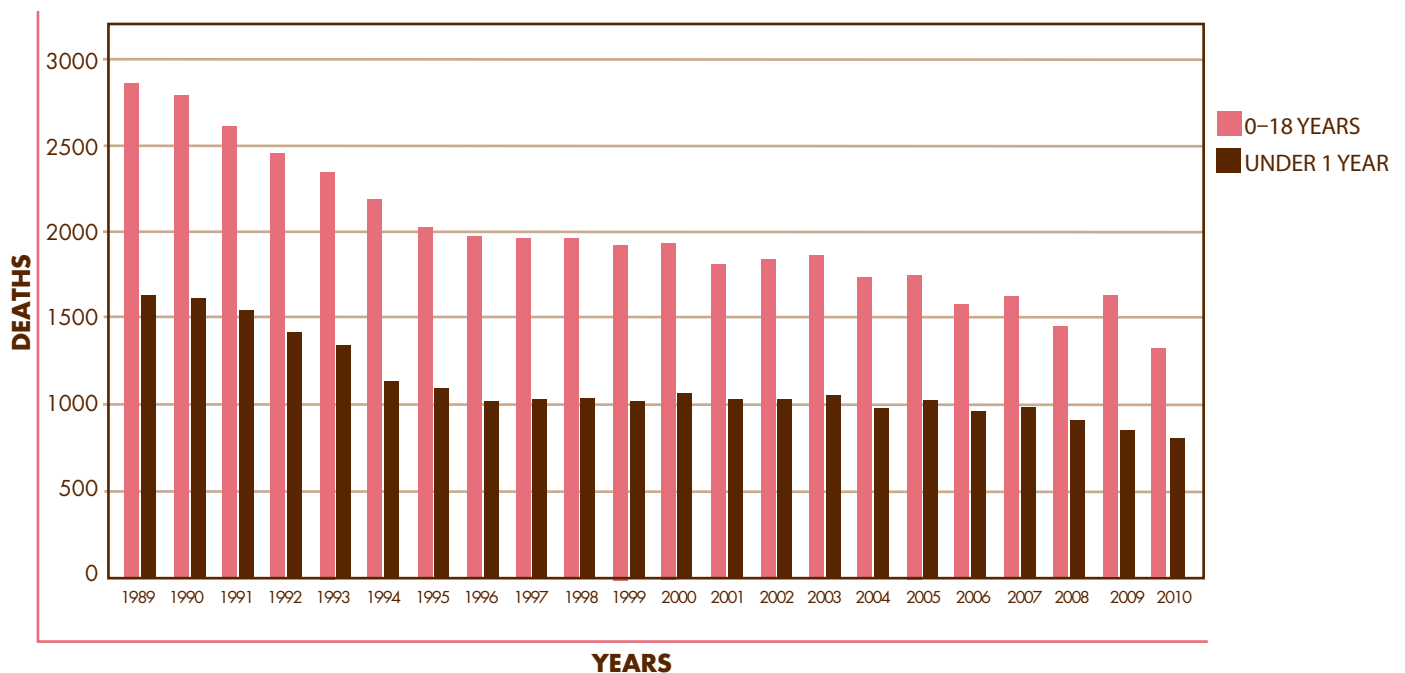
This section was authored by the Michigan Department of Community Health.

The Fetal Infant Mortality Review program gives communities an opportunity to do an in-depth review of their deaths to infants under the age of one, and select cases of stillbirth. The overall goal of fetal and infant mortality review is to enhance the health and well-being of women, infants and families by improving the community resources and service delivery systems available to them. The FIMR process brings together key members of the community to review confidential, de-identified information from individual cases of fetal and infant death in order to identify factors associated with those deaths and develop recommendations for change, assist in the implementation of change and determine community effects.

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

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

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

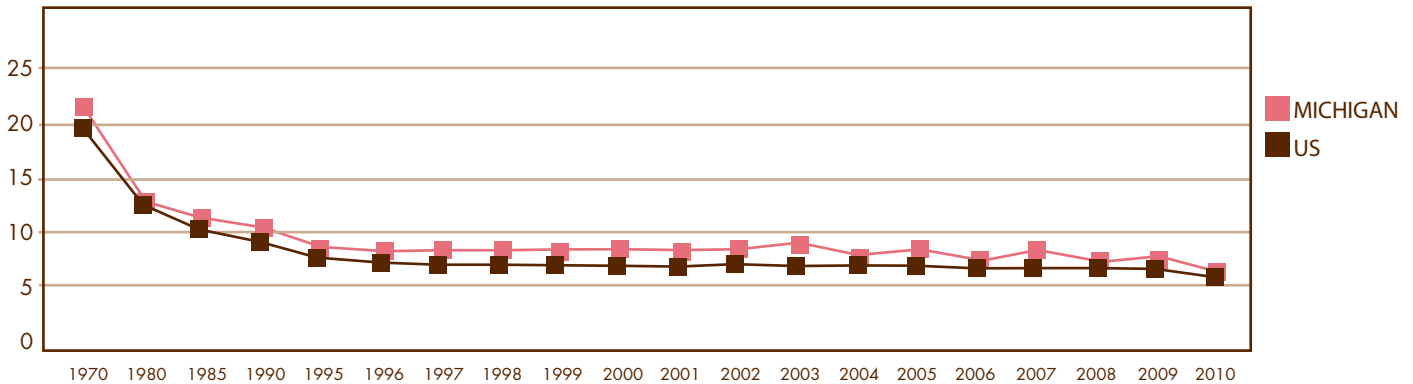


\* 2011 mortality data was not available at the time this report was prepared.

## The persistent problem of Infant Mortality in Michigan

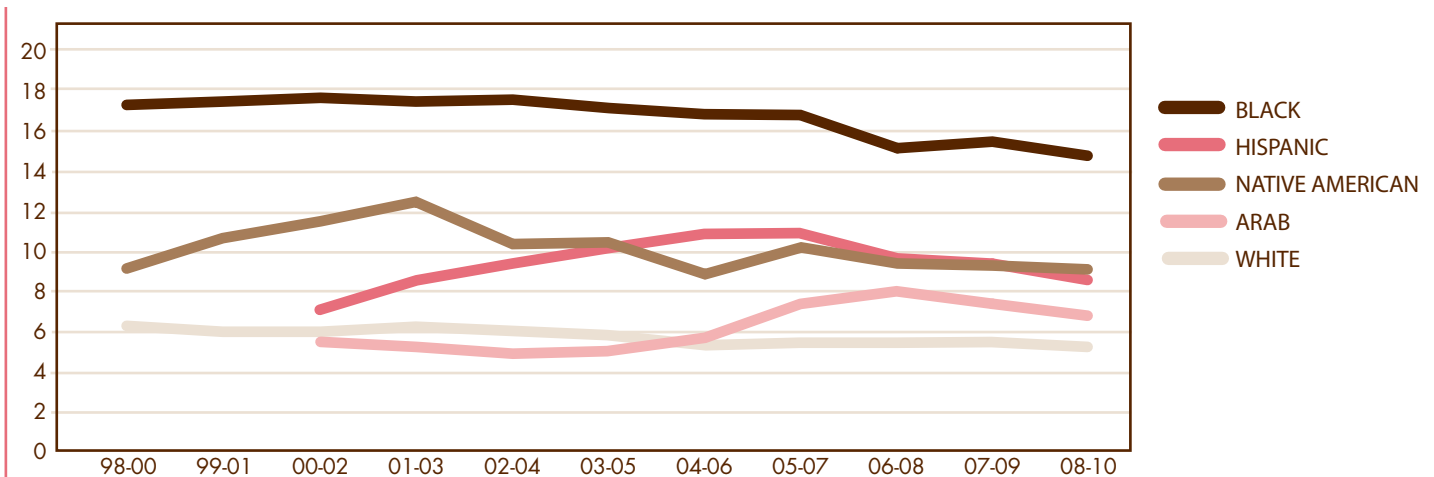
Infant mortality (IM) continues to be higher for Michigan than for the United States as a whole. In 2010 in Michigan, there were 817 infant deaths resulting in an IM rate of 7.1 per 1,000 live births compared to the US infant mortality rate of 6.1 (US rates for 2009 & 2010 are provisional). Michigan currently ranks 37th among states for overall infant mortality (3-year average, 2005 – 2007, National Center for Health Statistics, CDC).

**Figure 2 – Michigan Infant Death Rate compared to the US**



One of Michigan's most significant challenges is the persistent disparities between the black infant mortality rate and the rate for white infants. In 2010, the white infant mortality rate was 5.5 per 1,000 live births, while the black rate was 14.2 per 1,000 live births. The disparity between the black and white infant mortality rate has started to narrow. In 2005, the white infant death rate was 5.5, and was comparable to the previous ten-year 1996-2005 average of 6.0 deaths per 1,000 white births. The black infant death rate was 17.9 in 2005, and was also comparable to the previous decade average of 17.6 deaths per 1,000 black births. However, in 2010 the white infant mortality rate was 5.5 per 1,000 live births while the black rate was 14.2 per 1,000 live births. So, since 2005, the white infant mortality rate has leveled off, while the black rate has declined by 19.6%. The decline in the Michigan infant mortality rate is largely due to a reduction in black infant deaths. Disparities also exist between the Native American infants and infants of Hispanic and Arab ethnicities in Michigan, as shown in Figure 3.

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



\* 2011 mortality data was not available at the time this report was prepared.

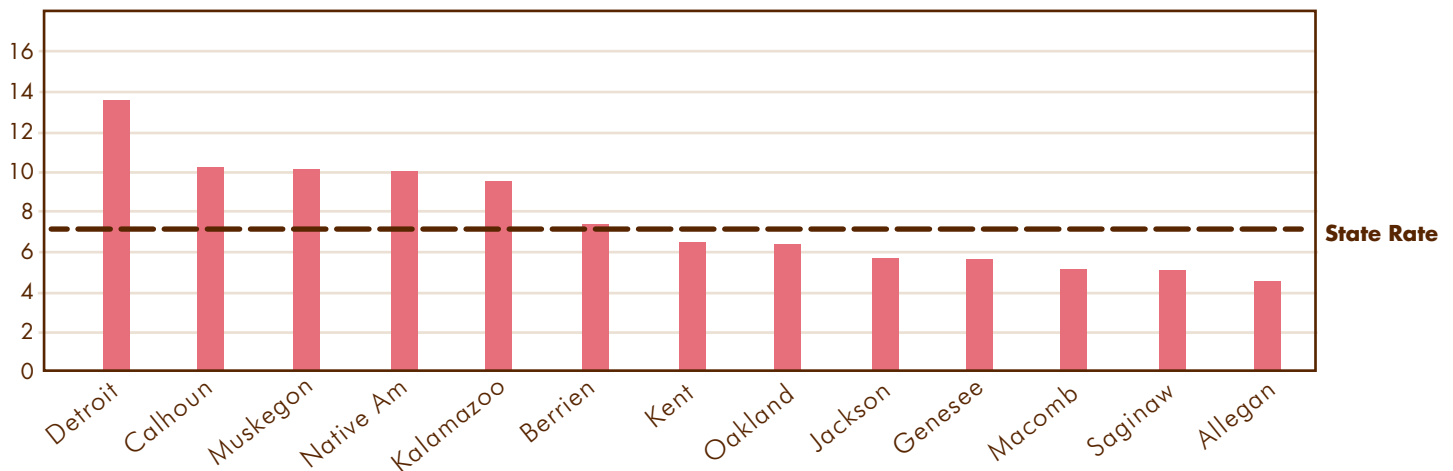
### Status of Local FIMR Teams

In 2011, there were 13 active FIMR sites in Michigan, establishing a FIMR presence in the communities which accounted for approximately 65 percent of the infant deaths statewide and nearly 85 percent of the black infant deaths in the state.

From January 1, 2011 to December 31, 2011, local teams held 99 meetings, and reviewed 240 cases of fetal and infant death. Maternal Interviews were conducted for 46 of those, giving direct insight into the mothers' experience before and during pregnancy. The interviews convey the mother's story of her encounters with local service systems. Over 65 Community Action Team Meetings were held in those local communities to move recommendations to action.

County	Year Begun	# of Cases Reviewed in 2011
Saginaw	1991	16
Kalamazoo	1998	19
Genesee	1999	25
Oakland	2000	25
Calhoun	1991 – 1994 (resumed in 2000)	11
Kent	2001	45
City of Detroit	2001	9
Jackson	2003	10
Berrien	2003	13
Native American	2003	5
Macomb	2005	23
Muskegon	2007	37
Allegan	2010	2

**Figure 4 – Compares Michigan FIMR communities' Infant Mortality rates for 2010 with the state rate of 7.1 for 2010**



\* 2011 mortality data was not available at the time this report was prepared.

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## **Examples of Local Initiatives Resulting from FIMRs**

### **Kent**

Kent County FIMR founder and longtime Maternal Child Health champion, Dr. Joseph S. Moore, passed away in January 2011. Dr. Moore received three awards recognizing his work on infant and maternal mortality prevention. Governor Rick Snyder recognized Dr. Moore at the 50th Annual Perinatal Conference of the Michigan State Medical Society. Henceforth, the conference will be known as the Joseph S. Moore Annual Maternal and Perinatal Conference. Dr. Moore also received the Lifetime Achievement Award from the Child and Family Resource Council now known as Family Futures, and the Community Collaboration Award from Healthy Kent 2020. Many of the accomplishments of the Kent County FIMR and indeed the State of Michigan's FIMR teams can be attributed to the tireless and passionate efforts of Dr. Moore.

### **Saginaw**

The Saginaw County FIMR team shares information that helps inform the Saginaw County Health Improvement Plan and the Community Health Improvement process. Aided by FIMR recommendations, four priorities recognized by the community include:

- Infant Safe Sleep
- Prenatally drug-exposed infants
- Prematurity
- Health equity

### **Genesee**

Genesee's FIMR identified that high numbers of women who experienced an infant death were using drugs, alcohol, and tobacco. High correlation exists between these behaviors and pre-term births and low birth weight. Multiple interventions implemented by the community included:

- Hosting a perinatal addiction specialist to educate the medical and provider community,
- Enhanced screening and assessment of women in prenatal care for substance use,
- Intense case management and referrals to treatment and counseling options for those who screened positive.

### **Oakland**

Oakland County's "Best Start for Babies" coalition combines the FIMR Community Action Team and the expertise of the Oakland County's Nurse Family partnership staff. Supported by FIMR findings and the need to raise awareness for Breastfeeding, the first Breastfeeding Walk was held in August 2011, and is now an annual event sponsored by the Oakland County Health Division and WIC.

### **Kalamazoo**

Following up on a recommendation from the FIMR review team, Kalamazoo's Healthy Babies/ Healthy Start put together a social marketing campaign for September 2011, to address safe sleep and car seat safety issues.

### **Calhoun**

After identifying infections as a major risk factor for preterm labor, the Calhoun FIMR leadership developed a plan for educating providers on the types of infections and their link to preterm birth. The following recommendations are being acted on:

- Earlier identification of infections for women during pregnancy,
- Educating women on general signs of infection,

- 
- Increase number of placental pathologies completed, and expand to include specific organism,
  - Access to preventive health care preconception to minimize the known risk factors for poor pregnancy outcome,
  - More emphasis on interconception care for women,
  - Routine oral hygiene and dental care to continue during pregnancy,
  - Counseling on risky behaviors that may lead to STI's (unprotected sex, multiple partners).

### **Jackson**

Driven by the high number of FIMR reviews identifying unsafe sleep environments as cause and contributor to infant deaths in Jackson County, the FIMR Community Action Team pursued and received a grant from the Jackson County Medical Society and the Jackson County Medical Alliance toward the purchase of pack and plays for the Safe Sleep Coalition. Cribs are distributed to families in need in Jackson County through the Maternal and Infant Health Program and other points of service.

### **Berrien**

Responding to the increasing racial disparities in infant mortality, Berrien County has put into place a number of initiatives to help raise awareness among medical professionals and community leaders. A kickoff event was held on July 20, 2011, featuring well-known researcher Dr. James Collins from Chicago, a NICU physician and authority on premature births and disparities in birth outcomes among black and white children.

### **Intertribal Council (Native American FIMR)**

After identifying a great number of American Indian infant deaths due to infants sleeping in un-safe environments, the FIMR community action team planned and implemented an awareness campaign around the issue of accidental sleep-related infant deaths. Elements of the awareness campaign included updated/revised client handouts, materials for discussion within community consortium groups, and presentations to tribal community leadership groups (Tribal Councils, ITC Executive Board of MI Tribal Chairpersons).

### **Macomb**

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

### **Allegan**

Early FIMR findings revealed that a high number of Allegan County infant deaths were due to prematurity with a majority of them being aided by Assisted Reproductive Technology (ART). The team ran a survey of providers of ART to try to identify trends, counseling, and resources available to women undergoing ART.

### **Muskegon**

Due to FIMR findings that show gender-based violence is highly correlated with poor pregnancy outcomes, Public Health – Muskegon County (PHMC) redesigned their anger management program through substance abuse prevention funding:

- The FIMR coordinator and another health educator have rewritten the curriculum to include information about recognizing and reducing domestic and gender-based violence.
- The Substance Abuse Prevention Supervisor and the FIMR coordinator have convened a group of service providers to look at court and DHS mandated programs and create a decision tree for case workers and probation officers.

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### ***FIMR as part of the State of Michigan's overall strategy to reduce Infant Mortality:***

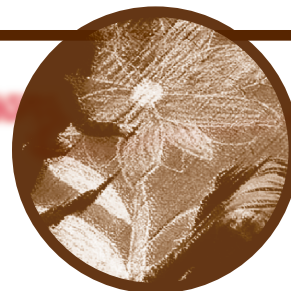
Governor Rick Snyder shaped the state's vision for health during his Health and Wellness Message on September 14, 2011. Governor Snyder has made keeping babies alive a priority, which is publicly monitored on the Michigan Dashboard:

<http://www.michigan.gov/midashboard/0,4624,7-256-58012-,00.html>

Over the past year, the Michigan Department of Community Health (MDCH) has worked with experts from Michigan's hospitals and health care community, universities, and local health departments, as well as the Infant Mortality Steering Committee comprised of authorities to identify strategies to address this complex issue. In October 2011, MDCH hosted an Infant Mortality Summit, attended by nearly 300 participants from around the state, to identify key priority strategies that should be implemented in Michigan.

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 Fetal Infant Mortality Review (FIMR) activities to identify communities with high rates of infant deaths.

The State Support program for FIMR 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 link with other child health, safety, and protection sources. Program support materials include standard Case Abstraction forms and ACCESS database, state-developed Maternal Home Interview guide, Standard Issues Summary form with standard state-developed definitions, and a program coordinator's manual. For more information about Michigan's FIMR program, contact Rosemary Fournier, at [fournier1@michigan.gov](mailto:fournier1@michigan.gov).



## APPENDIX

### Total Numbers of Resident Child Deaths, 2010 and Number of Reviews by County, 2011

County	Total Deaths* 2010**	Number of Reviews 2011
Alcona	3	0
Alger	0	0
Allegan	17	13
Alpena	5	1
Antrim	4	6
Arenac	2	4
Baraga	1	0
Barry	9	5
Bay	15	7
Benzie	4	0
Berrien	23	19
Branch	8	4
Calhoun	21	3
Cass	5	10
Charlevoix	1	0
Cheboygan	1	0
Chippewa	6	4
Clare	4	3
Clinton	7	9
Crawford	0	2
Delta	5	0
Dickinson	6	3
Eaton	12	8
Emmet	4	0
Genesee	60	34
Gladwin	3	4
Gogebic	2	0
Grand Traverse	6	4
Gratiot	7	3
Hillsdale	5	10
Houghton	4	0
Huron	4	3
Ingham	30	12
Ionia	9	3
Iosco	4	3
Iron	3	4
Isabella	8	3
Jackson	19	7
Kalamazoo	42	11

continued

<b>County</b>	<b>Total Deaths* 2010**</b>	<b>Number of Reviews 2011</b>
Kalkaska	2	0
Kent	84	27
Keweenaw	0	0
Lake	1	0
Lapeer	11	6
Leelanau	3	0
Lenawee	22	2
Livingston	19	13
Luce	0	0
Mackinac	0	0
Macomb	87	21
Manistee	4	2
Marquette	3	7
Mason	6	1
Mecosta	5	7
Menominee	2	0
Midland	6	3
Missaukee	1	0
Monroe	16	14
Montcalm	9	4
Montmorency	1	0
Muskegon	32	12
Newaygo	4	6
Oakland	136	35
Oceana	6	0
Ogemaw	3	2
Ontonagon	1	0
Osceola	4	0
Oscoda	0	0
Otsego	2	4
Ottawa	36	7
Presque Isle	1	0
Roscommon	2	0
Saginaw	27	10
St Clair	15	15
St Joseph	10	5
Sanilac	4	4
Schoolcraft	0	0
Shiawassee	8	8
Tuscola	8	0
Van Buren	9	8
Washtenaw	36	7
Wayne	397	153
Wexford	7	5
<b>Total</b>	<b>1399</b>	<b>590</b>

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

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



## **ACKNOWLEDGEMENTS**

We wish to acknowledge the dedication of the more than 1,200 volunteers from throughout Michigan who serve our state and the children of Michigan by serving on Child Death Review Teams. It is an act of courage to acknowledge that the death of a child is a community problem. Their willingness to step outside of their traditional professional roles, and examine all of the circumstances that lead to child deaths, and to seriously consider ways to prevent other deaths, has made this report possible.

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

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

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



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This report is also available at [www.michigan.gov/dhs](http://www.michigan.gov/dhs) and [www.keepingkidsalive.org](http://www.keepingkidsalive.org).

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*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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