

# DELAWARE VITAL STATISTICS ANNUAL REPORT INFANT MORTALITY, 2016



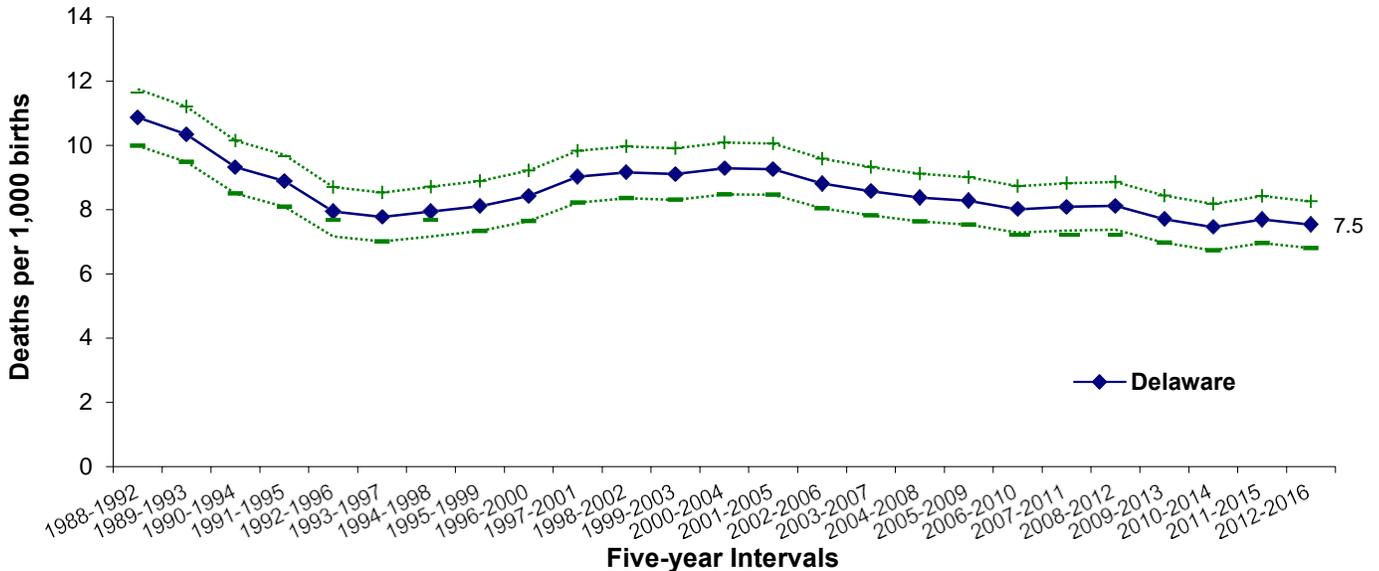
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## INFANT MORTALITY

In 2012-2016, Delaware's infant mortality rate (IMR) was 7.5 infant deaths per 1,000 live births, resulting in a total decline of 19.3 percent from the 2000-2004 rate of 9.3 infant deaths per 1,000 live births.

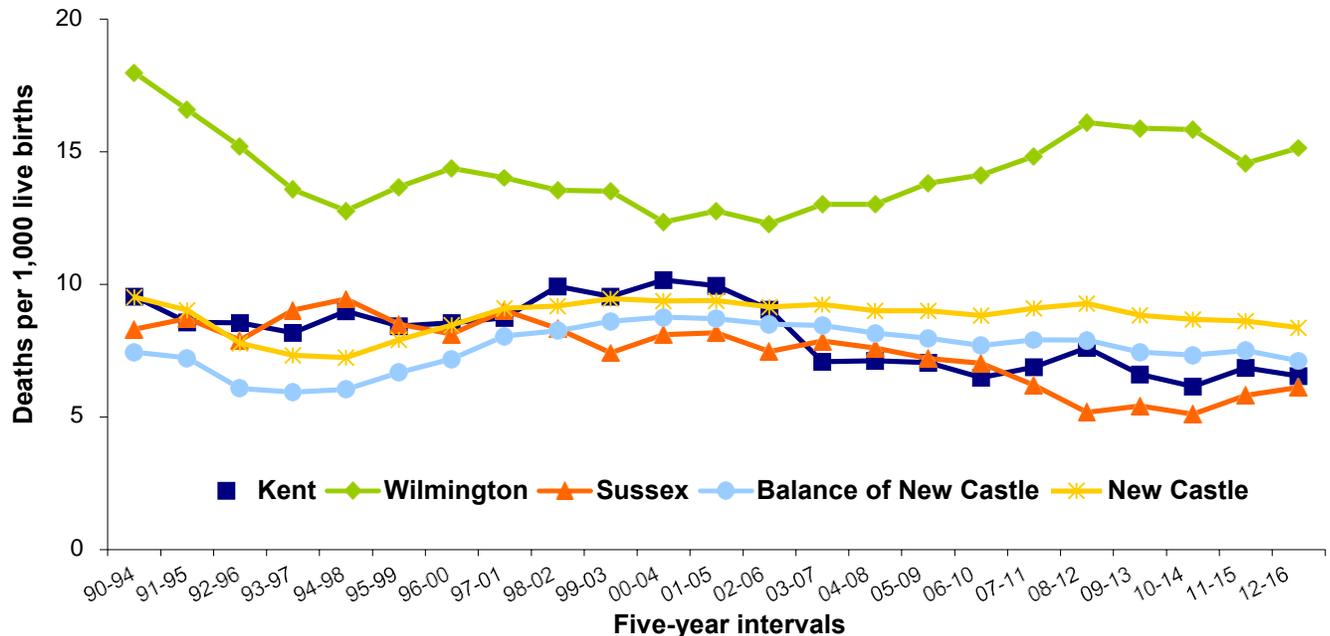
**Figure 27. Five-year Average Infant Mortality Rates with Confidence Intervals, Delaware, 1988-2016**



Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware Health Statistics Center

Wilmington's IMR continued to be the highest in Delaware. The combination of Wilmington's high IMR and a higher IMR in the balance of New Castle County resulted in New Castle County's IMR being higher than the IMRs of both Kent and Sussex counties. Sussex County's IMR remained the lowest at 6.1 infant deaths per 1,000 live births. In 2012-2016, the balance of New Castle County's IMR was 7.1 infant deaths per 1,000 live births; Wilmington's IMR was 15.1 infant deaths per 1,000 live births; and Kent County's IMR was 6.5 infant deaths per 1,000 live births.

**Figure 28. Five-year Average Infant Mortality Rates, Delaware Counties and City of Wilmington, Delaware, 1990-2016**

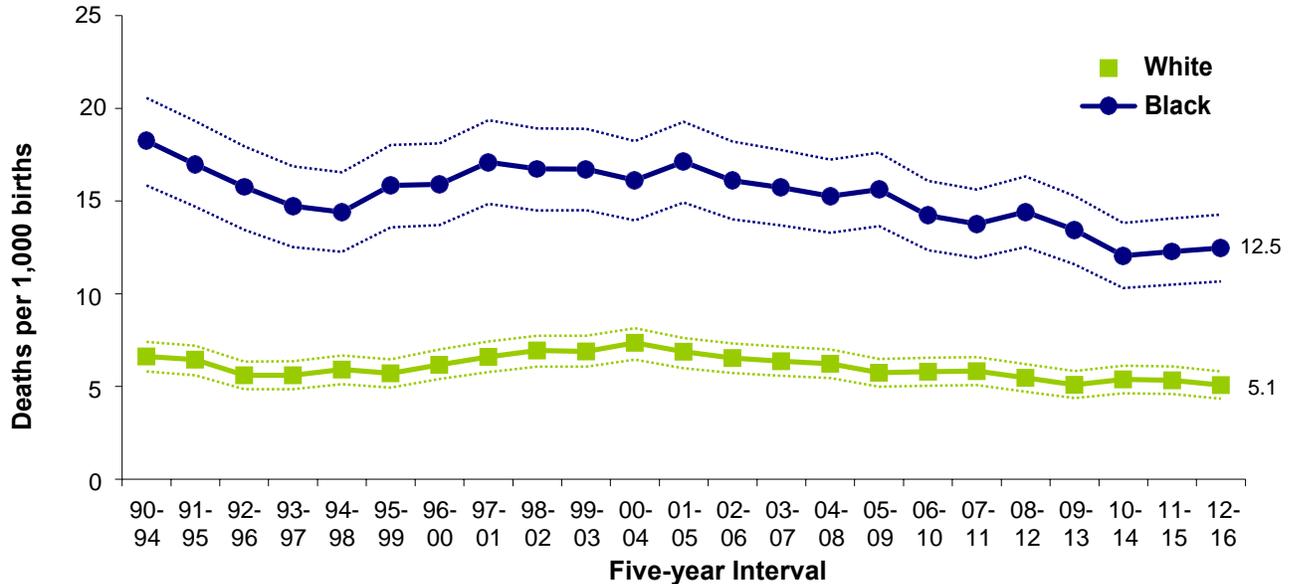


Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware Health Statistics Center

## INFANT MORTALITY

Black infants experienced significantly higher mortality rates than white infants, but the gap is decreasing. In 2012-2016 the black IMR of 12.5 infant deaths per 1,000 live births was more than two times higher than the white IMR of 5.1 infant deaths per 1,000 live births, whereas in 1990-1994 the black IMR was three times higher than the white IMR.

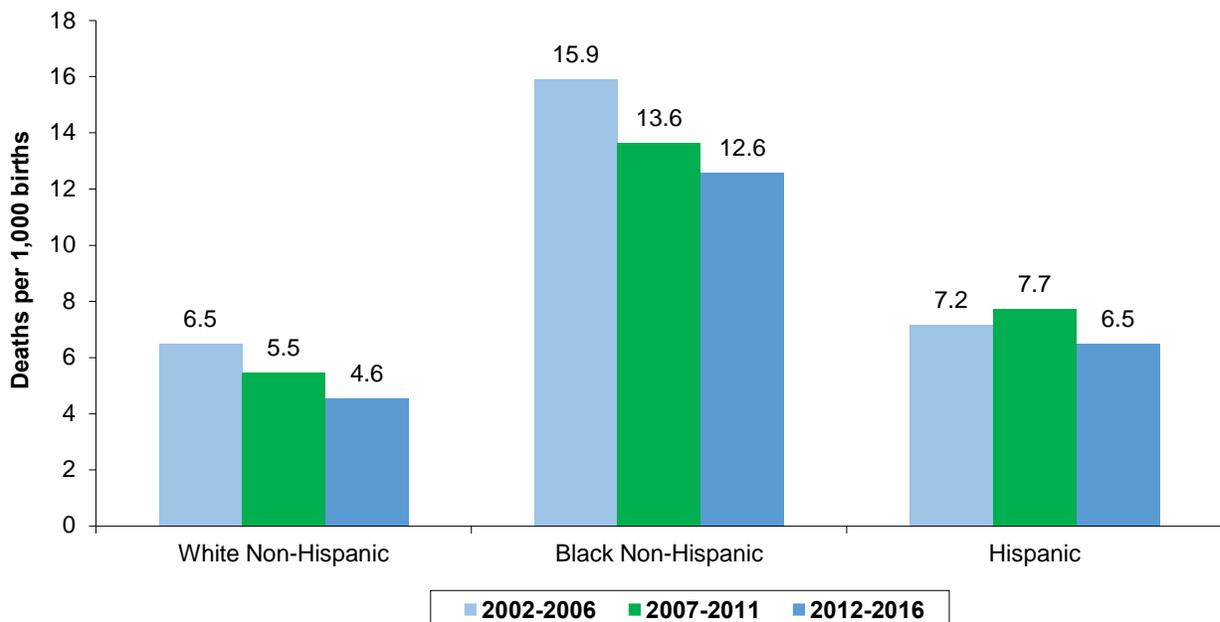
**Figure 29. Five-year Average Black and White Infant Mortality Rates with Confidence Intervals, Delaware, 1990-2016**



Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware Health Statistics Center

Significant disparities existed between black non-Hispanics and each of the two other groups: white non-Hispanics and Hispanics. Black non-Hispanics had the highest IMRs in all three time periods, and their rate of 12.6 infant deaths per 1,000 live births in 2012-2016 was nearly triple the white non-Hispanic rate of 4.6 and nearly double the Hispanic rate of 6.5 infant deaths per 1,000 live births. Although the rates for each of the race groupings decreased from 2002-2006 to 2012-2016, white non-Hispanics had the largest percentage decrease at 29.2 percent.

**Figure 30. Five-year Average Infant Mortality Rates by Race and Hispanic Origin, Delaware 2002-2016**



Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware Health Statistics Center

## INFANT MORTALITY

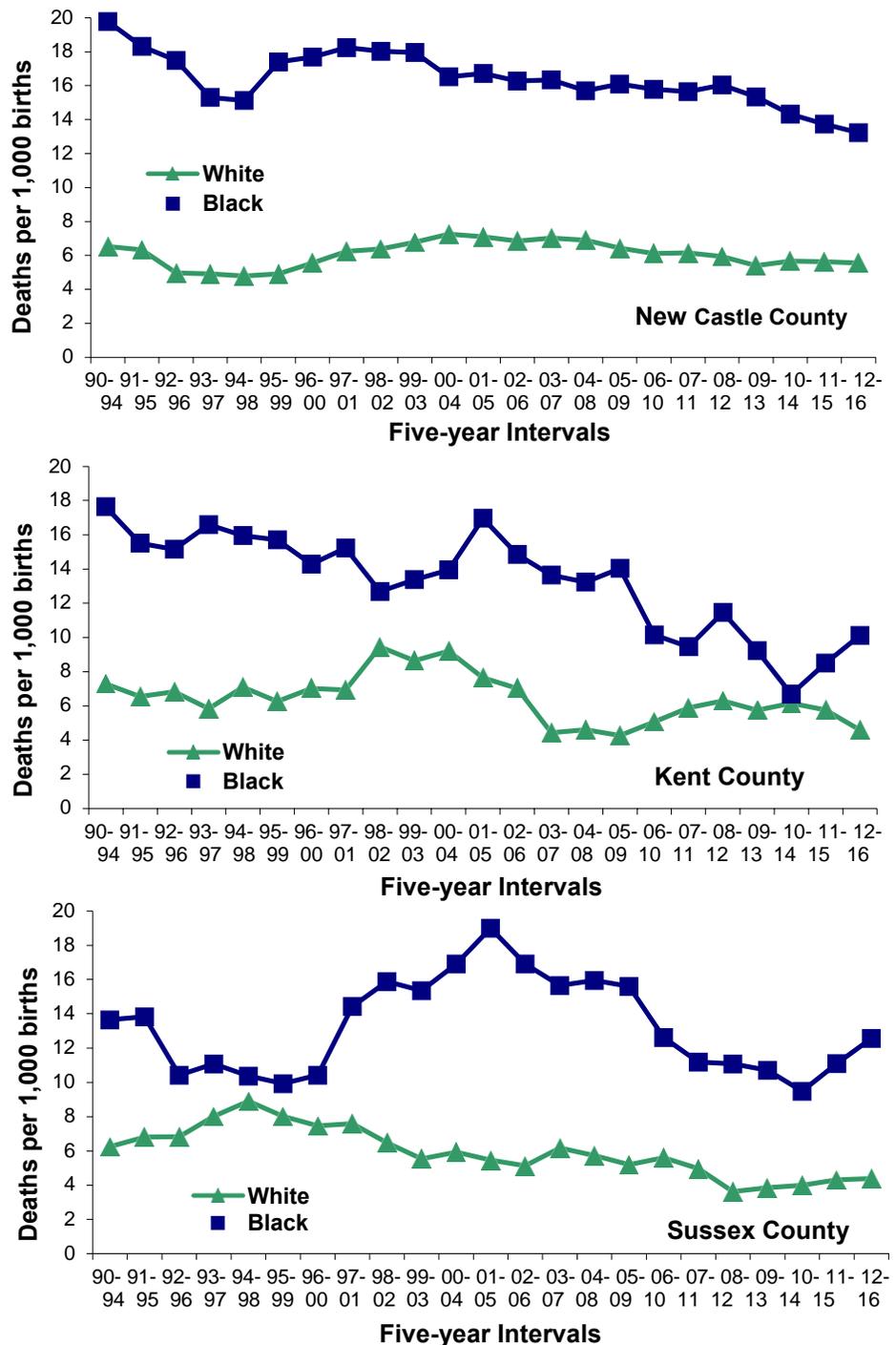
In 2012-2016, New Castle County had the highest IMRs and Sussex County had the lowest.

Black IMRs in New Castle County have hovered around 16 infant deaths per 1,000 live births since 2004, and decreased the last three time periods to 13.2 infant deaths per 1,000 live births.

Black IMRs in Kent County peaked at 17 infant deaths per 1,000 live births in 2001-2005. The IMR has since fluctuated while still remaining 41 percent lower in 2012-2016, at 10.1 infant deaths per 1,000 live births. The white IMR had a 52 percent decrease from its peak in 1998-2002 to 2012-2016 (9.5 to 4.6 infant deaths per 1,000 live births).

Sussex County's black IMR rose to 12.6 infant deaths per 1,000 live births in 2012-2016, a 21 percent increase since 1996-2000 and a 34 percent reduction from the 2001-2005 peak of 19. Sussex County's white IMR fluctuated between five and six from 1999-2003 to 2007-2011, and in 2012-2016 the rate dropped to 4.4 infant deaths per 1,000 live births.

**Figure 31. Five-year Average Infant Mortality Rates by Race and County, Delaware, 1990-2016**



Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware Health Statistics Center

## INFANT MORTALITY- Leading Causes of Death

In 2012-2016 the five leading causes of infant death in Delaware were:

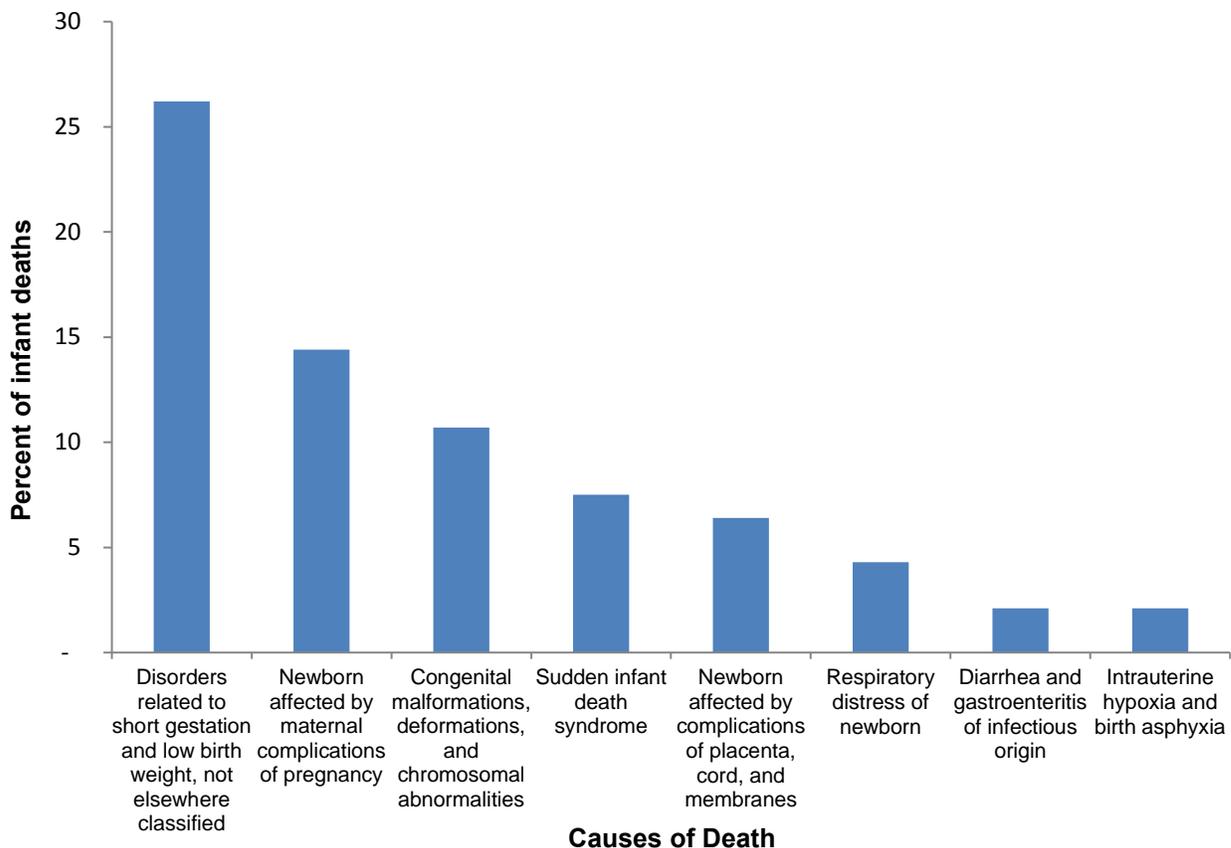
- Disorders related to short gestation and fetal malnutrition (prematurity and low birthweight), which accounted for 21.1 percent of infant deaths.
- Newborns affected by maternal complications of pregnancy, which accounted for 13.8 percent of infant deaths. Of the 57 deaths attributed to this cause, 52 were due to the newborn being affected by incompetent cervix and premature rupture of membranes.
- Congenital anomalies (birth defects), which accounted for 12.8 percent of infant deaths.
- Sudden infant death syndrome (SIDS), which accounted for 7 percent of all infant deaths.
- Newborns affected by complications of placenta, cord, and membranes accounted for 5.3 percent of infant deaths.

In sum, the five most common causes of infant death accounted for 60 percent, or 248 of the 413 total infant deaths.

The most frequent causes of death by race are shown in Figures 32-34. Birth defects and disorders related to short gestation and low birthweight were both listed in the top three most frequent causes of death for both black and white infants.

Though the proportions of deaths by race were similar for many of the causes of death, notable exceptions were birth defects and disorders due to prematurity and low birthweight. While birth defects were responsible for 17 percent of all white infant deaths, they accounted for only 11 percent of black infant deaths. Conversely in 2012-2016, infant deaths due to disorders related to prematurity and low birthweight accounted for larger percentages of black infant deaths than white infant deaths (26 versus 14 percent for prematurity and low birthweight).

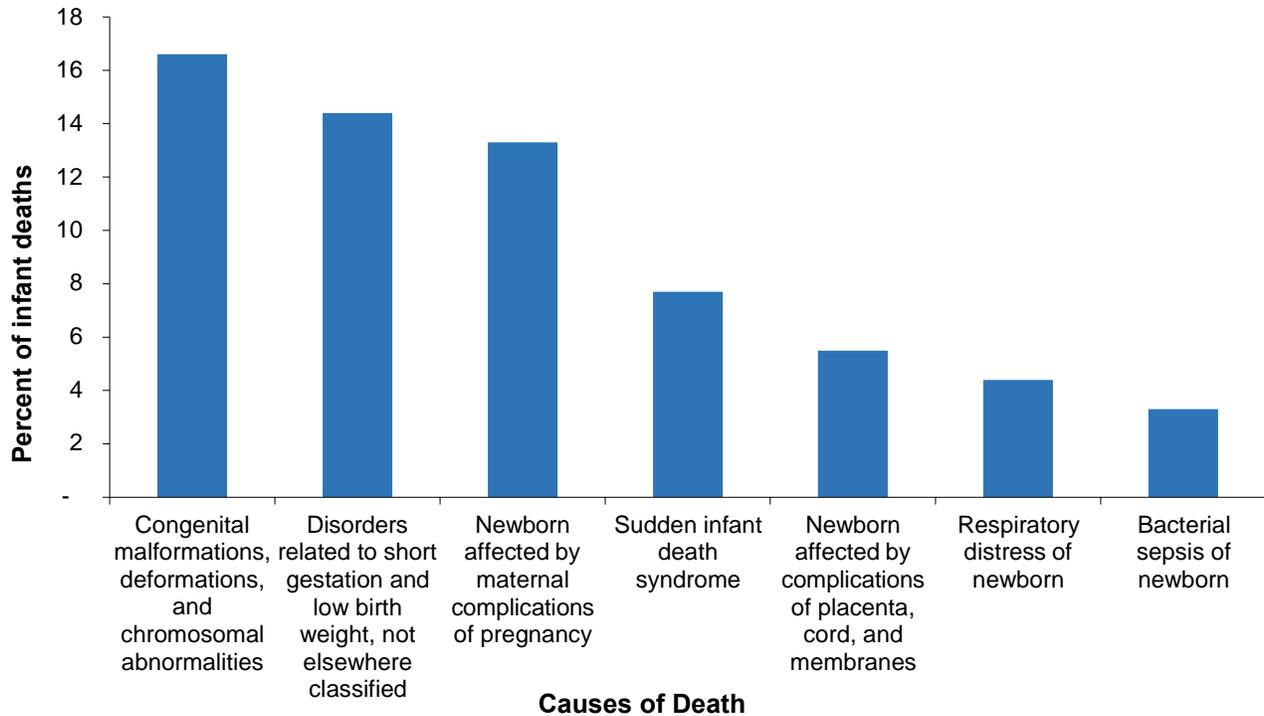
**Figure 32. Most Frequent Causes of Black Infant Death, Delaware, 2012-2016**



Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware Health Statistics Center

**INFANT MORTALITY- Leading Causes of Death**

**Figure 33. Most Frequent Causes of White Infant Death, Delaware, 2012-2016**

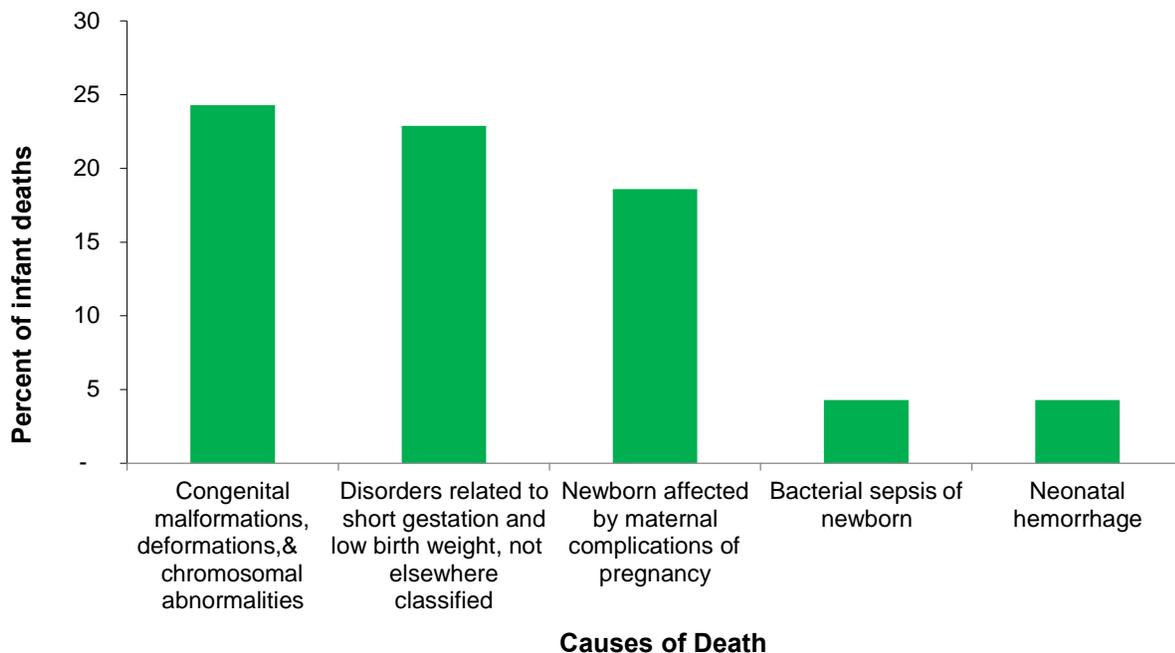


Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware Health Statistics Center

In 1989-1993, Hispanics accounted for 3.6 percent of all live births and 3.4 percent of infant deaths; since that time, the proportion of births to Hispanic mothers has nearly quadrupled. In the most recent five-year period, 2012-2016, 13.5 percent of all live births were to Hispanic mothers, and 16.9 percent of all infant deaths were of Hispanic origin.

Two causes of death accounted for the greatest number of Hispanic infant deaths: birth defects and disorders related to prematurity and low birthweight.

**Figure 34. Most Frequent Causes of Hispanic Infant Death, Delaware, 2012-2016**



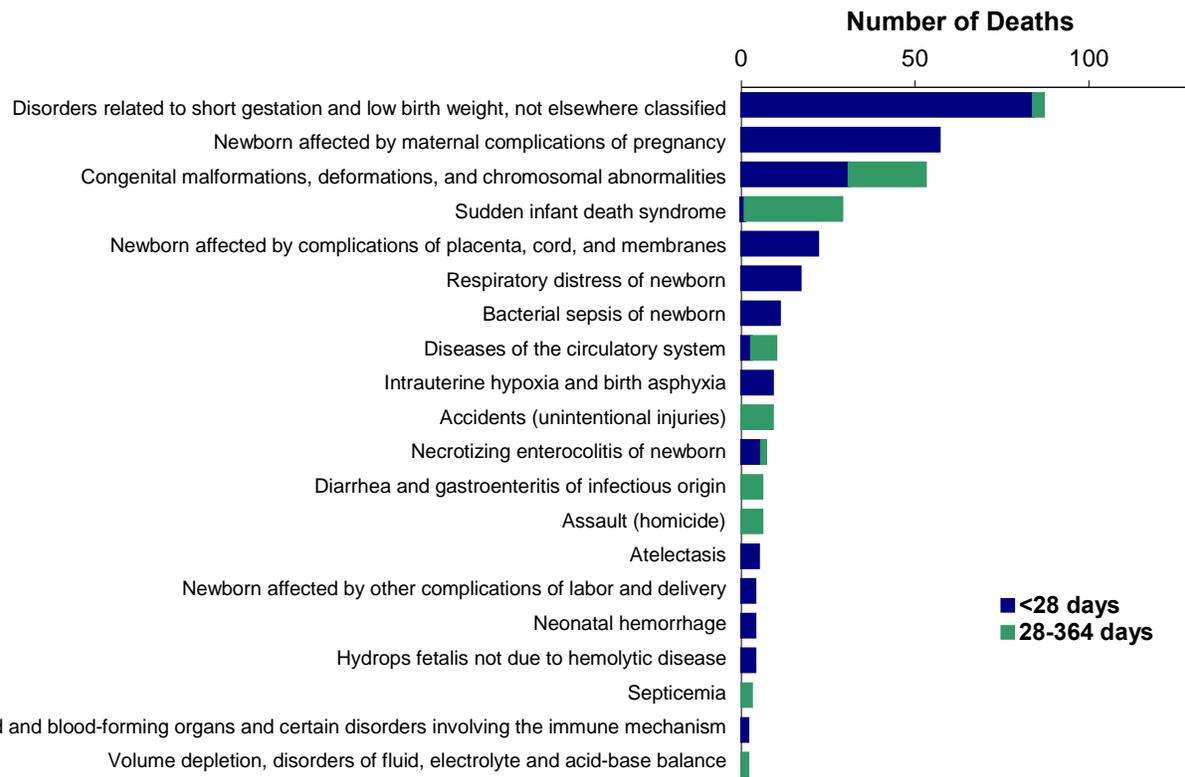
Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware Health Statistics Center

## INFANT MORTALITY - Leading Causes of Death

In Delaware in 2012-2016, approximately 94 percent of all infant deaths occurred within the first six months of life, 74 percent occurred within the first 28 days of life, and 43 percent occurred within 24 hours of birth.

Figure 35 displays deaths by specific cause and the infant's age classification at death: neonatal (<28 days), or postneonatal (28-364 days).

**Figure 35. Most Frequent Causes of Infant Death, Delaware, 2012-2016**



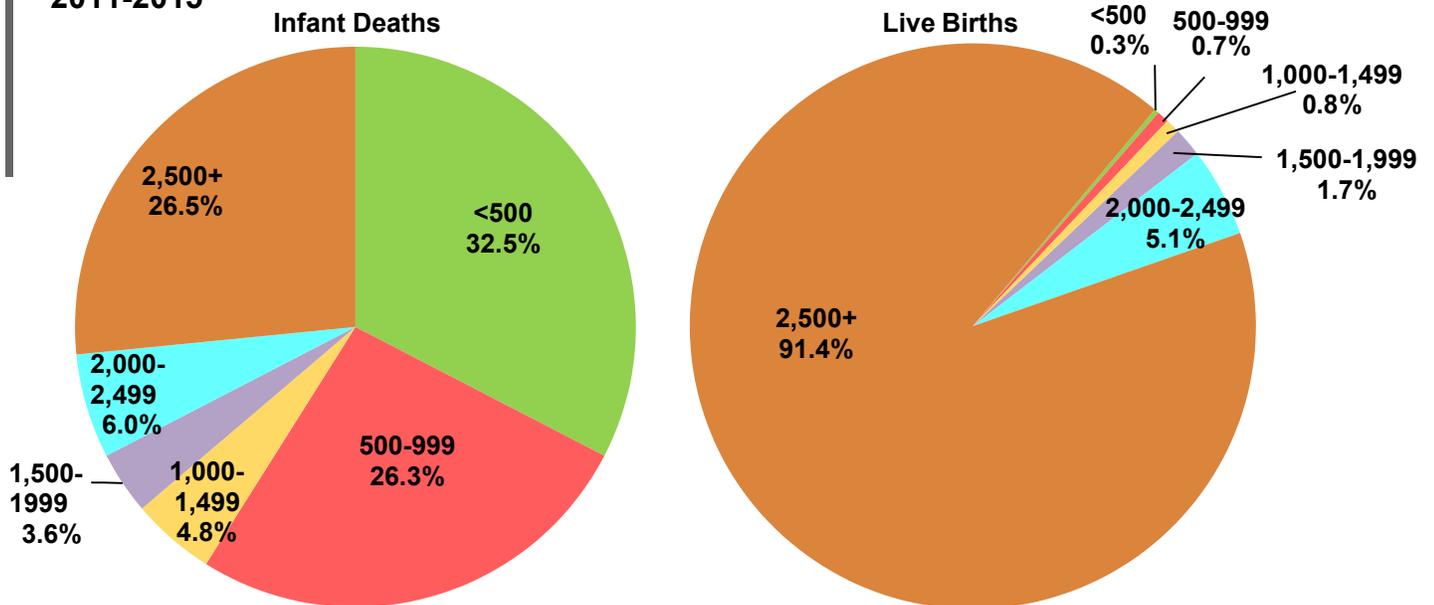
Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware Health Statistics Center

- Prematurity and low birthweight accounted for the greatest number of infant deaths in 2012-2016; 97 percent of these deaths occurred in the neonatal period.
- Sudden infant death syndrome (SIDS) was the only one of the top five causes of death that had the majority of deaths occurring in the postneonatal period, with a mean age at death of 106 days. The number of infant deaths in 2012-2016 was 12 percent less than the number of infant deaths in 2007-2011. Although it remained in the top five leading causes of infant death in 2012-2016, SIDS deaths decreased 44 percent to 29 from the 52 SIDS deaths in 2007-2011.
  - ⇒ 55 percent (16 out of 29) of the SIDS deaths were associated with co-sleeping and/or sleeping on soft surfaces, such as couches and adult beds.
- In 2012-2016, there were eight additional infant deaths, coded under a different cause of death, that were associated with co-sleeping and/or sleeping on a soft surface. In total, 9 percent of all infant deaths were associated with co-sleeping and/or unsafe sleep practices.

## INFANT MORTALITY - Live Birth Cohort

Though only 1 percent of all live births in 2011-2015 were infants weighing less than 1000 grams, they accounted for over half (59 percent) of all infant deaths. In total, 8.5 percent of all live births in 2011-2015 were infants of low birthweight (under 2,500 grams) and 73 percent of infant deaths were low birthweight.

**Figure 36. Percent Distribution by Birthweight in Grams, Delaware, Live Birth Cohort, 2011-2015**

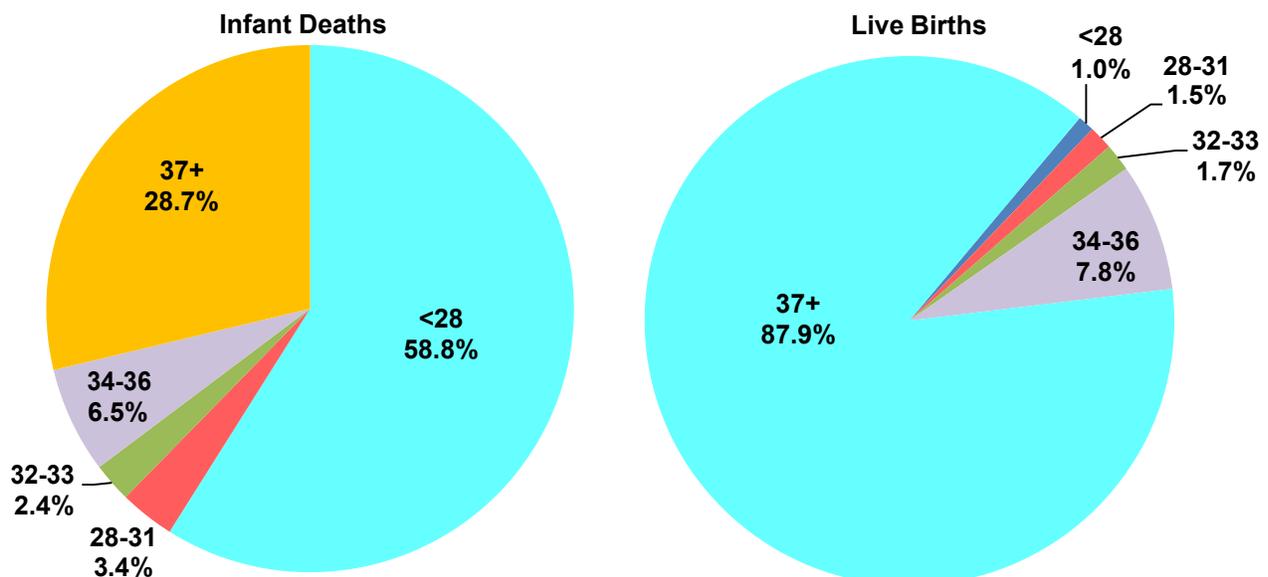


Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware Health Statistics Center

Gestation and infant death demonstrated the same relationship as birthweight and infant death. Infants born at the youngest gestational age made up a very small percentage of live births, yet they accounted for the majority of infant deaths.

One percent of live births in 2011-2015 were less than 28 weeks gestation at birth, but they accounted for 59 percent of all infant deaths. In total, 12 percent of all live births in 2011-2015 were born preterm (<37 weeks of gestation) and 71.1 percent of infant deaths were born preterm.

**Figure 37. Distribution by Gestation in Weeks, Delaware, Live Birth Cohort, 2011-2015**



Source: Delaware Health and Social Services, Division of Public Health, Delaware Health Statistics Center

## INFANT MORTALITY - Live Birth Cohort

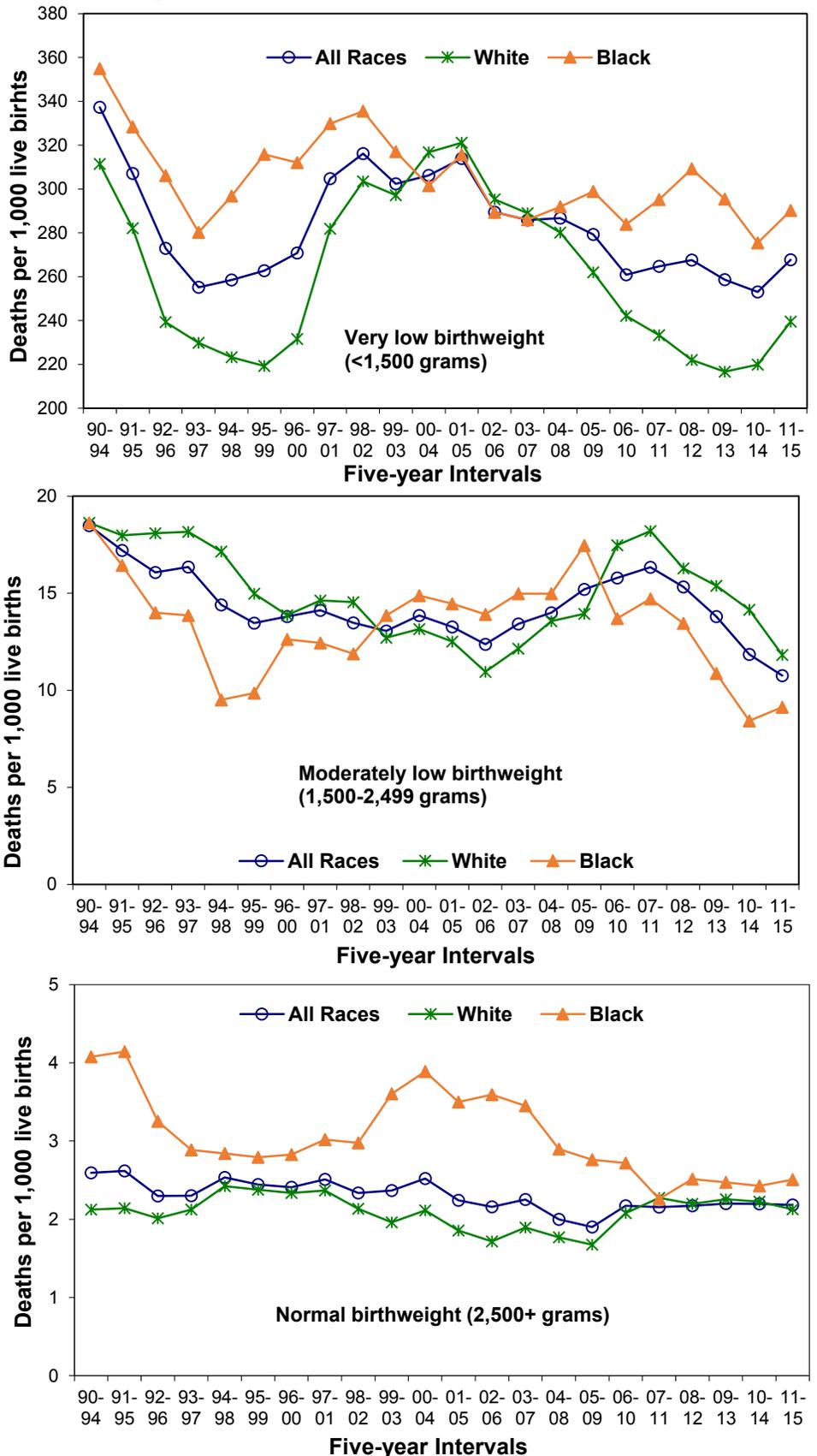
Birthweight and gestation are considered to be the most important predictors of infant health and mortality risk. Infants born too small or too early have a much greater risk of mortality than those who reach a normal birthweight (2,500+ grams) or full-term gestation (37+ weeks).

Although the IMRs decreased for both white and black very low birthweight (VLBW) (<1,500 grams) since 2001-2005, the black IMR of 290.2 was significantly higher than the white IMR of 239.6 infant deaths per 1,000 live births in 2011-2015.

IMRs for moderately low birthweight infants of all races declined 31.6 percent between 2006-2010 and 2011-2015. During that time, white IMRs decreased 33 percent while the black IMR decreased by 34 percent, making their rates lower than the white rates (9.1 vs. 11.8).

The IMR for all races and normal birthweight increased 16 percent from 2005-2009 to 2011-2015 (1.9 to 2.2). IMRs for normal birthweight white infants increased 24 percent from 2005-2009 to 2011-2015 (1.7 to 2.1 infant deaths per 1,000 live births), while the IMRs for black infants declined 11 percent. The divergent movement in black and white rates in 2011-2015 narrowed the black/white disparity ratio; the black IMR for normal birthweight infants was 2.5, versus 2.1 infant deaths per 1,000 live births for white infants of normal birthweight.

**Figure 38. Five-year Average Infant Mortality Rates by Birthweight and Race, Delaware, 1990-2015 Live Birth Cohort**

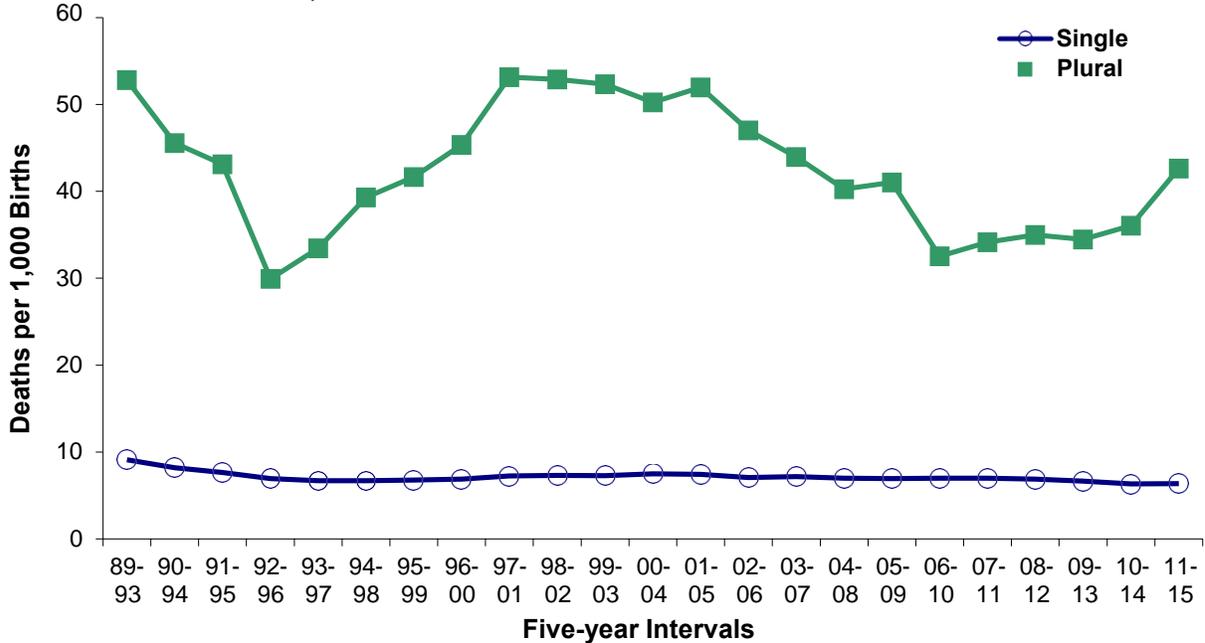


Source: Delaware Department of Health and Social Services, Division of Public Health, Health Statistics Center

## INFANT MORTALITY - Live Birth Cohort

From 1992-1996 to 1997-2001, IMRs for plural births increased 77 percent, to 53.1 infant deaths per 1,000 live births. During the same time, IMRs for singleton births increased by four percent. Since then, IMRs for plural births have decreased 19.4 percent. IMRs for singleton births experienced a decrease of 12 percent. In 2011-2015, the infant mortality rate for plural births was nearly seven times that of singleton births (42.6 versus 6.4 infant deaths per 1,000 live births).

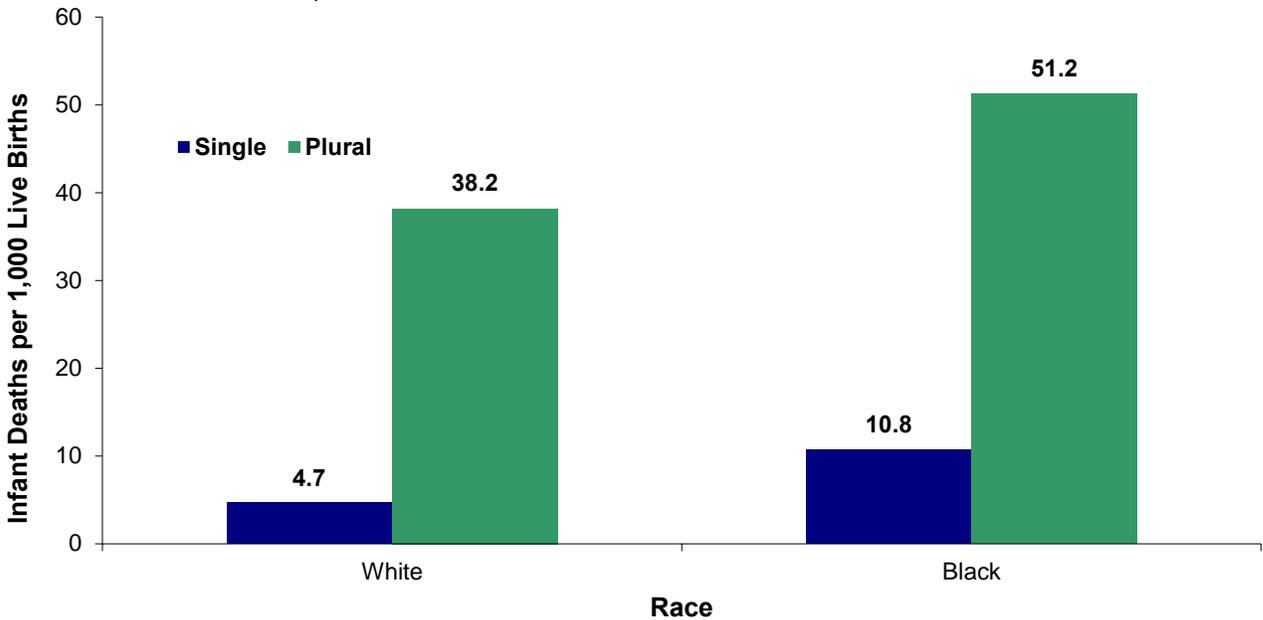
**Figure 39. Five-year Average Infant Mortality Rates by Plurality, Delaware, Live Birth cohort, 1989-2015**



Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware Health Statistics Center

The disparity between singleton and plural IMRs was evident regardless of race. The black IMR was more than twice the white IMR for singleton births and 1.3 times greater for plural births.

**Figure 40. Five-year Average Infant Mortality Rates by Plurality and Race, Delaware, Live Birth Cohort, 2011-2015**



Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware Health Statistics Center

**TABLE E-1. NUMBER OF INFANT DEATHS BY RACE, COUNTY, AND CITY OF WILMINGTON, U.S., DELAWARE, 1999-2016**

Area/ Race	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>U.S.</b>																		
All Races	27,937	28,035	27,568	28,034	28,025	27,936	28,440	28,527	29,138	28,059	26,412	24,586	23,985	23,629	23,446	23,215	23,455	N/A
White	18,067	18,144	17,955	18,369	18,440	18,231	18,514	18,403	18,807	18,164	16,817	15,954	15,460	15,258	15,152	14,883	14,834	N/A
Black	8,822	8,771	8,498	8,524	8,402	8,494	8,695	8,858	8,944	8,543	8,312	7,401	7,284	7,095	6,862	7,076	7,289	N/A
Other	1,048	1,120	1,115	1,141	1,183	1,211	1,231	1,266	1,387	1,352	1,283	1,231	1,241	1,276	1,432	1,256	1,332	N/A
<b>Delaware</b>																		
All Races	81	102	114	96	107	97	106	99	91	101	91	88	98	84	68	74	100	87
White	31	65	60	57	53	51	48	50	52	49	30	47	48	34	30	38	44	36
Black	49	37	53	35	53	44	55	44	38	52	54	36	38	44	34	30	39	40
Other	1	0	1	4	1	2	3	5	1	0	7	5	12	6	4	6	17	11
<b>Kent</b>																		
All Races	10	21	19	27	16	17	21	13	9	18	18	15	17	17	6	13	23	14
White	4	16	10	22	8	8	6	7	4	10	6	12	13	7	5	9	9	4
Black	6	5	9	5	8	8	14	5	4	8	12	3	3	10	1	4	9	9
Other	0	0	0	0	0	1	1	1	1	0	0	0	1	0	0	0	5	1
<b>New Castle</b>																		
All Races	61	67	72	55	78	60	68	68	60	70	57	58	74	58	48	49	54	62
White	22	40	37	30	37	33	35	31	33	32	18	24	29	24	17	22	21	25
Black	38	27	35	22	40	27	31	35	27	38	34	30	34	28	28	21	24	27
Other	1	0	0	3	1	0	2	2	0	0	5	4	11	6	3	6	9	10
Wilmington																		
All Races	20	16	17	12	18	12	18	16	17	19	18	18	17	20	14	14	10	18
White	4	4	2	2	4	4	3	2	3	7	0	4	2	8	2	5	3	1
Black	16	12	15	10	14	8	15	14	14	12	16	13	15	11	11	8	4	14
Other	0	0	0	0	0	0	0	0	0	0	2	1	0	1	1	1	3	3
Balance of NC County																		
All Races	41	51	55	43	60	48	50	52	43	51	39	40	57	38	34	35	44	44
White	18	36	35	28	33	29	32	29	30	25	18	20	27	16	15	17	18	24
Black	22	15	20	12	26	19	16	21	13	26	18	17	19	17	17	13	20	13
Other	1	0	0	3	1	0	2	2	0	0	3	3	11	5	2	5	6	7
<b>Sussex</b>																		
All Races	10	14	23	14	13	20	17	18	22	13	16	15	7	9	14	12	23	11
White	5	9	13	5	8	10	7	12	15	7	6	11	6	3	8	7	14	7
Black	5	5	9	8	5	9	10	4	7	6	8	3	1	6	5	5	6	4
Other	0	0	1	1	0	1	0	2	0	0	2	1	0	0	1	0	3	0

- Notes:  
 1. \*Based on NCHS estimate.  
 2. Infant deaths refer to deaths to children under one year of age.

Sources: National Center for Health Statistics  
 Delaware Department of Health and Social Services, Division of Public Health, Delaware Health Statistics Center

**TABLE E-2. NUMBER OF NEONATAL DEATHS BY RACE, COUNTY, AND CITY OF WILMINGTON, U.S., DELAWARE, 1999-2016**

Area/ Race	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>U.S.</b>																		
All Races	18,728	18,776	18,265	18,749	18,893	18,593	18,770	18,989	19,058	18,211	17,255	16,188	15,954	15,886	15,893	15,720	N/A	N/A
White	12,164	12,201	12,013	12,354	12,495	12,238	12,239	12,302	12,333	11,843	11,054	10,612	10,422	10,267	10,264	10,170	N/A	N/A
Black	5,920	5,843	5,585	5,646	5,640	5,495	5,740	5,876	5,842	5,523	5,374	4,769	4,719	4,610	4,647	4,686	N/A	N/A
Other	644	732	667	749	758	860	791	811	883	845	827	807	813	1,009	982	864	N/A	N/A
<b>Delaware</b>																		
All Races	58	71	82	79	75	63	79	72	65	68	66	58	73	66	47	55	79	57
White	21	45	44	48	36	33	36	36	37	32	19	27	30	25	18	29	37	20
Black	37	26	37	28	38	28	40	33	28	36	40	26	35	35	25	21	32	27
Other	0	0	1	3	1	2	3	3	0	0	7	5	8	6	4	5	10	10
<b>Kent</b>																		
All Races	8	15	15	22	8	11	14	7	6	12	14	11	13	12	3	10	17	9
White	3	11	10	18	3	5	3	4	3	7	4	9	9	4	3	8	8	3
Black	5	4	5	4	5	5	10	3	3	5	10	2	3	8	0	2	6	5
Other	0	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	3	1
<b>New Castle</b>																		
All Races	44	50	54	47	56	39	54	52	43	48	42	36	57	47	34	37	49	43
White	14	29	27	26	27	21	28	22	23	20	13	9	18	20	9	15	19	14
Black	30	21	27	19	28	18	24	28	20	28	24	23	32	21	22	17	24	20
Other	0	0	0	2	1	0	2	2	0	0	5	4	7	6	3	5	6	9
Wilmington																		
All Races	14	13	14	9	10	9	15	12	10	10	14	10	14	18	11	12	10	15
White	2	4	1	1	1	3	3	1	1	3	0	0	1	8	2	5	3	1
Black	12	9	13	8	9	6	12	11	9	7	12	9	13	9	8	6	4	11
Other	0	0	0	0	0	0	0	0	0	0	2	1	0	1	1	1	3	3
Balance of NC County																		
All Races	30	37	40	38	46	30	39	40	33	38	28	26	43	29	23	25	39	28
White	12	25	26	25	26	18	25	21	22	17	13	9	17	12	7	10	16	13
Black	18	12	14	11	19	12	12	17	11	21	12	14	19	12	14	11	20	9
Other	0	0	0	2	1	0	2	2	0	0	3	3	7	5	2	4	3	6
<b>Sussex</b>																		
All Races	6	6	13	10	11	13	11	13	16	8	10	11	3	7	10	8	13	5
White	4	5	7	4	6	7	5	10	11	5	2	9	3	1	6	6	10	3
Black	2	1	5	5	5	5	6	2	5	3	6	1	0	6	3	2	2	2
Other	0	0	1	1	0	1	0	1	0	0	2	1	0	0	1	0	1	0

Notes:

- \*Based on NCHS estimate.
- Neonatal deaths refer to deaths of children under 28 days of age.

Sources: National Center for Health Statistics,  
Delaware Department of Health and Social Services, Division of Public Health, Delaware Health Statistics Center

**TABLE E-3. NUMBER OF POSTNEONATAL DEATHS BY RACE, COUNTY, AND CITY OF WILMINGTON, U.S., DELAWARE, 1999-2016**

Area/ Race	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>U.S.</b>																		
All Races	9,209	9,259	9,303	9,285	9,132	9,343	9,670	9,538	10,080	9,848	9,157	8,398	8,031	7,743	7,553	7,495	N/A	N/A
White	5,903	5,943	5,942	6,015	5,945	5,993	6,275	6,101	6,474	6,321	5,763	5,342	5,038	4,991	4,888	4,713	N/A	N/A
Black	2,902	2,928	2,913	2,878	2,762	2,999	2,955	2,982	3,102	3,020	2,938	2,632	2,565	2,485	2,215	2,390	N/A	N/A
Other	404	388	448	392	425	351	440	455	504	507	456	424	428	267	450	392	N/A	N/A
<b>Delaware</b>																		
All Races	23	31	32	17	32	34	27	27	26	33	25	30	25	18	21	19	21	30
White	10	20	16	9	17	18	12	14	15	17	11	20	18	9	12	9	7	16
Black	12	11	16	7	15	16	15	11	10	16	14	10	3	9	9	9	7	13
Other	1	0	0	1	0	0	0	2	1	0	0	0	4	0	0	1	7	1
<b>Kent</b>																		
All Races	2	6	4	5	8	6	7	6	3	6	4	4	4	5	3	3	6	5
White	1	5	0	4	5	3	3	3	1	3	2	3	4	3	2	1	1	1
Black	1	1	4	1	3	3	4	2	1	3	2	1	0	2	1	2	3	4
Other	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2	0
<b>New Castle</b>																		
All Races	17	17	18	8	22	21	14	16	17	22	15	22	17	11	14	12	5	19
White	8	11	10	4	10	12	7	9	10	12	5	15	11	4	8	7	2	11
Black	8	6	8	3	12	9	7	7	7	10	10	7	2	7	6	4	0	7
Other	1	0	0	1	0	0	0	0	0	0	0	0	4	0	0	1	3	1
Wilmington																		
All Races	6	3	3	3	8	3	3	4	7	9	4	8	3	2	3	2	0	3
White	2	0	1	1	3	1	0	1	2	4	0	4	1	0	0	0	0	0
Black	4	3	2	2	5	2	3	3	5	5	4	4	2	2	3	2	0	3
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Balance of NC County																		
All Races	11	14	15	5	14	18	11	12	10	13	11	14	14	9	11	10	5	16
White	6	11	9	3	7	11	7	8	8	8	5	11	10	4	8	7	2	11
Black	4	3	6	1	7	7	4	4	2	5	6	3	0	5	3	2	0	4
Other	1	0	0	1	0	0	0	0	0	0	0	0	4	0	0	1	3	1
<b>Sussex</b>																		
All Races	4	8	10	4	2	7	6	5	6	5	6	4	4	2	4	4	10	6
White	1	4	6	1	2	3	2	2	4	2	4	2	3	2	2	1	4	4
Black	3	4	4	3	0	4	4	2	2	3	2	2	1	0	2	3	4	2
Other	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0

Notes:

1. \*Based on NCHS estimate.
2. Postneonatal deaths refer to deaths of children 28 to 364 days of age.

Sources: National Center for Health Statistics  
 Delaware Department of Health and Social Services, Division of Public Health, Delaware Health Statistics Center

**TABLE E- 4. FIVE-YEAR AVERAGE INFANT MORTALITY RATES BY RACE, COUNTY, AND CITY OF WILMINGTON, U.S., DELAWARE, 1996-2016**

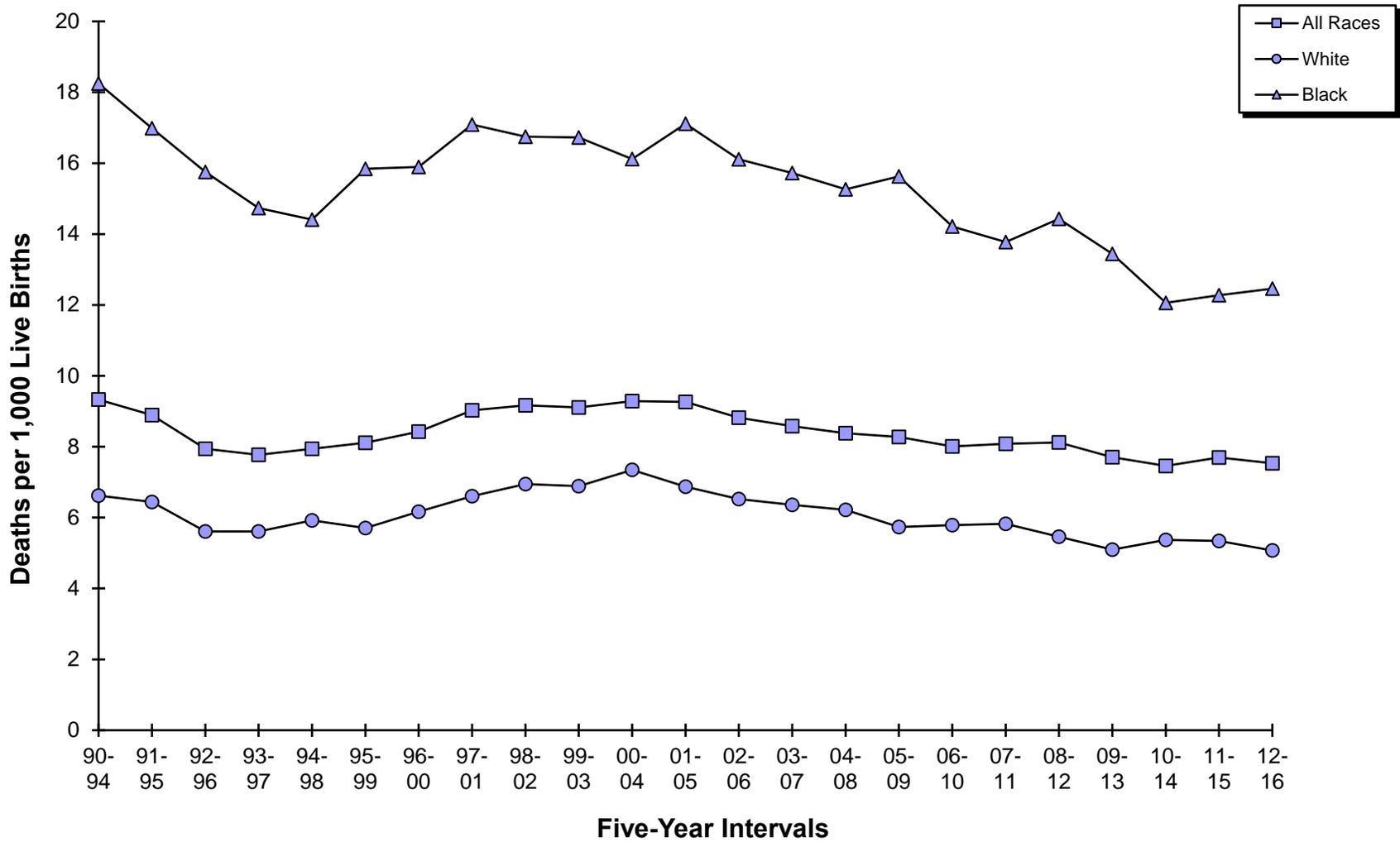
Area/ Race	1996 -2000	1997 -2001	1998 -2002	1999 -2003	2000 -2004	2001 -2005	2002 -2006	2003 -2007	2004 -2008	2005 -2009	2006 -2010	2007 -2011	2008 -2012	2009 -2013	2010 -2014	2011 -2015	2012 -2016
<b>U.S.</b>																	
All Races	7.1	7.0	7.0	6.9	6.9	6.9	6.8	6.8	6.7	6.7	6.5	6.4	6.2	6.1	6.0	5.9	N/A
White	5.9	5.8	5.8	5.7	5.7	5.7	5.7	5.7	5.6	5.6	5.5	5.4	5.3	5.2	5.1	5.0	N/A
Black	14.4	14.2	14.3	14.2	14.0	14.0	13.8	13.6	13.3	13.1	12.7	12.4	12.0	11.6	11.2	11.2	N/A
<b>Delaware</b>																	
All Races	8.4+	9.0+	9.2+	9.1+	9.3+	9.3+	8.8+	8.6+	8.4+	8.3+	8.0+	8.1+	8.1+	7.7+	7.5+	7.7+	7.5
White	6.2	6.6	6.9+	6.9+	7.3+	6.9+	6.5+	6.4	6.2	5.7	5.8	5.8	5.5	5.1	5.4	5.3	5.1
Black	15.9	17.1+	16.7+	16.7+	16.1	17.1+	16.1+	15.7+	15.3	15.6+	14.2	13.8	14.4+	13.4	12.1	12.3	12.5
<b>Kent</b>																	
All Races	8.6	8.7	9.9	9.5	10.2	10.0	9.1	7.1	7.1	7.1	6.5	6.9	7.6	6.6	6.2	6.9	6.5
White	7.0	6.9	9.5	8.6	9.2	7.6	7.0	4.4	4.6	4.3	5.1	5.9	6.3	5.7	6.2	5.8	4.6
Black	14.3	15.2	12.7	13.4	13.9	17.0	14.9	13.6	13.2	14.0	10.2	9.4	11.5	9.2	6.7	8.5	10.1
<b>New Castle</b>																	
All Races	8.5	9.1	9.2	9.5	9.4	9.4	9.2	9.2	9.0	9.0	8.8	9.1	9.3	8.8	8.7	8.6	8.4
White	5.6	6.2	6.4	6.8	7.3	7.1	6.8	7.0	6.9	6.4	6.1	6.2	5.9	5.4	5.7	5.6	5.6
Black	17.7	18.2	18.0	18.0	16.5	16.7	16.3	16.3	15.7	16.1	15.8	15.6	16.1	15.3	14.3	13.7	13.2
Wilmington																	
All Races	14.4	14.0	13.5	13.5	12.4	12.8	12.3	13.0	13.0	13.8	14.1	14.8	16.1	15.9	15.8	14.6	15.1
White	---	---	---	---	---	---	---	---	---	---	---	---	9.8	---	10.1	10.0	---
Black	18.7	18.0	17.9	17.6	15.9	17.0	16.3	17.3	16.3	18.0	18.0	19.1	19.3	20.3	19.2	16.3	16.4
Balance of NC County																	
All Races	7.2	8.1	8.3	8.6	8.8	8.7	8.5	8.5	8.2	8.0	7.7	7.9	7.9	7.5	7.3	7.5	7.1
White	5.4	6.1	6.4	6.8	7.3	7.2	6.9	7.0	6.8	6.4	6.0	6.0	5.5	5.1	5.2	5.1	5.1
Black	16.8	18.5	18.1	18.2	17.0	16.6	16.3	15.8	15.3	14.9	14.5	13.8	14.4	13.0	12.2	12.6	11.9
<b>Sussex</b>																	
All Races	8.1	9.0	8.3	7.4	8.1	8.2	7.5	7.9	7.6	7.2	7.0	6.2	5.2	5.4	5.1	5.8	6.1
White	7.5	7.6	6.5	5.5	5.9	5.5	5.1	6.2	5.7	5.2	5.6	5.0	3.6	3.8	4.0	4.3	4.4
Black	10.4	14.4	15.9	15.4	16.9	19.0	16.9	15.7	16.0	15.6	12.6	11.2	11.1	10.7	9.5	11.1	12.6

Notes:

1. 2010-2014 U.S. data are based on NCHS estimates.
2. Infant mortality rates represent the number of deaths of children under one year of age per 1000 live births.
3. '+' indicates that the Delaware rate is significantly higher than the U.S. rate.  
'-' indicates that the Delaware rate is significantly lower than the U.S. rate.
4. "----" Indicates rate does not meet standard of reliability or precision; based on fewer than 20 deaths in the numerator.
5. No statistical comparisons were made between the county rates and the U.S. rate due to small numbers. See Appendix C for details.

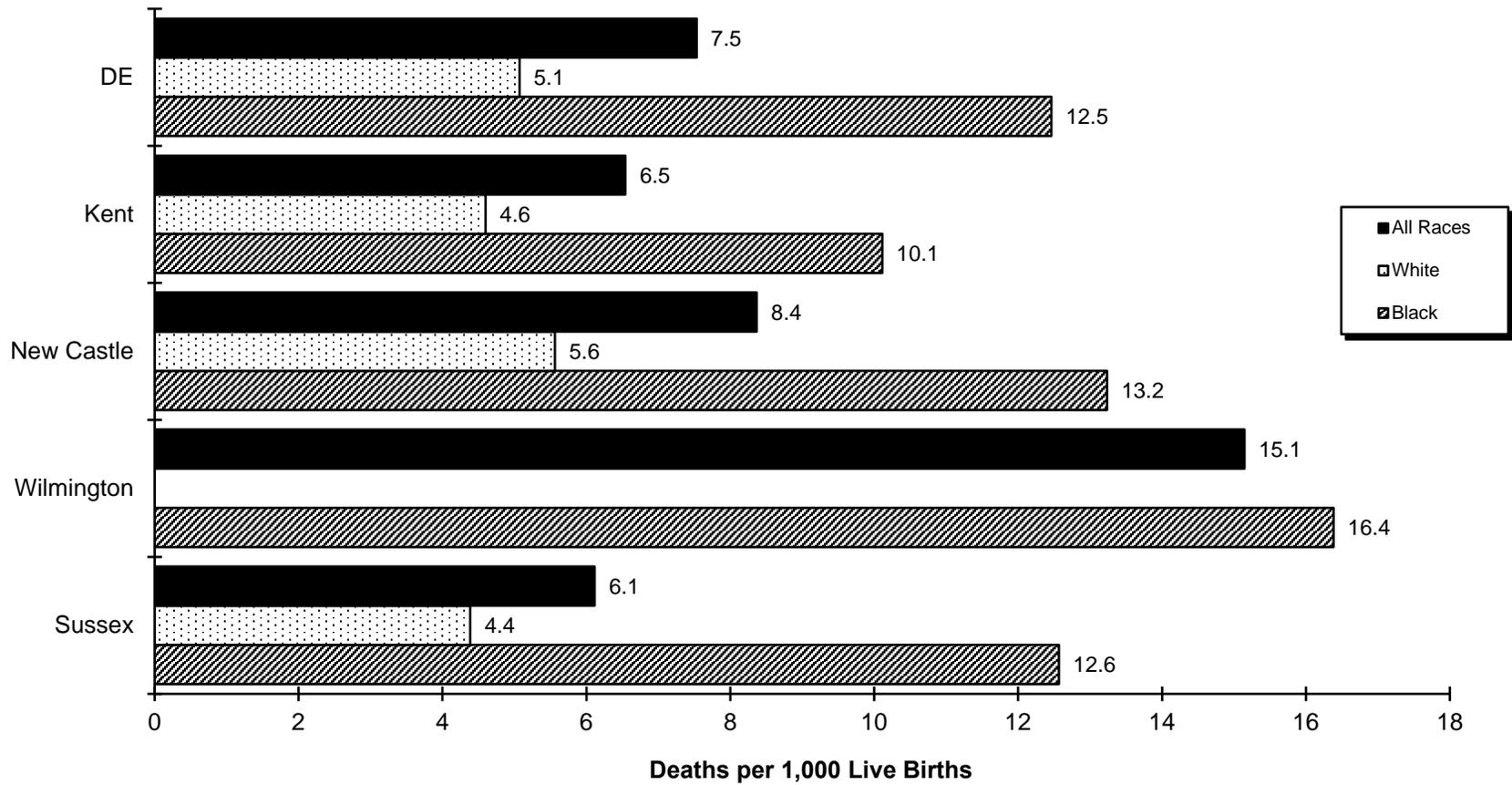
Sources: National Center for Health Statistics,  
Delaware Department of Health and Social Services, Division of Public Health, Delaware Health Statistics Center

**Figure E-1. Five-Year Average Infant Mortality Rates by Race, Delaware, 1990-2016**



Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware Health Statistics Center

**Figure E-2. Five-Year Average Infant Mortality Rates by Race, Delaware, Counties and the City of Wilmington, 2012-2016**



Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware Health Statistics Center

**TABLE E-5. FIVE-YEAR AVERAGE NEONATAL MORTALITY RATES BY RACE, COUNTY, AND CITY OF WILMINGTON, U.S., DELAWARE, 1996-2016**

Area/ Race	1996 -2000	1997 -2001	1998 -2002	1999 -2003	2000 -2004	2001 -2005	2002 -2006	2003 -2007	2004 -2008	2005 -2009	2006 -2010	2007 -2011	2008 -2012	2009 -2013	2010 -2014	2011 -2015	2012 -2016
<b>U.S.</b>																	
All Races	4.7	4.7	4.7	4.6	4.6	4.6	4.6	4.5	4.4	4.4	4.3	4.2	4.1	4.1	4.0	N/A	N/A
White	3.9	3.9	3.9	3.9	3.8	3.8	3.8	3.8	3.7	3.7	3.6	3.5	3.5	3.5	3.4	N/A	N/A
Black	9.5	9.5	9.5	9.5	9.3	9.2	9.1	9.0	8.7	8.6	8.3	8.0	7.7	7.5	7.4	N/A	N/A
<b>Delaware</b>																	
All Races	5.9+	6.4+	6.7+	6.7+	6.7+	6.7+	6.4+	6.1+	5.9+	5.9+	5.6+	5.7+	5.8+	5.6+	5.4+	5.8	5.5
White	4.0	4.4	5.0+	5.0+	5.3+	5.0+	4.8+	4.5+	4.3	4.0	3.8	3.7	3.5	3.2	3.5	3.8	3.6
Black	12.1+	12.8+	12.7+	12.2+	11.4+	12.2+	11.6+	11.2+	10.8+	11.4+	10.3+	10.4+	11.1+	10.5+	9.4+	9.8	9.3
<b>Kent</b>																	
All Races	5.9	6.1	7.2	7.0	7.2	7.0	6.0	4.3	4.6	4.7	4.4	5.0	5.6	4.8	4.4	5.0	4.6
White	4.1	4.6	7.0	6.5	6.8	5.5	4.5	---	2.9	2.7	3.5	4.2	4.3	3.9	4.4	4.3	3.5
Black	12.1	11.3	8.9	9.3	9.2	11.2	10.0	9.1	8.8	10.1	7.3	7.2	8.9	7.3	---	---	6.4
<b>New Castle</b>																	
All Races	6.1	6.6	6.9	7.1	7.0	7.1	6.9	6.8	6.5	6.7	6.2	6.4	6.7	6.5	6.4	6.8	6.5
White	3.7	4.3	4.5	5.0	5.3	5.3	5.1	5.0	4.8	4.6	3.9	3.8	3.7	3.3	3.5	4.0	3.9
Black	13.5	14.2	14.5	13.9	12.4	12.5	12.3	12.1	11.7	12.1	11.8	12.2	12.5	12.2	11.7	11.8	10.8
Wilmington																	
All Races	9.8	9.7	10.1	9.8	9.1	9.5	8.9	9.0	8.9	9.6	9.0	9.7	11.6	12.2	12.4	12.6	13.2
White	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Black	12.5	12.5	13.8	13.4	12.1	13.1	12.3	12.5	11.6	12.9	12.5	13.6	14.4	15.7	14.9	13.3	13.0
Balance of NC County																	
All Races	5.3	6.0	6.3	6.6	6.5	6.6	6.5	6.3	6.0	6.0	5.6	5.8	5.8	5.3	5.3	5.7	5.3
White	3.6	4.2	4.6	5.1	5.4	5.5	5.2	5.2	4.8	4.7	4.0	3.9	3.5	3.1	3.0	3.4	3.3
Black	14.4	15.6	15.1	14.2	12.5	12.1	12.3	11.8	11.8	11.6	11.5	11.4	11.6	10.5	10.3	11.1	9.8
<b>Sussex</b>																	
All Races	5.3	5.8	5.5	4.6	5.1	5.5	5.3	5.6	5.2	4.9	4.9	4.1	3.4	3.6	3.5	3.7	3.8
White	5.0	4.9	4.5	3.6	3.8	3.7	3.9	4.6	4.3	3.7	4.1	3.3	2.2	2.4	2.9	3.0	2.9
Black	---	---	---	---	9.9	12.1	10.8	10.3	9.3	9.8	---	---	---	---	---	---	---

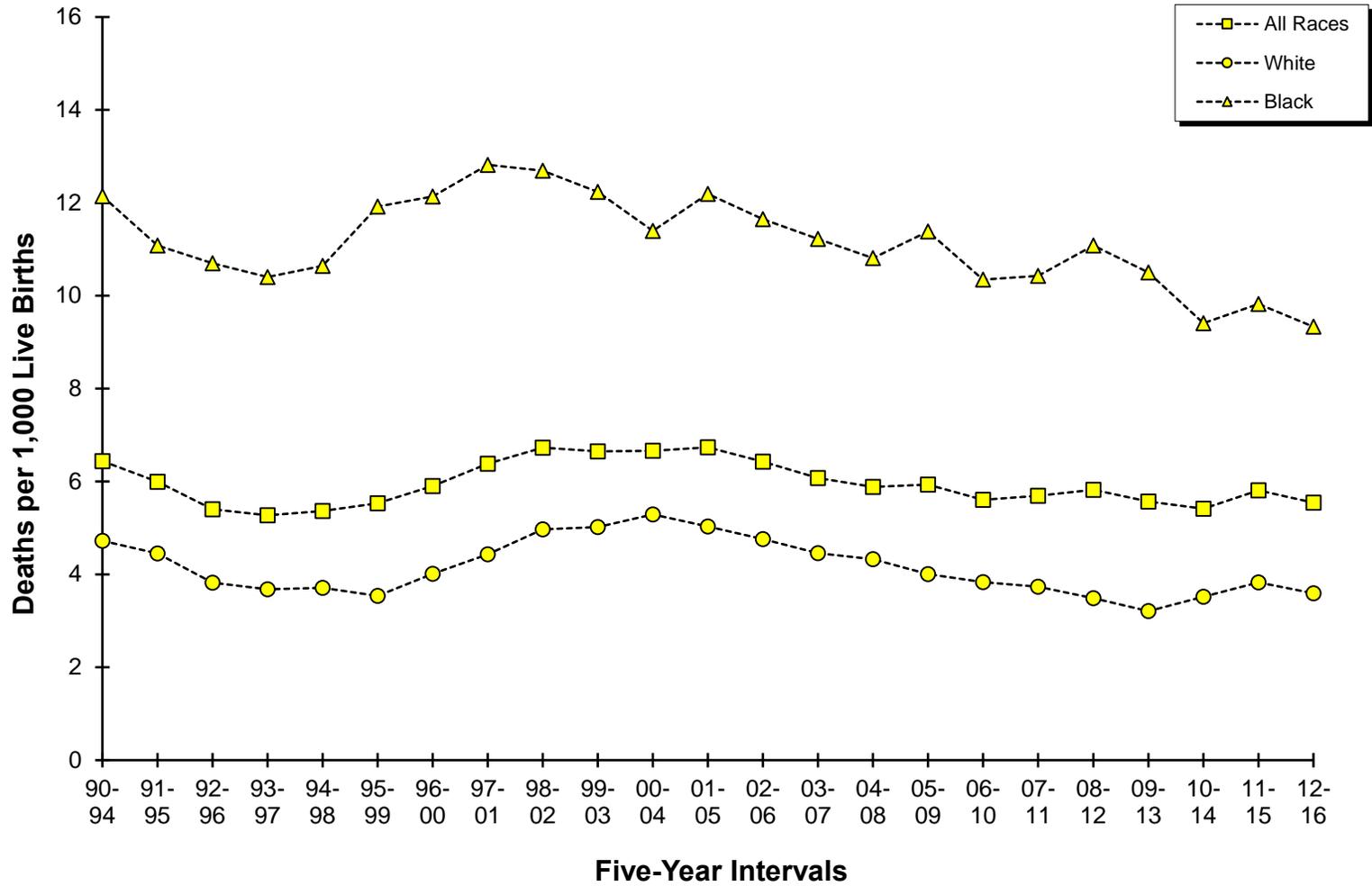
*Notes:*

1. 2006-2010 U.S. data are based on NCHS estimates.
2. Neonatal mortality rates represent the number of deaths of children under 28 days of age per 1000 live births.
3. '+' indicates that the Delaware rate is significantly higher than the U.S. rate.
4. "----" indicates rate does not meet standard of reliability or precision; based on fewer than 20 deaths in the numerator.
5. No statistical comparisons were made between the county rates and the U.S. rate due to small numbers. See Appendix C for details.

*Sources: National Center for Health Statistics*

*Delaware Department of Health and Social Services, Division of Public Health, Delaware Health Statistics Center*

**Figure E-3. Five-Year Average Neonatal Mortality Rates by Race, Delaware, 1990-2016**



Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware Health Statistics Center

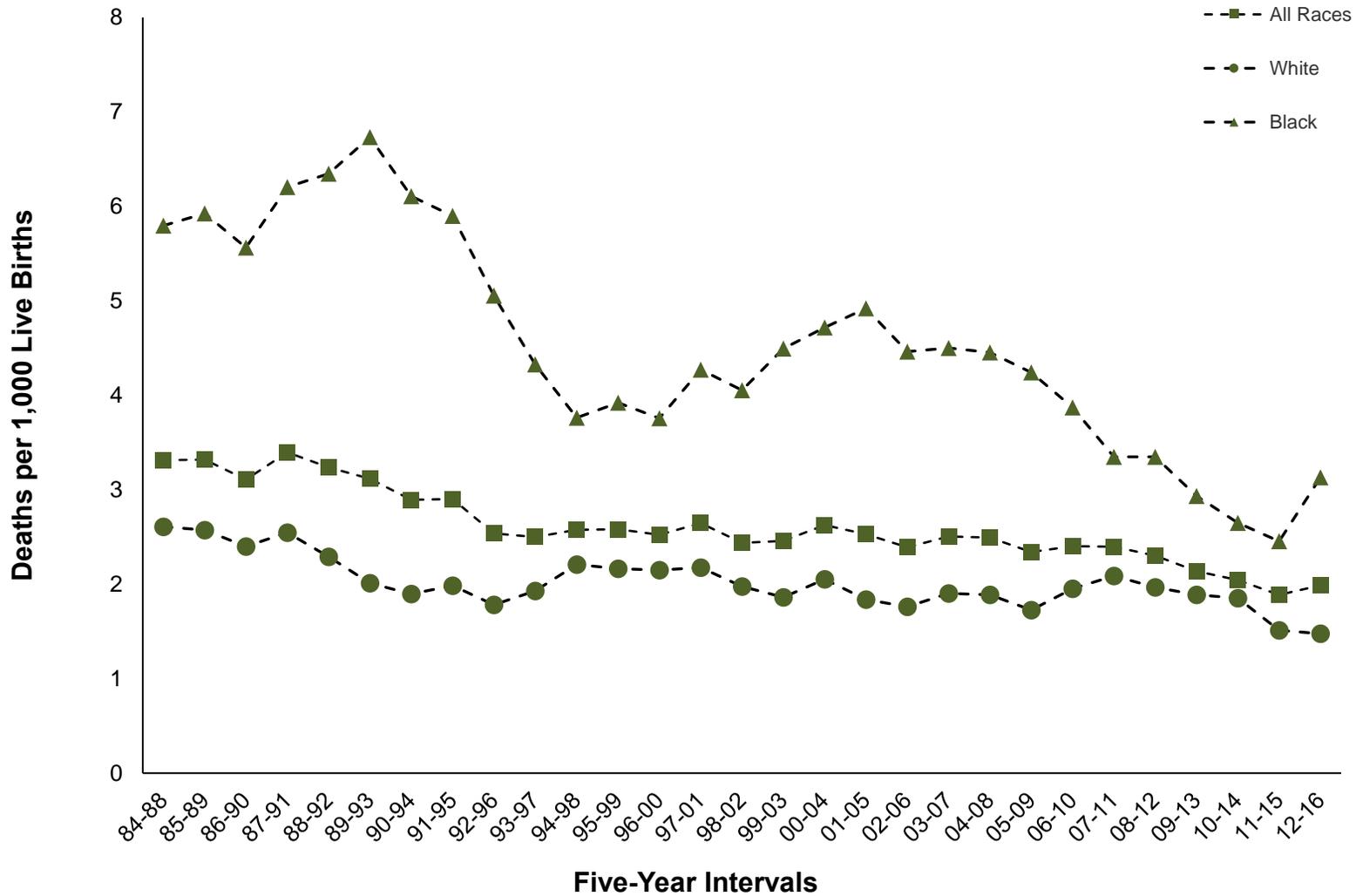
**TABLE E-6. FIVE-YEAR AVERAGE POSTNEONATAL MORTALITY RATES BY RACE, COUNTY, AND CITY OF WILMINGTON, U.S., DELAWARE, 1996-2016**

Area/ Race	1996 -2000	1997 -2001	1998 -2002	1999 -2003	2000 -2004	2001 -2005	2002 -2006	2003 -2007	2004 -2008	2005 -2009	2006 -2010	2007 -2011	2008 -2012	2009 -2013	2010 -2014	2011 -2015	2012 -2016
<b>U.S.</b>																	
All Races	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.1	2.0	2.0	1.9	N/A
White	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.7	1.7	1.6	N/A
Black	4.8	4.8	4.8	4.7	4.8	4.8	4.7	4.6	4.6	4.5	4.4	4.4	4.2	4.0	3.9	3.8	N/A
<b>Delaware</b>																	
All Races	2.5	2.6	2.4	2.5	2.6	2.5	2.4	2.5	2.5	2.3	2.4	2.4	2.3	2.1	2.0	1.9	2
White	2.2	2.2	2.0	1.9	2.1	1.8	1.8	1.9	1.9	1.7	2.0	2.1	2.0	1.9	1.9	1.5	1.5
Black	3.8	4.3	4.1	4.5	4.7	4.9	4.5	4.5	4.5	4.2	3.9	3.3-	3.3	2.9-	2.7-	2.5-	3.1
<b>Kent</b>																	
All Races	2.7	2.7	2.7	2.6	2.9	3.0	3.1	2.8	2.6	2.3	2.0	1.9	2.1	1.8	---	1.9	2.0
White	2.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Black	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
<b>New Castle</b>																	
All Races	2.4	2.5	2.2	2.3	2.4	2.3	2.3	2.5	2.5	2.3	2.6	2.7	2.5	2.4	2.3	1.8	1.9
White	1.8	2.0	1.8	1.8	1.9	1.8	1.7	2.0	2.1	1.9	2.3	2.4	2.2	2.1	2.2	1.6	1.6
Black	4.2	4.0	3.5	4.1	4.2	4.2	4.0	4.3	4.0	4.0	3.9	3.5	3.5	3.2	2.6	---	2.5
Wilmington																	
All Races	4.6	4.3	3.4	3.7	3.3	3.3	3.4	4.0	4.1	4.2	5.1	5.2	4.6	3.7	---	---	---
White	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Black	6.2	5.5	---	---	---	---	---	---	---	5.1	5.5	5.5	---	---	---	---	---
Balance of NC County																	
All Races	1.9	2.1	2.0	2.0	2.3	2.1	2.0	2.2	2.1	1.9	2.1	2.1	2.1	2.1	2.1	1.8	1.9
White	1.8	1.9	1.8	1.6	1.9	1.7	1.6	1.9	2.0	1.7	2.0	2.1	2.0	2.0	2.2	1.7	1.8
Black	---	---	---	4.0	4.4	4.4	4.0	4.0	3.5	3.3	3.1	---	---	---	---	---	---
<b>Sussex</b>																	
All Races	2.8	3.3	2.9	2.8	3.0	2.7	2.2	2.3	2.4	2.3	2.2	2.1	1.8	1.8	---	2.1	2.3
White	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Black	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

- Notes:
1. 2012-2016 U.S. data are based on NCHS estimates which are unavailable at the time of this report
  2. Postneonatal mortality rates represent the number of deaths of children 28 to 364 days of age per 1000 live births.
  3. '-' indicates that the Delaware rate is significantly lower than the U.S. rate.
  4. "----" Indicates rate does not meet standard of reliability or precision; based on fewer than 20 deaths in the numerator.
  5. No statistical comparisons were made between the county rates and the U.S. rate due to small numbers. See Appendix C for details.

Sources: National Center for Health Statistics  
 Delaware Department of Health and Social Services, Division of Public Health, Delaware Health Statistics Center

**Figure E-4. Five-Year Average Postneonatal Mortality Rates by Race, Delaware, 1990-2016**



Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware Health Statistics Center

**TABLE E-7. FIVE-YEAR AVERAGE INFANT MORTALITY RATES BY SELECTED RISK MARKERS AND RACE OF MOTHER, DELAWARE, 2011-2015 LIVE BIRTH COHORT**

Risk Factor	Race		
	All Races	White	Black
<b>Birth Weight of Child (in grams)</b>			
<2500	64.6	53.5	79.8
<1500	267.7	239.6	290.2
1500-2499	10.8	11.8	---
2500+	2.2	2.1	2.5
<b>Age of Mother</b>			
<20	8.9	10.0	8.1
20-24	8.5	6.6	11.4
25-29	7.3	5.2	12.4
30+	7.0	5.0	14.3
<b>Marital Status of Mother</b>			
Married	5.1	4.2	9.2
Single	10.3	7.9	13.5
<b>Education of Mother</b>			
<12 years	6.4	6.3	7.4
H.S. diploma	11.4	7.5	17.0
1+ years college	5.9	4.7	9.6
<b>Interval Since Last Live Birth</b>			
<18 months	9.2	---	---
18+ months	4.6	3.6	7.6

*Notes:*

1. Infant mortality rates represent the number of deaths to children under one year of age per 1,000 live births.

*Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware Health Statistics Center*

**TABLE E-8. LEADING CAUSES OF INFANT DEATH BY GESTATIONAL AGE CATEGORY, DELAWARE, 2011-2015 LIVE BIRTH COHORT**

Leading causes of death	Gestational Age Category					% Born Very Preterm	% Born Preterm
	Very preterm	Moderately preterm	Term	Unknown	Total		
Disorders related to short gestation and low birth weight, not elsewhere classified	91	0	3	0	94	96.8	96.8
Newborn affected by maternal complications of pregnancy	54	2	1	0	57	94.7	98.2
Congenital malformations, deformations, and chromosomal abnormalities	9	16	30	0	55	16.4	45.5
Sudden infant death syndrome	1	3	22	0	26	3.8	15.4
Newborn affected by complications of placenta, cord, and membranes	23	1	0	0	24	95.8	100.0
Respiratory distress of newborn	16	0	1	0	17	94.1	94.1
Accidents (unintentional injuries)	1	1	9	0	11	9.1	18.2
Bacterial sepsis of newborn	5	1	4	0	10	50.0	60.0
Diseases of the circulatory system	1	2	6	0	9	11.1	33.3
Diarrhea and gastroenteritis of infectious origin	7	0	1	0	8	87.5	87.5
Intrauterine hypoxia and birth asphyxia	3	1	3	0	7	42.9	57.1
Assault (homicide)	0	1	5	0	6	0.0	16.7
Atelectasis	5	0	0	0	5	100.0	100.0
Necrotizing enterocolitis of newborn	3	0	1	0	4	75.0	75.0
Hydrops fetalis not due to hemolytic disease	3	1	0	0	4	75.0	100.0
Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism	1	0	2	0	3	33.3	33.3
Influenza and pneumonia	0	1	2	0	3	0.0	33.3
Newborn affected by other complications of labor and delivery	3	0	0	0	3	100.0	100.0
Pulmonary hemorrhage originating in the perinatal period	3	0	0	0	3	100.0	100.0
Neonatal hemorrhage	2	1	0	0	3	66.7	100.0
All other causes	27	6	29	1	63	42.9	52.4
<b>TOTAL</b>	<b>258</b>	<b>37</b>	<b>119</b>	<b>1</b>	<b>415</b>	<b>62.2</b>	<b>71.1</b>

*Notes:*

1. Leading causes of infant death are categorized using NCHS rankable causes of infant death, specific ICD-10 codes are shown in Appendix D.
2. Very preterm is defined as less than 32 weeks of gestation.
3. Moderately preterm is defined as between 32 and 36 weeks of gestation.
4. Term is defined as 37 and greater weeks of gestation.
5. The percent born preterm includes both the very preterm and moderately preterm groups.

Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware Health Statistics Center

**TABLE E-9. FIVE-YEAR AVERAGE INFANT MORTALITY RATES BY RACE AND SELECTED RISK MARKERS, DELAWARE , 1995-2015 LIVE BIRTH COHORT**

Parameter/ Race	1995 -1999	1996 -2000	1997 -2001	1998 -2002	1999 -2003	2000 -2004	2001 -2005	2002 -2006	2003 -2007	2004 -2008	2005 -2009	2006 -2010	2007 -2011	2008 -2012	2009 -2013	2010 -2014	2011 -2015
<b>BIRTHWEIGHT</b>																	
<b>2500+</b>																	
All Races	2.4	2.4	2.5	2.3	2.4	2.5	2.2	2.2	2.3	2.0	1.9	2.2	2.2	2.2	2.2	2.2	2.2
White	2.4	2.3	2.4	2.1	2.0	2.1	1.9	1.7	1.9	1.8	1.7	2.1	2.3	2.2	2.3	2.2	2.1
Black	2.8	2.8	3.0	3.0	3.6	3.9	3.5	3.6	3.5	2.9	2.8	2.7	2.3	2.5	2.5	2.4	2.5
<b>&lt;2500</b>																	
All Races	66.5	69.5	75.2	76.4	74.2	73.1	74.5	69.9	68.8	69.2	70.6	65.5	67.1	68.2	64.6	61.7	64.6
White	53.9	55.9	63.2	68.7	67.4	68.8	68.4	64.3	60.8	60.0	58.5	55.6	54.9	52.8	50.1	50.0	53.5
Black	86.0	88.2	93.7	90.5	88.3	83.0	88.0	80.9	82.2	83.9	89.5	81.6	85.9	89.1	83.1	76.0	79.8
<b>&lt;1500</b>																	
All Races	262.7	270.9	304.8	316.2	302.4	306.2	313.9	289.4	285.8	286.8	279.3	260.8	264.7	267.6	258.6	253.1	267.7
White	219.3	231.5	281.9	303.4	297.2	316.8	321.2	295.3	289.0	280.2	262.0	242.2	233.3	222.0	216.6	219.9	239.6
Black	315.8	312.1	329.8	335.5	317.0	301.5	315.7	289.4	286.0	291.9	298.9	283.9	295.1	309.2	295.4	275.4	290.2
<b>GESTATION</b>																	
<b>37+ weeks</b>																	
All Races	2.6	2.5	2.5	2.3	2.3	2.4	2.2	2.2	2.3	2.0	2.0	2.4	2.6	2.6	2.5	2.6	2.5
White	2.6	2.4	2.3	2.1	1.9	2.0	1.7	1.8	1.9	1.8	1.8	2.4	2.7	2.7	2.6	2.6	2.3
Black	2.7	2.8	3.1	2.9	3.7	4.0	3.4	3.4	3.4	2.9	2.7	2.8	2.7	2.8	2.7	2.8	3.0
<b>&lt;37 weeks</b>																	
All Races	45.9	48.2	53.0	54.3	52.8	52.6	53.5	49.1	47.1	47.0	47.3	43.6	44.3	45.5	44.0	41.5	44.8
White	33.6	35.7	41.8	45.5	45.1	46.5	45.2	40.5	37.5	36.2	34.9	33.0	32.3	30.9	30.3	29.5	33.3
Black	69.6	70.5	73.5	72.5	70.5	67.7	72.7	68.2	66.9	68.3	71.1	64.0	66.3	69.7	65.4	59.8	63.3
<b>&lt;32 weeks</b>																	
All Races	201.3	214.9	238.1	249.6	238.7	239.4	249.1	232.4	220.4	220.4	216.9	195.0	195.7	198.7	190.8	178.9	189.6
White	174.0	191.5	228.4	249.2	238.2	244.0	248.3	223.0	202.7	193.2	184.8	159.9	153.0	144.2	140.1	134.2	150.4
Black	235.6	238.7	250.4	255.4	246.3	239.8	259.4	250.0	246.4	255.2	258.8	237.4	240.9	250.4	234.6	215.0	227.6
<b>PLURALITY</b>																	
<b>Single</b>																	
All Races	6.8	6.9	7.3	7.3	7.3	7.5	7.4	7.1	7.2	7.0	7.0	7.0	7.0	6.9	6.7	6.3	6.4
White	5.1	4.9	5.2	5.4	5.2	5.6	5.4	5.1	5.2	5.2	4.9	5.4	5.4	5.1	4.9	4.7	4.7
Black	12.2	12.9	13.4	13.4	13.8	13.5	13.6	13.0	12.8	12.2	12.7	11.8	11.6	11.7	11.3	10.4	10.8
<b>Plural</b>																	
All Races	41.6	45.4	53.1	52.9	52.3	50.3	52.0	47.0	44.0	40.3	41.0	32.6	34.2	35.0	34.5	36.1	42.6
White	28.6	35.1	43.4	48.0	50.3	49.2	49.9	44.0	36.6	29.6	30.6	23.0	23.5	23.2	25.6	30.5	38.2
Black	84.6	73.0	80.7	68.5	60.8	54.1	64.6	59.1	63.5	67.7	69.5	54.4	55.5	60.4	50.4	44.5	51.2
<b>SMOKING DURING PREGNANCY</b>																	
<b>No</b>																	
All Races	7.4	7.6	8.1	8.0	8.2	8.2	8.2	7.9	7.7	7.4	7.6	7.4	7.4	7.4	7.2	6.7	6.9
White	5.3	5.3	5.7	5.8	5.9	6.2	6.1	6.0	5.7	5.4	5.3	5.6	5.5	5.4	5.2	4.9	5.0
Black	14.0	14.3	15.3	14.8	15.0	14.3	14.7	13.7	13.4	13.2	13.9	12.9	12.9	13.2	12.3	11.3	11.8
<b>Yes</b>																	
All Races	10.6	11.3	13.4	15.1	14.1	14.8	15.1	13.4	13.9	13.3	12.1	10.7	10.8	10.0	9.7	10.7	11.5
White	9.3	9.8	12.2	14.2	12.7	13.3	13.0	10.2	10.7	10.7	8.9	8.2	8.9	7.6	7.2	9.3	10.4
Black	16.3	17.3	18.0	18.9	19.4	19.5	22.0	23.9	23.8	21.2	21.5	17.5	15.8	15.9	15.7	14.1	14.6

See footnotes at the end of the tables

**TABLE E-9. FIVE-YEAR AVERAGE INFANT MORTALITY RATES BY RACE AND SELECTED RISK MARKERS, DELAWARE, 1995-2015 LIVE BIRTH COHORT (continued)**

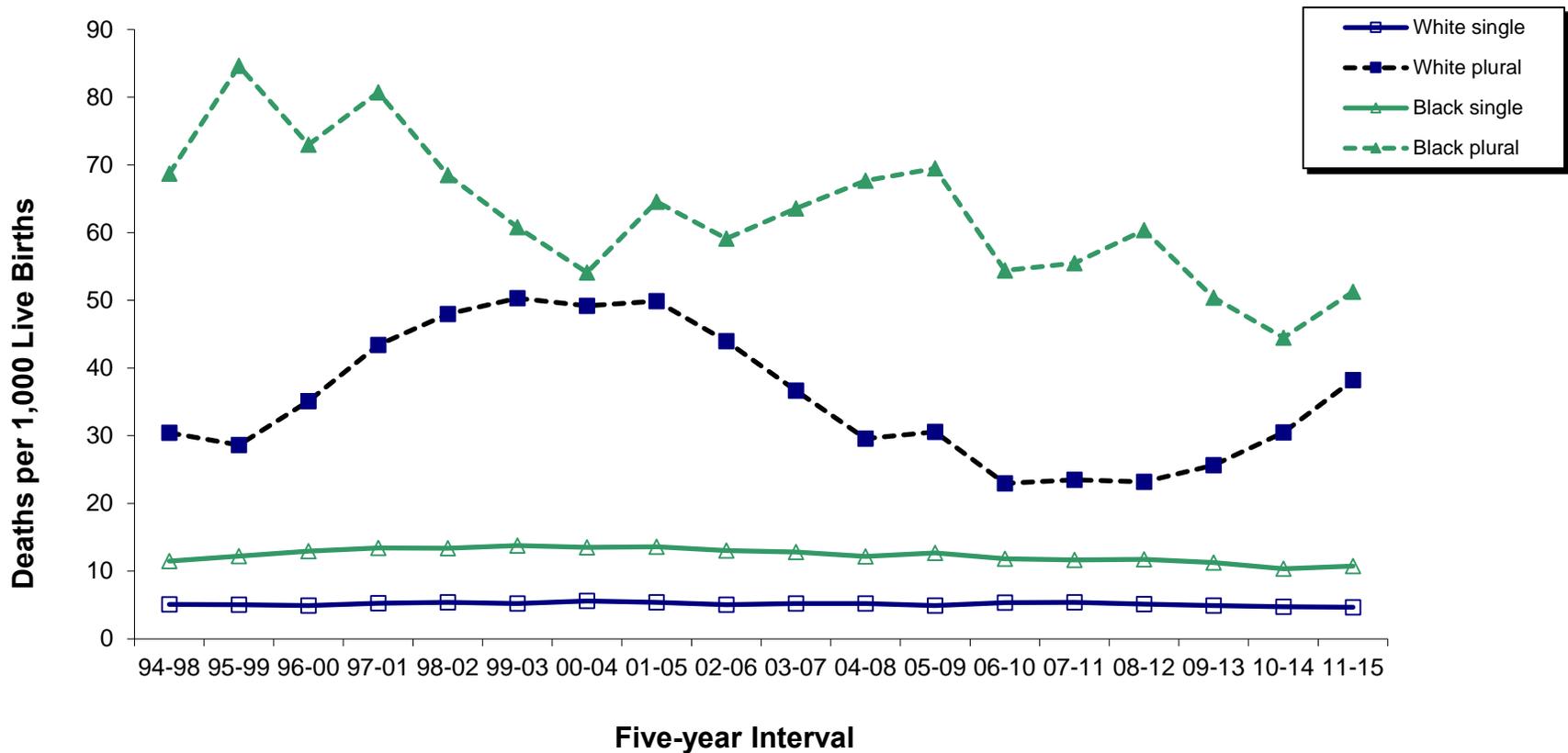
Parameter/ Race	1995 -1999	1996 -2000	1997 -2001	1998 -2002	1999 -2003	2000 -2004	2001 -2005	2002 -2006	2003 -2007	2004 -2008	2005 -2009	2006 -2010	2007 -2011	2008 -2012	2009 -2013	2010 -2014	2011 -2015
<b>EDUCATION</b>																	
<b>HS Grad or less</b>																	
All Races	10.4	10.3	11.1	11.5	11.4	11.4	11.1	10.7	10.8	10.1	10.0	10.0	10.0	9.5	9.5	8.8	9.3
White	8.0	7.8	8.4	9.1	8.8	9.1	8.7	8.3	8.4	7.8	7.6	7.7	7.6	6.7	6.7	6.4	7.0
Black	15.8	15.6	16.8	16.9	17.2	16.9	17.2	16.6	16.4	15.4	15.4	14.8	14.8	15.1	14.7	13.3	13.8
<b>1+ yrs college</b>																	
All Races	4.9	5.5	6.1	6.0	6.0	6.0	6.3	5.8	5.4	5.6	5.9	5.6	5.8	6.2	5.7	5.7	5.9
White	3.6	4.1	4.6	4.7	4.7	5.0	5.0	4.5	4.1	4.2	4.1	4.3	4.6	4.9	4.6	4.7	4.7
Black	11.8	13.5	13.9	12.6	12.2	11.0	12.0	11.1	10.9	11.4	13.1	11.2	10.8	11.0	9.6	8.9	9.6
<b>PAYMENT FOR DELIVERY</b>																	
<b>Medicaid</b>																	
All Races	10.9	9.9	10.6	10.1	9.5	9.8	10.2	9.6	10.4	10.2	9.9	9.5	9.3	8.8	8.5	8.2	8.7
White	9.1	7.7	8.6	8.3	7.1	7.5	7.7	7.1	8.0	8.0	7.5	7.5	7.0	6.3	6.0	6.1	6.7
Black	13.6	13.1	13.8	13.0	13.3	13.7	14.7	14.0	14.4	14.1	14.1	13.0	13.3	13.3	12.8	11.8	12.2
<b>Private Insurance</b>																	
All Races	5.7	6.5	6.8	7.4	7.7	7.8	7.6	7.4	6.7	6.4	6.6	6.4	6.4	6.6	6.4	6.2	6.2
White	4.3	4.9	5.2	5.7	5.9	6.1	5.8	5.6	5.0	4.6	4.5	4.7	5.0	4.9	4.9	4.7	4.5
Black	13.7	14.8	15.6	16.5	17.1	16.9	17.0	16.6	15.3	15.0	16.4	14.8	13.7	14.6	13.0	11.7	12.7

*Notes:*

1. See the Basic Definitions' section for definitions of birthweight, gestation, prenatal care attainment, and plurality.
2. "----" indicates rate does not meet standards of reliability or precision; based on fewer than 20 deaths in the numerator.
3. Primary source of payment for delivery not available prior to 1991.

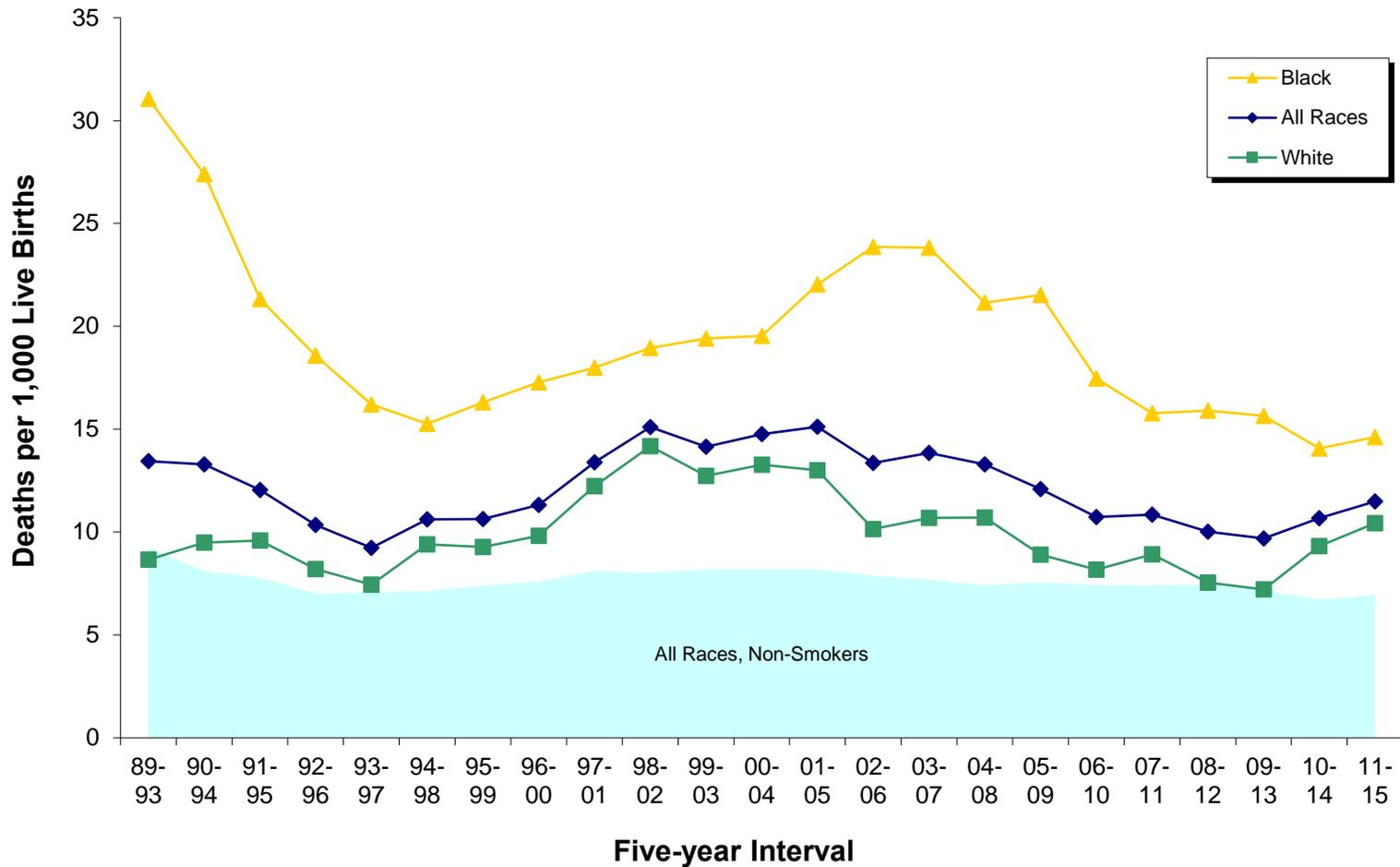
Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware Health Statistics Center

**Figure E-5. Five-year Average Infant Mortality Rates by Race and Plurality, Delaware, 1994-2015 Live Birth Cohort**



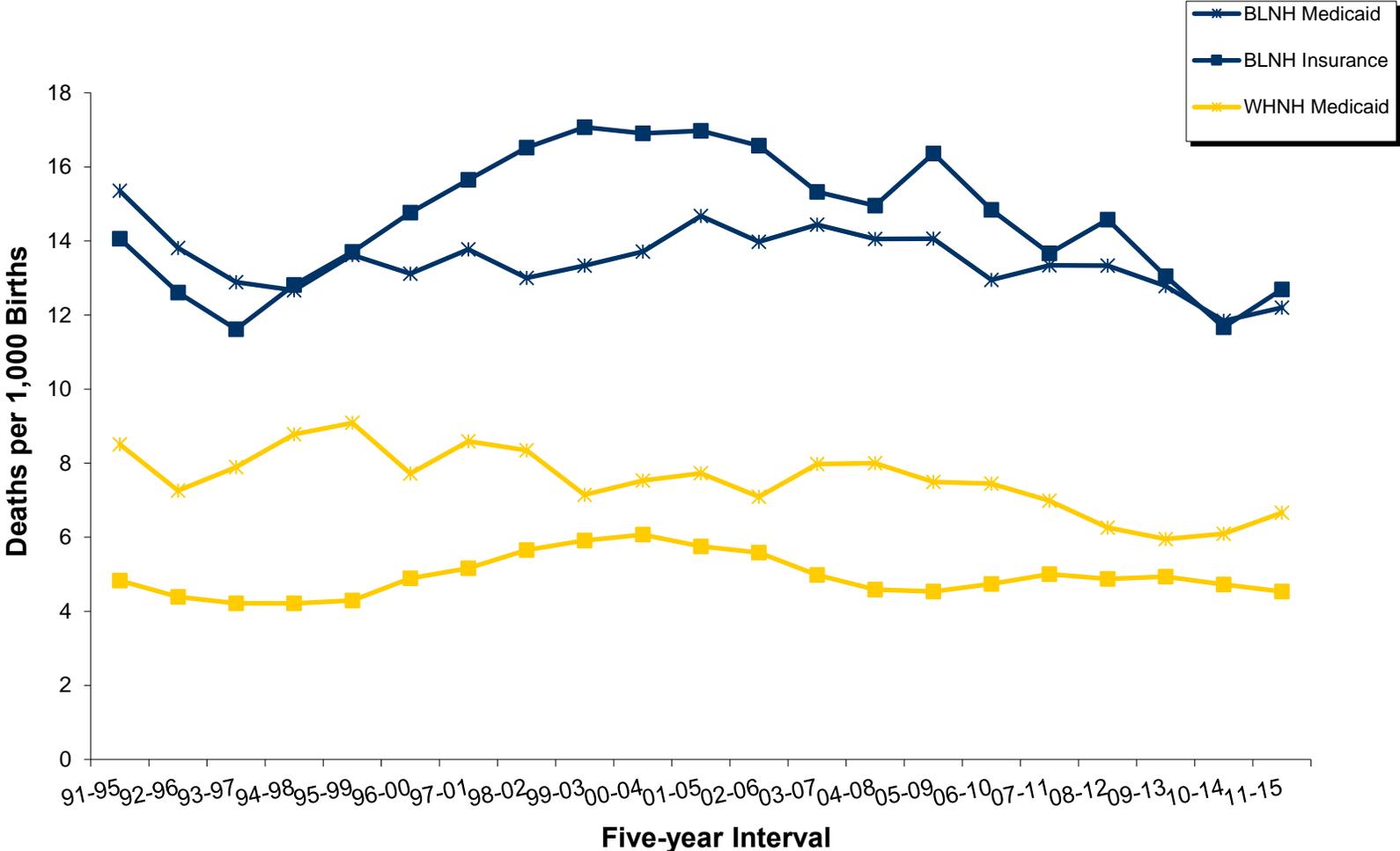
Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware Health Statistics Center

**Figure E-6. Five-year Average Infant Mortality Rates by Race of Mothers who Smoked during Pregnancy versus all Non-smoking Mothers, Delaware, 1989-2015 Live Birth Cohort**



Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware Health Statistics Center

**Figure E-7. Five-year Average Infant Mortality Rates by Race and Source of Payment for Delivery, Delaware, 1991-2015 Live Birth Cohort**



Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware Health Statistics Center

**TABLE E-10. NUMBER OF INFANT DEATHS BY PLURALITY, BIRTH WEIGHT IN GRAMS, RACE OF MOTHER, AND SEX OF CHILD, DELAWARE, 2011-2015 LIVE BIRTH COHORT**

Plurality/ Birth Weight	Race and Sex										
	All Races			White			Black			Other	
	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male
<b>All Births</b>	415	229	186	206	108	98	185	105	80	24	16
<2500	304	174	130	133	77	56	152	85	67	19	12
<1500	264	156	108	109	65	44	139	82	57	16	9
<500	135	77	58	44	26	18	82	47	35	9	4
500-999	109	69	40	51	32	19	52	33	19	6	4
1000-1499	20	10	10	14	7	7	5	2	3	1	1
1500-1999	15	7	8	8	4	4	5	1	4	2	2
2000-2499	25	11	14	16	8	8	8	2	6	1	1
2500+	110	55	55	72	31	41	33	20	13	5	4
2500-2999	43	22	21	30	14	16	10	5	5	3	3
3000-3499	36	15	21	21	6	15	13	8	5	2	1
3500-3999	22	12	10	15	8	7	7	4	3	0	0
4000-4499	8	5	3	5	2	3	3	3	0	0	0
4500+	1	1	0	1	1	0	0	0	0	0	0
Unknown	1	0	1	1	0	1	0	0	0	0	0
<b>Single Births</b>	341	186	155	165	87	78	156	86	70	20	13
<2500	237	134	103	98	59	39	124	66	58	15	9
<1500	201	119	82	76	49	27	113	64	49	12	6
<500	101	56	45	31	20	11	64	34	30	6	2
500-999	85	56	29	35	24	11	44	28	16	6	4
1000-1499	15	7	8	10	5	5	5	2	3	0	0
1500-1999	13	5	8	7	3	4	4	0	4	2	2
2000-2499	23	10	13	15	7	8	7	2	5	1	1
2500+	103	52	51	66	28	38	32	20	12	5	4
2500-2999	41	21	20	29	13	16	9	5	4	3	3
3000-3499	33	14	19	18	5	13	13	8	5	2	1
3500-3999	20	11	9	13	7	6	7	4	3	0	0
4000-4499	8	5	3	5	2	3	3	3	0	0	0
4500+	1	1	0	1	1	0	0	0	0	0	0
Unknown	1	0	1	1	0	1	0	0	0	0	0
<b>Plural Births</b>	74	43	31	41	21	20	29	19	10	4	3
<2500	67	40	27	35	18	17	28	19	9	4	3
<1500	63	37	26	33	16	17	26	18	8	4	3
<500	34	21	13	13	6	7	18	13	5	3	2
500-999	24	13	11	16	8	8	8	5	3	0	0
1000-1499	5	3	2	4	2	2	0	0	0	1	1
1500-1999	2	2	0	1	1	0	1	1	0	0	0
2000-2499	2	1	1	1	1	0	1	0	1	0	0
2500+	7	3	4	6	3	3	1	0	1	0	0
2500-2999	2	1	1	1	1	0	1	0	1	0	0
3000-3499	3	1	2	3	1	2	0	0	0	0	0
3500-3999	2	1	1	2	1	1	0	0	0	0	0
4000-4499	0	0	0	0	0	0	0	0	0	0	0
4500+	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0

Note:  
Infant deaths refer to deaths of children under one year of age.

Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware Health Statistics Center

**TABLE E-11. NUMBER OF NEONATAL DEATHS BY PLURALITY, BIRTH WEIGHT IN GRAMS, RACE OF MOTHER, AND SEX OF CHILD, DELAWARE, 2011-2015 LIVE BIRTH COHORT**

Plurality/ Birth Weight	Race and Sex										
	All Races			White			Black			Other	
	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male
<b>All Births</b>	312	181	131	140	81	59	151	87	64	21	13
<2500	267	152	115	111	63	48	139	79	60	17	10
<1500	250	145	105	102	58	44	133	79	54	15	8
<500	135	77	58	44	26	18	82	47	35	9	4
500-999	100	61	39	46	27	19	49	31	18	5	3
1000-1499	15	7	8	12	5	7	2	1	1	1	1
1500-1999	6	2	4	2	1	1	3	0	3	1	1
2000-2499	11	5	6	7	4	3	3	0	3	1	1
2500+	45	29	16	29	18	11	12	8	4	4	3
2500-2999	20	13	7	15	8	7	2	2	0	3	3
3000-3499	10	6	4	3	3	0	6	3	3	1	0
3500-3999	9	7	2	6	5	1	3	2	1	0	0
4000-4499	5	2	3	4	1	3	1	1	0	0	0
4500+	1	1	0	1	1	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0
<b>Single Births</b>	248	143	105	106	64	42	125	69	56	17	10
<2500	205	116	89	79	48	31	113	61	52	13	7
<1500	189	110	79	71	44	27	107	61	46	11	5
<500	101	56	45	31	20	11	64	34	30	6	2
500-999	76	48	28	30	19	11	41	26	15	5	3
1000-1499	12	6	6	10	5	5	2	1	1	0	0
1500-1999	6	2	4	2	1	1	3	0	3	1	1
2000-2499	10	4	6	6	3	3	3	0	3	1	1
2500+	43	27	16	27	16	11	12	8	4	4	3
2500-2999	19	12	7	14	7	7	2	2	0	3	3
3000-3499	9	5	4	2	2	0	6	3	3	1	0
3500-3999	9	7	2	6	5	1	3	2	1	0	0
4000-4499	5	2	3	4	1	3	1	1	0	0	0
4500+	1	1	0	1	1	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0
<b>Plural Births</b>	64	38	26	34	17	17	26	18	8	4	3
<2500	62	36	26	32	15	17	26	18	8	4	3
<1500	61	35	26	31	14	17	26	18	8	4	3
<500	34	21	13	13	6	7	18	13	5	3	2
500-999	24	13	11	16	8	8	8	5	3	0	0
1000-1499	3	1	2	2	0	2	0	0	0	1	1
1500-1999	0	0	0	0	0	0	0	0	0	0	0
2000-2499	1	1	0	1	1	0	0	0	0	0	0
2500+	2	2	0	2	2	0	0	0	0	0	0
2500-2999	1	1	0	1	1	0	0	0	0	0	0
3000-3499	1	1	0	1	1	0	0	0	0	0	0
3500-3999	0	0	0	0	0	0	0	0	0	0	0
4000-4499	0	0	0	0	0	0	0	0	0	0	0
4500+	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0

Note:  
Neonatal deaths refer to deaths of children under 28 days of age.

Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware Health Statistics Center