

MARYLAND
STATE CHILD FATALITY REVIEW TEAM
Baltimore, Maryland 21201

February 4, 2019

The Honorable Larry Hogan
Governor
State of Maryland
Annapolis, MD 21401-1991

The Honorable Thomas V. Mike Miller, Jr.
President of the Senate
State House, H-107
Annapolis, MD 21401-1991

The Honorable Michael E. Busch
Speaker of the House
State House, H-101
Annapolis, MD 21401-1991

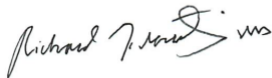
RE: Health-General Article, § 5-704(b)(12) and Senate Bill 464 (Chapter 355 of the Acts of 1999) – 2018 Legislative Report of the State Child Fatality Review Team

Dear Governor Hogan, President Miller, and Speaker Busch:

Pursuant to Health-General Article, § 5-704(b)(12) and Senate Bill 464, Chapter 355 of the Acts of 1999, the Maryland State Child Fatality Review Team submits this 2018 report on its progress and accomplishments in calendar year 2017. The report sets forth data relating to unexpected child deaths in Maryland occurring in calendar year 2017 reported by the Office of the Chief Medical Examiner and reviewed by the local Child Fatality Review team in each jurisdiction.

If you have questions or need further information about this report, please contact me at (410) 328-2079 or rlichenstein@peds.umaryland.edu.

Sincerely,



Richard Lichenstein, MD
Chairperson

cc: Webster Ye, Deputy Chief of Staff, Maryland Department of Health
Frances B. Phillips, RN, MHA, Deputy Secretary, Public Health Services
Donna Gugel, MS, Director, Prevention and Health Promotion Administration
Michael Spencer, LMSW, Director, Maternal and Child Health Bureau
Sarah Albert, MSAR #7575

MARYLAND STATE CHILD FATALITY REVIEW TEAM

2018 Annual Legislative Report

Health-General Article, § 5-704(b)(12)

Larry Hogan
Governor

Boyd K. Rutherford
Lt. Governor

Robert R. Neall
Secretary of Health

<http://phpa.health.maryland.gov/mch/Pages/cfr-home.aspx>

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Overview of Maryland Child Fatality Review

Child Fatality Review (CFR) is a systematic, multi-agency, 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 within the context of prevention.

The purpose of the Maryland State CFR 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 State CFR 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 State CFR Team envisions the elimination of preventable child fatalities by successfully using the CFR process to understand the circumstances around incidents of child fatality and to recommend strategies for prevention of future fatalities.

The Maryland CFR Program, established in statute in 1999, is housed within the Maryland Department of Health (MDH) for budgetary and administrative purposes. The 25 member State CFR Team comprises representatives from multiple State agencies and professional organizations, as well as two pediatricians and 11 members of the general public with interest and expertise in child safety and welfare who are appointed by the Governor (see Appendix A). The State CFR Team meets at least four times a year to address 13 statutorily-mandated duties (see Appendix B). One of these meetings is in conjunction with an all-day training for local CFR team members on select topics related to child fatality issues (see Appendix C).

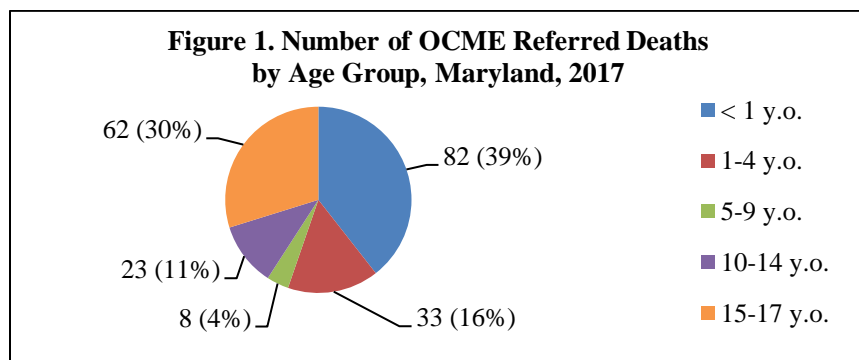
The State CFR Team provides support to local CFR teams that operate in each jurisdiction. Each month the local CFR teams receive notice from the Office of the Chief Medical Examiner (OCME) of unexpected resident child deaths (under age 18). The local CFR teams are required to review each of these deaths. Local 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 and work to implement these recommendations. This report covers data for calendar year 2017 OCME referred deaths.

Other teams in Maryland have similar charges to prevent child injury and death. The State Council on Child Abuse and Neglect (SCCAN) and the Citizen Review Board for Children (CRBC) examine policies and practices for protecting children. The State CFR Team works collaboratively with SCCAN and CRBC to coordinate prevention efforts. 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 also work collaboratively with local Fetal and Infant Mortality Review (FIMR) teams in each jurisdiction.

Unexpected Child Deaths – Maryland, 2017

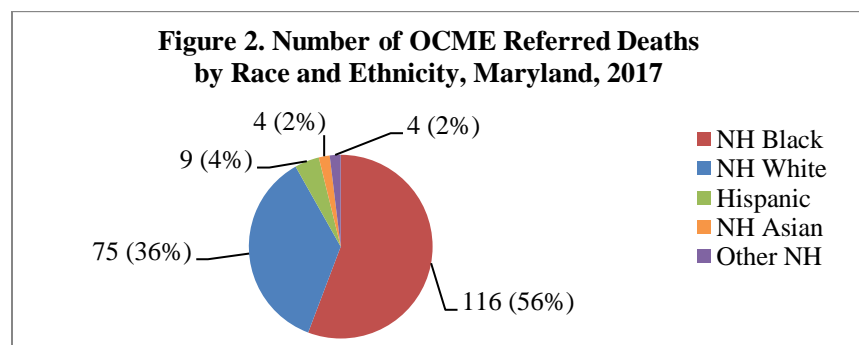
Childhood deaths are a major public health concern, as many of these deaths are preventable. Surveillance of childhood deaths is important because it helps to measure the magnitude of the problem and assess the causes and populations affected. These data are crucial in identifying trends and targeting interventions to prevent childhood deaths. The CFR process reviews unexpected child deaths referred by the OCME. This subset of child deaths includes cases of Sudden Unexpected Infant Death (SUID), unintentional injury, homicide, deaths by suicide, and some deaths due to natural causes. The Office of Maternal and Child Health Epidemiology within the MDH’s Maternal and Child Health Bureau (MCHB) has reviewed OCME referred child deaths for summary in this report. This report examines data related to 2017 child deaths available as of January 3, 2019. The data collection efforts of local CFR teams have undergone significant process improvements in recent years, including training for the local CFR Coordinators. With these improvements, this year’s report has relied on child demographic data input by CFR teams, whereas in previous reports, case details collected solely by the OCME were used for reporting child demographic data. Thus, slight changes in the annual number of cases by different demographic characteristics may vary from previous annual reports.

In 2017, the OCME referred 208 child deaths to the local CFR teams for review. Figure 1 shows the distribution of these deaths by age. Eighty-two deaths (39 percent) occurred among infants (under one year of age). Of the 208 child deaths, 133 deaths (64 percent) occurred among male children and 75 deaths (36 percent) among female children.



Source: National Fatality Review Case Reporting System, as of 1/3/2019.

Figure 2 shows the distribution of 2017 OCME referred deaths by race and ethnicity. Deaths among non-Hispanic Black children account for 56% of all 2017 OCME referred deaths, followed by non-Hispanic White children (36%) and Hispanic children (4%).



Source: National Fatality Review Case Reporting System, as of 1/3/2019. NH: Non-Hispanic

Cause of death categories were assigned to each case based on the CFR team cause of death, where available, and the OCME cause of death, if the CFR team cause of death was not yet available. In Table 1, the number and percentage of OCME referred deaths occurring in 2017 are shown by cause of death category. Among the 208 referred deaths, the three leading causes of death were SUID, injury, and homicide. Together these three causes accounted for 70 percent of all OCME referred child deaths in 2017.

The OCME defines SUID as “...the sudden death of an infant less than one year of age that cannot be explained after a thorough investigation is conducted, including a complete autopsy, examination of the death scene, and a review of the clinical history. All potentially non-natural causes of death cannot reasonably be excluded by the investigation and/or there is an issue of concern; for example an unsafe sleeping environment or other environmental concerns, previous Sudden Infant Death Syndrome (SIDS) in the immediate family, healed unexplained injuries, parental substance abuse etc.” SIDS is included in this category.

Table 1. OCME Referred Deaths by Cause of Death Category, Maryland, 2017		
	#	%
SUID*	61	29.3
Injury	52	25.0
Homicide	33	15.9
Suicide	26	12.5
Other Medical Condition	24	11.5
Infectious Disease	6	2.9
SUDIC**	4	1.9
Birth Related	2	1.0
Total	208	100.0

Source: National Fatality Review Case Reporting System, as of 1/3/2019. * Sudden unexplained infant death (<1 y.o.)
** Sudden unexplained death in childhood (SUDIC) (1-5 y.o.)

Injury was the second leading cause of 2017 OCME referred deaths. Table 2 further breaks down the injury deaths by subcategory. Motor vehicle accidents (MVAs) were the leading cause of injury death (40.4 percent), followed by fire and burns (21.2 percent) and drowning (15.4 percent). These three types of injuries accounted for 77 percent of all referred injury deaths.

Local CFR teams reported 20 deaths (9.6 percent) resulting from “confirmed” abuse or neglect among the 208 deaths occurring in 2017. This means there was a finding of “indicated” abuse or neglect by Child Protective Services or police investigation.

Table 2. OCME Referred Injury Deaths by Subcategory, Maryland, 2017		
	#	%
MVA	21	40.4
Fires/Burns	11	21.2
Drowning	8	15.4
Asphyxia	4	7.7
Fall or Crush	4	7.7
Drug Related	2	3.8
Electrocution	1	1.9
Multiple Injuries	1	1.9
Total	52	100.0

Source: National Fatality Review Case Reporting System, as of 1/3/2019.

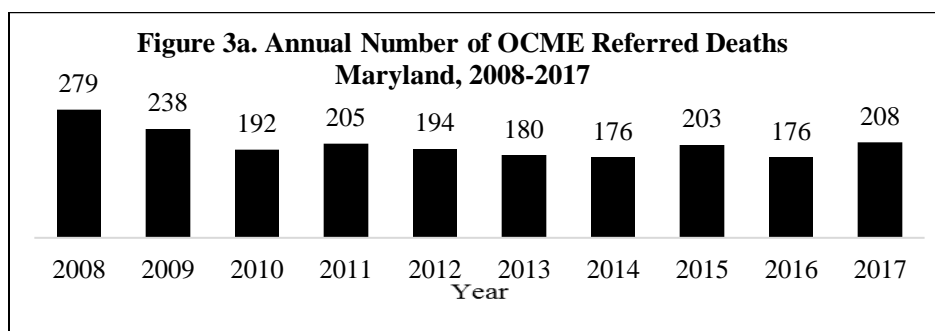
In Table 3, the number and percentage of deaths in 2017 are shown by jurisdiction of residence of the child at the time of death. Six jurisdictions (Baltimore City, Baltimore, Prince George's, Montgomery, Anne Arundel and Washington Counties) accounted for 74 percent of all referred child deaths. More than one-fifth of all OCME referred deaths occurred among Baltimore City resident children.

Table 3. OCME Referred Deaths by Jurisdiction of Residence, Maryland, 2017		
	#	%
Baltimore City	50	24.0
Baltimore County	34	16.4
Prince George's	23	11.1
Montgomery	17	8.2
Anne Arundel	16	7.7
Washington	14	6.7
Charles	7	3.4
Wicomico	6	2.9
Cecil	5	2.4
Frederick	5	2.4
Calvert	4	1.9
Carroll	4	1.9
Harford	4	1.9
Howard	4	1.9
St. Mary's	4	1.9
Allegany	2	1.0
Kent	2	1.0
Somerset	2	1.0
Talbot	2	1.0
Dorchester	1	0.5
Queen Anne's	1	0.5
Worcester	1	0.5
Total	208	100.0

Trends in Maryland Unexpected Child Deaths

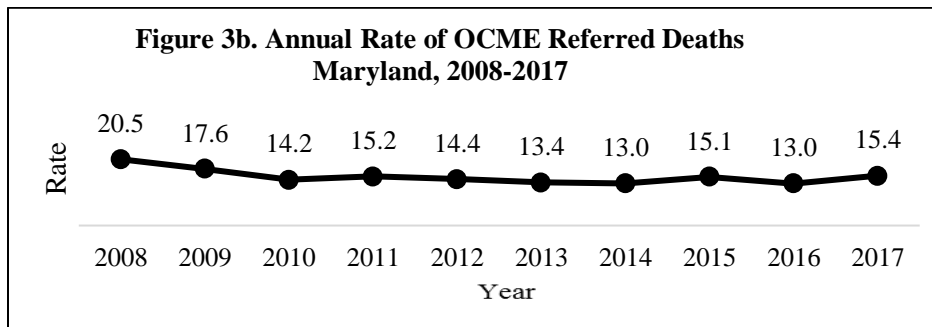
An important aspect of Maryland’s CFR review process is the local teams’ use of additional data sources – including medical records, school district data, police investigations, emergency medical service records, and investigations by the Department of Social Services – to improve the overall quality of the case review data. In recent years, local CFR teams have received additional training to accurately and consistently classify child deaths. These data are then uploaded to the National Child Death Review (CDR) Case Reporting System (authorized in 2009 by House Bill 705). Because of the improved capacity at the local level to report more accurate and complete data, this report uses the data as reported to the National CDR Case Reporting System rather than the OCME data used in previous reports. As a result, some numbers reported may not agree with previously reported numbers.

Figure 3a shows the annual number of unexpected child deaths referred by the OCME for the past ten years (2008 to 2017). The annual number of referred deaths changed very little from the beginning of the CFR program in 2000 through 2008. From 2008 to 2014 the number of referred deaths decreased by 37 percent. This likely represented an actual decrease in the number of unexpected child deaths in the State since there was no change in the case selection or reporting process during that period. Since 2014, the number of referred deaths has fluctuated between 176 and 208. Since 2010, the number of referred unexpected child deaths has represented about 27 percent of all child deaths under 18 years old.



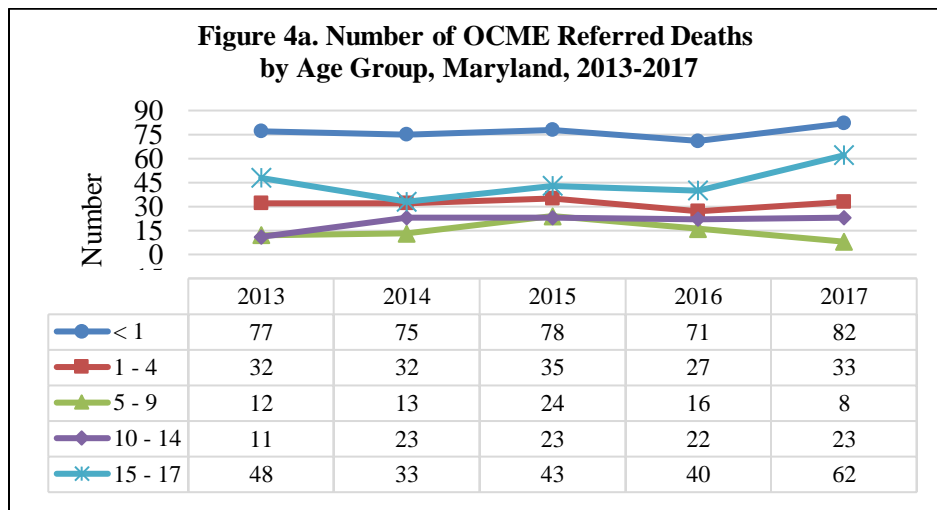
Source: National Fatality Review Case Reporting System, as of 1/3/2019.

Figure 3b shows the annual rate of unexpected child deaths referred by the OMCE per 100,000 population ages 0 to 17 for the past ten years (2008 to 2017). Similar to trends in the number of deaths, the rates declined 25 percent from 2008 to 2017 with a slight increase in the rate from 13 deaths per 100,000 population in 2016 to 15.4 deaths per 100,000 population in 2017.



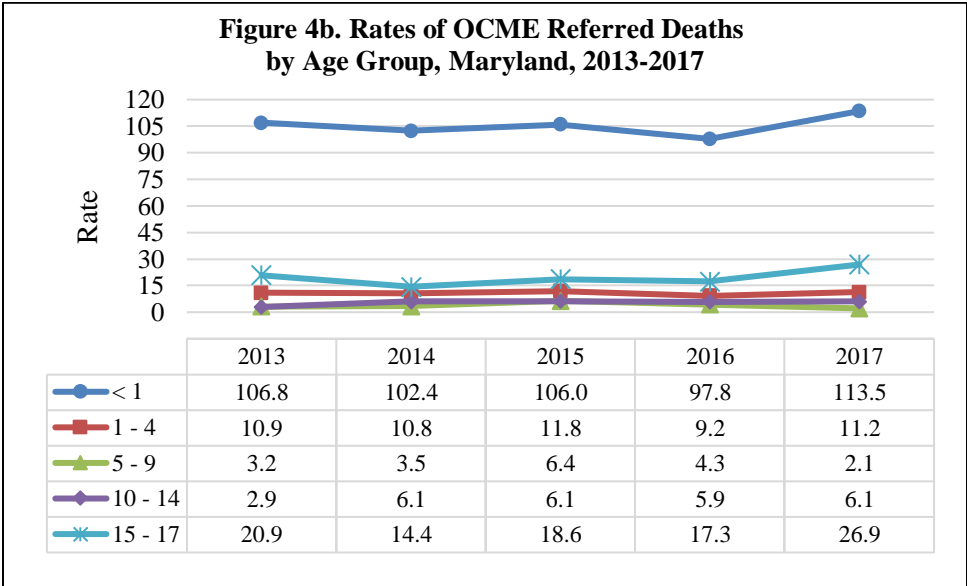
Source: National Fatality Review Case Reporting System, as of 1/3/2019. Rates per 100,000 population based on National Vital Statistics System population estimates.

Figure 4a shows the number of OCME referred deaths by age group over the five year period from 2013 to 2017. Between 2016 and 2017, the number of deaths increased in all age groups except five to nine years old, but the largest increase was among children age 15 to 17. This was in part driven by an increase in the number of suicides and homicides.



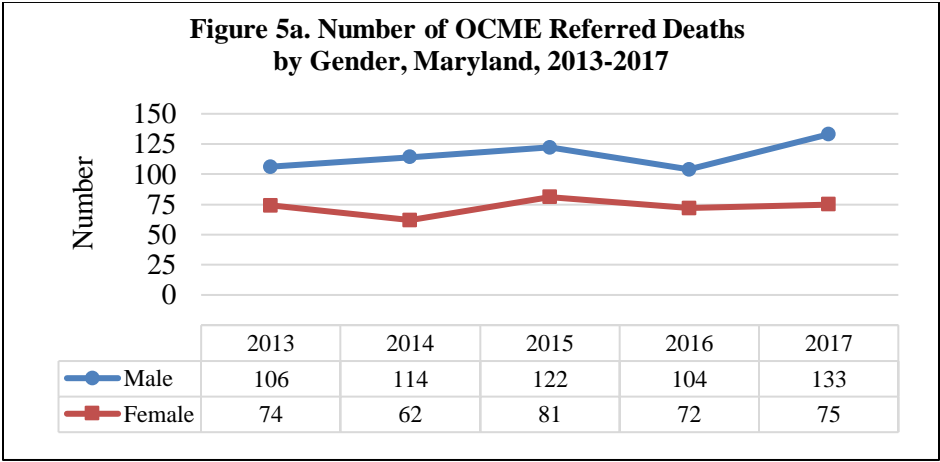
Source: National Fatality Review Case Reporting System, as of 1/3/2019.

Figure 4b shows how much more frequent unexpected child deaths are among infants (less than one year of age). The rate of referred deaths among infants in Maryland is more than four times higher than the rate among children ages 15-17 years old. Across all age groups, the trend in referred death rates is largely unchanged during 2013-2017.

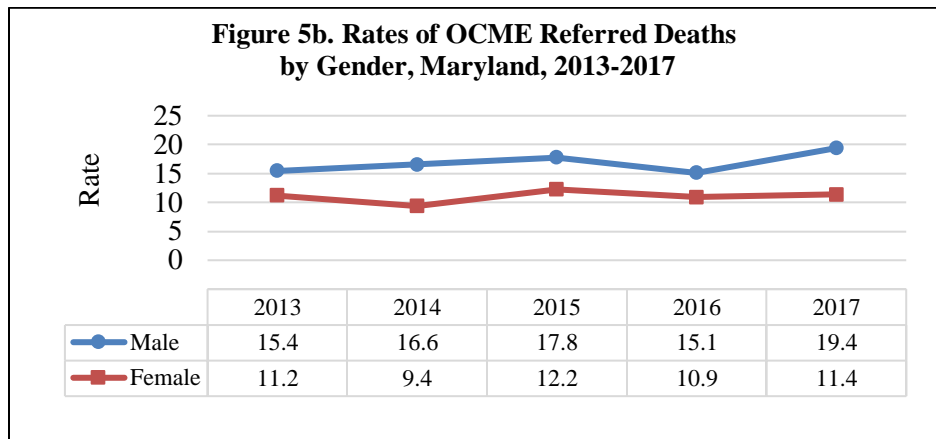


Source: National Fatality Review Case Reporting System, as of 1/3/2019. Rates per 100,000 population based on National Vital Statistics System population estimates.

During the same period (2013 to 2017), the number (Figure 5a) and rate (Figure 5b) of referred deaths was consistently higher among male children than among female children. In 2017, unexpected deaths were 77 percent higher among male children than among female children.

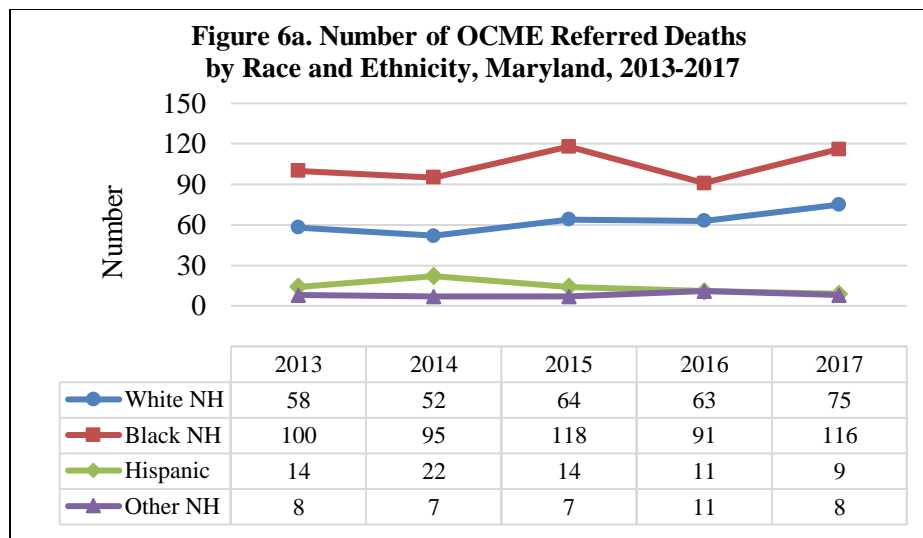


Source: National Fatality Review Case Reporting System, as of 1/3/2019.



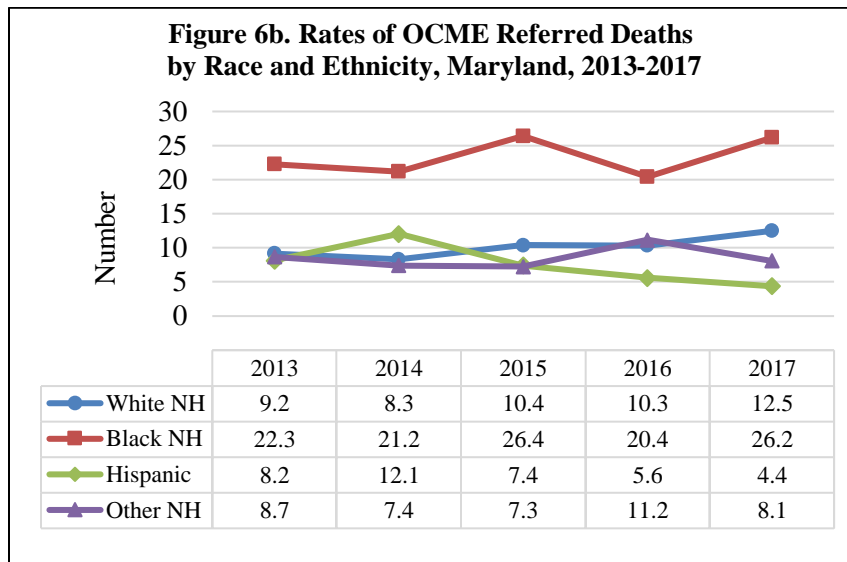
Source: National Fatality Review Case Reporting System, as of 1/3/2019.
 Rates per 100,000 population based on National Vital Statistics System population estimates.

Similarly, Figure 6a shows the continued disparities among racial and ethnic groups. In 2017 the number of deaths referred for review that were non-Hispanic Black children was fifty-five percent higher than the number of deaths referred that were non-Hispanic White children.



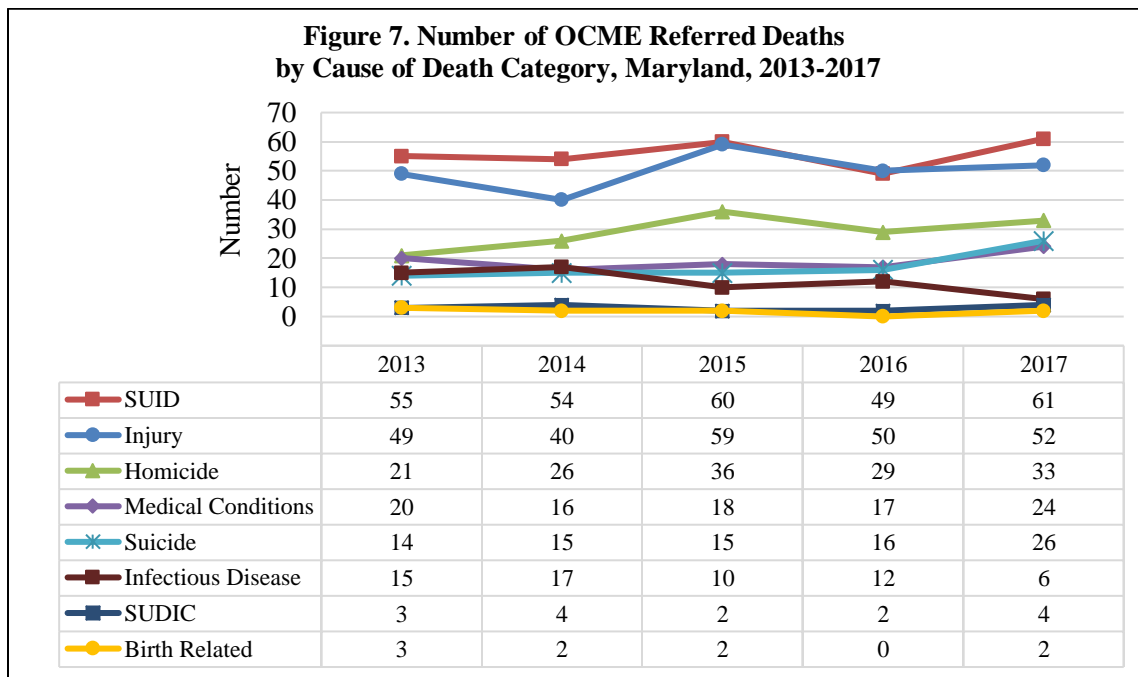
Source: National Fatality Review Case Reporting System, as of 1/3/2019.

On average the rate of referred deaths from 2013-2017 among non-Hispanic Black children was 2.3 times greater than the rate among non-Hispanic White children and 3.5 times greater than the rates among Hispanic children (Figure 6b). Referrals rates, however, increased the most (36 percent) among non-Hispanic White children from 9.2 per 100,000 population in 2013 to 12.5 per 100,000 in 2017.



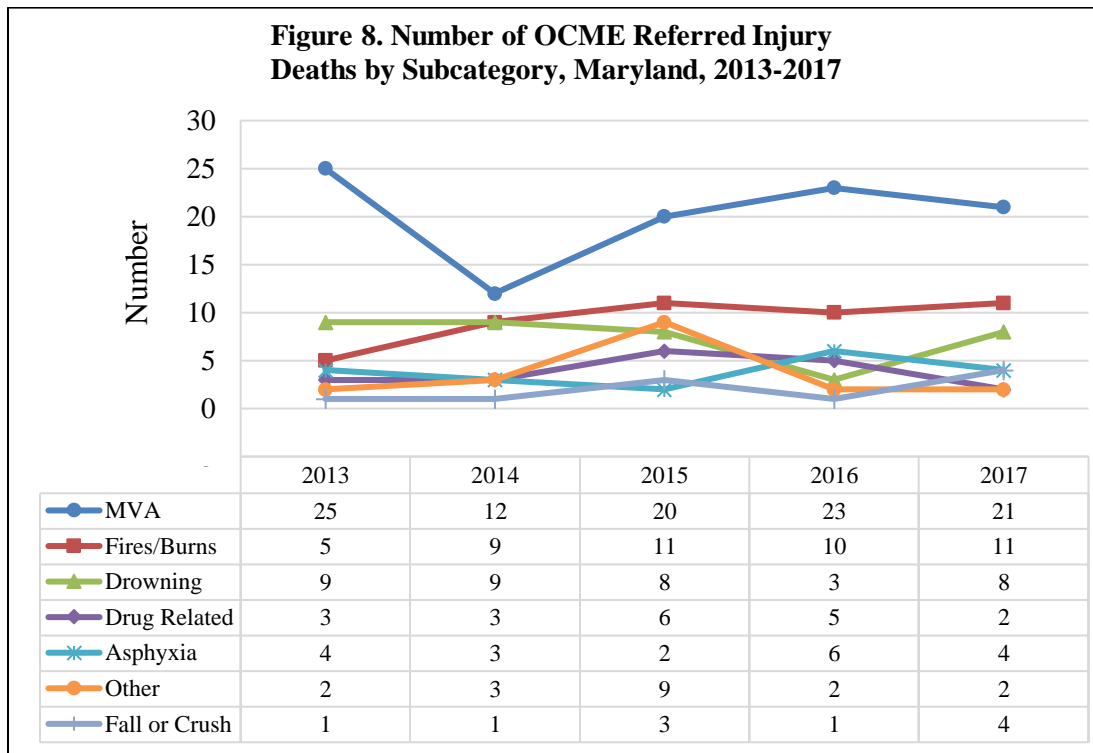
Source: National Fatality Review Case Reporting System, as of 1/3/2019. Rates per 100,000 population based on National Vital Statistics System population estimates.

Figure 7 shows the number of OCME referred deaths by cause of death for the past five years. SUID was the leading cause and injury the second leading cause of death for each year except 2016 when Injury became the leading cause. Between 2016 and 2017, deaths by suicide increased 63 percent.



Source: National Fatality Review Case Reporting System, as of 1/3/2019. Excludes 'pending' cases (2 in 2014; 1 in 2015; 1 in 2016).

Figure 8 shows the subcategories of injury deaths over the past five years. The increase in injury deaths in 2015 was largely due to a doubling of the number of deaths from motor vehicle accidents (MVA). MVA deaths decreased by 8 percent from 2016 to 2017. The number of deaths due to fires or burnings has more than doubled since 2013.



Source: National Fatality Review Case Reporting System, as of 1/3/2019.

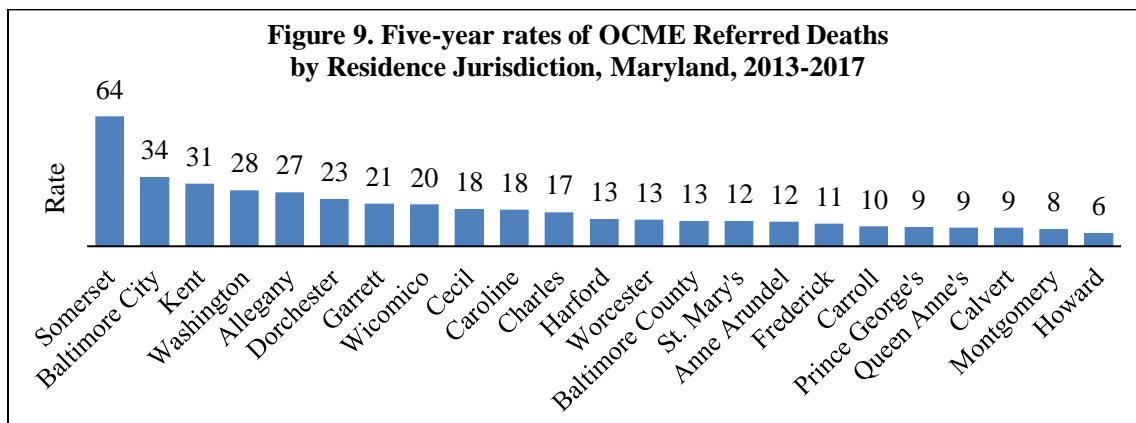
Table 4 shows the number of OCME referred deaths by jurisdiction of residence of the child at the time of death. During the five-year period from 2013 to 2017, the number of resident child deaths increased in Baltimore County by 79 percent. From 2016 to 2017, the number of resident child deaths in Montgomery County decreased by five, while the number of resident child deaths in Prince George’s County increased by seven. Baltimore City has had the highest number of resident child deaths for the past five years.

Table 4. Number of OCME Referred Deaths by Jurisdiction of Residence, Maryland, 2013-2017						
	2013	2014	2015	2016	2017	Total
Baltimore City	39	45	49	39	50	222
Baltimore County	19	21	24	14	34	112
Montgomery	15	31	17	22	17	102
Prince George’s	26	14	17	16	23	96
Anne Arundel	11	11	19	19	16	76
Washington	7	9	11	5	14	46
Harford	12	9	4	9	4	38
Charles	9	3	8	5	7	32
Frederick	11	6	3	7	5	32
Howard	6	2	5	8	4	25
Wicomico	3	2	7	5	6	23
Cecil	3	3	6	5	5	22
Carroll	3	3	5	3	4	18

Allegany	3	5	4	3	2	17
St. Mary's	1	5	5	2	4	17
Somerset	0	2	8	2	2	14
Calvert	1	1	2	2	4	10
Dorchester	3	1	1	2	1	8
Caroline	2	2	1	2	0	7
Garrett	2	1	2	1	0	6
Worcester	2	0	1	2	1	6
Kent	1	0	0	2	2	5
Queen Anne's	0	0	3	1	1	5
Talbot	1	0	1	0	2	4
Total	180	176	203	176	208	943

Source: National Fatality Review Case Reporting System, as of 1/3/2019.

Five-year rates show that although Baltimore City consistently has the highest number of referred deaths, referral rates were highest in rural jurisdictions (Figure 9). During 2013-2017, there were 64 death referrals for every 100,000 children in Somerset County followed by 34 per 100,000 in Baltimore City and 31 per 100,000 in Kent County. The lowest rate of death referrals was among children in Howard County (6 per 100,000 population).



Source: National Fatality Review Case Reporting System, as of 1/3/2019. Rates per 100,000 population based on National Vital Statistics System population estimates. Minimum five referred deaths.

Sudden Unexplained Infant Deaths in Maryland

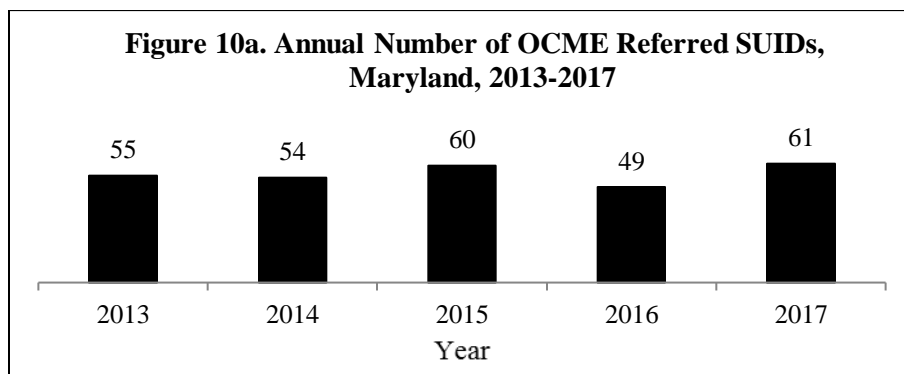
SUID is the sudden death of an infant less than one year of age that cannot be fully explained after a thorough review of the medical history, a complete autopsy, and examination of the death scene. Approximately 3,600 infants die suddenly and unexpectedly each year in the United States. The majority of these deaths occur while the infant is sleeping in an unsafe sleep environment and could have potentially been prevented if safe sleep practices were always followed. 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.

While an exact cause of death cannot always be determined, unsafe sleep factors are present in a majority of cases. These deaths are often not witnessed, the death scene may be disturbed before

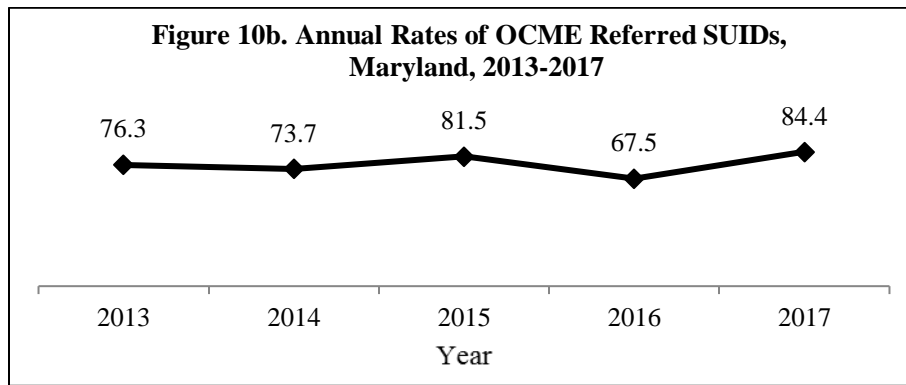
it can be examined, key facts may be forgotten or go unreported, and there may be no autopsy finding or medical test to prove the exact cause of death (e.g., suffocation). The mechanisms that lead to many sleep-related deaths include:

- Accidental suffocation by a soft sleep surface (e.g., an adult bed, waterbed mattress, pillows, soft couch or chair cushions) or other soft materials (e.g., stuffed toys, blankets, 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).
- 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.

Even after a thorough investigation, there are some SUID cases in which there is no evidence of non-natural cause of death or issues of concern within a reasonable degree of certainty. These cases fall under the subcategory of Sudden Infant Death Syndrome or SIDS. SIDS is a diagnosis of exclusion, assigned only when all known and possible causes of death have been ruled out. In Maryland, there is an average of 56 SUID cases referred by the OCME for review each year. A total of 279 SUID cases occurred between 2013 and 2017 (Figure 10a). Twenty-four (9 percent) of these deaths were attributed to Sudden Infant Death Syndrome (SIDS). The annual rate of referred SUID cases in 2017 is essentially unchanged from 2013 (Figure 10b).

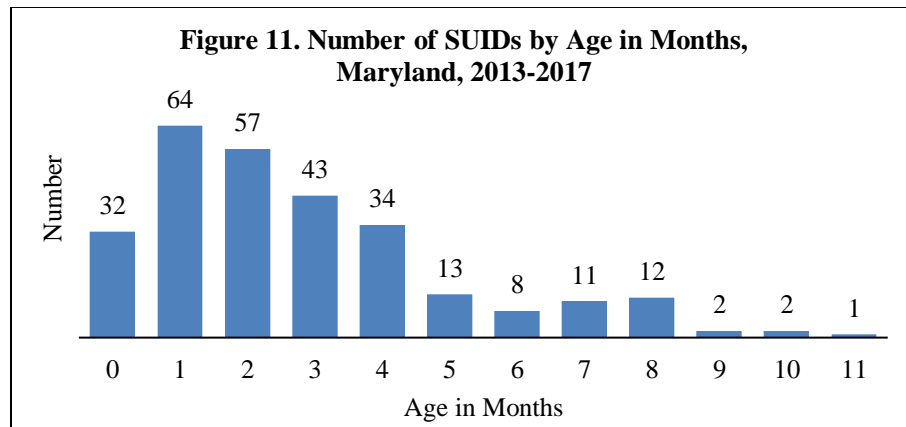


Source: National Fatality Review Case Reporting System, as of 1/3/2019.

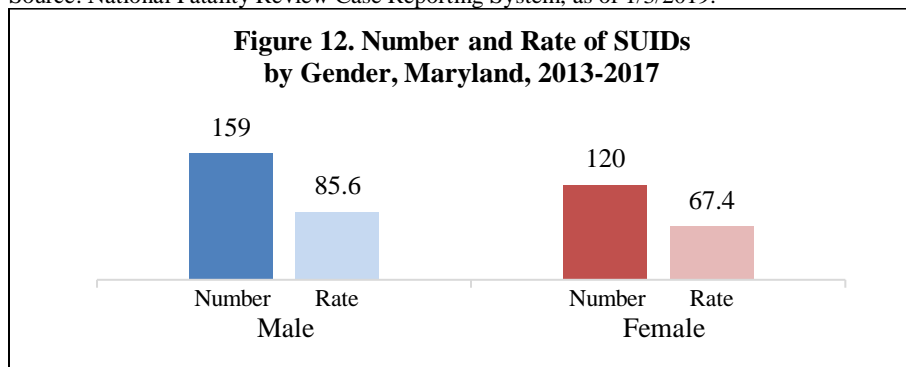


Source: National Fatality Review Case Reporting System, as of 1/3/2019.
 Rates per 100,000 infants based on National Vital Statistics System population estimates.

Of the 279 SUIDs during this period, 230 (82 percent) occurred in the first four months of life (Figure 11). Fifty-seven percent of these deaths occurred among male infants, and 43 percent occurred among female infants (Figure 12).

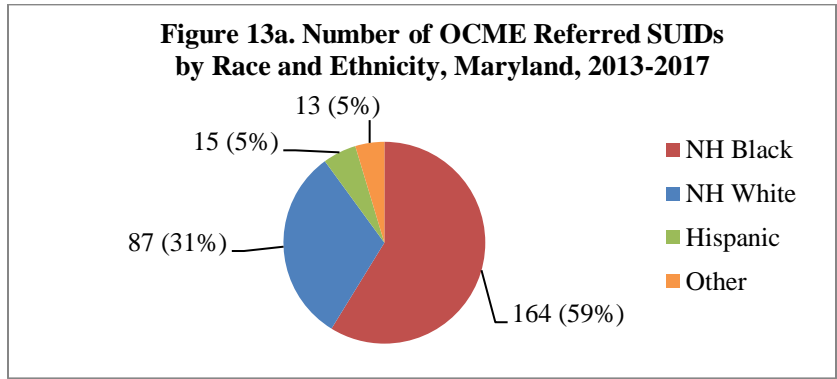


Source: National Fatality Review Case Reporting System, as of 1/3/2019.

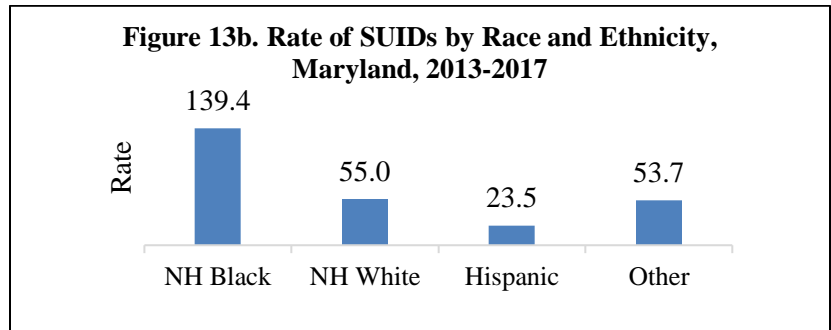


Source: National Fatality Review Case Reporting System, as of 1/3/2019.
 Rates per 100,000 population based on National Vital Statistics System population estimates.

Of the SUID cases occurring from 2013 to 2017, 164 deaths (59 percent) occurred among non-Hispanic Black infants (Figure 13a). Considering the population of infants by race and ethnicity, the SUID referral rates among non-Hispanic Black infants was two and half times greater than the rate among non-Hispanic White infants and nearly six times the rate among Hispanic infants (Figure 13b).



Source: National Fatality Review Case Reporting System, as of 1/3/2019.



Source: National Fatality Review Case Reporting System, as of 1/3/2019.
Rates per 100,000 population based on National Vital Statistics System population estimates.

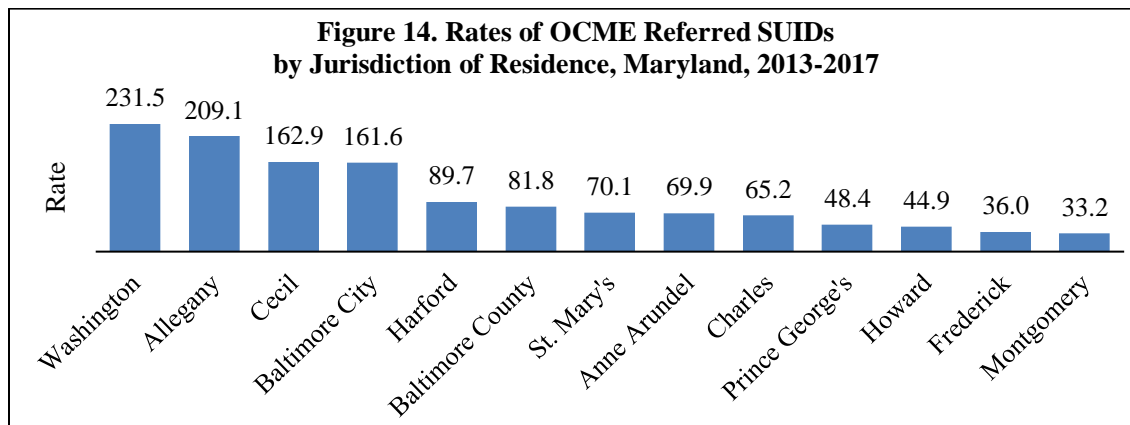
Table 5 shows the number of SUIDs by jurisdiction of residence of the infant at the time of death from 2013 to 2017. The largest number of SUIDs each year occurred among residents of Baltimore City, which accounted for 25 percent of all SUIDs during this period. The number of SUID cases is small, which makes it difficult to identify trends across jurisdictions.

Table 5. Number of OCME Referred SUIDs by Jurisdiction of Residence, Maryland, 2013-2017						
	2013	2014	2015	2016	2017	Total
Baltimore City	20	13	13	8	16	70
Baltimore County	6	11	8	4	11	40
Prince George's	5	5	7	7	5	29
Anne Arundel	7	3	1	8	5	24
Montgomery	4	4	5	4	5	22
Washington	2	3	6	3	6	20
Harford	3	5	1	3	0	12
Cecil	1	1	3	3	1	9
Howard	1	0	4	3	0	8
Allegany	1	2	3	1	0	7
Charles	2	1	1	2	0	6
Frederick	0	1	0	1	3	5
St. Mary's	1	2	2	0	0	5
Calvert	0	1	1	0	2	4
Wicomico	0	0	0	1	3	4

Worcester	1	0	1	1	0	3
Dorchester	0	0	1	0	1	2
Garrett	0	1	1	0	0	2
Somerset	0	1	0	0	1	2
Talbot	1	0	1	0	0	2
Carroll	0	0	1	0	0	1
Kent	0	0	0	0	1	1
Queen Anne's	0	0	0	0	1	1
Total	55	54	60	49	61	279

Source: National Fatality Review Case Reporting System, as of 1/3/2019.

Similar to overall child death referral rates, although the greatest number of SUID death referrals came from urban areas, the rates were highest in Maryland's rural counties (Figure 14). Infants residing in Washington County had the highest referral rate for SUID deaths at 231.5 per 100,000 infant population during 2013-2017 and Montgomery County had the lowest rate at 33.2 per 100,000 infants.

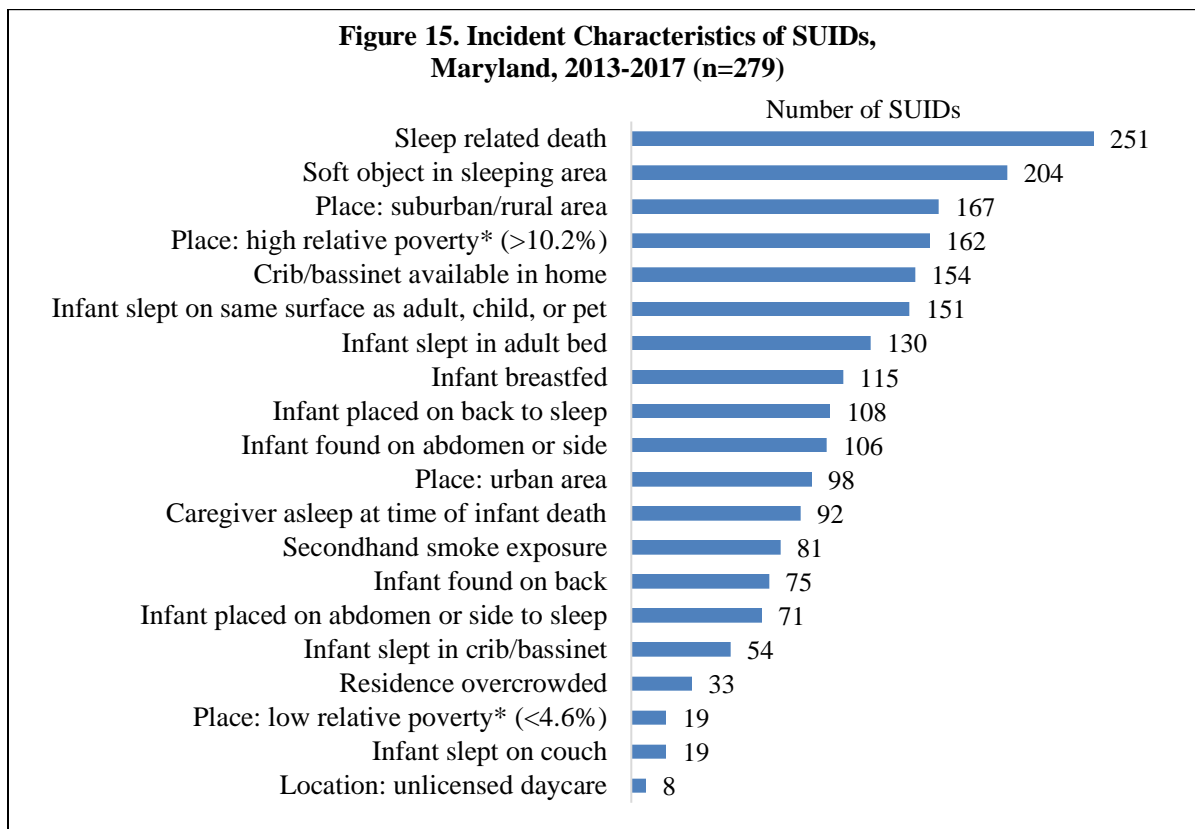


Source: National Fatality Review Case Reporting System, as of 1/3/2019. Rates per 100,000 infants based on National Vital Statistics System population estimates. Minimum 5 SUID cases.

All OCME referred deaths, including SUIDs, are reviewed by the local CFR team in the jurisdiction of residence. As previously stated, data from these case reviews are entered into a national database, the Child Death Review Case Reporting System (CDRCRS), which is maintained by the National Center for the Review and Prevention of Child Death. Maryland data have been entered into the CDRCRS since January 2010. This database provides more detailed information on SUIDs. The OCME referred cases were linked to their case reviews in the CDRCRS based on a match of the case number and, if missing, the child's name and date of death.

The SUID case reviews entered into the CDRCRS database were further analyzed to determine more detailed information surrounding these deaths. Information on every item was not available for every case. The specific information may not have been known or reported. Therefore, the numbers of cases shown in Figure 15 and Tables 6 and 7 represent a minimum number of cases with a given characteristic. Figure 15 shows incident characteristics of SUIDs in Maryland. The death was determined to be sleep-related in 251 (90 percent) of the 279 SUID cases. Sixty percent of cases occurred in suburban or rural areas. In 151 cases (54 percent), the infant was sleeping on the same surface as an adult, child or pet (bed-sharing). Thirty-eight percent of the

infants were found on their abdomen or side. Twenty-nine percent of the infants were exposed to secondhand smoke. Three percent of SUID deaths occurred at an unlicensed daycare setting.



Source: National Fatality Review Case Reporting System, as of 1/3/2019.

* Poverty estimates are taken from US Census American Community Survey 2016 five-year ZIP code tabulation area (ZCTA) estimates; 2.5 percent of SUID deaths had missing ZCTA information. Poverty rates are defined by the percentage of residents reporting poverty status in the past 12 months on the survey. The low and high poverty percentage cutpoints used are based on the first and third tertiles of Maryland ZCTA poverty rates, respectively.

Table 6 shows the characteristics of the primary caregiver for the infants who died of SUID. A biological parent was the primary caregiver in 264 (95 percent) of the cases. Forty-six percent of caregivers were younger than 25 years old, 46 percent were receiving social services, 42 percent had a high school education or less, 38 percent were low income, and 24 percent were unemployed. Thirty-six percent of caregivers had a history of substance abuse. Fifty-six percent of the infants were enrolled in Medical Assistance.

Table 6. Caregiver Characteristics Associated with SUIDs, Maryland, 2013-2017		
	#	%
Primary caregiver is biological parent	264	94.6
Primary caregiver <25 years old	128	45.9
Receiving social services*	128	45.9
12 years or less education	116	41.6
Infant was breastfed	115	41.2
Low income	106	38.0
History of substance abuse	101	36.2

Unemployed	68	24.4
Child had open CPS case at death	30	10.8
Total	279	100.0

Source: National Fatality Review Case Reporting System, as of 1/3/2019.

*Social services include: Medical Assistance; Temporary Assistance for Needy Families (TANF); Special Supplemental Nutrition Program for Women, Infants, and Children (WIC); and Supplemental Nutrition Assistance Program (SNAP)

More than half of all SUID cases from 2013-2017 occurred when the infant was sleeping on the same surface as an adult, child, or pet (bed-sharing). Table 7 compares characteristics of bed-sharing and non-bed-sharing SUID deaths. The SUID deaths which involved bed-sharing had a greater incidence of other unsafe sleep practices: bed-sharing infants were more likely to be placed on their stomach or side to sleep. In 71 percent of the bed-sharing cases, the infant was sleeping in an adult bed, and in 11 percent of the bed-sharing cases, the infant was sleeping on a couch (as opposed to 18 and 2 percent, respectively, for non-bed-sharing deaths). The supervisor was impaired by drugs or alcohol in eight times as many bed-sharing SUID deaths as non-bed-sharing SUID deaths.

SUID remains the leading cause of OCME referred deaths among infants and a leading cause overall of infant mortality in Maryland. The vast majority of these deaths are sleep-related, and unsafe infant sleep practices were identified on case review. At least half of all SUID cases involved bed-sharing, and bed-sharing cases were more likely to involve other unsafe sleep practices compared to non-bed-sharing cases. Racial and ethnic disparities persist in SUIDs, with a large number of these deaths occurring among non-Hispanic Black infants. Many of these families were receiving social services at the time of the infant's death, providing an opportunity for health care providers and social service agencies to reinforce safe sleep practices with the parent or caregiver of an infant.

Table 7. Comparison of Bed-Sharing and Non-Bed-Sharing SUIDs, Maryland, 2013-2017			
	Bed-sharing (n=151)	Non-bed-sharing (n=128)	Missing/ Unknown
Data presented as number (%)			
Place:			
Urban area	61 (40)	37 (29)	14 (5)
Suburban/rural area	88 (58)	79 (62)	14 (5)
Residence overcrowded	22 (15)	11 (9)	106 (38)
Secondhand smoke exposure	57 (38)*	24 (19)	146 (52)
Infant sleep position and environment:			
Placed on stomach or side to sleep	43 (28)	28 (22)	100 (36)
Placed on back to sleep	59 (39)	49 (38)	100 (36)

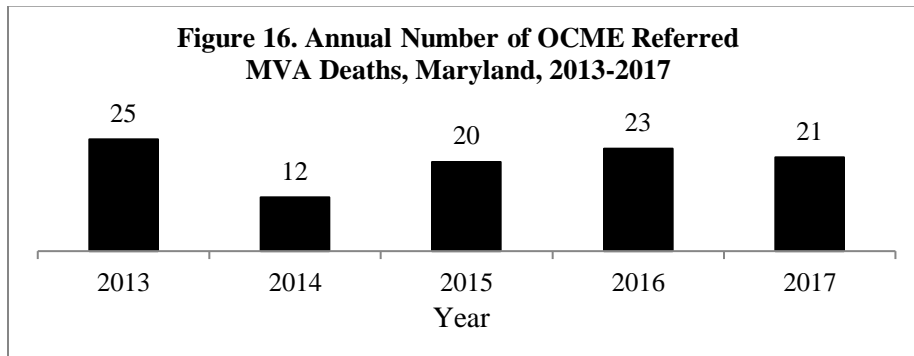
Sleeping in crib or bassinet	6 (4)*	48 (38)	46 (16)
Sleeping in adult bed	107 (71)*	23 (18)	46 (16)
Sleeping on couch	17 (11)*	2 (2)	46 (16)
Crib or bassinet available in home	91 (60)	63 (49)	100 (36)
Characteristics of infant:			
Infant's mean age (months)	2.6	3.0	0 (0)
Race – Non-Hispanic Black	94 (62)	70 (55)	0 (0)
Non-Hispanic White	40 (26)	47 (37)	0 (0)
Hispanic	9 (6)	6 (5)	0 (0)
Breastfed	66 (44)	49 (38)	112 (40)
Characteristics of primary caregiver:			
High school education or less	69 (46)	47 (37)	125 (45)
Receives social services	74 (49)	54 (42)	106 (38)
Low income	63 (42)	43 (34)	157 (57)
Characteristics of supervisor at time of death:			
Biological parent	128 (85)*	91 (71)	22 (8)
<25 years old	39 (26)	34 (27)	87 (31)
Male	29 (19)	22 (17)	22 (8)
History of mental illness	17 (11)	15 (12)	3 (1)
History of substance abuse	59 (39)	36 (28)	121 (43)
Impaired by drugs or alcohol	16 (11)*	2 (2)	3 (1)

Source: National Fatality Review Case Reporting System, as of 1/3/2019.

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

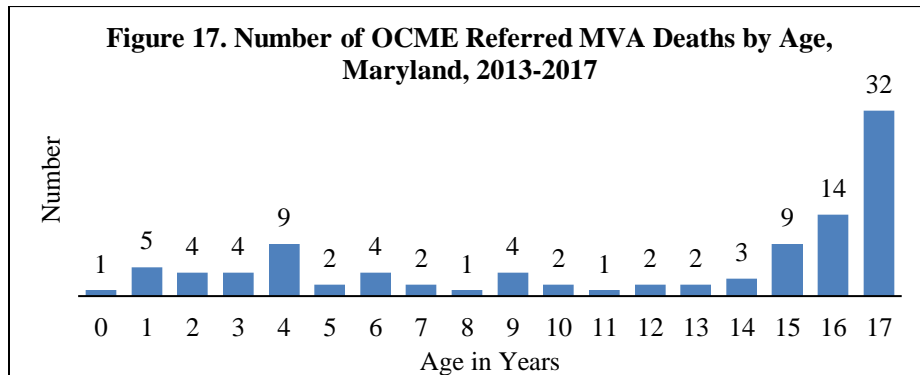
Motor Vehicle Accident Deaths in Maryland

Injury was the second leading cause of 2017 OCME referred deaths, with MVAs accounting for 40 percent of injury deaths. With the exception of 2014, which saw a low of 12 deaths, the number of OCME referred MVA deaths averaged 22 per year from 2013-2017.

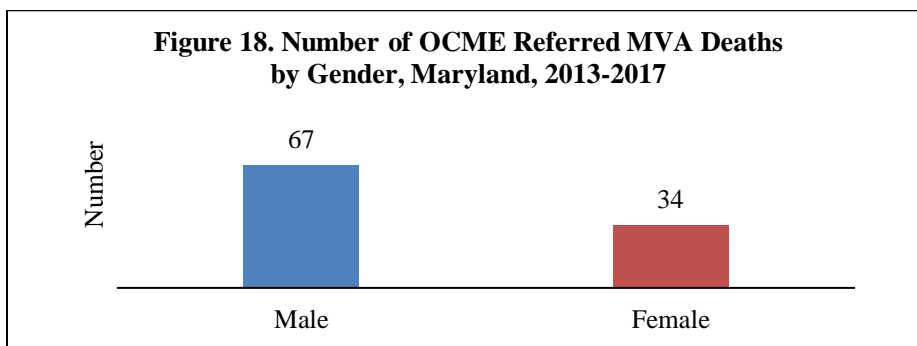


Source: National Fatality Review Case Reporting System, as of 1/3/2019.

Of the 101 MVA deaths occurring in the five year period from 2013 to 2017, 59 percent were among teens age 13-17 (Figure 17). Thirty-one percent of deaths were among children under the age of eight. Sixty-six percent of MVA deaths occurred among male children and 34 percent among females (Figure 18).

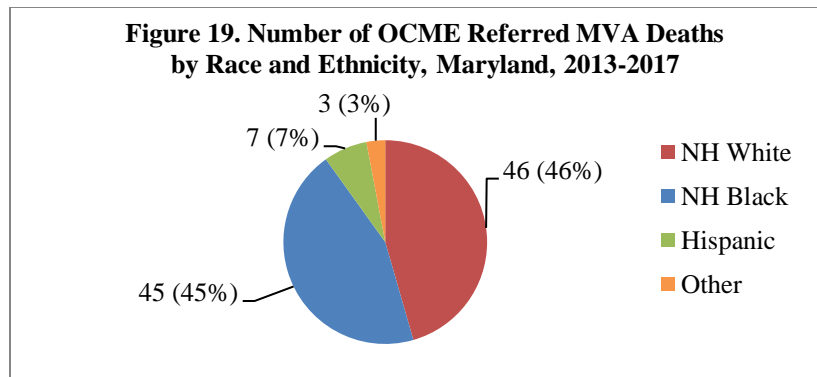


Source: National Fatality Review Case Reporting System, as of 1/3/2019.



Source: National Fatality Review Case Reporting System, as of 1/3/2019.

Forty-six percent of the MVA deaths occurred among non-Hispanic White children, 45 percent among non-Hispanic Black children, and seven percent among Hispanic children (Figure 19). MVA deaths by jurisdiction of residence are shown in Table 8.



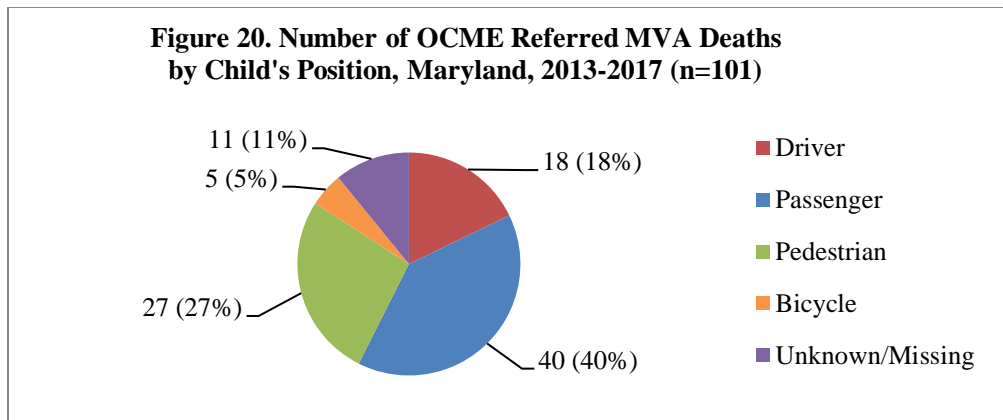
Source: National Fatality Review Case Reporting System, as of 1/3/2019.

Table 8. Number of OCME Referred MVA Deaths by Jurisdiction of Residence, Maryland, 2013-2017						
Jurisdiction	2013	2014	2015	2016	2017	Total
Prince George's	5	1	5	2	2	15
Baltimore City	2	2	3	2	4	13
Baltimore County	2	0	4	1	2	9
Montgomery	3	3	1	2	0	9
Harford	3	2	0	1	1	7
Carroll	1	0	1	1	3	6
Charles	3	1	0	0	2	6
Washington	0	1	1	1	2	5
Anne Arundel	1	0	0	1	2	4
Caroline	0	1	1	2	0	4
Wicomico	1	0	1	1	1	4
Howard	0	1	0	2	0	3
Calvert	1	0	0	1	0	2
Cecil	0	0	1	0	1	2
Dorchester	1	0	0	1	0	2
Frederick	1	0	1	0	0	2
Somerset	0	0	1	1	0	2
Allegany	0	0	0	1	0	1
Garrett	0	0	0	1	0	1
Kent	0	0	0	1	0	1
Queen Anne's	0	0	0	1	0	1
Talbot	0	0	0	0	1	1
Worcester	1	0	0	0	0	1
St. Mary's	0	0	0	0	0	0
Total	25	12	20	23	21	101

Source: National Fatality Review Case Reporting System, as of 1/3/2019.

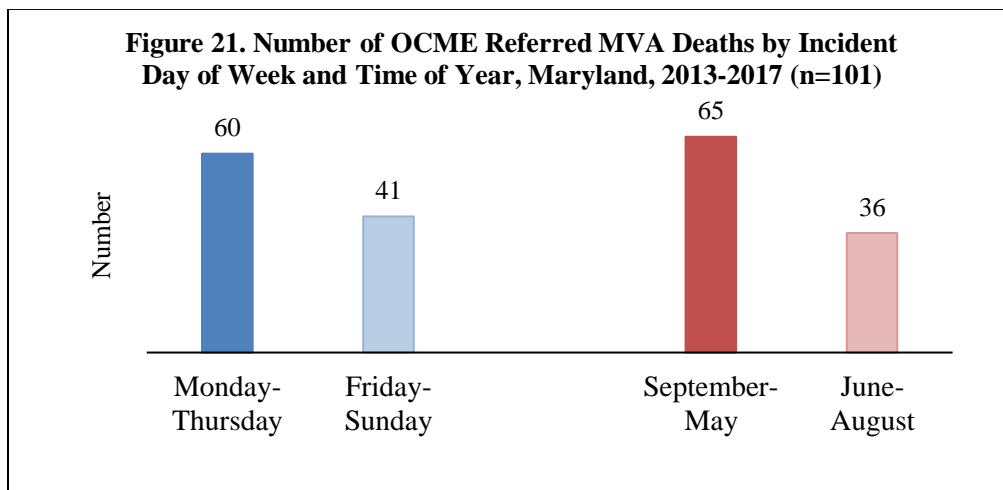
More detailed information on MVA deaths is available in the CDRCRS database. Information on every item was not available for every case. The specific information may not have been known or reported. Therefore, the numbers of cases shown in the following figures represent a minimum number of cases with a given characteristic.

Figure 20 shows the position of the child in the MVA. In 40 percent of cases, the child was a passenger, in 32 percent a pedestrian or bicyclist, and in 18 percent the driver.

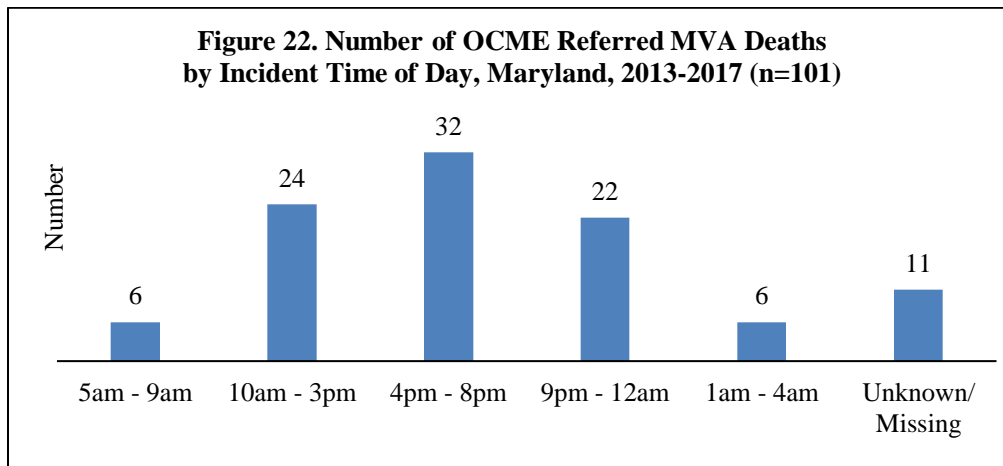


Source: National Fatality Review Case Reporting System, as of 1/3/2019.

Fifty-nine percent of MVA deaths occurred between Monday and Thursday and 64 percent occurred between September and May, months when school is in session (Figure 21). Seventy-seven percent of MVA deaths occurred between 10:00 am and midnight, with the peak occurrence (32 percent) between 4:00 pm and 8:00 pm (Figure 22).

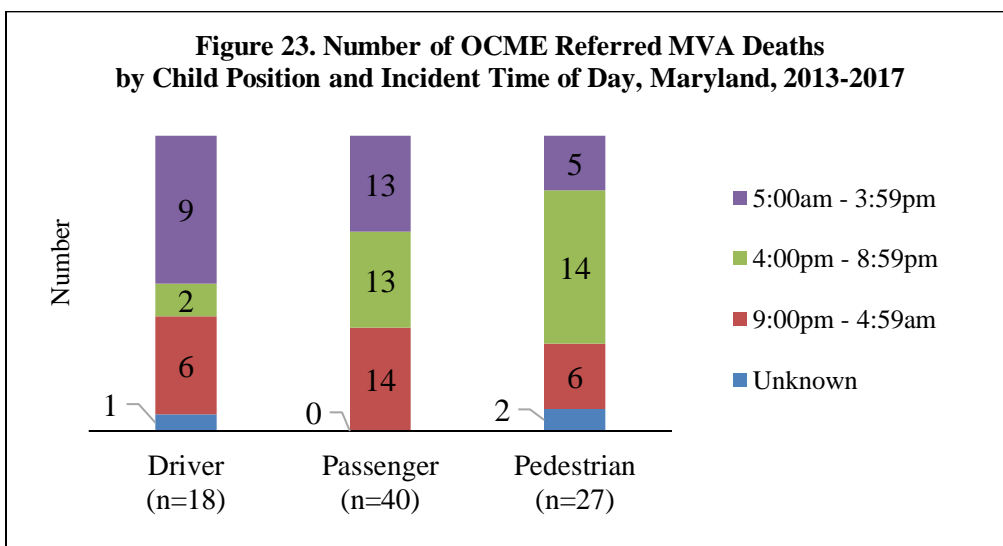


Source: National Fatality Review Case Reporting System, as of 1/3/2019.



Source: National Fatality Review Case Reporting System, as of 1/3/2019.

Fifty percent of MVA deaths in which the victim was the driver occurred between 5:00 am to 3:59 pm. Fifty-two percent of deaths where the child was a pedestrian occurred in the evening, between 4:00 pm to 8:59 pm (Figure 23).



Source: National Fatality Review Case Reporting System, as of 1/3/2019.

Among MVA deaths, male victims were 5 times more likely than females to be drivers, and 2 times as likely to be a pedestrian. In 42 percent of MVA deaths, speeding, racing or reckless driving was a factor. Eleven percent of MVA deaths involved drugs or alcohol, and at least three percent involved cell phone use.

Differences by race exist among MVA deaths (Table 9). MVA deaths with the child as the driver were more frequent among non-Hispanic White children than among non-Hispanic Black children. MVA deaths involving a pedestrian, however, were more common among non-Hispanic Black children. MVA deaths occurring on a city street were more frequent among non-Hispanic Black children, while MVA deaths occurring on a rural road were more frequent among non-Hispanic White children.

Table 9. Racial Disparities Among Child MVA Deaths Maryland, 2013-2017			
	White NH (n=46)	Black NH (n=45)	Missing/ Unknown
Data presented as number (%)			
Child position: driver	12 (26)	5 (11)	11 (11)
Child position: passenger	19 (41)	19 (42)	11 (11)
Child position: pedestrian	10 (22)	14 (31)	11 (11)
Child responsible	11 (24)	6 (13)	9 (9)
Location: city street	0 (0)*	17 (38)	9 (9)
Location: rural road	18 (39)*	4 (9)	9 (9)
Cause: unsafe, speed, or reckless	18 (39)	21 (47)	9 (9)
Cause: inexperience	7 (15)	5 (11)	9 (9)
Cause: drugs/alcohol	6 (13)	5 (11)	9 (9)
Cellphone involved	2 (4)	1 (2)	9 (9)
Incident time: 10 pm – 2 am	15 (33)	17 (38)	11 (11)

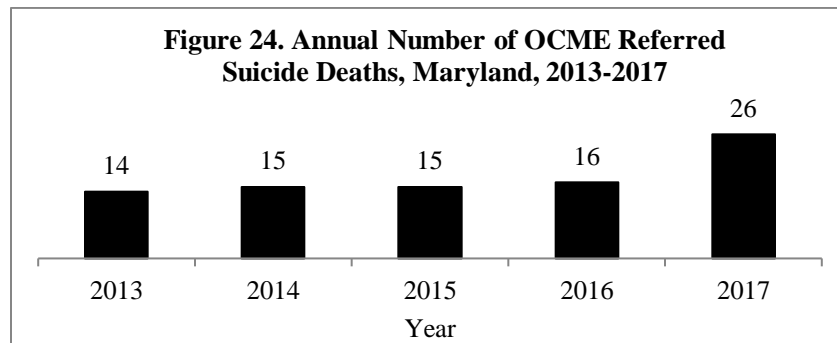
Source: National Fatality Review Case Reporting System, as of 1/3/2019.

Note: There were 101 OCME referred MVA deaths from 2013-2017 for the total population.

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

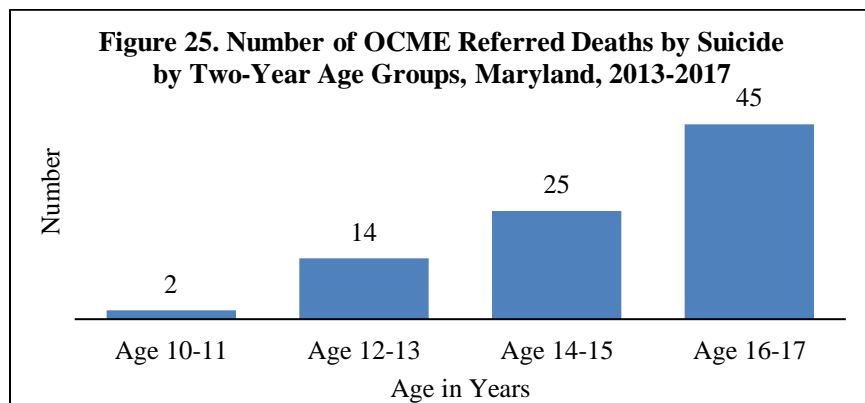
Deaths by Suicide in Maryland

Deaths by suicide were the fourth leading cause of 2017 OCME referred deaths. The number of children who died by suicide increased slightly from 2013 to 2016 and then increased by 63 percent from 2016 to 2017 (Figure 24). Because of this increase, deaths by suicide were reviewed in greater detail.

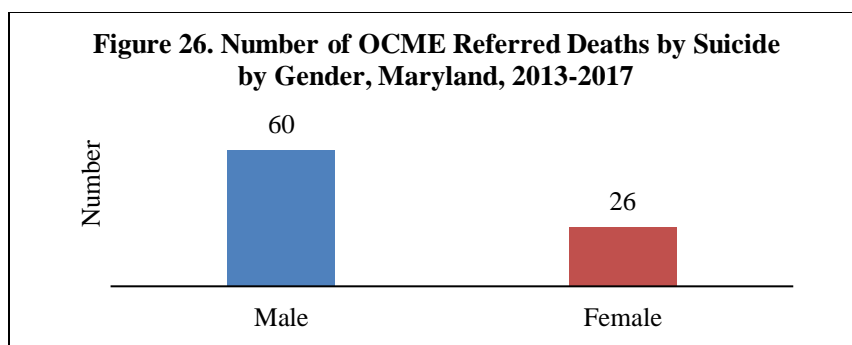


Source: National Fatality Review Case Reporting System, as of 1/3/2019.

Of the 86 deaths by suicide occurring in the five year period from 2013 to 2017, 35 percent were among children age 10-14, and 65 percent were among children age 15-17 (Figure 25). Seventy percent of deaths by suicide occurred among male children and 30 percent among females (Figure 26).

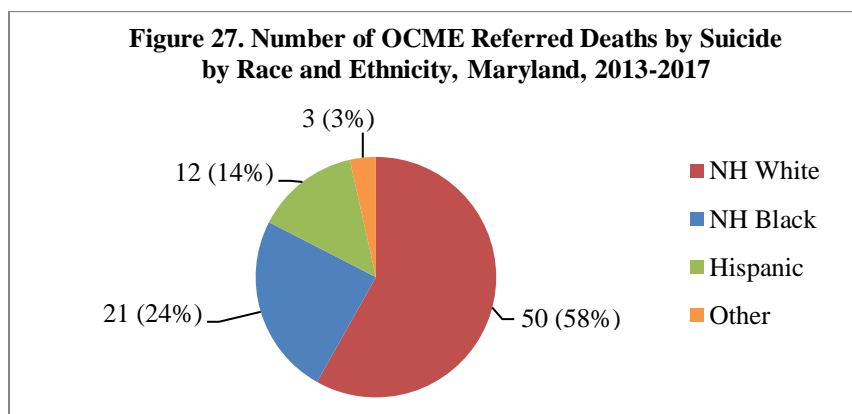


Source: National Fatality Review Case Reporting System, as of 1/3/2019.



Source: National Fatality Review Case Reporting System, as of 1/3/2019.

Fifty-eight percent of the deaths by suicide occurred among non-Hispanic White children, 24 percent among non-Hispanic Black children, and 14 percent among Hispanic children (Figure 27). Deaths by suicide by jurisdiction of residence are shown in Table 10.



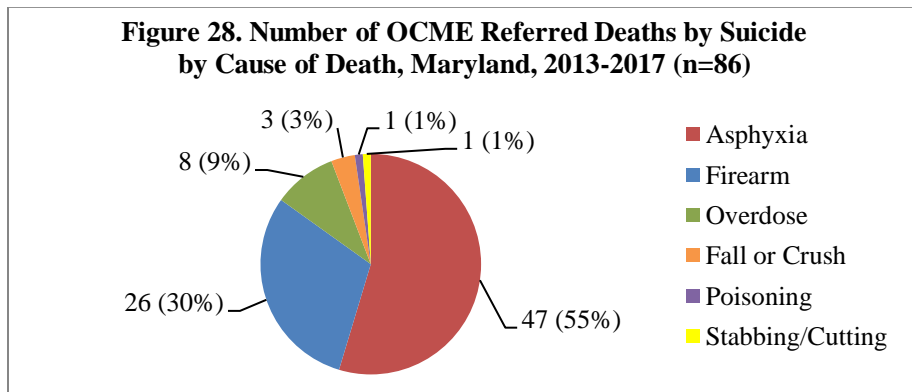
Source: National Fatality Review Case Reporting System, as of 1/3/2019.

Table 10. Number of OCME Referred Deaths by Suicide by Jurisdiction of Residence, Maryland, 2013-2017						
Jurisdiction	2013	2014	2015	2016	2017	Total
Montgomery	2	2	3	6	4	17
Baltimore County	3	1	1	0	7	12
Anne Arundel	1	3	1	2	0	7
Baltimore City	2	0	1	2	2	7
Frederick	1	1	1	3	0	6
Carroll	0	2	2	1	0	5
Prince George's	1	1	2	0	1	5
Washington	1	2	0	1	1	5
Howard	1	0	1	0	2	4
Allegany	1	0	0	0	2	3
Harford	1	1	0	0	1	3
St. Mary's	0	0	1	0	2	3
Calvert	0	0	0	1	1	2
Charles	0	1	1	0	0	2
Cecil	0	0	0	0	1	1
Dorchester	0	1	0	0	0	1
Kent	0	0	0	0	1	1
Queen Anne's	0	0	1	0	0	1
Wicomico	0	0	0	0	1	1
Total	14	15	15	16	26	86

Source: National Fatality Review Case Reporting System, as of 1/3/2019.

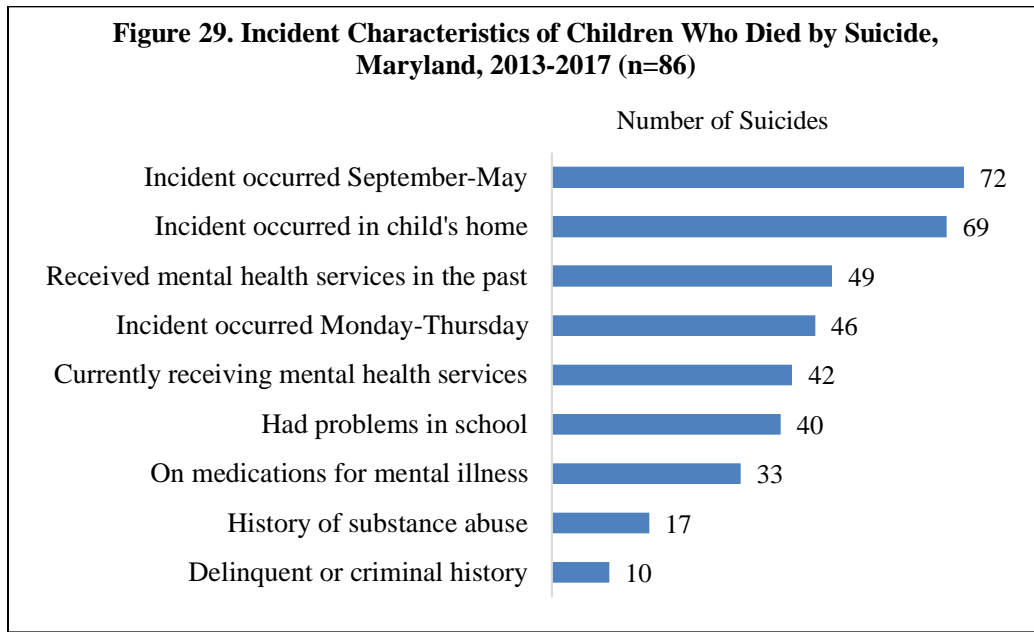
More detailed information on deaths by suicide is available in the CDRCRS database. Information on every item was not available for every case. The specific information may not have been known or reported. Therefore, the numbers of cases shown in the following figures represent a minimum number of cases with a given characteristic.

Figure 28 shows deaths by suicide by cause of death, including asphyxia (55 percent of cases), firearm (30 percent), and overdose (9 percent). All of the asphyxia deaths were due to hanging.



Source: National Fatality Review Case Reporting System, as of 1/3/2019.

Figure 29 shows incident characteristics of children who died by suicide in Maryland. Fifty-seven percent of the children received mental health services in the past, and 49 percent were currently receiving mental health services. Thirty-eight percent of the children were on medications for mental illness, and 20 percent had a history of substance abuse.



Source: National Fatality Review Case Reporting System, as of 1/3/2019.

Table 11 compares characteristics of asphyxia (hanging) and firearm deaths by suicide. While suicide caused by both asphyxia and firearm were more common among males, suicide caused by asphyxia was more common among non-Hispanic Black and Hispanic males, and suicide caused by firearm was more common among non-Hispanic White males. Notes and previous threats of suicide were more commonly reported among deaths by suicide caused by asphyxia than by firearm, as were reports of recent history of personal crisis.

Table 11. Differences in Characteristics of Firearm and Asphyxia Deaths by Suicide, Maryland, 2013-2017

	Asphyxia (n=47)	Firearm (n=26)	Missing/ Unknown
	Data presented as number (%)		
Gender: Male	34 (72)	23 (88)	0 (0)
Age: 15-17 years old	29 (62)	17 (65)	0 (0)
Race: Non-Hispanic White	21 (45)*	19 (73)	0 (0)
Race: Non-Hispanic Black	14 (30)	5 (19)	0 (0)
Race: Hispanic	9 (19)	2 (8)	0 (0)
Race: Other	3 (6)	0 (0)	0 (0)
Health Insurance: Private	13 (28)	13 (50)	3 (3)
Health Insurance: Medicaid	11 (23)	3 (12)	3 (3)
Received mental health services in the past	28 (60)	11 (42)	15 (17)
Currently receiving mental health services	24 (51)	9 (35)	12 (14)
On medications for mental illness	20 (43)*	4 (15)	16 (19)
Had problems in school	29 (62)*	7 (27)	17 (20)
Overweight or obese BMI	12 (26)	7 (27)	9 (10)
Prior disability or chronic illness	20 (43)	7 (27)	10 (12)
Occurred in late evening or early morning (9 pm – 4 am)	5 (11)	7 (27)	18 (21)
Occurred during daytime hours (10 am – 8 pm)	30 (64)	10 (38)	18 (21)
Incident occurred in child’s home	42 (89)	20 (77)	3 (3)
Child left a note or previously discussed or threatened suicide	13 (28)*	1 (4)	3 (3)
Previous suicide attempts	2 (4)	0 (0)	61 (71)
Recent history of personal crisis: argument or breakup with boyfriend/girlfriend	6 (13)	0 (0)	3 (3)
Recent history of personal crisis: parents’ divorce or separation	5 (11)	1 (4)	3 (3)

Source: National Fatality Review Case Reporting System, as of 1/3/2019. BMI: body mass index

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

Summary and Recommendations

In 2017, the OCME referred 208 unexpected child deaths for review by the Child Fatality Review Program. The number of unexpected child deaths in Maryland increased by 18 percent (or 32 deaths) from 2016 to 2017. The number of OCME referred deaths increased among children of all ages and races from 2016 to 2017, except for Hispanic children, non-Hispanic children of “Other” races, and children ages 5-9. SUID, injury, and homicide were the leading causes of OCME referred deaths in 2017. MVAs remained the leading cause of injury deaths, but the number of MVA deaths decreased. Infants less than one year of age continue to account for the largest proportion of unexpected deaths. The majority of OCME referred infant deaths are due to SUID and involve unsafe infant sleep practices. Racial and ethnic disparities persist, with a disproportionate number of these deaths occurring among non-Hispanic Black children. Deaths by suicide increased from 2016 to 2017, making deaths by suicide the fourth leading cause of OCME referred child deaths.

In response to the 2017 review of OCME referred child deaths in Maryland, the State CFR Team puts forth the following recommendations and proposed actions for the State agencies represented on the State CFR Team.

Recommendations related to SUID

The State CFR Team recommends undertaking activities to better understand why safe sleep practices are not followed, especially in communities with high SUID rates. The State CFR Team supports efforts being explored by MDH to partner with a local university to develop focus groups to better understand barriers to safe sleep messaging and, specifically, to address the persistent racial disparity in sleep-related deaths.

The State CFR Team also recommends improving parent teaching on safe sleep practices in all Maryland delivery hospitals. The State CFR Team supports the upcoming quality improvement initiative, funded by MDH and administered through the Maryland Patient Safety Center, to strengthen safe sleep teaching for new parents and model safe sleep practices in all Maryland delivery hospitals.

Recommendations related to MVAs

The State CFR Team recommends efforts to improve understanding of the causes of motor vehicle accidents and potential opportunities for prevention. The State CFR Team will work with the Maryland State Highway Administration to identify regional contacts to ensure access to detailed crash scene investigation reports for all local teams for review of motor vehicle accident fatalities.

Recommendations related to Deaths by Suicide

The State CFR Team recommends efforts to increase access to information at the jurisdiction level regarding potential opportunities for suicide prevention by conducting reviews of not only deaths by suicide but also suicide attempts (since the number of deaths by suicide in some jurisdictions is small). The State CFR Team supports the efforts of MDH’s MCHB to work with interested local CFR teams to identify suicide attempts in their jurisdiction and conduct near-fatality reviews of these suicide attempts. Local CFR teams will be encouraged to collaborate

with local hospitals and emergency departments to identify cases of non-fatal events for review and to facilitate local level interventions.

Appendix A: 2018 State Child Fatality Review Team Members

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

- (1) Attorney General – Christle Sheppard Southall, Esq, designee
- (2) Chief Medical Examiner – Ling Li, MD, designee
- (3) Secretary of Human Resources – Vernice McKee, LGSW, designee
- (4) Secretary of Health – Lawrence Reid, PhD, MPH, designee
- (5) State Superintendent of Schools – Lynne Muller, PhD, designee
- (6) Secretary of Juvenile Services – Jenny Maehr, MD, designee
- (7) Special Secretary for Children, Youth and Families – permanent vacancy due to the sunset of the Office for Children, Youth, and Families in 2005.
- (8) Secretary of State Police – Det. Sgt. Stephen Hall, designee
- (9) President of the State’s Attorneys’ Association – Vacant
- (10) Chief of the Division of Vital Records – Lee Hurt, DrPH, MS, designee
- (11) A Representative of the Center for Infant and Child Loss – LaToya Bates, LCSW-C, Director, Center for Infant and Child Loss
- (12) Director of the Behavioral Health Administration – Steven Whitefield, 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
Wendy Lane, MD, MPH, FAAP
- (14) 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 –

Richelle J. Cricks, CNM
Mary C. Gentile, LCSW-C
Roger Lerner, JD
Laurel Moody, RN, MS
Molly Owens
Martha R. Tuthill
Anntinette Williams, LICSW
Cynthia Wright Johnson
Three general public vacancy

Appendix B: Duties of the State Child Fatality Review Team

Health-General Article, §5-704 (b), sets forth the State CFR 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 §2-1246 of the State Government Article, the General Assembly with annual written reports, which shall include the State Team's findings and recommendations.
- 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.

Appendix C: 2017 Annual Maryland Child Fatality Review Conference

Agenda

Tuesday, November 21, 2017

8:45 AM – 4:30 PM	Maryland Hospital Association 6820 Deerpath Road, Elkridge, MD 21075
8:45 AM	Registration begins
9:30 – 10:00 AM	Welcome Rich Lichenstein, MD Updates & Local Guidelines
10:00 – 11:00 AM	State Team: Quarterly Meeting Jennifer Herrera Local Teams: Data Quality Control and Improvement Missing Variables Lawrence Reid, PhD
11:00 – 12:15 PM	Turning the Curve: SUIDS Alli Holstrom
12:15 – 1:00 PM	Lunch
1:00 – 1:45 PM	Essentials for Childhood Cathy Costa
1:45 – 2:00 PM	Break
2:00 – 3:00 PM	Intrinsic Bias Cheri Wilson MA, MHS, CPHQ
3:00 – 4:00 PM	Technical Assistance Discussion
4:00 – 4:30 PM	Adjourn