

**MICHIGAN INFANT DEATH STATISTICS**  
January 1 through December 31, 2020

**LANSING, MICHIGAN**  
**JANUARY 2022**

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## Acknowledgments

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# SUMMARY OF 2020 INFANT DEATH STATISTICS

January 2022 Release

**INFANT MORTALITY:** For every 1,000 Michigan live births, more than six infants die before reaching their first birthday. In 2020, 706 infants under the age of one year died, resulting in an infant mortality rate of 6.8 per 1,000 live births. Michigan experienced a significant decline in infant mortality during the early 1990s; but during the 2000s the infant mortality rates remained around 7.9 deaths per 1,000 births. The 2020 rate is about the same mortality rates as the average of 6.8 per 1,000 since 2010, though down from the 7.9 average in the previous decade. The total number of Michigan infants who died between 2010-2020 was 8,324. (See Table 1.)

The perinatal death rate has not significantly changed in years; the rate has been approximately 9 fetal or hebdomadal deaths per 1,000 live births since around 2011. The perinatal death rate was 9.5 in 2018 and 9.4 in 2019 and 9.3 in 2020. (See Table 10.)

Historically, the infant death rate has declined over time. In 1900, the infant death rate was 157.1 deaths per 1,000 live births and in 1970, the infant death rate was 20.3. By 1990, the rate had declined to 10.7 and then again to 7.1 deaths per 1,000 live births in 2010. Since 1970, these declines were primarily due to advances in neonatal medicine, artificial lung surfactants, folic acid supplementation, and numerous public health interventions. After 2010, the infant death rate remain around 6.8; the rate is so consistent that time series models predict the infant death rate around 6.8 per 1,000 live births till 2032. (See Figure 1.)

Both the white and black infant mortality rates remained about the same in recent years, with a persistant racial disparity in which African American mothers experienced nearly three times the risk of an infant death compared to white mothers. In 2005, the white infant death rate was 5.5, and was comparable to the previous ten-year 1996-2005 average of 6.0 deaths per 1,000 white births. The black infant death rate was 17.9 in 2005, and was also comparable to the previous decade average of 17.6 deaths per 1,000 black births. In 2020 the white infant mortality rate was 5.0 per 1,000 live births while the black rate was 14.0 per 1,000 live births. Between 2007-2020 the white infant mortality rate has declined slightly, while the black rate has declined by 25% due to a reduction of infant deaths since 2005. However, over the last ten years, there was only a modest decline in the white death rate, and the black rate has not significantly changed at all. (See Table 2.)

Between 2000-2013, the Native American infant death rate remained on average 11 deaths per 1,000 live births and between 2017-2019, the rate was 11.2 deaths per 1,000 births. However, in 2018-2020, the Native American rate dropped to 8.2 infant deaths per 1,000, the lowest rate between 1999 to 2020. (See Table 8.)

The Michigan infant mortality rate continues to be higher than the last reported national rate. The 2020 infant death rate for the United States is 5.4. (See Table 6.)

**LIVE BIRTHS:** In 2020, the number of live births decreased to 104,149, from the 2019 live birth count of 107,917. Though some decline in births in 2020 can be attributed to the coronavirus pandemic, the 2012-2020 numbers are historic lows and are part of a trend toward decreasing numbers of births that begun around 1990. Nationally, there were 3,613,647 births in the U.S. in 2020, a decline of 16.2% from the record number reported for 2007 and a 3.6% decrease from last year.

**CAUSES OF DEATH:** In 2020, 34% of infants died due to conditions related to prematurity and 17.1% died due to birth defects. In addition, 10.2% of infants deaths died due to accidents and most of these accidents were due to accidental suffocation in bed. (See Table 14-A.)

Respiratory Distress Syndrome (RDS) declined from about 15 per 10,000 live births in the early eighties to about 5 per 10,000 by the late nineties. Due to surfactant and other therapies, the number of RDS deaths has continued to decline to less than 2 per 10,000 live births in 2018-2020. In the past few years, the SIDS death rate has remained above 3 per 10,000 live births and increase to almost 4 deaths per 10,000. (See Table 13.)

**CHARACTERISTICS OF NEWBORN:** Certain newborns are at higher risk of dying. In 2020, infants born with very low birth weight (less than 1,500 grams) experienced an infant death rate of 235.9 per 1,000 live births compared to a rate of 2.5 for those infants weighing 2,500 grams or more. Multiple birth infants had an infant mortality rate of 29.2 per 1,000 live births compared to the rate of 5.9 for single birth infants. The excess male infant mortality normally reported in other years was not present in 2020, with the infant mortality for male infants at 6. per 1,000 male live births and females at 6.6 per 1,000 female live births. (See Table 11.)

**CHARACTERISTICS OF MOTHER:** Infant death rates were the lowest for mothers aged 30-39 years old and highest for mothers aged under 20 years old. Unmarried mothers had infant mortality rates over twice those of married mothers. Women receiving inadequate prenatal care experienced infant mortality rates of 16.5 per 1,000 compared to an infant mortality rate of 2.9 per 1,000 for those women receiving adequate prenatal care. Mothers exposed to secondhand smoking while pregnant had an infant death rate of 9.4 per 1,000 live births compared to a rate of 6.1 for mothers who were not exposed to secondhand smoking during pregnancy. (See Table 11.)

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**ADMINISTRATIVE INFANT DEATH RECORDS:** In the 2018, two Detroit area funeral homes' licenses were revoked; this action delayed some reports of infant deaths. To adjust for delays, the Michigan Division for Vital Records and Health Statistics (DVRHS) substituted administrative death records for infants who could not be located in Michigan or out-of-state death files (1) and were flagged as deceased in the Michigan Inpatient database and (2) who were verified as deceased by contacting the hospital of the live birth. Administrative death records are infant death records created from hospital, birth and partial death data reported before the revokation. The Michigan death file contains 21 administrative records.

**COMMUNITY LEVEL DATA:** Infant mortality data are available for most communities in Michigan. On the Internet, go to Michigan's community health information site at [www.michigan.gov/healthstatistics](http://www.michigan.gov/healthstatistics). Data for local health department districts, counties and major cities and townships can be reached by choosing "Vital Statistics" and then "Infant Mortality" button. Those who do not have access to the Internet may request that community level data be mailed to them from the address below.

Questions regarding Infant Death Statistics should be addressed to:

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## **Residence Determined by Reported Residence and Geocoded Residence in the Michigan Death Certificate Registry**

Using a process called geocoding, the Division for Vital Records & Health Statistics (DVRHS) has assigned geographic coordinates to most death certificates reported between 2000 and 2020. While the primary purpose of geocoding mortality data is to map patterns of death and to conduct spatial epidemiology, such records can also be used to improve the accuracy of location-related data recorded on the certificate. In mortality datasets, the division has found that the MCD residence is miscoded in certain areas about 10-20% of the time. Often, the person reporting the residence confuses the township with an adjacent city or village. Such errors then alter the calculation of local area statistics; small errors in coding lead to large errors in rates calculated for MCDs with populations below 70,000.

Therefore, all mortality and natality statistics between 2000 and 2020 in division reports of infant deaths were updated and recalculated using the geocoded data. **Birth and death counts and rates are different from data reported prior to 2011.** Statistics for years before 2000 use the residence reported during the course of registering a vital event. When rates calculated from these data differ substantially from Michigan or county rates, one should study the events as part of a trend of geocoded statistics, and consider whether the data reflects jumps indicative of a longterm trend of residence-miscoding.

**Table 1**  
**Number of Infant Deaths**  
**Live Births and Infant Death Rates**  
**Michigan Residents, 1900 - 2020**

Year	Infant Deaths	Live Births	Infant Death Rate
1900	6,866	43,699	157.1 ±3.4
1910	7,998	64,109	124.8 ±2.6
1920	8,587	92,245	93.1 ±1.9
1930	6,213	98,882	62.8 ±1.5
1940	4,022	99,106	40.6 ±1.2
1950	4,214	160,055	26.3 ±0.8
1960	4,702	195,056	24.1 ±0.7
1970	3,492	171,667	20.3 ±0.7
1971	3,157	162,244	19.5 ±0.7
1972	2,801	146,854	19.1 ±0.7
1973	2,561	141,550	18.1 ±0.7
1974	2,387	137,414	17.4 ±0.7
1975	2,205	133,931	16.5 ±0.7
1976	1,978	131,378	15.1 ±0.7
1977	1,945	138,416	14.1 ±0.6
1978	1,931	138,802	13.9 ±0.6
1979	1,921	144,452	13.3 ±0.6
1980	1,851	145,162	12.8 ±0.6
1981	1,851	140,579	13.2 ±0.6
1982	1,672	137,950	12.1 ±0.6
1983	1,573	133,026	11.8 ±0.6
1984	1,595	135,782	11.7 ±0.6
1985	1,575	138,052	11.4 ±0.6
1986	1,565	137,626	11.4 ±0.6
1987	1,538	140,466	10.9 ±0.5
1988	1,542	139,635	11.0 ±0.5
1989	1,645	148,164	11.1 ±0.5
1990	1,638	153,080	10.7 ±0.5
1991	1,554	149,478	10.4 ±0.5
1992	1,460	143,827	10.2 ±0.5
1993	1,319	139,560	9.5 ±0.5

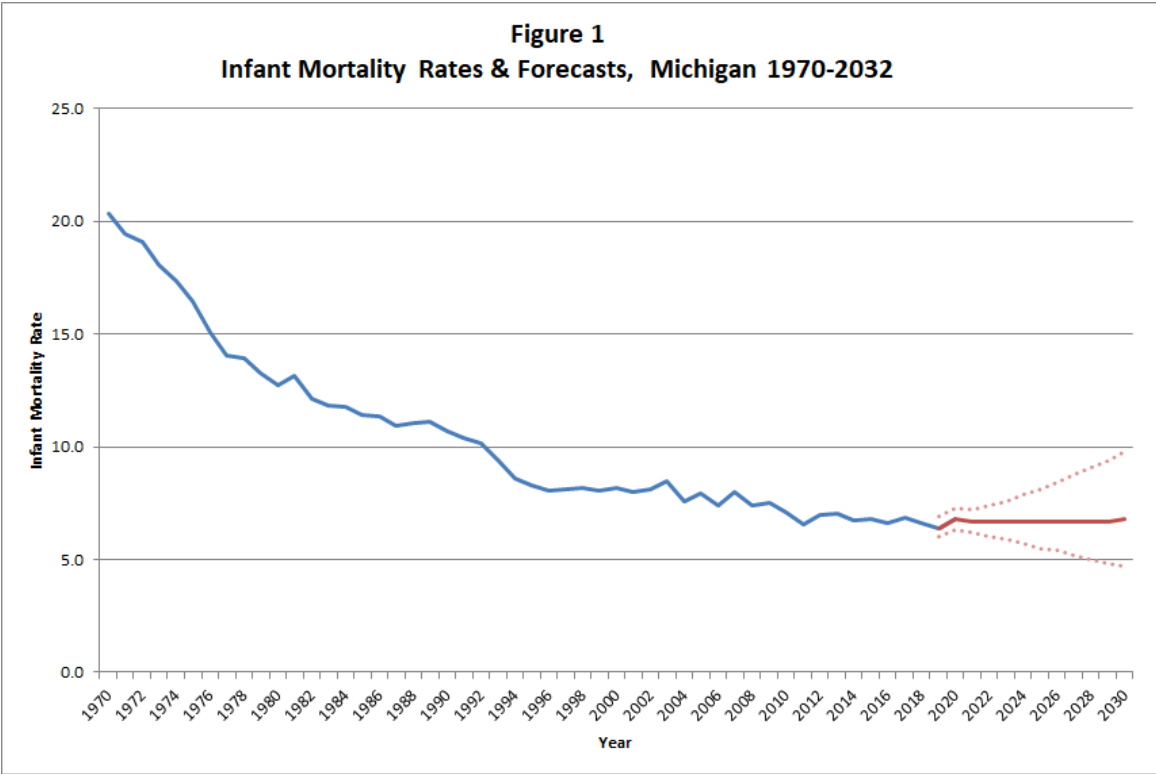


**Table 1**  
**Number of Infant Deaths**  
**Live Births and Infant Death Rates**  
**Michigan Resident 1900 – 2020**  
**(Continued)**

Year	Infant Deaths	Live Births	Infant Death Rate
1994	1,184	137,844	8.6 ±0.5
1995	1,110	134,169	8.3 ±0.5
1996	1,072	133,231	8.0 ±0.5
1997	1,085	133,549	8.1 ±0.5
1998	1,091	133,649	8.2 ±0.5
1999	1,071	133,429	8.0 ±0.5
2000	1,112	136,048	8.2 ±0.5
2001	1,066	133,247	8.0 ±0.5
2002	1,054	129,518	8.1 ±0.5
2003	1,112	130,850	8.5 ±0.5
2004	984	129,710	7.6 ±0.5
2005	1,013	127,518	7.9 ±0.5
2006	940	127,537	7.4 ±0.5
2007	997	125,172	8.0 ±0.5
2008	894	121,231	7.4 ±0.5
2009	881	117,309	7.5 ±0.5
2010	817	114,717	7.1 ±0.5
2011	749	114,159	6.6 ±0.5
2012	783	112,708	6.9 ±0.5
2013	799	113,732	7.0 ±0.5
2014	773	114,460	6.8 ±0.5
2015	770	113,211	6.8 ±0.5
2016	747	113,374	6.6 ±0.5
2017	763	111,507	6.8 ±0.5
2018	723	110,093	6.6 ±0.5
2019	694	107,917	6.4 ±0.5
2020	706	104,166	6.8 ±0.5

**Note:** Rates are per 1,000 live births. Adding and subtracting the number shown after the ± symbol from the rate creates a confidence interval indicating that the true rate lies between the lower and upper bounds of this interval with 95 % statistical confidence.

**Source:** 1900-1960 Historical Annuals; 1970 - 2020 Michigan Resident Birth and Death Files, Division for Vital Records & Health Statistics, Michigan Department of Health & Human Services



**Note:** Rates are per 1,000 live births. Rates after 2020 are forecasted within an 80% prediction interval indicated by the dotted lines; this means that the future rates fall between the lower and upper bounds of the interval with 80% probability.

**Source:** 1970- 2020 Michigan Resident Birth and Death Files, Division for Vital Records & Health Statistics, Michigan Department of Health & Human Services

**Last Updated:** 11/08/2021

**Table 2**  
**Number of Infant Deaths, Live Births and Infant Death Rates By Race**  
**Michigan Residents, 1970 - 2020**

Year	White			Black			Other <sup>1</sup>		
	Infant Deaths	Live Births	Infant Death Rate	Infant Deaths	Live Births	Infant Death Rate	Infant Deaths	Live Births	Infant Death Rate
1970	2,661	144,159	18.5 ±0.7	811	26,513	30.6 ±2.1	14	871	16.1 ±8.4
1971	2,293	134,486	17.1 ±0.7	843	26,755	31.5 ±2.1	17	890	19.1 ±9.0
1972	1,957	120,042	16.3 ±0.7	835	25,760	32.4 ±2.2	8	936	8.5 ±5.9
1973	1,749	115,150	15.2 ±0.7	796	25,252	31.5 ±2.2	11	926	11.9 ±7.0
1974	1,673	112,768	14.8 ±0.7	705	22,836	30.9 ±2.2	7	950	7.4 ±5.4
1975	1,574	110,058	14.3 ±0.7	616	22,692	27.1 ±2.1	8	951	8.4 ±5.8
1976	1,383	108,295	12.8 ±0.7	575	21,778	26.4 ±2.1	16	1,100	14.5 ±7.1
1977	1,373	114,511	12.0 ±0.6	559	22,620	24.7 ±2.0	8	1,059	7.6 ±5.2
1978	1,344	114,652	11.7 ±0.6	566	22,423	25.2 ±2.1	13	1,507	8.6 ±4.7
1979	1,352	119,218	11.3 ±0.6	550	23,346	23.6 ±1.9	12	1,622	7.4 ±4.2
1980	1,246	119,698	10.4 ±0.6	582	23,422	24.8 ±2.0	15	1,825	8.2 ±4.1
1981	1,261	116,596	10.8 ±0.6	564	22,002	25.6 ±2.1	18	1,847	9.7 ±4.5
1982	1,110	114,465	9.7 ±0.6	548	21,574	25.4 ±2.1	13	1,797	7.2 ±3.9
1983	1,048	109,892	9.5 ±0.6	506	21,295	23.8 ±2.0	15	1,721	8.7 ±4.4
1984	1,034	111,574	9.3 ±0.6	541	22,322	24.2 ±2.0	15	1,792	8.4 ±4.2
1985	1,053	114,150	9.2 ±0.6	510	21,935	23.3 ±2.0	11	1,820	6.0 ±3.6
1986	999	112,255	8.9 ±0.5	553	23,366	23.7 ±1.9	12	1,927	6.2 ±3.5
1987	953	113,386	8.4 ±0.5	567	24,975	22.7 ±1.8	17	1,992	8.5 ±4.0
1988	952	112,232	8.5 ±0.5	570	25,217	22.6 ±1.8	19	2,093	9.1 ±4.1
1989	946	115,186	8.2 ±0.5	672	29,839	22.5 ±1.7	23	2,525	9.1 ±3.7
1990	930	118,180	7.9 ±0.5	689	31,842	21.6 ±1.6	18	2,623	6.9 ±3.2
1991	857	114,983	7.5 ±0.5	683	31,543	21.7 ±1.6	13	2,522	5.2 ±2.8
1992	781	111,458	7.0 ±0.5	656	29,656	22.1 ±1.7	23	2,223	10.3 ±4.2
1993	770	108,329	7.1 ±0.5	530	28,249	18.8 ±1.6	17	2,418	7.0 ±3.3
1994	670	106,828	6.3 ±0.5	495	27,129	18.2 ±1.6	19	3,137	6.1 ±2.7
1995	655	105,274	6.2 ±0.5	432	24,914	17.3 ±1.6	19	3,124	6.1 ±2.7
1996	627	104,922	6.0 ±0.5	421	24,073	17.5 ±1.7	21	3,307	6.4 ±2.7
1997	640	104,980	6.1 ±0.5	425	24,201	17.6 ±1.7	17	3,628	4.7 ±2.2
1998	660	105,161	6.3 ±0.5	405	24,179	16.8 ±1.6	23	3,833	6.0 ±2.4
1999	616	104,493	5.9 ±0.5	428	23,850	17.9 ±1.7	19	4,210	4.5 ±2.0

**Table 2**  
**Number of Infant Deaths, Live Births and Infant Death Rates By Race**  
**Michigan Residents, 1970 - 2020 (Continued)**

Year	White			Black			Other <sup>1</sup>		
	Infant Deaths	Live Births	Infant Death Rate	Infant Deaths	Live Births	Infant Death Rate	Infant Deaths	Live Births	Infant Death Rate
2000	637	106,322	6.0 ±0.5	437	24,069	18.2 ±1.7	30	4,525	6.6 ±2.4
2001	635	104,489	6.1 ±0.5	398	23,494	16.9 ±1.7	25	4,752	5.3 ±2.1
2002	611	101,611	6.0 ±0.5	410	22,248	18.4 ±1.8	21	5,056	4.2 ±1.8
2003	680	102,146	6.7 ±0.5	391	22,380	17.5 ±1.7	37	5,508	6.7 ±2.2
2004	527	100,795	5.2 ±0.4	388	22,484	17.3 ±1.7	61	5,719	10.7 ±2.7
2005	549	99,117	5.5 ±0.5	400	22,365	17.9 ±1.7	62	5,461	11.4 ±2.8
2006	534	98,551	5.4 ±0.5	339	22,873	14.8 ±1.6	60	5,636	10.6 ±2.7
2007	549	93,868	5.8 ±0.5	368	22,314	16.5 ±1.7	74	6,932	10.7 ±2.4
2008	496	91,509	5.4 ±0.5	332	22,695	14.6 ±1.6	61	6,691	9.1 ±2.3
2009	470	87,471	5.4 ±0.5	346	22,292	15.5 ±1.6	46	6,980	6.6 ±1.9
2010	462	84,597	5.5 ±0.5	312	22,046	14.2 ±1.6	38	7,425	5.1 ±1.6
2011	411	84,172	4.9 ±0.5	300	21,950	13.7 ±1.5	34	7,529	4.5 ±1.5
2012	455	82,949	5.5 ±0.5	291	21,623	13.5 ±1.5	35	7,696	4.5 ±1.5
2013	473	83,339	5.7 ±0.5	290	22,055	13.1 ±1.5	35	8,081	4.3 ±1.4
2014	452	84,492	5.3 ±0.5	284	21,282	13.3 ±1.5	36	8,574	4.2 ±1.4
2015	423	82,938	5.1 ±0.5	311	21,457	14.5 ±1.6	22	8,583	2.6 ±1.1
2016	401	83,388	4.8 ±0.5	294	21,523	13.7 ±1.6	33	8,182	4.0 ±1.4
2017	393	80,967	4.9 ±0.5	320	21,897	14.6 ±1.6	35	8,222	4.3 ±1.4
2018	363	80,003	4.5 ±0.5	326	21,643	15.1 ±1.6	23	8,099	2.8 ±1.2
2019	364	77,739	4.7 ±0.5	281	21,400	13.1 ±1.5	33	8,369	3.9 ±1.3
2020	369	74,477	5.0 ±0.5	284	20,334	14.0 ±1.6	23	8,751	2.6 ±1.1

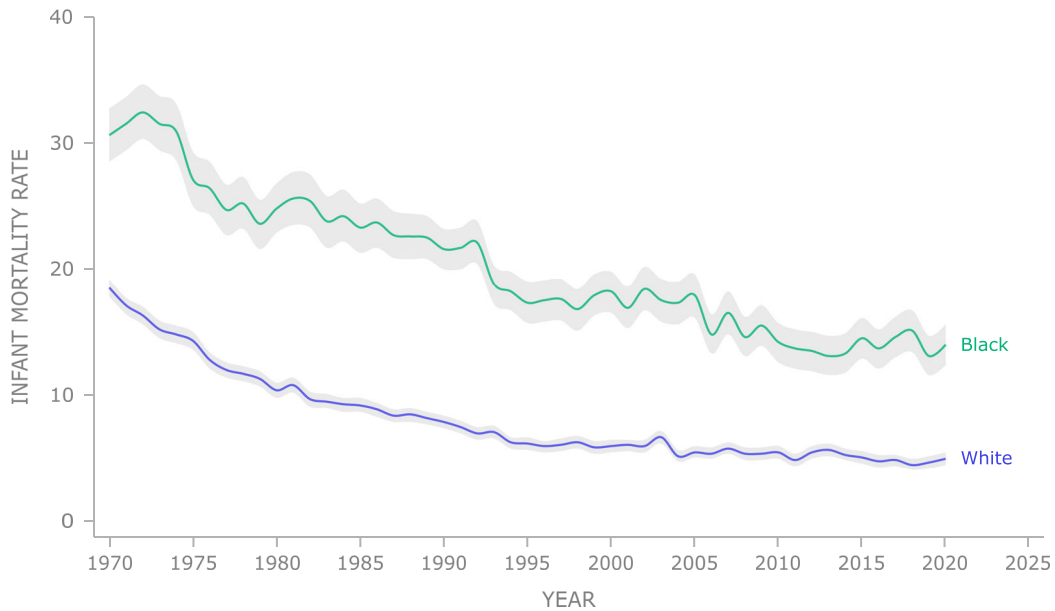
**Note:** Infant deaths by race of infant; live births used in calculating infant death rates are by race of mother. Rates are per 1,000 live births. Adding and subtracting the number shown after the ± symbol from the rate creates a confidence interval indicating that the true rate lies between the lower and upper bounds of this interval with 95 % statistical confidence.

Infant deaths of unknown race are not included in this table.

<sup>1</sup>Between 2004-2008, multi-racial infants were reported as "other."

**Source:** 1970 - 2020 Michigan Resident Birth and Death Files, Division for Vital Records & Health Statistics, Michigan Department of Health & Human Services

Figure 2  
Comparison of White and Black Infant Death Rates for  
Michigan Residents, 1970-2020



**Note:** Rates are per 1,000 live births. The range indicated by the grey band represents a 95% confidence interval; this means that the true rate lies between the lower and upper bounds of the interval with 95% statistical confidence.

**Source:** 1970-2020 Michigan Resident Birth and Death Files, Division for Vital Records & Health Statistics, Michigan Department of Health & Human Services

**Table 3**  
**Number of Infant Deaths, Live Births and Infant Death Rates by**  
**Michigan and Michigan County of Residence,**  
**2020 and 2016 - 2020 Average**

County of Residence	2020			2016 - 2020		
	Infant Deaths	Live Births	Infant Death Rate	Average Infant Deaths	Average Live Births	Average Infant Death Rate
MICHIGAN	706	104,166	6.8 ±0.5	726.6	109,411.4	6.6 ±0.2
Alcona	1	71	*	0.6	64.8	*
Alger	-	64	-	0.2	59.8	*
Allegan	6	1,235	4.9 ±3.9	6.0	1,344.4	4.5 ±1.6
Alpena	1	243	*	1.2	256.6	4.7 ±3.7
Antrim	-	174	-	0.2	178.2	*
Arenac	1	126	*	0.4	127.6	*
Baraga	-	86	-	0.4	68.8	*
Barry	7	620	11.3 ±8.3	3.8	638.6	6.0 ±2.7
Bay	5	926	*	4.4	974.6	4.5 ±1.9
Benzie	3	148	*	1.2	155.0	7.7 ±6.2
Berrien	11	1,516	7.3 ±4.3	11.6	1,642.0	7.1 ±1.8
Branch	3	566	*	4.4	556.8	7.9 ±3.3
Calhoun	13	1,477	8.8 ±4.8	9.6	1,536.6	6.2 ±1.8
Cass	3	460	*	4.0	475.6	8.4 ±3.7
Charlevoix	2	213	*	1.0	225.0	*
Cheboygan	2	162	*	2.2	200.8	11.0 ±6.4
Chippewa	1	286	*	1.8	315.0	5.7 ±3.7
Clare	1	289	*	2.2	321.4	6.8 ±4.0
Clinton	5	724	*	2.6	805.0	3.2 ±1.8
Crawford	1	111	*	1.4	117.0	12.0 ±8.8
Delta	4	334	*	2.8	336.8	8.3 ±4.3
Dickinson	1	231	*	1.2	250.2	4.8 ±3.8
Eaton	7	1,114	6.3 ±4.6	5.8	1,133.2	5.1 ±1.9
Emmet	-	261	-	1.0	274.6	*
Genesee	30	4,297	7.0 ±2.5	34.2	4,584.2	7.5 ±1.1
Gladwin	2	250	*	1.2	251.0	4.8 ±3.8
Gogebic	1	93	*	1.2	121.0	9.9 ±7.9
Gd. Traverse	7	894	7.8 ±5.8	5.0	890.8	5.6 ±2.2
Gratiot	1	375	*	1.0	386.6	*
Hillsdale	4	502	*	3.6	520.4	6.9 ±3.2

**Table 3**  
**Number of Infant Deaths, Live Births and Infant Death Rates by**  
**Michigan and Michigan County of Residence,**  
**2020 and 2016 - 2020 Average**

(Continued)

County of Residence	2020			2016 - 2020		
	Infant Deaths	Live Births	Infant Death Rate	Average Infant Deaths	Average Live Births	Average Infant Death Rate
Houghton	-	363	-	1.8	359.4	5.0 ±3.3
Huron	2	290	*	1.8	292.8	6.1 ±4.0
Ingham	24	2,815	8.5 ±3.4	20.8	3,069.8	6.8 ±1.3
Ionia	2	633	*	3.2	688.2	4.6 ±2.3
Iosco	1	202	*	2.4	231.4	10.4 ±5.8
Iron	1	74	*	1.0	90.6	*
Isabella	5	597	*	4.8	630.2	7.6 ±3.0
Jackson	14	1,692	8.3 ±4.3	11.8	1,728.6	6.8 ±1.7
Kalamazoo	9	2,771	3.2 ±2.1	17.4	3,015.4	5.8 ±1.2
Kalkaska	-	160	-	0.8	175.0	*
Kent	55	8,166	6.7 ±1.8	49.8	8,486.8	5.9 ±0.7
Keweenaw	-	16	-	0.2	15.2	*
Lake	1	81	*	1.0	100.0	*
Lapeer	2	769	*	3.6	798.0	4.5 ±2.1
Leelanau	2	148	*	0.6	160.6	*
Lenawee	3	953	*	4.4	993.6	4.4 ±1.8
Livingston	3	1,719	*	5.0	1,773.8	2.8 ±1.1
Luce	1	42	*	1.0	51.0	*
Mackinac	-	72	-	0.6	84.6	*
Macomb	38	8,853	4.3 ±1.4	52.2	9,168.2	5.7 ±0.7
Manistee	-	175	-	1.0	203.6	*
Marquette	4	556	*	2.0	587.2	3.4 ±2.1
Mason	-	243	-	0.8	270.2	*
Mecosta	3	387	*	2.2	410.6	5.4 ±3.2
Menominee	1	175	*	1.0	185.6	*
Midland	4	775	*	2.0	843.6	2.4 ±1.5
Missaukee	-	153	-	0.4	173.4	*
Monroe	15	1,539	9.7 ±4.9	10.2	1,516.6	6.7 ±1.8
Montcalm	2	714	*	3.6	704.2	5.1 ±2.4
Montmorency	2	74	*	0.4	71.0	*

**Table 3**  
**Number of Infant Deaths, Live Births and Infant Death Rates by**  
**Michigan and Michigan County of Residence,**  
**2020 and 2016 - 2020 Average**

(Continued)

County of Residence	2020			2016 - 2020		
	Infant Deaths	Live Births	Infant Death Rate	Average Infant Deaths	Average Live Births	Average Infant Death Rate
Muskegon	12	1,886	6.4 ±3.6	13.6	2,029.6	6.7 ±1.6
Newaygo	5	540	*	3.4	537.6	6.3 ±3.0
Oakland	62	12,299	5.0 ±1.3	67.4	13,032.2	5.2 ±0.6
Oceana	1	272	*	1.6	274.4	5.8 ±4.0
Ogemaw	1	177	*	1.0	187.6	*
Ontonagon	-	23	-	-	27.4	-
Osceola	1	241	*	1.6	254.2	6.3 ±4.3
Oscoda	-	86	-	0.4	88.2	*
Otsego	2	241	*	1.6	244.0	6.6 ±4.5
Ottawa	15	3,086	4.9 ±2.5	13.8	3,225.6	4.3 ±1.0
Presque Isle	-	100	-	1.0	94.4	*
Roscommon	2	147	*	1.4	154.6	9.1 ±6.7
Saginaw	26	2,008	12.9 ±4.9	20.0	2,151.6	9.3 ±1.8
St. Clair	15	1,495	10.0 ±5.1	9.8	1,522.6	6.4 ±1.8
St. Joseph	6	709	8.5 ±6.7	5.2	743.2	7.0 ±2.7
Sanilac	3	415	*	2.4	417.6	5.7 ±3.2
Schoolcraft	2	74	*	0.4	68.4	*
Shiawasee	1	661	*	3.8	687.2	5.5 ±2.5
Tuscola	4	507	*	3.2	535.2	6.0 ±2.9
Van Buren	-	799	-	3.4	835.4	4.1 ±1.9
Washtenaw	13	3,255	4.0 ±2.2	18.0	3,519.4	5.1 ±1.1
Wayne	213	21,727	9.8 ±1.3	224.8	22,711.6	9.9 ±0.6
Wexford	5	354	*	3.0	373.6	8.0 ±4.0
Unknown	-	9	-	-	4.2	-

**Note:** Rates are per 1,000 live births. Adding and subtracting the number shown after the ± symbol from the rate creates a confidence interval indicating that the true rate lies between the lower and upper bounds of this interval with 95 % statistical confidence.

\*A rate is not calculated when there are fewer than 6 events, because the width of the confidence interval would negate any usefulness for comparative purposes.

**Source:** 2016 - 2020 Michigan Resident Birth and Death Files, Division for Vital Records & Health Statistics, Michigan Department of Health & Human Services



**Table 4  
Number of Infant Deaths, Live Births and Infant Death Rates for  
Selected Cities of Residence, 2020 and 2016 - 2020 Average**

City of Residence	2020			2016 - 2020		
	Infant Deaths	Live Births	Infant Death Rate	Average Infant Deaths	Average Live Births	Average Infant Death Rate
Ann Arbor	2	860	*	3.6	991.4	3.6 ±1.7
Battle Creek	7	683	10.2 ±7.6	5.0	744.0	6.7 ±2.6
Dearborn	8	1,547	5.2 ±3.6	7.6	1,643.0	4.6 ±1.5
Dearborn Heights	2	779	*	5.2	807.2	6.4 ±2.5
Detroit	129	8,810	14.6 ±2.5	130.4	9,337.6	14.0 ±1.1
East Lansing	-	-	-	-	-	-
Farmington Hills	5	881	*	5.0	900.0	5.6 ±2.2
Flint	21	1,145	18.3 ±7.8	18.4	1,360.0	13.5 ±2.7
Grand Rapids	21	2,851	7.4 ±3.1	20.0	3,016.2	6.6 ±1.3
Kalamazoo	3	881	*	7.2	1,141.2	6.3 ±2.1
Kentwood	3	745	*	5.4	765.0	7.1 ±2.7
Lansing	18	1,499	12.0 ±5.5	15.4	1,660.8	9.3 ±2.1
Livonia	2	914	*	4.8	897.6	5.3 ±2.1
Midland	3	440	*	1.4	460.8	3.0 ±2.2
Muskegon	3	478	*	4.4	545.4	8.1 ±3.4
Novi	3	589	*	4.0	617.2	6.5 ±2.8
Pontiac	11	947	11.6 ±6.8	10.0	1,017.8	9.8 ±2.7
Portage	1	497	*	2.6	537.6	4.8 ±2.6
Rochester Hills	2	661	*	1.8	722.0	2.5 ±1.6
Roseville	4	537	*	4.6	558.2	8.2 ±3.4
Royal Oak	3	755	*	2.8	739.4	3.8 ±2.0
Saginaw	12	675	17.8 ±10.0	10.2	760.0	13.4 ±3.7
Southfield	4	666	*	6.2	760.8	8.1 ±2.9
St Clair Shores	1	586	*	2.8	595.4	4.7 ±2.5
Sterling Heights	1	1,322	*	7.6	1,379.0	5.5 ±1.7
Taylor	8	797	10.0 ±6.9	7.6	831.4	9.1 ±2.9
Troy	6	711	8.4 ±6.7	4.6	770.8	6.0 ±2.4
Warren	9	1,693	5.3 ±3.5	11.6	1,703.4	6.8 ±1.7
Westland	9	987	9.1 ±5.9	8.6	1,017.8	8.4 ±2.5
Wyoming	10	1,040	9.6 ±5.9	7.0	1,120.4	6.2 ±2.1

**Note:** This table shows cities with (1) populations greater than 40,000 according to 2007 estimates and (2) three-year average births of greater than 200. City birth and mortality statistics have changed from pre-2011 reports due to geocoding. See Data Quality Considerations for further details. Rates are per 1,000 live births. Adding and subtracting the number shown after the ± symbol from the rate creates a confidence interval indicating that the true rate lies between the lower and upper bounds of this interval with 95 % statistical confidence.

\*A rate is not calculated when there are fewer than 6 events, because the width of the confidence interval would negate any usefulness for comparative purposes.

**Source:** 2016-2019 Geocoded Michigan Death Certificate Registries; 2020 Michigan Death Certificate Registry. 2016-2019 Geocoded Michigan Birth Certificate Registries; 2020 Michigan Birth Certificate Registry. Division for Vital Records & Health Statistics, Michigan Department of Health & Human Services

**Table 5**  
**Number and Rate of Infant Deaths by Race for**  
**Residents of Michigan, Detroit City, Wayne County (Excluding Detroit City)**  
**and Michigan (Excluding Wayne County), 1990- 2020**

Year	Race	Michigan		Detroit City		Wayne County (excluding Detroit)		Michigan (excluding Wayne County)	
		Number	Rate	Number	Rate	Number	Rate	Number	Rate
<b>1990</b>	Total	1,638	10.7 ±0.5	491	20.3 ±1.8	170	10.3 ±1.5	977	8.7 ±0.5
	White	930	7.9 ±0.5	36	8.7 ±2.8	130	8.8 ±1.5	764	7.7 ±0.5
	Black	689	21.6 ±1.6	451	23.0 ±2.1	38	24.8 ±7.8	200	18.7 ±2.6
<b>1991</b>	Total	1,554	10.4 ±0.5	456	19.4 ±1.8	139	8.4 ±1.4	959	8.8 ±0.6
	White	857	7.5 ±0.5	39	10.0 ±3.1	103	7.1 ±1.4	715	7.4 ±0.5
	Black	683	21.7 ±1.6	417	21.6 ±2.1	34	20.3 ±6.7	232	21.9 ±2.8
<b>1992</b>	Total	1,460	10.2 ±0.5	462	21.4 ±1.9	128	8.1 ±1.4	870	8.2 ±0.5
	White	781	7.0 ±0.5	43	12.3 ±3.7	92	6.6 ±1.4	646	6.9 ±0.5
	Black	656	22.1 ±1.7	415	23.3 ±2.2	34	21.8 ±7.2	207	20.1 ±2.7
<b>1993</b>	Total	1,319	9.5 ±0.5	348	17.2 ±1.8	111	7.1 ±1.3	860	8.3 ±0.6
	White	770	7.1 ±0.5	28	9.1 ±3.3	88	6.4 ±1.3	654	7.2 ±0.5
	Black	530	18.8 ±1.6	317	18.7 ±2.0	21	14.4 ±6.1	192	19.4 ±2.7
<b>1994</b>	Total	1,184	8.6 ±0.5	322	16.6 ±1.8	105	6.8 ±1.3	757	7.3 ±0.5
	White	670	6.3 ±0.5	28	9.4 ±3.5	69	5.1 ±1.2	573	6.3 ±0.5
	Black	495	18.2 ±1.6	293	18.2 ±2.1	35	23.7 ±7.7	167	17.5 ±2.6
<b>1995</b>	Total	1,110	8.3 ±0.5	274	15.6 ±1.8	89	5.8 ±1.2	747	7.4 ±0.5
	White	655	6.2 ±0.5	17	6.0 ±2.8	64	4.8 ±1.2	574	6.4 ±0.5
	Black	432	17.3 ±1.6	254	17.6 ±2.1	25	18.2 ±7.1	153	16.8 ±2.6
<b>1996</b>	Total	1,072	8.0 ±0.5	248	15.0 ±1.8	101	6.7 ±1.3	723	7.1 ±0.5
	White	627	6.0 ±0.5	9	3.4 ±2.2	74	5.6 ±1.3	544	6.1 ±0.5
	Black	421	17.5 ±1.7	238	17.5 ±2.2	23	16.2 ±6.6	160	17.7 ±2.7
<b>1997</b>	Total	1,085	8.1 ±0.5	253	15.1 ±1.8	100	6.6 ±1.3	732	7.2 ±0.5
	White	640	6.1 ±0.5	23	8.6 ±3.5	76	5.8 ±1.3	541	6.1 ±0.5
	Black	425	17.6 ±1.7	229	16.7 ±2.1	23	16.5 ±6.7	173	19.1 ±2.8

**Table 5**  
**Number and Rate of Infant Deaths by Race for**  
**Residents of Michigan, Detroit City, Wayne County (Excluding Detroit City)**  
**and Michigan (Excluding Wayne County), 1990- 2020 (Continued)**

Year	Race	Michigan		Detroit City		Wayne County (excluding Detroit)		Michigan (excluding Wayne County)	
		Number	Rate	Number	Rate	Number	Rate	Number	Rate
<b>1998</b>	Total	1,091	8.2 ±0.5	241	14.7 ±1.8	99	6.6 ±1.3	751	7.4 ±0.5
	White	660	6.3 ±0.5	15	5.8 ±2.9	74	5.7 ±1.3	571	6.4 ±0.5
	Black	405	16.8 ±1.6	219	16.1 ±2.1	22	14.9 ±6.2	164	18.0 ±2.7
<b>1999</b>	Total	1,071	8.0 ±0.5	245	15.5 ±1.9	97	6.4 ±1.3	729	7.1 ±0.5
	White	616	5.9 ±0.5	15	5.6 ±2.8	72	5.6 ±1.3	529	5.9 ±0.5
	Black	428	17.9 ±1.7	228	17.8 ±2.3	23	15.1 ±6.1	177	18.6 ±2.7
<b>2000</b>	Total	1,112	8.2 ±0.5	232	14.7 ±1.9	98	6.4 ±1.3	782	7.4 ±0.5
	White	637	6.0 ±0.5	20	7.5 ±3.3	64	5.0 ±1.2	553	6.1 ±0.5
	Black	437	18.2 ±1.7	206	16.1 ±2.2	33	20.2 ±6.8	198	20.5 ±2.8
<b>2001</b>	Total	1,066	8.0 ±0.5	210	13.9 ±1.9	81	5.3 ±1.2	775	7.5 ±0.5
	White	635	6.1 ±0.5	14	5.3 ±2.8	58	4.5 ±1.2	563	6.3 ±0.5
	Black	398	16.9 ±1.7	195	15.9 ±2.2	21	12.9 ±5.5	182	18.9 ±2.7
<b>2002</b>	Total	1,054	8.1 ±0.5	239	16.8 ±2.1	103	6.9 ±1.3	712	7.1 ±0.5
	White	611	6.0 ±0.5	20	8.0 ±3.5	70	5.7 ±1.3	521	6.0 ±0.5
	Black	410	18.4 ±1.8	217	19.1 ±2.5	28	16.9 ±6.2	165	17.9 ±2.7
<b>2003</b>	Total	1,112	8.5 ±0.5	227	16.2 ±2.1	120	8.1 ±1.4	765	7.5 ±0.5
	White	680	6.7 ±0.5	28	11.7 ±4.3	85	7.1 ±1.5	567	6.5 ±0.5
	Black	391	17.5 ±1.7	199	17.9 ±2.5	29	16.9 ±6.1	163	17.1 ±2.6
<b>2004</b>	Total	984	7.6 ±0.5	211	15.6 ±2.1	89	6.1 ±1.3	684	6.7 ±0.5
	White	527	5.2 ±0.4	12	5.0 ±2.8	54	4.6 ±1.2	461	5.3 ±0.5
	Black	388	17.3 ±1.7	193	17.9 ±2.5	30	16.1 ±5.7	165	16.8 ±2.5
<b>2005</b>	Total	1,013	7.9 ±0.5	210	16.0 ±2.1	93	6.5 ±1.3	710	7.1 ±0.5
	White	549	5.5 ±0.5	13	5.7 ±3.1	58	5.1 ±1.3	478	5.6 ±0.5
	Black	400	17.9 ±1.7	188	17.9 ±2.5	34	17.7 ±5.9	178	17.9 ±2.6

**Table 5**  
**Number and Rate of Infant Deaths by Race for**  
**Residents of Michigan, Detroit City, Wayne County (Excluding Detroit City)**  
**and Michigan (Excluding Wayne County), 1990- 2020 (Continued)**

Year	Race	Michigan		Detroit City		Wayne County (excluding Detroit)		Michigan (excluding Wayne County)	
		Number	Rate	Number	Rate	Number	Rate	Number	Rate
<b>2006</b>	Total	940	7.4 ±0.5	175	13.5 ±2.0	98	6.8 ±1.4	667	6.7 ±0.5
	White	534	5.4 ±0.5	9	4.0 ±2.6	61	5.5 ±1.4	464	5.4 ±0.5
	Black	339	14.8 ±1.6	153	14.7 ±2.3	31	14.4 ±5.0	155	15.0 ±2.3
<b>2007</b>	Total	997	8.0 ±0.5	179	14.8 ±2.1	95	6.7 ±1.3	723	7.3 ±0.5
	White	549	5.8 ±0.5	13	7.1 ±3.8	59	5.5 ±1.4	477	5.9 ±0.5
	Black	368	16.5 ±1.7	155	16.1 ±2.5	25	11.4 ±4.5	188	17.9 ±2.5
<b>2008</b>	Total	894	7.4 ±0.5	175	14.8 ±2.2	100	7.2 ±1.4	619	6.5 ±0.5
	White	496	5.4 ±0.5	8	4.7 ±3.3	63	5.9 ±1.5	425	5.4 ±0.5
	Black	332	14.6 ±1.6	159	16.7 ±2.6	27	12.3 ±4.6	146	13.3 ±2.1
<b>2009</b>	Total	881	7.5 ±0.5	166	14.8 ±2.2	82	6.1 ±1.3	633	6.8 ±0.5
	White	470	5.4 ±0.5	6	4.3 ±3.5	54	5.4 ±1.4	410	5.4 ±0.5
	Black	346	15.5 ±1.6	152	16.7 ±2.6	19	7.9 ±3.5	175	16.2 ±2.4
<b>2010</b>	Total	817	7.1 ±0.5	146	13.3 ±2.2	87	6.6 ±1.4	584	6.4 ±0.5
	White	462	5.5 ±0.5	10	9.6 ±5.9	44	4.6 ±1.4	408	5.5 ±0.5
	Black	312	14.2 ±1.6	128	14.3 ±2.5	37	15.0 ±4.8	147	13.8 ±2.2
<b>2011</b>	Total	749	6.6 ±0.5	130	12.6 ±2.1	100	7.5 ±1.5	519	5.7 ±0.5
	White	411	4.9 ±0.5	5	*	58	6.0 ±1.5	348	4.7 ±0.5
	Black	300	13.7 ±1.5	119	14.0 ±2.5	37	14.6 ±4.7	144	13.2 ±2.1
<b>2012</b>	Total	783	6.9 ±0.5	151	15.0 ±2.4	87	6.7 ±1.4	545	6.1 ±0.5
	White	455	5.5 ±0.5	12	15.7 ±8.8	56	5.9 ±1.6	387	5.3 ±0.5
	Black	291	13.5 ±1.5	133	16.0 ±2.7	27	11.2 ±4.2	131	12.0 ±2.0
<b>2013</b>	Total	799	7.0 ±0.5	132	13.1 ±2.2	84	6.2 ±1.3	583	6.5 ±0.5
	White	473	5.7 ±0.5	7	8.8 ±6.5	57	6.0 ±1.6	409	5.6 ±0.5
	Black	290	13.1 ±1.5	119	14.4 ±2.6	22	8.2 ±3.4	149	13.5 ±2.1

**Table 5**  
**Number and Rate of Infant Deaths by Race for**  
**Residents of Michigan, Detroit City, Wayne County (Excluding Detroit City)**  
**and Michigan (Excluding Wayne County), 1990- 2020 (Continued)**

Year	Race	Michigan		Detroit City		Wayne County (excluding Detroit)		Michigan (excluding Wayne County)	
		Number	Rate	Number	Rate	Number	Rate	Number	Rate
<b>2014</b>	Total	773	6.8 ±0.5	130	13.2 ±2.3	88	6.5 ±1.4	555	6.1 ±0.5
	White	452	5.3 ±0.5	8	9.6 ±6.6	55	5.9 ±1.6	389	5.2 ±0.5
	Black	284	13.3 ±1.5	120	14.7 ±2.6	25	9.7 ±3.8	139	13.2 ±2.2
<b>2015</b>	Total	770	6.8 ±0.5	142	14.4 ±2.3	83	6.1 ±1.3	545	6.1 ±0.5
	White	423	5.1 ±0.5	9	10.1 ±6.6	60	6.4 ±1.6	354	4.9 ±0.5
	Black	311	14.5 ±1.6	125	15.4 ±2.7	17	6.4 ±3.1	169	15.8 ±2.4
<b>2016</b>	Total	747	6.6 ±0.5	125	13.3 ±2.3	80	5.8 ±1.3	542	6.0 ±0.5
	White	401	4.8 ±0.5	7	8.0 ±5.9	49	5.1 ±1.4	345	4.7 ±0.5
	Black	294	13.7 ±1.6	105	13.6 ±2.6	30	10.8 ±3.8	159	14.4 ±2.2
<b>2017</b>	Total	763	6.8 ±0.5	137	14.2 ±2.4	108	7.9 ±1.5	518	5.9 ±0.5
	White	393	4.9 ±0.5	7	7.2 ±5.3	45	4.7 ±1.4	341	4.8 ±0.5
	Black	320	14.6 ±1.6	122	15.5 ±2.7	52	18.8 ±5.1	146	13.0 ±2.1
<b>2018</b>	Total	723	6.6 ±0.5	158	16.7 ±2.6	87	6.5 ±1.4	478	5.5 ±0.5
	White	363	4.5 ±0.5	7	6.4 ±4.7	43	4.6 ±1.4	313	4.5 ±0.5
	Black	326	15.1 ±1.6	146	18.9 ±3.0	43	15.3 ±4.5	137	12.3 ±2.0
<b>2019</b>	Total	694	6.4 ±0.5	103	11.0 ±2.1	113	8.6 ±1.6	478	5.6 ±0.5
	White	364	4.7 ±0.5	4	*	60	6.6 ±1.7	300	4.4 ±0.5
	Black	281	13.1 ±1.5	92	12.2 ±2.5	46	16.4 ±4.7	143	12.9 ±2.1
<b>2020</b>	Total	706	6.8 ±0.5	129	14.6 ±2.5	84	6.5 ±1.4	493	6.0 ±0.5
	White	369	5.0 ±0.5	6	5.8 ±4.6	44	5.1 ±1.5	319	4.9 ±0.5
	Black	284	14.0 ±1.6	116	16.6 ±3.0	32	11.8 ±4.1	136	12.8 ±2.1

**Note:** Rates are per 1,000 live births. Adding and subtracting the number shown after the ± symbol from the rate creates a confidence interval indicating that the true rate lies between the lower and upper bounds of this interval with 95 % statistical confidence.

**Source:** 1990- 2020 Michigan Resident Birth and Death Files, Division for Vital Records & Health Statistics, Michigan Department of Health & Human Services.

**Table 6**  
**Number and Rate of Infant Deaths by Race,**  
**Michigan and United States Residents, 1989 - 2020**

Year	United States						Michigan					
	All Races		White		Black		All Races		White		Black	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
1989	39,655	9.8	25,794	8.0	12,527	18.6	1,645	11.1	946	8.2	672	22.5
1990	38,351	9.2	24,883	7.6	12,290	18.0	1,638	10.7	930	7.9	689	21.6
1991	36,766	8.9	23,657	7.3	11,994	17.6	1,554	10.4	857	7.5	683	21.7
1992	34,628	8.5	22,164	6.9	11,348	16.8	1,460	10.2	781	7.0	656	22.1
1993	33,466	8.4	21,497	6.8	10,887	16.5	1,319	9.5	770	7.1	530	18.8
1994	31,710	8.0	20,504	6.6	10,072	15.8	1,184	8.6	670	6.3	495	18.2
1995	29,583	7.6	19,490	6.3	9,118	15.1	1,110	8.3	655	6.2	432	17.3
1996	28,487	7.3	18,761	6.1	8,730	14.7	1,072	8.0	627	6.0	421	17.5
1997	28,045	7.2	18,539	6.0	8,496	14.2	1,085	8.1	640	6.1	425	17.6
1998	28,371	7.2	18,561	6.0	8,726	14.3	1,091	8.2	660	6.3	405	16.8
1999	27,953	7.1	18,069	5.8	8,832	14.6	1,071	8.0	616	5.9	428	17.9
2000	28,035	6.9	18,144	5.7	8,771	14.0	1,112	8.2	637	6.0	437	18.2
2001	27,568	6.8	17,955	5.7	8,498	14.0	1,066	8.0	635	6.1	398	16.9
2002	28,034	7.0	18,369	5.8	8,524	14.4	1,054	8.1	611	6.0	410	18.4
2003	28,025	6.9	18,440	5.7	8,402	14.0	1,112	8.5	680	6.7	391	17.5
2004	27,936	6.8	18,231	5.7	8,494	13.3	984	7.6	527	5.2	388	17.3
2005	28,440	6.9	18,514	5.7	8,695	13.7	1,013	7.9	549	5.5	400	17.9
2006	28,527	6.7	18,403	5.6	8,858	13.3	940	7.4	534	5.4	339	14.8
2007	29,138	6.8	18,807	5.6	8,944	13.2	997	8.0	549	5.8	368	16.5
2008	28,059	6.6	18,164	5.6	8,543	12.7	894	7.4	496	5.4	332	14.6
2009	26,412	6.4	16,817	5.3	8,312	12.6	881	7.5	470	5.4	346	15.5
2010	24,548	6.1	15,933	5.2	7,388	11.6	817	7.1	462	5.5	312	14.2
2011	23,910	6.1	15,453	5.1	7,058	11.2	749	6.6	411	4.9	300	13.7
2012	23,654	6.0	15,264	5.1	6,896	10.9	783	6.9	455	5.5	291	13.5
2013	23,440	6.0	15,125	5.0	7,123	11.2	799	7.0	473	5.7	290	13.1
2014	23,215	5.8	14,883	5.1	7,076	10.4	773	6.8	452	5.3	284	13.3
2015	23,455	5.9	14,834	5.0	7,289	10.6	770	6.8	423	5.1	311	14.5
2016	23,161	5.9	14,568	4.9	7,229	10.6	747	6.6	401	4.8	294	13.7
2017	22,335	5.7	13,867	4.7	7,099	10.5	763	6.8	393	4.9	320	14.6
2018	21,467	5.6	13,428	4.7	6,760	10.2	723	6.6	363	4.5	326	15.1
2019	20,921	5.5	12,990	4.6	6,748	10.4	694	6.4	364	4.7	281	13.1
2020	19,600	5.4	12,195	4.6	6,377	10.9	706	6.8	369	5.0	284	14.0

**Note:** Rates are per 1,000 live births.

**Source:** 1989 - 2020 Michigan Resident Birth and Death Files, Division for Vital Records & Health Statistics, Michigan Department of Health & Human Services.  
 2007-2012 NCHS, Linked Birth / Infant Death Records; 2007-2020 on CDC WONDER On-line Database. Accessed at <http://wonder.cdc.gov/lbd-current.html> on January 6, 2022. Infant Mortality in the United States, 2017, NVSR Vol 68, No. 10. "Deaths: Final Data for 2006", Vol 57, No. 14, April 2009; and [National Center for Health Statistics, historical data. 2020 data is provisional.](#)

**Table 7-A**  
**Number of Hispanic and Middle Easterner Infant Deaths by Selected County and Michigan**  
**Michigan Residents, 2010 - 2020**

**Hispanic Infant Deaths**

<b>County</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
Michigan	57	44	74	80	61	77	68	58	48	55	48
Hispanic Infant Death Rates	7.0	5.6	9.7	10.3	8.0	9.9	8.8	7.6	6.5	7.3	10.1
Allegan	-	1	-	3	-	-	1	2	-	3	-
Genesee	1	2	-	-	1	2	4	3	3	1	2
Ingham	1	1	2	4	2	1	2	2	2	4	-
Kalamazoo	4	-	2	2	1	4	1	1	-	-	2
Kent	8	12	10	6	7	13	10	4	9	6	9
Lenawee	1	1	2	5	2	-	1	1	1	-	-
Macomb	-	-	1	3	-	5	2	3	3	2	2
Muskegon	-	1	1	5	-	2	2	1	3	2	-
Oakland	6	7	8	8	4	9	1	5	7	2	2
Ottawa	1	2	4	8	2	4	4	3	2	3	2
Saginaw	2	2	5	4	4	2	8	-	4	4	3
Van Buren	1	-	2	1	2	3	1	-	2	1	-
Washtenaw	2	-	2	1	-	-	1	-	1	-	1
Wayne	15	8	16	17	13	21	13	18	6	15	12
All Other Counties	15	7	19	13	23	11	17	15	5	12	13

**Table 7-B  
Number of Hispanic and Middle Easterner Infant Deaths by Selected County and Michigan  
Michigan Residents, 2010 - 2020 (Continued)**

**Middle Easterner Infant Deaths**

<b>County</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
Michigan	24	24	26	36	21	26	30	22	31	22	25
Arabic Infant Death Rates	5.7	5.9	6.2	7.8	4.4	5.3	6.0	4.1	6.0	4.5	5.6
Macomb	5	2	5	6	3	2	6	4	6	4	1
Oakland	6	3	5	7	3	4	5	2	3	2	8
Wayne	10	15	14	17	9	16	13	14	17	13	13
All Other Counties	3	4	2	6	6	4	6	2	5	3	3

**Note:** The increase in hispanic mortality incidence reflects a change in death certificate reporting. Michigan's death certificate was revised in 2003 to comply with a change in the National Standard death certificate and a separate indicator of hispanic ancestry was introduced. In 2005, the hispanic ancestry indicator was used in tabulations for the first time, resulting in the identification of hispanic deaths that might otherwise have been missed. The increase in hispanic death cases between 2004 and 2005 should not be considered as a change in trend.

Caution: Care should be taken drawing inferences from rates based on small numbers of events or small population base. These rates tend to exhibit considerable variation which may negate their usefulness for comparative purpose

**Source:** 2010-2020 Michigan Resident Infant Death File, Division for Vital Records & Health Statistics, Michigan Department of Health & Human Services.



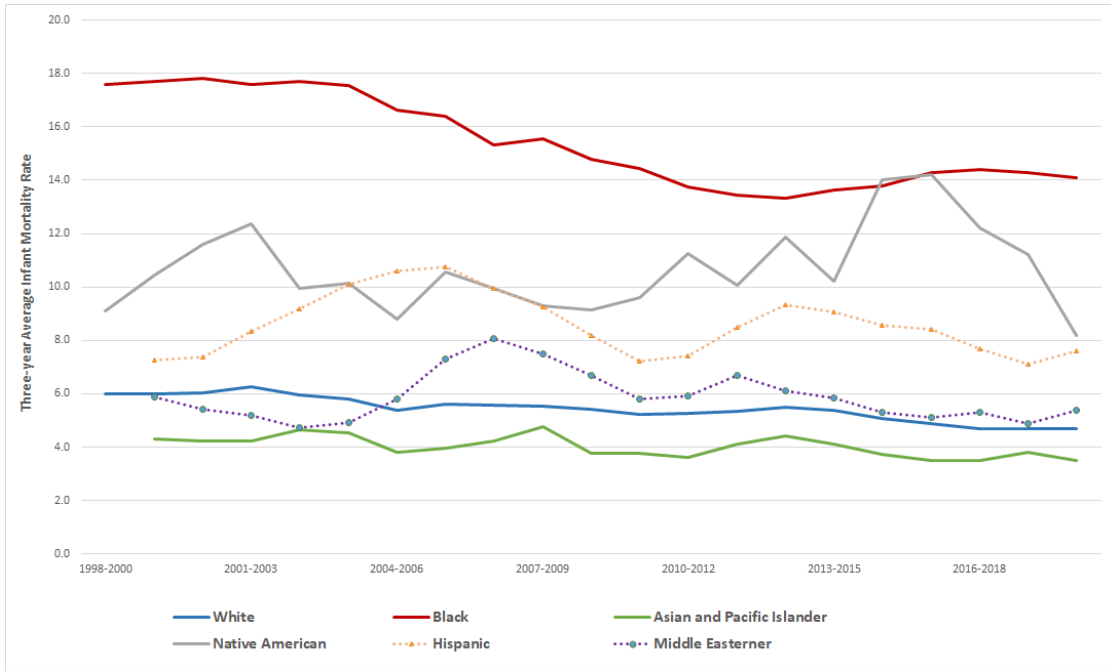
**Table 8**  
**Three-year Average Infant Death Rates by Race and Ancestry,**  
**Michigan Residents, 1999 - 2020**

Trends	Race				Ancestry	
	White	Black	Native American	Asian and Pacific Islander	Hispanic	Middle Easterner
1999-2001	6.0	17.7	10.5	4.3	7.3	5.9
2000-2002	6.0	17.8	11.6	4.2	7.4	5.4
2001-2003	6.2	17.6	12.4	4.2	8.3	5.2
2002-2004	6.0	17.7	10.0	4.7	9.2	4.7
2003-2005	5.8	17.5	10.1	4.5	10.1	4.9
2004-2006	5.4	16.6	8.8	3.8	10.6	5.8
2005-2007	5.6	16.4	10.6	4.0	10.8	7.3
2006-2008	5.6	15.3	9.9	4.2	9.9	8.1
2007-2009	5.6	15.5	9.3	4.8	9.3	7.5
2008-2010	5.4	14.8	9.1	3.8	8.2	6.7
2009-2011	5.2	14.5	9.6	3.8	7.2	5.8
2010-2012	5.3	13.8	11.2	3.6	7.4	5.9
2011-2013	5.3	13.4	10.1	4.1	8.5	6.7
2012-2014	5.5	13.3	11.9	4.4	9.4	6.1
2013-2015	5.4	13.6	10.2	4.1	9.1	5.8
2014-2016	5.1	13.8	14.0	3.7	8.6	5.2
2015-2017	4.9	14.3	14.2	3.5	8.4	5.1
2016-2018	4.7	14.4	12.2	3.5	7.7	5.3
2017-2019	4.7	14.3	11.2	3.8	7.1	4.9
2018-2020	4.7	14.1	8.2	3.5	7.6	5.4

**Note:** Rates are per 1,000 live births.

**Source:** 1999 - 2020 Michigan Resident Birth and Death Files, Division for Vital Records & Health Statistics, Michigan Department of Health & Human Services

**Figure 3**  
**Three-year Average Infant Mortality Rates by Race and Ancestry,**  
**Michigan Residents, 1998-2020**



**Note:** Rates are infant deaths per 1,000 live births.

**Source:** 1998-2020 Michigan Resident Infant Death File, Division for Vital Records & Health Statistics, Michigan Department of Health & Human Services.

**Table 9**  
**Infant, Hebdomadal, Fetal and Perinatal Death Rates**  
**by Specified Race and Ancestry**  
**Michigan Residents, 2020**

Race/Ancstry	Live Births	Infant Deaths		Hebdomadal Deaths		Fetal Deaths		Perinatal Deaths	
		Number	Rate	Number	Rate	Number	Rate	Number	Rate
All Races	104,166	706	6.8 ±0.5	373	3.6 ±0.4	601	5.7 ±0.5	974	9.3 ±0.6
White	74,477	369	5.0 ±0.5	202	2.7 ±0.4	374	5.0 ±0.5	576	7.7 ±0.6
Black	20,334	284	14.0 ±1.6	133	6.5 ±1.1	168	8.2 ±1.2	301	14.7 ±1.6
American Indian	831	6	7.2 ±5.8	3	*	2	*	5	*
Asian and Pacific Islander	4,307	14	3.3 ±1.7	11	2.6 ±1.5	22	5.1 ±2.1	33	7.6 ±2.6
Middle Easterner	4,475	25	5.6 ±2.2	16	3.6 ±1.7	31	6.9 ±2.4	47	10.4 ±3.0
Hispanic	4,761	48	10.1 ±2.8	27	5.7 ±2.1	22	4.6 ±1.9	49	10.2 ±2.9

**Note:** Hebdomadal deaths are deaths to infants ages zero to six days. Perinatal deaths are hebdomadal plus fetal deaths.

Infant death and hebdomadal rates are per 1,000 live births. Fetal death and perinatal death rates are per 1,000 live births plus fetal deaths.

Rates are calculated using live births by race/ancestry of mother as denominator. Live births are by the race/ancestry of the mother on the birth certificate. Infant and hebdomadal deaths are by the race on the death certificate. Fetal deaths are by the race of the mother on the fetal death certificate. Perinatal deaths are by mother's race/ancestry on the fetal death certificate or the infant's race/ancestry on the death certificate.

Asterisk (\*) indicates that data do not meet standards of precision or reliability.

**Caution:** Care should be taken drawing inferences from rates based on small numbers of events or small population base. These rates tend to exhibit considerable variation which may negate their usefulness for comparative purposes.

**Source:** 2020 Michigan Resident Infant Death File, 2020 Michigan Fetal Death Registry  
Division for Vital Records & Health Statistics, Michigan Department of Health & Human Services.

**Table 10**  
**Infant, Hebdomadal, Fetal and Perinatal Death Rates**  
**Michigan Residents, 2007-2020**

Year	Live Births	Infant Deaths		Hebdomadal Deaths		Fetal Deaths		Perinatal Deaths	
		Number	Rate	Number	Rate	Number	Rate	Number	Rate
2007	125,172	997	8.0	553	4.4	727	5.8	1,280	10.2
2008	121,231	894	7.4	501	4.1	775	6.4	1,276	10.5
2009	117,309	881	7.5	478	4.1	688	5.8	1,166	9.9
2010	114,717	817	7.1	475	4.1	640	5.5	1,115	9.7
2011	114,159	749	6.6	414	3.6	627	5.5	1,041	9.1
2012	112,708	783	6.9	459	4.1	587	5.2	1,046	9.2
2013	113,732	799	7.0	431	3.8	622	5.4	1,053	9.2
2014	114,460	773	6.8	417	3.6	616	5.4	1,033	9.0
2015	113,211	770	6.8	400	3.5	542	4.8	942	8.3
2016	113,374	747	6.6	393	3.5	618	5.4	1,011	8.9
2017	111,507	763	6.8	442	4.0	605	5.4	1,047	9.3
2018	110,093	723	6.6	396	3.6	657	5.9	1,053	9.5
2019	107,917	694	6.4	374	3.5	636	5.9	1,010	9.4
2020	104,149	706	6.8	373	3.6	601	5.7	974	9.3

**Note:** Hebdomadal deaths are deaths to infants ages zero to six days.  
Perinatal deaths are hebdomadal plus fetal deaths.

Infant death and hebdomadal rates are per 1,000 live births. Fetal death and perinatal death rates are per 1,000 live births plus fetal deaths.

In 2017, hospital audits found additional fetal deaths. The number of fetal deaths between 2007-2015 will not match what was reported in the past.

**Source:** 2007-2020 Michigan Resident Infant Death File, 2007-2020 Michigan Fetal Death Registry  
Division for Vital Records & Health Statistics, Michigan Department of Health & Human Services.

**Table 11**  
**Number of Infant Deaths, Live Births and Infant Death Rates**  
**by Selected Characteristics of Newborn and of Mother**  
**for Michigan Residents, 2020**

Characteristics of Newborn	Infant Deaths	Live Births	Infant Death Rate
<b>Sex of Infant</b>	706	104,166	6.8 ±0.5
Male	370	53,262	6.9 ±0.7
Female	334	50,900	6.6 ±0.7
<b>Birthweight</b>	706	104,166	6.8 ±0.5
1,499 Grams or Less	371	1,573	235.9 ±21.3
1,500 - 2,499 Grams	101	7,781	13.0 ±2.5
2,500 Grams or More	233	94,793	2.5 ±0.3
<b>Plurality</b>	706	104,166	6.8 ±0.5
Single Birth	589	100,427	5.9 ±0.5
Multiple Birth	109	3,736	29.2 ±5.4
Characteristics of Mother	Infant Deaths	Live Births	Infant Death Rate
<b>Age of Mother</b>	706	104,166	6.8 ±0.5
< 20	46	4,233	10.9 ±3.1
20 - 29	381	51,412	7.4 ±0.7
30 - 39	245	45,612	5.4 ±0.7
40 +	26	2,880	9.0 ±3.5
<b>Marital Status</b>	706	104,166	6.8 ±0.5
Married	269	60,860	4.4 ±0.5
Unmarried	429	43,280	9.9 ±0.9
<b>Level of Prenatal Care</b>	706	104,166	6.8 ±0.5
Adequate	359	71,119	5.0 ±0.5
Intermediate	195	24,309	8.0 ±1.1
Inadequate	144	8,733	16.5 ±2.7
Exposure to Tobacco	Infant Deaths	Live Births	Infant Death Rate
<b>Smoked During Pregnancy</b>	706	104,166	6.8 ±0.5
No	553	88,462	6.3 ±0.5
Yes	153	15,704	9.7 ±1.5
<b>Secondhand Smoke During Pregnancy</b>	706	104,166	6.8 ±0.5
No	550	89,850	6.1 ±0.5
Yes	98	10,464	9.4 ±1.8
<b>Smoked or Secondhand Smoke During Pregnancy</b>	706	104,166	6.8 ±0.5
No	482	81,293	5.9 ±0.5
Yes	178	19,615	9.1 ±1.3
<b>History of smoking</b>	706	104,166	6.8 ±0.5
No	535	88,004	6.1 ±0.5
Yes	154	15,814	9.7 ±1.5

**Note:** Rates are per 1,000 live births. Adding and subtracting the number shown after the ± symbol from the rate creates a confidence interval indicating that the true rate lies between the lower and upper bounds of this interval with 95% statistical confidence. Records with selected characteristics unknown are included in total only. Level of prenatal care is according to the Kessner Index which is a classification of prenatal care based on the month of pregnancy in which prenatal care began, the number of prenatal visits and the length of pregnancy (i.e. for shorter pregnancies, fewer prenatal visits constitute adequate care.)

**Table 12**  
**Number of Infant Deaths by Cause of Death,**  
**1980-2020, Michigan Residents**

Causes of Death	1980	1985	1990	1995	2000	2005	2010	2015	2016	2017	2018	2019	2020
All Causes	2,280	1,575	1,638	1,110	1,112	1,013	817	770	747	763	723	694	706
Certain gastrointestinal diseases	7	6	6	6	10	12	9	7	3	5	4	3	3
Septicemia	8	6	17	2	5	10	4	3	4	4	4	4	4
Remainder of infectious and parasitic diseases	5	11	18	12	7	6	3	4	4	3	4	1	4
Meningitis	13	7	11	2	3	3	5	-	3	1	1	2	-
Pneumonia and Influenza	27	11	26	20	20	6	8	5	2	9	9	5	4
Congenital anomalies	321	330	300	204	192	197	184	152	149	141	122	112	121
Newborn affected by maternal complications of pregnancy	72	52	108	47	45	67	40	45	36	32	27	27	34
Newborn affected by complications of placenta, cord and membranes	50	34	24	33	36	28	26	31	28	30	19	18	22
Disorders relating to short gestation and unspecified low birthweight	145	150	251	219	262	219	198	149	161	196	188	177	158
Birth trauma	45	14	16	8	2	1	-	-	1	-	-	-	1
Intrauterine hypoxia and birth asphyxia	69	43	25	11	24	19	20	11	5	15	6	9	11
Respiratory distress syndrome	206	176	164	82	65	57	23	14	18	22	13	12	25
Other respiratory conditions	199	132	120	63	65	52	27	17	21	13	19	30	15
Infections specific to the perinatal period	35	32	33	23	35	42	27	21	23	28	16	24	21
Neonatal hemorrhage	38	10	8	13	28	23	12	16	9	9	12	13	13
All other and ill-define conditions originating in the perinatal period	169	168	73	47	39	46	27	39	31	24	24	32	40
Sudden infant death syndrome	260	228	257	148	99	47	44	33	45	32	34	46	43
Accidents and adverse effects	39	35	38	40	55	68	66	97	82	82	83	81	76
Homicides	7	8	17	12	13	15	13	6	9	14	10	11	13
All other causes	136	122	126	118	107	95	81	120	113	103	128	87	98

**Note:** Causes of death are coded using the 9th and 10th revisions to the International Classification of Diseases. The ICD-9 and ICD-10 codes are grouped into broader categories for the causes listed in this table in order to classify these selected causes of death. See [Selected Causes of Groups for Infant Mortality](#) for details of grouping and comparability.

**Source:** 1980-2020 Michigan Resident Infant Death File, Division for Vital Records & Health Statistics, Michigan Department of Health & Human Services.

**Table 13**  
**Three-year Moving Average Infant Deaths Rates per 10,000 Live Births, by Cause of Death,**  
**1980-2020, Michigan Residents**

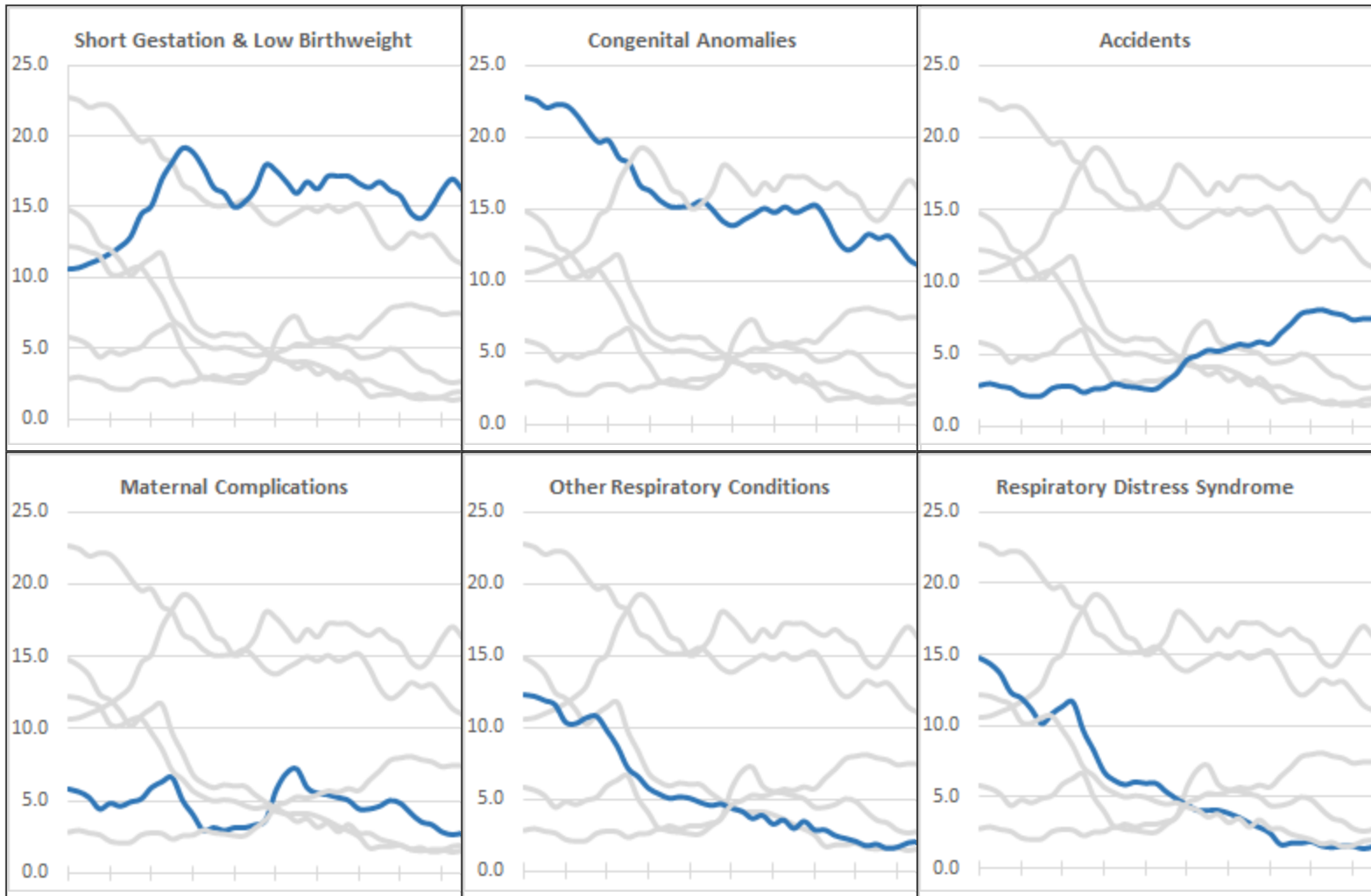
Causes of Death	1980 to 1982	1985 to 1987	1990 to 1992	1995 to 1997	2000 to 2002	2005 to 2007	2010 to 2012	2013 to 2015	2014 to 2016	2015 to 2017	2016 to 2018	2017 to 2019	2018 to 2020
Total Infant Deaths	126.8	112.4	104.2	81.5	81.0	77.6	68.8	68.6	67.1	67.4	66.7	66.2	65.9
Certain gastrointestinal diseases	.6	.6	.6	.6	.6	.9	.8	.5	.5	.4	.4	.4	.3
Septicemia	.4	.5	.9	.4	.5	.6	.4	.4	.4	.3	.4	.4	.4
Remainder of infectious and parasitic diseases	.4	.8	1.1	.6	.5	.5	.2	.4	.4	.3	.3	.2	.3
Meningitis	.9	.4	.4	*	*	.3	.2	*	*	*	*	*	*
Pneumonia and Influenza	1.4	1.1	1.8	1.1	1.1	.5	.6	.6	.4	.5	.6	.7	.6
Congenital anomalies	22.7	21.4	18.1	15.1	13.8	15.1	12.8	13.2	12.9	13.1	12.3	11.4	11.0
Newborn affected by maternal complications of pregnancy	5.8	4.6	6.6	2.9	5.7	5.4	4.6	4.1	3.6	3.3	2.8	2.6	2.7
Newborn affected by complications of placenta, cord and membranes	3.2	2.6	2.1	2.9	2.4	2.1	2.1	2.6	2.6	2.6	2.3	2.0	1.8
Disorders relating to short gestation and unspecified low birthweight	10.6	12.2	18.2	16.0	17.6	17.2	16.8	14.6	14.2	15.0	16.3	17.0	16.2
Birth trauma	2.5	.7	.7	.4	.2	*	*	-	*	*	*	-	*
Intrauterine hypoxia and birth asphyxia	4.5	2.4	1.6	1.2	1.6	.9	1.2	.8	.7	.9	.8	.9	.8
Respiratory distress syndrome	14.8	11.2	9.7	6.1	4.5	3.6	1.8	1.6	1.5	1.6	1.6	1.4	1.6
Other respiratory conditions	12.2	10.2	7.1	5.1	4.3	3.5	2.4	1.7	1.8	1.5	1.6	1.9	2.0
Infections specific to the perinatal period	2.2	2.3	2.2	2.1	3.0	2.9	2.0	2.0	2.0	2.1	2.0	2.1	1.9
Neonatal hemorrhage	2.0	.7	.6	.8	1.3	1.3	1.0	1.3	1.3	1.0	.9	1.0	1.2
All other and ill-define conditions originating in the perinatal period	13.3	12.1	5.1	3.7	3.1	4.3	2.9	3.3	2.9	2.8	2.4	2.4	3.0
Sudden infant death syndrome	16.6	17.1	16.6	10.8	4.3	3.8	2.7	2.9	3.3	3.3	3.3	3.4	3.8
Accidents and adverse effects	2.8	2.1	2.4	2.7	4.6	5.7	7.1	8.1	7.9	7.7	7.4	7.5	7.4
Homicides	.4	.9	.9	.9	.8	.8	1.1	.7	.8	.9	1.0	1.1	1.1
All other causes	9.7	8.6	7.6	7.9	8.3	8.3	7.9	9.9	10.0	9.9	10.3	9.7	9.7

**Note:** For purposes of comparing small values, these rates are calculated at deaths per **10,000** live births; in most Michigan Community Health infant death reports, infant deaths are per **1,000**. **Causes of death** are coded using the 9th and 10th revisions to the International Classification of Diseases. The ICD-9 and ICD-10 codes are grouped into broader categories for the causes listed in this table in order to classify these selected causes of death. See [Selected Causes of Groups for Infant Mortality](#) for details of grouping and comparability.

An asterisk (\*) indicates the rate does not meet standards of reliability or precision. A dash (-) indicates quantity zero.

**Source:** 1980-2020 Michigan Resident Infant Death File, Division for Vital Records & Health Statistics, Michigan Department of Health & Human Services.

**Figure 4**  
**Infant Mortality Rates by Leading Causes of Infant Deaths,**  
**Michigan Residents, 1980-2020**



**Note:** For purposes of comparing small values, these rates are calculated at deaths per **10,000** live births; in most Michigan Community Health infant death reports, infant deaths are per **1,000**.

**Causes of death** are coded using the 9th and 10th revisions to the International Classification of Diseases. The ICD-9 and ICD-10 codes are grouped into broader categories for the causes listed in this table in order to classify these selected causes of death. See [Selected Causes of Groups for Infant Mortality](#) for details of grouping and comparability.

An asterisk (\*) indicates the rate does not meet standards of reliability or precision. A dash (-) indicates quantity zero.

**Source:** 1980-2020 Michigan Resident Infant Death File, Division for Vital Records & Health Statistics, Michigan Department of Health & Human Services.



**Table 14-A**  
**Number of Infant Deaths by Cause of Death,**  
**2014-2020, Michigan Residents**

**Dollfus Primary Cause of Death Group**

Cause of Death Group	Number of Deaths							Percent of Deaths						
	2014	2015	2016	2017	2018	2019	2020	2014	2015	2016	2017	2018	2019	2020
<b>Total</b>	<b>773</b>	<b>770</b>	<b>747</b>	<b>763</b>	<b>723</b>	<b>694</b>	706	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	100.0
Prematurity & related conditions	247	223	228	255	248	250	239	32.0	29.0	30.5	33.5	34.3	36.0	33.9
Congenital anomalies	139	152	151	141	122	112	121	18.0	19.7	20.2	18.5	16.9	16.1	17.1
Sudden Infant Death Syndrome (SIDS)	35	33	45	32	34	46	43	4.5	4.3	6.0	4.2	4.7	6.6	6.1
Obstetric conditions	47	52	39	38	29	31	44	6.1	6.8	5.2	5.0	4.0	4.5	6.2
Birth asphyxia	7	11	5	15	6	9	11	0.9	1.4	0.7	2.0	0.8	1.3	1.6
Perinatal infections	40	36	37	46	28	38	30	5.2	4.7	5.0	6.0	3.9	5.5	4.2
Other infections	29	25	17	22	21	15	16	3.8	3.2	2.3	2.9	2.9	2.2	2.3
External causes	105	104	98	103	98	98	94	13.6	13.5	13.1	13.5	13.6	14.1	13.3
Other causes	124	134	127	110	137	96	108	16.0	17.4	17.0	14.4	18.9	13.8	15.3

**Table 14-B Dollfus Subcategory Cause of Death Group**

Dollfus Subcategory	Number of Deaths							Percent of Deaths						
	2014	2015	2016	2017	2018	2019	2020	2014	2015	2016	2017	2018	2019	2020
<b>Total</b>	<b>773</b>	<b>770</b>	<b>747</b>	<b>763</b>	<b>723</b>	<b>694</b>	706	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	100.0
Short gestation & low birthweight	174	149	161	196	188	177	158	22.5	19.4	21.6	25.7	26.0	25.5	22.4
Birth trauma, neonatal hemorrhage, & hematological disorders	18	15	10	8	11	13	13	2.3	1.9	1.3	1.0	1.5	1.9	1.8
RDS, interstitial emphysema, pulmonary hemorrhage, & atelectasis	35	26	29	29	26	34	38	4.5	3.4	3.9	3.8	3.6	4.9	5.4
Chronic respiratory distress syndrome, & respiratory diseases originating in the perinatal period	1	3	5	4	5	5	2	0.1	0.4	0.7	0.5	0.7	0.7	0.3
Necrotizing enterocolitis	11	17	14	11	8	9	11	1.4	2.2	1.9	1.4	1.1	1.3	1.6
Neonatal cardiac failure & other cardiovascular disorders originating in the perinatal period	8	13	9	7	10	12	17	1.0	1.7	1.2	0.9	0.7	1.7	2.4
Congenital malformations, deformations, & chromosomal anomalies, congenital disorders	139	152	151	141	122	112	121	18.0	19.7	20.2	18.5	16.9	16.1	17.1
Sudden Infant Death Syndrome	35	33	45	32	34	46	43	4.5	4.3	6.0	4.2	4.7	6.6	6.1
Incompetent cervix, premature rupture of membranes	20	26	28	26	23	20	28	2.6	3.4	3.7	3.4	3.2	2.9	4.0
Multiple pregnancy	13	12	3	-	-	6	3	1.7	1.6	0.4	-	-	0.9	0.4
Placental previa, separation and placental abnormalities	14	14	8	12	6	5	13	1.8	1.8	1.1	1.6	0.8	0.7	1.8
Intrauterine hypoxia, birth asphyxia	7	11	5	15	6	9	11	0.9	1.4	0.7	2.0	0.8	1.3	1.6
Streptococcal meningitis	1	-	1	1	1	-	-	0.1	-	0.1	0.1	0.1	-	-
Maternal renal and urinary tract diseases, maternal infections, and parasitic diseases	1	-	-	1	-	3	2	0.1	-	-	0.1	-	0.4	0.3
Chorioamnionitis	12	13	10	15	10	9	7	1.6	1.7	1.3	2.0	1.4	1.3	1.0
Bacterial Sepsis, congenital pneumonia, and other infections specific to the perinatal period	26	23	26	29	17	26	21	3.4	3.0	3.5	3.8	2.3	3.7	3.0
Other infectious and parasitic diseases	18	13	11	12	12	7	11	2.3	1.7	1.5	1.6	1.7	1.0	1.6
Bacterial haemophilus and pneumococcal meningitis	1	-	2	-	-	2	1	0.1	-	0.3	-	-	0.3	0.1
Influenza and pneumonia and other respiratory infections	10	12	4	10	9	6	4	1.3	1.6	0.5	1.3	1.2	0.9	0.6
Accidents involving transportation	2	2	3	5	1	3	3	0.3	0.3	0.4	0.7	0.1	0.4	0.4
Accidents involving falls	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accidental drowning or ingestion causing obstruction to the airways	1	1	3	4	4	1	-	0.1	0.1	0.4	0.5	0.6	0.1	-
Accidents involving suffocation or strangulation in bed	75	73	60	54	70	65	69	9.7	9.5	8.0	7.1	9.7	9.4	9.8
Assault and other other intentional injuries	13	6	9	13	10	10	12	1.7	0.8	1.2	1.7	1.4	1.4	1.7
Injuries with undetermined intent or unspecified cause	3	1	7	8	5	7	6	0.4	0.1	0.9	1.0	1.4	1.0	0.8
Other unintentional injuries	11	21	16	19	8	12	4	1.4	2.7	2.1	2.5	1.1	1.7	0.6
Neoplasms, anemias, and other conditions not otherwise specified	124	134	127	110	137	96	108	16.0	17.4	17.0	14.4	18.9	13.8	15.3

**Note:** The categories listed in this table conform to "[Infant Mortality: Development of a Proposed Update to the Dollfus Classification of Infant Deaths](#)" (Nakamura, et. al.), with the exception of certain external causes. Due to the high number of accidental suffocations of infants in bed, the DVRHS lists "Accidents involving suffocation or strangulation in bed" as a separate category.

**Source:** 2014-2020 Michigan Resident Infant Death File, Division for Vital Records & Health Statistics, Michigan Department of Health & Human Services.

**Table 15-A**  
**Sudden Infant Death Syndrome (SIDS), Accidental Suffocation & Strangulation in Bed (ASSB)**  
**and**  
**Sudden Unexpected Infant Deaths (SUID),**  
**Michigan Residents 1989-2020**

Year	Number				Rate Per 10,000 Live Births		
	SIDS	ASSB	Unknown & unspecified cause	SUID	SIDS	ASSB	SUID
1989	254	10	1	265	17.1	0.7	17.9
1990	256	11	2	269	16.7	0.7	17.6
1991	240	13	3	256	16.1	0.9	17.1
1992	243	7	4	254	16.9	0.5	17.7
1993	210	10	10	230	15.0	0.7	16.5
1994	167	10	8	185	12.1	0.7	13.4
1995	148	15	5	168	11.0	1.1	12.5
1996	149	8	5	162	11.2	0.6	12.2
1997	138	9	13	160	10.3	0.7	12.0
1998	148	11	13	172	11.1	0.8	12.9
1999	114	12	9	135	8.5	0.9	10.1
2000	99	28	6	133	7.3	2.1	9.8
2001	96	39	1	136	7.2	2.9	10.2
2002	85	32	10	127	6.6	2.5	9.8
2003	49	33	14	96	3.7	2.5	7.3
2004	51	49	10	110	3.9	3.8	8.5
2005	47	52	10	109	3.7	4.1	8.5
2006	51	52	9	112	4.0	4.1	8.8
2007	46	56	8	110	3.7	4.5	8.8
2008	48	52	2	102	4.0	4.3	8.4
2009	45	63	4	112	3.8	5.4	9.5
2010	44	52	7	103	3.8	4.5	9.0
2011	33	69	13	115	2.9	6.0	10.1
2012	15	75	16	106	1.3	6.7	9.4
2013	31	72	14	117	2.7	6.3	10.3
2014	35	76	14	125	3.1	6.6	10.9
2015	33	73	24	125	2.9	6.5	11.0
2016	45	60	13	118	4.0	5.3	10.4
2017	32	54	13	99	2.9	4.8	8.9
2018	34	70	32	136	3.1	6.4	12.4
2019	46	65	14	125	4.3	6.0	11.6
2020	43	69	25	137	4.1	6.6	13.2

**Table 15-B**  
**Accidental Suffocation & Strangulation in Bed and Total Accidents,**  
**Michigan Residents, 1989-2020**

Year	ASSB	Other Accidents & adverse effects	Total Accidents	ASSB Percent of Accidents
1989	10	37	47	21.3%
1990	11	27	38	28.9%
1991	13	25	38	34.2%
1992	7	22	29	24.1%
1993	10	35	45	22.2%
1994	10	27	37	27.0%
1995	15	25	40	37.5%
1996	8	28	36	22.2%
1997	9	24	33	27.3%
1998	11	24	35	31.4%
1999	12	24	36	33.3%
2000	28	27	55	50.9%
2001	39	18	57	68.4%
2002	32	40	72	44.4%
2003	33	31	64	51.6%
2004	49	21	70	70.0%
2005	52	16	68	76.5%
2006	52	19	71	73.2%
2007	56	21	77	72.7%
2008	52	10	62	83.9%
2009	63	11	74	85.1%
2010	52	13	65	80.0%
2011	69	14	83	83.1%
2012	75	17	92	81.5%
2013	72	18	90	80.0%
2014	76	14	90	84.4%
2015	73	24	97	75.3%
2016	60	22	82	73.2%
2017	54	28	82	65.9%
2018	70	13	83	84.4%
2019	65	16	81	80.2%
2020	69	7	76	90.8%

**Notes:** Causes of death are coded using the 9th and 10th revisions to the International Classification of Diseases. The ICD-9 and ICD-10 codes are grouped into broader categories for the causes listed in this table in order to classify these selected causes of death. Before 1999, causes of death were classified according to the following ICD-9 codes: SIDS: 798.0, ASSB: E913.0, Unknown: 799.9. On or after 1999, deaths were classified according to the following ICD-10 codes: SIDS: R95, ASSB: W75 and Unknown: R99.

After 1996, SUID death-scene guidelines and subsequent reporting instructions have shifted how SIDS and ASSB deaths were coded. As a result, some deaths that may have been attributed to SIDS before 1999 were classified as ASSB after 1999.

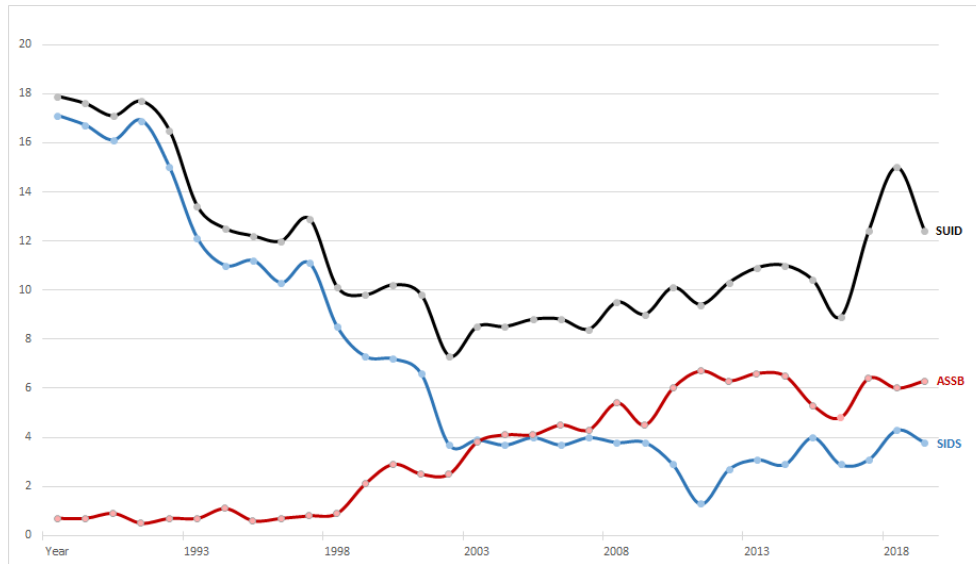
For further information on sudden unexplained infant deaths, see the Sudden Unexpected Infant Death Case Registry. ([www.cdc.gov/sids/index.htm](http://www.cdc.gov/sids/index.htm))

**Table 16**  
**Three-year Average Mortality Rates by Race**  
**Sudden Infant Death Syndrome (SIDS), Accidental Suffocation & Strangulation in Bed (ASSB)**  
**and Sudden Unexpected Infant Deaths (SUID),**  
**Michigan Residents 1989-2020**

Trend	All			White			Black		
	SIDS	ASSB	SUIDS	SIDS	ASSB	SUIDS	SIDS	ASSB	SUIDS
1989-1991	16.6	0.8	17.5	13.4	0.5	14.1	27.1	1.7	29.0
1990-1992	16.6	0.7	17.5	13.3	0.6	14.1	28.1	1.1	29.3
1991-1993	16.0	0.7	17.1	12.8	0.7	13.8	28.2	0.8	29.5
1992-1994	14.7	0.6	15.9	11.6	0.6	12.7	27.3	0.8	28.7
1993-1995	12.8	0.9	14.2	9.7	0.6	10.9	25.9	1.7	28.3
1994-1996	11.4	0.8	12.7	8.2	0.6	9.3	26.1	1.6	28.1
1995-1997	10.8	0.8	12.2	7.7	0.7	9.0	24.9	1.2	26.6
1996-1998	10.9	0.7	12.3	7.7	0.6	9.0	24.3	1.1	26.4
1997-1999	10.0	0.8	11.7	7.3	0.6	8.5	21.7	1.7	24.9
1998-2000	9.0	1.3	10.9	6.4	0.9	7.7	19.7	3.1	24.1
1999-2001	7.7	2.0	10.0	5.3	1.6	7.2	18.3	3.8	22.8
2000-2002	7.0	2.5	9.9	5.0	1.9	7.3	16.3	5.6	22.5
2001-2003	5.8	2.6	9.1	4.5	2.2	7.2	12.8	5.3	19.4
2002-2004	4.7	2.9	8.5	3.9	2.2	6.9	9.2	7.0	17.9
2003-2005	3.8	3.5	8.1	3.1	2.9	6.7	7.3	6.7	15.6
2004-2006	3.9	4.0	8.6	3.0	3.0	6.7	7.7	8.9	18.0
2005-2007	3.8	4.2	8.7	3.2	3.1	6.7	6.4	10.1	18.2
2006-2008	3.9	4.3	8.7	3.5	2.9	6.7	5.3	10.8	17.4
2007-2009	3.8	4.7	8.9	3.6	3.0	6.8	4.9	11.9	18.1
2008-2010	3.9	4.7	9.0	3.6	3.1	7.0	4.9	11.0	17.0
2009-2011	3.5	5.3	9.5	3.2	3.5	7.1	5.1	12.8	19.5
2010-2012	2.7	5.7	9.5	2.5	3.9	7.3	3.7	13.7	18.6
2011-2013	2.3	6.3	9.9	2.2	4.3	7.6	2.9	15.7	20.6
2012-2014	2.4	5.8	9.4	2.4	3.7	6.9	2.5	15.1	19.2
2013-2015	2.9	5.7	10.1	2.9	4.0	8.0	3.4	13.3	20.2
2014-2016	3.3	6.1	10.9	3.0	4.5	8.5	4.7	13.8	22.6
2015-2017	3.3	5.5	10.3	2.7	3.7	7.4	5.9	13.3	22.7
2016-2018	3.3	5.5	10.5	2.7	3.7	7.4	6.5	13.2	24.1
2017-2019	3.4	5.7	10.9	2.4	3.6	7.5	7.5	14.0	24.8
2018-2020	3.8	6.3	12.4	2.7	4.0	8.2	8.7	16.4	30.3

**Notes: Rates are per 10,000 live births.** Causes of death are coded using the 9th and 10th revisions to the International Classification of Diseases. The ICD-9 and ICD-10 codes are grouped into broader categories for the causes listed in this table in order to classify these selected causes of death. Before 1999, causes of death were classified according to the following ICD-9 codes: SIDS: 798.0, ASSB: E913.0, Unknown: 799.9. On or after 1999, deaths were classified according to the following ICD-10 codes: SIDS: R95, ASSB: W75 and Unknown: R99. After 1996, SUID death-scene guidelines and subsequent reporting instructions shifted how SIDS and ASSB deaths were coded. As a result, some deaths that may have been attributed to SIDS before 1999 were classified as ASSB after 1999.

**Figure 5**  
**Sudden Infant Death Rates,**  
**Accidental Suffocation & Strangulation in Bed &**  
**Sudden Unexpected Infant Death Rates**  
**Michigan Residents, 1989-2020**



**Note:** For purposes of comparing small values, these rates are calculated at deaths per **10,000** live births; in most Michigan Community Health infant death reports, infant deaths are per **1,000**.

**Causes of death** are coded using the 9th and 10th revisions to the International Classification of Diseases. The ICD-9 and ICD-10 codes are grouped into broader categories for the causes listed in this table in order to classify these selected causes of death. See [Selected Causes of Groups for Infant Mortality](#) for details of grouping and comparability.

An asterisk (\*) indicates the rate does not meet standards of reliability or precision. A dash (-) indicates quantity zero.

**Source:** 1989-2020 Michigan Resident Infant Death File, Division for Vital Records & Health Statistics, Michigan Department of Health & Human Services.

**Table 17-A**  
**All Three-Year Moving Average Infant Death Rates by County**  
**Michigan Residents, 2009–2020**

County	2009-11	2010-12	2011-13	2012-14	2013-15	2014-16	2015-17	2016-18	2017-19	2018-20
Michigan	7.1±0.3	6.9±0.3	6.8±0.3	6.9±0.3	6.9±0.3	6.7±0.3	6.7±0.3	6.7±0.3	6.6±0.3	6.6±0.3
Alcona	*	*	*	*	*	*	*	*	*	*
Alger	*	-	-	-	-	-	-	-	*	*
Allegan	4.5±2.0	4.2±2.0	5.0±2.2	5.4±2.3	6.8±2.5	5.7±2.3	4.6±2.1	3.6±1.8	4.7±2.1	5.3±2.3
Alpena	7.3±5.8	*	*	*	*	*	*	*	*	*
Antrim	10.9±8.0	10.0±8.0	*	*	*	-	-	*	*	*
Arenac	*	*	16.2±12.9	16.5±13.1	*	*	*	*	-	*
Baraga	-	-	*	*	*	*	*	*	*	-
Barry	7.9±4.0	6.8±3.7	4.9±3.2	4.8±3.1	3.2±2.5	*	3.6±2.7	4.6±3.0	5.2±3.2	6.3±3.5
Bay	8.3±3.0	7.7±3.0	5.3±2.5	5.7±2.6	6.1±2.7	5.4±2.6	4.5±2.4	4.0±2.2	5.5±2.7	5.0±2.6
Benzie	*	*	*	*	*	*	*	*	*	*
Berrien	8.3±2.3	8.1±2.3	8.3±2.4	7.8±2.3	6.9±2.2	6.4±2.2	5.2±2.0	6.7±2.2	7.4±2.4	8.4±2.6
Branch	6.3±3.9	7.8±4.4	7.0±4.1	6.9±4.1	6.8±4.0	8.1±4.4	8.7±4.6	9.6±4.7	8.3±4.4	7.0±3.9
Calhoun	10.7±2.9	8.7±2.6	7.2±2.3	6.0±2.1	6.8±2.3	5.8±2.1	7.2±2.4	6.8±2.3	6.4±2.3	6.0±2.3
Cass	7.3±4.3	6.6±4.3	7.4±4.6	8.5±4.8	7.3±4.3	7.3±4.3	6.2±4.0	9.8±5.1	9.6±5.0	9.9±5.1
Charlevoix	*	*	*	*	*	*	*	*	*	*
Cheboygan	*	-	-	-	*	*	*	9.7±7.7	12.4±8.5	13.8±9.5
Chippewa	5.3±4.2	7.5±5.2	7.5±5.2	5.6±4.5	*	*	*	*	7.3±5.4	7.6±5.6
Clare	*	*	*	*	*	*	6.1±4.9	10.3±6.3	8.1±5.6	6.4±5.1
Clinton	4.0±2.6	3.8±2.5	2.5±2.0	3.8±2.5	6.3±3.2	6.5±3.2	5.2±2.8	2.4±1.9	*	3.4±2.4
Crawford	*	*	*	*	*	*	15.7±12.5	*	*	*
Delta	5.3±4.2	6.4±4.7	5.4±4.3	7.1±4.9	*	5.4±4.3	*	5.9±4.7	7.9±5.5	11.0±6.5
Dickinson	*	*	*	*	*	*	*	*	*	*
Eaton	5.6±2.5	5.4±2.4	6.1±2.6	6.0±2.6	7.0±2.8	6.7±2.7	6.0±2.5	4.3±2.2	3.8±2.1	5.1±2.4
Emmet	*	*	*	*	*	*	*	*	*	*
Genesee	7.8±1.4	7.1±1.3	8.0±1.4	8.0±1.4	8.5±1.5	9.1±1.5	9.0±1.5	8.0±1.5	6.7±1.4	6.4±1.4
Gladwin	*	*	*	*	11.2±7.3	9.7±6.7	*	*	*	*
Gogebic	*	*	-	*	*	16.1±12.8	*	*	-	*
Grand Traverse	3.3±2.1	2.9±2.0	*	3.5±2.2	5.3±2.7	7.5±3.2	6.5±3.0	5.1±2.7	4.6±2.6	6.2±3.0
Gratiot	8.1±4.8	6.3±4.3	4.8±3.8	5.8±4.2	6.6±4.6	5.1±4.0	*	*	*	*
Hillsdale	*	3.7±3.0	4.3±3.2	*	4.8±3.3	6.7±4.0	10.5±5.0	7.4±4.2	5.2±3.6	4.0±3.2

**Table 17-A**  
**All Three-Year Moving Average Infant Death Rates by County**  
**Michigan Residents, 2009–2020 (Continued)**

County	2009-11	2010-12	2011-13	2012-14	2013-15	2014-16	2015-17	2016-18	2017-19	2018-20
Houghton	*	5.1±4.0	5.3±4.3	5.4±4.3	*	*	6.3±4.7	7.2±5.0	6.5±4.8	*
Huron	6.3±5.1	6.5±5.2	*	*	-	*	*	6.7±5.3	7.1±5.6	*
Ingham	5.6±1.5	5.8±1.5	7.2±1.7	7.1±1.7	7.1±1.7	6.4±1.6	6.0±1.5	5.9±1.5	6.4±1.6	7.6±1.8
Ionia	4.0±2.6	4.0±2.6	4.1±2.6	4.1±2.7	5.0±2.9	4.6±2.8	4.1±2.7	5.6±3.2	4.8±3.0	5.0±3.1
Iosco	12.6±8.6	9.2±7.4	*	*	*	*	8.8±7.0	11.2±7.7	13.5±8.3	9.8±7.2
Iron	*	*	*	*	*	*	*	*	*	*
Isabella	6.8±3.5	7.1±3.7	6.2±3.5	4.0±2.8	4.4±2.9	4.0±2.7	7.0±3.7	7.2±3.8	9.4±4.3	8.2±4.1
Jackson	6.1±2.1	5.3±1.9	6.2±2.1	5.6±2.0	6.2±2.1	6.7±2.2	8.0±2.4	7.4±2.3	5.2±2.0	5.3±2.0
Kalamazoo	7.6±1.8	6.4±1.6	6.0±1.6	6.4±1.6	6.5±1.6	4.6±1.4	6.7±1.6	6.2±1.6	7.7±1.8	5.0±1.5
Kalkaska	*	11.3±9.0	11.6±9.2	17.0±11.0	*	*	*	*	*	*
Kent	6.4±1.0	6.2±0.9	5.6±0.9	5.3±0.9	5.5±0.9	6.2±0.9	6.0±0.9	5.5±0.9	5.4±0.9	5.9±0.9
Keweenaw	-	-	*	*	*	-	-	-	*	*
Lake	*	*	*	*	*	*	*	*	*	*
Lapeer	7.1±3.3	3.6±2.4	2.4±1.9	4.4±2.6	5.3±2.9	5.3±2.9	4.6±2.7	3.7±2.4	5.0±2.8	4.6±2.7
Leelanau	*	*	*	*	*	*	*	*	-	*
Lenawee	9.4±3.3	9.2±3.3	7.2±2.9	8.2±3.1	7.6±3.0	7.3±3.0	6.2±2.8	4.9±2.5	3.7±2.2	3.1±2.0
Livingston	6.7±2.2	5.9±2.1	5.2±2.0	5.4±2.0	5.1±1.9	4.4±1.7	3.5±1.6	3.3±1.5	3.4±1.6	2.5±1.3
Luce	-	-	-	*	*	*	*	*	*	*
Mackinac	*	-	-	-	*	*	*	*	-	-
Macomb	6.5±1.0	5.6±0.9	6.3±0.9	6.0±0.9	6.3±0.9	5.7±0.9	6.4±0.9	6.1±0.9	6.2±0.9	5.2±0.9
Manistee	*	*	*	*	*	*	*	*	*	*
Marquette	5.1±3.1	4.1±2.8	4.1±2.9	*	4.3±3.0	4.2±2.9	4.3±3.0	*	*	4.2±3.1
Mason	*	*	*	*	*	*	*	*	*	*
Mecosta	7.0±4.5	10.2±5.5	11.8±6.0	9.3±5.2	8.6±5.1	5.5±4.1	*	*	5.6±4.1	7.3±4.8
Menominee	*	*	*	*	*	*	*	*	*	*
Midland	4.2±2.5	4.6±2.6	6.6±3.1	7.1±3.3	5.8±2.9	3.5±2.3	2.3±1.9	*	*	2.8±2.1
Missaukee	*	*	*	*	*	*	*	*	*	*
Monroe	4.3±1.8	4.4±1.9	5.8±2.2	5.9±2.2	6.0±2.3	4.2±1.9	6.1±2.3	4.9±2.0	6.4±2.3	7.3±2.5
Montcalm	6.4±3.3	6.8±3.4	6.4±3.3	5.5±3.1	4.6±2.9	4.3±2.8	4.7±2.9	4.6±2.9	5.7±3.2	5.3±3.1
Montmorency	*	*	*	*	-	-	-	-	-	*



**Table 17-A**  
**All Three-Year Moving Average Infant Death Rates by County**  
**Michigan Residents, 2009–2020 (Continued)**

County	2009-11	2010-12	2011-13	2012-14	2013-15	2014-16	2015-17	2016-18	2017-19	2018-20
Muskegon	8.0±2.1	8.7±2.3	8.0±2.2	8.1±2.2	8.1±2.2	8.4±2.3	8.4±2.2	7.5±2.1	5.9±1.9	5.6±1.9
Newaygo	7.8±4.2	7.3±4.1	7.3±4.1	7.2±4.1	7.9±4.3	7.9±4.3	6.2±3.8	4.9±3.4	5.6±3.7	6.3±3.9
Oakland	5.8±0.7	6.2±0.8	6.3±0.8	6.6±0.8	6.0±0.8	5.6±0.7	5.3±0.7	5.6±0.7	5.2±0.7	5.1±0.7
Oceana	5.9±4.7	9.0±5.9	*	12.3±7.2	9.1±6.2	12.1±7.1	6.8±5.5	*	*	*
Ogemaw	*	*	*	*	*	*	*	*	*	*
Ontonagon	-	-	-	*	*	*	-	-	-	-
Osceola	*	*	*	*	*	*	8.0±6.4	7.5±6.0	*	*
Oscoda	*	*	*	*	*	*	-	*	*	*
Otsego	9.0±6.6	11.9±7.7	13.9±8.6	12.6±8.2	9.3±6.9	*	*	*	*	8.3±6.6
Ottawa	5.6±1.5	5.9±1.5	6.6±1.6	5.7±1.5	6.0±1.5	4.9±1.4	4.8±1.4	4.1±1.3	3.9±1.3	4.4±1.3
Presque Isle	*	21.7±17.1	*	*	*	*	*	*	*	*
Roscommon	*	*	*	*	*	*	*	*	*	13.3±10.6
Saginaw	7.9±2.1	6.1±1.8	7.1±2.0	7.7±2.1	8.7±2.2	10.0±2.4	8.4±2.2	8.4±2.2	7.2±2.0	10.0±2.5
St. Clair	6.3±2.2	6.2±2.2	6.3±2.2	6.0±2.2	5.1±2.1	6.2±2.2	5.9±2.2	5.4±2.1	5.1±2.1	6.8±2.4
St. Joseph	8.3±3.5	7.4±3.4	7.3±3.4	7.9±3.5	5.3±2.8	5.1±2.9	4.8±2.8	6.6±3.3	6.2±3.3	7.2±3.5
Sanilac	*	*	4.6±3.6	6.8±4.4	6.8±4.4	8.4±4.9	8.4±4.9	6.4±4.4	*	*
Schoolcraft	-	-	-	-	-	-	-	-	-	*
Shiawassee	3.3±2.4	3.8±2.6	3.2±2.4	4.2±2.7	4.7±2.9	6.1±3.3	7.2±3.6	6.7±3.5	5.9±3.3	3.9±2.7
Tuscola	6.8±4.0	6.8±4.0	4.9±3.4	4.7±3.3	4.7±3.3	4.2±3.1	4.2±3.1	4.2±3.1	6.7±4.0	8.2±4.4
Van Buren	4.5±2.4	5.6±2.8	6.5±3.0	6.2±3.0	5.6±2.8	6.1±3.0	6.2±3.0	6.0±3.0	4.0±2.4	2.8±2.1
Washtenaw	4.9±1.3	4.7±1.3	4.6±1.3	5.9±1.4	5.5±1.4	5.9±1.4	4.7±1.3	5.2±1.4	5.2±1.4	5.1±1.4
Wayne	9.8±0.7	9.9±0.7	9.7±0.7	9.6±0.7	9.4±0.7	9.3±0.7	9.7±0.7	10.0±0.7	10.3±0.8	10.0±0.8
Wexford	6.4±4.4	9.8±5.5	9.8±5.5	10.8±5.8	6.3±4.4	5.0±4.0	5.1±4.1	7.1±4.9	7.9±5.2	9.0±5.5

**Notes:** Rates are per 1,000 live births. Adding and subtracting the number shown after the ± symbol from the rate creates a confidence interval indicating that the true rate lies between the lower and upper bounds of this interval with 95 % statistical confidence.

\*: A rate is not calculated when there are fewer than 6 events, because the width of the confidence interval would negate any usefulness for comparative purposes.

-: A dash indicates that there were either no births or no infant deaths from this category.

**Source:** 2009-2019 Geocoded Michigan Death Certificate Registries; 2020 Michigan Death Certificate Registry. 2009-2019 Geocoded Michigan Birth Certificate Registries; 2020 Michigan Birth Certificate Registry. Division for Vital Records & Health Statistics, Michigan Department of Health & Human Services

**Table 17-B**  
**White Three-Year Moving Average Infant Death Rates by County**  
**Michigan Residents, 2009–2020**

County	2009-11	2010-12	2011-13	2012-14	2013-15	2014-16	2015-17	2016-18	2017-19	2018-20
<b>Michigan</b>	5.2±0.3	5.3±0.3	5.3±0.3	5.5±0.3	5.4±0.3	5.1±0.3	4.9±0.3	4.7±0.3	4.7±0.3	4.7±0.3
<b>Alcona</b>	*	*	*	*	*	*	-	-	*	*
<b>Alger</b>	*	-	-	-	-	-	-	-	*	*
<b>Allegan</b>	4.0±2.0	4.1±2.0	5.0±2.2	5.4±2.3	6.8±2.6	5.4±2.3	4.5±2.1	3.3±1.8	4.1±2.0	4.8±2.2
<b>Alpena</b>	*	*	*	*	*	*	*	*	*	*
<b>Antrim</b>	11.7±8.6	10.7±8.5	*	*	*	-	-	*	*	*
<b>Arenac</b>	*	*	16.6±13.2	16.8±13.3	*	*	*	*	-	*
<b>Baraga</b>	-	-	-	*	*	*	*	-	-	-
<b>Barry</b>	8.0±4.0	6.9±3.7	5.0±3.3	4.9±3.2	3.2±2.6	*	3.7±2.7	4.7±3.1	5.4±3.3	6.5±3.7
<b>Bay</b>	7.9±3.0	7.6±3.0	5.3±2.6	5.5±2.7	5.9±2.8	5.1±2.6	4.8±2.5	3.9±2.3	4.8±2.6	3.8±2.4
<b>Benzie</b>	*	*	*	*	*	*	*	*	*	*
<b>Berrien</b>	3.6±1.8	4.6±2.1	4.9±2.2	4.9±2.2	4.7±2.1	5.1±2.3	4.4±2.2	4.9±2.3	4.5±2.3	5.3±2.5
<b>Branch</b>	6.5±4.0	6.7±4.1	5.2±3.6	5.2±3.6	6.5±4.0	8.6±4.6	7.8±4.4	8.1±4.4	6.9±4.0	5.7±3.7
<b>Calhoun</b>	7.9±2.8	6.4±2.5	5.9±2.4	5.1±2.2	5.2±2.3	4.4±2.1	6.2±2.5	5.8±2.5	5.8±2.5	4.6±2.3
<b>Cass</b>	5.3±3.9	6.8±4.7	7.6±5.0	9.6±5.4	8.1±4.8	8.1±4.8	6.1±4.2	9.4±5.3	8.6±5.1	8.8±5.2
<b>Charlevoix</b>	*	*	*	*	*	*	*	*	*	*
<b>Cheboygan</b>	*	-	-	-	*	*	*	10.3±8.2	13.1±9.0	14.7±10.1
<b>Chippewa</b>	*	*	*	*	*	*	*	*	*	*
<b>Clare</b>	*	*	*	*	*	*	6.3±5.0	10.6±6.5	8.4±5.8	6.6±5.2
<b>Clinton</b>	4.2±2.7	4.1±2.7	2.7±2.2	4.1±2.7	5.9±3.2	6.3±3.3	4.4±2.7	*	*	3.8±2.6
<b>Crawford</b>	*	*	*	-	*	*	16.4±13.0	*	*	*
<b>Delta</b>	*	5.8±4.7	*	6.5±4.8	*	*	*	6.3±5.0	8.3±5.8	11.7±6.8
<b>Dickinson</b>	*	*	*	*	*	*	*	*	*	*
<b>Eaton</b>	3.9±2.2	4.8±2.5	4.8±2.5	4.8±2.5	5.1±2.6	5.1±2.6	4.5±2.5	3.5±2.2	3.7±2.3	5.3±2.8
<b>Emmet</b>	*	*	*	*	*	*	*	*	*	*
<b>Genesee</b>	5.1±1.4	4.8±1.3	5.2±1.4	5.3±1.4	5.7±1.5	6.3±1.6	6.4±1.6	5.4±1.5	4.1±1.3	3.5±1.2
<b>Gladwin</b>	*	*	*	*	11.4±7.4	9.9±6.8	*	*	*	*
<b>Gogebic</b>	*	*	-	-	-	*	*	*	-	*
<b>Grand Traverse</b>	3.5±2.3	3.1±2.2	*	3.7±2.3	5.6±2.8	7.8±3.3	6.8±3.1	5.0±2.7	4.4±2.6	5.7±3.0
<b>Gratiot</b>	7.8±4.8	5.8±4.3	*	5.2±4.2	6.2±4.6	5.4±4.3	*	*	*	*
<b>Hillsdale</b>	*	3.8±3.1	4.4±3.2	*	4.9±3.4	6.9±4.0	10.8±5.1	7.6±4.3	4.7±3.5	*

**Table 17-B**  
**White Three-Year Moving Average Infant Death Rates by County**  
**Michigan Residents, 2009–2020 (Continued)**

County	2009-11	2010-12	2011-13	2012-14	2013-15	2014-16	2015-17	2016-18	2017-19	2018-20
Houghton	*	5.4±4.3	5.7±4.6	5.7±4.6	*	*	5.8±4.6	6.7±5.0	6.0±4.8	*
Huron	6.5±5.2	6.7±5.3	*	*	-	*	*	6.8±5.4	7.2±5.7	*
Ingham	4.6±1.6	5.3±1.7	7.5±2.1	7.1±2.0	6.4±1.9	4.6±1.6	4.3±1.6	4.7±1.7	5.4±1.9	5.9±2.0
Ionia	3.6±2.5	3.7±2.6	3.7±2.6	4.2±2.8	5.1±3.0	4.8±2.9	4.3±2.8	5.9±3.3	4.5±2.9	4.2±2.9
Iosco	13.1±9.0	9.6±7.6	*	*	*	*	*	8.7±6.9	11.3±7.8	10.4±7.7
Iron	*	*	*	*	*	*	*	*	*	*
Isabella	5.6±3.4	6.5±3.8	5.9±3.7	3.5±2.8	4.0±3.0	4.0±3.0	7.1±4.0	7.7±4.2	9.5±4.7	8.1±4.4
Jackson	5.5±2.1	4.1±1.8	4.6±2.0	3.9±1.8	5.1±2.1	5.0±2.0	5.8±2.2	4.7±2.0	3.2±1.7	3.5±1.8
Kalamazoo	4.8±1.6	3.9±1.4	3.9±1.4	4.7±1.6	4.7±1.6	3.2±1.3	4.7±1.6	4.6±1.6	5.5±1.8	3.2±1.3
Kalkaska	*	11.7±9.3	11.9±9.5	17.4±11.3	*	*	*	*	*	*
Kent	4.4±0.9	4.4±0.9	4.1±0.9	4.5±0.9	4.9±0.9	5.1±1.0	4.8±0.9	4.4±0.9	4.1±0.9	4.3±1.0
Keweenaw	-	-	*	*	*	-	-	-	*	*
Lake	*	*	*	*	*	*	*	*	*	*
Lapeer	6.3±3.2	3.0±2.2	2.6±2.1	4.7±2.8	5.6±3.0	5.6±3.0	4.8±2.9	3.9±2.5	5.2±2.9	4.8±2.8
Leelanau	*	*	*	*	*	*	*	*	-	*
Lenawee	8.7±3.4	9.6±3.6	7.6±3.2	8.4±3.3	7.6±3.2	7.0±3.1	6.5±3.0	5.1±2.6	4.1±2.4	3.3±2.2
Livingston	6.6±2.2	5.8±2.1	5.0±2.0	5.1±2.0	4.7±1.9	4.2±1.7	3.0±1.5	3.1±1.5	3.1±1.5	2.6±1.4
Luce	-	-	-	*	*	*	*	*	*	*
Mackinac	*	-	-	-	*	*	*	*	-	-
Macomb	5.6±1.0	4.8±0.9	5.5±1.0	5.3±1.0	5.4±1.0	4.6±0.9	5.2±1.0	4.7±0.9	4.6±0.9	3.6±0.8
Manistee	*	*	*	*	*	*	*	*	*	-
Marquette	4.8±3.1	4.2±2.9	4.3±3.0	*	4.5±3.1	4.4±3.0	4.5±3.1	*	*	3.8±3.0
Mason	*	*	*	*	*	*	*	*	*	*
Mecosta	6.6±4.5	10.0±5.6	11.7±6.1	9.9±5.6	9.1±5.4	5.8±4.3	*	*	5.1±4.0	6.9±4.7
Menominee	*	*	*	*	*	*	-	*	*	*
Midland	4.0±2.5	4.9±2.8	5.8±3.0	6.3±3.2	4.9±2.8	3.7±2.4	2.5±2.0	*	*	3.0±2.2
Missaukee	*	*	*	*	*	*	*	*	*	*
Monroe	3.5±1.7	3.6±1.8	5.1±2.1	5.3±2.2	6.0±2.3	4.1±1.9	6.1±2.4	5.0±2.1	6.7±2.5	7.6±2.6
Montcalm	6.1±3.3	6.5±3.4	6.0±3.3	5.6±3.2	4.7±2.9	4.4±2.8	4.8±3.0	4.8±3.0	5.9±3.3	5.4±3.2
Montmorency	*	*	*	*	-	-	-	-	-	*

**Table 17-B**  
**White Three-Year Moving Average Infant Death Rates by County**  
**Michigan Residents, 2009–2020 (Continued)**

County	2009-11	2010-12	2011-13	2012-14	2013-15	2014-16	2015-17	2016-18	2017-19	2018-20
Muskegon	6.3±2.2	7.1±2.4	6.6±2.3	5.8±2.2	4.6±1.9	4.1±1.8	4.2±1.8	3.8±1.8	3.7±1.8	3.5±1.7
Newaygo	7.4±4.2	6.9±4.1	7.0±4.1	7.6±4.3	8.4±4.6	8.4±4.5	6.6±4.1	5.2±3.6	6.0±3.9	6.7±4.1
Oakland	5.1±0.8	5.7±0.9	5.6±0.9	5.4±0.8	4.5±0.8	4.0±0.7	3.8±0.7	4.3±0.8	4.0±0.7	3.9±0.7
Oceana	*	9.6±6.3	*	13.5±7.9	8.7±6.4	10.7±7.0	*	*	*	*
Ogemaw	*	*	*	*	*	*	*	*	*	*
Ontonagon	-	-	-	*	*	*	-	-	-	-
Osceola	*	*	*	*	*	*	*	7.7±6.2	*	*
Oscoda	*	*	*	*	*	*	-	*	*	*
Otsego	9.2±6.8	12.2±7.9	14.4±8.9	11.5±8.0	8.3±6.6	*	*	*	*	8.5±6.8
Ottawa	5.3±1.5	5.6±1.5	6.3±1.6	5.3±1.5	5.6±1.5	4.7±1.4	4.6±1.4	4.2±1.3	3.7±1.3	3.9±1.3
Presque Isle	*	22.1±17.5	*	*	*	*	*	*	*	*
Roscommon	*	*	*	*	*	*	*	*	*	13.7±10.9
Saginaw	2.9±1.5	2.9±1.5	4.2±1.8	6.2±2.2	6.3±2.2	7.5±2.5	5.5±2.1	6.3±2.3	5.2±2.1	7.0±2.5
St. Clair	6.3±2.3	6.2±2.3	6.3±2.3	5.9±2.3	4.3±1.9	5.0±2.1	4.7±2.1	5.1±2.1	5.0±2.1	6.1±2.3
St. Joseph	7.9±3.6	6.9±3.4	6.4±3.2	6.6±3.3	4.3±2.7	4.5±2.8	4.7±2.9	6.1±3.3	6.4±3.4	7.5±3.8
Sanilac	*	*	4.6±3.7	6.9±4.5	6.1±4.2	7.7±4.8	7.8±4.8	6.5±4.5	*	*
Schoolcraft	-	-	-	-	-	-	-	-	-	*
Shiawassee	3.4±2.5	3.9±2.7	3.3±2.5	4.3±2.8	4.3±2.8	5.8±3.3	6.9±3.6	6.9±3.6	6.0±3.4	4.1±2.8
Tuscola	6.9±4.1	7.0±4.1	5.0±3.5	4.9±3.4	4.8±3.3	4.3±3.2	4.4±3.2	4.4±3.3	7.0±4.1	8.5±4.6
Van Buren	4.1±2.5	5.4±2.9	6.2±3.1	5.8±3.0	5.3±2.9	6.2±3.1	6.3±3.2	5.8±3.2	4.0±2.6	2.7±2.2
Washtenaw	4.5±1.5	3.9±1.4	4.2±1.5	5.4±1.7	5.0±1.6	4.3±1.5	3.2±1.3	3.0±1.3	3.3±1.3	3.3±1.3
Wayne	5.5±0.8	5.9±0.9	6.3±0.9	6.4±0.9	6.4±0.9	6.1±0.9	5.6±0.8	5.0±0.8	5.3±0.8	5.4±0.8
Wexford	6.6±4.5	10.1±5.7	9.3±5.4	10.3±5.8	5.7±4.2	5.1±4.1	5.3±4.2	7.3±5.1	8.2±5.3	9.3±5.7

**Notes:** Rates are per 1,000 live births. Adding and subtracting the number shown after the ± symbol from the rate creates a confidence interval indicating that the true rate lies between the lower and upper bounds of this interval with 95 % statistical confidence.

\*: A rate is not calculated when there are fewer than 6 events, because the width of the confidence interval would negate any usefulness for comparative purposes.

-: A dash indicates that there were either no births or no infant deaths from this category.

**Source:** 2009-2019 Geocoded Michigan Death Certificate Registries; 2020 Michigan Death Certificate Registry. 2009-2019 Geocoded Michigan Birth Certificate Registries; 2020 Michigan Birth Certificate Registry.. Division for Vital Records & Health Statistics, Michigan Department of Health & Human Services

**Table 17-C**  
**Black Three-Year Moving Average Infant Death Rates by County**  
**Michigan Residents, 2009–2020**

County	2009-11	2010-12	2011-13	2012-14	2013-15	2014-16	2015-17	2016-18	2017-19	2018-20
<b>Michigan</b>	14.5±0.9	13.8±0.9	13.4±0.9	13.3±0.9	13.7±0.9	13.8±0.9	14.3±0.9	14.4±0.9	14.3±0.9	14.1±0.9
<b>Berrien</b>	19.5±6.9	18.6±6.9	17.3±6.7	16.5±6.7	13.3±6.1	10.4±5.6	7.4±4.8	13.3±6.5	15.5±6.9	17.1±7.4
<b>Calhoun</b>	25.4±11.3	20.2±10.1	13.8±8.1	9.9±6.8	14.6±8.2	11.3±7.3	12.6±7.8	11.7±7.6	10.4±7.2	10.6±7.3
<b>Cass</b>	*	*	*	-	-	-	-	*	*	*
<b>Genesee</b>	14.2±3.4	12.4±3.3	14.2±3.5	14.6±3.6	15.6±3.7	16.5±3.9	15.2±3.7	13.6±3.5	12.6±3.4	13.2±3.6
<b>Ingham</b>	13.1±5.3	11.4±5.0	10.1±4.7	10.1±4.7	12.9±5.2	14.2±5.5	14.5±5.6	12.1±5.0	13.8±5.3	16.4±5.8
<b>Jackson</b>	11.6±8.6	13.0±9.0	18.5±10.8	16.2±10.0	15.0±9.7	20.2±11.3	26.5±12.8	28.7±13.1	20.9±11.2	16.3±10.0
<b>Kalamazoo</b>	18.3±6.4	17.6±6.3	15.5±5.9	14.2±5.7	15.3±5.9	11.0±4.9	15.3±5.6	12.8±5.0	16.4±5.6	12.4±5.0
<b>Kent</b>	16.6±4.2	14.6±3.9	12.9±3.6	9.9±3.2	10.7±3.3	13.0±3.7	12.8±3.6	9.7±3.1	10.4±3.1	11.8±3.3
<b>Macomb</b>	13.1±3.6	11.4±3.2	11.1±3.1	9.9±2.9	10.7±2.9	10.6±2.9	12.8±3.1	12.7±3.0	13.6±3.1	11.1±2.8
<b>Muskegon</b>	14.9±6.3	16.4±6.8	12.8±6.0	14.9±6.7	19.7±7.7	23.1±8.3	23.2±8.1	18.7±7.1	13.2±6.0	12.7±6.0
<b>Oakland</b>	10.8±2.5	10.6±2.4	11.1±2.5	13.7±2.8	14.7±2.9	14.3±2.9	13.5±2.8	12.2±2.7	11.3±2.6	10.7±2.6
<b>Saginaw</b>	19.2±6.1	13.4±5.1	14.3±5.2	12.2±5.0	15.9±5.7	17.3±5.9	16.2±5.6	14.1±5.2	11.7±4.8	15.4±5.5
<b>St. Clair</b>	*	*	*	*	*	34.3±25.0	33.7±24.5	*	*	*
<b>Van Buren</b>	*	*	*	*	*	*	*	*	-	-
<b>Washtenaw</b>	8.7±4.0	8.9±4.1	8.3±4.1	10.9±4.7	12.1±5.2	16.4±5.9	14.4±5.5	16.7±5.9	14.1±5.5	13.4±5.4
<b>Wayne</b>	14.5±1.3	14.5±1.3	14.0±1.3	13.7±1.3	13.2±1.2	13.2±1.3	14.1±1.3	15.7±1.4	15.9±1.4	15.6±1.4

**Notes:** Rates are per 1,000 live births. Adding and subtracting the number shown after the ± symbol from the rate creates a confidence interval indicating that the true rate lies between the lower and upper bounds of this interval with 95 % statistical confidence.

\*: A rate is not calculated when there are fewer than 6 events, because the width of the confidence interval would negate any usefulness for comparative purposes.

-: A dash indicates that there were either no births or no infant deaths from this category.

**Source:** 2009-2019 Geocoded Michigan Death Certificate Registries; 2020 Michigan Death Certificate Registry. 2009-2019 Geocoded Michigan Birth Certificate Registries; 2020 Michigan Birth Certificate Registry.. Division for Vital Records & Health Statistics, Michigan Department of Health & Human Services

**Table 18-A**  
**All Three-Year Moving Average Infant Death Rates by District**  
**Michigan Residents, 2009–2020**

Health Department	2009-11	2010-12	2011-13	2012-14	2013-15	2014-16	2015-17	2016-18	2017-19	2018-20
<b>Michigan</b>	7.1±0.3	6.9±0.3	6.8±0.3	6.9±0.3	6.9±0.3	6.7±0.3	6.7±0.3	6.7±0.3	6.6±0.3	6.6±0.3
<b>Allegan County</b>	4.5±2.0	4.2±2.0	5.0±2.2	5.4±2.3	6.8±2.5	5.7±2.3	4.6±2.1	3.6±1.8	4.7±2.1	5.3±2.3
<b>Barry-Eaton District</b>	6.4±2.1	5.9±2.0	5.7±2.0	5.6±2.0	5.7±2.0	5.0±1.9	5.1±1.9	4.4±1.8	4.3±1.8	5.5±2.0
<b>Bay County</b>	8.3±3.0	7.7±3.0	5.3±2.5	5.7±2.6	6.1±2.7	5.4±2.6	4.5±2.4	4.0±2.2	5.5±2.7	5.0±2.6
<b>Benzie-Leelanau District</b>	*	*	*	6.2±5.0	8.2±5.7	8.2±5.7	6.0±4.8	*	*	*
<b>Berrien County</b>	8.3±2.3	8.1±2.3	8.3±2.4	7.8±2.3	6.9±2.2	6.4±2.2	5.2±2.0	6.7±2.2	7.4±2.4	8.4±2.6
<b>Branch-Hillsdale-St. Joseph</b>	6.3±2.0	6.4±2.1	6.3±2.1	6.2±2.0	5.6±1.9	6.4±2.1	7.6±2.3	7.7±2.3	6.6±2.1	6.3±2.1
<b>Calhoun County</b>	10.7±2.9	8.7±2.6	7.2±2.3	6.0±2.1	6.8±2.3	5.8±2.1	7.2±2.4	6.8±2.3	6.4±2.3	6.0±2.3
<b>Central Michigan District</b>	6.3±2.1	5.6±2.0	5.4±2.0	4.6±1.8	5.7±2.0	5.5±2.0	6.3±2.1	6.9±2.2	7.2±2.3	7.2±2.3
<b>Chippewa County</b>	5.3±4.2	7.5±5.2	7.5±5.2	5.6±4.5	*	*	*	*	7.3±5.4	7.6±5.6
<b>City Of Detroit</b>	13.6±1.3	13.6±1.3	13.6±1.3	13.8±1.3	13.6±1.3	13.6±1.3	14.0±1.4	14.7±1.4	14.0±1.4	14.1±1.4
<b>Dickinson-Iron District</b>	8.0±5.5	*	*	5.8±4.6	5.9±4.7	*	*	7.4±5.1	6.9±5.1	8.2±5.7
<b>District #10</b>	6.6±1.7	7.6±1.9	7.0±1.8	8.2±1.9	7.1±1.8	7.0±1.8	5.4±1.6	5.6±1.6	5.9±1.7	6.1±1.7
<b>District #2</b>	9.1±4.6	8.9±4.5	6.5±3.8	7.0±3.9	4.1±3.1	4.6±3.2	5.3±3.4	7.9±4.1	9.8±4.6	8.2±4.3
<b>District #4</b>	6.8±3.7	6.5±3.7	4.9±3.2	4.8±3.1	4.1±2.9	4.6±3.0	6.1±3.4	7.3±3.8	8.8±4.2	8.8±4.3
<b>Genesee County</b>	7.8±1.4	7.1±1.3	8.0±1.4	8.0±1.4	8.5±1.5	9.1±1.5	9.0±1.5	8.0±1.5	6.7±1.4	6.4±1.4
<b>Grand Traverse County</b>	3.3±2.1	2.9±2.0	*	3.5±2.2	5.3±2.7	7.5±3.2	6.5±3.0	5.1±2.7	4.6±2.6	6.2±3.0
<b>Huron County</b>	6.3±5.1	6.5±5.2	*	*	-	*	*	6.7±5.3	7.1±5.6	*
<b>Ingham County</b>	5.6±1.5	5.8±1.5	7.2±1.7	7.1±1.7	7.1±1.7	6.4±1.6	6.0±1.5	5.9±1.5	6.4±1.6	7.6±1.8
<b>Ionia County</b>	4.0±2.6	4.0±2.6	4.1±2.6	4.1±2.7	5.0±2.9	4.6±2.8	4.1±2.7	5.6±3.2	4.8±3.0	5.0±3.1
<b>Jackson County</b>	6.1±2.1	5.3±1.9	6.2±2.1	5.6±2.0	6.2±2.1	6.7±2.2	8.0±2.4	7.4±2.3	5.2±2.0	5.3±2.0
<b>Kalamazoo County</b>	7.6±1.8	6.4±1.6	6.0±1.6	6.4±1.6	6.5±1.6	4.6±1.4	6.7±1.6	6.2±1.6	7.7±1.8	5.0±1.5
<b>Kent County</b>	6.4±1.0	6.2±0.9	5.6±0.9	5.3±0.9	5.5±0.9	6.2±0.9	6.0±0.9	5.5±0.9	5.4±0.9	5.9±0.9
<b>Lapeer County</b>	7.1±3.3	3.6±2.4	2.4±1.9	4.4±2.6	5.3±2.9	5.3±2.9	4.6±2.7	3.7±2.4	5.0±2.8	4.6±2.7
<b>Lenawee County</b>	9.4±3.3	9.2±3.3	7.2±2.9	8.2±3.1	7.6±3.0	7.3±3.0	6.2±2.8	4.9±2.5	3.7±2.2	3.1±2.0
<b>Livingston County</b>	6.7±2.2	5.9±2.1	5.2±2.0	5.4±2.0	5.1±1.9	4.4±1.7	3.5±1.6	3.3±1.5	3.4±1.6	2.5±1.3
<b>Luce-Mackinac-Alger-Schoolcraft</b>	*	-	-	*	*	11.6±7.6	9.0±6.6	*	*	8.9±6.6
<b>Macomb County</b>	6.5±1.0	5.6±0.9	6.3±0.9	6.0±0.9	6.3±0.9	5.7±0.9	6.4±0.9	6.1±0.9	6.2±0.9	5.2±0.9
<b>Marquette County</b>	5.1±3.1	4.1±2.8	4.1±2.9	*	4.3±3.0	4.2±2.9	4.3±3.0	*	*	4.2±3.1
<b>Midland County</b>	4.2±2.5	4.6±2.6	6.6±3.1	7.1±3.3	5.8±2.9	3.5±2.3	2.3±1.9	*	*	2.8±2.1

**Table 18-A**  
**All Three-Year Moving Average Infant Death Rates by District**  
**Michigan Residents, 2009–2020 (Continued)**

County	2009-11	2010-12	2011-13	2012-14	2013-15	2014-16	2015-17	2016-18	2017-19	2018-20
<b>Mid-Michigan District</b>	5.9±2.0	5.5±1.9	4.4±1.7	4.8±1.8	5.7±1.9	5.4±1.9	4.6±1.7	3.4±1.5	3.5±1.5	3.7±1.6
<b>Monroe County</b>	4.3±1.8	4.4±1.9	5.8±2.2	5.9±2.2	6.0±2.3	4.2±1.9	6.1±2.3	4.9±2.0	6.4±2.3	7.3±2.5
<b>Muskegon County</b>	8.0±2.1	8.7±2.3	8.0±2.2	8.1±2.2	8.1±2.2	8.4±2.3	8.4±2.2	7.5±2.1	5.9±1.9	5.6±1.9
<b>Northwest Michigan Community Health</b>	6.8±2.9	6.9±2.9	6.7±2.9	6.2±2.8	5.8±2.7	3.7±2.2	3.5±2.1	3.9±2.3	4.7±2.6	4.8±2.6
<b>Oakland County</b>	5.8±0.7	6.2±0.8	6.3±0.8	6.6±0.8	6.0±0.8	5.6±0.7	5.3±0.7	5.6±0.7	5.2±0.7	5.1±0.7
<b>Ottawa County</b>	5.6±1.5	5.9±1.5	6.6±1.6	5.7±1.5	6.0±1.5	4.9±1.4	4.8±1.4	4.1±1.3	3.9±1.3	4.4±1.3
<b>Delta &amp; Menominee</b>	4.6±3.2	5.4±3.5	4.7±3.2	5.7±3.5	4.0±2.9	5.2±3.4	3.7±2.9	5.1±3.5	7.0±4.1	9.7±4.9
<b>Saginaw County</b>	7.9±2.1	6.1±1.8	7.1±2.0	7.7±2.1	8.7±2.2	10.0±2.4	8.4±2.2	8.4±2.2	7.2±2.0	10.0±2.5
<b>Sanilac County</b>	*	*	4.6±3.6	6.8±4.4	6.8±4.4	8.4±4.9	8.4±4.9	6.4±4.4	*	*
<b>Shiawassee County</b>	3.3±2.4	3.8±2.6	3.2±2.4	4.2±2.7	4.7±2.9	6.1±3.3	7.2±3.6	6.7±3.5	5.9±3.3	3.9±2.7
<b>St Clair County</b>	6.3±2.2	6.2±2.2	6.3±2.2	6.0±2.2	5.1±2.1	6.2±2.2	5.9±2.2	5.4±2.1	5.1±2.1	6.8±2.4
<b>Tuscola County</b>	6.8±4.0	6.8±4.0	4.9±3.4	4.7±3.3	4.7±3.3	4.2±3.1	4.2±3.1	4.2±3.1	6.7±4.0	8.2±4.4
<b>Van Buren-Cass County</b>	5.5±2.2	6.0±2.3	6.8±2.5	7.0±2.5	6.2±2.4	6.6±2.5	6.2±2.4	7.4±2.7	6.0±2.4	5.4±2.3
<b>Washtenaw County</b>	4.9±1.3	4.7±1.3	4.6±1.3	5.9±1.4	5.5±1.4	5.9±1.4	4.7±1.3	5.2±1.4	5.2±1.4	5.1±1.4
<b>Wayne County</b>	6.7±0.8	6.9±0.8	6.8±0.8	6.5±0.8	6.3±0.8	6.1±0.8	6.6±0.8	6.8±0.8	7.7±0.9	7.2±0.8
<b>Western Upper Peninsula District</b>	3.5±2.6	4.1±2.8	4.3±2.9	6.0±3.5	5.4±3.4	7.1±3.8	8.1±4.1	8.1±4.1	5.1±3.3	*

**Notes:** Rates are per 1,000 live births. Adding and subtracting the number shown after the ± symbol from the rate creates a confidence interval indicating that the true rate lies between the lower and upper bounds of this interval with 95 % statistical confidence.

\*: A rate is not calculated when there are fewer than 6 events, because the width of the confidence interval would negate any usefulness for comparative purposes.

-: A dash indicates that there were either no births or no infant deaths from this category.

**Source:** 2009-2019 Geocoded Michigan Death Certificate Registries; 2020 Michigan Death Certificate Registry. 2009-2019 Geocoded Michigan Birth Certificate Registries; 2020 Michigan Birth Certificate Registry.. Division for Vital Records & Health Statistics, Michigan Department of Health & Human Services

**Table 18-B**  
**White Three-Year Moving Average Infant Death Rates by District**  
**Michigan Residents, 2009–2020**

Health Department	2009-11	2010-12	2011-13	2012-14	2013-15	2014-16	2015-17	2016-18	2017-19	2018-20
<b>Michigan</b>	5.2±0.3	5.3±0.3	5.3±0.3	5.5±0.3	5.4±0.3	5.1±0.3	4.9±0.3	4.7±0.3	4.7±0.3	4.7±0.3
<b>Allegan County</b>	4.0±2.0	4.1±2.0	5.0±2.2	5.4±2.3	6.8±2.6	5.4±2.3	4.5±2.1	3.3±1.8	4.1±2.0	4.8±2.2
<b>Barry-Eaton District</b>	5.5±2.1	5.6±2.1	4.9±2.0	4.9±2.0	4.4±1.9	3.9±1.8	4.2±1.8	4.0±1.8	4.4±1.9	5.8±2.2
<b>Bay County</b>	7.9±3.0	7.6±3.0	5.3±2.6	5.5±2.7	5.9±2.8	5.1±2.6	4.8±2.5	3.9±2.3	4.8±2.6	3.8±2.4
<b>Benzie-Leelanau District</b>	*	*	*	*	6.8±5.4	6.7±5.3	*	*	*	*
<b>Berrien County</b>	3.6±1.8	4.6±2.1	4.9±2.2	4.9±2.2	4.7±2.1	5.1±2.3	4.4±2.2	4.9±2.3	4.5±2.3	5.3±2.5
<b>Branch-Hillsdale-St. Joseph</b>	6.2±2.1	6.0±2.1	5.5±2.0	5.2±1.9	5.1±1.9	6.4±2.1	7.4±2.3	7.1±2.3	6.0±2.1	5.8±2.1
<b>Calhoun County</b>	7.9±2.8	6.4±2.5	5.9±2.4	5.1±2.2	5.2±2.3	4.4±2.1	6.2±2.5	5.8±2.5	5.8±2.5	4.6±2.3
<b>Central Michigan District</b>	5.8±2.1	5.3±2.0	5.4±2.0	4.5±1.9	5.5±2.0	5.3±2.0	6.0±2.1	7.0±2.3	7.1±2.3	7.1±2.4
<b>Chippewa County</b>	*	*	*	*	*	*	*	*	*	*
<b>City Of Detroit</b>	6.5±2.8	10.3±3.9	10.1±4.0	11.3±4.2	9.5±3.8	9.2±3.7	8.4±3.4	7.1±3.0	5.8±2.7	5.3±2.5
<b>Dickinson-Iron District</b>	7.2±5.3	*	*	5.9±4.7	6.1±4.9	*	*	6.8±5.0	6.2±4.9	7.6±5.6
<b>District #10</b>	6.3±1.7	7.7±1.9	6.8±1.8	8.2±2.0	7.0±1.8	6.9±1.8	5.1±1.6	5.1±1.6	5.7±1.7	6.2±1.8
<b>District #2</b>	9.3±4.7	9.2±4.6	6.7±3.9	7.2±4.0	4.2±3.1	4.7±3.2	3.6±2.9	6.4±3.7	8.3±4.3	8.5±4.4
<b>District #4</b>	6.5±3.7	6.2±3.7	4.5±3.1	4.4±3.1	3.8±2.8	4.3±3.0	6.3±3.6	7.6±4.0	9.2±4.3	9.2±4.5
<b>Genesee County</b>	5.1±1.4	4.8±1.3	5.2±1.4	5.3±1.4	5.7±1.5	6.3±1.6	6.4±1.6	5.4±1.5	4.1±1.3	3.5±1.2
<b>Grand Traverse County</b>	3.5±2.3	3.1±2.2	*	3.7±2.3	5.6±2.8	7.8±3.3	6.8±3.1	5.0±2.7	4.4±2.6	5.7±3.0
<b>Huron County</b>	6.5±5.2	6.7±5.3	*	*	-	*	*	6.8±5.4	7.2±5.7	*
<b>Ingham County</b>	4.6±1.6	5.3±1.7	7.5±2.1	7.1±2.0	6.4±1.9	4.6±1.6	4.3±1.6	4.7±1.7	5.4±1.9	5.9±2.0
<b>Ionia County</b>	3.6±2.5	3.7±2.6	3.7±2.6	4.2±2.8	5.1±3.0	4.8±2.9	4.3±2.8	5.9±3.3	4.5±2.9	4.2±2.9
<b>Jackson County</b>	5.5±2.1	4.1±1.8	4.6±2.0	3.9±1.8	5.1±2.1	5.0±2.0	5.8±2.2	4.7±2.0	3.2±1.7	3.5±1.8
<b>Kalamazoo County</b>	4.8±1.6	3.9±1.4	3.9±1.4	4.7±1.6	4.7±1.6	3.2±1.3	4.7±1.6	4.6±1.6	5.5±1.8	3.2±1.3
<b>Kent County</b>	4.4±0.9	4.4±0.9	4.1±0.9	4.5±0.9	4.9±0.9	5.1±1.0	4.8±0.9	4.4±0.9	4.1±0.9	4.3±1.0
<b>Lapeer County</b>	6.3±3.2	3.0±2.2	2.6±2.1	4.7±2.8	5.6±3.0	5.6±3.0	4.8±2.9	3.9±2.5	5.2±2.9	4.8±2.8
<b>Lenawee County</b>	8.7±3.4	9.6±3.6	7.6±3.2	8.4±3.3	7.6±3.2	7.0±3.1	6.5±3.0	5.1±2.6	4.1±2.4	3.3±2.2
<b>Livingston County</b>	6.6±2.2	5.8±2.1	5.0±2.0	5.1±2.0	4.7±1.9	4.2±1.7	3.0±1.5	3.1±1.5	3.1±1.5	2.6±1.4
<b>Luce-Mackinac-Alger-Schoolcraft</b>	*	-	-	*	*	11.0±8.1	*	*	*	10.7±7.9
<b>Macomb County</b>	5.6±1.0	4.8±0.9	5.5±1.0	5.3±1.0	5.4±1.0	4.6±0.9	5.2±1.0	4.7±0.9	4.6±0.9	3.6±0.8
<b>Marquette County</b>	4.8±3.1	4.2±2.9	4.3±3.0	*	4.5±3.1	4.4±3.0	4.5±3.1	*	*	3.8±3.0
<b>Midland County</b>	4.0±2.5	4.9±2.8	5.8±3.0	6.3±3.2	4.9±2.8	3.7±2.4	2.5±2.0	*	*	3.0±2.2



**Table 18-B**  
**White Three-Year Moving Average Infant Death Rates by District**  
**Michigan Residents, 2009–2020 (Continued)**

County	2009-11	2010-12	2011-13	2012-14	2013-15	2014-16	2015-17	2016-18	2017-19	2018-20
<b>Mid-Michigan District</b>	5.8±2.0	5.4±1.9	4.3±1.7	4.9±1.8	5.5±2.0	5.4±1.9	4.4±1.8	3.5±1.6	3.5±1.6	4.0±1.7
<b>Monroe County</b>	3.5±1.7	3.6±1.8	5.1±2.1	5.3±2.2	6.0±2.3	4.1±1.9	6.1±2.4	5.0±2.1	6.7±2.5	7.6±2.6
<b>Muskegon County</b>	6.3±2.2	7.1±2.4	6.6±2.3	5.8±2.2	4.6±1.9	4.1±1.8	4.2±1.8	3.8±1.8	3.7±1.8	3.5±1.7
<b>Northwest Michigan Community Health</b>	6.8±3.0	6.9±3.0	6.8±3.0	5.8±2.8	5.7±2.8	3.5±2.2	2.6±1.9	3.0±2.1	3.8±2.4	5.0±2.7
<b>Oakland County</b>	5.1±0.8	5.7±0.9	5.6±0.9	5.4±0.8	4.5±0.8	4.0±0.7	3.8±0.7	4.3±0.8	4.0±0.7	3.9±0.7
<b>Ottawa County</b>	5.3±1.5	5.6±1.5	6.3±1.6	5.3±1.5	5.6±1.5	4.7±1.4	4.6±1.4	4.2±1.3	3.7±1.3	3.9±1.3
<b>Delta &amp; Menominee</b>	*	4.5±3.3	3.8±3.0	4.9±3.4	*	*	*	4.8±3.5	7.5±4.4	10.4±5.2
<b>Saginaw County</b>	2.9±1.5	2.9±1.5	4.2±1.8	6.2±2.2	6.3±2.2	7.5±2.5	5.5±2.1	6.3±2.3	5.2±2.1	7.0±2.5
<b>Sanilac County</b>	*	*	4.6±3.7	6.9±4.5	6.1±4.2	7.7±4.8	7.8±4.8	6.5±4.5	*	*
<b>Shiawassee County</b>	3.4±2.5	3.9±2.7	3.3±2.5	4.3±2.8	4.3±2.8	5.8±3.3	6.9±3.6	6.9±3.6	6.0±3.4	4.1±2.8
<b>St Clair County</b>	6.3±2.3	6.2±2.3	6.3±2.3	5.9±2.3	4.3±1.9	5.0±2.1	4.7±2.1	5.1±2.1	5.0±2.1	6.1±2.3
<b>Tuscola County</b>	6.9±4.1	7.0±4.1	5.0±3.5	4.9±3.4	4.8±3.3	4.3±3.2	4.4±3.2	4.4±3.3	7.0±4.1	8.5±4.6
<b>Van Buren-Cass County</b>	4.5±2.1	5.8±2.5	6.7±2.7	7.1±2.7	6.3±2.5	6.9±2.6	6.2±2.5	7.1±2.8	5.7±2.5	4.9±2.3
<b>Washtenaw County</b>	4.5±1.5	3.9±1.4	4.2±1.5	5.4±1.7	5.0±1.6	4.3±1.5	3.2±1.3	3.0±1.3	3.3±1.3	3.3±1.3
<b>Wayne County</b>	5.4±0.8	5.5±0.9	6.0±0.9	6.0±0.9	6.1±0.9	5.8±0.9	5.4±0.8	4.8±0.8	5.3±0.8	5.4±0.9
<b>Western Upper Peninsula District</b>	3.8±2.8	4.4±3.1	4.1±3.0	5.3±3.5	4.8±3.3	5.9±3.7	6.6±3.9	6.6±3.9	4.4±3.2	*

**Notes:** Rates are per 1,000 live births. Adding and subtracting the number shown after the ± symbol from the rate creates a confidence interval indicating that the true rate lies between the lower and upper bounds of this interval with 95 % statistical confidence.

\*: A rate is not calculated when there are fewer than 6 events, because the width of the confidence interval would negate any usefulness for comparative purposes.

-: A dash indicates that there were either no births or no infant deaths from this category.

**Source:** 2009-2019 Geocoded Michigan Death Certificate Registries; 2020 Michigan Death Certificate Registry. 2009-2019 Geocoded Michigan Birth Certificate Registries; 2020 Michigan Birth Certificate Registry.. Division for Vital Records & Health Statistics, Michigan Department of Health & Human Services

**Table 18-C**  
**Black Three-Year Moving Average Infant Death Rates by District**  
**Michigan Residents, 2009–2020**

Health Department	2009-11	2010-12	2011-13	2012-14	2013-15	2014-16	2015-17	2016-18	2017-19	2018-20
<b>Michigan</b>	14.5±0.9	13.8±0.9	13.4±0.9	13.3±0.9	13.7±0.9	13.8±0.9	14.3±0.9	14.4±0.9	14.3±0.9	14.1±0.9
<b>Barry-Eaton District</b>	26.9±18.4	*	22.7±16.6	22.4±16.4	29.0±17.7	24.0±15.5	22.0±15.1	*	*	*
<b>Berrien County</b>	19.5±6.9	18.6±6.9	17.3±6.7	16.5±6.7	13.3±6.1	10.4±5.6	7.4±4.8	13.3±6.5	15.5±6.9	17.1±7.4
<b>Calhoun County</b>	25.4±11.3	20.2±10.1	13.8±8.1	9.9±6.8	14.6±8.2	11.3±7.3	12.6±7.8	11.7±7.6	10.4±7.2	10.6±7.3
<b>City Of Detroit</b>	15.0±1.5	14.7±1.5	14.8±1.5	15.0±1.5	14.8±1.5	14.6±1.5	14.8±1.5	16.0±1.6	15.6±1.6	15.9±1.6
<b>District #10</b>	*	*	*	*	*	-	*	*	*	*
<b>Genesee County</b>	14.2±3.4	12.4±3.3	14.2±3.5	14.6±3.6	15.6±3.7	16.5±3.9	15.2±3.7	13.6±3.5	12.6±3.4	13.2±3.6
<b>Ingham County</b>	13.1±5.3	11.4±5.0	10.1±4.7	10.1±4.7	12.9±5.2	14.2±5.5	14.5±5.6	12.1±5.0	13.8±5.3	16.4±5.8
<b>Jackson County</b>	11.6±8.6	13.0±9.0	18.5±10.8	16.2±10.0	15.0±9.7	20.2±11.3	26.5±12.8	28.7±13.1	20.9±11.2	16.3±10.0
<b>Kalamazoo County</b>	18.3±6.4	17.6±6.3	15.5±5.9	14.2±5.7	15.3±5.9	11.0±4.9	15.3±5.6	12.8±5.0	16.4±5.6	12.4±5.0
<b>Kent County</b>	16.6±4.2	14.6±3.9	12.9±3.6	9.9±3.2	10.7±3.3	13.0±3.7	12.8±3.6	9.7±3.1	10.4±3.1	11.8±3.3
<b>Macomb County</b>	13.1±3.6	11.4±3.2	11.1±3.1	9.9±2.9	10.7±2.9	10.6±2.9	12.8±3.1	12.7±3.0	13.6±3.1	11.1±2.8
<b>Mid-Michigan District</b>	*	*	*	-	*	*	*	-	-	-
<b>Muskegon County</b>	14.9±6.3	16.4±6.8	12.8±6.0	14.9±6.7	19.7±7.7	23.1±8.3	23.2±8.1	18.7±7.1	13.2±6.0	12.7±6.0
<b>Oakland County</b>	10.8±2.5	10.6±2.4	11.1±2.5	13.7±2.8	14.7±2.9	14.3±2.9	13.5±2.8	12.2±2.7	11.3±2.6	10.7±2.6
<b>Ottawa County</b>	*	*	*	*	*	*	*	-	*	22.4±17.7
<b>Saginaw County</b>	19.2±6.1	13.4±5.1	14.3±5.2	12.2±5.0	15.9±5.7	17.3±5.9	16.2±5.6	14.1±5.2	11.7±4.8	15.4±5.5
<b>St Clair County</b>	*	*	*	*	*	34.3±25.0	33.7±24.5	*	*	*
<b>Van Buren-Cass County</b>	*	*	*	*	*	*	*	*	*	*
<b>Washtenaw County</b>	8.7±4.0	8.9±4.1	8.3±4.1	10.9±4.7	12.1±5.2	16.4±5.9	14.4±5.5	16.7±5.9	14.1±5.5	13.4±5.4
<b>Wayne County</b>	12.6±2.5	13.6±2.6	11.3±2.4	9.6±2.2	8.1±2.0	9.0±2.1	12.1±2.4	15.0±2.6	16.8±2.8	14.5±2.6

**Notes:** Rates are per 1,000 live births. Adding and subtracting the number shown after the ± symbol from the rate creates a confidence interval indicating that the true rate lies between the lower and upper bounds of this interval with 95 % statistical confidence.

\*: A rate is not calculated when there are fewer than 6 events, because the width of the confidence interval would negate any usefulness for comparative purposes.

-: A dash indicates that there were either no births or no infant deaths from this category.

**Source:** 2009-2019 Geocoded Michigan Death Certificate Registries; 2020 Michigan Death Certificate Registry. 2009-2019 Geocoded Michigan Birth Certificate Registries; 2020 Michigan Birth Certificate Registry.. Division for Vital Records & Health Statistics, Michigan Department of Health & Human Services

**Table 19-A**  
**All Three-Year Moving Average Infant Death Rates by City**  
**Michigan Residents, 2009–2020**

City	2009-11	2010-12	2011-13	2012-14	2013-15	2014-16	2015-17	2016-18	2017-19	2018-20
<b>Michigan</b>	7.1±0.3	6.9±0.3	6.8±0.3	6.9±0.3	6.9±0.3	6.7±0.3	6.7±0.3	6.7±0.3	6.6±0.3	6.6±0.3
<b>Ann Arbor</b>	3.1±1.9	2.7±1.8	3.6±2.0	5.1±2.4	4.3±2.2	3.7±2.1	3.2±2.0	4.5±2.4	4.3±2.3	3.5±2.2
<b>Battle Creek</b>	11.3±4.3	11.0±4.3	9.9±3.8	7.9±3.4	8.4±3.5	7.0±3.4	9.6±4.1	8.0±3.8	6.1±3.2	5.2±3.0
<b>Dearborn</b>	6.3±2.2	7.4±2.4	7.5±2.4	6.4±2.2	6.0±2.1	4.9±1.9	5.5±2.0	4.9±1.9	4.5±1.9	4.4±1.9
<b>Dearborn Heights</b>	5.2±2.9	5.7±3.1	6.9±3.4	5.5±3.0	5.2±2.8	6.7±3.2	5.5±2.9	5.2±2.8	7.0±3.3	7.1±3.4
<b>Detroit</b>	13.6±1.3	13.6±1.3	13.6±1.3	13.9±1.3	13.6±1.3	13.6±1.3	14.0±1.4	14.7±1.4	14.0±1.4	14.1±1.4
<b>Farmington Hills</b>	6.4±3.1	6.9±3.3	6.7±3.2	6.7±3.2	6.1±3.0	4.5±2.5	6.2±2.9	5.8±2.8	6.3±3.0	4.5±2.6
<b>Flint</b>	12.1±3.0	11.6±3.0	11.0±2.8	10.9±2.8	10.7±2.9	13.1±3.4	13.9±3.5	13.2±3.5	11.4±3.2	13.1±3.5
<b>Grand Rapids</b>	8.5±1.8	9.4±1.9	8.0±1.7	6.6±1.6	5.9±1.5	6.8±1.7	7.3±1.7	6.4±1.6	6.0±1.6	6.2±1.6
<b>Kalamazoo</b>	10.3±3.6	9.7±3.5	6.0±2.5	6.0±2.5	7.6±2.8	7.3±3.0	8.4±3.3	5.9±2.7	7.9±2.8	6.5±2.6
<b>Kentwood</b>	3.4±2.4	4.5±2.7	5.2±2.9	5.1±2.9	6.0±3.1	8.1±3.5	8.9±3.7	7.7±3.5	7.1±3.5	5.9±3.2
<b>Lansing</b>	7.1±2.2	6.5±2.1	7.4±2.2	8.5±2.4	8.8±2.4	9.2±2.5	8.7±2.5	7.6±2.4	8.0±2.5	9.4±2.7
<b>Livonia</b>	2.4±1.9	2.8±2.1	5.5±2.9	5.4±2.8	4.8±2.6	4.0±2.4	5.2±2.7	5.6±2.8	5.6±2.8	4.4±2.5
<b>Midland</b>	*	*	6.3±4.1	7.7±4.5	7.7±4.5	4.2±3.4	*	*	*	*
<b>Muskegon</b>	7.8±4.1	10.5±4.8	12.6±5.0	12.6±5.0	13.4±5.2	14.9±5.9	13.9±5.8	10.7±5.1	4.7±3.3	4.8±3.3
<b>Novi</b>	3.3±2.7	3.8±2.8	4.3±3.0	6.1±3.5	5.0±3.1	4.5±2.9	3.7±2.7	7.9±4.0	6.9±3.7	7.6±4.0
<b>Pontiac</b>	11.9±3.8	8.5±3.2	9.4±3.3	11.4±3.6	14.0±4.0	12.6±3.8	11.8±3.7	9.4±3.4	9.5±3.4	9.9±3.6
<b>Portage</b>	7.5±4.1	4.1±3.0	5.8±3.6	5.8±3.6	5.2±3.4	*	7.7±4.2	6.7±4.0	6.7±4.0	*
<b>Rochester Hills</b>	3.5±2.5	4.0±2.6	5.2±3.0	4.4±2.7	4.0±2.6	2.7±2.1	2.7±2.1	3.1±2.3	2.8±2.2	*
<b>Roseville</b>	5.7±3.5	7.4±4.0	7.8±4.1	7.8±4.0	7.7±4.0	10.1±4.7	10.2±4.7	8.7±4.4	7.2±4.1	8.0±4.3
<b>Royal Oak</b>	6.4±3.2	8.2±3.7	7.1±3.5	7.6±3.6	4.0±2.6	2.6±2.1	*	2.7±2.2	4.6±2.8	4.5±2.8
<b>Saginaw</b>	13.7±4.4	9.6±3.7	12.1±4.2	12.7±4.3	15.1±4.8	15.8±5.0	13.4±4.6	13.1±4.6	10.8±4.2	14.0±4.9
<b>Southfield</b>	10.0±4.1	10.9±4.3	8.5±3.7	11.7±4.4	9.0±3.8	9.8±4.0	7.6±3.5	9.0±3.8	8.2±3.7	8.1±3.7
<b>St Clair Shores</b>	4.7±3.3	*	4.7±3.2	4.6±3.2	5.6±3.5	6.3±3.7	5.8±3.6	4.5±3.1	4.9±3.2	4.3±3.0
<b>Sterling Heights</b>	6.2±2.4	6.6±2.4	5.7±2.3	6.7±2.4	6.4±2.4	6.9±2.5	6.7±2.4	7.6±2.6	6.2±2.4	4.4±2.0
<b>Taylor</b>	9.9±3.9	11.8±4.2	10.8±4.0	7.4±3.3	6.2±3.0	6.5±3.1	7.8±3.4	7.5±3.4	10.1±3.9	9.7±3.9
<b>Troy</b>	4.4±2.7	3.8±2.5	3.3±2.3	3.8±2.4	4.1±2.5	4.1±2.5	4.5±2.6	5.8±3.1	5.6±3.0	6.7±3.4
<b>Warren</b>	9.1±2.7	7.6±2.4	8.7±2.6	6.6±2.2	5.4±2.0	5.3±2.0	6.5±2.2	7.4±2.3	7.0±2.3	6.1±2.1
<b>Westland</b>	9.6±3.4	10.4±3.5	9.3±3.3	8.3±3.1	7.4±2.9	7.3±2.9	6.5±2.8	7.6±3.0	8.9±3.4	9.5±3.5
<b>Wyoming</b>	6.7±2.6	4.6±2.2	4.1±2.1	4.4±2.1	6.0±2.5	6.6±2.6	5.9±2.5	5.2±2.4	5.0±2.4	6.8±2.8

**Notes:** This table shows cities with (1) populations greater than 40,000 according to 2007 estimates and (2) three-year average births of greater than 200. City birth and mortality statistics have changed from pre-2011 reports due to geocoding. See Data Quality Considerations for further details. Rates are per 1,000 live births. Adding and subtracting the number shown after the ± symbol from the rate creates a confidence interval indicating that the true rate lies between the lower and upper bounds of this interval with 95 % statistical confidence.

\*: A rate is not calculated when there are fewer than 6 events, because the width of the confidence interval would negate any usefulness for comparative purposes.

**Source:** 2009-2019 Geocoded Michigan Death Certificate Registries; 2020 Michigan Death Certificate Registry. 2009-2019 Geocoded Michigan Birth Certificate Registries; 2020 Michigan Birth Certificate Registry.. Division for Vital Records & Health Statistics, Michigan Department of Health & Human Services

**Table 19-B**  
**White Three-Year Moving Average Infant Death Rates by City**  
**Michigan Residents, 2009–2020**

City	2009-11	2010-12	2011-13	2012-14	2013-15	2014-16	2015-17	2016-18	2017-19	2018-20
<b>Michigan</b>	5.2±0.3	5.3±0.3	5.3±0.3	5.5±0.3	5.4±0.3	5.1±0.3	4.9±0.3	4.7±0.3	4.7±0.3	4.7±0.3
<b>Ann Arbor</b>	3.7±2.6	*	3.2±2.3	4.5±2.8	4.0±2.6	2.8±2.2	*	3.0±2.4	3.5±2.6	*
<b>Battle Creek</b>	5.5±3.6	8.1±4.4	8.1±4.1	7.0±3.8	5.5±3.4	4.6±3.4	9.0±4.9	8.6±4.8	7.1±4.2	5.2±3.6
<b>Dearborn</b>	6.0±2.3	6.5±2.4	7.0±2.5	5.9±2.4	7.0±2.6	5.6±2.3	5.4±2.1	4.0±1.8	3.5±1.7	4.3±2.0
<b>Dearborn Heights</b>	3.1±2.5	3.7±2.7	5.3±3.2	6.0±3.5	6.9±3.8	8.7±4.1	6.3±3.4	5.8±3.3	6.6±3.6	7.0±3.8
<b>Detroit</b>	6.5±2.8	9.9±3.8	10.1±4.0	11.3±4.2	9.9±3.9	9.2±3.7	8.4±3.4	7.1±3.0	5.8±2.7	5.3±2.5
<b>Farmington Hills</b>	6.5±4.2	8.0±4.7	6.5±4.2	5.0±3.7	4.9±3.6	4.1±3.3	4.1±3.3	*	*	4.2±3.4
<b>Flint</b>	7.1±3.8	7.6±4.1	5.5±3.4	5.9±3.5	4.5±3.1	7.1±4.2	7.7±4.5	8.7±4.9	6.2±4.0	9.6±5.2
<b>Grand Rapids</b>	4.4±1.6	5.7±1.8	5.3±1.7	4.6±1.6	4.4±1.6	4.5±1.7	5.0±1.8	4.3±1.7	3.6±1.6	3.4±1.6
<b>Kalamazoo</b>	4.8±3.1	6.1±3.6	3.5±2.4	2.6±2.0	3.0±2.2	*	3.4±2.7	3.5±2.8	5.2±2.9	4.4±2.7
<b>Kentwood</b>	*	*	4.5±3.3	5.2±3.6	5.4±3.7	7.0±4.1	7.9±4.4	8.2±4.6	6.3±4.4	*
<b>Lansing</b>	5.2±2.4	5.3±2.5	7.4±2.9	7.9±3.1	7.6±3.1	6.3±2.9	5.2±2.7	3.8±2.4	4.3±2.5	5.3±2.9
<b>Livonia</b>	*	*	4.9±2.9	5.3±3.0	5.1±2.9	3.8±2.5	4.2±2.6	4.7±2.8	4.7±2.8	4.2±2.6
<b>Midland</b>	*	*	4.7±3.7	6.1±4.2	6.1±4.2	4.6±3.6	*	*	*	*
<b>Muskegon</b>	*	7.1±5.2	8.6±5.3	6.0±4.4	5.3±4.2	*	*	-	*	*
<b>Novi</b>	*	*	*	5.1±4.1	*	*	*	8.8±5.7	8.9±5.8	10.4±6.4
<b>Pontiac</b>	6.3±4.4	*	4.9±3.9	4.8±3.8	6.2±4.3	6.4±4.4	6.8±4.7	6.2±4.6	6.3±4.6	7.3±5.0
<b>Portage</b>	6.1±4.0	4.1±3.3	5.4±3.7	5.4±3.7	4.7±3.5	*	6.2±4.0	5.7±3.9	6.4±4.2	*
<b>Rochester Hills</b>	3.4±2.7	3.4±2.7	3.9±2.9	*	3.5±2.8	*	*	*	*	*
<b>Roseville</b>	5.3±3.9	5.6±4.1	4.7±3.8	6.3±4.3	5.5±4.1	9.0±5.3	8.5±5.2	7.9±5.1	*	*
<b>Royal Oak</b>	6.8±3.5	8.3±3.9	6.5±3.5	6.9±3.6	3.9±2.7	2.9±2.3	*	*	3.6±2.7	3.6±2.6
<b>Saginaw</b>	*	*	5.7±4.2	9.7±5.4	11.4±5.9	13.0±6.5	8.2±5.4	9.6±5.9	7.8±5.4	10.5±6.5
<b>Southfield</b>	11.9±9.5	12.0±9.5	*	*	-	*	*	*	*	*
<b>St Clair Shores</b>	5.3±3.6	*	*	*	4.9±3.4	6.3±3.9	5.2±3.6	*	*	*
<b>Sterling Heights</b>	6.9±2.8	7.6±3.0	6.0±2.6	6.5±2.7	5.4±2.4	5.7±2.5	5.7±2.5	6.2±2.6	5.1±2.4	3.2±2.0
<b>Taylor</b>	6.7±4.0	8.2±4.4	8.0±4.3	6.8±4.0	6.1±3.8	6.2±3.8	5.2±3.6	4.0±3.2	5.5±3.8	5.5±3.8
<b>Troy</b>	5.4±3.7	5.9±3.9	4.6±3.4	4.7±3.4	3.9±3.1	*	4.1±3.3	5.8±4.0	4.4±3.5	5.3±3.9
<b>Warren</b>	6.9±2.9	5.9±2.7	8.0±3.2	6.7±2.9	5.7±2.7	4.7±2.5	5.5±2.7	6.6±3.0	6.1±2.9	5.3±2.8
<b>Westland</b>	7.8±3.7	8.6±3.9	8.5±3.9	9.0±4.0	8.0±3.8	7.2±3.6	4.5±2.9	4.2±2.9	3.8±2.8	4.0±3.0
<b>Wyoming</b>	5.3±2.5	3.8±2.1	3.2±2.0	4.2±2.3	5.7±2.7	5.5±2.7	4.3±2.4	3.0±2.1	3.3±2.3	4.1±2.7

**Notes:** This table shows cities with (1) populations greater than 40,000 according to 2007 estimates and (2) three-year average births of greater than 200. City birth and mortality statistics have changed from pre-2011 reports due to geocoding. See Data Quality Considerations for further details. Rates are per 1,000 live births. Adding and subtracting the number shown after the ± symbol from the rate creates a confidence interval indicating that the true rate lies between the lower and upper bounds of this interval with 95 % statistical confidence.

\*: A rate is not calculated when there are fewer than 6 events, because the width of the confidence interval would negate any usefulness for comparative purposes.

**Source:** 2009-2019 Geocoded Michigan Death Certificate Registries; 2020 Michigan Death Certificate Registry. 2009-2019 Geocoded Michigan Birth Certificate Registries; 2020 Michigan Birth Certificate Registry.. Division for Vital Records & Health Statistics, Michigan Department of Health & Human Services

**Table 19-C  
Black Three-Year Moving Average Infant Death Rates by City  
Michigan Residents, 2009–2020**

City	2009-11	2010-12	2011-13	2012-14	2013-15	2014-16	2015-17	2016-18	2017-19	2018-20
<b>Michigan</b>	14.5±0.9	13.8±0.9	13.4±0.9	13.3±0.9	13.7±0.9	13.8±0.9	14.3±0.9	14.4±0.9	14.3±0.9	14.1±0.9
<b>Battle Creek</b>	21.5±12.6	11.9±9.5	12.1±8.9	11.6±8.5	16.0±9.9	10.2±8.1	*	*	*	*
<b>Detroit</b>	15.0±1.5	14.7±1.5	14.8±1.5	15.0±1.5	14.8±1.5	14.5±1.5	14.7±1.5	15.9±1.6	15.5±1.6	15.8±1.6
<b>Flint</b>	15.3±4.3	14.1±4.2	14.7±4.2	14.4±4.2	14.8±4.3	16.4±4.8	16.8±4.9	15.0±4.7	14.3±4.5	15.2±4.8
<b>Grand Rapids</b>	18.8±5.4	16.7±5.1	14.9±4.8	11.5±4.2	12.0±4.4	13.9±4.9	13.1±4.6	10.3±4.1	9.8±3.9	10.8±4.1
<b>Kalamazoo</b>	17.7±7.9	12.7±6.9	9.7±5.7	11.5±6.2	17.0±7.6	14.6±7.3	14.6±7.1	9.3±5.4	12.6±5.9	10.8±5.6
<b>Lansing</b>	13.5±5.7	11.0±5.2	8.9±4.7	10.7±5.1	13.6±5.6	16.2±6.2	16.0±6.1	13.4±5.5	14.9±5.8	17.8±6.4
<b>Muskegon</b>	13.1±8.5	17.4±10.2	18.1±10.1	20.1±10.8	21.6±11.2	29.1±13.3	26.5±12.4	20.9±10.8	*	*
<b>Pontiac</b>	16.5±6.2	12.5±5.3	12.6±5.2	16.4±5.9	19.4±6.5	17.9±6.2	16.1±5.9	11.7±5.1	11.5±5.1	11.4±5.2
<b>Saginaw</b>	20.5±7.5	14.1±6.3	15.8±6.5	14.2±6.3	17.5±7.2	18.1±7.5	17.5±7.2	14.8±6.6	11.9±6.0	13.9±6.6
<b>Southfield</b>	10.0±4.7	11.2±5.0	10.3±4.7	14.9±5.8	12.4±5.3	13.2±5.5	10.2±4.8	12.4±5.4	10.0±4.9	10.0±5.0
<b>Taylor</b>	18.8±9.8	21.6±10.2	18.7±9.4	10.2±7.0	7.6±6.0	7.2±5.7	9.6±6.6	10.6±6.9	16.2±8.4	17.5±8.8
<b>Warren</b>	14.1±6.9	11.9±6.0	9.4±5.1	7.8±4.6	5.6±3.9	6.8±4.2	9.4±4.9	10.5±5.1	12.6±5.6	9.5±4.8
<b>Westland</b>	12.1±7.5	14.7±8.3	11.7±7.2	9.1±6.3	6.6±5.3	8.6±5.9	9.4±6.1	14.5±7.5	17.2±8.4	20.2±9.2

**Notes:** This table shows cities with (1) populations greater than 40,000 according to 2007 estimates and (2) three-year average births of greater than 200. City birth and mortality statistics have changed from pre-2011 reports due to geocoding. See Data Quality Considerations for further details. Rates are per 1,000 live births. Adding and subtracting the number shown after the ± symbol from the rate creates a confidence interval indicating that the true rate lies between the lower and upper bounds of this interval with 95 % statistical confidence.

\*: A rate is not calculated when there are fewer than 6 events, because the width of the confidence interval would negate any usefulness for comparative purposes.

**Source:** 2009-2019 Geocoded Michigan Death Certificate Registries; 2020 Michigan Death Certificate Registry. 2009-2019 Geocoded Michigan Birth Certificate Registries; 2020 Michigan Birth Certificate Registry.. Division for Vital Records & Health Statistics, Michigan Department of Health & Human Services

**Table 20-A**  
**Number of Neonatal Deaths by County of Residence,**  
**State of Michigan, Michigan Counties and Detroit City**  
**Michigan Residents, 2010-2020**

County	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Michigan	549	501	540	544	513	498	491	507	482	467	465
Alcona	-	-	1	-	1	-	-	1	-	1	1
Alger	-	-	-	-	-	-	-	-	-	1	-
Allegan	6	5	3	3	4	9	3	3	5	8	4
Alpena	-	1	-	1	1	1	-	1	1	2	1
Antrim	4	2	-	3	-	-	-	-	1	-	-
Arenac	-	1	1	4	2	-	-	-	-	-	1
Baraga	-	-	-	1	1	1	-	1	-	-	-
Barry	4	2	2	3	1	-	2	4	1	3	6
Bay	9	6	4	-	5	4	1	5	2	4	3
Benzie	-	-	-	2	-	1	2	1	-	-	3
Berrien	8	8	11	8	9	6	2	2	9	7	7
Branch	2	3	3	2	3	2	4	4	4	1	3
Calhoun	10	9	7	8	5	8	4	12	7	3	4
Cass	1	2	2	-	5	-	3	3	5	1	2
Charlevoix	-	-	-	-	-	2	-	1	-	-	2
Cheboygan	-	-	-	-	-	-	-	2	1	2	-
Chippewa	-	3	2	1	1	-	1	1	2	2	-
Clare	-	1	2	1	1	-	1	1	3	-	1
Clinton	3	2	2	1	3	5	1	2	1	2	3
Crawford	-	-	-	1	-	-	3	-	-	1	-
Delta	2	-	4	1	3	-	-	1	3	4	2
Dickinson	1	-	-	4	1	-	-	-	1	-	1
Eaton	7	5	2	6	3	7	7	2	1	6	5
Emmet	3	-	1	2	1	-	1	-	1	1	-
Genesee	19	22	19	25	23	29	31	15	19	14	16

**Table 20-A**  
**Number of Neonatal Deaths by County of Residence,**  
**State of Michigan, Michigan Counties and Detroit City**  
**Michigan Residents, 2010-2020 (Continued)**

County	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Gladwin	1	1	-	1	1	2	1	-	1	1	1
Gogebic	2	-	-	-	1	-	3	-	-	-	1
Grand Traverse	3	-	3	-	1	7	4	3	2	4	6
Gratiot	3	3	-	3	2	-	-	2	-	-	1
Hillsdale	1	2	1	3	-	3	4	5	-	1	3
Houghton	3	1	2	2	-	-	2	3	1	1	-
Huron	1	1	-	-	-	-	1	1	2	1	2
Ingham	12	16	16	20	15	11	5	8	14	15	14
Ionia	2	1	-	2	2	2	2	1	3	1	1
Iosco	1	1	-	-	2	1	-	2	2	2	1
Iron	1	-	-	-	-	-	-	1	2	-	-
Isabella	-	6	2	-	2	4	-	6	5	3	3
Jackson	9	8	3	10	5	7	12	7	4	3	8
Kalamazoo	17	8	17	11	11	11	5	25	11	12	3
Kalkaska	1	-	3	1	3	-	2	-	1	1	-
Kent	32	40	38	28	37	38	45	31	29	32	43
Keweenaw	-	-	-	-	-	-	-	-	-	-	-
Lake	-	-	1	-	-	1	-	1	1	-	-
Lapeer	4	-	1	4	3	1	4	3	2	6	2
Leelanau	3	-	-	-	1	-	1	-	-	-	2
Lenawee	11	3	6	4	5	4	5	3	1	1	3
Livingston	6	9	7	3	9	5	3	7	3	2	2
Luce	-	-	-	-	1	-	-	-	-	3	1
Mackinac	-	-	-	-	-	2	3	-	-	-	-
Macomb	39	43	40	52	34	43	38	52	33	41	27

**Table 20-A**  
**Number of Neonatal Deaths by County of Residence,**  
**State of Michigan, Michigan Counties and Detroit City**  
**Michigan Residents, 2010-2020 (Continued)**

<b>County</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
Manistee	1	-	-	-	1	-	-	1	-	-	-
Marquette	1	3	-	2	-	1	1	-	1	-	2
Mason	2	1	-	-	1	2	-	-	1	-	-
Mecosta	1	4	4	4	2	3	-	1	2	2	2
Menominee	-	1	-	-	1	1	-	-	1	2	-
Midland	2	2	3	4	3	-	1	2	1	1	3
Missaukee	-	-	1	-	2	-	-	-	-	1	-
Monroe	4	2	6	10	2	8	3	10	3	8	10
Montcalm	5	3	3	4	1	2	3	-	-	4	1
Montmorency	1	-	-	-	-	-	-	-	-	-	1
Muskegon	16	11	11	14	9	7	15	11	9	5	6
Newaygo	2	6	2	2	3	-	3	3	1	1	4
Oakland	63	45	61	69	66	53	55	55	64	40	42
Oceana	3	-	2	1	3	1	3	1	-	-	1
Ogemaw	1	1	1	-	-	-	-	-	-	1	1
Ontonagon	-	-	-	1	1	-	-	-	-	-	-
Osceola	1	-	-	1	-	2	2	1	1	1	1
Oscoda	-	-	1	-	1	-	-	-	1	-	-
Otsego	2	3	1	-	1	1	1	-	-	3	2
Ottawa	17	17	14	20	10	12	9	9	10	9	11
Presque Isle	1	1	3	-	1	2	1	2	2	-	-
Roscommon	-	1	-	-	1	1	-	-	-	1	2
Saginaw	10	8	8	13	11	12	16	4	12	10	13
St. Clair	4	6	10	2	3	6	7	4	5	6	9
St. Joseph	2	3	1	5	3	1	5	4	2	4	4



**Table 20-A**  
**Number of Neonatal Deaths by County of Residence,**  
**State of Michigan, Michigan Counties and Detroit City**  
**Michigan Residents, 2010-2020 (Continued)**

County	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Sanilac	-	-	1	1	3	3	4	3	1	1	3
Schoolcraft	-	-	-	-	-	-	-	-	-	-	2
Shiawassee	2	1	2	2	1	1	2	4	2	4	1
Tuscola	4	1	4	1	-	3	-	1	2	3	3
Van Buren	2	3	4	4	3	3	5	1	2	2	-
Washtenaw	11	10	14	12	23	10	15	10	14	12	9
Wayne	158	151	172	147	147	144	129	155	159	148	138
Detroit City	98	80	104	87	80	81	76	86	99	76	77
Wayne County Excluding Detroit City	60	71	68	60	67	63	53	69	60	72	61
Wexford	2	2	5	3	2	1	1	2	1	1	5
Unknown	-	-	-	1	-	1	4	-	1	4	-

**Notes:** **Neonatal Death:** Deaths occurring to individuals less than 28 days of age.  
 -: A dash indicates quantity zero.

**Source:** 2010-2020 Michigan Resident Death Files, Division for Vital Records & Health Statistics, Michigan Department of Health & Human Services

**Table 20-B  
Number of Postneonatal Deaths by County of Residence,  
State of Michigan, Michigan Counties and Detroit City  
Michigan Residents, 2010-2020**

<b>County</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b>Michigan</b>	268	248	243	255	260	267	256	256	241	227	241
Alcona	-	1	-	-	-	-	-	-	-	-	-
Alger	-	-	-	-	-	-	-	-	-	-	-
Allegan	-	2	1	6	5	1	2	1	1	1	2
Alpena	1	1	-	-	1	-	-	1	-	-	-
Antrim	-	-	-	-	-	-	-	-	-	-	-
Arenac	1	1	-	-	-	-	1	-	-	-	-
Baraga	-	-	-	-	-	-	1	-	-	-	-
Barry	4	-	1	1	1	-	-	1	1	-	1
Bay	3	3	1	2	5	2	-	2	2	1	2
Benzie	1	-	-	-	-	-	-	-	-	-	-
Berrien	6	10	3	6	6	3	8	6	7	6	4
Branch	2	1	1	1	1	1	1	1	2	2	-
Calhoun	8	6	3	3	4	6	2	3	4	-	9
Cass	1	1	2	3	-	3	-	-	3	2	1
Charlevoix	-	1	-	-	1	1	-	1	1	-	-
Cheboygan	-	-	-	-	-	1	1	-	2	1	2
Chippewa	2	1	-	1	1	-	-	-	-	2	1
Clare	1	-	-	-	-	1	1	2	2	-	-
Clinton	2	-	-	1	2	3	2	-	-	-	2
Crawford	-	1	-	-	-	2	-	1	1	-	1
Delta	-	1	-	-	-	1	2	-	-	-	2
Dickinson	1	-	-	-	-	-	2	-	2	-	-
Eaton	1	1	3	4	3	2	2	1	2	1	2
Emmet	-	-	1	-	-	-	-	1	1	-	-
Genesee	11	18	19	15	18	14	17	22	8	15	14

**Table 20-B  
Number of Postneonatal Deaths by County of Residence,  
State of Michigan, Michigan Counties and Detroit City  
Michigan Residents, 2010-2020 (Continued)**

County	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Gladwin	1	-	-	1	2	2	-	-	-	1	1
Gogebic	-	-	-	-	-	-	2	-	-	-	-
Grand Traverse	-	1	1	-	5	2	2	-	3	-	1
Gratiot	2	-	-	-	2	1	1	-	1	-	-
Hillsdale	1	-	1	-	-	2	3	1	-	1	1
Houghton	-	-	-	1	1	-	-	2	-	-	-
Huron	-	1	3	-	-	-	-	2	-	-	-
Ingham	2	5	6	8	6	10	16	8	5	9	10
Ionia	3	2	1	3	1	1	2	1	3	1	1
Iosco	2	1	1	1	-	-	1	2	1	1	-
Iron	1	1	-	-	1	-	-	-	-	1	1
Isabella	4	-	2	2	-	1	1	2	-	2	2
Jackson	2	3	4	5	3	3	5	7	3	3	6
Kalamazoo	13	3	2	15	5	9	3	10	4	8	6
Kalkaska	1	-	1	1	-	-	-	-	-	-	-
Kent	22	19	12	11	15	18	11	15	12	19	12
Keweenaw	-	-	-	-	-	-	-	-	-	1	-
Lake	1	-	-	-	-	-	-	1	-	1	1
Lapeer	3	-	1	-	2	3	-	-	-	1	-
Leelanau	-	1	-	1	2	1	-	-	-	-	-
Lenawee	4	3	2	5	4	2	3	2	1	3	-
Livingston	5	3	1	4	4	2	1	1	3	2	1
Luce	-	-	-	-	1	1	1	-	-	-	-
Mackinac	-	-	-	-	-	-	-	-	-	-	-
Macomb	9	10	12	15	14	17	15	16	17	11	11

**Table 20-B**  
**Number of Postneonatal Deaths by County of Residence,**  
**State of Michigan, Michigan Counties and Detroit City**  
**Michigan Residents, 2010-2020 (Continued)**

<b>County</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
Manistee	1	1	-	-	1	-	1	2	1	-	-
Marquette	1	1	2	-	1	4	1	1	1	1	2
Mason	1	-	-	-	1	-	-	-	1	2	-
Mecosta	2	2	-	1	1	-	1	-	1	1	1
Menominee	-	-	1	-	-	-	1	-	-	-	1
Midland	-	2	3	3	2	3	-	-	1	-	1
Missaukee	-	-	-	-	-	-	1	-	-	-	-
Monroe	5	1	3	5	1	1	4	1	1	6	5
Montcalm	1	1	2	1	1	1	1	3	3	2	1
Montmorency	-	-	2	-	-	-	-	-	-	-	1
Muskegon	7	4	7	5	6	11	5	4	3	4	6
Newaygo	1	1	-	1	4	3	-	1	-	3	1
Oakland	21	25	32	21	17	18	17	16	15	13	20
Oceana	1	-	3	-	3	1	-	-	1	2	-
Ogemaw	1	-	1	-	1	-	1	1	1	-	-
Ontonagon	-	-	-	-	-	-	-	-	-	-	-
Osceola	1	2	-	-	-	-	-	1	1	-	-
Oscoda	-	-	1	-	-	-	-	-	1	-	-
Otsego	-	1	2	3	2	-	-	1	1	-	-
Ottawa	3	4	4	6	2	9	7	2	3	5	4
Presque Isle	1	-	-	-	-	-	-	-	-	-	-
Roscommon	-	-	-	-	-	-	1	-	3	-	-
Saginaw	2	9	5	6	10	7	11	6	7	8	13
St. Clair	2	5	3	4	6	3	4	3	2	3	6
St. Joseph	5	1	6	2	2	-	1	-	3	1	2

**Table 20-B**  
**Number of Postneonatal Deaths by County of Residence,**  
**State of Michigan, Michigan Counties and Detroit City**  
**Michigan Residents, 2010-2020 (Continued)**

County	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Sanilac	1	-	3	1	-	1	-	-	-	-	-
Schoolcraft	-	-	-	-	-	-	-	-	-	-	-
Shiawassee	2	-	1	1	2	3	4	1	1	-	-
Tuscola	1	1	-	1	2	1	1	1	2	2	1
Van Buren	2	1	4	2	-	3	2	2	3	-	-
Washtenaw	9	4	6	6	5	4	7	5	5	9	4
Wayne	75	79	66	70	71	78	76	90	86	68	75
Detroit City	48	50	47	47	50	58	49	51	59	27	52
Wayne County Excluding Detroit City	27	29	19	23	21	20	27	39	27	41	23
Wexford	1	1	1	-	2	-	-	2	2	1	-
Unknown	-	-	-	-	1	-	-	-	-	-	-

**Notes:** **Postneonatal Death:** Deaths occurring to individuals 28–364 days of age.  
 -: A dash indicates quantity zero.

**Source:** 2010-2020 Michigan Resident Death Files, Division for Vital Records & Health Statistics, Michigan Department of Health & Human Services

**Table 21-A**  
**Number of Neonatal Deaths by Local Health Department and**  
**State of Michigan,**  
**Michigan Residents, 2010-2020**

<b>Health Department</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
Michigan	549	501	540	544	513	498	491	507	482	467	465
Allegan County	6	5	3	3	4	9	3	3	5	8	4
Barry–Eaton District	11	7	4	9	4	7	9	6	2	9	11
Berrien County	8	8	11	8	9	6	2	2	9	7	7
Branch–Hillsdale–St. Joseph	5	8	5	10	6	6	13	13	6	6	10
Calhoun County	10	9	7	8	5	8	4	12	7	3	4
Central Michigan District	2	10	5	7	7	9	4	8	10	6	9
Chippewa County	–	3	2	1	1	–	1	1	2	2	–
City Of Detroit	98	80	104	87	80	81	76	86	99	76	77
Delta & Menominee	2	1	4	1	4	1	–	1	4	6	2
Dickinson–Iron District	2	–	–	4	1	–	–	1	3	–	1
District #10	12	13	18	12	17	8	12	9	7	7	12
District #2	2	2	3	–	4	1	–	3	3	4	3
District #4	2	2	3	1	2	3	1	5	4	4	2
Genesee County	19	22	19	25	23	29	31	15	19	14	16
Grand Traverse County	3	–	3	–	1	7	4	3	2	4	6
Ingham County	12	16	16	20	15	11	5	8	14	15	14
Ionia County	2	1	–	2	2	2	2	1	3	1	1
Jackson County	9	8	3	10	5	7	12	7	4	3	8
Kalamazoo County	17	8	17	11	11	11	5	25	11	12	3
Kent County	32	40	38	28	37	38	45	31	29	32	43
Lapeer County	4	–	1	4	3	1	4	3	2	6	2
Lenawee County	11	3	6	4	5	4	5	3	1	1	3
Livingston County	6	9	7	3	9	5	3	7	3	2	2
Luce–Mackinac–Alger–Schoolcraft	–	–	–	–	1	2	3	–	–	4	3
Macomb County	39	43	40	52	34	43	38	52	33	41	27

**Table 21-A**  
**Number of Neonatal Deaths by Local Health Department and**  
**State of Michigan,**  
**Michigan Residents, 2010-2020 (Continued)**

Health Department	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Marquette County	1	3	–	2	–	1	1	–	1	–	2
Mid-Michigan District	11	8	5	8	6	7	4	4	1	6	5
Midland County	2	2	3	4	3	–	1	2	1	1	3
Monroe County	4	2	6	10	2	8	3	10	3	8	10
Muskegon County	16	11	11	14	9	7	15	11	9	5	6
Oakland County	63	45	61	69	66	53	55	55	64	40	42
Ottawa County	17	17	14	20	10	12	9	9	10	9	11
Bay County	9	6	4	–	5	4	1	5	2	4	3
Saginaw County	10	8	8	13	11	12	16	4	12	10	13
Shiawassee County	2	1	2	2	1	1	2	4	2	4	1
St Clair County	4	6	10	2	3	6	7	4	5	6	9
Van Buren-Cass County	3	5	6	4	8	3	8	4	7	3	2
Washtenaw County	11	10	14	12	23	10	15	10	14	12	9
Wayne County	60	71	68	60	67	63	53	69	60	72	61
Benzie-Leelanau District	3	–	–	2	1	1	3	1	–	–	5
Northwest Michigan Community Health	9	5	2	5	2	3	2	1	2	4	4
Western Upper Peninsula District	5	1	2	4	3	1	5	4	1	1	1
Tuscola County	4	1	4	1	–	3	–	1	2	3	3
Huron County	1	1	–	–	–	–	1	1	2	1	2
Sanilac County	–	–	1	1	3	3	4	3	1	1	3
Unknown	–	–	–	1	–	1	4	–	1	4	–

**Notes:** **Neonatal Death:** Deaths occurring to individuals less than 28 days of age.  
 -: A dash indicates quantity zero.

**Source:** 2010-2020 Michigan Resident Death Files, Division for Vital Records & Health Statistics, Michigan Department of Health & Human Services

**Table 21-B**  
**Number of Postneonatal Deaths by Local Health Department and**  
**State of Michigan,**  
**Michigan Residents, 2010-2020**

Health Department	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Michigan	268	248	243	255	260	267	256	256	241	227	241
Allegan County	–	2	1	6	5	1	2	1	1	1	2
Barry–Eaton District	5	1	4	5	4	2	2	2	3	1	3
Berrien County	6	10	3	6	6	3	8	6	7	6	4
Branch–Hillsdale–St. Joseph	8	2	8	3	3	3	5	2	5	4	3
Calhoun County	8	6	3	3	4	6	2	3	4	–	9
Central Michigan District	8	3	2	3	2	4	4	5	6	3	3
Chippewa County	2	1	–	1	1	–	–	–	–	2	1
City Of Detroit	48	50	47	47	50	58	49	51	59	27	52
Delta & Menominee	–	1	1	–	–	1	3	–	–	–	3
Dickinson–Iron District	2	1	–	–	1	–	2	–	2	1	1
District #10	9	6	5	3	12	6	3	7	7	10	4
District #2	3	2	3	1	1	–	2	3	3	1	–
District #4	2	1	2	–	1	1	1	1	2	1	3
Genesee County	11	18	19	15	18	14	17	22	8	15	14
Grand Traverse County	–	1	1	–	5	2	2	–	3	–	1
Ingham County	2	5	6	8	6	10	16	8	5	9	10
Ionia County	3	2	1	3	1	1	2	1	3	1	1
Jackson County	2	3	4	5	3	3	5	7	3	3	6
Kalamazoo County	13	3	2	15	5	9	3	10	4	8	6
Kent County	22	19	12	11	15	18	11	15	12	19	12
Lapeer County	3	–	1	–	2	3	–	–	–	1	–
Lenawee County	4	3	2	5	4	2	3	2	1	3	–
Livingston County	5	3	1	4	4	2	1	1	3	2	1
Luce–Mackinac–Alger–Schoolcraft	–	–	–	–	1	1	1	–	–	–	–
Macomb County	9	10	12	15	14	17	15	16	17	11	11



**Table 21-B**  
**Number of Postneonatal Deaths by Local Health Department and**  
**State of Michigan,**  
**Michigan Residents, 2010-2020 (Continued)**

Health Department	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Marquette County	1	1	2	–	1	4	1	1	1	1	2
Mid-Michigan District	5	1	2	2	5	5	4	3	4	2	3
Midland County	–	2	3	3	2	3	–	–	1	–	1
Monroe County	5	1	3	5	1	1	4	1	1	6	5
Muskegon County	7	4	7	5	6	11	5	4	3	4	6
Oakland County	21	25	32	21	17	18	17	16	15	13	20
Ottawa County	3	4	4	6	2	9	7	2	3	5	4
Bay County	3	3	1	2	5	2	–	2	2	1	2
Saginaw County	2	9	5	6	10	7	11	6	7	8	13
Shiawassee County	2	–	1	1	2	3	4	1	1	–	–
St Clair County	2	5	3	4	6	3	4	3	2	3	6
Van Buren-Cass County	3	2	6	5	–	6	2	2	6	2	1
Washtenaw County	9	4	6	6	5	4	7	5	5	9	4
Wayne County	27	29	19	23	21	20	27	39	27	41	23
Benzie-Leelanau District	1	1	–	1	2	1	–	–	–	–	–
Northwest Michigan Community Health	–	2	3	3	3	1	–	3	3	–	–
Western Upper Peninsula District	–	–	–	1	1	–	3	2	–	1	–
Tuscola County	1	1	–	1	2	1	1	1	2	2	1
Huron County	–	1	3	–	–	–	–	2	–	–	–
Sanilac County	1	–	3	1	–	1	–	–	–	–	–
Unknown	–	–	–	–	1	–	–	–	–	–	–

**Notes:** **Postneonatal Death:** Deaths occurring to individuals 28–364 days of age.  
 -: A dash indicates quantity zero.

**Source:** 2010-2020 Michigan Resident Death Files, Division for Vital Records & Health Statistics, Michigan Department of Health & Human Services