



Sleep-Related Infant Deaths in Michigan (2010-2021)

The Centers for Disease Control and Prevention's Division of Reproductive Health supports Sudden Unexpected Infant Death (SUID) monitoring programs in 22 states and jurisdictions, covering about 1 in 3 SUID cases in the United States. The SUID Case Registry builds on local child death review programs and uses the National Center for Fatality Review and Prevention's Case Reporting System to compile information about the circumstances associated with SUID cases as well as information about investigations into these deaths. Participating states and jurisdictions use data about SUID trends and circumstances to develop strategies to prevent future fatalities.

The SUID Case Registry first began in Michigan in 2010. Since that time, comprehensive information about the circumstances associated with the deaths of all Michigan resident infants due to sleep-related causes has been compiled. In Michigan, sleep-related infant deaths are defined as deaths to infants less than 1 year of age that occur suddenly and unexpectedly due to:

- Suffocation/Positional Asphyxia;
- Sudden Infant Death Syndrome (SIDS);
- Undetermined/Sudden Unexpected Infant Death (SUID); and
- Other causes when the sleep environment was likely to have contributed to the death.

Additional information about sleep-related infant deaths in Michigan can be found on the Data, Reports & Fact Sheets page on the Michigan Fatality Review and Prevention website (URL: <https://mifrp.org/publications/>).

Sources

Death data are from the CDC SUID Case Registry, Michigan Public Health Institute, 2023. Birth data are from the Michigan Resident Birth Files, Division for Vital Records and Health Statistics, Michigan Department of Health and Human Services, 2023.

Citation

Centers for Disease Control and Prevention (CDC) SUID Case Registry – 2010 to 2021, Michigan Public Health Institute, 2023.

Contact

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Date: November 3, 2023

Table 01. Sleep-Related Infant Deaths by Year (2010-2021)

Year	Number of Deaths	Number of Live Births	Rate per 1,000 Live Births	95% CI (L – U)
2010	140	114,717	1.2	1.0 – 1.4
2011	147	114,159	1.3	1.1 – 1.5
2012	131	112,708	1.2	1.0 – 1.4
2013	142	113,732	1.2	1.0 – 1.5
2014	152	114,460	1.3	1.1 – 1.5
2015	159	113,211	1.4	1.2 – 1.6
2016	142	113,374	1.3	1.0 – 1.5
2017	123	111,507	1.1	0.9 – 1.3
2018	151	110,093	1.4	1.2 – 1.6
2019	149	107,917	1.4	1.2 – 1.6
2020	161	104,149	1.5	1.3 – 1.8
2021	158	105,022	1.5	1.3 – 1.7
2010-2021	1,755	1,335,049	1.3	1.3 – 1.4

Summary:

From 2010 to 2021, an average of 1.3 Michigan infants died due to sleep-related causes per 1,000 live births. While a minor increase or decrease may appear between years, there was no clear trend showing either an increase or decrease in the state rate.

**Table 02. Sleep-Related Infant Deaths – Three-Year Moving Averages
(2010-2021)**

Years	Number of Deaths	Number of Live Births	Rate per 1,000 Live Births	95% CI (L – U)
2010 – 2012	418	341,584	1.2	1.1 – 1.3
2011 – 2013	420	340,599	1.2	1.1 – 1.4
2012 – 2014	425	340,900	1.2	1.1 – 1.4
2013 – 2015	453	341,403	1.3	1.2 – 1.4
2014 – 2016	453	341,045	1.3	1.2 – 1.5
2015 – 2017	424	338,092	1.3	1.1 – 1.4
2016 – 2018	416	334,974	1.2	1.1 – 1.4
2017 – 2019	423	329,517	1.3	1.2 – 1.4
2018 – 2020	461	322,159	1.4	1.3 – 1.6
2019 – 2021	468	317,088	1.5	1.3 – 1.6

Summary:

Table 01 presented the rate of death from sleep-related causes for Michigan infants by year. Using three-year moving averages, Table 02 also shows that the rate of death has not changed significantly over time.

Table 03. Sleep-Related Infant Deaths by Infant's Residence (2010-2021)

Notes: ^ Jurisdictions with fewer than six deaths are excluded from this analysis. Rates are excluded for jurisdictions with fewer than 20 deaths due to instability in rates with small numbers. Suppressed information is indicated with a caret (^) in the cell.

* An asterisk (*) indicates a statistically significant difference from the overall Michigan rate of sleep-related infant death at the 95% confidence level.

+ County of birth was unknown for 29 Michigan infants.

Jurisdiction	Number of Deaths [^]	Number of Live Births ⁺	Rate per 1,000 Live Births [^]	95% CI (L – U)
Alcona County	^	763	^	^
Alger County	0	732	^	^
Allegan County	9	16,176	^	^
Alpena County	0	3,175	^	^
Antrim County	^	2,298	^	^
Arenac County	^	1,550	^	^
Baraga County	^	912	^	^
Barry County	7	7,651	^	^
Bay County	12	12,289	^	^
Benzie County	0	1,831	^	^
Berrien County	46	20,897	2.2*	1.6 – 2.9
Branch County	8	6,533	^	^
Calhoun County	26	19,174	1.4	0.9 – 2.0
Cass County	6	5,745	^	^
Charlevoix County	^	2,782	^	^
Cheboygan County	^	2,437	^	^
Chippewa County	^	3,997	^	^
Clare County	8	3,859	^	^
Clinton County	^	9,537	^	^
Crawford County	^	1,410	^	^
Delta County	^	4,239	^	^
Dickinson County	^	2,962	^	^
Eaton County	9	13,875	^	^
Emmet County	^	3,474	^	^
Genesee County	123	57,205	2.2*	1.8 – 2.5
Gladwin County	6	2,992	^	^
Gogebic County	^	1,454	^	^
Grand Traverse County	9	10,889	^	^

Table 03. Sleep-Related Infant Deaths by Infant's Residence (2010-2021)
Continued

Jurisdiction	Number of Deaths [^]	Number of Live Births ⁺	Rate per 1,000 Live Births [^]	95% CI (L – U)
Gratiot County	8	4,759	^	^
Hillsdale County	6	6,350	^	^
Houghton County	^	4,466	^	^
Huron County	^	3,541	^	^
Ingham County	57	37,681	1.5	1.1 – 2.0
Ionia County	12	8,566	^	^
Iosco County	10	2,735	^	^
Iron County	^	1,071	^	^
Isabella County	8	7,762	^	^
Jackson County	28	21,118	1.3	0.9 – 1.9
Kalamazoo County	53	36,689	1.4	1.1 – 1.9
Kalkaska County	0	2,106	^	^
Kent County	94	103,520	0.9*	0.7 – 1.1
Keweenaw County	^	189	^	^
Lake County	0	1,160	^	^
Lapeer County	12	9,727	^	^
Leelanau County	^	2,004	^	^
Lenawee County	11	12,118	^	^
Livingston County	14	21,305	^	^
Luce County	^	635	^	^
Mackinac County	0	1,017	^	^
Macomb County	65	110,039	0.6*	0.5 – 0.8
Manistee County	^	2,324	^	^
Marquette County	8	7,333	^	^
Mason County	0	3,371	^	^
Mecosta County	9	5,041	^	^
Menominee County	^	2,338	^	^
Midland County	13	10,252	^	^
Missaukee County	^	2,089	^	^
Monroe County	31	18,309	1.7	1.1 – 2.4
Montcalm County	12	8,537	^	^
Montmorency County	^	820	^	^
Muskegon County	43	24,722	1.7	1.3 – 2.3

Table 03. Sleep-Related Infant Deaths by Infant's Residence (2010-2021)
Continued

Jurisdiction	Number of Deaths [^]	Number of Live Births ⁺	Rate per 1,000 Live Births [^]	95% CI (L – U)
Newaygo County	15	6,481	^	^
Oakland County	115	158,214	0.7*	0.6 – 0.9
Oceana County	^	3,518	^	^
Ogemaw County	7	2,260	^	^
Ontonagon County	^	359	^	^
Osceola County	^	3,135	^	^
Oscoda County	^	1,033	^	^
Otsego County	^	2,957	^	^
Ottawa County	25	39,372	0.6*	0.4 – 0.9
Presque Isle County	0	1,115	^	^
Roscommon County	^	1,945	^	^
Saginaw County	49	26,472	1.9	1.4 – 2.4
St. Clair County	28	18,564	1.5	1.0 – 2.2
St. Joseph County	14	9,278	^	^
Sanilac County	^	5,172	^	^
Schoolcraft County	0	799	^	^
Shiawassee County	7	8,383	^	^
Tuscola County	11	6,484	^	^
Van Buren County	9	10,486	^	^
Washtenaw County	44	43,400	1.0	0.7 – 1.4
Wayne County	578	276,371	2.1*	1.9 – 2.3
<i>City of Detroit</i>	409	115,879	3.5*	3.2 – 3.9
<i>Out-Wayne County</i>	169	160,492	1.1*	0.9 – 1.2
Wexford County	11	4,690	^	^
Michigan	1,755	1,335,049	1.3	1.3 – 1.4

Summary:

The rate of sleep-related infant death varies by jurisdiction across the state of Michigan. The following jurisdictions had statistically significantly higher rates of sleep-related infant death than the overall rate of sleep-related infant death for the state of Michigan: Berrien County, Genesee County, Wayne County, and the City of Detroit. The following jurisdictions had statistically significantly lower rates of sleep-related infant death than the overall rate of sleep-related infant death for the state of Michigan: Kent County, Macomb County, Oakland County, Ottawa County, and Out-Wayne County (excluding the City of Detroit).

Table 04. Sleep-Related Infant Deaths by Prosperity Region (2010-2021)

Notes: ^ The total number of sleep-related infant deaths for Prosperity Regions 5 and 7 have been suppressed as reporting the number of deaths for each of these Prosperity Regions would inadvertently release the number of sleep-related infant deaths for an individual county with a count fewer than 6. Suppressed information is indicated with a caret (^) in the cell.

* An asterisk (*) indicates a statistically significant difference from the overall Michigan rate of sleep-related infant death at the 95% confidence level.

+ The sum of the number of live births reported for all 10 Prosperity Regions does not equal the total number of live births reported for Michigan as county of birth was unknown for 29 Michigan infants.

Prosperity Region	Number of Deaths [^]	Number of Live Births ⁺	Rate per 1,000 Live Births [^]	95% CI (L – U)
Region 1	39	32,503	1.2	0.9 – 1.6
Region 2	32	34,487	0.9	0.6 – 1.3
Region 3	39	20,650	1.9	1.3 – 2.6
Region 4	231	231,250	1.0*	0.9 – 1.1
Region 5	^	69,935	^	^
Region 6	185	109,076	1.7*	1.5 – 1.9
Region 7	^	61,093	^	^
Region 8	152	108,802	1.5	1.3 – 1.7
Region 9	134	122,600	1.1	0.9 – 1.3
Region 10	758	544,624	1.4	1.3 – 1.5
Michigan	1,755	1,335,049	1.3	1.3 – 1.4

Summary:

The rate of sleep-related infant death varies by jurisdiction across the state of Michigan. From 2010 to 2021, Prosperity Region 6 had a rate of sleep-related infant death that was statistically significantly higher than the overall rate of sleep-related infant death for the state of Michigan. During this same time period, Prosperity Region 4 had a rate of sleep-related infant death that was statistically significantly lower than the overall rate of sleep-related infant death for the state of Michigan. Please note that Prosperity Region 3 had the widest confidence interval out of all 10 Prosperity Regions.

Table 05. Infant's Race (2010-2021)

Notes: ^ Rates are not calculated for groups with fewer than 20 deaths due to instability in rates with small numbers. Suppressed information is indicated with a caret (^) in the cell.

* An asterisk (*) indicates a statistically significant difference from the overall Michigan rate of sleep-related infant death at the 95% confidence level.

+ American Indian race includes infants who were identified as American Indian alone or in combination with one or more additional races. Additional Groups includes infants of all other races as well as those of multiple races, excluding infants who were identified as American Indian alone or in combination with one or more additional races.

Race ⁺	Number of Deaths	Number of Live Births	Rate per 1,000 Live Births [^]	95% CI (L – U)
American Indian	123	58,079	2.1*	1.7 – 2.5
Asian or Pacific Islander Only	11	46,123	^	^
Black Only	780	242,042	3.2*	3.0 – 3.4
White Only	721	897,921	0.8*	0.7 – 0.9
Additional Groups	112	78,204	1.4	1.2 – 1.7
Unknown	8	12,680	^	^

Summary:

Significant racial disparities exist among all child deaths, including infant deaths due to sleep-related causes, due to inequities rooted in systemic and structural racism, including historical trauma, that unfairly disadvantage some individuals and communities.

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

The data presented in Table 05 reflects methodological changes that were made to better identify American Indian infants. Prevailing data collection and analysis practices often misclassify American Indian and Alaska Native (AIAN) populations, leading to an underestimation and suppression of data due to small numbers. Not being counted is consistent with historical attempts to eliminate or assimilate AIAN people. In accordance with recommendations made by the Urban Indian Health Institute, in this report, American Indian infants are those who were identified as American Indian, alone or in combination with one or more additional races, on the infant's death certificate. This definition is inclusive of ancestry and Tribal affiliation identified on the death record. Similarly, American Indian live births are births to childbearing and/or non-childbearing parents who were identified as American Indian, alone or

in combination with one or more additional races, on the infant's birth abstract. This definition is also inclusive of ancestry.

From 2010 to 2021, Black Michigan infants were 4.0 times more likely to die due to sleep-related causes than white infants (3.2 sleep-related infant deaths per 1,000 live births for Black infants compared to 0.8 sleep-related infant deaths per 1,000 live births for white infants). Compared to white infants, American Indian infants were 2.6 times more likely to die due to sleep-related causes (2.1 sleep-related infant deaths per 1,000 live births for American Indian infants compared to 0.8 sleep-related infant deaths per 1,000 live births for white infants).

Table 06. Infant's Race (2010-2015)

Notes: ^ Rates are not calculated for groups with fewer than 20 deaths due to instability in rates with small numbers. Suppressed information is indicated with a caret (^) in the cell.

* An asterisk (*) indicates a statistically significant difference from the overall Michigan rate of sleep-related infant death at the 95% confidence level.

+ American Indian race includes infants who were identified as American Indian alone or in combination with one or more additional races. Additional Groups includes infants of all other races as well as those of multiple races, excluding infants who were identified as American Indian alone or in combination with one or more additional races.

Race ⁺	Number of Deaths	Number of Live Births	Rate per 1,000 Live Births [^]	95% CI (L – U)
American Indian	59	34,489	1.7	1.3 – 2.2
Asian or Pacific Islander Only	^	18,382	^	^
Black Only	363	124,330	2.9*	2.6 – 3.2
White Only	382	458,443	0.8*	0.7 – 0.9
Additional Groups	59	40,092	1.5	1.1 – 1.9
Unknown	2	7,251	^	^

Summary:

Significant racial disparities exist among all child deaths, including infant deaths due to sleep-related causes, due to inequities rooted in systemic and structural racism, including historical trauma, that unfairly disadvantage some individuals and communities.

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

The data presented in Table 06 reflects methodological changes that were made to better identify American Indian infants. Prevailing data collection and analysis practices often misclassify American Indian and Alaska Native (AIAN) populations, leading to an underestimation and suppression of data due to small numbers. Not being counted is consistent with historical attempts to eliminate or assimilate AIAN people. In accordance with recommendations made by the Urban Indian Health Institute, in this report, American Indian infants are those who were identified as American Indian, alone or in combination with one or more additional races, on the infant's death certificate. This definition is inclusive of ancestry and Tribal affiliation identified on the death record. Similarly, American Indian live births are births to childbearing and/or non-childbearing parents who were identified as American Indian, alone or

in combination with one or more additional races, on the infant's birth abstract. This definition is also inclusive of ancestry.

From 2010 to 2015, Black Michigan infants were 3.5 times more likely to die due to sleep-related causes than white infants (2.9 sleep-related infant deaths per 1,000 live births for Black infants compared to 0.8 sleep-related infant deaths per 1,000 live births for white infants). Compared to white infants, American Indian infants were 2.1 times more likely to die due to sleep-related causes (1.7 sleep-related infant deaths per 1,000 live births for American Indian infants compared to 0.8 sleep-related infant deaths per 1,000 live births for white infants).

Table 07. Infant's Race (2016-2021)

Notes: ^ Rates are not calculated for groups with fewer than 20 deaths due to instability in rates with small numbers. Suppressed information is indicated with a caret (^) in the cell.

* An asterisk (*) indicates a statistically significant difference from the overall Michigan rate of sleep-related infant death at the 95% confidence level.

+ American Indian race includes infants who were identified as American Indian alone or in combination with one or more additional races. Additional Groups includes infants of all other races as well as those of multiple races, excluding infants who were identified as American Indian alone or in combination with one or more additional races.

Race ⁺	Number of Deaths	Number of Live Births	Rate per 1,000 Live Births [^]	95% CI (L – U)
American Indian	64	23,590	2.7*	2.1 – 3.5
Asian or Pacific Islander Only	^	27,741	^	^
Black Only	417	117,712	3.5*	3.2 – 3.9
White Only	339	439,478	0.8*	0.7 – 0.9
Additional Groups	53	38,112	1.4	1.0 – 1.8
Unknown	6	5,429	^	^

Summary:

Significant racial disparities exist among all child deaths, including infant deaths due to sleep-related causes, due to inequities rooted in systemic and structural racism, including historical trauma, that unfairly disadvantage some individuals and communities.

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

The data presented in Table 07 reflects methodological changes that were made to better identify American Indian infants. Prevailing data collection and analysis practices often misclassify American Indian and Alaska Native (AIAN) populations, leading to an underestimation and suppression of data due to small numbers. Not being counted is consistent with historical attempts to eliminate or assimilate AIAN people. In accordance with recommendations made by the Urban Indian Health Institute, in this report, American Indian infants are those who were identified as American Indian, alone or in combination with one or more additional races, on the infant's death certificate. This definition is inclusive of ancestry and Tribal affiliation identified on the death record. Similarly, American Indian live births are births to childbearing and/or non-childbearing parents who were identified as American Indian, alone or

in combination with one or more additional races, on the infant's birth abstract. This definition is also inclusive of ancestry.

From 2016 to 2021, Black Michigan infants were 4.6 times more likely to die due to sleep-related causes than white infants (3.5 sleep-related infant deaths per 1,000 live births for Black infants compared to 0.8 sleep-related infant deaths per 1,000 live births for white infants). Compared to white infants, American Indian infants were 3.5 times more likely to die due to sleep-related causes (2.7 sleep-related infant deaths per 1,000 live births for American Indian infants compared to 0.8 sleep-related infant deaths per 1,000 live births for white infants).

Table 08. Infant's Ethnicity (2010-2021)

Ethnicity	Sleep-Related Infant Deaths		All Live Births	
	Number	%	Number	%
Hispanic or Latinx	129	7.4	91,353	6.8
Not Hispanic or Latinx	1,613	91.9	1,239,406	92.8
Unknown	13	0.7	4,290	0.3

Summary:

The rate of death from sleep-related causes for Hispanic/Latinx infants was not different from the rate of death from sleep-related causes for infants who are not Hispanic/Latinx.

Table 09. Infant's Ethnicity (2010-2015)

Ethnicity	Sleep-Related Infant Deaths		All Live Births	
	Number	%	Number	%
Hispanic or Latinx	55	6.3	46,758	6.8
Not Hispanic or Latinx	805	92.4	633,827	92.8
Unknown	11	1.3	2,402	0.4

Summary:

The rate of death from sleep-related causes for Hispanic/Latinx infants was not different from the rate of death from sleep-related causes for infants who are not Hispanic/Latinx.

Table 10. Infant's Ethnicity (2016-2021)

Ethnicity	Sleep-Related Infant Deaths		All Live Births	
	Number	%	Number	%
Hispanic or Latinx	74	8.4	44,595	6.8
Not Hispanic or Latinx	808	91.4	605,579	92.9
Unknown	2	0.2	1,888	0.3

Summary:

The rate of death from sleep-related causes for Hispanic/Latinx infants was not different from the rate of death from sleep-related causes for infants who are not Hispanic/Latinx.

Table 11. Infant's Age at Time of Death (2010-2021)

Infant's Age	Number	%
Less than 1 Month	203	11.6
1 Month	354	20.2
2 Months	323	18.4
3 Months	242	13.8
4 Months	185	10.5
5 Months	147	8.4
6 Months	98	5.6
7 Months	74	4.2
8 Months	47	2.7
9 Months	31	1.8
10 Months	30	1.7
11 Months	21	1.2

Summary:

Three out of four (74.5%) sleep-related infant deaths occurred before the infant was five months old.

Table 12. Infant's Age at Time of Death (2010-2015)

Infant's Age	Number	%
Less than 1 Month	88	10.1
1 Month	171	19.6
2 Months	160	18.4
3 Months	125	14.4
4 Months	99	11.4
5 Months	82	9.4
6 Months	48	5.5
7 Months	41	4.7
8 Months	20	2.3
9 Months	15	1.7
10 Months	14	1.6
11 Months	8	0.9

Summary:

Three out of four (73.8%) sleep-related infant deaths occurred before the infant was five months old.

Table 13. Infant's Age at Time of Death (2016-2021)

Infant's Age	Number	%
Less than 1 Month	115	13.0
1 Month	183	20.7
2 Months	163	18.4
3 Months	117	13.2
4 Months	86	9.7
5 Months	65	7.4
6 Months	50	5.7
7 Months	33	3.7
8 Months	27	3.1
9 Months	16	1.8
10 Months	16	1.8
11 Months	13	1.5

Summary:

Three out of four (75.1%) sleep-related infant deaths occurred before the infant was five months old.

Table 14. Infant's Gestational Age (2010-2021)

Gestational Age	Sleep-Related Infant Deaths		All Live Births	
	Number	%	Number	%
Less Than 37 Weeks	384	21.9	134,547	10.1
37 Weeks or More	1,355	77.2	1,199,490	89.8
Unknown	16	0.9	1,012	0.1

Summary:

From 2010 to 2021, 10.1% of live births in Michigan were born before 37 weeks gestation. During that same time period, 21.9% of infants who died due to sleep-related causes were born before 37 weeks gestation. Of the infants born prior to 37 weeks gestation, the rate of sleep-related death was 2.9 per 1,000 live births. Of the infants born at 37 weeks or greater gestation, the rate of sleep-related death was 1.1 per 1,000 live births.

Infants who are born prior to 37 weeks gestation are at an increased risk of dying due to sleep-related causes. In Michigan, infants born prior to 37 weeks gestation were 2.5 times more likely to die in a sleep environment than infants who were born at or greater than 37 weeks gestation.

Table 15. Infant's Gestational Age (2010-2015)

Gestational Age	Sleep-Related Infant Deaths		All Live Births	
	Number	%	Number	%
Less Than 37 Weeks	200	23.0	67,761	9.9
37 Weeks or More	663	76.1	614,661	90.0
Unknown	8	0.9	565	0.1

Summary:

From 2010 to 2015, 9.9% of live births in Michigan were born before 37 weeks gestation. During that same time period, 23% of infants who died due to sleep-related causes were born before 37 weeks gestation. Of the infants born prior to 37 weeks gestation, the rate of sleep-related death was 3.0 per 1,000 live births. Of the infants born at 37 weeks or greater gestation, the rate of sleep-related death was 1.1 per 1,000 live births.

Infants who are born prior to 37 weeks gestation are at an increased risk of dying due to sleep-related causes. From 2010 to 2015, infants born prior to 37 weeks gestation were 2.7 times more likely to die in a sleep environment than infants who were born at or greater than 37 weeks gestation.

Table 16. Infant's Gestational Age (2016-2021)

Gestational Age	Sleep-Related Infant Deaths		All Live Births	
	Number	%	Number	%
Less Than 37 Weeks	184	20.8	66,786	10.2
37 Weeks or More	692	78.3	584,829	89.7
Unknown	8	0.9	447	0.1

Summary:

From 2016 to 2021, 10.2% of live births in Michigan were born before 37 weeks gestation. During that same time period, 20.8% of infants who died due to sleep-related causes were born before 37 weeks gestation. Of the infants born prior to 37 weeks gestation, the rate of sleep-related death was 2.8 per 1,000 live births. Of the infants born at 37 weeks or greater gestation, the rate of sleep-related death was 1.2 per 1,000 live births.

Infants who are born prior to 37 weeks gestation are at an increased risk of dying due to sleep-related causes. From 2016 to 2021, infants born prior to 37 weeks gestation were 2.3 times more likely to die in a sleep environment than infants who were born at or greater than 37 weeks gestation.

Table 17. Infant's Birthweight (2010-2021)

Birthweight	Sleep-Related Infant Deaths		All Live Births	
	Number	%	Number	%
Less Than 2,500 Grams	387	22.1	114,819	8.6
2,500 Grams or More	1,345	76.6	1,219,731	91.4
Unknown	23	1.3	499	<0.1

Summary:

From 2010 to 2020, babies born weighing less than 2,500 grams accounted for 8.6% of all live births in Michigan. During that same time period, 22.1% of infants who died due to sleep-related causes were born weighing less than 2,500 grams. Of the infants born weighing less than 2,500 grams, the rate of sleep-related death was 3.4 per 1,000 live births. Of the infants born weighing 2,500 grams or more, the rate of sleep-related death was 1.1 per 1,000 live births.

Infants who are born weighing less than 2,500 grams are at an increased risk of dying due to sleep-related causes. In Michigan, infants born weighing less than 2,500 grams were 3.1 times more likely to die in a sleep environment than infants who were born weighing greater than or equal to 2,500 grams.

Table 18. Infant's Birthweight (2010-2015)

Birthweight	Sleep-Related Infant Deaths		All Live Births	
	Number	%	Number	%
Less Than 2,500 Grams	201	23.1	57,396	8.4
2,500 Grams or More	656	75.3	625,308	91.6
Unknown	14	1.6	283	<0.1

Summary:

From 2010 to 2015, babies born weighing less than 2,500 grams accounted for 8.4% of all live births in Michigan. During that same time period, 23.1% of infants who died due to sleep-related causes were born weighing less than 2,500 grams. Of the infants born weighing less than 2,500 grams, the rate of sleep-related death was 3.5 per 1,000 live births. Of the infants born weighing 2,500 grams or more, the rate of sleep-related death was 1.0 per 1,000 live births.

Infants who are born weighing less than 2,500 grams are at an increased risk of dying due to sleep-related causes. From 2010 to 2015, infants born weighing less than 2,500 grams were 3.3 times more likely to die in a sleep environment than infants who were born weighing greater than or equal to 2,500 grams.

Table 19. Infant's Birthweight (2016-2021)

Birthweight	Sleep-Related Infant Deaths		All Live Births	
	Number	%	Number	%
Less Than 2,500 Grams	186	21.0	57,423	8.8
2,500 Grams or More	689	77.9	594,423	91.2
Unknown	9	1.0	216	<0.1

Summary:

From 2016 to 2021, babies born weighing less than 2,500 grams accounted for 8.8% of all live births in Michigan. During that same time period, 21.0% of infants who died due to sleep-related causes were born weighing less than 2,500 grams. Of the infants born weighing less than 2,500 grams, the rate of sleep-related death was 3.2 per 1,000 live births. Of the infants born weighing 2,500 grams or more, the rate of sleep-related death was 1.2 per 1,000 live births.

Infants who are born weighing less than 2,500 grams are at an increased risk of dying due to sleep-related causes. From 2016 to 2021, infants born weighing less than 2,500 grams were 2.8 times more likely to die in a sleep environment than infants who were born weighing greater than or equal to 2,500 grams.

Table 20. Infant's Insurance Type (2010-2021)

Notes: + Other insurance type includes multiple types of insurance coverage as well as other types of insurance, such as TRICARE or the Indian Health Service.
 ~ Live births to Michigan residents by source of payment for the birth.

Insurance Type	Sleep-Related Infant Deaths		All Live Births~	
	Number	%	Number	%
Private Insurance	303	17.3	727,816	54.5
Medicaid or State Plan	1,342	76.5	569,701	42.7
Other Insurance Type ⁺	23	1.3	10,594	0.8
No Insurance or Self-Pay	9	0.5	21,234	1.6
Unknown	78	4.4	5,704	0.4

Summary:

More than 3 out of 4 (76.5%) Michigan infants who died due to sleep-related causes from 2010 to 2021 had publicly-funded healthcare coverage. During this same time period, 42.7% of all live births were paid for with publicly-funded healthcare coverage.

Table 21. Infant's Insurance Type (2010-2015)

Notes: + Other insurance type includes multiple types of insurance coverage as well as other types of insurance, such as TRICARE or the Indian Health Service.
 ~ Live births to Michigan residents by source of payment for the birth.

Insurance Type	Sleep-Related Infant Deaths		All Live Births~	
	Number	%	Number	%
Private Insurance	112	12.9	362,661	53.1
Medicaid or State Plan	680	78.1	301,212	44.1
Other Insurance Type ⁺	12	1.4	5,793	0.8
No Insurance or Self-Pay	3	0.3	9,796	1.4
Unknown	64	7.3	3,525	0.5

Summary:

More than 3 out of 4 (78.1%) Michigan infants who died due to sleep-related causes from 2010 to 2015 had publicly-funded healthcare coverage. During this same time period, 44.1% of all live births were paid for with publicly-funded healthcare coverage.

Table 22. Infant's Insurance Type (2016-2021)

Notes: + Other insurance type includes multiple types of insurance coverage as well as other types of insurance, such as TRICARE or the Indian Health Service.

~ Live births to Michigan residents by source of payment for the birth.

Insurance Type	Sleep-Related Infant Deaths		All Live Births~	
	Number	%	Number	%
Private Insurance	191	21.6	365,155	56.0
Medicaid or State Plan	662	74.9	268,489	41.2
Other Insurance Type+	11	1.2	4,801	0.7
No Insurance or Self-Pay	6	0.7	11,438	1.8
Unknown	14	1.6	2,179	0.3

Summary:

Approximately 3 out of 4 (74.9%) Michigan infants who died due to sleep-related causes from 2016 to 2021 had publicly-funded healthcare coverage. During this same time period, 41.2% of all live births were paid for with publicly-funded healthcare coverage.

Table 23. NICU Admission (2010-2021)

NICU Admission	Sleep-Related Infant Deaths		All Live Births	
	Number	%	Number	%
Yes	327	18.6	100,029	7.5
No	1,372	78.2	1,229,085	92.1
Unknown	56	3.2	5,935	0.4

Summary:

From 2010 to 2021, 7.5% of all live births in Michigan had been admitted to the NICU. During that same time period, 18.6% of infants who died due to sleep-related causes had been admitted to the NICU. Of the infants who had been admitted to the NICU, the rate of sleep-related death was 3.3 per 1,000 live births. Of the infants who had not been admitted to the NICU, the rate of sleep-related death was 1.1 per 1,000 live births.

Infants who had been admitted to the NICU are at an increased risk of dying due to sleep-related causes. In Michigan, infants who had been admitted to the NICU were 2.9 times more likely to die in a sleep environment than infants who were not admitted to the NICU.

Table 24. NICU Admission (2010-2015)

NICU Admission	Sleep-Related Infant Deaths		All Live Births	
	Number	%	Number	%
Yes	137	15.7	48,458	7.1
No	690	79.2	629,393	92.2
Unknown	44	5.1	5,136	0.8

Summary:

From 2010 to 2015, 7.1% of all live births in Michigan had been admitted to the NICU. During that same time period, 15.7% of infants who died due to sleep-related causes had been admitted to the NICU. Of the infants who had been admitted to the NICU, the rate of sleep-related death was 2.8 per 1,000 live births. Of the infants who had not been admitted to the NICU, the rate of sleep-related death was 1.1 per 1,000 live births.

Infants who had been admitted to the NICU are at an increased risk of dying due to sleep-related causes. From 2010 to 2015, infants who had been admitted to the NICU were 2.6 times more likely to die in a sleep environment than infants who were not admitted to the NICU.

Table 25. NICU Admission (2016-2021)

NICU Admission	Sleep-Related Infant Deaths		All Live Births	
	Number	%	Number	%
Yes	190	21.5	51,571	7.9
No	682	77.1	599,692	92.0
Unknown	12	1.4	799	0.1

Summary:

From 2016 to 2021, 7.9% of all live births in Michigan had been admitted to the NICU. During that same time period, 21.5% of infants who died due to sleep-related causes had been admitted to the NICU. Of the infants who had been admitted to the NICU, the rate of sleep-related death was 3.7 per 1,000 live births. Of the infants who had not been admitted to the NICU, the rate of sleep-related death was 1.1 per 1,000 live births.

Infants who had been admitted to the NICU are at an increased risk of dying due to sleep-related causes. From 2016 to 2021, infants who had been admitted to the NICU were 3.2 times more likely to die in a sleep environment than infants who were not admitted to the NICU.

Table 26. Childbearing Parent Smoked During Pregnancy (2010-2021)

Childbearing Parent Smoked During Pregnancy	Sleep-Related Infant Deaths		All Live Births	
	Number	%	Number	%
Yes	776	44.2	219,618	16.5
No	924	52.6	1,102,701	82.6
Unknown	55	3.1	12,730	1.0

Summary:

From 2010 to 2021, 16.5% of all live births in Michigan were born to a childbearing parent who smoked during pregnancy. During that same time period, 44.2% of infants who died due to sleep-related causes were born to a childbearing parent who smoked during pregnancy. Of the infants born to a childbearing parent who smoked during pregnancy, the rate of sleep-related death was 3.5 per 1,000 live births. Of the infants born to a childbearing parent who did not smoke during pregnancy, the rate of sleep-related death was 0.8 per 1,000 live births.

Infants who are born to a childbearing parent who smoked during pregnancy are at an increased risk of dying due to sleep-related causes. In Michigan, infants born to a childbearing parent who smoked during pregnancy were 4.2 times more likely to die in a sleep environment than infants who were born to a childbearing parent who did not smoke during pregnancy.

Table 27. Childbearing Parent Smoked During Pregnancy (2010-2015)

Childbearing Parent Smoked During Pregnancy	Sleep-Related Infant Deaths		All Live Births	
	Number	%	Number	%
Yes	447	51.3	127,820	18.7
No	406	46.6	548,270	80.3
Unknown	18	2.1	6,897	1.0

Summary:

From 2010 to 2015, 18.7% of all live births in Michigan were born to a childbearing parent who smoked during pregnancy. During that same time period, 51.3% of infants who died due to sleep-related causes were born to a childbearing parent who smoked during pregnancy. Of the infants born to a childbearing parent who smoked during pregnancy, the rate of sleep-related death was 3.5 per 1,000 live births. Of the infants born to a childbearing parent who did not smoke during pregnancy, the rate of sleep-related death was 0.7 per 1,000 live births.

Infants who are born to a childbearing parent who smoked during pregnancy are at an increased risk of dying due to sleep-related causes. From 2010 to 2015, infants born to a childbearing parent who smoked during pregnancy were 4.7 times more likely to die in a sleep environment than infants who were born to a childbearing parent who did not smoke during pregnancy.

Table 28. Childbearing Parent Smoked During Pregnancy (2016-2021)

Childbearing Parent Smoked During Pregnancy	Sleep-Related Infant Deaths		All Live Births	
	Number	%	Number	%
Yes	329	37.2	91,798	14.1
No	518	58.6	554,431	85.0
Unknown	37	4.2	5,833	0.9

Summary:

From 2016 to 2021, 14.1% of all live births in Michigan were born to a childbearing parent who smoked during pregnancy. During that same time period, 37.2% of infants who died due to sleep-related causes were born to a childbearing parent who smoked during pregnancy. Of the infants born to a childbearing parent who smoked during pregnancy, the rate of sleep-related death was 3.6 per 1,000 live births. Of the infants born to a childbearing parent who did not smoke during pregnancy, the rate of sleep-related death was 0.9 per 1,000 live births.

Infants who are born to a childbearing parent who smoked during pregnancy are at an increased risk of dying due to sleep-related causes. From 2016 to 2021, infants born to a childbearing parent who smoked during pregnancy were 3.8 times more likely to die in a sleep environment than infants who were born to a childbearing parent who did not smoke during pregnancy.

Table 29. Infant's Childbearing Parent Planned to or Initiated Breastfeeding (2010-2021)

Childbearing Parent Planned to or Initiated Breastfeeding	Sleep-Related Infant Deaths		All Live Births	
	Number	%	Number	%
Yes	987	56.2	1,063,862	79.7
No	731	41.7	252,895	18.9
Unknown	37	2.1	18,292	1.4

Summary:

From 2010 to 2021, 79.7% of all live births in Michigan were born to a childbearing parent who planned to or initiated breastfeeding. During that same time period, only 56.2% of infants who died due to sleep-related causes were born to a childbearing parent who planned to or initiated breastfeeding. Of the infants born to a childbearing parent who planned to or initiated breastfeeding, the rate of sleep-related death was 0.9 per 1,000 live births. Of the infants born to a childbearing parent who did not initiate breastfeeding, the rate of sleep-related death was 2.9 per 1,000 live births.

Infants who are born to a childbearing parent who did not initiate breastfeeding are at an increased risk of dying due to sleep-related causes. In Michigan, infants born to a childbearing parent who did not initiate breastfeeding were 3.1 times more likely to die in a sleep environment than infants who were born to a childbearing parent who planned to or initiated breastfeeding. The protective effect of breastfeeding increases with exclusivity. However, any breastfeeding has been shown to be more protective against deaths from sleep-related causes than no breastfeeding.

Table 30. Infant's Childbearing Parent Planned to or Initiated Breastfeeding (2010-2015)

Childbearing Parent Planned to or Initiated Breastfeeding	Sleep-Related Infant Deaths		All Live Births	
	Number	%	Number	%
Yes	417	47.9	523,793	76.7
No	440	50.5	149,240	21.9
Unknown	14	1.6	9,954	1.5

Summary:

From 2010 to 2015, 76.7% of all live births in Michigan were born to a childbearing parent who planned to or initiated breastfeeding. During that same time period, only 47.9% of infants who died due to sleep-related causes were born to a childbearing parent who planned to or initiated breastfeeding. Of the infants born to a childbearing parent who planned to or initiated breastfeeding, the rate of sleep-related death was 0.8 per 1,000 live births. Of the infants born to a childbearing parent who did not initiate breastfeeding, the rate of sleep-related death was 2.9 per 1,000 live births.

Infants who are born to a childbearing parent who did not initiate breastfeeding are at an increased risk of dying due to sleep-related causes. From 2010 to 2015, infants born to a childbearing parent who did not initiate breastfeeding were 3.7 times more likely to die in a sleep environment than infants who were born to a childbearing parent who planned to or initiated breastfeeding. The protective effect of breastfeeding increases with exclusivity. However, any breastfeeding has been shown to be more protective against deaths from sleep-related causes than no breastfeeding.

Table 31. Infant's Childbearing Parent Planned to or Initiated Breastfeeding (2016-2021)

Childbearing Parent Planned to or Initiated Breastfeeding	Sleep-Related Infant Deaths		All Live Births	
	Number	%	Number	%
Yes	570	64.5	540,069	82.8
No	291	32.9	103,655	15.9
Unknown	23	2.6	8,338	1.3

Summary:

From 2016 to 2021, 82.8% of all live births in Michigan were born to a childbearing parent who planned to or initiated breastfeeding. During that same time period, only 64.5% of infants who died due to sleep-related causes were born to a childbearing parent who planned to or initiated breastfeeding. Of the infants born to a childbearing parent who planned to or initiated breastfeeding, the rate of sleep-related death was 1.1 per 1,000 live births. Of the infants born to a childbearing parent who did not initiate breastfeeding, the rate of sleep-related death was 2.8 per 1,000 live births.

Infants who are born to a childbearing parent who did not initiate breastfeeding are at an increased risk of dying due to sleep-related causes. From 2016 to 2021, infants born to a childbearing parent who did not initiate breastfeeding were 2.7 times more likely to die in a sleep environment than infants who were born to a childbearing parent who planned to or initiated breastfeeding. The protective effect of breastfeeding increases with exclusivity. However, any breastfeeding has been shown to be more protective against deaths from sleep-related causes than no breastfeeding.

Table 32. Incident Sleep Place (2010-2021)

Notes: + Examples of other unsafe places include child/toddler beds and couch cushions that were used as a sleep place, but were not on the couch.

Incident Sleep Place	Number	%
Crib/Bassinet (including portable cribs)	390	22.2
Adult Bed (including air mattresses, futons, and waterbeds)	876	49.9
Couch/Chair	248	14.1
Rocking Inclined Sleeper/Swing/Bouncy Chair	49	2.8
Playpen (not a portable crib)	22	1.3
Floor	41	2.3
Car Seat	51	2.9
Other Unsafe Place ⁺	24	1.4
Unknown	54	3.1

Summary:

About half (49.9%) of the infants who died due to sleep-related causes were found unresponsive in an adult bed. In total, three in four (74.7%) of the infants were found in an unsafe sleep place. Only 22.2% of infants who died due to sleep-related causes were found in a crib or bassinet.

Table 33. Incident Sleep Place (2010-2015)

Notes: + Examples of other unsafe places include child/toddler beds and couch cushions that were used as a sleep place, but were not on the couch.

Incident Sleep Place	Number	%
Crib/Bassinet (including portable cribs)	192	22.0
Adult Bed (including air mattresses, futons, and waterbeds)	423	48.6
Couch/Chair	130	14.9
Rocking Inclined Sleeper/Swing/Bouncy Chair	14	1.6
Playpen (not a portable crib)	17	2.0
Floor	22	2.5
Car Seat	25	2.9
Other Unsafe Place ⁺	15	1.7
Unknown	33	3.8

Summary:

About half (48.6%) of the infants who died due to sleep-related causes were found unresponsive in an adult bed. In total, three in four (74.2%) of the infants were found in an unsafe sleep place. Only 22.0% of infants who died due to sleep-related causes were found in a crib or bassinet.

Table 34. Incident Sleep Place (2016-2021)

Notes: + Examples of other unsafe places include child/toddler beds and couch cushions that were used as a sleep place, but were not on the couch.

Incident Sleep Place	Number	%
Crib/Bassinet (including portable cribs)	198	22.4
Adult Bed (including air mattresses, futons, and waterbeds)	453	51.2
Couch/Chair	118	13.3
Rocking Inclined Sleeper/Swing/Bouncy Chair	35	4.0
Playpen (not a portable crib)	5	0.6
Floor	19	2.1
Car Seat	26	2.9
Other Unsafe Place ⁺	9	1.0
Unknown	21	2.4

Summary:

About half (51.2%) of the infants who died due to sleep-related causes were found unresponsive in an adult bed. In total, three in four (75.2%) of the infants were found in an unsafe sleep place. Only 22.4% of infants who died due to sleep-related causes were found in a crib or bassinet.

Table 35. Position Infant Was Placed to Sleep (2010-2021)

Sleep Position	Number	%
On Back	919	52.4
On Stomach	333	19.0
On Side	185	10.5
Unknown	318	18.1

Summary:

About half (52.4%) of the infants who died due to sleep-related causes were placed to sleep on their back. The position in which the infant was placed to sleep was not known for 18.1% of infants.

Table 36. Position Infant Was Placed to Sleep (2010-2015)

Sleep Position	Number	%
On Back	434	49.8
On Stomach	203	23.3
On Side	90	10.3
Unknown	144	16.5

Summary:

About half (49.8%) of the infants who died due to sleep-related causes were placed to sleep on their back. The position in which the infant was placed to sleep was not known for 16.5% of infants.

Table 37. Position Infant Was Placed to Sleep (2016-2021)

Sleep Position	Number	%
On Back	485	54.9
On Stomach	130	14.7
On Side	95	10.7
Unknown	174	19.7

Summary:

About half (54.9%) of the infants who died due to sleep-related causes were placed to sleep on their back. The position in which the infant was placed to sleep was not known for 19.7% of infants.

Table 38. Sleep Surface Sharing with People and/or Animals (2010-2021)

Infant Shared Sleep Surface with People and/or Animals	Number	%
Yes	1,009	57.5
No	656	37.4
Unknown	90	5.1

Summary:

Almost six out of ten (57.5%) infants who died due to sleep-related causes shared a sleep surface with other people and/or animals at the time of the incident. These numbers do not account for the presence of other objects, such as pillows or blankets, in the sleep environment.

Table 39. Sleep Surface Sharing with People and/or Animals (2010-2015)

Infant Shared Sleep Surface with People and/or Animals	Number	%
Yes	500	57.4
No	318	36.5
Unknown	53	6.1

Summary:

Almost six out of ten (57.4%) infants who died due to sleep-related causes shared a sleep surface with other people and/or animals at the time of the incident. These numbers do not account for the presence of other objects, such as pillows or blankets, in the sleep environment.

Table 40. Sleep Surface Sharing with People and/or Animals (2016-2021)

Infant Shared Sleep Surface with People and/or Animals	Number	%
Yes	509	57.6
No	338	38.2
Unknown	37	4.2

Summary:

Almost six out of ten (57.6%) infants who died due to sleep-related causes shared a sleep surface with other people and/or animals at the time of the incident. These numbers do not account for the presence of other objects, such as pillows or blankets, in the sleep environment.

Table 41. Objects in the Sleep Environment [Excluding People or Animals] (2010-2021)

Number of Objects Present	Number	%
One	528	43.3
Two	395	32.4
Three	205	16.8
More Than Three	91	7.5
Total	1,219	100

Summary:

An object was documented to be present in the sleep environment in 1,219 of the 1,755 sleep-related infant deaths (69.5%) that occurred from 2010 to 2021.

"Object" excludes adults and/or other children as well as animals. "Object" also excludes the incident sleep place itself (e.g., a mattress or couch cushions) as well as other items that are sometimes listed as an object present in the sleep environment (e.g., the wall or crib railing) even if these items likely contributed to the infant's death (e.g., being found wedged between the wall and a mattress). Examples of included objects are comforters, quilts, thin blankets, flat sheets, pillows, nursing or U-shaped pillows, sleep positioners, bumper pads, clothing, bottles, and toys or stuffed animals.

Table 42. Objects in the Sleep Environment [Excluding People or Animals] (2010-2015)

Number of Objects Present	Number	%
One	274	47.9
Two	171	29.9
Three	101	17.7
More Than Three	26	4.5
Total	572	100

Summary:

An object was documented to be present in the sleep environment in 572 of the 871 sleep-related infant deaths (65.7%) that occurred from 2010 to 2015.

"Object" excludes adults and/or other children as well as animals. "Object" also excludes the incident sleep place itself (e.g., a mattress or couch cushions) as well as other items that are sometimes listed as an object present in the sleep environment (e.g., the wall or crib railing) even if these items likely contributed to the infant's death (e.g., being found wedged between the wall and a mattress). Examples of included objects are comforters, quilts, thin blankets, flat sheets, pillows, nursing or U-shaped pillows, sleep positioners, bumper pads, clothing, bottles, and toys or stuffed animals.

Table 43. Objects in the Sleep Environment [Excluding People or Animals] (2016-2021)

Number of Objects Present	Number	%
One	254	39.3
Two	224	34.6
Three	104	16.1
More Than Three	65	10.0
Total	647	100

Summary:

An object was documented to be present in the sleep environment in 647 of the 884 sleep-related infant deaths (73.2%) that occurred from 2016 to 2021.

"Object" excludes adults and/or other children as well as animals. "Object" also excludes the incident sleep place itself (e.g., a mattress or couch cushions) as well as other items that are sometimes listed as an object present in the sleep environment (e.g., the wall or crib railing) even if these items likely contributed to the infant's death (e.g., being found wedged between the wall and a mattress). Examples of included objects are comforters, quilts, thin blankets, flat sheets, pillows, nursing or U-shaped pillows, sleep positioners, bumper pads, clothing, bottles, and toys or stuffed animals.

Table 44. Incident Sleep Place for Infants Admitted to the NICU (2010-2021)

Notes: + Examples of other unsafe places include playpens (not portable cribs).

Incident Sleep Place	Number	%
Crib/Bassinet (including portable cribs)	81	24.8
Adult Bed (including air mattresses, futons, and waterbeds)	146	44.6
Couch/Chair	51	15.6
Rocking Inclined Sleeper/Swing/Bouncy Chair	10	3.1
Floor	6	1.8
Car Seat	12	3.7
Other Unsafe Place ⁺	5	1.5
Unknown	16	4.9

Summary:

About half (44.6%) of the infants who died due to sleep-related causes who had been admitted to the NICU were found unresponsive in an adult bed. In total, seven in ten (70.3%) infants who had been admitted to the NICU were found in an unsafe sleep place. Only 24.8% of infants who died due to sleep-related causes who had been admitted to the NICU were found in a crib or bassinet.

Table 45. Position Infant Was Placed to Sleep for Infants Admitted to the NICU (2010-2021)

Incident Sleep Place	Number	%
On Back	185	56.6
On Stomach	52	15.9
On Side	30	9.2
Unknown	60	18.3

Summary:

More than half (56.6%) of the infants who died due to sleep-related causes who had been admitted to the NICU were placed to sleep on their back. The position in which the infant was placed to sleep was not known for 18.3% of infants who died due to sleep-related causes who had been admitted to the NICU.

Table 46. Objects in the Sleep Environment [Excluding People or Animals] for Infants Admitted to the NICU (2010-2021)

Number of Objects Present	Number	%
One	102	46.8
Two	69	31.7
Three	25	11.5
More Than Three	22	10.1
Total	218	100

Summary:

An object was documented to be present in the sleep environment in 218 of the 327 sleep-related infant deaths among infants who had been admitted to the NICU (66.7%).

"Object" excludes adults and/or other children as well as animals. "Object" also excludes the incident sleep place itself (e.g., a mattress or couch cushions) as well as other items that are sometimes listed as an object present in the sleep environment (e.g., the wall or crib railing) even if these items likely contributed to the infant's death (e.g., being found wedged between the wall and a mattress). Examples of included objects are comforters, quilts, thin blankets, flat sheets, pillows, nursing or U-shaped pillows, sleep positioners, bumper pads, clothing, bottles, and toys or stuffed animals.