



Maryland Vital Statistics

Infant Mortality in Maryland, 2009

July 2010

FAST FACTS

- Maryland's infant mortality rate was 7.2 per 1,000 live births in 2009, 9.7% lower than the 2008 rate of 8.0.
- Although the mortality rate for white infants declined significantly between 2008 and 2009, the rate increased for black infants.
- Overall infant mortality rates decreased significantly in 2009 in Frederick and Anne Arundel Counties.
- The leading causes of infant death were low birth weight, congenital abnormalities and SIDS.
- The infant mortality rate has fallen more rapidly over the past 10 years among white infants than among black infants.
- Garrett and Prince George's Counties are the only jurisdictions in the State where infant mortality rates declined significantly over the past decade.

Trends

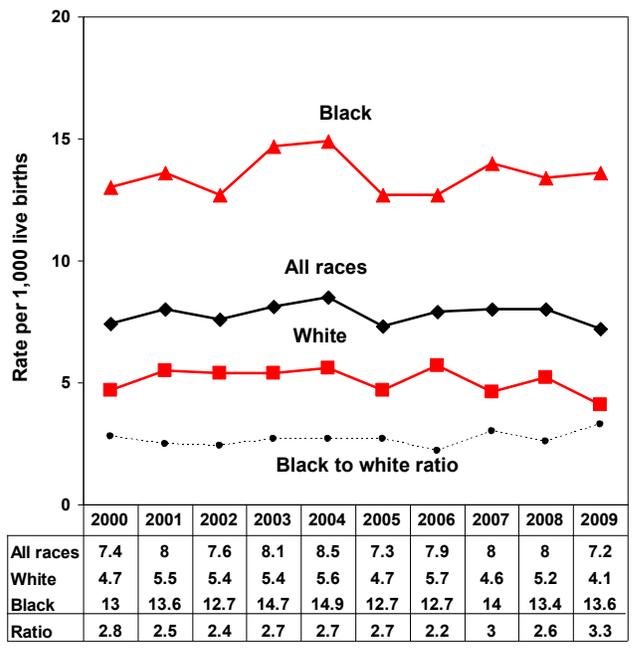
The infant mortality rate in Maryland fell to 7.2 per 1,000 live births in 2009, the lowest rate ever recorded in Maryland and 9.7% lower than the 2008 rate of 8.0 per 1,000 live births. A total of 541 infants died in 2009 compared with 617 in the year before. There were 177 deaths among infants born to white women, 343 deaths among infants born to black women, 19 deaths among infants born to Asian women, and 29 deaths among infants born to women of Hispanic origin, who may be any race.

The decline in the overall infant mortality rate was due to a 20.6% decline in the white infant mortality rate, which fell from 5.2 per 1,000 live births in 2008 to 4.1 per 1,000 live births in 2009. Although the 2009 white infant mortality fell to its lowest recorded rate in 2009, the black infant mortality rate increased from 13.4 in 2008 to 13.6 in 2009. The infant mortality rate was 3.2 per 1,000 live births among Asians and 3.1 per 1,000 live births among Hispanics.

Despite the large decline in infant deaths in 2009, infant mortality rates have fallen only slightly in Maryland over the past decade. The rate fell from an average of 7.9 per 1,000 live births in the years 2000-2004 to an

average of 7.7 in the years 2005-2009, a 3.1% decline. While the average rate for whites fell from 5.3 to 4.9 during this time period, an 8.2% decline, the average rate for blacks declined by only 4.8%, from 14.0 to 13.3. Only the decline among white infants was statistically significant. The black to white infant mortality ratio has been rising in recent years, and reached a high of 3.3 in 2009.

Figure A. Infant Mortality Rates by Race and Black to White Ratio, Maryland, 2000-2009.



Age at Time of Death

The neonatal mortality rate (deaths to infants under 28 days of age per 1,000 live births) fell from 5.8 in 2008 to 5.1 in 2009, a 12.0% decline. This was the result of a 21.8% decline in the white neonatal mortality rate, which fell from 3.6 in 2008 to 2.8 in 2009. In con-

trast, the black neonatal mortality rate fell only slightly, from 9.9 in 2008 to 9.8 in 2009. Between 2000-2004 and 2005-2009 the average white neonatal mortality rate fell by 9.8%, from 3.9 to 3.5, while the average black neonatal mortality rate fell from 10.1 to 9.6, a 4.5%

decline. Although the overall postneonatal mortality rate (deaths from 28 days through 11 months of age per 1,000 live births) remained unchanged between 2008 and 2009 at 2.1 per 1000 live births, the white postneonatal mortality rate fell from 1.5 to 1.2, a 17.5% decline, while the black rate increased from 3.5 to 3.8, a 6.9% increase. The

overall postneonatal mortality rate changed minimally over the past decade, declining from a rate of 2.2 in the period 2000-2004 to a rate of 2.1 in the period 2005-2009. The average rate of decline during these two time periods was approximately 4% for both white and black infants.

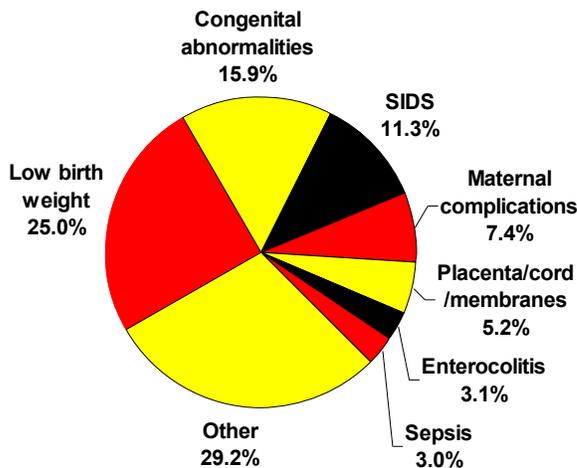
Causes of death

The three leading causes of infant death in 2009 were disorders relating to short gestation and unspecified low birth weight (low birth weight), congenital abnormalities, and sudden infant death syndrome (SIDS) (Figure B). In rank order, congenital abnormalities, low birth weight and SIDS were the three leading causes of death among white infants, while low birth weight, SIDS and congenital abnormalities were the three leading causes of death among black infants. Death rates fell between 2008 and 2009 for

all leading causes of death.

Cause-specific mortality rates continue to be higher for black infants than white infants for all leading causes of death. Compared with white infants, black infants were seven times more likely to die in 2009 as a result of bacterial sepsis, five times more likely to die as a result of low birth weight and complications of the placenta, cord and membranes, and four times more likely to die as a result of SIDS, maternal complications of pregnancy, and complications of the placenta, cord and membranes.

Figure B. Leading Causes of Infant Death, Maryland, 2009.



An 8.6% drop in the percentage of white infants weighing less than 1500 grams,—including a 28% drop in the percentage weighing under 500 grams—appeared in large part to be responsible for the drop in the overall infant mortality rate. In contrast, the percentage of black infants weighing less than 1500 grams fell by less than 1%, and the percentage of black infants weighing under 500 grams increased by 16%.

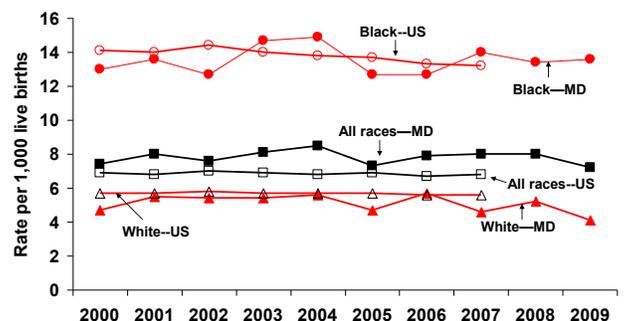
A 10% drop in the percentage of births resulting from multiple gestation pregnancies is likely to have contributed to the reduction in very low birth weight infants since the majority of these infants are born prematurely. Declines in the percentage of births to two other high risk groups—teens under 18 years of age, and women over the age of 20 who completed fewer than 12 years of education—are also likely to have contributed to the improvement in pregnancy outcomes.

Comparison of rates in Maryland and the United States

Maryland's infant mortality rate for all races 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 generally higher infant mortality rates than whites. Consequently, the overall infant mortality rate is higher in Maryland than in the United States even though race-specific rates have often been lower in Maryland than in the U.S. (Figure C).

In 2007, the most recent year for which national data are available, the U.S. infant mortality rates for all races, whites and blacks were 6.8, 5.6 and 13.2, respectively, compared with rates in Maryland of 8.0, 4.6 and 14.0.

Figure C. Infant Mortality Rate by Race, Maryland and U.S., 2000-2009.



Regional and county differences

The number of infant deaths and infant mortality rates by race, region and political subdivision are shown in Table 1. There were several statistically significant changes between 2008 and 2009. In the Northwest area, the overall infant mortality rate fell from 7.6 to 4.4 per 1,000 live births, a 42.2% drop. Within this region, the infant mortality rate declined significantly in Frederick County.

The Northwest and Baltimore Metro areas, as well as Anne Arundel County, showed statistically significant declines in their white infant mortality rates between 2008 and 2009. The black infant mortality rate declined significantly in Prince George's County.

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Maryland's average infant mortality rate declined by a modest 3.1% between the periods 2000-2004 and 2005-2009, with statistically significant declines occurring only in Garrett and Prince George's Counties (Table 2). Although the increases were not statistically significant, rates have risen in numerous jurisdictions of the State between these two time periods, with increases of 20% or more seen in Frederick, Calvert, Queen Anne's and Dorchester Counties.

TABLE 1. INFANT DEATHS AND INFANT MORTALITY RATES BY RACE, REGION AND POLITICAL SUBDIVISION, MARYLAND, 2008 AND 2009.

Region and political subdivision	ALL RACES				WHITE				BLACK			
	Number of infant deaths		Infant mortality rate*		Number of infant deaths		Infant mortality rate*		Number of infant deaths		Infant mortality rate*	
	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009
Maryland	617	541	8.0	7.2	235	177	5.2	4.1 ***	351	343	13.4	13.6
Northwest Area	44	25	7.6	4.4 ***	32	17	6.5	3.5 ***	9	7	15.8	14.5
Garrett	3	0	10.8	0.0	3	0	10.9	0.0	0	0	0.0	-
Allegany	6	1	8.4	1.4	5	1	7.3	1.4	1	0	52.6	0.0
Washington	10	13	5.5	7.4	8	8	5.0	5.2	2	5	10.6	30.9
Frederick	25	11	8.4	3.8 ***	16	8	6.6	3.4	6	2	16.6	6.7
Baltimore Metro Area	290	275	8.2	8.0	111	76	5.4	3.9 ***	168	191	13.4	15.8
Baltimore City	120	128	12.1	13.5	21	10	7.3	3.5	96	118	14.3	18.5
Baltimore County	73	73	7.2	7.4	30	21	4.9	3.6	39	48	12.1	15.3
Anne Arundel	62	35	8.7	4.9 ***	39	22	7.1	4.1 ***	22	12	17.3	9.0
Carroll	6	7	3.4	4.5	5	6	3.0	4.0	1	1	18.2	21.7
Howard	13	23	3.8	6.9	7	12	3.4	6.2	5	9	6.9	12.9
Harford	16	9	5.4	3.2	9	5	3.8	2.3	5	3	9.7	6.0
National Capital Area	213	180	8.1	7.0	56	53	4.3	4.5	143	115	13.4	11.0
Montgomery	76	74	5.6	5.5	38	33	4.3	3.9	27	30	9.5	10.7
Prince George's	137	106	10.9	8.7	18	20	4.3	6.0	116	85	14.9	11.1 ***
Southern Area	37	24	8.6	5.7	22	13	7.5	4.5	12	11	9.8	9.3
Calvert	7	4	7.3	4.3	7	3	9.0	3.9	0	1	0.0	7.5
Charles	15	12	7.8	6.6	4	5	4.1	5.4	8	7	9.5	8.7
Saint Mary's	15	8	10.3	5.4	11	5	9.5	4.3	4	3	17.8	12.7
Eastern Shore Area	33	37	6.0	7.3	14	18	3.3	4.5	19	19	16.7	19.0
Cecil	4	4	3.1	3.4	4	4	3.4	3.7	0	0	0.0	0.0
Kent	1	2	4.6	10.6	0	1	0.0	7.1	1	1	21.7	23.8
Queen Anne's	2	3	3.8	6.0	0	1	0.0	2.2	2	2	40.8	54.1
Caroline	6	3	12.0	6.7	4	3	9.5	8.1	2	0	27.0	0.0
Talbot	1	1	2.6	2.8	1	1	3.1	3.5	0	0	0.0	0.0
Dorchester	8	9	17.7	21.9	3	3	11.2	11.9	5	6	28.2	40.8
Wicomico	8	12	5.9	9.1	2	4	2.2	4.7	6	8	13.9	18.9
Somerset	2	3	7.2	12.1	0	1	0.0	6.4	2	2	18.7	23.3
Worcester	1	0	2.1	0.0	0	0	0.0	0.0	1	0	8.8	0.0

*Per 1,000 live births

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

***Rates for 2008 and 2009 differ significantly (p<.05)

TABLE 2. 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, 2000-2004 AND 2005-2009.

Region and political subdivision	Number of infant deaths		Average infant mortality rate*		Percent change**
	2000-2004	2005-2009	2000-2004	2005-2009	
Maryland	2935	2940	7.9	7.7	-3.1
Northwest Area	160	165	5.7	5.6	-0.3
Garrett	17	4	10.5	2.7	-74.8 ***
Allegany	32	22	9.1	6.3	-30.5
Washington	44	57	5.3	6.2	16.8
Frederick	67	82	4.5	5.4	20.6
Baltimore Metro Area	1359	1404	8.1	8.1	-0.1
Baltimore City	551	585	12.0	12.1	1.3
Baltimore County	347	378	7.5	7.6	0.9
Anne Arundel	235	235	6.9	6.7	-3.1
Carroll	39	36	4.1	4.0	-1.2
Howard	117	91	6.6	5.4	-18.6
Harford	70	79	4.8	5.3	11.5
National Capital Area	1073	1025	8.4	7.8	-6.6
Montgomery	380	412	5.7	6.0	5.4
Prince George's	693	613	11.2	9.8	-12.9 ***
Southern Area	147	164	7.1	7.6	6.1
Calvert	24	30	4.8	6.2	29.6
Charles	70	82	7.8	8.6	10.1
St. Mary's	53	52	8.0	7.1	-10.8
Eastern Shore Area	196	182	8.1	6.9	-14.3
Cecil	40	28	6.8	4.4	-35.0
Kent	9	7	10.2	7.3	-28.0
Queen Anne's	11	14	4.4	5.3	21.7
Caroline	16	17	7.7	7.3	-5.3
Talbot	10	7	5.6	3.8	-31.5
Dorchester	17	33	10.1	16.5	63.1
Wicomico	57	52	9.8	7.9	-19.1
Somerset	20	12	15.4	9.1	-40.7
Worcester	16	12	6.7	5.0	-25.3

*Per 1000 live births.

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

***Rates for 2000-2004 and 2005-2009 differ significantly ($p < .05$).



For more information or to obtain Maryland vital statistics data please contact the:

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