MFRP
Michigan Fatality Review & Prevention

CHILD DEATHS IN MICHIGAN

A Report on Case Reviews Conducted in 2020

A report on the causes and trends of child deaths in Michigan based on findings from community-based Child Death Review teams.

Published March 2023

Our mission is to understand how and why children die in Michigan in order to take action to prevent other child deaths.

Prepared By:

The Center for Child and Family Health (CCFH) at the Michigan Public Health Institute (MPHI) on behalf of the Michigan Child Death State Advisory Team

Submitted To:

The Honorable Gretchen Whitmer, Governor, State of Michigan
The Honorable Winnie Brinks, Majority Leader, Michigan State Senate
The Honorable Joe Tate, Speaker of the House, Michigan House of Representatives

Dear Director Elizabeth Hertel,
Michigan Department of Health and Human Services

The Michigan Child Death State Advisory Team is submitting this report on child deaths in 2020 in Michigan as required by law (1997 PA 167 MCL 722.627b). In 2020, more than 1,200 Michigan children died.

The Child Death State Advisory Team identified multiple strategies to prevent child deaths, based in part on the information collected through Michigan's local Child Death Review (CDR) teams. The child death review process provides a critical opportunity to identify the causes and circumstances of these children's deaths to prevent future deaths, injuries, and disabilities.

Reducing infant and child mortality will require sustained effort at the state and local levels. Childhood mortality is a crucial indicator of the overall health and welfare of a state, and, therefore, persistent disparities are an indicator of deeper structural inequities. The Child Death State Advisory Team shares your commitment to make Michigan a safer, healthier place to raise a family.

MICHIGAN CHILD DEATH STATE ADVISORY TEAM

MICHIGAN CHILD DEATH STATE ADVISORY TEAM MEMBERSHIP — 2022

Jordan Carter, Chair

Manager, Children's Protective Services and Redesign, Prevention, Preservation and Protection Division, In-Home Services Bureau, Children's Services Administration, Michigan Department of Health and Human Services

---

Scott Clements

Investigator, Office of the Children's Ombudsman

Lee Fisher

Ottawa County Prosecutor, Prosecuting Attorneys Association of Michigan

---

Joseph Kozakiewicz

Director, Michigan State University College of Law, Chance at Childhood Clinic

---

Martin Miller

Sergeant, Grants and Community Services Division, Prevention Services Section, Michigan State Police

---

Seth Persky

Manager, Office of the Family Advocate, Michigan Department of Health and Human Services

---

Janet Reynolds Snyder

Executive Director, Michigan Federation for Children and Families

---

Linda Scarpetta

Director, Division of Chronic Disease and Injury Control, Michigan Department of Health and Human Services

MICHIGAN CHILD DEATH STATE ADVISORY TEAM MEMBERSHIP — 2022

Debra Simms

Child Abuse and Neglect Pediatrician, Center for Child Protection at Helen DeVos Children's Hospital

---

Stacey Tadgerson

Departmental Specialist, Native American Affairs and Race Equity, Michigan Department of Health and Human Services

---

Carrie Tarry

Director, Division of Child and Adolescent Health, Michigan Department of Health and Human Services

---

Kelly Wagner

Director, Child Welfare Services, State Court Administrative Office

---

Mark Wilk

Medical Examiner Investigator, Mackinac County

Allecia Wilson

Director, Autopsy and Forensic Services, Department of Pathology, Michigan Medicine, University of Michigan

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Amy Zaagman

Executive Director, Michigan Council for Maternal and Child Health

ACKNOWLEDGEMENTS

This report is written in memory of all the Michigan children who have died and in honor of the families and communities impacted by the immeasurable loss. 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.

We wish to acknowledge the dedication of the more than 1,400 volunteers throughout Michigan who serve our state and the children of Michigan by participating in their local Child Death Review (CDR) team. It is an act of courage to acknowledge that the death of a child is a community problem. The willingness of these volunteers to step outside of their traditional professional roles, to 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 CDR team coordinators for volunteering their time to organize, facilitate, and report on the findings of their reviews. This report would not be possible without their commitment to the CDR process.

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 Services Administration, provides the funding and oversight for Michigan's CDR Program, which is managed through a contract with the Michigan Public Health Institute.

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INTRODUCTION

The death of a child is a profound loss, not only for the child's parents, family, and friends, but also for the larger community. To reduce the number and impact of these losses, we must first understand how and why children are dying.

Michigan Child Death Review Program

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. In Michigan, there are 76 local CDR teams covering all 83 counties. Some teams serve a two-county or three-county jurisdiction.

CDR is a collaborative process that brings together local professionals from a variety of disciplines who volunteer their time to share and discuss comprehensive information on the circumstances surrounding the deaths of children.

Local CDR team membership is comprised of six mandated members, which include:

The health department

The medical examiner's office

Law enforcement

Michigan Department of Health and Human Services

The prosecutor's office

The court

Local CDR teams may add further membership or invite guests as necessary, including representatives from emergency medical services, hospitals and other medical facilities, schools, organizations providing mental health and/or substance use services, and organizations serving those impacted by domestic or sexual violence. In total, more than 1,400 professionals volunteered their time to serve on a local CDR team in Michigan.

Each team determines the agency or individual that will coordinate its team activities. The role of the coordinator includes identifying cases for review, identifying and communicating with team members, scheduling and facilitating team meetings, and leading prevention discussions. One person may perform all of these activities, or the responsibilities may be shared with a co-coordinator. There are no program funds that support the activities of the local CDR team coordinators.

Local CDR teams determine how often they will meet. Meeting frequency varies and is dependent on the number of deaths the team reviews each year. Teams serving rural counties with few deaths may meet once or twice per year, while teams serving mid-sized counties may meet on a quarterly or bimonthly basis. Teams for the most populous counties meet monthly.

Local CDR teams use what they learn during the review process to develop findings and recommendations, which they share with other local entities who can help translate them into prevention initiatives that address needs specific to their communities. It is important to note that CDR is not about assigning blame, determining cause or manner of death, or prosecuting cases, as the teams have no official authority in any of these areas.

The Michigan Child Death State Advisory Team

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 State Advisory Team also provides support to local CDR teams, recommends improvements in protocols and procedures for the Michigan CDR Program, and reviews Michigan's child mortality data as well as local child death review team findings and recommendations to identify causes, risk factors, and trends in child deaths. MDHHS has administrative responsibility for the State Advisory Team. A list of State Advisory Team members is included earlier in this report on pages 5-6.

The law also requires the State Advisory Team to publish a report on child fatalities. The present report includes information pertaining to the 494 children whose deaths were reviewed by Michigan's local CDR teams in 2020.

Michigan Public Health Institute Program Support

MDHHS established a contract with the Michigan Public Health Institute (MPHI) to manage the CDR Program. The contract requires MPHI to:

- Assist local CDR teams with case identification and provide guidance on team functioning.
- Support the functioning of the Child Death State Advisory Team.
- Provide training, including an annual training for team members, training on other issues pertinent to the investigation and prevention of child fatalities, and training on infant safe sleep for child welfare professionals.
- Develop program support materials, including resource guides for effective reviews, investigative protocols, and the Michigan Fatality Review & Prevention Website (URL: https://mifrp.org/).
- Compile information and resources on specific causes of death and promising prevention initiatives.
- Maintain Michigan's CDR Program data, including providing guidance on how to access necessary records, ensuring data is complete and accurate, and analyzing county-specific and cause of death-specific data.
- Represent the Michigan CDR Program at local, state, and national levels.
- Provide 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.

CHILD DEATH REVIEW DATA OVERVIEW

The information presented in this report is based on data gathered through Michigan's local CDR process by using a standardized data reporting tool developed by the National Center for Fatality Review and Prevention (NCFRP). Data is then entered into the web-based National Fatality Review-Case Reporting System (NFR-CRS). This reporting tool was developed with input from many states through their CDR programs. The NCFRP regularly updates the data collection instrument, which can be viewed on the NFR-CRS page of the NCFRP website (URL: https://bit.ly/370ec8M).

Case Selection

Not all child deaths in the state are reviewed. Local CDR 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. In some instances, typically when the incident or death occurred in a county other than the child's county of residence, a second or third local CDR team may also review the case. When this occurs, only the case data entered into the NFR-CRS by the child's county of residence was included in the analyses depicted in this report. Local CDR teams typically choose to review the deaths of children from birth through age 18.

While the CDR data presented in this report provides rich contextual details about the circumstances surrounding children's deaths, it does not encompass information about every child death in the state. 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.

Please contact the Michigan CDR Program at the Center for Child and Family Health at MPHI at MichiganCDR@mphi.org with any questions or additional data requests.

Data Sources

When text in this report refers to "deaths reviewed," data was derived from the information entered into the NFR-CRS and collected through the local CDR team process. Data about deaths reviewed are presented by year of review by the local CDR team, which may not be the same as the year in which the child died.

When text in this report refers to "total deaths," data was derived from official mortality statistics for the state, which are based on death records obtained from MDHHS, Office of the State Registrar, Division for Vital Records and Health Statistics. Data about total deaths are presented by the year of the child's death.

Data Limitations

As not every child death is reviewed, Michigan's CDR Program dataset is not population-based and should not be directly compared with vital statistics data, nor should it be used to compute mortality rates. It is recommended that complementary data sources are examined alongside the CDR Program data when making prevention, policy, or practice decisions. These complementary data sources may include, but are not limited to, Michigan Vital Records and Health Statistics, emergency department or hospitalization data, Kids Count, county health rankings, or data gathered through Michigan's Pregnancy Risk Assessment Monitoring System.

Like most data collection systems, the NFR-CRS has been modified over time to reflect emerging issues such as trends in substance use, or products that are no longer recommended for infant sleep. To date, there have been multiple major updates to the NFR-CRS. When questions are added or modified, these changes are noted in the NFR-CRS codebook along with the version number in which the change was made. As a result of these changes over time, every data field may not be available for all years during which the NFR-CRS has been in use. In addition, some data elements have been modified to such a degree over the years that they cannot be recoded into a newer version, and this may limit the availability of data from before or after the modification was made.

Completeness of the data entered into the NFR-CRS is dependent upon the depth and breadth of information available during the case review process. As a result, some variables may be marked missing or unknown for a subset of cases.

Note: *Tables and charts throughout this report may not sum to exactly 100% due to rounding.*

Infographic Overview

A total of

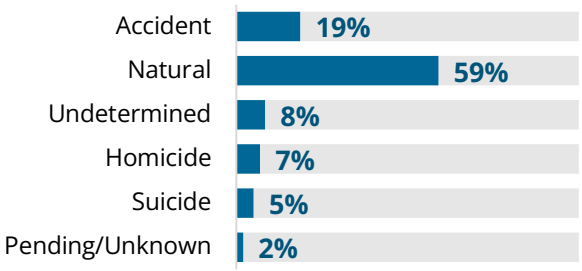
1,233

Michigan children died in 2020

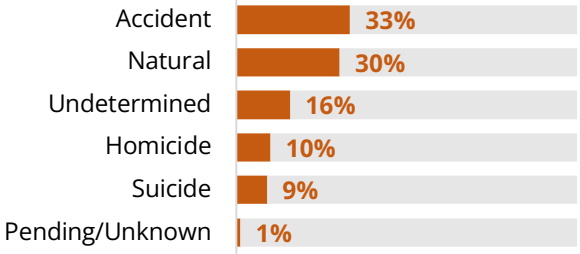
494

Deaths were reviewed by local CDR teams in 2020*

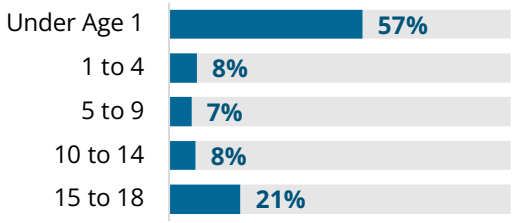
Manner of Death Determination for Michigan Resident Children (2020)



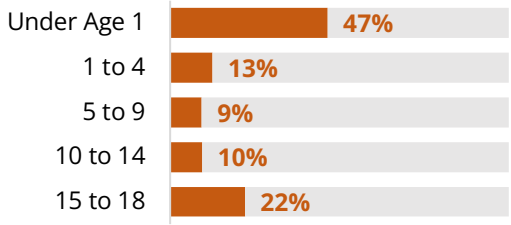
Manner of Death Determination for Michigan Resident Children (2020)



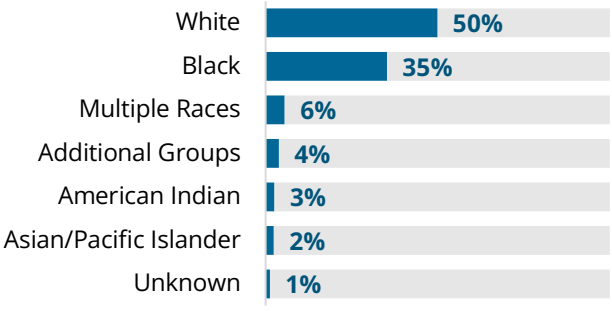
Michigan Resident Child Deaths by Child's Age Group (2020)



Deaths Reviewed by Local CDR Teams by Child's Age Group (2020)

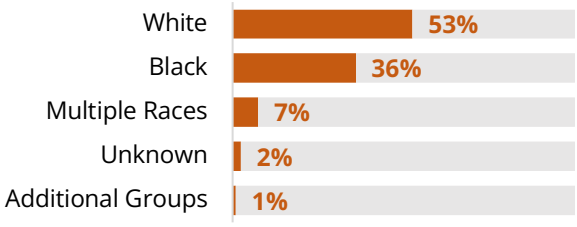


Michigan Resident Child Deaths by Child's Race (2020)



Notes: *Additional groups include children of all other races; American Indian children are those who were identified as American Indian, alone or in combination with other races, on the child's death certificate. This definition is inclusive of ancestry and Tribal affiliation identified on the death record.*

Deaths Reviewed by Local CDR Teams by Child's Race (2020)



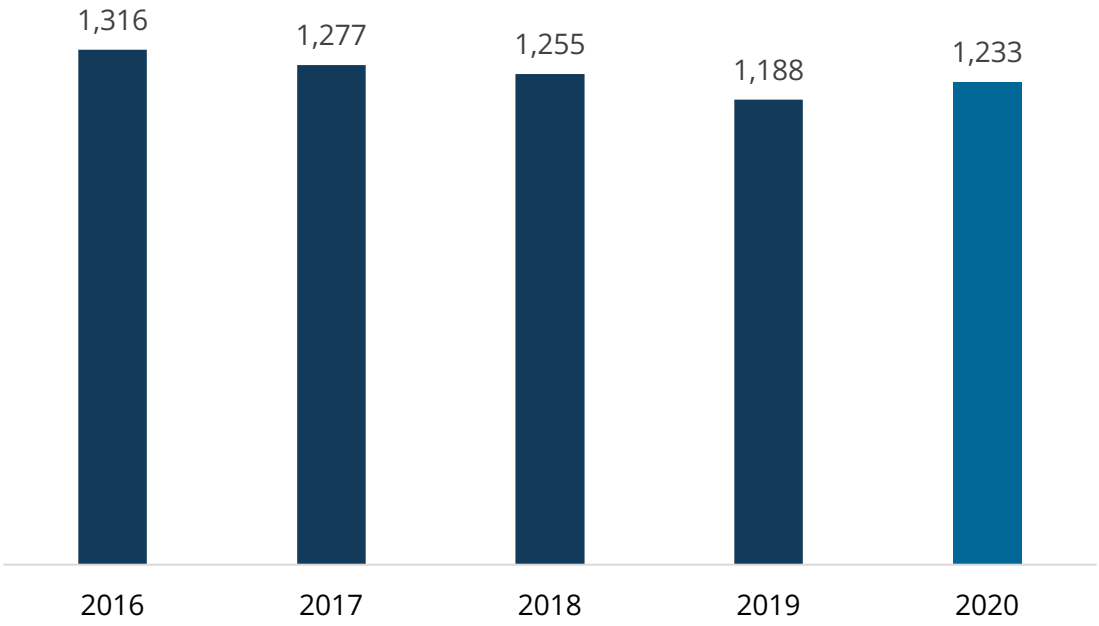
Notes: *Additional groups includes American Indian children and Asian or Pacific Islander children; American Indian children are those who were identified as American Indian, alone or in combination with other races, on the child's death certificate. This definition is inclusive of ancestry and Tribal affiliation identified on the death record.*

**Not all deaths reviewed in 2020 occurred in 2020. Data about deaths reviewed are presented by year of review by the local CDR team, which may not be the same as the year in which the child died.*

CHILD MORTALITY AND DEATHS REVIEWED BY LOCAL CHILD DEATH REVIEW TEAMS

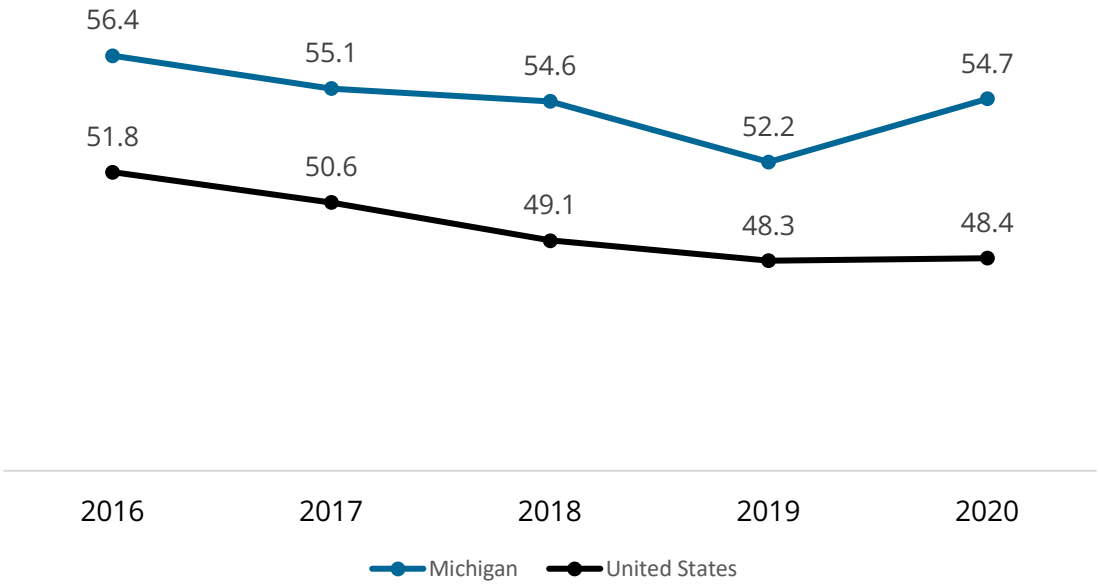
From 2016 to 2020, a total of 6,269 Michigan children from birth through age 18 died.[1] In 2020, 1,233 Michigan children died.

Chart 1. Number of Michigan Resident Child Deaths by Year of Death (2016-2020)



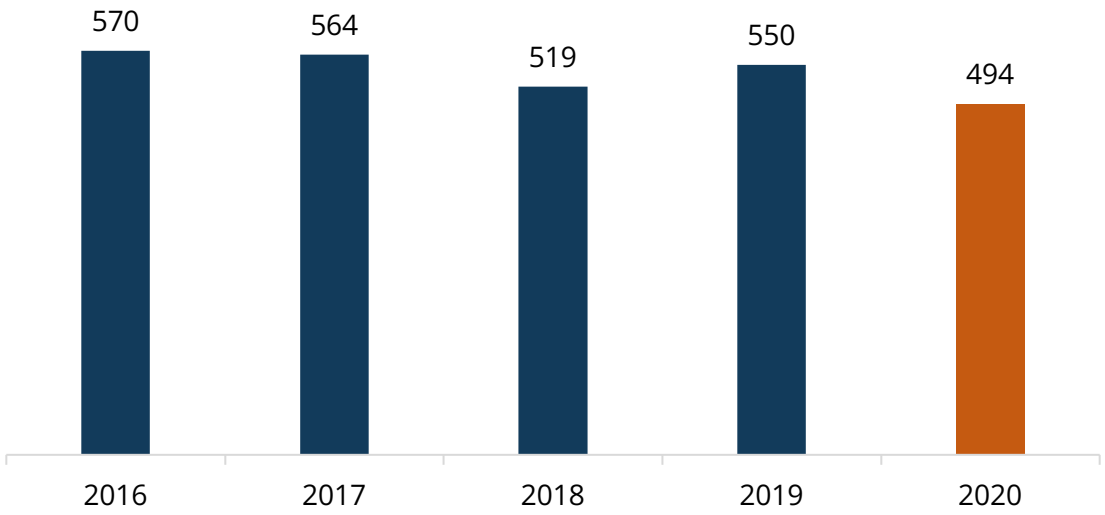
Michigan's rate of child death has remained consistently higher than the average rate of child death for the United States.[2]

Chart 2. Rate of Resident Child Deaths per 100,000 Children by Year of Death, Michigan and the United States (2016-2020)



Local CDR teams reviewed the deaths of 494 children in 2020. Please see Appendix A and Appendix B for a complete list of the total number of child deaths by county of residence and by the year in which the child died, as well as the total number of reviews conducted by county of review and the year in which the child's death was reviewed by the local CDR team. As some children's deaths were reviewed by more than one local CDR team, the total of 499 reviews conducted in 2020 is higher than the total number of child deaths reviewed.

Chart 3. Number of Child Deaths Reviewed by Local CDR Teams by Year of Review (2016-2020)



In 2020, a total of 15 children ages 0 through 18 died while they were placed in foster care. Local CDR teams reviewed 10 of these children's deaths (67%) by the time of this report's publication. To learn more about the deaths reported to Children's Protective Services, please visit the MDHHS Child Fatality Registry website (URL: https://bit.ly/3jkvL5O).

Manner and Cause of Death

Two types of death determination are reported on death certificates: manner and cause.

Manner refers to the circumstances of the death. There are five possible manners: natural, accident, suicide, homicide, and undetermined, which may also be referred to as indeterminate. The National Association of Medical Examiners[3] provides the following definitions for each of the five manners of death:

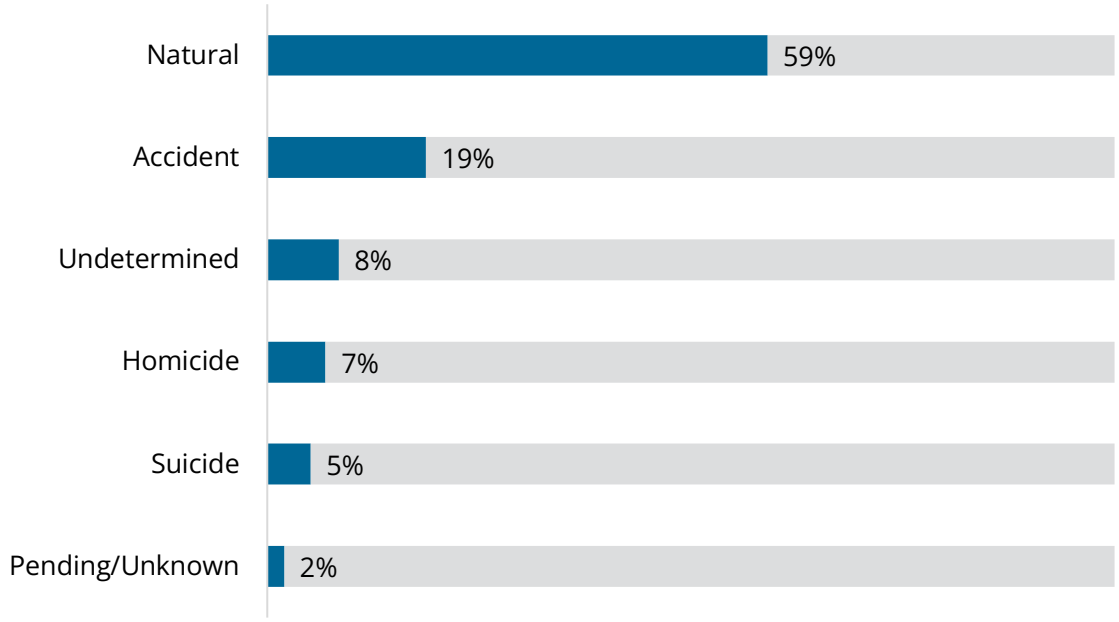
> **Natural:** Due solely or nearly totally to disease and/or the aging process.
>
> **Accident:** An injury or poisoning causes death and there is little or no evidence that the injury or poisoning occurred with intent to harm or cause death. In essence, the fatal outcome was unintentional.
>
> **Suicide:** An injury or poisoning as a result of an intentional, self-inflicted act committed to do self-harm or cause the death of one's self.
>
> **Homicide:** A volitional act committed by another person to cause fear, harm, or death. Intent to cause death is a common element but is not required for classification as homicide. It is to be emphasized that the classification of Homicide for the purposes of death certification is a 'neutral' term and neither indicates nor implies criminal intent, which remains a determination within the province of legal processes.
>
> **Undetermined:** The information pointing to one manner of death is no more compelling than one or more other competing manners of death in thorough consideration of all available information.

Cause refers to the actual disease, injury, or complications that directly resulted in the death. Within each of the five manners of death, there can be multiple causes of death. Natural deaths can include causes such as cancer, birth defects, or prematurity. Accidents can include transportation-related fatalities, drownings, suffocations, and fires. Homicides can include causes such as blunt force trauma or multiple gunshot wounds. An undetermined manner of death may include instances where the intent of the decedent or others involved in the death was unknown or it was not clear how the child's underlying medical conditions may have interacted with the external environment.

"Pending/Unknown" in the charts in this report indicates that the official manner of death was not yet available at the time of data entry and/or analysis.

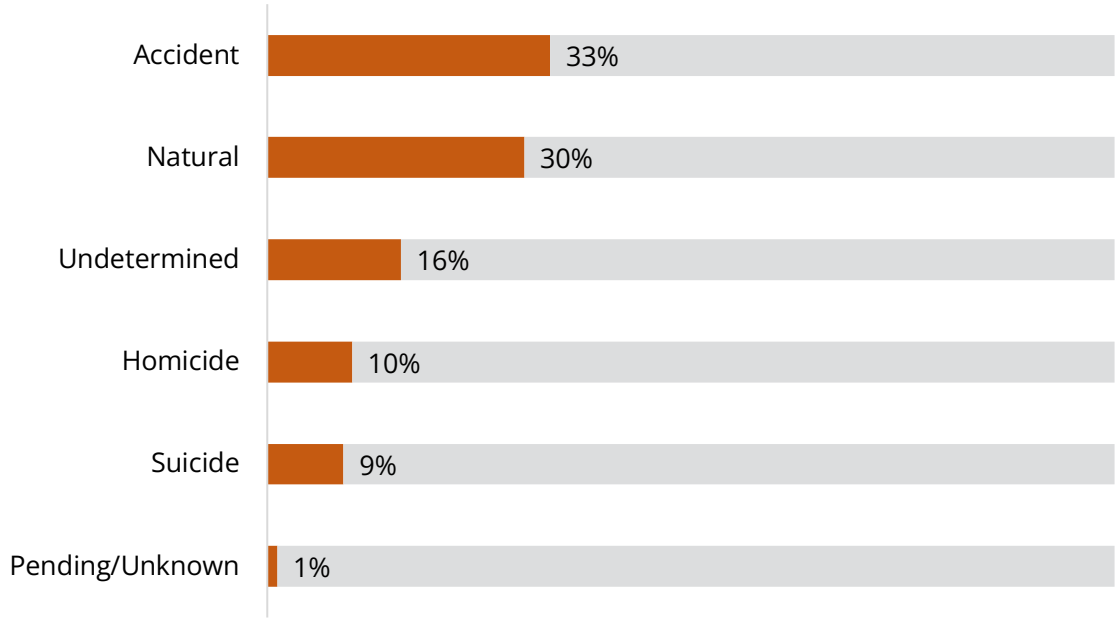
The manner of death determination for the 1,233 total Michigan children who died in 2020 was most often natural (59%), followed by accident (19%), undetermined (8%), homicide (7%), and suicide (5%). Manner of death was not available at the time of data analysis for 2% of the children who died in 2020.[1]

Chart 4. Manner of Death Determination for Michigan Resident Children (2020)



Of the 494 deaths reviewed by local CDR teams in 2020, the manner of death determination was most often accident (33% of deaths reviewed), followed by natural (30%), undetermined (16%), homicide (10%), and suicide (9%). Manner of death was not available at the time of local CDR team review for 1% of the cases reviewed in 2020. 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. As a result, a relatively lower percentage of the total number of natural deaths was reviewed by local CDR teams.

Chart 5. Manner of Death Determination for Deaths Reviewed by Local CDR Teams (2020)



Child's Demographic Information

As a result of persistent structural inequities, some children are more likely to die than others. According to the American Medical Association and the Association of American Medical Colleges Center for Health Justice, inequities "are neither natural nor inevitable. Rather, they are produced and sustained by deeply entrenched social systems that intentionally and unintentionally prevent people from reaching their full potential. Inequities cannot be understood or adequately addressed if we focus only on individuals, their behavior or their biology."[4] Inequities result from unfair and unjust circumstances that can be addressed through systemic changes.

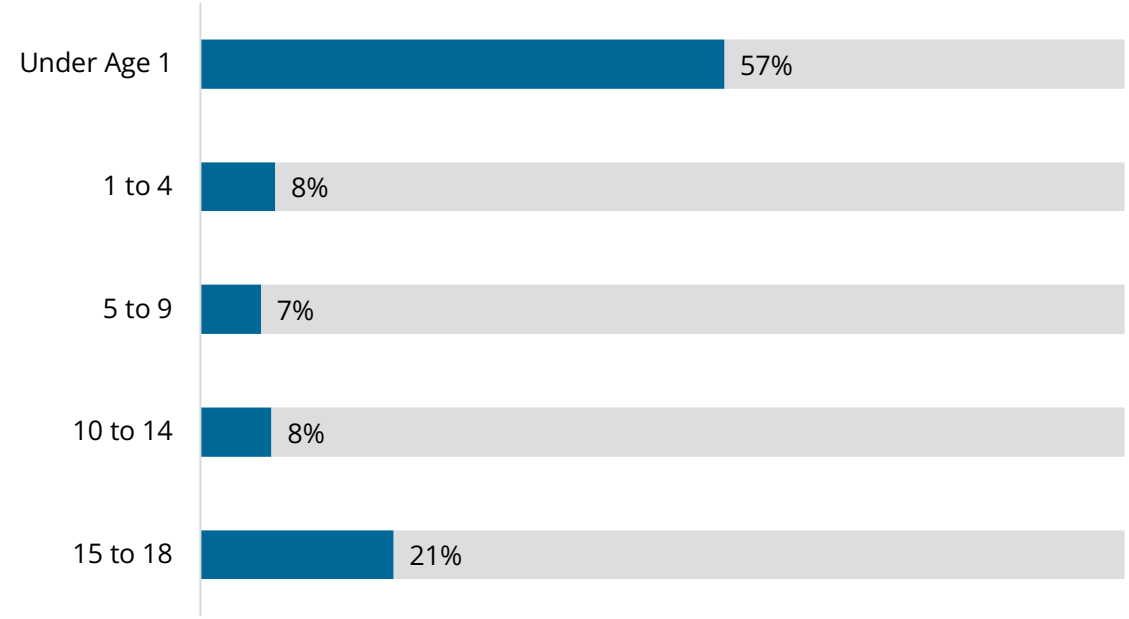
The following sections provide details about the age, sex, race, and disability status of the total number of Michigan children who died, as well as of those children whose deaths were reviewed by a local CDR team. We hope that highlighting these persistent inequities across all causes of child mortality will encourage local CDR teams and policymakers to work to identify their root causes, including sexism, racism, and ableism, and center equity when planning prevention initiatives.

For more information about centering equity in prevention efforts, and a tool for identifying and implementing strategies to address inequities, please visit the Children's Safety Network Health Equity Planner (URL: https://bit.ly/3LUFJHt).

CHILD'S AGE

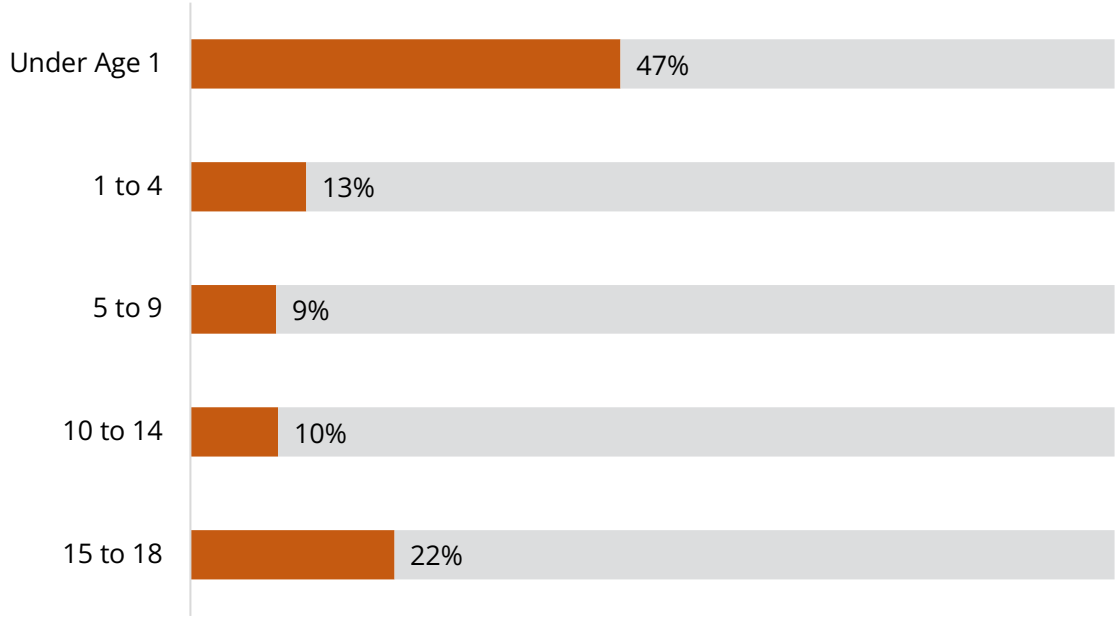
In 2020, 57% of the 1,233 total Michigan children who died from birth through age 18 were infants (children under the age of 1). Adolescents (children ages 15 to 18 years old) accounted for an additional 21% of all child deaths, followed by children ages 1 to 4 (8%) and children ages 10 to 14 (8%), and children ages 5 to 9 (7%).[1] Infant mortality accounts for the largest proportion of child deaths nationwide[5] and is addressed in further detail on pages 26-29.

Chart 6. Michigan Resident Child Deaths by Child's Age Group (2020)



Of the 494 deaths reviewed by local CDR teams in 2020, most of the children were either infants (47% of deaths reviewed) or adolescents ages 15 through 18 years old (22% of deaths reviewed). Children ages 1 to 4 years old accounted for an additional 13% of the deaths reviewed by local CDR teams, followed by children ages 10 to 14 years old (10% of deaths reviewed) and children ages 5 to 9 years old (9% of deaths reviewed).

Chart 7. Deaths Reviewed by Local CDR Teams by Child's Age Group (2020)



Child's Age at Death and Manner of Death Determination

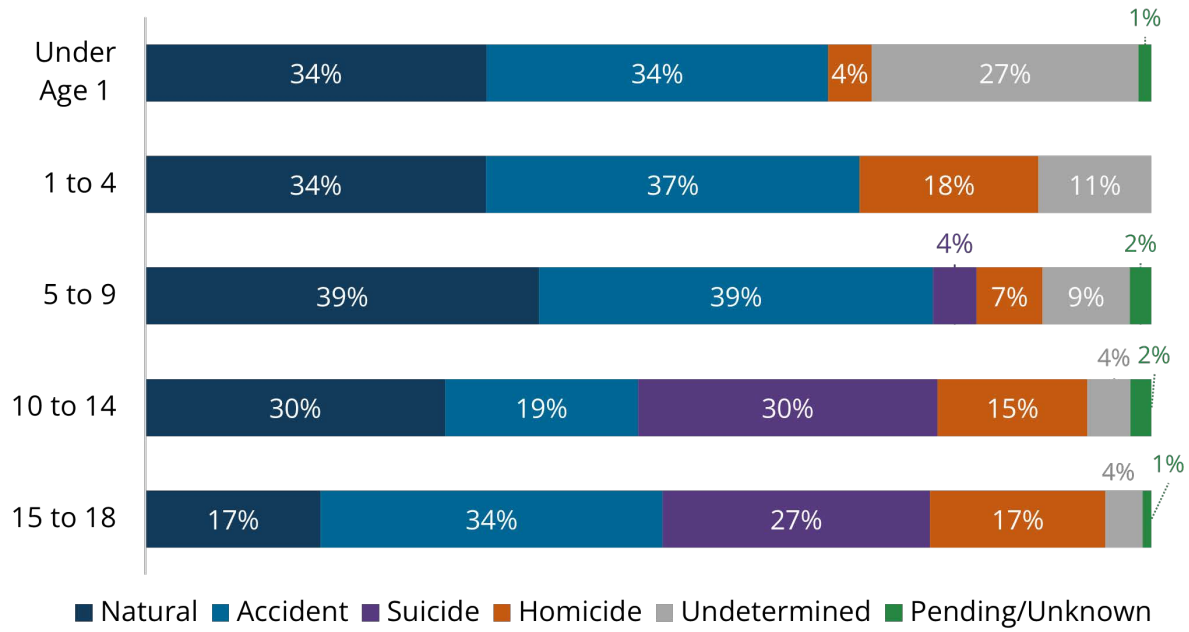
The most common manner of death determination for the 699 total Michigan infants who died in 2020 was natural (75%), followed by accident (12%) and undetermined (10%). The manner of death determination for the 100 children ages 1 to 4 years old and the 81 children ages 5 to 9 years old who died was most likely to be natural (44% and 53%, respectively), followed by accident (26% and 31%, respectively). Children ages 1 to 4 years old were more likely to die due to undetermined causes or homicide (14% and 14%, respectively) than were children ages 5 to 9 years old (4% and 7%, respectively). For the 95 children ages 10 to 14 years old who died, the manner of death determination was most likely to be natural (55%), followed by accident (17%) and suicide (15%). The manner of death determination for the 258 adolescents ages 15 to 18 years old who died was most likely to be accident (33%), followed by natural (25%), suicide (19%), and homicide (17%).[1]

Table 1. Michigan Resident Child Deaths by Manner of Death Determination and Child's Age Group (2020)

Manner of Death	Under Age 1	Ages 1 to 4	Ages 5 to 9	Ages 10 to 14	Ages 15 to 18
Natural	525 (75%)	44 (44%)	43 (53%)	52 (55%)	65 (25%)
Accident	81 (12%)	26 (26%)	25 (31%)	16 (17%)	85 (33%)
Suicide	0 (0%)	0 (0%)	1 (1%)	14 (15%)	48 (19%)
Homicide	13 (2%)	14 (14%)	6 (7%)	8 (8%)	44 (17%)
Undetermined	71 (10%)	14 (14%)	3 (4%)	3 (3%)	13 (5%)
Pending/Unknown	9 (1%)	2 (2%)	3 (4%)	2 (2%)	3 (1%)
Total	**699**	**100**	**81**	**95**	**258**

As some CDR teams primarily review deaths that fall under the jurisdiction of the county medical examiner, local CDR teams reviewed a relatively lower percentage of the natural infant deaths that occurred in 2020. Of the deaths reviewed by local CDR teams, the manner of death determination was most likely to be natural or accident for children under the age of 10 years old. For children ages 10 to 14 years old, the manner of death determination was most likely to be natural (39%) or suicide (30%) and, for adolescents ages 15 to 18 years old, the manner of death determination was most likely to be accident (34%) or suicide (27%).

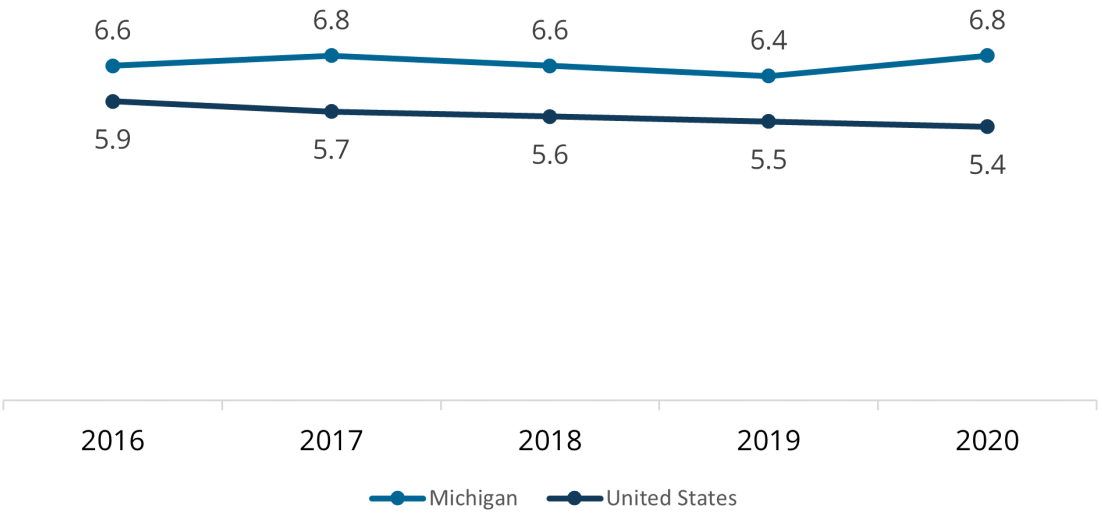
Chart 8. Manner of Death Determination for Deaths Reviewed by Local CDR Teams by Child's Age Group (2020)



Infant Mortality

Infant mortality is defined as the death of a child before their first birthday. In 2020, 541.9 infants died for every 100,000 live births in the United States. This mortality rate is almost 11 times greater than it is for adolescents ages 15 to 18 years old, who represent the age group with the next highest mortality rate (75.9 deaths per 100,000 population).[5] From 2016 to 2020, the infant mortality rate per 1,000 live births in Michigan remained consistently higher than the corresponding rate of infant mortality in the United States.[6]

Chart 9. Infant Mortality Rate per 1,000 Live Births by Year of Death, Michigan and the United States (2016-2020)



Some infants are significantly more likely to die before their first birthday. In 2020, Black infants were nearly three times more likely to die than white infants (an average of 14.0 deaths per 1,000 live births and 5.0 deaths per 1,000 live births, respectively). Native American infants also died at a higher rate than white infants.[7] According to MDHHS, Division for Vital Records and Health Statistics, from 2018 to 2020, 8.2 Native American infants died per 1,000 live births.

In 2020, local CDR teams reviewed the deaths of 230 infants. The manner of death determination for these infants was most often natural (34%) or accident (34%), followed by undetermined (27%).

Of the 78 infants whose deaths were reviewed by a local CDR team and were determined to be due to natural causes, 41% were due to prematurity (birth prior to 37 weeks of gestation) and 22% were due to congenital anomalies (birth defects). During this same time period, 34% of all Michigan infant deaths were due to prematurity and related conditions and 17.1% were due to congenital anomalies.[8]

In Michigan in 2020, accidental suffocation was the second most common cause of fatal injury for all children ages 0 to 18 years old, accounting for 20% of all fatal injuries. Infants accounted for 88% of all children's deaths due to accidental suffocation.[1] Of the 78 infants whose deaths were reviewed by a local CDR team and were determined to be due to accidental causes, 97% were due to asphyxia, suffocation, or strangulation, most commonly in an unsafe sleep environment. Additionally, the largest percentage of deaths ruled undetermined were among infants.

Identification of sleep-related infant deaths requires a multi-pronged approach as the terminology used to classify infant deaths that occur in the sleep environment continues to evolve and remains inconsistent.[9] There has been a diagnostic shift away from the use of the term "Sudden Infant Death Syndrome" (SIDS) when an infant is found unresponsive in a sleep environment. Consistent with national trends, medical examiners in Michigan are more frequently referring to a death under these circumstances as "Sudden Unexpected Infant Death" (SUID) or "Unexplained Sudden Death" with the manner of death classified as undetermined if there is not enough evidence or detailed information regarding the sleep environment to officially classify the manner of death as an accident. Intrinsic[a] and/or extrinsic[b] factors may be identified as potential contributors to the death.[9]

a. Intrinsic factors are: natural conditions or risk factors associated with abnormal physiology or anatomy that are concerning as contributors to death but are insufficient as a cause (e.g., low birth weight, preterm birth, small for gestational age, concurrent non-lethal illness, history of febrile seizures), or natural conditions of unknown significance (e.g., cardiac channelopathy or seizure gene variants of unknown significance).

b. Extrinsic factors are: conditions in the child's immediate environment that are a potential threat to life but cannot be deemed the cause of death with reasonable certainty (e.g., side or prone sleep if unable to roll to supine, over-bundling without documented hyperthermia, objects in immediate sleep environment, sleep environment not specifically designed for infant sleep, soft or excessive bedding, and sleep surface sharing), injuries or toxicologic findings that are either non-lethal or of unknown lethality, or circumstances/findings otherwise concerning for unnatural death.

To learn more about infant mortality in Michigan, please visit:

- Data, Reports, and Fact Sheets page on the Michigan Fatality Review & Prevention Website for details about sleep-related infant deaths (URL: https://mifrp.org/publications/).

  The Sudden Unexpected Infant Death (SUID) Case Registry builds on the efforts of local CDR teams to compile information about the circumstances associated with SUID cases as well as information about investigations into these deaths to develop strategies to prevent future fatalities.

- The Michigan Fetal Infant Mortality Review (FIMR) website (URL: https://bit.ly/3E5ntIN)

  FIMR is an evidence-based process, which identifies and analyzes factors contributing to fetal and infant deaths through case reviews and family interviews. FIMR uses a two-tiered system that engages a multi-disciplinary Case Review Team and a Community Action Team to implement a continuous quality improvement process. There are currently 13 active FIMR teams in Michigan. FIMR's main goals are to:

  - Identify social, economic, cultural, safety, health and systems factors that contribute to mortality.
  - Craft recommendations to forward to their respective Community Action Teams based on case review findings.

- The Michigan Department of Health and Human Services Maternal Child Health Epidemiology Section website (URL: https://bit.ly/3JAVgdV)

- The Michigan Department of Health and Human Services Division of Maternal and Infant Health website (URL: www.michigan.gov/miheip)

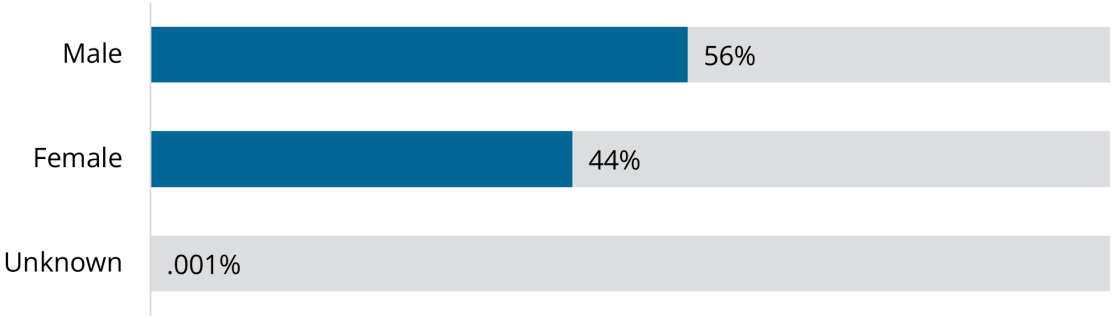
CHILD'S SEX

The nationwide mortality rate for male children is substantially higher than the mortality rate for female children at every age. In 2020, the largest percentage difference was among adolescents ages 15 to 18 years old. In this age group, males were almost two and a half times more likely to die than females of the same age (72 and 29.1 deaths per 100,000 population, respectively).[2]

The data in this section about the child's sex is reported as recorded on the child's death certificate, which was likely assigned at birth based on a combination of anatomy, hormones, and chromosomes. The child's sex assigned at birth may not be representative of the child's gender identity or gender expression/presentation. According to Trans Student Educational Resources (URL: https://bit.ly/3KElVYz), gender identity is "one's internal sense of being male, female, neither of these, both, or another gender(s)" and gender expression/presentation is "the physical manifestation of one's gender identity through clothing, hairstyle, voice, body shape, etc."

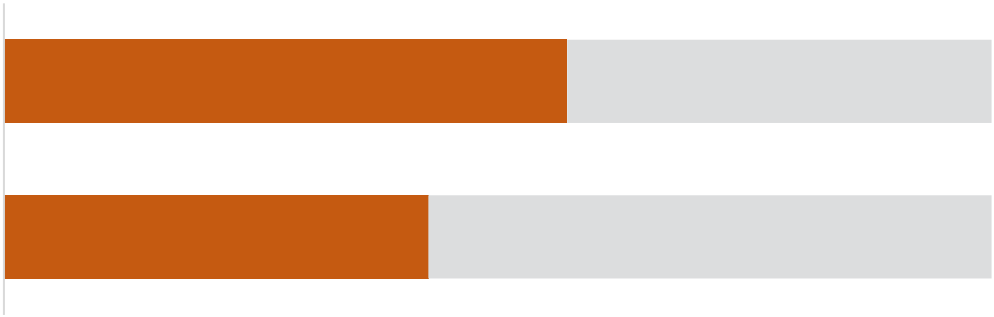
Based on the child's sex as reported on the child's death certificate, males accounted for 56% and females accounted for 44% of all Michigan children ages birth through 18 who died in 2020.[1]

Chart 10. Michigan Resident Child Deaths by Child's Sex (2020)



In 2020, 57% of the children whose deaths were reviewed by local CDR teams were male.

Chart 11. Deaths Reviewed by Local CDR Teams by Child's Sex (2020)



Child's Sex and Manner of Death Determination

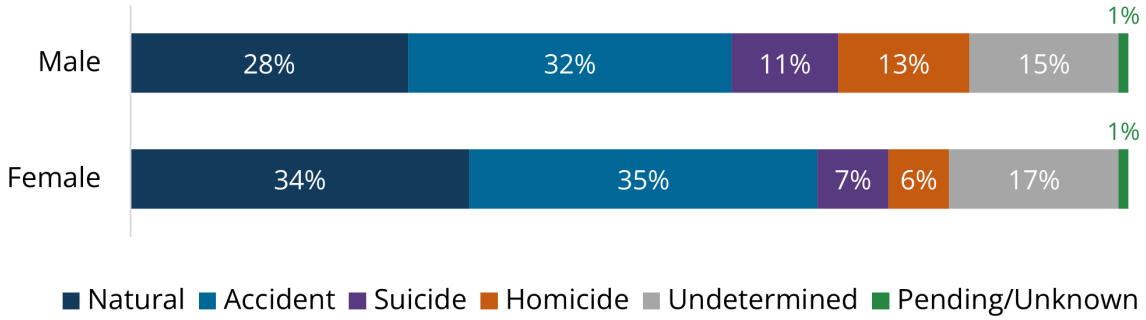
The manner of death determination for the 694 total male children who died in 2020 was most often natural (55%), followed by accident (20%), homicide (9%), and undetermined (8%). For the 534 total female children who died during this same time period, the manner of death determination was most often natural (65%), followed by accident (17%), and undetermined (9%).[1]

Table 2. Michigan Resident Child Deaths by Manner of Death Determination and Child's Sex (2020)

Manner of Death	Male	Female	Unknown Sex
Natural	379 (55%)	348 (65%)	2 (100%)
Accident	140 (20%)	93 (17%)	0 (0%)
Suicide	41 (6%)	22 (4%)	0 (0%)
Homicide	63 (9%)	22 (4%)	0 (0%)
Undetermined	57 (8%)	47 (9%)	0 (0%)
Pending/Unknown	14 (2%)	6 (1%)	0 (0%)
Total	**694**	**537**	**2**

Of the deaths reviewed by local CDR teams in 2020, the manner of death determination was most likely to be natural or accident followed by undetermined for both male and female children. Suicide and homicide accounted for a larger proportion of deaths reviewed by local CDR teams for male children (11% and 13%, respectively) compared to female children (7% and 6%, respectively).

Chart 12. Manner of Death Determination for Deaths Reviewed by Local CDR Teams by Child's Sex (2020)



CHILD'S RACE

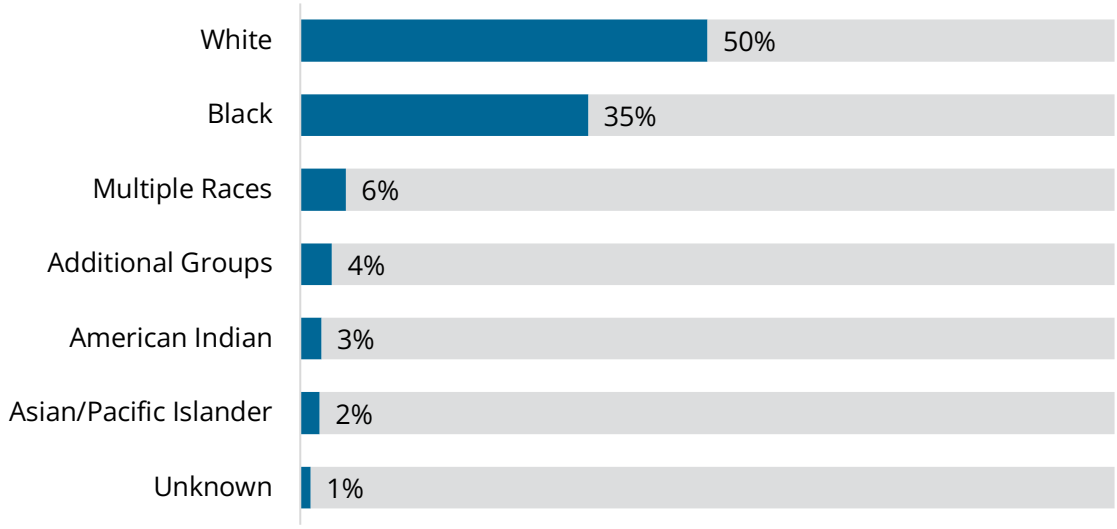
Significant racial disparities exist among child deaths due to inequities rooted in systemic and structural racism, including historical trauma, that unfairly disadvantage some individuals and communities. "...the variable 'race' is not a biological construct that reflects innate differences, but a social construct that precisely captures the impacts of racism."[10]

Although racial identity is unique to every individual, and no single term can encompass the experiences of a diverse group of people, in this report we use the term "Black" to maintain consistency with how race data are recorded in the National Fatality Review-Case Reporting System. In alignment with the language presented in the Urban Institute's brief, What Happens When People Face Unfair Treatment or Judgment When Applying for Public Assistance or Social Services?, we have also "capitalized Black to denote the unique Black experience as one characteristic of a diverse group of people, ethnicities, and cultures ... (and) have not capitalized white, a term and label for a range of historically grouped ethnicities used to delineate a contrast with people of color."[11]

Current standard data collection and analysis practices often misclassify American Indian and Alaska Native (AIAN) populations, leading to an underestimation and suppression of data due to small numbers. Not being counted is consistent with historical attempts to eliminate or assimilate AIAN people. The Urban Indian Health Institute recommends that, "in data collection, AIAN should always be defined as AIAN alone; and if the AIAN individual identifies as another race, include the individuals who are AIAN in any combination with any other race and include those who identify as Latinx/Hispanic."[12] For the purposes of this report, American Indian children are those who were identified as American Indian, alone or in combination with other races, on the child's death certificate. This definition is inclusive of ancestry and Tribal affiliation identified on the death record.

In 2020, Michigan resident children who died were most likely to be white (50%). Black children accounted for 35% of all child deaths and an additional 6% of the children who died were of multiple races, 4% were from additional groups, 3% were American Indian, 2% were Asian/Pacific Islander, and for 1% of children who died, race was unknown.[1]

Chart 13. Michigan Resident Child Deaths by Child's Race (2020)



Notes: *Additional groups include children of all other races; American Indian children are those who were identified as American Indian, alone or in combination with other races, on the child's death certificate. This definition is inclusive of ancestry and Tribal affiliation identified on the death record.*

Black children were significantly more likely to die compared to children of other races. Nationwide, Black children had the highest rate of death among children ages 0-18.[2] While 19% of the population of Michigan children was Black, 38% of the children who died were Black. In 2020, the rate of death among Black children was 2.5 times greater than the rate of death among white children.[2]

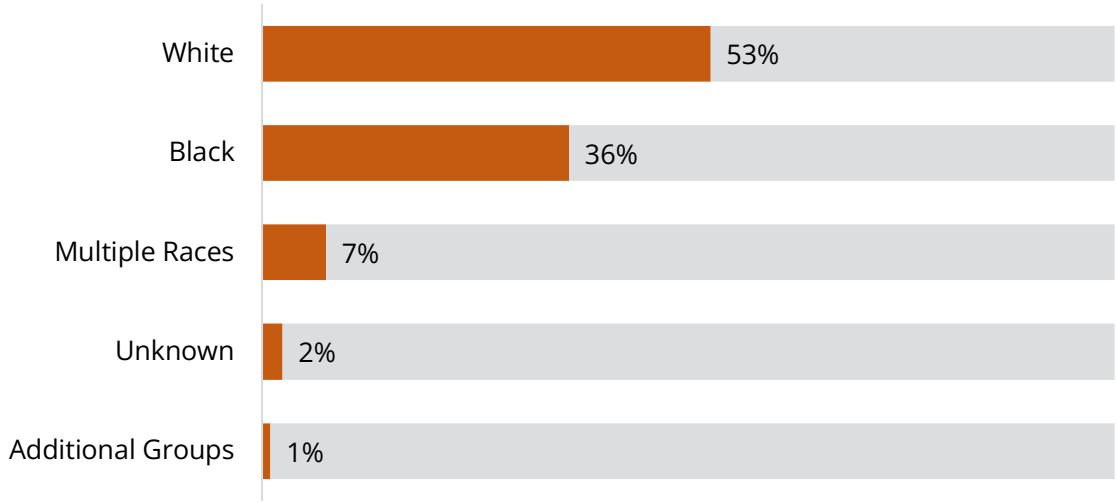
Table 3. Rate of Death for Michigan Children by Child's Bridged Race

Child's Bridged Race	# of Deaths	Total Child Population	Rate of Death per 100,000 Children
American Indian or Alaska Native	11	25,944	Unreliable
Asian or Pacific Islander	26	92,655	28.1
Black or African American	471	427,849	110.1
White	729	1,708,475	42.7
Total	**1,237**	**2,254,968**	**54.9**

Notes: *The bridged race assigned to each child who died is depicted in Table 3 to allow for a comparison between population estimates and mortality data. As a result, the number of deaths reported for each bridged race in Table 3 will not align with and should not be compared to any other tables or charts in this report that present the child's race. More information about race bridging is provided by the Centers for Disease Control and Prevention, National Center for Health Statistics (URL: https://bit.ly/37ud2m6); Rates are marked as "unreliable" when the death count is less than 20.*

In 2020, 53% of the children whose deaths were reviewed by local CDR teams were white and 36% were Black. An additional 7% of the children whose deaths were reviewed by local CDR teams were of multiple races, 2% were of unknown race, and 1% were of additional groups.

Chart 14. Deaths Reviewed by Local CDR Teams by Child's Race (2020)



Notes: *Additional groups includes American Indian children and Asian or Pacific Islander children; American Indian children are those who were identified as American Indian, alone or in combination with other races, on the child's death certificate. This definition is inclusive of ancestry and Tribal affiliation identified on the death record.*

Child's Race and Manner of Death Determination

The manner of death determination for the 670 total white children who died in 2020 was most likely to be natural (62%), followed by accident (19%) and suicide (7%). For the 464 total Black children who died during this same time period, the manner of death determination was most often natural (53%), followed by accident (19%) and homicide (13%). The manner of death determination for the seven children of multiple races and the 40 children from additional groups, including American Indian and Asian or Pacific Islander children, was most often natural (57% and 73%, respectively) followed by accident (29% and 13%, respectively).[1]

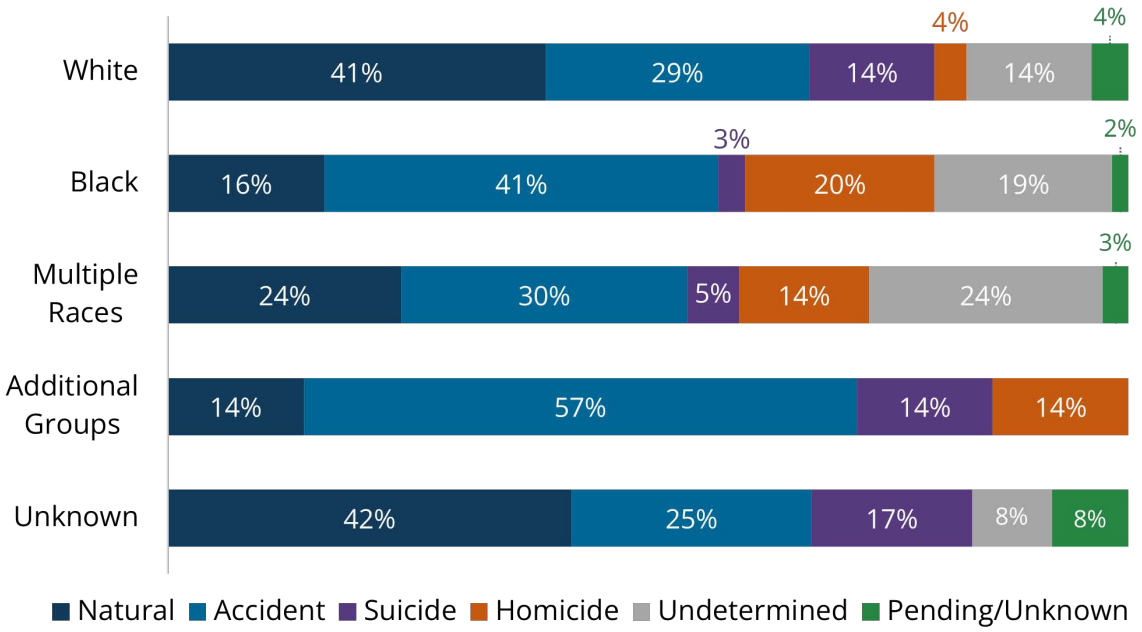
Table 4. Michigan Resident Child Deaths by Manner of Death Determination and Child's Race (2020)

Manner of Death	White	Black	Multiple Races	Additional Groups	Unknown Race
Natural	418 (62%)	246 (53%)	4 (57%)	29 (73%)	32 (62%)
Accident	126 (19%)	90 (19%)	1 (14%)	5 (13%)	11 (21%)
Suicide	47 (7%)	10 (2%)	0 (0%)	4 (10%)	2 (4%)
Homicide	17 (3%)	62 (13%)	0 (0%)	2 (5%)	4 (8%)
Undetermined	51 (8%)	48 (10%)	2 (29%)	0 (0%)	3 (6%)
Pending/ Unknown	11 (2%)	8 (2%)	0 (0%)	0 (0%)	0 (0%)
Total	**670**	**464**	**7**	**40**	**52**

Notes: *Additional groups includes American Indian children and Asian or Pacific Islander children; American Indian children are those who were identified as American Indian, alone or in combination with other races, on the child's death certificate. This definition is inclusive of ancestry and Tribal affiliation identified on the death record.*

Of the children whose deaths were reviewed by a local CDR team in 2020, the manner of death determination for white children was most often natural (41%) followed by accident (29%). The manner of death determination for Black children whose deaths were reviewed by a local CDR team was most often accident (41%), followed by homicide (20%) and undetermined (19%). The manner of death determination for children in additional groups, including children who were American Indian and Asian or Pacific Islander, whose deaths were reviewed by a local CDR team was most often accident (57%), followed by natural (14%) and suicide (14%). The manner of death determination for children of multiple races whose deaths were reviewed by a local CDR team was most often accident (30%), followed by natural (24%) and undetermined (24%).

Chart 15. Manner of Death Determination for Deaths Reviewed by Local CDR Teams by Child's Race (2020)



Notes: *Additional groups includes American Indian children and Asian or Pacific Islander children; American Indian children are those who were identified as American Indian, alone or in combination with other races, on the child's death certificate. This definition is inclusive of ancestry and Tribal affiliation identified on the death record.*

CHILD'S DISABILITY STATUS OR PRESENCE OF CHRONIC ILLNESS

Historically, the fields of medicine and public health have viewed disability as "a defect within the individual," which must be "cured, fixed, or completely eliminated."[14] Since the 1960s, the social model of disability has been gaining traction, particularly within the disability community. The social model states that "environmental factors - physical barriers, negative societal attitudes, and inadequate public policies - that fail to accommodate difference cause disability."[15]

As a result of these barriers, people with disabilities can experience discrimination that may be compounded by persistent isolation, unequal access to care, and a systematic "disregard for the health disparities experienced by some groups as a natural consequence of being in the group," such as the pervasive myth that disability automatically equates to poor health "rather than an inequity that needs to be addressed through multiple approaches."[15] We hope that by naming ableism as a contributing factor to child mortality, we can emphasize the need to value the full spectrum of abilities, include people with disabilities in the design and implementation of prevention initiatives, and create accessible prevention programming.

According to findings from the 2020 American Community Survey, almost 3.5 million children under the age of 18 in the United States had a disability. Of the children living in the United States and Michigan, 4.3% and 4.8%, respectively, reported having any type of disability.[16]

The American Community Survey defines disability as "various physical, mental, or emotional conditions that pose limitations to certain activities or tasks," and includes the following six types of disabilities.[c]

- **Vision difficulty:** Blindness or serious difficulty seeing, even when wearing glasses.
- **Hearing difficulty:** Deafness or serious difficulty hearing.
- **Cognitive difficulty (aged 5 and older):** Serious difficulty concentrating, remembering, or making decisions because of a physical, mental, or emotional condition.
- **Ambulatory difficulty (aged 5 and older):** Serious difficulty walking or climbing stairs.
- **Self-care difficulty (aged 5 and older):** Difficulty dressing or bathing.
- **Independent living difficulty (aged 15 and older):** Difficulty doing errands alone, such as visiting a doctor's office or shopping.[16]

c. The American Community Survey uses the term "difficulty" to describe each type of disability.

For all children under the age of 18 years old living in the United States and in Michigan, the most reported disability type was cognitive difficulty (4.4% and 5.0%, respectively). For children ages 4 and younger, 0.4% of children in both the United States and Michigan were reported to have a vision or hearing difficulty.[c, 16] Vision and hearing difficulties were the only two areas assessed through the American Community Survey for this age group. Some children under the age of 18 years old were reported to have two or more types of disability (1.2% of children under the age of 18 years old in the United States and 1.3% of the children under 18 years old in Michigan).

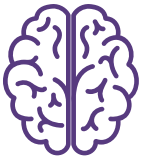
Some children were more likely to report having a disability than others, including American Indian and Alaska Native children (5.4% in the United States and 11.3% in Michigan), children of multiple races (5.0% in the United States and 5.9% in Michigan), and Black children (5.2% in the United States and 6.0% in Michigan). In comparison, white children were less likely to report having a disability (4.2% in the United States and 4.5% in Michigan).[16]

While children with disabilities were more likely to live in poverty,[16] some reports find that an increasing number of children from advantaged backgrounds may be diagnosed with neurodevelopmental and mental health conditions due to these families having "greater resources for seeking diagnoses and services for their children."[15]

Disability or chronic illness is defined in the National Fatality Review-Case Reporting System (NFR-CRS) more broadly than the definition of disability utilized by the American Community Survey and may include the following types of disability or chronic illness:

Physical or orthopedic conditions

Mental health or substance use disorders



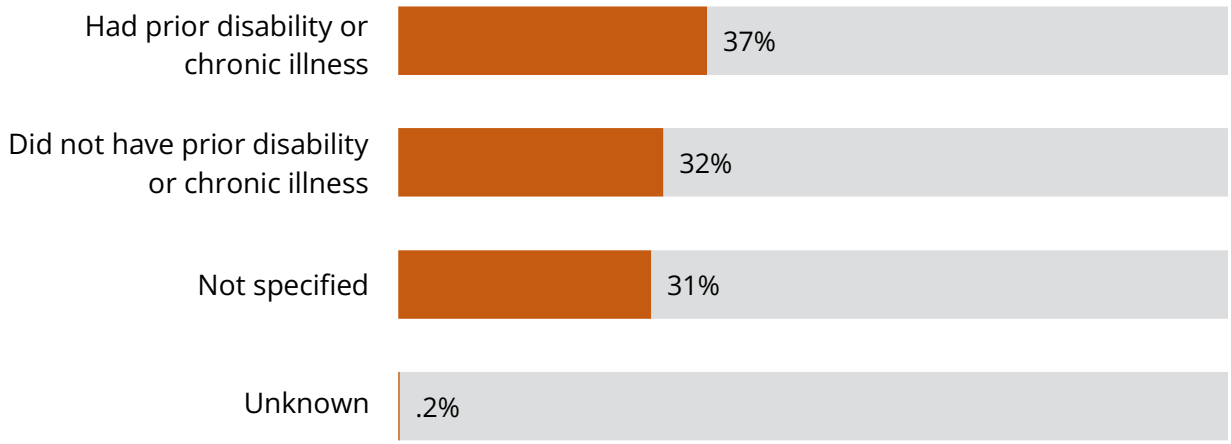
Cognitive or intellectual limitations

Sensory impairments, including those related to vision and hearing

A child may be reported to have had a disability or chronic illness in the NFR-CRS if the child "had a disability or chronic illness prior to the time of incident (leading to the child's death). Chronic implies an impairment or illness that has a substantial long-term effect on the child's day-to-day function or health."

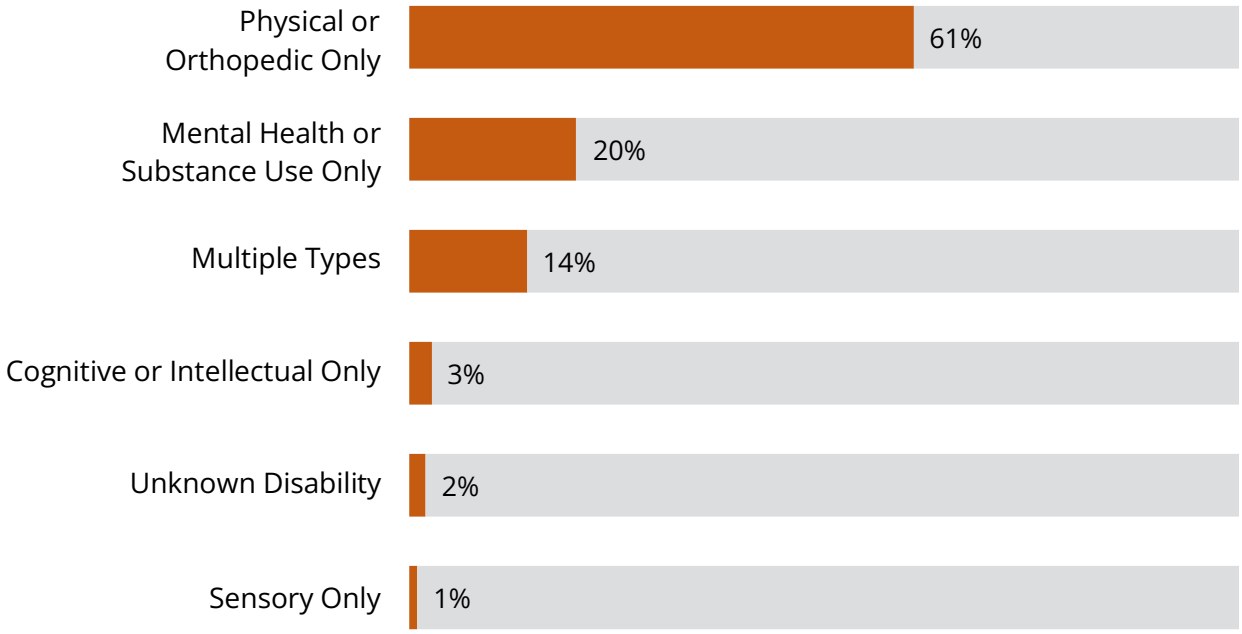
In 2020, 37% of the children whose deaths were reviewed by local CDR teams were known to have had a prior disability or chronic illness. It was not known if 31% of the children whose deaths were reviewed by a local CDR team had a prior disability or chronic illness.

Chart 16. Deaths Reviewed by Local CDR Teams by Child's Disability Status or Presence of Chronic Illness (2020)



When it was known that the child had a prior disability or chronic illness, the child was most likely to have a physical or orthopedic disability or chronic illness (61%), followed by a mental health or substance use disorder (20%), multiple types of disability (14%), a cognitive or intellectual disability (3%), or a sensory disability (1%). The type of disability or chronic illness was not known for three (2%) of the children known to have had a prior disability or chronic illness whose deaths were reviewed by a local CDR team.

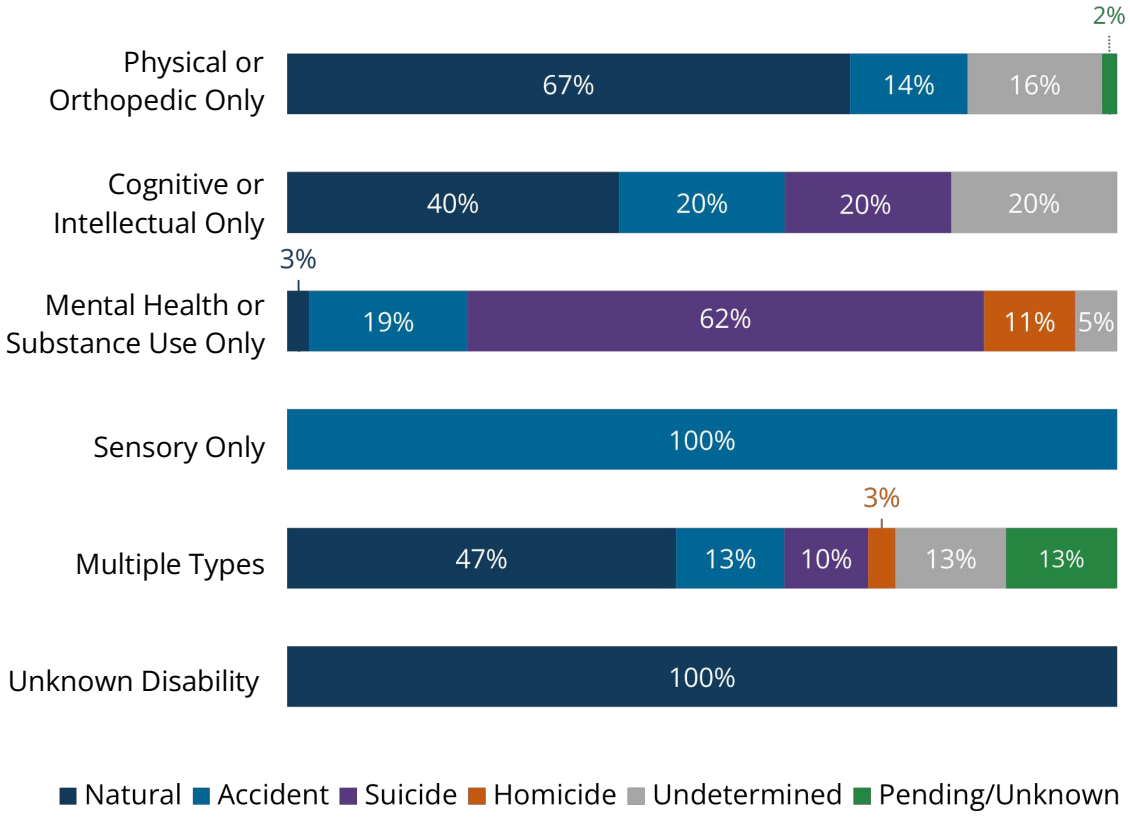
Chart 17. Deaths Reviewed by Local CDR Teams by Type of Child's Disability or Chronic Illness (2020)



Child's Type of Disability or Chronic Illness and Manner of Death Determination

Of the children whose deaths were reviewed by a local CDR team in 2020, the manner of death determination for children with a physical or orthopedic disability or chronic illness was most often natural (67%) followed by undetermined (16%). The manner of death determination for children with a cognitive or intellectual disability was most often natural (40%), followed by accident, suicide, and undetermined (each accounting for 20%). The manner of death determination for children with a mental health or substance use disorder was most often suicide (62%) followed by accident (19%). The manner of death determination for children with a sensory disability was accident for all deaths reviewed (100%). The manner of death determination for children with more than one type of disability or chronic illness was most often natural (47%), followed by accident, undetermined, and pending (each accounting for 13%). When the type of the child's disability or chronic illness was unknown, the manner of death determination was natural for all deaths reviewed (100%).

Chart 18. Manner of Death Determination for Deaths Reviewed by Local CDR Teams by Child's Type of Disability or Chronic Illness (2020)



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APPENDIX

APPENDIX A. Total Number of Child Deaths by Year and by County of Residence

County	2016	2017	2018	2019	2020
Alcona	1	2	0	1	1
Alger	1	1	0	1	0
Allegan	12	11	13	17	16
Alpena	0	2	4	4	3
Antrim	1	1	1	0	1
Arenac	1	2	0	0	2
Baraga	1	2	1	0	1
Barry	6	7	3	7	9
Bay	4	13	8	6	8
Benzie	3	3	1	1	3
Berrien	21	19	27	18	21
Branch	8	10	10	5	4
Calhoun	16	20	19	9	21
Cass	7	8	9	5	3
Charlevoix	2	3	1	1	3
Cheboygan	2	4	5	4	8
Chippewa	1	1	5	4	4
Clare	3	3	7	1	3
Clinton	7	10	3	3	6
Crawford	4	1	2	1	3
Delta	4	2	4	4	9
Dickinson	3	4	5	1	3
Eaton	16	8	5	20	14
Emmet	5	2	4	1	3
Genesee	85	73	55	61	66
Gladwin	3	1	4	3	2

APPENDIX A. Total Number of Child Deaths by Year and by County of Residence *(Continued)*

County	2016	2017	2018	2019	2020
Gogebic	6	0	0	3	1
Grand Traverse	12	5	7	8	8
Gratiot	4	2	3	3	4
Hillsdale	8	9	4	12	6
Houghton	3	6	3	1	3
Huron	2	4	2	2	5
Ingham	41	25	32	35	43
Ionia	6	7	7	5	5
Iosco	1	5	5	4	4
Iron	0	2	2	2	1
Isabella	5	10	7	8	9
Jackson	30	22	16	14	24
Kalamazoo	28	55	26	29	21
Kalkaska	4	0	2	1	0
Kent	86	75	73	81	92
Keweenaw	0	1	0	1	0
Lake	0	2	1	3	2
Lapeer	6	6	6	14	5
Leelanau	2	1	1	0	4
Lenawee	12	10	6	7	6
Livingston	14	18	19	14	6
Luce	1	1	0	4	1
Mackinac	4	0	0	2	0
Macomb	101	108	98	94	72
Manistee	1	5	2	0	6
Marquette	3	9	4	5	5
Mason	1	2	3	4	2
Mecosta	3	2	4	5	6
Menominee	2	0	0	3	2
Midland	5	3	6	4	8

APPENDIX A. Total Number of Child Deaths by Year and by County of Residence *(Continued)*

County	2016	2017	2018	2019	2020
Missaukee	3	1	0	1	0
Monroe	16	18	16	17	22
Montcalm	5	13	7	13	5
Montmorency	0	1	0	0	3
Muskegon	28	27	22	18	21
Newaygo	5	5	3	10	10
Oakland	123	121	125	96	104
Oceana	6	1	3	4	3
Ogemaw	2	1	7	1	3
Ontonagon	0	0	2	0	0
Osceola	3	3	6	5	1
Oscoda	0	1	2	0	0
Otsego	6	2	3	3	2
Ottawa	32	29	27	25	24
Presque Isle	1	5	2	1	2
Roscommon	1	1	4	2	3
Saginaw	39	22	34	27	40
St. Clair	16	13	16	20	20
St. Joseph	10	7	14	9	9
Sanilac	7	4	4	2	4
Schoolcraft	0	0	0	0	3
Shiawassee	9	8	10	7	2
Tuscola	4	7	6	5	8
Van Buren	10	10	10	5	6
Washtenaw	49	28	29	34	25
Wayne	326	337	360	330	336
Wexford	3	4	7	3	9
Unknown	4	0	1	4	0

APPENDIX B. Total Number of Child Deaths Reviewed by Year and by County of Review

County	2016	2017	2018	2019	2020
Alcona	0	0	0	0	0
Alger	0	0	0	0	0
Allegan	9	0	19	0	0
Alpena	0	0	0	1	0
Antrim	0	0	0	0	0
Arenac	0	4	0	0	0
Baraga	2	0	0	0	0
Barry	0	7	1	8	6
Bay	4	1	3	2	0
Benzie	0	0	0	3	0
Berrien	27	17	16	10	4
Branch	9	8	8	5	0
Calhoun	8	8	4	2	0
Cass	7	9	3	9	3
Charlevoix	0	0	0	0	0
Cheboygan	1	1	4	1	1
Chippewa	0	0	2	5	2
Clare	1	0	5	6	0
Clinton	4	8	4	3	7
Crawford	2	1	0	3	1
Delta	2	0	3	0	4
Dickinson	1	1	6	0	1
Eaton	0	6	4	17	11
Emmet	0	0	0	0	0
Genesee	31	24	27	20	22
Gladwin	1	2	3	4	3
Gogebic	0	4	0	0	5
Grand Traverse	18	11	8	14	7

APPENDIX B. Total Number of Child Deaths Reviewed by Year and by County of Review *(Continued)*

County	2016	2017	2018	2019	2020
Gratiot	2	4	2	3	0
Hillsdale	8	8	4	7	6
Houghton	5	0	5	0	0
Huron	0	0	1	0	0
Ingham	25	10	15	23	25
Ionia	4	6	7	6	5
Iosco	1	1	5	2	1
Iron	0	1	0	1	2
Isabella	4	5	2	6	9
Jackson	7	15	3	12	14
Kalamazoo	14	25	13	9	22
Kalkaska	0	0	0	0	0
Kent	21	20	21	23	20
Keweenaw	0	0	0	0	0
Lake	0	0	0	2	0
Lapeer	3	5	6	9	2
Leelanau	0	0	0	0	1
Lenawee	9	5	6	9	0
Livingston	13	10	14	7	10
Luce	0	1	0	0	0
Mackinac	0	0	0	0	0
Macomb	14	0	0	0	0
Manistee	6	0	3	0	0
Marquette	1	7	6	3	3
Mason	0	5	2	7	0
Mecosta	1	0	2	3	8
Menominee	1	0	0	0	1
Midland	0	1	0	0	4
Missaukee	3	1	2	0	0
Monroe	13	11	10	13	16

APPENDIX B. Total Number of Child Deaths Reviewed by Year and by County of Review *(Continued)*

County	2016	2017	2018	2019	2020
Montcalm	5	15	6	15	0
Montmorency	0	1	0	0	0
Muskegon	6	11	16	5	16
Newaygo	3	1	1	3	1
Oakland	23	37	29	24	31
Oceana	20	7	0	4	3
Ogemaw	1	0	6	2	1
Ontonagon	0	0	0	1	0
Osceola	0	10	4	5	2
Oscoda	0	0	0	0	3
Otsego	5	3	0	6	0
Ottawa	16	9	8	4	13
Presque Isle	0	0	0	0	0
Roscommon	1	1	5	0	1
Saginaw	17	9	9	43	17
St. Clair	14	11	6	24	13
St. Joseph	10	7	10	9	8
Sanilac	3	2	1	1	0
Schoolcraft	1	0	0	0	0
Shiawassee	11	4	7	7	6
Tuscola	0	6	6	6	0
Van Buren	9	12	8	6	6
Washtenaw	12	27	6	8	8
Wayne	129	138	138	121	141
Wexford	2	5	7	3	3

ADDENDUM

After analysis was completed for this report, the total number of Michigan resident child deaths in 2020 was updated from 1,233 to 1,240. This change does not impact the overall distribution of deaths by manner, age, sex, or race. There is a change to the rate of Michigan resident child deaths in 2020 from 54.7 per 100,000 to 55.0 per 100,000 when the additional seven deaths are included. Updated frequency tables for manner of death by: 1) age, 2) sex, and 3) race are included below, as well as an updated table for deaths by county. Updated numbers are highlighted.

Table 1 (updated). Michigan Resident Child Deaths by Manner of Death Determination and Child's Age Group (2020)

Manner of Death	Under Age 1	Ages 1 to 4	Ages 5 to 9	Ages 10 to 14	Ages 15 to 18
Natural	532 (75%)	44 (44%)	43 (53%)	52 (55%)	65 (25%)
Accident	81 (12%)	26 (26%)	25 (31%)	16 (17%)	85 (33%)
Suicide	0 (0%)	0 (0%)	1 (1%)	14 (15%)	48 (19%)
Homicide	13 (2%)	14 (14%)	6 (7%)	8 (8%)	44 (17%)
Undetermined	71 (10%)	14 (14%)	3 (4%)	3 (3%)	13 (5%)
Pending/Unknown	9 (1%)	2 (2%)	3 (4%)	2 (2%)	3 (1%)
Total	**706**	**100**	**81**	**95**	**258**

Table 2 (updated). Michigan Resident Child Deaths by Manner of Death Determination and Child's Sex (2020)

Manner of Death	Male	Female	Unknown Sex
Natural	384 (55%)	350 (65%)	2 (100%)
Accident	140 (20%)	93 (17%)	0 (0%)
Suicide	41 (6%)	22 (4%)	0 (0%)
Homicide	63 (9%)	22 (4%)	0 (0%)
Undetermined	57 (8%)	47 (9%)	0 (0%)
Pending/Unknown	14 (2%)	6 (1%)	0 (0%)
Total	**699**	**539**	**2**

Table 4 (updated). Michigan Resident Child Deaths by Manner of Death Determination and Child's Race (2020)

Manner of Death	White	Black	Multiple Races	Additional Groups	Unknown Race
Natural	422 (62%)	249 (53%)	4 (57%)	29 (73%)	32 (62%)
Accident	126 (19%)	90 (19%)	1 (14%)	5 (13%)	11 (21%)
Suicide	47 (7%)	10 (2%)	0 (0%)	4 (10%)	2 (4%)
Homicide	17 (3%)	62 (13%)	0 (0%)	2 (5%)	4 (8%)
Undetermined	51 (8%)	48 (10%)	2 (29%)	0 (0%)	3 (6%)
Pending/ Unknown	11 (2%)	8 (2%)	0 (0%)	0 (0%)	0 (0%)
Total	**674**	**467**	**7**	**40**	**52**

Notes: *Additional groups includes American Indian children and Asian or Pacific Islander children; American Indian children are those who were identified as American Indian, alone or in combination with other races, on the child's death certificate. This definition is inclusive of ancestry and Tribal affiliation identified on the death record.*

APPENDIX A. Total Number of Child Deaths by Year and by County of Residence Updated

County	2020
Alcona	1
Alger	0
Allegan	16
Alpena	3
Antrim	1
Arenac	2
Baraga	1
Barry	9
Bay	8
Benzie	3
Berrien	21
Branch	4
Calhoun	21
Cass	3
Charlevoix	3
Cheboygan	8
Chippewa	4
Clare	4
Clinton	6
Crawford	3
Delta	9
Dickinson	3
Eaton	14
Emmet	3
Genesee	67
Gladwin	2
Gogebic	1
Grand Traverse	8
Gratiot	4
Hillsdale	6
Houghton	3

APPENDIX A. Total Number of Child Deaths by Year and by County of Residence Updated (Continued)

County	2020
Huron	5
Ingham	43
Ionia	5
Iosco	4
Iron	1
Isabella	9
Jackson	25
Kalamazoo	21
Kalkaska	0
Kent	94
Keweenaw	0
Lake	2
Lapeer	5
Leelanau	4
Lenawee	6
Livingston	6
Luce	1
Mackinac	0
Macomb	72
Manistee	6
Marquette	5
Mason	2
Mecosta	6
Menominee	2
Midland	8
Missaukee	0
Monroe	22
Montcalm	5
Montmorency	3
Muskegon	21

APPENDIX A. Total Number of Child Deaths by Year and by County of Residence Updated (Continued)

County	2020
Newaygo	10
Oakland	104
Oceana	3
Ogemaw	3
Ontonagon	0
Osceola	1
Oscoda	0
Otsego	2
Ottawa	25
Presque Isle	2
Roscommon	3
Saginaw	40
St. Clair	20
St. Joseph	9
Sanilac	4
Schoolcraft	3
Shiawassee	2
Tuscola	8
Van Buren	6
Washtenaw	25
Wayne	337
Wexford	9
Unknown	10