Maryland State Child Fatality Review

2023 Report
Health – General Article §5-704(b)(12)

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Acknowledgements

This review of child deaths in Maryland would not be possible without the data, expertise, and collaboration of the Maryland Department of Health Vital Statistics Administration and the Office of the Chief Medical Examiner. The Child Fatality Review Program (the Program) would also like to offer special thanks to the members of its State Child Fatality Review Team, and local Child Fatality Review Teams in all 24 jurisdictions, for the hours spent in discussion and the serious attention given to this important public health project. A list of State Team members can be found in Appendix A of this document. The Program is grateful for the Maryland Department of Health Maternal and Child Health Bureau staff for their contributions, including Dr. Shelly Choo, Iliana Siarmalis, Lindsey Hall, Thuy Nguyen, Ashka Mehta, and Jessica Hernandez. The Program acknowledges the infants and children who passed away, and their families and loved ones. Each death represents a child's life that ended too early.

List of Abbreviations

API	Asian or Pacific Islander
CDR-CRS	National Child Death Review Case Reporting System
CFR	Child Fatality Review
CPS	Child Protective Services
DSS	Department of Social Services
LHD	Local Health Department
MDH	Maryland Department of Health
MMQRC	Morbidity, Mortality, and Quality Review Committee
NCHS	National Center for Health Statistics
NH	Non-Hispanic
OCME	Office of the Chief Medical Examiner
SIDS	Sudden Infant Death Syndrome
SUID	Sudden Unexpected Infant Death
VSA	Vital Statistics Administration

Overview of Maryland Child Fatality Review

Child Fatality Review (CFR) is a systematic, multi-agency, and multi-disciplinary review of unexpected child deaths. This review process, which began in Los Angeles in 1978 as a mechanism to identify fatal child abuse and neglect, has grown into a national system to examine unexpected child fatalities and to inform prevention efforts.

The purpose of the Maryland State CFR Team (the Team) is to prevent child deaths by:

(1) Understanding the causes and incidence of child deaths;
(2) Implementing changes within the agencies represented on the Team to prevent child deaths; and
(3) Advising the Governor, the General Assembly, and the public on changes to law, policy, and practice to prevent child deaths.

The Team envisions the elimination of preventable child fatalities. To achieve this goal, the Team aims to successfully use the CFR process to understand the circumstances around incidents of child fatality and to recommend strategies to prevent future fatalities.

The Maryland CFR Program (the Program) was established by statute in Health - General Article §5-702 and Senate Bill 464 (1999). The Program is housed within the Maryland Department of Health (MDH) for budgetary and administrative purposes. The 25-member team is comprised of representatives from multiple State agencies and professional organizations, as well as two pediatricians and 11 Governor-appointed members of the general public with interest and expertise in child safety and welfare (see Appendix A). The Team meets at least four times a year to address 13 statutorily mandated duties (see Appendix B).

The Team provides support to local CFR teams that operate in all 24 Maryland jurisdictions, including 23 counties and Baltimore City. The local CFR teams receive notice from the Office of the Chief Medical Examiner (OCME) of unexpected resident deaths of children under the age of 18. The local CFR teams are required to review each of these deaths. Local CFR teams meet at least quarterly to review cases and make recommendations for local-level systems changes to statute, policy, or practice to prevent future child deaths. The local CFR teams also work to implement their recommendations. The Program is required by Health - General Article, §5-704 to submit an annual report to the Governor and General Assembly with the Team's findings and recommendations. This report covers data through the 2022 calendar year for OCME-referred deaths.

Other multidisciplinary groups in Maryland have similar charges to prevent child injury and death. The State Council on Child Abuse and Neglect and the Citizen Review Board for Children examine policies and practices for protecting children. Also, the MDH Morbidity, Mortality, and Quality Review Committee (MMQRC), established by legislation in 2008, is charged with reviewing morbidity and mortality associated with pregnancy, childbirth, infancy, and early childhood. The MMQRC provides another opportunity for review and dissemination of information and recommendations developed through the CFR process. The local CFR teams work collaboratively with local Fetal and Infant Mortality Review (FIMR) teams in several

jurisdictions, as well as with other review teams, such as the State Suicide Fatality Review Team, the Pedestrian Fatality Program, and the Overdose Fatality Program.

Pursuant to Health-General Article §5–704(b)(12), the Team is required to provide the Governor, the public, and the General Assembly, with annual written reports, which include the Team's findings and recommendations.

Unexpected Child Deaths – Maryland, 2022

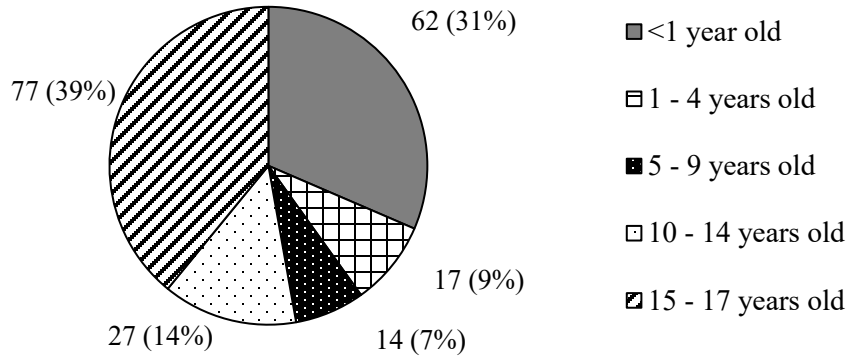
Childhood deaths are a major public health concern, as many of these deaths are preventable. Surveillance of childhood deaths allows public health programs to measure the magnitude of the problem and assess the causes and populations affected; these data are crucial in identifying trends and targeting interventions to prevent childhood deaths. The CFR process reviews all unexpected child deaths referred by OCME, as well as other unexpected child deaths among Maryland residents identified by MDH and/or the local CFR teams. Unexpected child deaths include cases of Sudden Unexpected Infant Death (SUID), unintentional injury, homicide, suicide, and some deaths due to natural causes.[1] For the report, epidemiologists within the MDH Maternal and Child Health Bureau (MCHB) analyze unexpected child deaths referred by OCME.

An important aspect of Maryland's CFR process is the local CFR team's use of multiple data sources – including medical records, school district data, police investigations, emergency medical service records, and investigations by the Department of Social Services (DSS) – to improve the overall quality of case review data. Local CFR teams receive ongoing training to classify child deaths accurately and consistently. Data are entered into the National Child Death Review Case Reporting System (CDR-CRS) (Health – General §5–701 and §5–704) by the local CFR team coordinators. The fatality analysis in this report covers calendar year 2022 and uses the data reported to CDR-CRS from local CFR teams as of April 24, 2025.

Number of Unexpected Child Deaths by Age Group

In 2022, OCME referred 197 unexpected child deaths to local CFR teams for review. Figure 1 shows the distribution of these deaths by age.

Figure 1. Number of Unexpected Child Deaths by Age Group, Maryland, 2022



Source: CDR-CRS, as of 4/24/25.
Percentages may total more than 100% due to rounding.

[1] SUID is the sudden death of an infant less than one year of age that cannot be fully explained after a thorough review of the medical history, a complete autopsy, and examination of the death scene.

In 2022, the highest number of deaths occurred in the 15–17-year-old age group with 77 deaths (39%). The second highest number of deaths occurred in the <1-year-old age group with 62 deaths (31%). This represents a reversal from 2021 and previous years, when infant deaths consistently outnumbered those in older age groups. There were 27 deaths (14%) in the 10–14-year-old age group, 17 deaths (9%) in the 1–4-year-old age group, and 14 deaths (7%) in the 5–9-year-old age group.

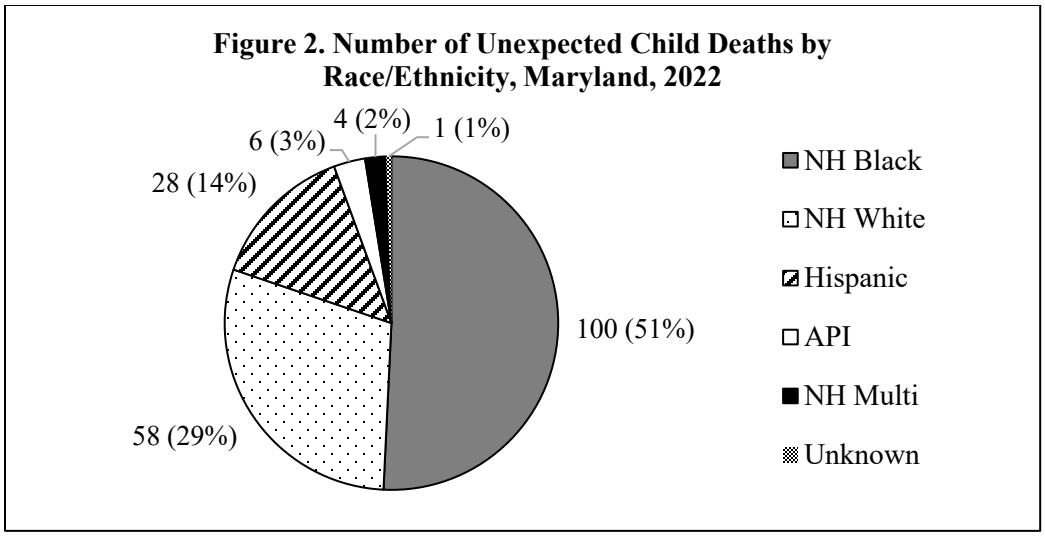
Of the 197 unexpected child deaths, 122 deaths (58%) occurred among male children and 75 deaths (42%) among female children. This distribution was very similar to the distribution observed in 2021.

Number of Unexpected Child Deaths by Race/Ethnicity

Starting with the 2021 Maryland Annual Vital Statistics Report, the Vital Statistics Administration (VSA) reported updated race and ethnicity categories based on new standards set by the U.S. Census Bureau and the National Center for Health Statistics (NCHS). Previously, NCHS' 'bridged race' method was used to combine more than one race into a single category. The categories included White, Black, Hispanic, American Indian, Asian/Pacific Islander. If a person selected more than one race, they would be included with the category they most identified with rather than being put into their own category. The change to single-race categories – that is, categories for which only one race is reported – includes an additional 'multi-race' category in which two or more races are aggregated.[2] In March 2024, the MCHB Data and Epidemiology team received single-race data from VSA dating back to 2015 to create historical trends. **This report and future analyses will reflect single-race categories; these counts may differ from previous reports**.

Figure 2 shows the distribution of unexpected child deaths by race and ethnicity in 2022. Over half (51%) of the unexpected deaths occurred among non-Hispanic (NH) Black children. The number of deaths for NH Black children was over three-and-a-half times higher than the number of unexpected deaths among Hispanic children, and more than one-and-a-half times higher than the number of unexpected deaths among NH White children.

[2] For more information, please see "Explanatory Notes" on page xi of the 2022 Maryland Vital Statistics Annual Report.



Source: CDR-CRS, as of 4/24/2025.
Percentages may total more than 100% due to rounding
NH - non-Hispanic
API – Asian or Pacific Islander

Unexpected Child Deaths by Manner and Cause of Death

There were 23 deaths in which the manner of death was not reviewed by the CFR teams due to: no autopsy was indicated; the teams did not receive immediate notification of the death; the cause of death was pending; the cause of death was natural; there were time/resource constraints at the local health departments (LHDs) and OCME; or the death occurred outside of Maryland. Table 1 shows the number and percentage of child fatality cases occurring in 2022 by manner and cause of death.

Table 1. Unexpected Child Deaths by Manner and Cause of Death, Maryland 2022

	Number	Percent
Undetermined	**51**	**26%**
Undetermined if medical or external injury	43	22%
External – Poison	4	2%
External – Missing	1	1%
Medical – Other medical	1	1%
External – Weapon	1	1%
Unknown	1	1%
Accident	**42**	**21%**
External – Motor Vehicle Accident	16	8%
External – Asphyxia	8	4%
External – Drowning	2	1%
External – Other	1	1%
External – Fire, burn, or electrocution	1	1%
External – Fall or crush	2	1%
External – Weapon	1	1%

External – Poison	9	5%
Medical – Neurological, seizure	1	1%
Undetermined if medical or external injury	1	1%
Homicide	**26**	**13%**
External – Weapon (including assault)	22	11%
External – Missing	3	2%
External – Fire, burn or electrocution	1	1%
Suicide	**27**	**14%**
External – Weapon (including asphyxia)	6	3%
External – Other	4	2%
External – Asphyxia	8	4%
External – Poison	3	2%
External – Fall or crush	1	1%
External – Motor Vehicle	1	1%
External – Missing	4	2%
Natural	**28**	**14%**
Medical – Cardiovascular	5	3%
Medical – Pneumonia	2	1%
Medical – Asthma	2	1%
Medical – COVID-19	2	1%
Medical – Congenital Anomaly	3	2%
Medical – Neurological, seizure	5	3%
Medical – Prematurity	1	1%
Medical – Influenza	1	1%
Medical – Other infection	2	1%
Medical – Other Medical	4	2%
Undetermined if medical or external injury	1	1%
Not Reviewed	**23**	**12%**
Total	**197**	**100%**

Source: CDR-CRS, as of 4/24/2025.
Percentages may total more than 100% due to rounding.

Undetermined was the leading manner of child deaths in 2022, which accounted for 26% of all child deaths. Cases that are classified as undetermined are cases in which the CFR teams were unable to determine whether the death was caused by an injury or due to a medical cause. It can also be difficult for teams to differentiate a cause of death from suicide, homicide, or accidents. In addition, a lack of consensus among review team members can result in the cause of death being listed as undetermined. A case can be classified as unknown if the team did not have information on the primary cause of death.

In 2022, accidents were the second leading manner of child deaths, accounting for 21% of all child deaths. Motor vehicle accidents[3] were the leading cause of accidental deaths (8% of all

[3]Although the Centers for Disease Control and Prevention uses the term "motor vehicle crash", the term "accident" is used by the National Center for Fatality Review and Prevention.

deaths). Homicide and suicide accounted for 13% and 14% of child deaths, respectively. Natural causes accounted for 14% of child deaths, with cardiovascular conditions being the leading cause of natural deaths (3% of all deaths). Twenty-three cases (12%) were not reviewed for a manner and cause of death.

Among the 197 child deaths that occurred in 2022, local CFR teams reported 11 deaths (5%) resulting from confirmed abuse or neglect. This is a 42% decrease from the total of 19 in 2021. Teams incorporated information from autopsy records, DSS findings, and police investigations to identify these cases. For this report, child fatalities associated with child abuse and neglect include cases where the type of abuse was defined as either child abuse or child neglect and does not include cases where the type of abuse was poor or absent supervision or exposure to hazards.

Unexpected Child Deaths by Jurisdiction of Residence

In Table 2, the number and percentage of deaths in 2022 are shown by the child's jurisdiction of residence at the time of death. Baltimore City had the highest number and percent of child fatalities reviewed (15%), followed by Prince George's (14%) and Baltimore (13%) counties.

Table 2. Unexpected Child Deaths by Jurisdiction of Residence, Maryland, 2022

	Number	Percent
Baltimore City	29	15
Prince George's	27	14
Baltimore	26	13
Montgomery	22	11
Anne Arundel	20	10
Howard	13	7
Washington	12	6
Harford	9	5
Carroll	7	4
Cecil	6	3
St. Mary's	5	3
Wicomico	5	3
Frederick	4	2
Calvert	2	1
Caroline	2	1
Garrett	2	1
Worcester	2	1
Allegany	1	1
Dorchester	1	1
Somerset	1	1
Talbot	1	1
Total	**197**	**100%**

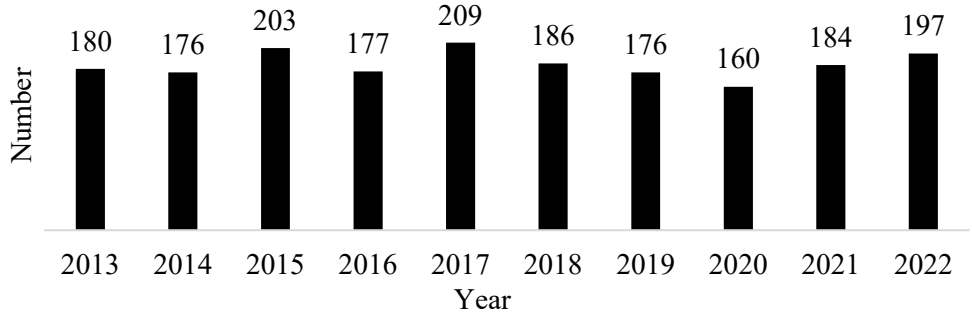
Source: CDR-CRS, as of 4/24/2025.
Counties not listed had no unexpected child deaths in 2022.
Percentages may total more than 100% due to rounding.

Trends in Unexpected Child Deaths in Maryland

Annual Number and Rate of Unexpected Child Deaths

Figure 3a shows the annual number of unexpected child deaths referred by OCME during the 10-year period from 2013 to 2022. The fewest number of cases during this period was 160 in 2020 and the highest number of cases was 209 in 2017. During this period, the number of referred unexpected child deaths represented about 27% of all deaths of children under 18 years old.

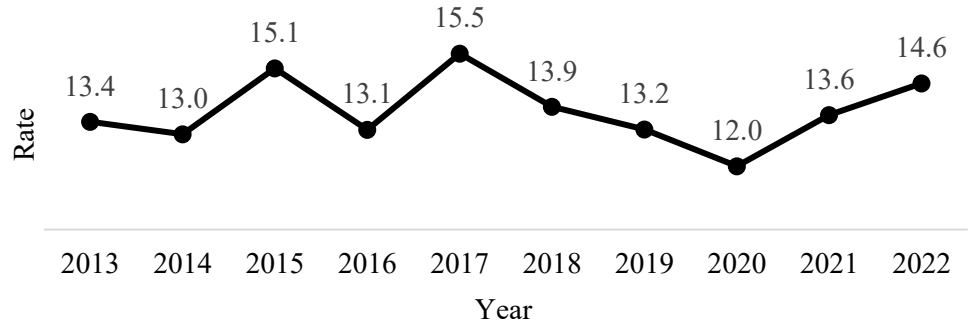
Figure 3a. Annual Number of Unexpected Child Deaths, Maryland, 2013-2022



Source: CDR-CRS, as of 4/24/2025.

Figure 3b shows the annual rate of unexpected child deaths per 100,000 population for children aged 0 to 17 from 2013 to 2022. Following a decline from 2017 to 2020, the rate increased by 21.6% from 2020 to 2022.

Figure 3b. Annual Rate of Unexpected Child Deaths, Maryland, 2013-2022

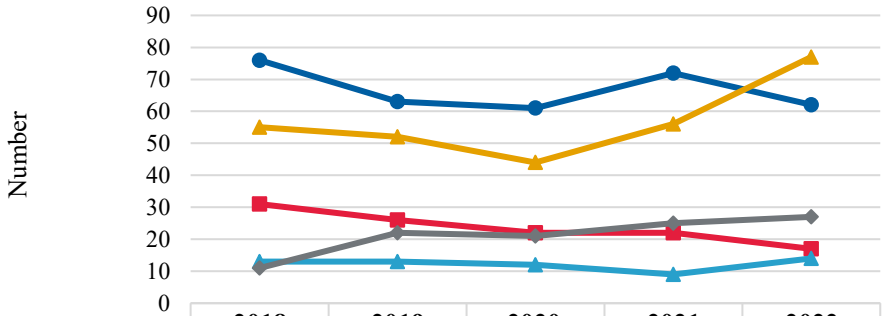


Source: CDR-CRS, as of 4/24/2025.
*For 2013-2020, rates per 100,000 population are based on National Vital Statistics System population estimates. For 2021-2022, rates per 100,000 population are based on US Census Bureau population estimates.

Number and Rates of Unexpected Child Deaths by Age Group

Figure 4a shows the number of child fatality cases by age group over the five-year period from 2018 to 2022. Most notably, the number of cases in the 15-17-year-old age group has increased since 2020. For the first time in this five-year period, deaths in this age group were the highest of all age groups in 2022. Fatalities have also been on an upward trend for 10–14-year-olds since 2020. Fatalities in the <1-year-old age group have historically been the highest of all age groups, but there was a slight decrease in these fatalities from 2021 to 2022.

Figure 4a. Number of Unexpected Child Deaths by Age Group, Maryland, 2018 to 2022 (n=903)

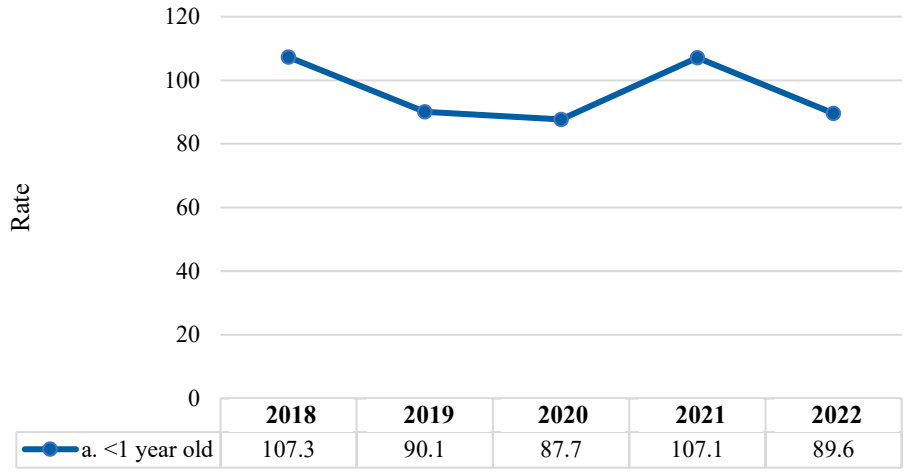


	2018	2019	2020	2021	2022
a. <1 year old	76	63	61	72	62
b. 1 - 4 years old	31	26	22	22	17
c. 5 - 9 years old	13	13	12	9	14
d. 10 - 14 years old	11	22	21	25	27
e. 15 - 17 years old	55	52	44	56	77

Source: CDR-CRS, as of 4/24/2025.

Figures 4b and 4c show the rate of unexpected child deaths by age group from 2018 to 2022. Although the number of deaths for the 15–17-year-old age group was highest in 2022, the overall rate of deaths among infants in Maryland was over two-and-a-half times higher than the rate among 15–17-year-olds in 2022. The rate among infants has consistently been higher than all age groups despite a slight decline from 2021 to 2022. The rate for 15–17-year-olds increased from 2021 to 2022.

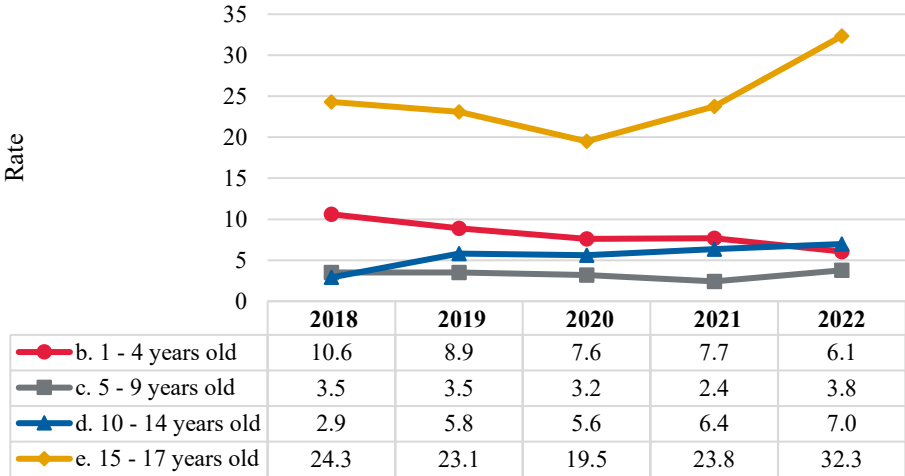
Figure 4b. Rates of Unexpected Child Deaths for Infants <1 Year Old, Maryland, 2018-2022



	2018	2019	2020	2021	2022
a. <1 year old	107.3	90.1	87.7	107.1	89.6

Source: CDR-CRS, as of 4/24/2025.
*For 2013-2020, rates per 100,000 population are based on National Vital Statistics System population estimates. For 2021-2022, rates per 100,000 population are based on US Census Bureau population estimates.

Figure 4c. Rates of Unexpected Child Deaths Children Ages 1 and Older by Age Group, Maryland, 2018-2022

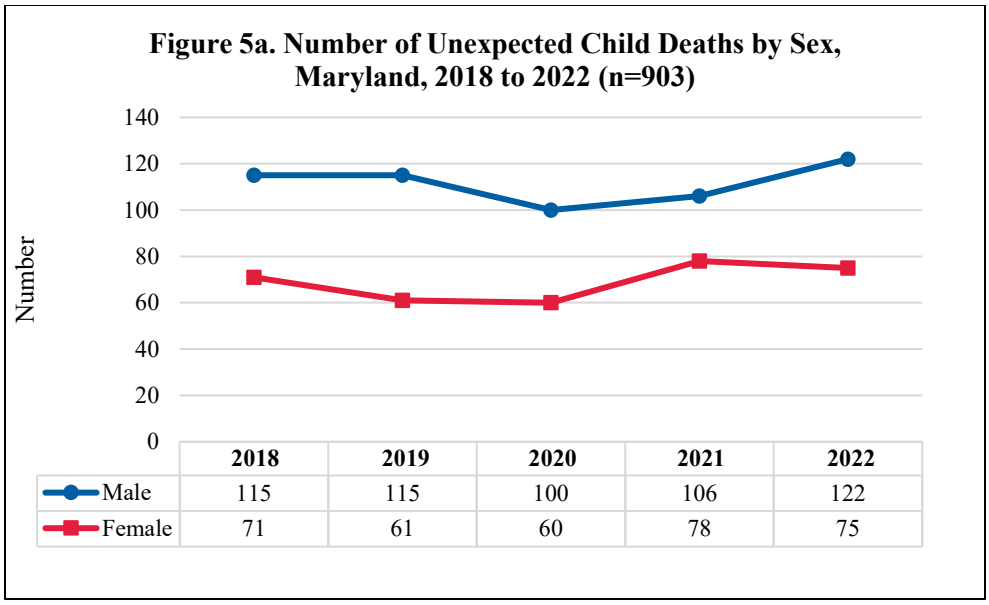


	2018	2019	2020	2021	2022
b. 1 - 4 years old	10.6	8.9	7.6	7.7	6.1
c. 5 - 9 years old	3.5	3.5	3.2	2.4	3.8
d. 10 - 14 years old	2.9	5.8	5.6	6.4	7.0
e. 15 - 17 years old	24.3	23.1	19.5	23.8	32.3

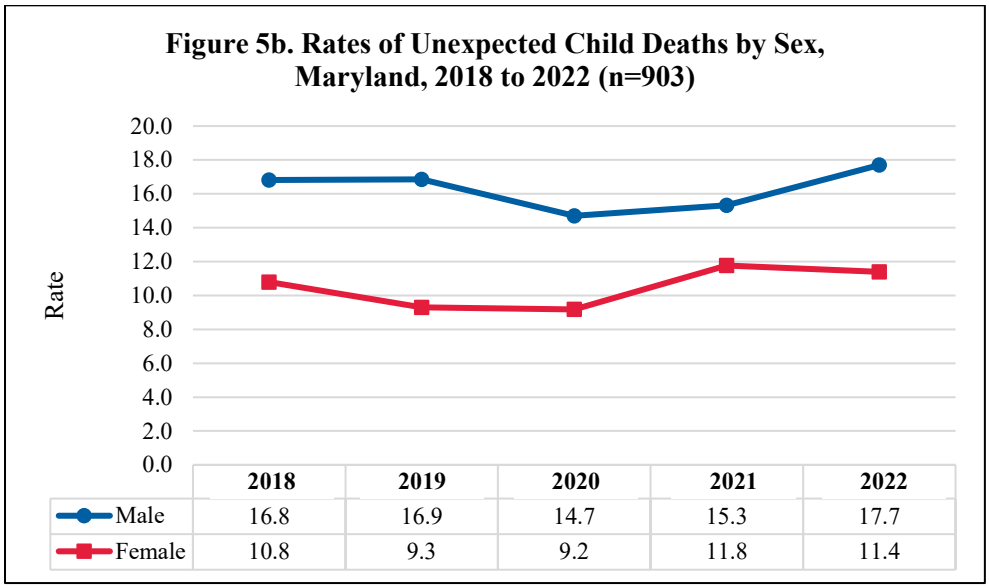
Source: CDR-CRS, as of 4/24/2025.
*Rates per 100,000 population are based on National Vital Statistics System population estimates.
^Rates with >5 but <20 deaths in the numerator are subject to instability. For the 5–9-year-old age group, all 5 years had numerators in this range. For 10-14 years old, 2018 had a numerator in this range.

Number and Rates of Unexpected Child Deaths by Sex

Between 2018 and 2022, 558 male children and 345 female children died unexpectedly. The number (Figure 5a) and rate (Figure 5b) of unexpected deaths was consistently higher among male children than among female children during that period. In 2022, the number of unexpected deaths was 62.7% higher among male children than among female children.



Source: CDR-CRS, as of 4/24/2025.

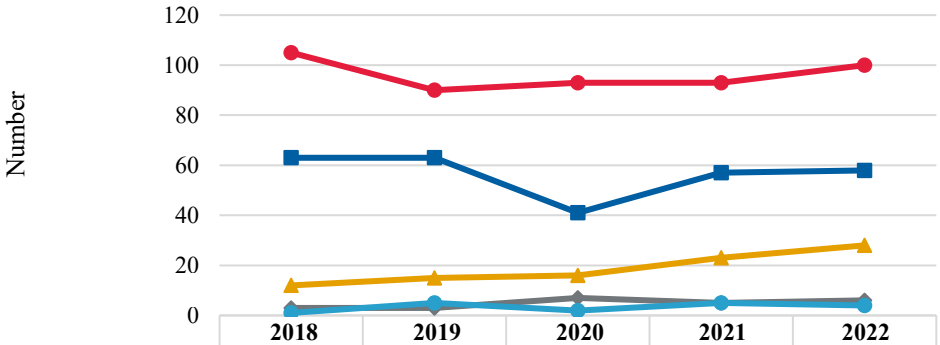


Source: CDR-CRS, as of 4/24/2025.
*For 2013-2020, rates per 100,000 population are based on National Vital Statistics System population estimates. For 2021-2022, rates per 100,000 population are based on US Census Bureau population estimates.

Number and Rates of Unexpected Child Deaths by Race and Ethnicity

Figure 6a shows the number of unexpected child deaths by race and ethnicity. Significant disparities persist among racial and ethnic groups in Maryland. In 2022, the number of unexpected child deaths among NH Black children was over one-and-a-half times higher than the number of deaths among NH White children, and more than three-and-a-half times higher than the number of deaths among Hispanic children.

Figure 6a. Number of Unexpected Child Deaths by Race and Ethnicity, Maryland, 2018 to 2022, (n=903)



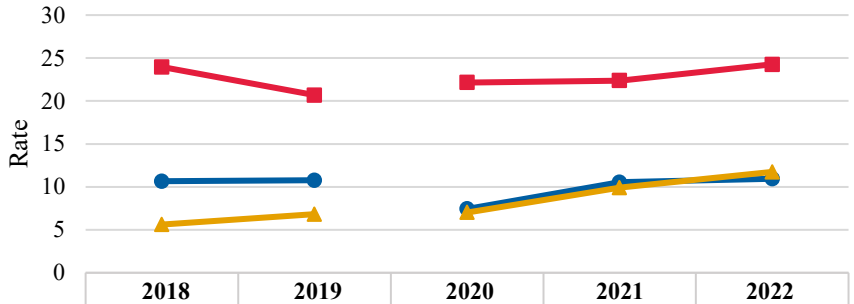
	2018	2019	2020	2021	2022
NH Black	105	90	93	93	100
NH White	63	63	41	57	58
Hispanic	12	15	16	23	28
NH API	3	3	7	5	6
NH Multirace	1	5	2	5	4

Source: CDR-CRS, as of 4/24/2025.
Note: Unknown race not shown; 2 cases in 2018 and 1 case in 2020, 2021, and 2022 had unknown race.

As mentioned earlier in the report, starting with the 2022 Annual CFR report (which highlighted 2021 cases), single-race categories are now used instead of bridged race categories. Single-race child population level data was not yet available for years prior to 2020 at the time this report was drafted. Because of this, unexpected child death rates by single-race categories could only be calculated for 2020-2022 (Figure 6b). There is a break in Figure 6b to illustrate that 2018-2019 rates are not comparable to 2020-2022 rates.

Between 2020 and 2022, the unexpected child death rate among NH Black children was consistently more than two times higher than the rate for NH White and Hispanic children. As additional years of single-race population data become available, future reports will include trend graphs that reflect single-race data exclusively.

Figure 6b. Rates of Unexpected Child Deaths by Race and Ethnicity, Maryland, 2018-2022



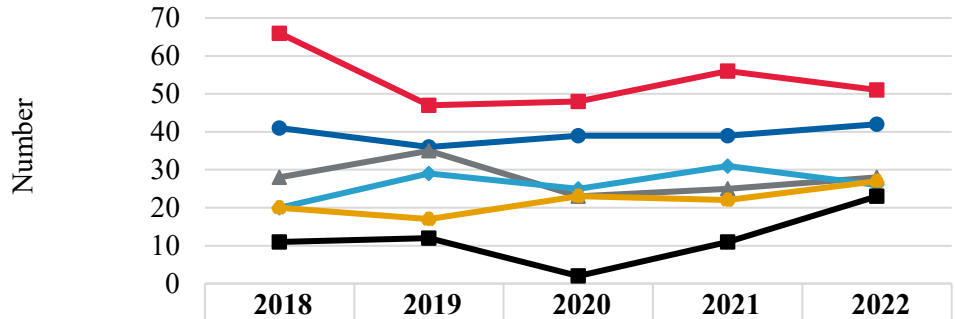
	2018	2019	2020	2021	2022
NH White	10.7	10.8	7.4	10.5	10.9
NH Black	24.0	20.7	22.1	22.4	24.3
Hispanic	5.6	6.8	7.0	9.9^	11.7^

Source: CDR-CRS, as of 4/24/2025.
*For 2013-2020, rates per 100,000 population are based on National Vital Statistics System population estimates. For 2021-2022, rates per 100,000 population are based on US Census Bureau population estimates.
^Rates with >5 but <20 deaths in the numerator are subject to instability. For Hispanic, all years except 2021 and 2022 had a numerator in this range.

Number of Unexpected Child Deaths by Manner of Death

Manner of death is different from the cause of death – it describes the way in which a death occurs. The manner of death can only be one of the following: homicide, suicide, accidental, undetermined, or natural. Figure 7 shows the number of unexpected child deaths by manner of death from 2018 to 2022. Undetermined persisted as the most common manner of death during this period, accounting for 51 deaths (26%) in 2022. Twenty-three cases were not reviewed in 2022, the highest number during the 2018-2022 period. Page eight of this report lists the reasons these cases were not reviewed.

Figure 7. Number of Unexpected Child Deaths by Manner of Death Category, Maryland, 2018 to 2022 (n=903)*



	2018	2019	2020	2021	2022
Undetermined	66	47	48	56	51
Accident	41	36	39	39	42
Natural	28	35	23	25	28
Homicide	20	29	25	31	26
Suicide	20	17	23	22	27
Not Reviewed	11	12	2	11	23

Source: CDR-CRS, as of 4/24/2025.
*Undetermined includes unknown (3 cases); Not Reviewed includes pending (1 case) and missing a response (1 case).

Number and Rates of Unexpected Child Deaths by Jurisdiction of Residence

Table 3 shows the number of unexpected child deaths by the child's jurisdiction of residence at the time of death. Over the five-year period from 2018 to 2022, Baltimore City has consistently reported the highest number of resident unexpected child deaths. However, from 2018 to 2022, the overall number of child deaths declined by over 40%. Anne Arundel, Montgomery, and Prince George's counties and Baltimore City have consistently had the highest number of child deaths during this period. Between 2018 and 2022, resident child deaths increased by over 100% in Anne Arundel County, by 35% in Prince George's County, and by 29% in Montgomery County.

Table 3. Number of Unexpected Child Deaths by Jurisdiction of Residence, Maryland, 2018 to 2022 (n=903)

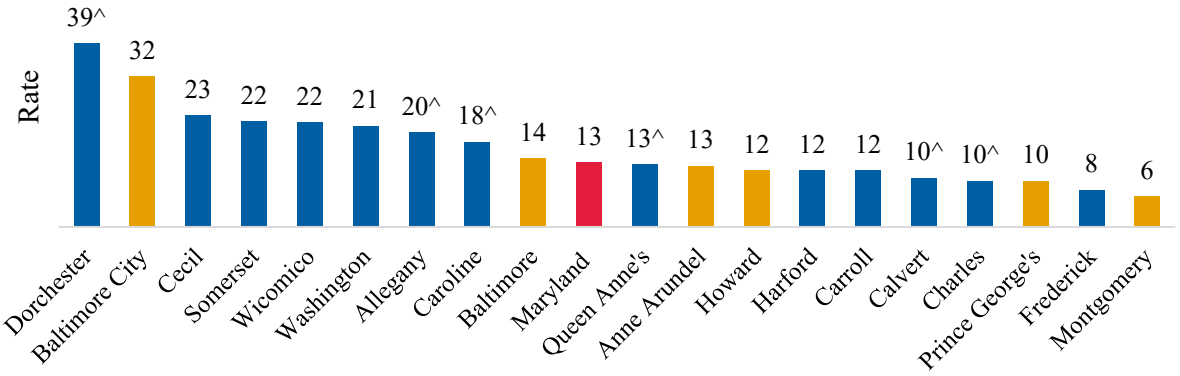
	2018	2019	2020	2021	2022	Total
Baltimore City	49	36	34	41	29	189
Baltimore	24	30	27	21	26	128
Prince George's	20	13	14	24	27	98
Anne Arundel	9	22	14	18	20	83
Montgomery	17	12	14	12	22	77
Howard	7	7	12	8	13	47
Washington	5	6	5	7	12	35
Harford	6	7	4	8	9	34
Cecil	4	7	2	8	6	27

St. Mary's	6	2	4	8	5	25
Wicomico	7	4	4	5	5	25
Frederick	5	6	5	4	4	24
Carroll	5	3	5	2	7	22
Charles	7	6	5	1	0	19
Dorchester	4	1	1	6	1	13
Allegany	1	5	2	3	1	12
Calvert	2	2	3	2	2	11
Caroline	3	1	0	1	2	7
Queen Anne's	3	1	1	2	0	7
Garrett	1	1	0	1	2	5
Worcester	0	2	0	1	2	5
Somerset	0	1	1	1	1	4
Talbot	1	1	1	0	1	4
Kent	0	0	2	0	0	2
Total	**186**	**176**	**160**	**184**	**197**	**903**

Source: CDR-CRS, as of 4/24/2025.

Figure 8 shows the rates of unexpected child deaths by jurisdiction of residence. The highest rates were observed in Dorchester County (39 deaths per 100,000 population), followed by Baltimore City (32 per 100,000 population), and Cecil County (23 per 100,000 population). In contrast, Montgomery County recorded the lowest rate, with just 6 unexpected child deaths per 100,000 population.

Figure 8. Five-year Rates of Unexpected Child Deaths by Jurisdiction of Residence, Maryland, 2018 to 2022*



Source: CDR-CRS, as of 4/24/2025.
Rural jurisdictions are coded in blue, urban jurisdictions in yellow. The Maryland state rate is in red.
*For 2013-2020, rates per 100,000 population are based on National Vital Statistics System population estimates. For 2021-2022, rates per 100,000 population are based on US Census Bureau population estimates. Minimum five reviewed deaths for inclusion.
^Rates with >5 but <20 deaths in the numerator are subject to instability.

Sudden Unexpected Infant Deaths in Maryland

According to the Centers for Disease Control and Prevention (CDC), in 2022, approximately 3,700 infants died suddenly and unexpectedly in the United States. Of these deaths, 1,529 (41%) died from Sudden Infant Death Syndrome (SIDS); 1,131 (31%) died from unknown causes; and 1,040 (28%) died from accidental suffocation and strangulation in bed.[4] While an exact cause of death cannot always be determined, unsafe sleep factors are present in most cases, indicating that the deaths could have potentially been prevented if safe sleep practices were always followed.[5]

The National Center for Fatality Review and Prevention (NCFRP) defines SUIDs as deaths that occur suddenly and unexpectedly in previously healthy infants less than 1 years old and have no obvious cause of death prior to investigation. In cases of SUID, there are two possible scenarios: 1) all potentially non-natural causes of death cannot reasonably be excluded by the investigation; or 2) there is an issue or concern. Issues or concerns include an unsafe sleeping environment or other environmental concerns, previous SIDS in the immediate family, unexplained injuries that had healed, parental substance abuse, and other factors.[6]

Even after a thorough investigation, some SUID cases show no evidence of a non-natural cause of death or circumstances that raise concerns for investigators. These cases fall under the subcategory of SIDS. SIDS is a diagnosis of exclusion, assigned only when all known and possible causes of death have been ruled out.[4]

SUIDs are often not witnessed, the death scene may be disturbed before it can be examined, key facts may be forgotten or go unreported, and there may be no autopsy finding or medical test to prove the exact cause of death (e.g., suffocation). The mechanisms that lead to many sleep-related deaths include:

- Accidental suffocation by a soft sleep surface (e.g., an adult bed, waterbed mattress, pillows, or soft couch or chair cushions) or other soft materials (e.g., stuffed toys, blankets, or crib bumpers) placed in the infant's sleep environment;
- Overlay when the infant is bed-sharing with another person who rolls on top of or against the infant;
- Wedging or entrapment of the infant between two objects (e.g., a mattress and wall or bed frame, or between furniture cushions); and
- Strangulation when the infant's head and neck become caught between crib railings, or the infant's neck becomes entangled in a cord or other material within the sleep environment.

[4] Centers for Disease Control and Prevention. (2024, September 17). Data and Statistics for SUID and SIDS. https://www.cdc.gov/sudden-infant-death/data-research/data/index.html.

[5] Key components of a safe sleep environment are placing infants to sleep alone on their backs, on a firm sleep surface with no soft objects, and in a smoke-free environment.

[6] National Center for Fatality Review and Prevention. (2020, November). National Center Program Manual. https://ncfrp.org/wp-content/uploads/NCRPCD-Docs/ProgramManual.pdf

For the purposes of data analysis, a case is considered a SUID if the manner or cause of death meets at least one of the following criteria:

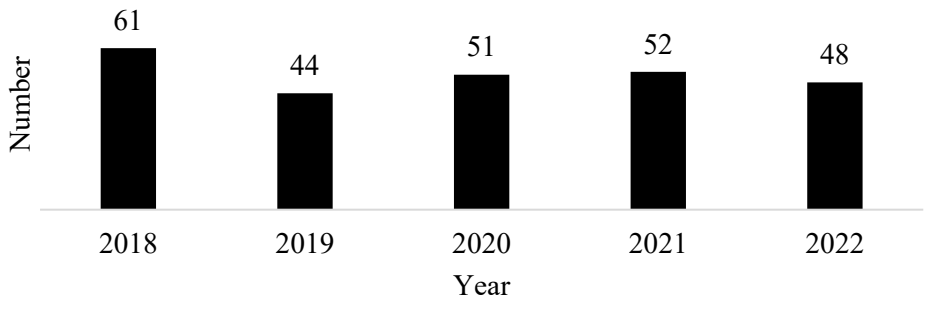
- The cause of death is undetermined or unknown;
- The cause of death was one of the following injury causes:
    - Asphyxia;
    - Undetermined causes; or
    - Unknown causes; and
- The cause of death was one of the following medical causes:
    - SIDS;
    - Undetermined causes; or
    - Unknown causes.

Please note that the SUID rates displayed in this section (Figures 9b, 11, 12b, and 13) use live birth data provided by the VSA. VSA disclaims responsibility for any analysis, interpretations, or conclusions.

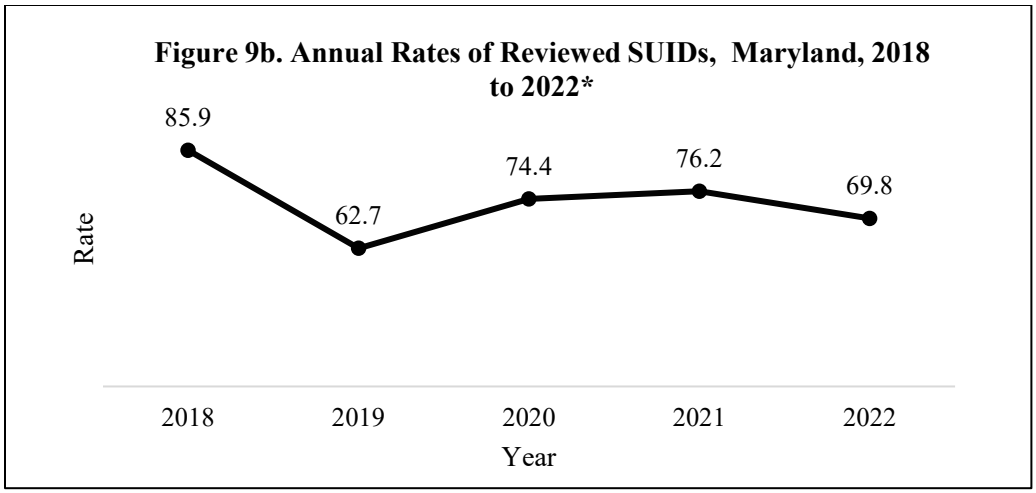
Annual Number and Rates of Reviewed SUIDs

In this section, the analysis only included SUID cases reviewed by local CFR teams. From 2018 to 2022, local CFR teams reviewed an average of 51 SUID cases per year, totaling 256 cases over the five-year period (Figure 9a). None of the deaths during this period were attributed to SIDS, which is used only when no other cause can explain the infant's death. Most infant sleep-related deaths reviewed by local teams had identifiable unsafe sleep factors or other circumstances and therefore were classified under other SUID categories rather than SIDS. The annual rate of SUID cases declined by 18% during this period (Figure 9b).

Figure 9a. Annual Number of Reviewed SUIDs, Maryland, 2018 to 2022 (n=256)



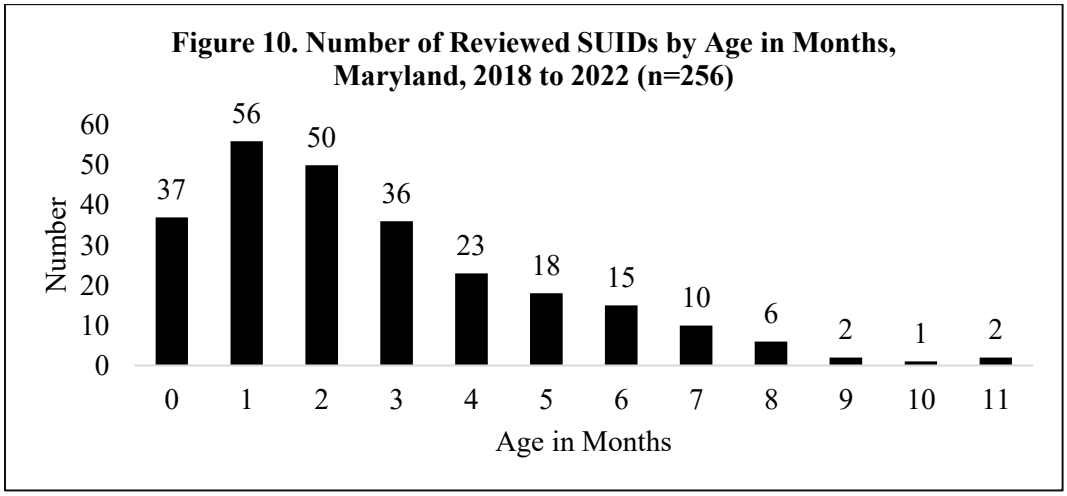
Source: CDR-CRS, as of 4/24/2025.



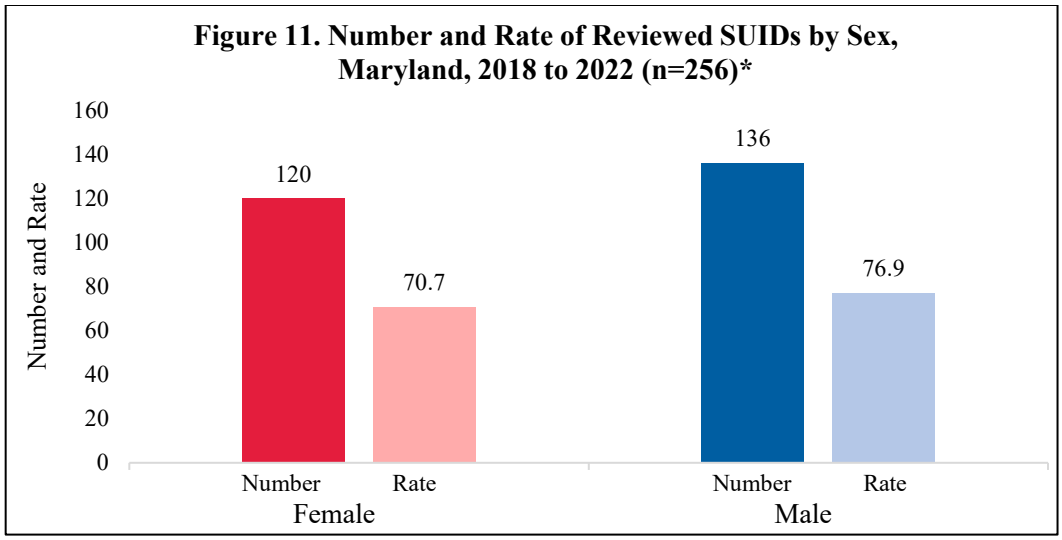
Source: CDR-CRS, as of 4/24/2025.
*Rates per 100,000 live births are based on VSA live birth data.

Number and Rate of Reviewed SUIDs by Age and Sex

Between 2018 and 2022, 202 SUID cases (79%) occurred within the first four months of life (Figure 10). Of these, 56 deaths (22%) occurred at one month of age and 50 deaths (19%) occurred at two months of age. In addition, 136 (53%) of these SUID deaths occurred among male infants, and 120 deaths (47%) occurred among female infants (Figure 11).



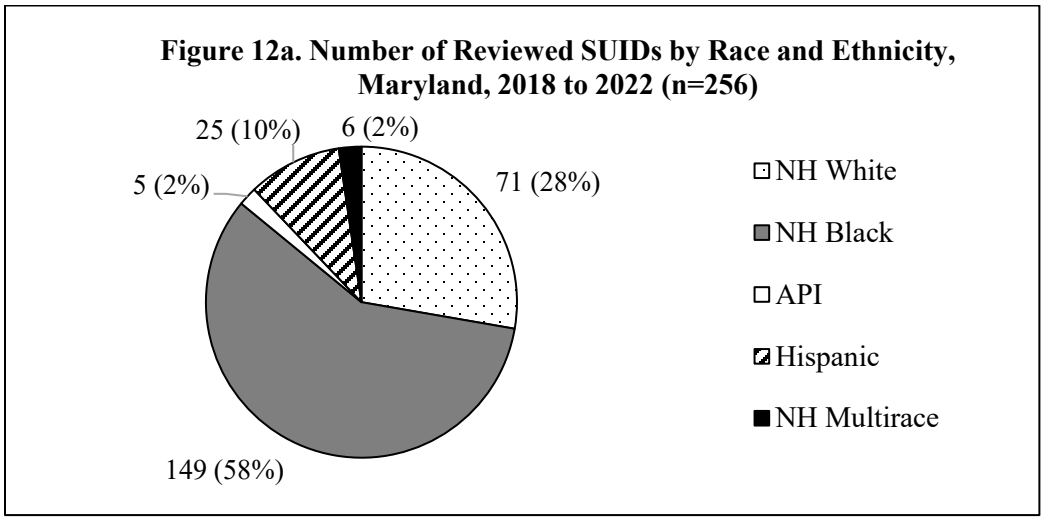
Source: CDR-CRS, as of 4/24/2025.



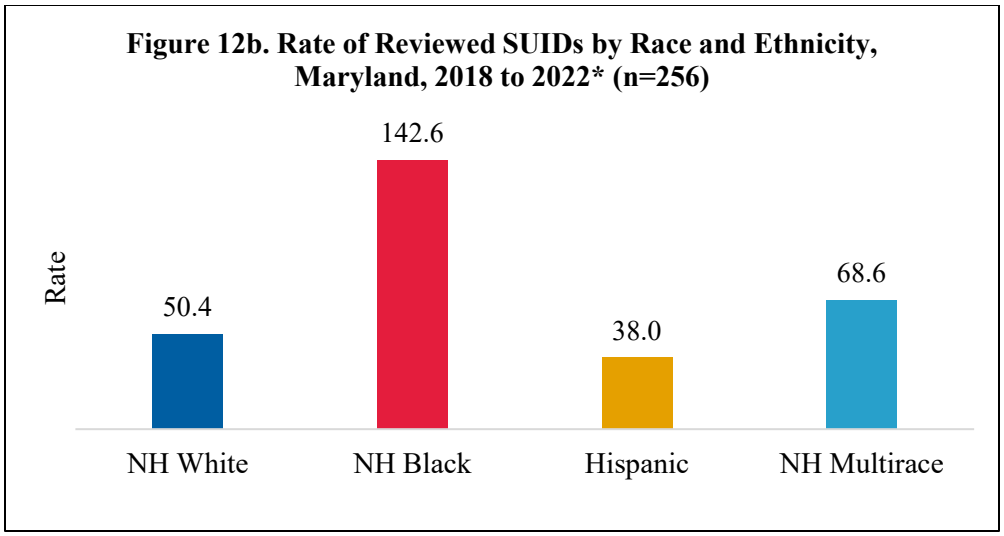
Source: CDR-CRS, as of 4/24/2025.
*Rates per 100,000 live births are based on VSA live birth data.

Number of Reviewed SUIDs by Race and Ethnicity

NH Black infants have consistently been over-represented in SUID fatalities, accounting for 58% of fatalities between 2018 and 2022 (Figure 12a). NH White infants accounted for 28% of fatalities, and Hispanic infants accounted for 10% of fatalities during this period. The rate of reviewed SUIDs among NH Black infants was 142.6 per 100,000 live births, which was over two-and-a-half times greater than the rate among NH White infants, and over three-and-a-half times greater than the rate among Hispanic infants. (Figure 12b).



Source: CDR-CRS, as of 4/24/2025.
Percentages may total more than 100% due to rounding.



Source: CDR-CRS, as of 4/24/2025.
NH Asian or Pacific Islander (API) rate not shown since there were less than 5 SUID cases.
*Rates per 100,000 live births are based on VSA live birth data.
^Rates with >5 but <20 deaths in the numerator are subject to instability.

Number and Rates of Reviewed SUIDs by Jurisdiction of Residence

Table 4 shows the number of SUID cases by the infant's jurisdiction of residence at the time of death. The highest number of cases was among Baltimore City residents, representing over 25% of all SUIDs during this period, followed by Prince George's (12%) and Baltimore (11%) counties. The number of SUID cases for many jurisdictions is very small, which makes it difficult to identify trends.

Table 4. Number of Reviewed SUIDs by Jurisdiction of Residence, Maryland, 2018 to 2022 (n=256) *

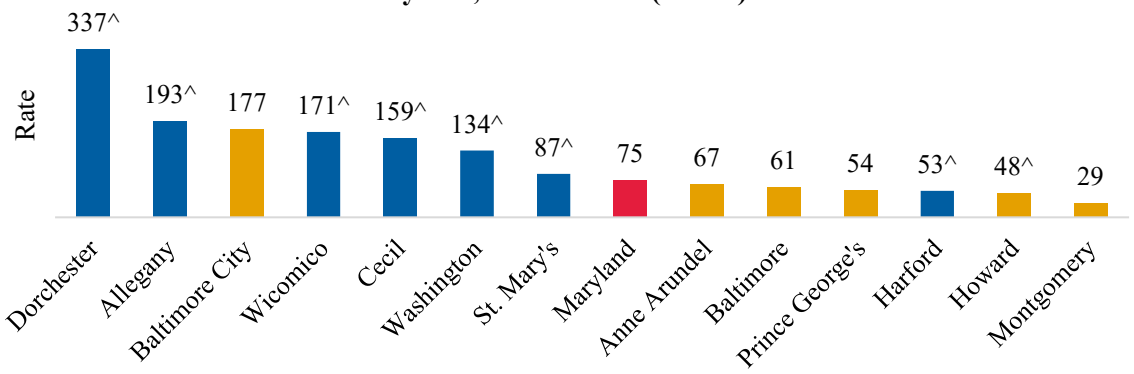
	2018	2019	2020	2021	2022	Total
Baltimore City	15	12	15	14	10	66
Prince George's	12	3	3	8	5	31
Baltimore	9	5	6	4	5	29
Anne Arundel	4	2	5	5	7	23
Montgomery	5	2	5	2	3	17
Washington	1	3	1	2	4	11
Wicomico	3	3	2	2	1	11
Cecil	1	0	1	4	3	9
Howard	1	3	1	1	2	8
Harford	0	1	1	2	3	7
Allegany	0	3	2	0	1	6
Dorchester	3	0	1	2	0	6
St. Mary's	0	0	2	3	1	6
Carroll	2	1	1	0	1	5
Charles	1	2	1	1	0	5

Calvert	2	0	2	0	0	4
Frederick	1	2	1	0	0	4
Queen Anne's	1	1	0	1	0	3
Garrett	0	1	0	0	1	2
Worcester	0	0	0	1	1	2
Somerset	0	0	1	0	0	1
Total	**61**	**44**	**51**	**52**	**48**	**256**

Source: CDR-CRS, as of 4/24/2025.
Counties not listed did not have any SUID deaths from 2018-2022.

While the highest numbers of SUID cases are in urban areas such as Baltimore City and the National Capital Area (Prince George's, Montgomery, and Anne Arundel counties), the SUID rates were highest in two of Maryland's rural counties (Figure 13). During the period from 2018 to 2022, infants residing in Dorchester County had the highest rate of SUID cases at 337 per 100,000 live births. This rate was over four times the statewide rate of 75 deaths per 100,000 live births. Please note that rates with numerators greater than five but fewer than 20 should be interpreted with caution due to potential statistical instability. During this period, Dorchester County had a total of six cases. Montgomery County had the lowest rate of SUID cases at 29 deaths per 100,000 live births.

Figure 13. Rates of Reviewed SUIDs by Jurisdiction of Residence, Maryland, 2018 to 2022 (n=256)*



Source: CDR-CRS, as of 4/24/2025.
Rural jurisdictions are coded in blue, urban jurisdictions in yellow. The Maryland state rate is in red.
*Rates per 100,000 live births are based on VSA live birth data.
^Rates with >5 but <20 deaths in the numerator are subject to instability.
Counties that had fewer than five SUID cases are not displayed.

Incident Characteristics and Caregiver Characteristics Associated with Reviewed SUIDs

All OCME-referred deaths, including SUIDs, are reviewed by the local CFR team in each jurisdiction. As noted earlier, data from these case reviews are entered into the National Child Death Review Case Reporting System (CDR-CRS), a database maintained by the NCFRP. Local CFR teams have entered data into the CDR-CRS since January 2010.

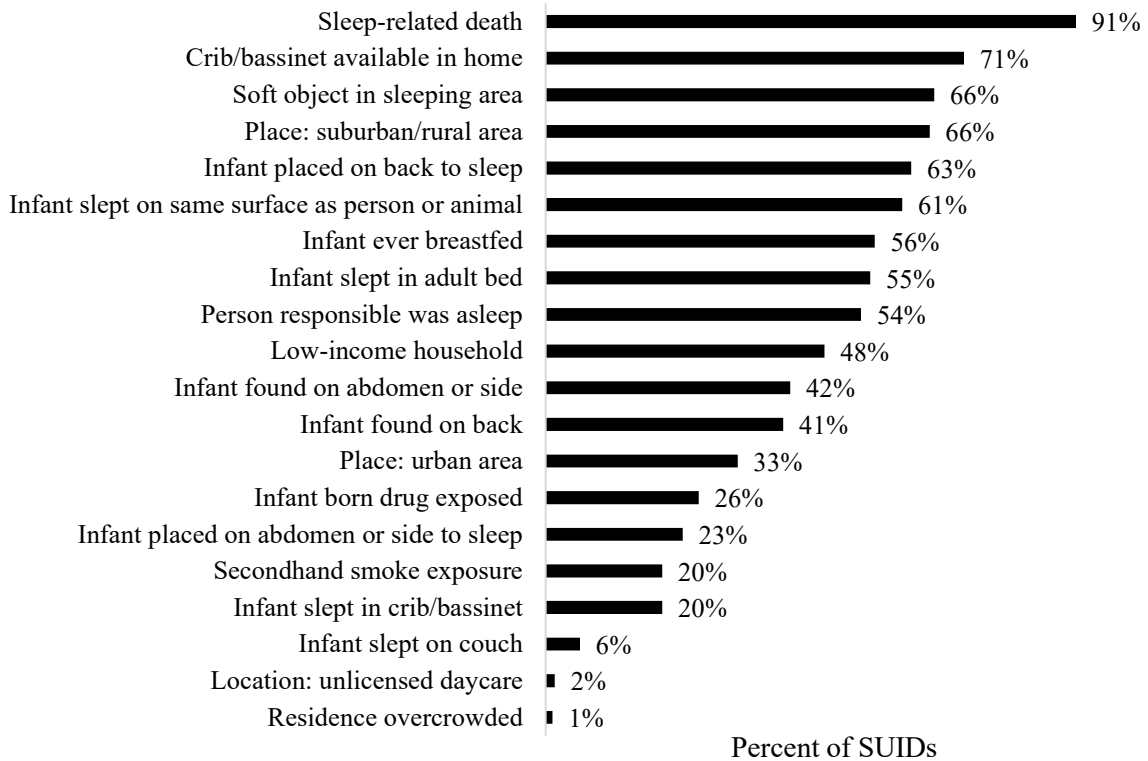
For this report, SUID case reviews entered in the database were further analyzed to provide more detailed information surrounding these deaths. However, not all data fields were complete for

every case, as certain information may have been unknown or unreported. As a result, the numbers shown in Figure 14 and Tables 5 and Table 6 represent the minimum number of cases with a given incident or caregiver characteristic.

Figure 14 shows incident characteristics of SUID cases in Maryland between 2018 and 2022. Approximately 91% of SUID cases were sleep related. Regarding the sleep environment, a crib or bassinet was available in the home for 71% of SUID cases. Despite this, only 20% of infants who died unexpectedly were placed in a crib or bassinet to sleep. Fifty-six percent (56%) of infants slept in an adult bed and 6% slept on a couch. Infants were placed on their back to sleep in 63% of cases and on their abdomen or side to sleep in 23% of cases. In 61% of cases, the infant was sleeping on the same surface as a person or an animal (known as "bed-sharing"). There was a soft object in the sleeping environment in 66% of cases.

Twenty percent (20%) of infants in SUID cases were exposed to secondhand smoke. Infants were breastfed in 56% of SUID cases. Sixty-six percent (66%) of cases occurred in suburban or rural areas. Two percent (2%) of SUID cases occurred in unlicensed daycares.

Figure 14. Incident Characteristics of Reviewed SUIDs, Maryland, 2018-2022, (n=256)



Source: CDR-CRS, as of 4/24/2025.
Percentages will total more than 100%, as multiple characteristics often applied to the same case.

Table 5 shows the characteristics of the primary caregiver in SUID cases. In 94% of cases, the primary caregiver was the biological parent. Sixty percent (60%) of caregivers had a high school education or less, 56% were receiving social services, 48% lived in a low-income household, and

40% had a history of substance use. Twelve percent (12%) of infants had an open case with Child Protective Services (CPS) at the time of death.

Table 5. Caregiver Characteristics Associated with Reviewed SUIDs, Maryland, 2018 to 2022 (n=256)

	Number	Percent
The primary caregiver was biological parent	240	94%
Primary caregiver obtained 12 years or less of education	154	60%
Infants were ever breastfed	144	56%
Primary caregiver receiving social services*	144	56%
Low-income household	122	48%
Primary caregiver history of substance use	102	40%
Primary caregiver was unemployed	76	30%
Primary caregiver <25 years old	62	24%
Child had open CPS case at death	30	12%

Source: CDR-CRS, as of 4/24/2025.

*Social services include Medical Assistance; Temporary Assistance for Needy Families; Special Supplemental Nutrition Program for Women, Infants, and Children; and Supplemental Nutrition Assistance Program. Percentages may total more than 100%, as multiple characteristics often applied to the same case.

Comparison of Bed-Sharing and Non-Bed-Sharing Among Sleep-Related SUIDs Reviewed

Table 6 compares characteristics of bed-sharing and non-bed-sharing sleep-related SUID cases. From 2018 to 2022, more than 60% of all sleep-related SUID cases occurred when the infant was bed-sharing. Racial and ethnic disparities persist in bed-sharing for SUID cases. The number of deaths among NH Black infants were more than twice that of NH White infants, and more than 12 times higher than among Hispanic infants.

Of the SUID deaths involving bed-sharing, approximately 61% occurred in a suburban or rural area. In 87% of bed-sharing cases, the primary caregiver was the biological parent, and in 13% of cases, the caregiver was impaired by drugs or alcohol. The child was placed to sleep on their stomach or side in 24% of bed-sharing cases, slept in an adult bed for 79% of cases, slept on a couch in 9% of cases, and slept in a crib or bassinet in only 2% of cases.

This table highlights an opportunity for health care providers and social service agencies to reinforce safe sleep practices with parents and caregivers. It also underscores the importance of identifying families with risk factors that may contribute to SUID fatalities so that they can receive targeted education and support on safe sleep practices.

Table 6. Comparison of Bed-Sharing and Non-Bed-Sharing Among Sleep-Related SUIDs Reviewed, Maryland, 2018 to 2022 (n=224)**		
	Non-bed-sharing n= 75 (33%)	**Bed-sharing n= 149 (66%)**
Place		
Urban area*	18 (24%)	57 (38%)
Suburban/rural area*	57 (76%)	91 (61%)
Secondhand smoke exposure	14 (19%)	41 (27%)
Infant sleep position and environment		
Placed on stomach or side to sleep*	21 (28%)	36 (24%)
Placed on back to sleep	53 (71%)	93 (62%)
Sleeping in a crib or bassinet*	41 (55%)	3 (2%)
Sleeping in an adult bed*	16 (21%)	118 (79.2)
Sleeping on couch*	1 (1%)	14 (9%)
Crib or bassinet available in home	59 (79%)	110 (74%)
Characteristics of infant		
Infant's mean age (months)	3	2.6
Race - NH Black*	34 (45%)	96 (64%)
NH White	23 (31%)	41 (28%)
Hispanic*	13 (17%)	8 (5%)
Breastfed	45 (60%)	82 (55%)
Characteristics of primary caregiver		
High school education or less	45 (60%)	99 (66%)
Receives social services^	41 (55%)	91 (61%)
Low income	34 (45%)	75 (50%)
Characteristics of caregiver at time of death		
Biological parent*	54 (72%)	129 (87%)
<25 years old	16 (21%)	30 (20%)
Male	11 (15%)	28 (19)
History of substance use	25 (33%)	65 (47)
Impaired by drugs or alcohol*	2 (3%)	20 (13%)

Source: CDR-CRS, as of 4/24/2025.

*Denotes differences that are greater than would be expected by chance alone, i.e., a statistically significant difference at $p<0.05$.

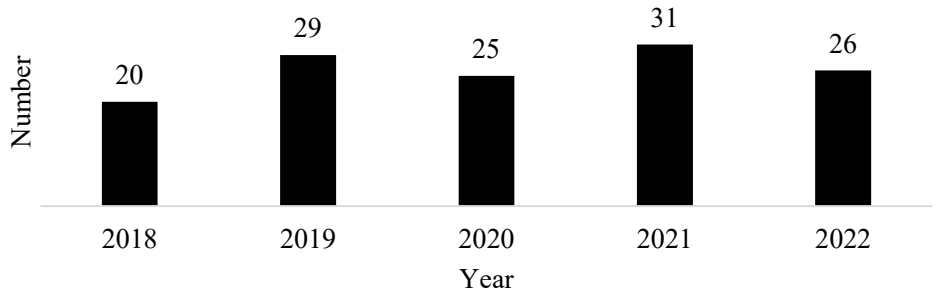
**Unknown bed-sharing status cases not included in this table.

^Social services includes Women, Infants, and Children, Home Visiting, Temporary Assistance for Needy Families, Medicaid, Food Stamps/SNAP/EBT, Section 8 housing, and Social Security Disability Insurance.

Child Deaths by Homicide in Maryland

Death by homicide was the fifth leading manner of reviewed unexpected child deaths during the five-year period from 2018 to 2022, accounting for 14% of all deaths. Death by homicide was the leading manner of death among children 15-17 years old, accounting for 28% of all deaths for this age group. This analysis includes only child fatalities by homicide reviewed by the local CFR teams.

Figure 15. Annual Number of Reviewed Child Fatalities by Homicide, Maryland, 2018-2022 (n=131)

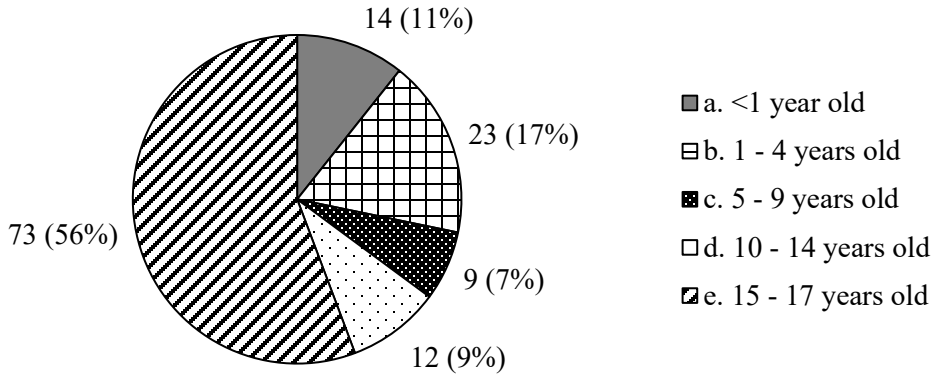


Source: CDR-CRS, as of 4/24/2025.

Number of Reviewed Child Fatalities by Homicide by Age Group and by Sex

Of the deaths by homicide occurring between 2018 and 2022, more than half were among teens 15-17 years old (Figure 16). Seventeen percent (17%) occurred among 1–4-year-olds and 11% occurred among infants. Approximately 75% of deaths by homicide occurred among male children and 25% occurred among female children.

Figure 16. Number of Reviewed Child Fatalities by Homicide by Age Group, Maryland, 2018-2022 (n=131)

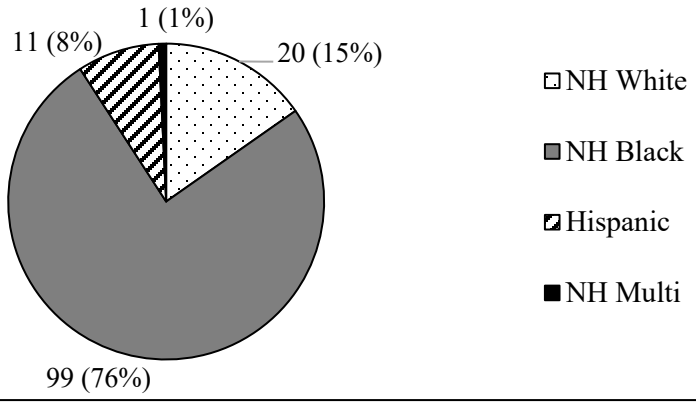


Source: CDR-CRS, as of 4/24/2025.
*Percentages may total more than 100% due to rounding.

Number of Reviewed Child Fatalities by Homicide by Race and Ethnicity, and by Jurisdiction

NH Black children were over-represented in deaths by homicide, accounting for 76% of deaths between 2018 and 2022 (Figure 17).

Figure 17. Number of Reviewed Child Fatalities by Homicide by Race and Ethnicity, Maryland, 2018-2022 (n=131)



Source: CDR-CRS, as of 4/24/2025.
*Percentages may total more than 100% due to rounding.

Child deaths by homicide by jurisdiction of residence are shown in Table 7. Between 2018 and 2022, Baltimore City had the highest number of homicide deaths (61 cases), followed by Baltimore (16 cases), Anne Arundel (11 cases), and Prince George's (11 cases) counties.

Table 7. Number of Reviewed Child Fatalities due to Homicide by Jurisdiction of Residence*, Maryland, 2018-2022 (n=131)

	2018	2019	2020	2021	2022	Total
Baltimore City	14	15	12	12	8	61
Baltimore	1	6	1	4	4	16
Anne Arundel	0	4	3	2	2	11
Prince George's	1	1	2	5	2	11
Cecil	0	1	0	0	2	3
Charles	3	0	1	0	3	7
Frederick	0	0	2	2	0	4
Harford	0	1	1	1	0	3
St. Mary's	1	0	0	2	1	4
Washington	0	0	1	1	2	4
Howard	0	0	2	0	1	3
Allegany	0	0	0	1	0	1
Dorchester	0	0	0	1	0	1
Montgomery	0	0	0	0	1	1

Worcester	0	1	0	0	0	1
Total	**20**	**29**	**25**	**31**	**26**	**131**

Source: CDR-CRS, as of 4/24/2025.
*Counties not listed had no child fatalities due to homicide from 2018-2022.

Number and Percent of Reviewed Child Fatalities by Homicide by Cause of Death

Table 8 shows the deaths by homicide by cause of death. Weapons were the leading cause of death by homicide (81%), which included firearms (72% of cases) and knife/sharp instruments (6% of cases). Homicide by poisoning made up 7% of cases. The cause of death was missing in 3% of cases and was listed as "other" in 2% of cases.

Table 8. Number and Percent of Reviewed Child Fatalities by Homicide, by Cause of Death, Maryland, 2018-2022 (n=131)

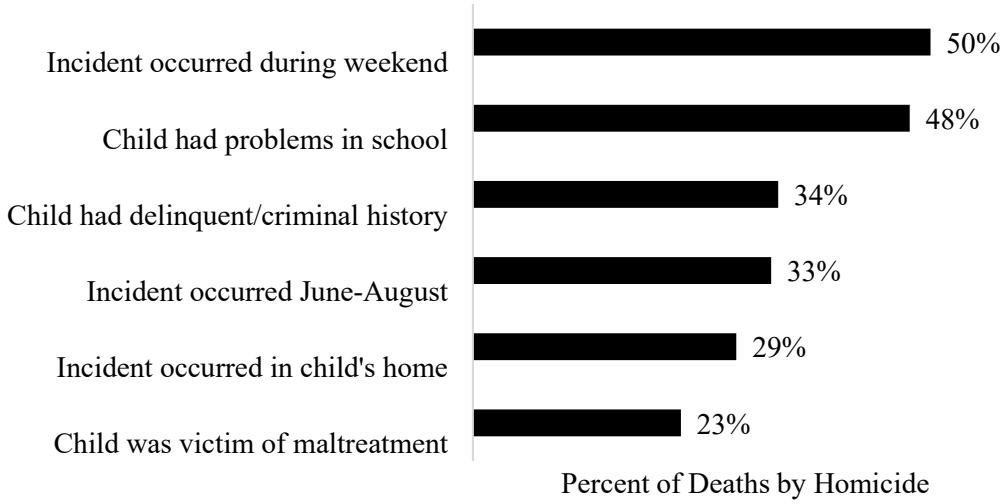
	Number	**Percent**
External - Weapon	108	81%
External - Poison	9	7%
External - Missing	4	3%
External - Other	3	2%
External - Fire, burn, electrocution	2	1%
External - Asphyxia	1	1%
External - Fall, crush	1	1%
External - Undetermined	1	1%
Medical Condition - Prematurity	1	1%
Undetermined if medical or external injury	1	1%
Total	**131**	**100%**

Source: CDR-CRS, as of 4/24/2025.

Incident Characteristics of Reviewed Child Fatalities by Homicide

Figure 18 shows incident characteristics of children who died by homicide from 2018 to 2022. In 34% of the cases, the child had a history of delinquency or criminal behavior. In 23% of the fatalities, the child had previously been a victim of maltreatment. Half of the incidents occurred on weekends, and in 48% of cases, the child was experiencing difficulties at school.

Figure 18. Incident Characteristics of Reviewed Child Fatalities by Homicide, Maryland, 2018-2022 (n=131)



Source: CDR-CRS, as of 4/24/2025.
Percentages will total more than 100%, as multiple characteristics often applied to the same case.
Note: Weekend includes Friday-Sunday.

Characteristics of Firearm and Non-Firearm Reviewed Child Fatalities by Homicide

Table 9 compares characteristics of firearm and non-firearm homicide deaths. Homicides caused by both firearms and non-firearms were more common among males and NH Black children. Homicides caused by firearms were more common in children 10 years and older (90%). Children who died by firearms were more likely to have problems in school (71%), a delinquent or criminal history (51%), and a history of substance use (29%).

Table 9. Differences in Characteristics of Firearm and Non-Firearm Reviewed Child Fatalities by Homicide, Maryland, 2018-2022 (n=131)		
	Non-Firearm (N=51) n (%)	**Firearm (N=80) n (%)**
Place		
Urban area	24 (47%)	52 (65%)
Suburban/rural area	26 (51%)	27 (34%)
Incident occurred in child's home*	28 (55%)	10 (13%)
Demographic Characteristics of Child		
Gender: Male*	30 (59%)	68 (85%)
Race: NH Black	36 (71%)	63 (79%)
Age: 10 years or older*	13 (26%)	72 (90%)
Insurance: Medicaid	34 (67%)	56 (70%)
Incident Characteristics		
Child had delinquent or criminal history*	3 (6%)	41 (51%)
Child had problems in school*	6 (12%)	57 (71%)
Child had history as victim of maltreatment	16 (31%)	14 (18%)
Child had open CPS case at time of death*	5 (10%)	0 (0%)
Child had history of substance use*	3 (6%)	23 (29%)
Child abuse/neglect*	28 (55%)	6 (8%)
The person responsible was a biological parent*	21 (41%)	7 (9%)
The person responsible had a delinquent or criminal history*	18 (35%)	6 (8%)

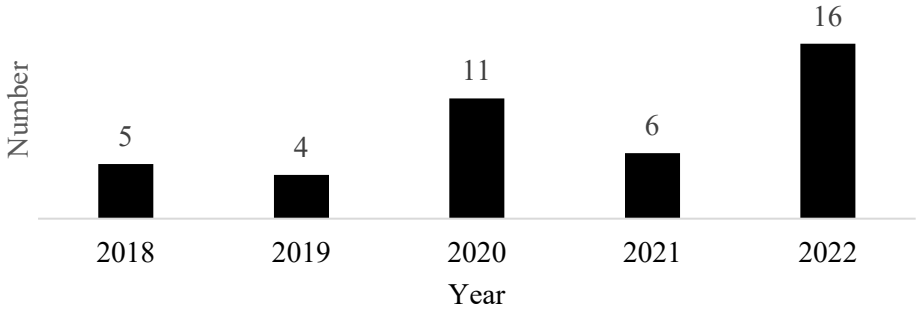
Source: CDR-CRS, as of 4/24/2025.

*Denotes differences that are greater than would be expected by chance alone, i.e. a statistically significant difference at $p<0.05$.

Child Deaths by Poisoning, Overdose, or Acute Intoxication in Maryland

Poisoning, overdose, or acute intoxication contributed to 42 unexpected child deaths between 2018 and 2022 (Figure 19). This analysis only included poisoning, overdose, or acute intoxication deaths reviewed by the local CFR teams. The manner of death was classified as accidental in 40% of cases, homicide in 21% of cases, suicide in 17% of cases, and undetermined in 21% of cases.

Figure 19. Annual Number of Reviewed Child Fatalities by Poisoning, Overdose, or Acute Intoxication, Maryland, 2018-2022 (n=42)

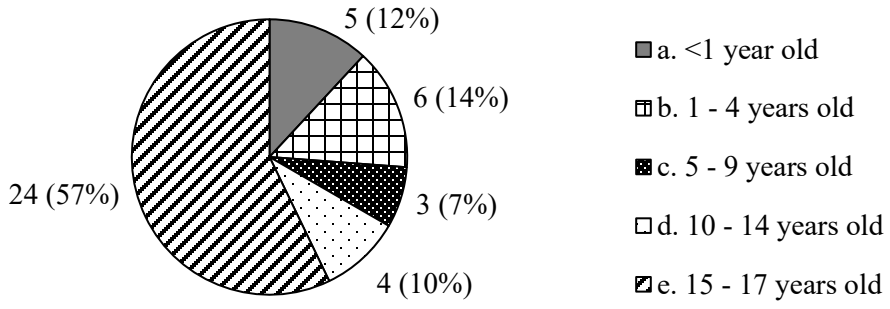


Source: CDR-CRS, as of 4/24/2025.

Number of Reviewed Child Fatalities by Poisoning, Overdose, or Acute Intoxication by Age Group and by Sex

Of the 42 deaths by poisoning, overdose, or acute intoxication that occurred from 2018 to 2022, more than half were among children ages 15-17 years old, and 14% were among children ages 1-4 years old (Figure 20). Fifty percent (50%) of deaths by poisoning, overdose, or acute intoxication occurred among male children and 50% among female children.

Figure 20. Number of Reviewed Child Fatalities by Poisoning, Overdose, or Acute Intoxication by Age Group, Maryland, 2018-2022 (n=42)

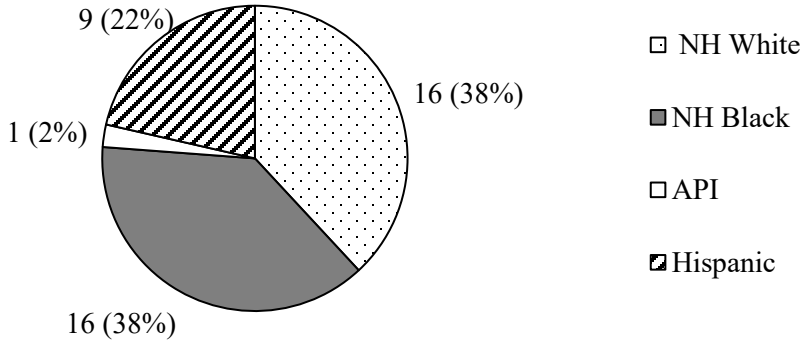


Source: CDR-CRS, as of 4/24/2025.
Percentages may total more than 100% due to rounding.

Number of Reviewed Child Fatalities by Poisoning, Overdose, or Acute Intoxication by Race and Ethnicity

Between 2018 and 2022, NH White and NH Black children each accounted for 16 (38%) poisoning, overdose, or acute intoxication deaths, and Hispanic children account for nine (22%) deaths (Figure 21).

Figure 21. Number of Reviewed Child Fatalities by Poisoning, Overdose, or Acute Intoxication by Race and Ethnicity, Maryland, 2018-2022 (n=42)



Source: CDR-CRS, as of 4/24/2025.
Percentages may total more than 100% due to rounding.

Number of Reviewed Child Fatalities by Poisoning, Overdose, or Acute Intoxication by Jurisdiction of Residence

Table 10 shows deaths by poisoning, overdose, or acute intoxication by jurisdiction of residence. Baltimore County had the highest number of deaths by poisoning, overdose, or acute intoxication (12 cases), followed by Anne Arundel County (six cases), Baltimore City (five cases), and Prince George's County (five cases).

Table 10. Number of Reviewed Child Fatalities by Poisoning, Overdose, or Acute Intoxication by Jurisdiction of Residence*, Maryland, 2018-2022 (n=42)						
	2018	**2019**	**2020**	**2021**	**2022**	**Total**
Baltimore	3	2	3	3	1	12
Anne Arundel	0	1	1	0	4	6
Baltimore City	1	0	3	0	1	5
Prince George's	0	0	1	0	4	5
Howard	0	0	1	1	2	4
Montgomery	0	0	0	1	1	2
Washington	0	1	0	1	0	2
Carroll	0	0	0	0	1	1
Charles	1	0	0	0	0	1
Dorchester	0	0	0	0	1	1
Frederick	0	0	1	0	0	1
Somerset	0	0	0	0	1	1
Talbot	0	0	1	0	0	1
Total	**5**	**4**	**11**	**6**	**16**	**42**

Source: CDR-CRS, as of 4/24/2025.
*Counties not listed had no child fatalities by poisoning, overdose, or acute intoxication reviewed from 2018-2022.

Substances Implicated in Reviewed Child Fatalities by Poisoning, Overdose, or Acute Intoxication

Table 11 shows the substances implicated in deaths by poisoning, overdose, or acute intoxication from 2018 to 2022. Due to many of the cases involving more than one substance, the cases shown do not add up to the total number of overdose deaths. Prescription opioids were the most common substance implicated in child deaths by poisoning, overdose, and intoxication (more than 50% of deaths). Alcohol and antidepressants were present in 14% of deaths. Other prescription drugs, illicit cocaine, and illicit heroin were present in 9% of cases.

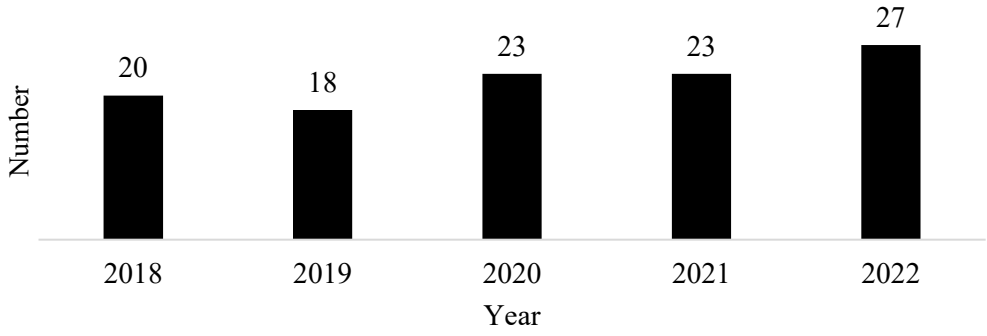
Table 11. Substances Implicated in Reviewed Child Fatalities by Poisoning, Overdose, or Acute Intoxication, Maryland, 2018-2022 (n=42)	
Substance	**Number* (%) of Deaths**
Prescription – Pain medication – Opioid	22 (52%)
Prescription - Antidepressants	6 (14%)
Other - Alcohol	6 (14%)
Prescription - Other	4 (9%)
Illicit - Cocaine	4 (9%)
Illicit - Heroin	4 (9%)
Other - Over the counter	1 (2%)

Source: CDR-CRS, as of 4/24/2025.
*Due to many cases involving more than one substance, cases will not add up to the number of overdose deaths.

Child Deaths by Suicide in Maryland

Death by suicide was the fourth leading manner of reviewed unexpected child deaths from 2018 to 2022, accounting for 12% of deaths. This analysis only included suicide deaths reviewed by the local CFR teams. Death by suicide was the leading manner of death for children ages 15-17 years old during this period, accounting for 28% of reviewed deaths. Figure 22 shows the annual number of deaths by suicide during this period, with 2022 having the highest number of deaths at 27 and 2019 having the lowest number of deaths at 18.

Figure 22. Annual Number of Reviewed Child Fatalities by Suicide, Maryland, 2018 to 2022 (n=111)

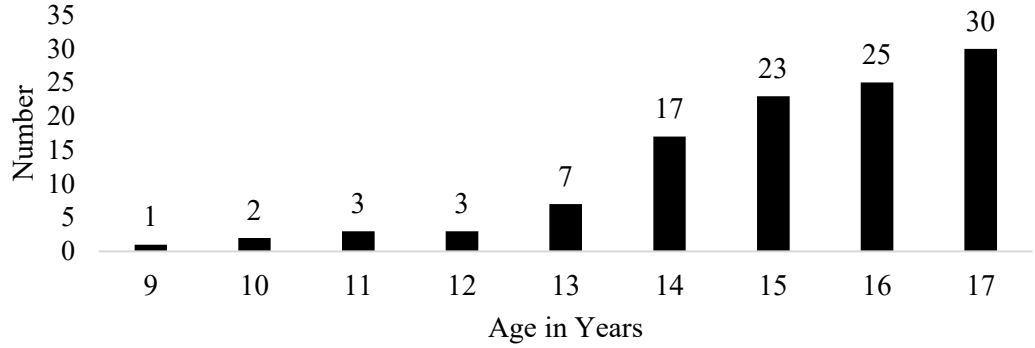


Source: CDR-CRS, as of 4/24/2025.

Number of Reviewed Child Fatalities by Suicide by Age and by Sex

Of the deaths by suicide occurring between 2018 and 2022, the majority (70%) occurred among children ages 15-17 years old (Figure 23). This age group also had the highest numbers of deaths by homicide and poisoning, overdose, or acute intoxication. Seventy-one percent (71%) of deaths by suicide were male children and 28% were female children.

Figure 23. Number of Reviewed Child Fatalities by Suicide by Age, Maryland, 2018 to 2022 (n=111)

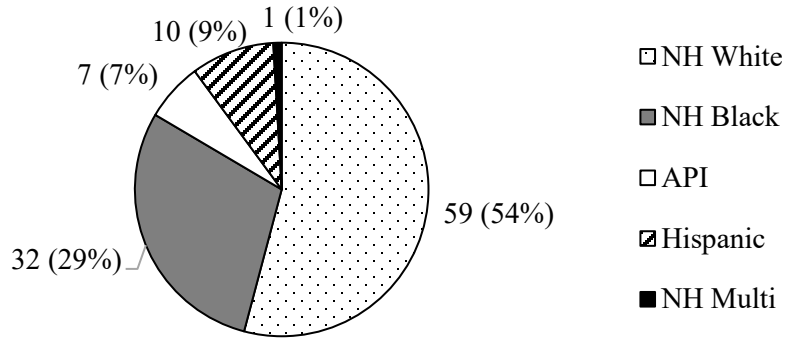


Source: CDR-CRS, as of 4/24/2025.

Number of Reviewed Child Fatalities by Suicide by Race and Ethnicity, and by Jurisdiction

In contrast to other manners of death, the highest proportion of deaths by suicide occurred among NH White children at 54%. Twenty-nine percent (29%) of suicides were NH Black children, 9% were Hispanic children, and 7% were Asian or Pacific Islander (API) children (Figure 24).

Figure 24. Number of Reviewed Child Fatalities by Suicide by Race and Ethnicity, Maryland, 2018 to 2022 (n=111)



Source: CDR-CRS, as of 4/24/2025.
Percentages may total more than 100% due to rounding.

Number of Reviewed Child Fatalities by Suicide by Jurisdiction of Residence

Table 12 shows deaths by suicide by jurisdiction of residence from 2018 to 2022. Baltimore County had the highest number of suicide deaths during this period with 17 cases, followed by Anne Arundel County with 15 cases, Montgomery County with 14 cases, and Howard County with 13 cases.

Table 12. Number of Reviewed Child Fatalities due to Suicide by Jurisdiction of Residence, Maryland, 2018 to 2022 (n=111)*

	2018	2019	2020	2021	2022	Total
Baltimore	3	3	6	2	3	17
Anne Arundel	0	4	2	4	5	15
Montgomery	2	0	5	0	7	14
Howard	3	2	3	3	2	13
Prince George's	1	1	3	3	2	10
Baltimore City	0	2	1	3	0	6
Harford	2	0	1	2	1	6
Frederick	2	1	0	1	0	4
Washington	0	1	0	1	2	4
Carroll	1	1	0	0	1	3
Dorchester	1	0	0	2	0	3
St. Mary's	1	0	0	0	2	3
Calvert	0	1	0	1	0	2

Cecil	1	1	0	0	0	2
Charles	1	1	0	0	0	2
Queen Anne's	0	0	1	1	0	2
Wicomico	1	0	0	0	1	2
Allegany	1	0	0	0	0	1
Garrett	0	0	0	0	1	1
Kent	0	0	1	0	0	1
Total	**20**	**18**	**23**	**23**	**27**	**111**

Source: CDR-CRS, as of 4/24/2025.
Counties not listed had no child fatalities due to Suicide from 2018-2022.

Number and Percent of Reviewed Child Fatalities by Suicide, by Cause of Death

Table 13 shows the deaths by suicide by cause of death. The leading cause of death among suicide cases was asphyxia (50%), followed by firearm (31%), and poisoning (7%). All 55 of the asphyxia deaths were due to hanging.

Table 13. Number and Percent of Reviewed Child Fatalities by Suicide by Cause of Death, Maryland, 2018 to 2022 (n=11)

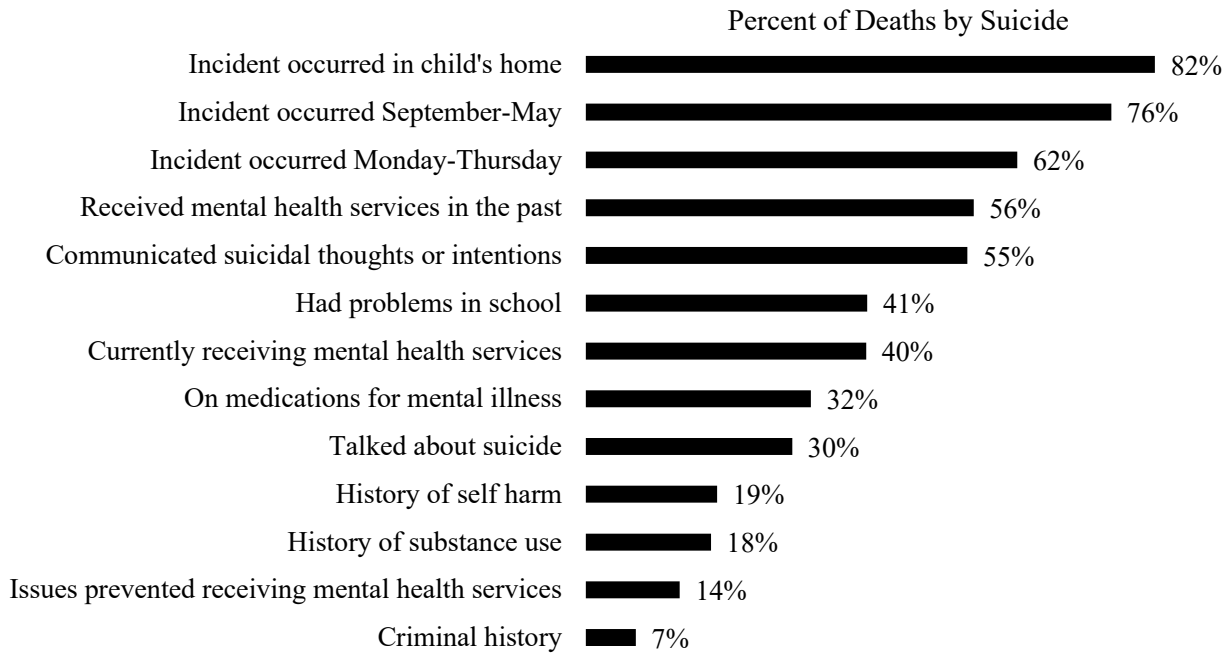
	Number	Percent
Hanging	55	50%
Firearm	34	31%
Poison	8	7%
Fall or Crush	2	2%
Drowning	1	1%
Missing	11	10%
Total	**111**	**100%**

Source: CDR-CRS, as of 4/24/2025.
Percentages may total more than 100% due to rounding.

Incident Characteristics of Reviewed Child Fatalities by Suicide

Figure 25 shows incident characteristics of children who died by suicide between 2018 and 2022. Over 82% of deaths by suicide occurred in the child's home, 76% occurred in September through May, and 62% occurred from Monday through Thursday. More than half of the children who died by suicide had previously received mental health services, and 40% were receiving these services at the time of their death. More than half had expressed suicidal thoughts or intentions, with 32% currently taking medication for mental illness. Additionally, 19% had a history of self-harm, and 18% had a history of substance use. Many of these are known risk factors for suicide.

Figure 25. Incident Characteristics of Reviewed Child Fatalities by Suicide, Maryland, 2018 to 2022 (n=111)*



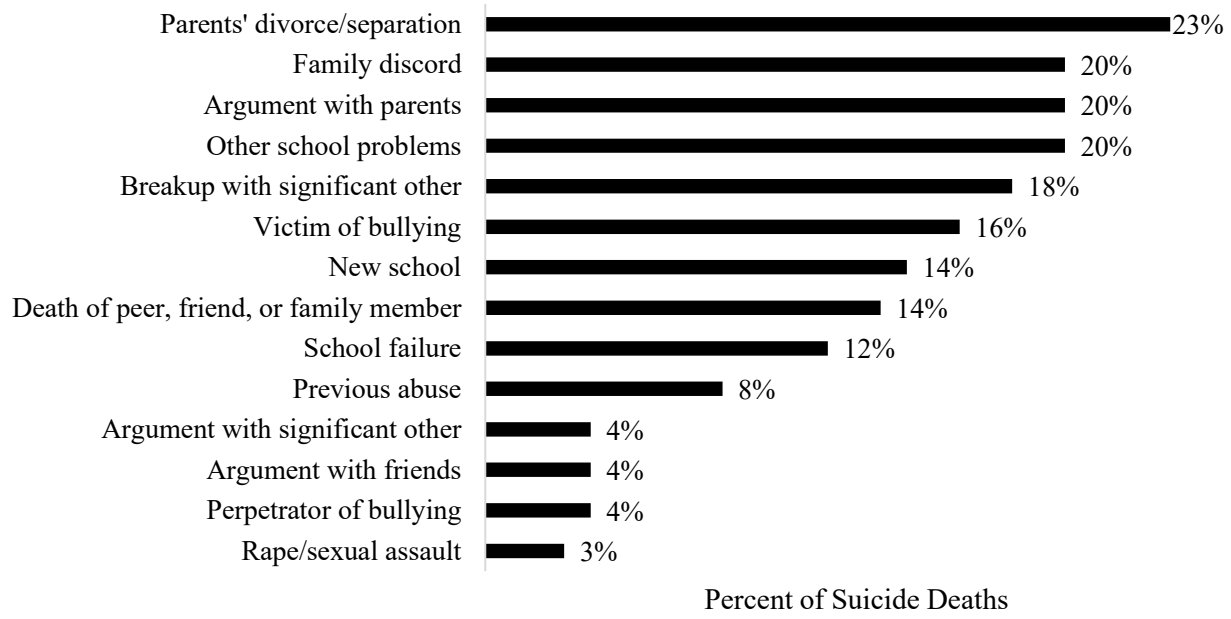
Source: CDR-CRS, as of 4/24/2025

*Percentages will total more than 100%, as multiple characteristics often applied to the same case.

Life Stressors of Reviewed Child Fatalities by Suicide

Figure 26 shows life stressors occurring in the lives of children who died by suicide. Twenty-three percent (23%) were affected by their parents' divorce or separation. Twenty percent (20%) experienced family discord, arguments with parents, or problems at school. Eighteen percent (18%) experienced a breakup with a significant other, while 16% had been a recent victim of bullying. Additionally, 14% were attending a new school or dealing with the death of a peer, friend, or family member.

Figure 26. Life Stressors Reported in Reviewed Child Fatalities by Suicide, Maryland, 2018 to 2022 (n=111)*



Source: CDR-CRS, as of 4/24/2025.
*Percentages will total more than 100%, as multiple characteristics often applied to the same case.

Differences in Characteristics of Firearm and Asphyxia Reviewed Child Fatalities by Suicide

Table 14 compares characteristics of asphyxia (hanging) and firearm suicide deaths. Suicides by asphyxia and by firearm were more common among children who were male and 15-17 years old. Both were also more likely to occur in the child's home. Notably, children who committed suicide by asphyxia were more likely to have previously received mental health services and to have communicated suicidal thoughts and intentions with someone prior to their death.

Table 14. Differences in Characteristics of Firearm and Asphyxia Reviewed Child Fatalities by Suicide, Maryland, 2018 to 2022 (n=89)		
	Firearm n=34 n(%)	**Asphyxia n=55 n(%)**
Demographic Characteristics of Child		
Gender: Male	30 (88%)	40 (73%)
Race: NH White	21 (62%)	25 (45%)
Race: NH Black	10 (29%)	17 (31%)
Age: 15 to 17 years old	27 (79%)	33 (60%)
Insurance: Medicaid	7 (21%)	22 (40%)
Insurance: Private	18 (53%)	23 (42%)
Health Characteristics of Child		
Received mental health services in the past	17 (50%)	32 (58%)
Currently receiving mental health services	10 (29%)	23 (42%)
On medications for mental illness	8 (24%)	19 (35%)
Incident Characteristics		
Occurred in child's home	29 (85%)	45 (82%)
Child communicated suicidal thoughts or intentions	15 (44%)	36 (65%)
Previous suicide attempts	1 (3%)	7 (13%)

Source: CDR-CRS, as of 4/24/2025.

*Denotes differences that are greater than would be expected by chance alone, i.e., a statistically significant difference at $p<0.05$.

Role of the Local Health Departments

The LHDs in 24 Maryland jurisdictions - including 23 counties and Baltimore City - play a pivotal role in reviewing child fatality cases and entering data into the CDR-CRS. In addition, LHDs also implement prevention initiatives to reduce child and infant fatalities in their jurisdictions. These initiatives include educating parents and caregivers on infant safe sleep and disseminating infant safe sleep materials, such as infant safe sleep brochures, cribs that meet the U.S. Consumer Product Safety Commission's safety standards, and car seats. They also collaborate with internal and external partners to encourage early and consistent prenatal and postnatal care. Examples of initiatives undertaken by LHDs and their CFR teams include:

- Anne Arundel County's CFR Team examined issues impacting the child death such as access to healthcare, access to affordable and high-quality childcare, access to mental health providers, and prevention of gang related homicides. The team identified multiple challenges - such as affordability, accessibility, and lack of diversity within the healthcare system - that influence care and outcomes and impede efforts to eliminate health disparities and achieve health equity. To address these challenges, the CFR/FIMR team implemented several strategies including: 1) reviewing child fatality trends with attention to racial disparities; 2) implementing effective interventions; and 3) collaborating with partners to improve access to quality healthcare. The team worked with its CFR partners to advocate for system changes and elevated recommendations through the Healthy Anne Arundel Coalition, focusing on issues such as gang violence, gun violence, youth suicide, and mental health.

- Howard County's CFR Team dedicated the October 2023 CFR multidisciplinary team meeting to a conversation on mental health, self-harm, and suicide (completed and attempted), with a focus on gender- and race-based health disparities. The team continued these discussions and updates throughout the year. Identified trends will be used to make future recommendations for targeted interventions.

- Kent County hired a bilingual nurse to help improve relationships with Spanish speaking community members by addressing cultural and linguistic barriers in healthcare, thereby improving the quality of patient care. In addition, the bilingual nurse supported efforts to increase preconception care and promote early initiation and access to quality clinical care for Spanish speaking patients.

- Prince George's County developed a framework for its Safe Sleep Focus Groups, which included designing discussion questions, identifying target population groups for participation, establishing a registration process, and recreating a recruitment flyer. One of the primary goals was to better understand group-specific barriers to safe sleep practices.

Local CFR Teams within the LHDs continued to develop and implement recommendations and activities informed by their CFR case review findings, as well as those outlined in the Annual Legislative Report. In addition, Surveillance and Quality Improvement programs at the LHDs are required to implement health equity activities. These include workforce development, analyzing

program data by race and ethnicity to guide program design and measure progress, advocating for programmatic or community-level policy changes, disseminating data to target communities, and engaging communities in program development and evaluation.

Summary and Recommendations

Between 2018 and 2022, 903 unexpected child deaths were referred by OCME to the CFR Program and reviewed by local CFR teams. The number of deaths was the highest in 2022, with 197 deaths. Mortality is rising for children aged 15-17 years old, who accounted for the highest number of deaths in 2022. The overall rate of child deaths and the rates for NH Black, NH White, and Hispanic children have all been on the rise since 2020. Most cases with a known cause of death were considered accidents. Between 2018 and 2022, Baltimore City had the highest number of resident child deaths reviewed (21%), followed by Baltimore County (14%). The rates of unexpected child death were highest in Dorchester County at 39 deaths per 100,000 population, followed by Baltimore City at 32 deaths per 100,000 population.

The annual rate of SUID cases reviewed decreased by 19% between 2018 and 2022. Between 2017 and 2021, there were 256 SUIDs reviewed by local CFR teams. The majority of SUID cases occurred between one and four months of age (79%). Over 91% of SUID cases were related to an unsafe sleep environment. It is essential to continue to emphasize that babies should sleep alone, on their back, in a crib, and in a smoke-free environment. It is especially important that this messaging be made available prior to birth and continue to be reinforced during the first four months of life.

NH Black infants have consistently been over-represented in SUID cases, accounting for 58% of fatalities from 2018 to 2022. In 2022, the number of SUID cases reviewed among NH Black infants was three times higher than the number reviewed among NH White infants, and nearly four times higher than the number reviewed among Hispanic infants. The largest number of SUIDs occurred among residents of Baltimore City, which accounted for 26% of all SUIDs between 2018 and 2022. Dorchester County had the highest rate of SUID cases at 337 deaths per 100,000 live births, followed by Allegany County at 193 deaths per 100,000 live births.

Death by homicide was the fifth leading manner of reviewed unexpected child deaths from 2018 to 2022. The number of deaths by homicide decreased by 16% from 2021 to 2022. Of the 131 deaths by homicide occurring between 2018 and 2022, the majority occurred among teens ages 15-17. Seventy-five percent (75%) of deaths by homicide occurred among male children and 76% occurred among NH Black children. The leading cause of death by homicide was by weapon (82%). Baltimore City had the highest proportion of homicide deaths during this period (46%).

From 2018 to 2022, deaths caused by poisoning, overdose, or acute intoxication increased by over 200%, contributing to 42 unexpected child fatalities during that time. Of the 42 deaths, 57% were among children ages 15 to 17, and 38% occurred among both NH White and NH Black children. Between 2018 and 2022, Baltimore County had the highest number of deaths by poisoning, overdose, or acute intoxication (28%). Prescription opioid pain medications were found in over half of incidents (52%).

There were 111 suicides reviewed by the local CFR teams from 2018 to 2022, in which 70% were among teens aged 15-17 years old. Fifty-four percent (54%) of deaths by suicide occurred among NH White children, 29% among NH Black children, 9% among Hispanic children, and

7% among API children. Approximately 71% of deaths by suicide occurred among male children. The highest number of suicides occurred among residents of Baltimore County, which accounted for 15% of suicides reviewed during this period. The leading cause of death by suicide was asphyxia (50%), followed by firearms (31%). All suicide deaths by asphyxia were due to hanging. Over half of children who died by suicide had previously communicated suicidal thoughts or intentions, 40% were receiving mental health services at the time of death, and 32% were currently on medications for mental illness.

Recommendations Related to Child Fatality

In response to the 2022 review of referred child deaths in Maryland and with a goal of improving the development of recommendations, the Team solicited information from the local CFR teams and crafted them into SMART (specific, measurable, achievable, relevant, and time-bound) recommendations. The Team subsequently put forth the following proposed actions to the State agencies represented on the Team.

Recommendations Related to Sudden Unexplained Infant Death (SUID)

1. Continue to a) promote across all sectors the American Academy of Pediatrics (AAP) safe sleep guidelines, which are evidence-based recommendations for reducing sleep-related infant death, in a manner that is both culturally sensitive and non-judgmental, and b) explore how to better support families in making informed decisions that honor their values while prioritizing infant safety. High-priority groups include healthcare providers, hospitals, childcare centers, social services, law enforcement, fire departments, home visiting programs, and faith-based organizations that interact with infants, expectant parents, and families.

2. Provide comprehensive, evidence-based, and culturally sensitive safe sleep education to parents and guardians of every infant in Maryland during the infant's first four pediatric well-child visits/follow-up care, pediatric visit, or home visit taking place within the first four months of life.

3. Integrate safe sleep education across public and private programs/organizations that work with infants and expectant parents during the perinatal period.

4. Develop and implement a statewide communication strategy to ensure consistent and evidence-based safe sleep messaging.

Recommendations Related to Overdose

1. Continue to make naloxone and evidence-based instructional materials widely available to schools, youth centers, and other common gathering places for adolescents to address the rising incidence of adolescent overdose deaths.

2. Promote and implement harm reduction strategies that prioritize child safety by ensuring individuals who use drugs—particularly those with young children in the home—have access to secure, tamper-proof storage solutions, including lockboxes and child-resistant containers. Clear guidance on keeping substances out of reach and sight of toddlers should also be provided.

3. Increase awareness among adolescents about the risks of substance use by promoting regular, open conversations between youth and trusted adults—such as parents, caregivers, educators, and healthcare providers. These discussions should include age-appropriate education on the dangers of opioids (e.g., fentanyl and oxycodone) and other

high-risk substances, and can be incorporated into school curricula, after-school programs, and clinical settings.

Recommendations Related to Suicide

1. Continue the statewide promotion of the 988 Suicide and Crisis Lifeline.

2. Ensure that pediatricians, family medicine physicians, nurse practitioners, school-based health providers, behavioral and mental health providers, and other groups who provide care and services to children are educated on adverse childhood experiences (ACEs) and are trained to deliver trauma-informed care to children who are affected by ACEs.

3. Support and promote the expansion of school-based mental health services by increasing the number of school-employed mental health professionals (e.g. school psychologists, counselors, and social workers), and offering accessible mental health screening, assessment, and therapeutic services.

Recommendations Related to Homicide

1. Continue to promote the American Academy of Pediatrics recommendation for healthcare providers to ask about firearms and ammunition in all locations in a child's environment during medical history assessment to provide counseling on risk reduction.

2. Provide comprehensive firearm safety training for pediatricians that includes education on safe storage practices, counseling techniques for discussing firearms with families, and the importance of firearm injury prevention.

3. Support the implementation of evidence-based violence prevention strategies to prevent youth violence by working with schools, faith-based and community organizations, and local agencies focusing on conflict resolution, mentoring, positive youth development, and safe and healthy neighborhood development.

Appendices

Appendix A: 2023 State Child Fatality Review Team

Health-General Article §5-703(a), Annotated Code of Maryland provides that the Team shall be a multidisciplinary and multi-agency review team, composed of at least 25 members, including:

(1) Attorney General or the Attorney General's designee – Karen Anderson-Scott, designee;

(2) Chief Medical Examiner or the Chief Medical Examiner's designee – Pamela Ferreira, MD, MPH, designee;

(3) Secretary of Human Services or the Secretary's designee – Vacant;

(4) Secretary of Health or the Secretary's designee – Shelly Choo, MD, designee;

(5) State Superintendent of Schools or the Superintendent's designee – Alicia L. Mezu, RN, designee;

(6) Secretary of Juvenile Services or the Secretary's designee – Jennifer Maehr, MD, designee;

(7) Deputy Director of the Division of Children and Youth of the Governor's Office of Crime Prevention, Youth, and Victim Services - Vacant

(8) Secretary of State Police or the Secretary's designee – Sgt. David Sexton, designee;

(9) President of the State's Attorneys' Association or the President's designee – Debbie Feinstein, JD, designee;

(10) Chief of the Division of Vital Records or the Chief's designee – Monique Wilson, DrPH;

(11) A representative of the Center for Infant and Child Loss – LaToya Bates, LCSW-C;

(12) Director of the Behavioral Health Administration or the Director's designee – Maria-Radowski-Stanco, MD, designee;

(13) Two pediatricians with experience in diagnosing and treating injuries and child abuse and neglect, appointed by the Governor from a list submitted by the state chapter of the American Academy of Pediatrics:

Richard Lichenstein, MD, FAAP
Leen Dev, MD

Eleven members of the general public with interest or expertise in child safety or welfare, appointed by the Governor, including child advocates, CASA volunteers, health and mental health professionals, and attorneys who represent children. In 2023, there were 10 members of the public and one vacancy.

Richelle J. Cricks, CNM, MSN
Patricia K. Cronin, LCSW-C
Mary C. Gentile, LCSW-C
Cynthia Wright Johnson
Ivone Kim, MD
Sharyn King
Laurel Moody, RN, MS
Shantell Roberts
Joyce P. Williams, DNP
Anntinette Williams, LICSW

Appendix B: State Child Fatality Review Team Duties

Health-General Article, §5-704 (b), sets forth the Team's 13 duties. To achieve its purpose, the State CFR Team shall:

1) Undertake annual statistical studies of the incidence and causes of child fatalities in the State, including an analysis of community and public and private agency involvement with the decedents and their families before and after the deaths;
2) Review reports from local teams;
3) Provide training and written materials to the local teams established under §5-705 of this subtitle to assist them in carrying out their duties, including model protocols for the operation of local teams;
4) In cooperation with the local teams, develop a protocol for child fatality investigations, including procedures for local health departments, law enforcement agencies, local medical examiners, and local departments of social services, using best practices from other states and jurisdictions;
5) Develop a protocol for the collection of data regarding child deaths and provide training to local teams and county health departments on the use of the protocol;
6) Undertake a study of the operations of local teams, including the State and local laws, regulations, and policies of the agencies represented on the local teams, recommend appropriate changes to any regulation or policy needed to prevent child deaths, and include proposals for changes to State and local laws in the annual report required by paragraph (12) of this subsection;
7) Consider local and statewide training needs, including cross-agency training and service gaps, and make recommendations to member agencies to develop and deliver these training needs;
8) Examine confidentiality and access to information laws, regulations, and policies for agencies with responsibility for children, including health, public welfare, education, social services, mental health, and law enforcement agencies, recommend appropriate changes to any regulations and policies that impede the exchange of information necessary to protect children from preventable deaths, and include proposals for changes to statutes in the annual report required by paragraph (12) of this subsection;
9) Examine the policies and procedures of the State and local agencies and specific cases that the State Team considers necessary to perform its duties under this section, in order to evaluate the extent to which State and local agencies are effectively discharging their child protection responsibilities in accordance with:
    i) The State plan under 42 U.S.C. §5106a(b);
    ii) The child protection standards set forth in 42 U.S.C. §5106a(b); and
    iii) Any other criteria that the State Team considers important to ensure the protection of children;
10) Educate the public regarding the incidence and causes of child deaths, the public role in preventing child deaths, and specific steps the public can undertake to prevent child deaths;

11) Recommend to the Secretary any regulations necessary for its own operation and the operation of the local teams;

12) Provide the Governor, the public, and subject to §2-1257 of the State Government Article, the General Assembly with annual written reports, which shall include the State Team's findings and recommendations; and

13) In consultation with local teams:

    i) Define "near fatality"; and

    ii) Develop procedures and protocols that local teams and the State Team may use to review cases of near fatality.