

### FAST FACTS

- Maryland's infant mortality rate in 2018 was 6.1 per 1,000 live births, a 6% decrease compared with the 2017 rate. This is the lowest infant mortality rate recorded in Maryland's history.

- The infant mortality rate decreased by 9% between 2017 and 2018 among NH black infants, and decreased by 19% among Hispanic infants, but increased slightly among NH white infants.

- Both the neonatal and postneonatal mortality rates declined slightly between 2017 and 2018.

- The leading causes of infant death in 2018 were low birth weight, congenital abnormalities, Sudden Infant Death Syndrome, maternal complications of pregnancy, and cardiovascular disorders.

- The average infant mortality rate has fallen by 4% in Maryland over the past decade, with an 8% decline in the average rate among NH black infants and a 2% decline among NH white infants. Over the same time period, the Hispanic infant mortality rate has risen by 15%.

- Despite the statewide decline in the infant mortality rate over the past decade, there are areas of the State where rates have been increasing.

# Maryland Vital Statistics

## Infant Mortality in Maryland, 2018

October 2019

### Trends

The infant mortality rate in Maryland was 6.1 per 1,000 live births in 2018, a 6% decrease compared with the 2017 rate (6.5). The total number of infant deaths declined between 2017 (462) and 2018 (432), along with the number of births. There were 231 deaths among infants born to non-Hispanic (NH) black women, 123 deaths among infants born to non-Hispanic white women, 47 deaths among infants born to Hispanic women, and 25 deaths among infants born to non-Hispanic Asian women.

There was a 9% decrease in the non-Hispanic black infant mortality rate, from 11.2 in 2017 to 10.2 in 2018. Rates among Hispanic infants declined over the same period by 19%. Rates increased by 3% among non-Hispanic White infants (Table 1).

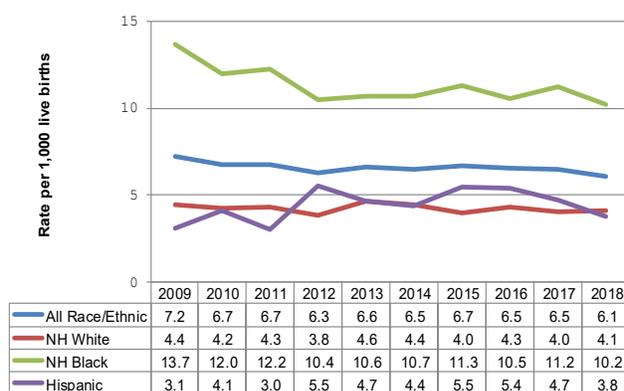
Table 1. Infant, Neonatal and Postneonatal Mortality Rates\* for Selected Years, Maryland.

	Rate* by year		Average rate*	
	2017	2018	2009-2013	2014-2018
<b>Infant mortality</b>				
All Race/Ethnic	6.5	6.1	6.7	6.4
NH White	4.0	4.1	4.3	4.2
NH Black	11.2	10.2	11.8	10.8 ***
Hispanic	4.7	3.8	4.1	4.7
<b>Neonatal mortality</b>				
All Race/Ethnic	4.4	4.2	4.8	4.5
NH White	2.6	2.6	3.0	2.7
NH Black	7.6	6.9	8.6	7.6 ***
Hispanic	3.5	2.9	2.9	3.5
<b>Postneonatal mortality</b>				
All Race/Ethnic	2.0	1.9	1.9	1.9
NH White	1.5	1.5	1.2	1.4
NH Black	3.6	3.3	3.3	3.2
Hispanic	1.1	0.9	1.1	1.2

\*Per 1,000 live births

\*\*\*Rates for 2009-2013 and 2014-2018 differ significantly (p<.05)

Figure A. Infant Mortality Rates by Race/ethnicity, Maryland, 2009-2018.



Infant mortality rates have improved in Maryland over the past decade, falling from an average rate of 6.7 per 1,000 live births during the years 2009-2013 to an average of 6.4 per 1,000 live births during 2014-2018. Rates fell by 8% among non-Hispanic blacks (a statistically significant decline). There was a smaller 2% decline among non-Hispanic whites. However, the infant mortality rate increased by 15% over the two periods among Hispanic infants (Table 1).

### Age at Time of Death

The overall neonatal mortality rate (i.e., deaths to infants under 28 days of age per 1,000 live births) decreased from 4.4 in 2017 to 4.2 in 2018 (Table 1). The rate decreased from 7.6 to 6.9 among non-Hispanic black infants and from 3.5 to 2.9 among Hispanic neonates. The neonatal rate was unchanged among non-Hispanic white infants.

The postneonatal mortality rate (i.e., deaths from 28 days through 11 months of age per 1,000 live births) decreased slightly, from 2.0 in 2017 to 1.9 in 2018. The rate decreased 8%

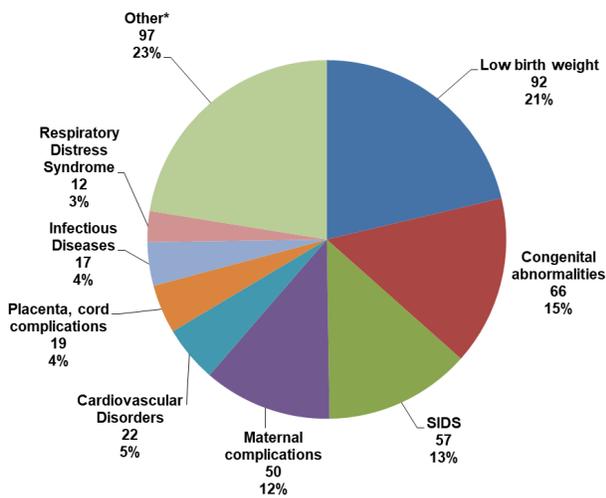
among non-Hispanic black infants, from 3.6 to 3.3, and also decreased slightly among Hispanic infants to 0.9. The rate among non-Hispanic white infants remained unchanged at 1.5 (Table 1).

From 2009-2013 to 2014-2018, the average neonatal mortality rate declined by 6%. There was a significant decline (12%) among non-Hispanic black neonates. There was a 21% increase in the Hispanic neonatal mortality rate over the same period. The average postneonatal mortality rate was stable over the past 10 years. The rate declined among non-Hispanic black infants and increased among Hispanic infants and non-Hispanic white infants.

### Causes of death

The leading causes of infant death in 2018 were disorders relating to short gestation and low birth weight (LBW); congenital malformations, deformations, and chromosomal abnormalities (Congenital abnormalities); Sudden Infant Death Syndrome (SIDS); maternal complications of pregnancy; cardiovascular disorders; and complications of the placenta, cord and membranes. Maternal complications of pregnancy include conditions such as premature rupture of membranes and cervical incompetence. (Figure B).

Figure B. Leading Causes of Infant Death, Maryland 2018



\*Includes causes of death with <10 events

Following a substantial decline in infant deaths attributed to SIDS between 2015 (64) and 2016 (43), there was an increase to 55 deaths in 2017, and another increase to 57 deaths in 2018. Notably, the number of infant homicides declined from 15 in 2016 to 7 in 2017, and to 2 in 2018.

The leading causes of neonatal mortality in 2018 were LBW (30%), maternal complications of pregnancy (17%), and congenital abnormalities (14%). The leading causes of postneonatal mortality were Sudden Infant Death Syndrome (38%), congenital abnormalities (18%), respiratory diseases (6%), unintentional injuries (5%), and infectious diseases (5%).

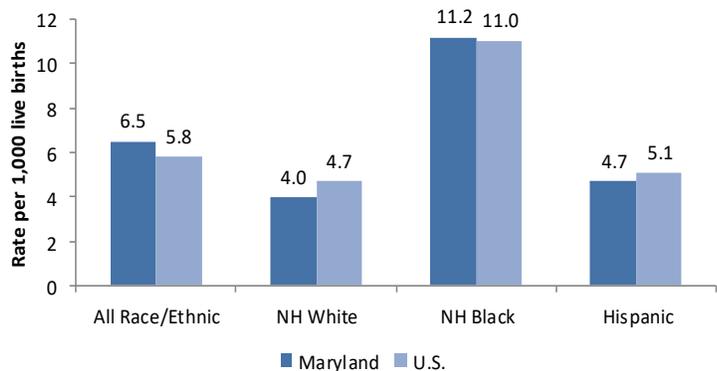
Low birth weight was the leading cause of death among non-Hispanic black infants (26%) in 2018. Congenital abnormalities were the leading cause of death among Hispanic (30%) infants. Sudden Infant Death Syndrome (SIDS) was the leading cause of death among non-Hispanic white (20%) infants. Cause-specific mortality rates continue to be higher for non-Hispanic black infants than non-Hispanic white infants for all leading causes of death. Compared with non-Hispanic white infants, non-Hispanic black infants were five times more likely to die in 2018 as a result of LBW, twice as likely to die from congenital abnormalities, twice as likely to die from SIDS, and three times more likely to die from maternal complications of pregnancy.

### Comparison of rates in Maryland and the U.S.

Figure C shows a comparison of infant mortality rates in Maryland and the U.S. in 2017, the most recent year for which national data are available.

Maryland’s infant mortality rate for all race and ethnicities combined has historically been higher than the national rate, mainly because the Maryland population is comprised of a higher proportion of black residents, a group with typically higher infant mortality rates than whites. White infant mortality rates have historically been lower in Maryland than in the nation. Maryland’s Hispanic infant mortality rate was lower than the national rate in 2017.

Figure C. Infant Mortality Rates by Race/ethnicity, Maryland and the U.S., 2017



## Regional and county differences

The number of infant deaths and infant mortality rates by race/ethnicity, region, and political subdivision for 2017 and 2018 are shown in Table 2. The only statistically significant changes between 2017 and 2018 among all races/ethnicities combined occurred in Harford County (242% increase) and the Southern Area jurisdictions (51% decrease). Among non-Hispanic whites, there was a significant 51% decrease in the Northwest area jurisdictions, and a 48% increase in the Baltimore Metro Area. Among non-Hispanic blacks, there was a statistically significant 44% decrease in the Baltimore County rate.

Over the past decade, there has been a 4% decline in infant mortality rates statewide (Table 3). This drop was led by

declines in the Baltimore Metro Area, especially in Baltimore City which experienced a significant 17% reduction, and by the National Capital Area, especially in Prince George's County which experienced a 9% drop over the periods between 2009-2013 and 2014-2018.

There were many areas of Maryland that experienced increases over this time frame, including all counties in the Northwest and Southern regions. There were also several counties in the Eastern Shore area with increased rates, including Somerset County which had a significant increase over this period (119%),

TABLE 2. INFANT DEATHS AND INFANT MORTALITY RATES BY RACE/ETHNICITY, REGION AND POLITICAL SUBDIVISION, MARYLAND, 2017 AND 2018.

Region and political subdivision	ALL RACE/ETHNICITIES				NON-HISPANIC WHITE				NON-HISPANIC BLACK				HISPANIC			
	Number of infant deaths		Infant mortality rate*		Number of infant deaths		Infant mortality rate*		Number of infant deaths		Infant mortality rate*		Number of infant deaths		Infant mortality Rate*	
	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018
<b>Maryland</b>	<b>462</b>	<b>432</b>	<b>6.5</b>	<b>6.1</b>	<b>123</b>	<b>123</b>	<b>4.0</b>	<b>4.1</b>	<b>258</b>	<b>231</b>	<b>11.2</b>	<b>10.2</b>	<b>57</b>	<b>47</b>	<b>4.7</b>	<b>3.8</b>
<b>Northwest Area</b>	<b>38</b>	<b>26</b>	<b>7.2</b>	<b>4.7</b>	<b>29</b>	<b>15</b>	<b>7.5</b>	<b>3.7 ***</b>	<b>8</b>	<b>8</b>	<b>13.3</b>	<b>13.1</b>	<b>1</b>	<b>2</b>	<b>**</b>	<b>**</b>
Garrett	2	1	**	**	2	1	**	**	0	0	**	**	0	0	**	**
Allegany	3	4	**	**	3	3	**	**	0	1	**	**	0	0	**	**
Washington	16	7	9.8	4.2	13	4	10.6	**	3	3	**	**	0	0	**	**
Frederick	17	14	6.3	4.7	11	7	6.1	3.6	5	4	15.5	**	1	2	**	**
<b>Baltimore Metro Area</b>	<b>189</b>	<b>199</b>	<b>5.8</b>	<b>6.2</b>	<b>42</b>	<b>62</b>	<b>2.7</b>	<b>4.0 ***</b>	<b>117</b>	<b>106</b>	<b>11.0</b>	<b>10.2</b>	<b>17</b>	<b>16</b>	<b>5.0</b>	<b>4.4</b>
Baltimore City	69	71	8.7	9.2	6	6	2.9	3.0	58	60	12.2	13.4	3	4	**	**
Baltimore County	64	60	6.5	6.1	14	25	3.1	5.7	41	23	12.4	6.9 ***	6	3	5.7	**
Anne Arundel	28	22	4.1	3.2	12	13	2.8	3.2	10	5	7.9	4.0	5	3	5.3	**
Carroll	4	6	**	3.4	4	4	**	**	0	2	**	**	0	0	**	**
Howard	19	23	5.4	6.7	3	6	**	4.1	7	11	8.7	14.5	2	2	**	**
Harford	5	17	1.9	6.5 ***	3	8	**	4.2	1	5	**	10.8	1	4	**	**
<b>National Capital Area</b>	<b>160</b>	<b>149</b>	<b>6.4</b>	<b>6.1</b>	<b>15</b>	<b>12</b>	<b>2.8</b>	<b>2.3</b>	<b>100</b>	<b>98</b>	<b>10.4</b>	<b>10.4</b>	<b>36</b>	<b>26</b>	<b>4.8</b>	<b>3.5</b>
Montgomery	58	52	4.6	4.2	14	10	3.3	2.4	18	25	6.5	9.2	17	9	4.7	2.5
Prince George's	102	97	8.2	8.0	1	2	**	**	82	73	12.0	10.9	19	17	5.0	4.5
<b>Southern Area</b>	<b>35</b>	<b>17</b>	<b>8.6</b>	<b>4.2 ***</b>	<b>17</b>	<b>8</b>	<b>7.2</b>	<b>3.5</b>	<b>14</b>	<b>9</b>	<b>11.4</b>	<b>7.1</b>	<b>2</b>	<b>0</b>	<b>**</b>	<b>**</b>
Calvert	6	4	6.7	**	4	3	**	**	2	1	**	**	0	0	**	**
Charles	20	10	10.9	5.4	8	2	12.2	**	9	8	10.0	8.4	1	0	**	**
Saint Mary's	9	3	6.7	**	5	3	5.1	**	3	0	**	**	1	0	**	**
<b>Eastern Shore Area</b>	<b>40</b>	<b>41</b>	<b>8.3</b>	<b>8.6</b>	<b>20</b>	<b>26</b>	<b>6.2</b>	<b>8.3</b>	<b>19</b>	<b>10</b>	<b>18.9</b>	<b>9.7</b>	<b>1</b>	<b>3</b>	<b>**</b>	<b>**</b>
Cecil	3	10	**	8.7	1	8	**	8.4	1	1	**	**	1	1	**	**
Kent	1	0	**	**	1	0	**	**	0	0	**	**	0	0	**	**
Queen Anne's	2	5	**	10.5	2	3	**	**	0	0	**	**	0	1	**	**
Caroline	2	5	**	11.7	2	2	**	**	0	1	**	**	0	1	**	**
Talbot	2	3	**	**	1	3	**	**	1	0	**	**	0	0	**	**
Dorchester	1	8	**	21.2	1	3	**	**	0	5	**	37.3	0	0	**	**
Wicomico	14	9	10.9	7.2	8	6	12.5	9.7	6	3	12.1	**	0	0	**	**
Somerset	10	1	41.2	**	4	1	**	**	6	0	64.5	**	0	0	**	**
Worcester	5	0	12.6	**	0	0	**	**	5	0	80.6	**	0	0	**	**

\*Per 1,000 live births

\*\*Rates based on <5 deaths are not shown since rates based on small numbers are statistically unreliable.

\*\*\*Rates for 2017 and 2018 differ significantly (p<.05).

TABLE 3. NUMBER OF INFANT DEATHS, AVERAGE INFANT MORTALITY RATE BY FIVE YEAR INTERVAL AND PERCENT CHANGE IN RATES BETWEEN INTERVALS BY REGION AND POLITICAL SUBDIVISION, MARYLAND, 2009-2013 AND 2014-2018.

Region and political subdivision	Number of infant deaths		Average infant mortality rate*		Percent change**
	2009-2013	2014-2018	2009-2013	2014-2018	
<b>Maryland</b>	<b>2462</b>	<b>2339</b>	<b>6.7</b>	<b>6.4</b>	<b>-4.1</b>
<b>Northwest Area</b>	<b>125</b>	<b>158</b>	<b>4.5</b>	<b>5.8</b>	<b>27.6 ***</b>
Garrett	7	12	4.8	8.4	75.0
Allegany	19	23	5.4	7.0	29.3
Washington	44	62	5.1	7.3	43.7
Frederick	55	61	3.9	4.3	9.6
<b>Baltimore Metro Area</b>	<b>1185</b>	<b>1040</b>	<b>7.1</b>	<b>6.3</b>	<b>-11.2 ***</b>
Baltimore City	498	380	11.0	9.1	-17.1 ***
Baltimore County	313	312	6.4	6.3	-1.7
Anne Arundel	185	164	5.3	4.7	-11.1
Carroll	32	25	4.1	3.0	-26.3
Howard	95	102	5.6	5.8	3.0
Harford	62	57	4.6	4.3	-6.7
<b>National Capital Area</b>	<b>853</b>	<b>804</b>	<b>6.8</b>	<b>6.4</b>	<b>-5.5</b>
Montgomery	327	316	5.0	4.9	-1.1
Prince George's	526	488	8.7	7.9	-9.0
<b>Southern Area</b>	<b>112</b>	<b>139</b>	<b>5.4</b>	<b>6.7</b>	<b>24.8</b>
Calvert	20	26	4.3	5.8	32.5
Charles	58	69	6.3	7.5	18.2
Saint Mary's	34	44	4.8	6.3	31.1
<b>Eastern Shore Area</b>	<b>187</b>	<b>198</b>	<b>7.6</b>	<b>8.4</b>	<b>9.4</b>
Cecil	32	34	5.5	6.2	11.3
Kent	8	5	8.9	6.6	-25.2
Queen Anne's	15	11	6.3	4.6	-27.3
Caroline	18	18	8.8	9.2	5.1
Talbot	12	17	7.1	10.2	43.9
Dorchester	20	15	10.4	8.1	-22.2
Wicomico	54	55	8.7	8.8	1.9
Somerset	11	22	8.3	18.3	119.6 ***
Worcester	17	21	7.7	9.9	28.8

\*Per 1,000 live births

\*\*Percent change is based on the exact rates and not on the rounded rates presented here.

\*\*\*Rates for 2009-2013 and 2014-2018 differ significantly ( $p < .05$ ).



**Maryland Department of Health**  
**Vital Statistics Administration**

Larry Hogan, Governor, Boyd K. Rutherford, Lt. Governor, Robert R. Neall, Secretary,  
Lee Hurt, Dr.P.H., Director, Vital Statistics Administration

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**Vital Statistics Administration**

Maryland Department of Health  
4201 Patterson Avenue  
Baltimore, MD 21215

Phone: 410-764-3514

or visit:

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