
DELAWARE VITAL STATISTICS EXECUTIVE SUMMARY REPORT 2015



DELAWARE HEALTH AND SOCIAL SERVICES
Division of Public Health
A Nationally Accredited Health Department

John Carney, Governor
State of Delaware

Kara Odom Walker, MD, MPH, MSHS, Secretary
Delaware Health and Social Services

DELAWARE VITAL STATISTICS EXECUTIVE SUMMARY REPORT 2015

Division of Public Health Delaware Health Statistics Center

417 Federal Street
Dover, DE 19901
Telephone 302-744-4541
FAX 302-739-4784

Karyl Thomas Rattay, MD, MS
Director
Division of Public Health
Delaware Health and Social Services



DELAWARE HEALTH AND SOCIAL SERVICES
Division of Public Health
A Nationally Accredited Health Department

ACKNOWLEDGMENTS

This report was prepared by Jennifer Miles, Marianne Letavish, and Milan Rendon and reviewed by Maridelle Dizon and Dr. Tabatha Offutt-Powell of the Delaware Health Statistics Center within the Epidemiology, Health Data, and Informatics Section of the Division of Public Health.

We gratefully acknowledge the contributions of Brenda Abele and the staff of the Office of Vital Statistics; Edward C. Ratledge and the staff of the Center for Applied Demography and Survey Research at the University of Delaware; and the Health Statistics Center staff, including: Jean Hreczan, Louise Wishart, Genelyn Viray, and Helen Morella. We also recognize local registrars, physicians, nurses, medical records staffs, midwives, funeral directors, and county clerks for their help in collecting and providing us with these data. Finally, special thanks goes to Gwen Willey whose photo graces the cover of this report. Her picture, "Sunrise and Driftwood at Delaware Seashore State Park," won first place in the Delaware Health Statistics photo contest.

Questions or comments about this report may be directed to:

State of Delaware
Delaware Health and Social Services
Division of Public Health
Delaware Health Statistics Center
417 Federal Street
Dover, Delaware 19901
302-744-4541
FAX 302-739-6631

Visit our website at:

<http://www.dhss.delaware.gov/dhss/dph/hp/healthstats.html>

Suggested citation:

Delaware Health Statistics Center. *Delaware Vital Statistics Executive Summary Report, 2015*. Delaware Health and Social Services, Division of Public Health, 2017.

EXECUTIVE SUMMARY

There is an ever increasing demand for vital records data and an increasing recognition of the importance of these data among policy makers, planners and health professionals, the news media, students and teachers, and private citizens. In an effort to meet the demand for quality vital statistics data, the Delaware Health Statistics Center (DHSC) releases the Delaware Vital Statistics Annual Report.

The primary sources of data used in preparing this report are certificates of marriage, divorce, live birth, death, and fetal death filed either inside or outside Delaware and reports of induced termination of pregnancy (ITOP) filed in Delaware. The compilation and enumeration of vital events are accomplished through the cooperation of the DHSC and the Office of Vital Statistics. This cooperation is the foundation for the development of a comprehensive health data management system designed to facilitate the most effective use of resources.

This report includes a number of statistics based on five-year averages: age-specific fertility rates, percentages of births to single mothers, percentages of low birthweight births, infant mortality rates, and age-adjusted mortality rates for selected causes of deaths. The use of five-year averages for these measures is due to the relatively small number of events in a single year, making annual rates particularly susceptible to the effects of random variations. This report presents trends over time beginning in the

1980's. The DHSC presents rates with stratifications of place of residence, age, marital status, race, ethnicity, gender, educational background, and (for mortality data) causes of death. Also included are highlights of Delaware's life expectancy, leading causes of death, and the most popular birth names.

Sections in this report focus on specific topics of concern to Delawareans such as teen pregnancy, infant mortality, trends in HIV infection/AIDS deaths, and drug and alcohol related deaths. Throughout the years, the DHSC expanded its sections to include data on Wilmington, historical tables on percent of births to single mothers, and tables on percent of low and very low birthweight births.

The effective use of vital statistics information is essential to identify and understand the population health challenges facing Delaware. Some of the highlights of the annual report are as follows.

- In 2015, 70 percent of single mothers who gave birth in Delaware had Medicaid as a principal source of payment for delivery.
- The percentage of live births by cesarean delivery increased from 31.5 percent in 2014 to 31.9 percent in 2015 moving Delaware from 23rd place to 20th place in the national ranking.
- Delaware residents born in 2015 can expect to live to 79 years of age.
- In Figure F-2, while alcohol-induced death rates remained fairly stable, drug-induced mortality rates continued their steady increase. Since 1990-1994, drug-induced mortality rates have risen 246 percent, with the increase reflected in both male and female death rates. Although female rates increased more than male rates, 360 versus 240 percent, in 2011-2015 the male drug-induced death rate was 63 percent higher than the female rate. Also notable in 2015, 85 percent of all drug-induced deaths were white decedents, 65 percent of those death were males.

Examining data such as highlighted here can provide a general overview of the health of Delawareans; provide an opportunity to generate and evaluate possible hypotheses about the possible determinants of diseases and health risks; and may be useful for policy development and program planning when used in concert with other relevant data

2015 SELECTED CHARACTERISTICS

Figure 1. Selected Characteristics: Delaware Vital Statistics Annual Report, 2015

Population			Fetal Deaths		
	Number*	Percent		Number*	Percent
Delaware	943,107	100.0%	Delaware	68	100.0%
<i>Kent</i>	171,924	18.2%	<i>Kent</i>	13	19.1%
<i>New Castle</i>	554,243	58.8%	<i>New Castle</i>	43	63.2%
<i>Sussex</i>	216,940	23.0%	<i>Sussex</i>	12	17.6%
Marriages			Race		
	Number*	5-yr Rate ¹		Number	Percent
Delaware	5,404	5.9	<i>White</i>	30	44.1%
<i>Kent</i>	887	5.5	<i>Black</i>	32	47.1%
<i>New Castle</i>	2,688	5.0	<i>Hispanic Origin</i> ⁴	68	100.0%
<i>Sussex</i>	1,829	8.5	Infant Mortality		
Divorces				Number*	5-yr Rate ⁵
	Number*	5-yr Rate ¹	Delaware	100	7.7
Delaware	2,954	3.4	<i>Kent</i>	23	6.9
<i>Kent</i>	632	4.1	<i>New Castle</i>	54	8.6
<i>New Castle</i>	1,590	3.1	<i>Sussex</i>	23	5.8
<i>Sussex</i>	732	3.5	Race		
Live Births				Number	Percent
	Number*	5-yr Rate ²	<i>White</i>	38	5.3
Delaware	11,147	62.9	<i>Black</i>	39	12.3
<i>Kent</i>	2,258	64.5	<i>Hispanic Origin</i> ⁴	5	7.0
<i>New Castle</i>	6,585	60.0	Mortality		
<i>Sussex</i>	2,304	71.0		Number*	Adj. Rate ⁶
Births to Teenagers (15-19)			Delaware	8,580	713.5
<i>White</i>	301	22.1	<i>Kent</i>	1,592	847.2
<i>Black</i>	215	37.1	<i>New Castle</i>	4,547	719.0
Delaware	540	24.8	<i>Sussex</i>	2,441	652.5
<i>Kent</i>	96	24.9	Race and Gender		
<i>New Castle</i>	291	21.7	<i>White Males</i>	3,523	792.3
<i>Sussex</i>	153	35.0	<i>White Females</i>	3,360	674.7
Race			<i>Black Males</i>	705	1,137.7
	Number*	Percent	<i>Black Females</i>	738	664.6
<i>White</i>	7,247	65.0%	Decedent's Age		
<i>Black</i>	3,069	27.5%		Number*	Percent
<i>Hispanic Origin</i> ⁴	1,542	13.8%	<1	100	1.2%
Marital Status			1-14	22	0.3%
	Number*	Percent	15-24	90	1.0%
<i>Married</i>	5,983	53.7%	25-44	410	4.8%
<i>Single</i>	5,164	46.3%	45-64	1,662	19.4%
Births to Single Mothers ³			65-74	1,605	18.7%
	Number*	Percent	75-84	2,097	24.4%
<i>White</i>	2,864	39.5%	85+	2,594	30.2%
<i>Black</i>	2,173	70.8%	Leading Causes of Death		
<i>Hispanic Origin</i> ⁴	976	63.3%	<i>Malignant neoplasms</i>	2,011	23.4%
Low Birth Weight (<2,500 gms)			<i>Diseases of heart</i>	1,930	22.5%
	Number*	Percent	<i>Chronic lower respiratory diseases</i>	507	5.9%
All Races	1,036	9.3%	<i>Cerebrovascular diseases</i>	469	5.5%
<i>White</i>	557	7.7%	<i>Accidents (unintentional injuries)</i>	457	5.3%
<i>Black</i>	411	13.4%	<i>Dementia</i>	456	5.3%
<i>Hispanic Origin</i> ⁴	133	8.6%			

Notes:

* Numbers are for 2015.

1. The 5-year rate is per 1,000 population and refers to the period 2011-2015.

2. The 5-year rate refers to total live births per 1,000 women 15-44 years of age during the 2011-2015 period.

3. Percentages for births to single mothers are based on total births for the race-group.

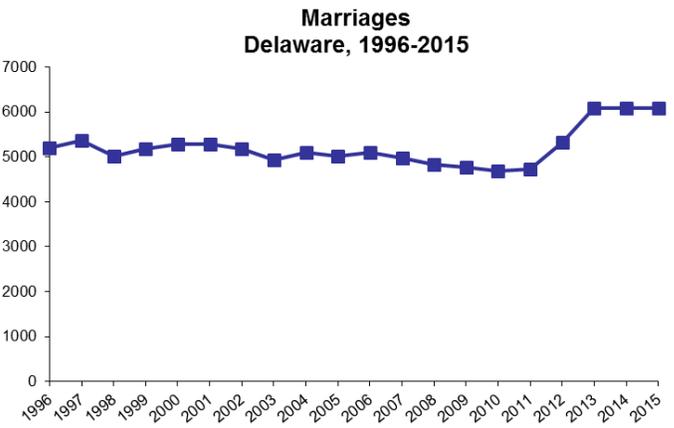
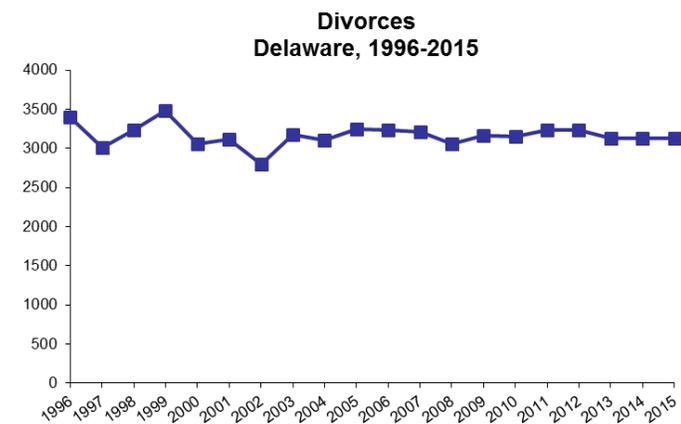
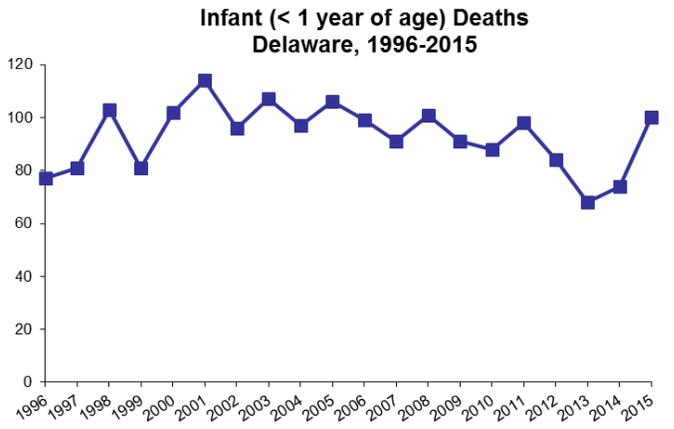
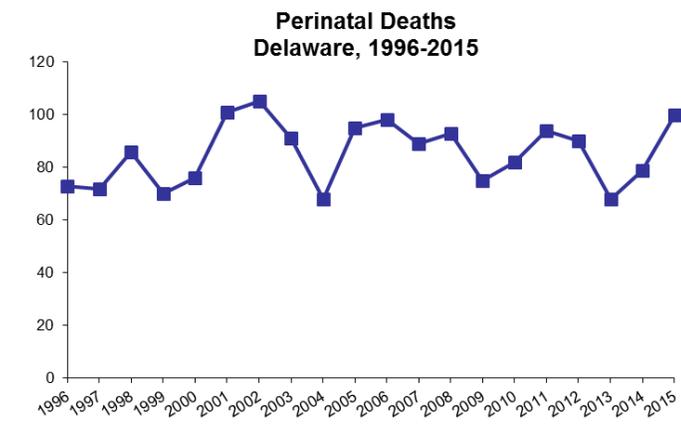
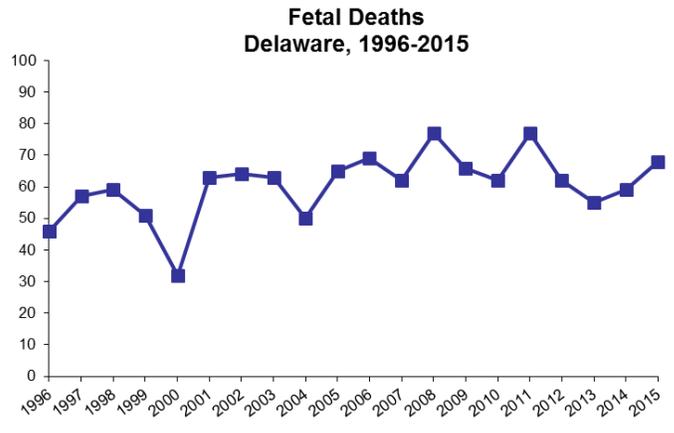
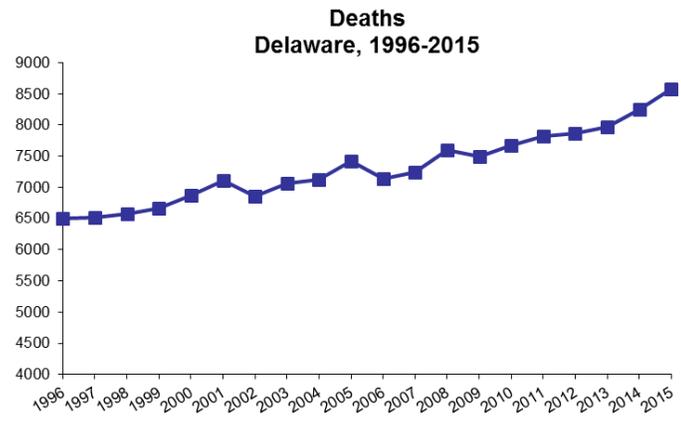
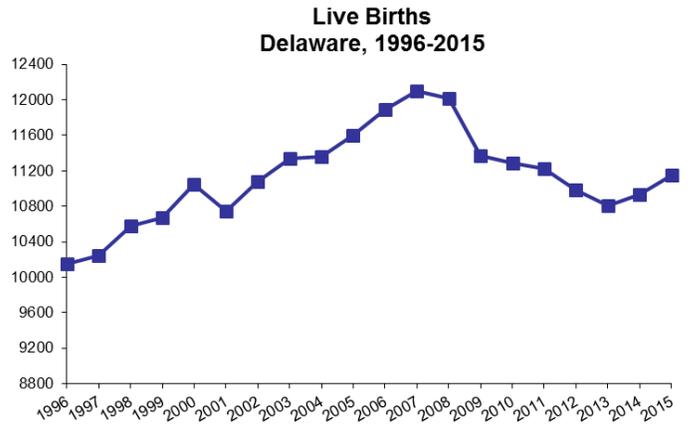
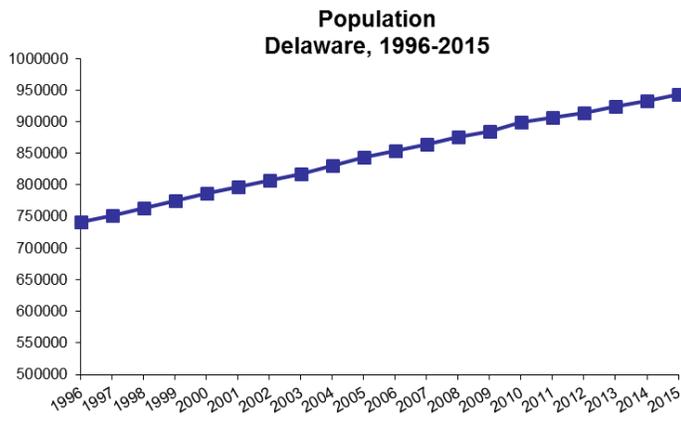
4. People of Hispanic origin may be of any race. The percentage is based on total resident births for 2015.

5. The 5-year (2011-2015) infant mortality rates represent the number of deaths to children under one year of age per 1,000 live births.

6. The 2015 mortality rates (deaths per 100,000 population) for Delaware and the counties are age-adjusted to the 2000 U.S. population.

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

Figure 2. Vital Statistics Trends, Delaware, 1996-2015

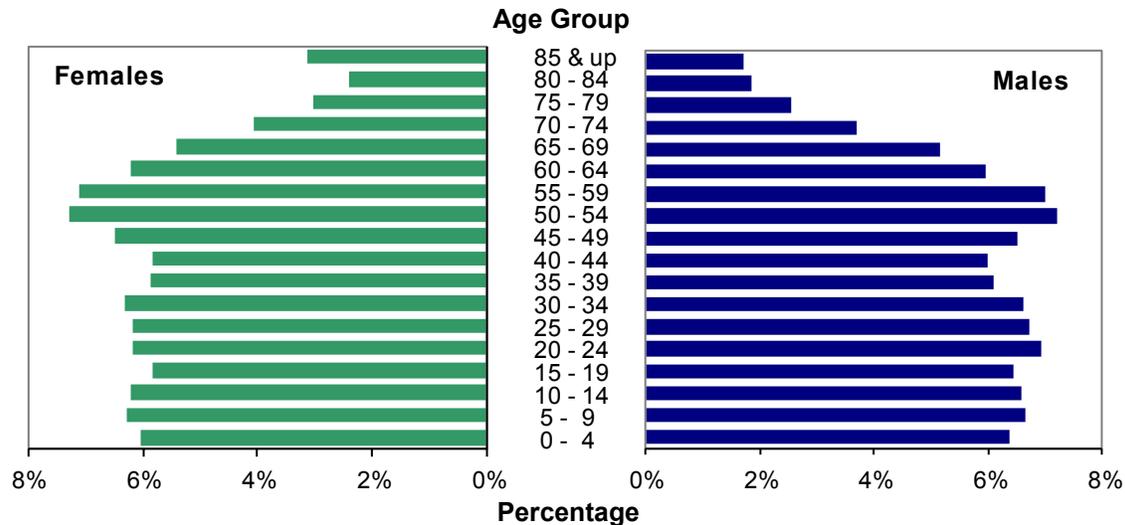


Source: Delaware Health and Social Services, Division of Public Health, Delaware Health Statistics Center

POPULATION

In 2015 just over 51 percent of Delaware's population was female. Females made up a greater proportion of the older age groups, which reflects the longer female life expectancy. In 2015, Delaware females could expect to live an average of 81.9 years versus males who could expect to live 76.5 years.

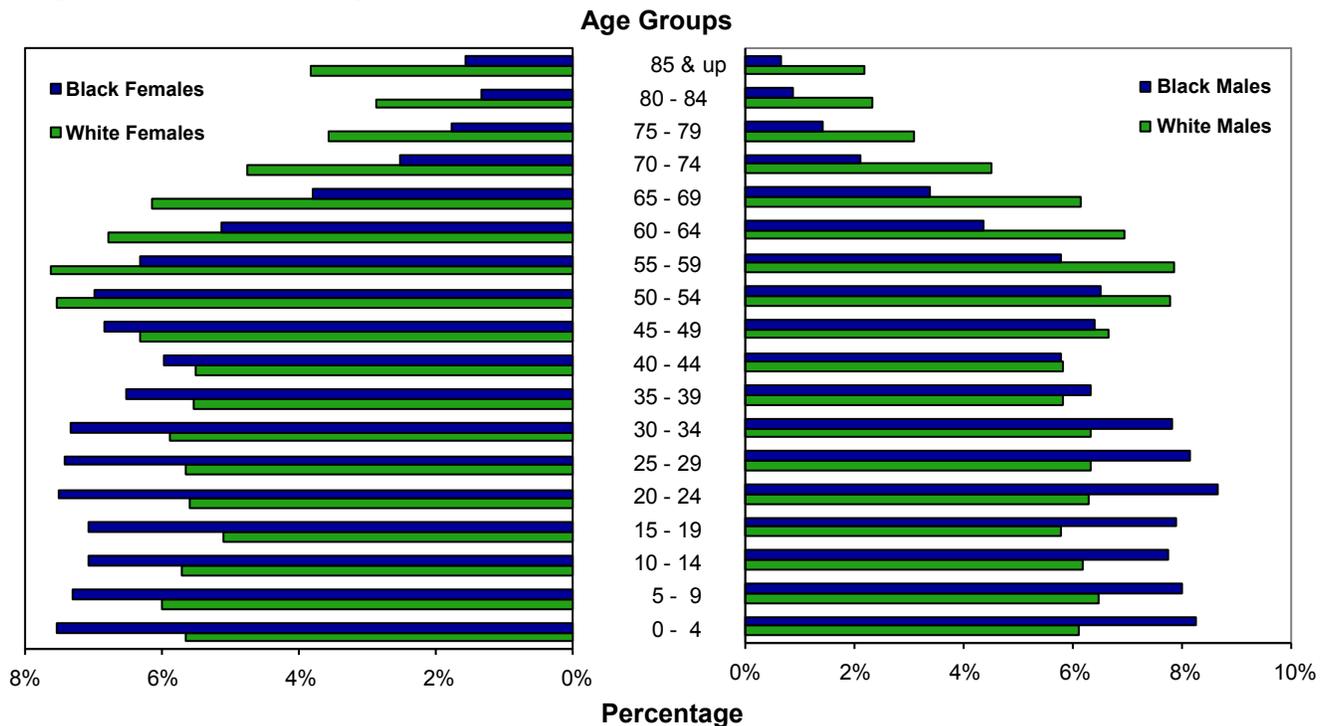
Figure 3. Population by Gender and Age, Delaware, 2015



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

When the population was broken down by race, the highest proportion of females in the older age groups appeared in the white population. However, both black males and females had a greater percentage of their population in the 0-39 year age range than whites males and females. In the 50 and above age range, whites made up a greater proportion of the population.

Figure 4. Population by Gender and Race, Delaware, 2015



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

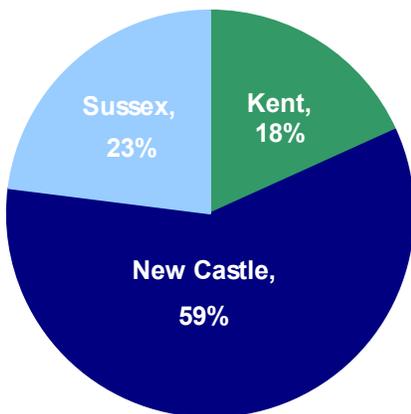
POPULATION

Delaware's three counties continued their increasing population trend, though they grew at different rates. Between 2000 and 2015, county populations grew annually by 2.4 percent for Kent, 0.7 percent for New Castle, and 2.5 percent for Sussex. Delaware's statewide increase was 1.3 percent.

In 2015, just over half of Delaware's 65 and older population resided in New Castle County. However, residents 65 and older represented a much larger proportion of the Sussex County population, where one in four residents was 65 or older, versus New Castle and Kent counties, where approximately one in seven residents was 65 or older.

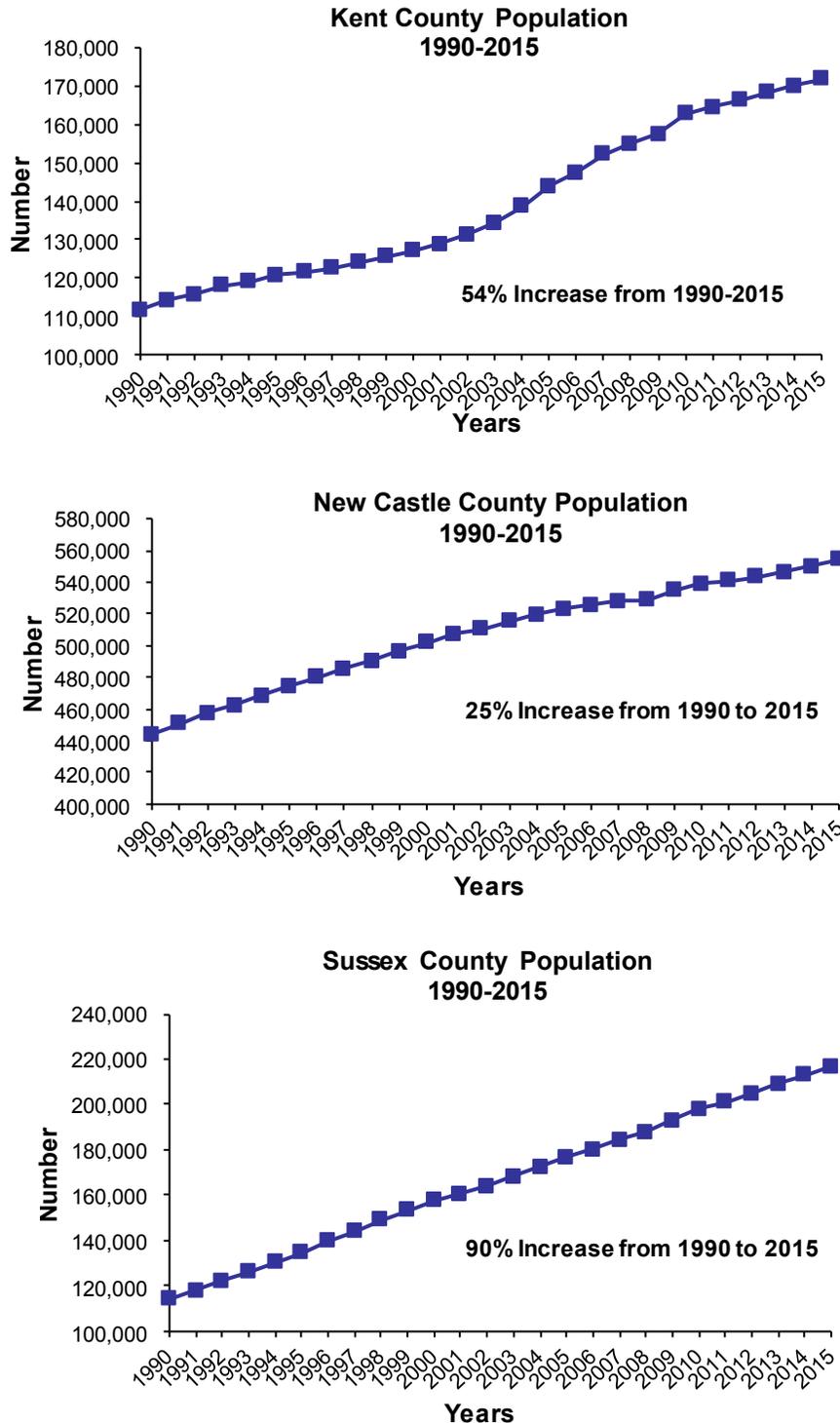
Over half of Delaware's total population resides in New Castle County.

Figure 6. Percent of Population by County, Delaware, 2015



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

Figure 5. Delaware Resident Population by County, 1990-2015



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

MARRIAGE AND DIVORCE

There were 5,404 marriages and 2,954 divorces in Delaware in 2015. Over half of all divorces in 2015 were of marriages that lasted less than 10 years.

Marriage

Male

Youngest: 18
Oldest: 90

Female

Youngest: 18
Oldest: 89

Marriage with the greatest age difference between bride and groom: 40 years.
Most popular month to get married: May.

Divorce

Male

Youngest: 20
Oldest: 87

Female

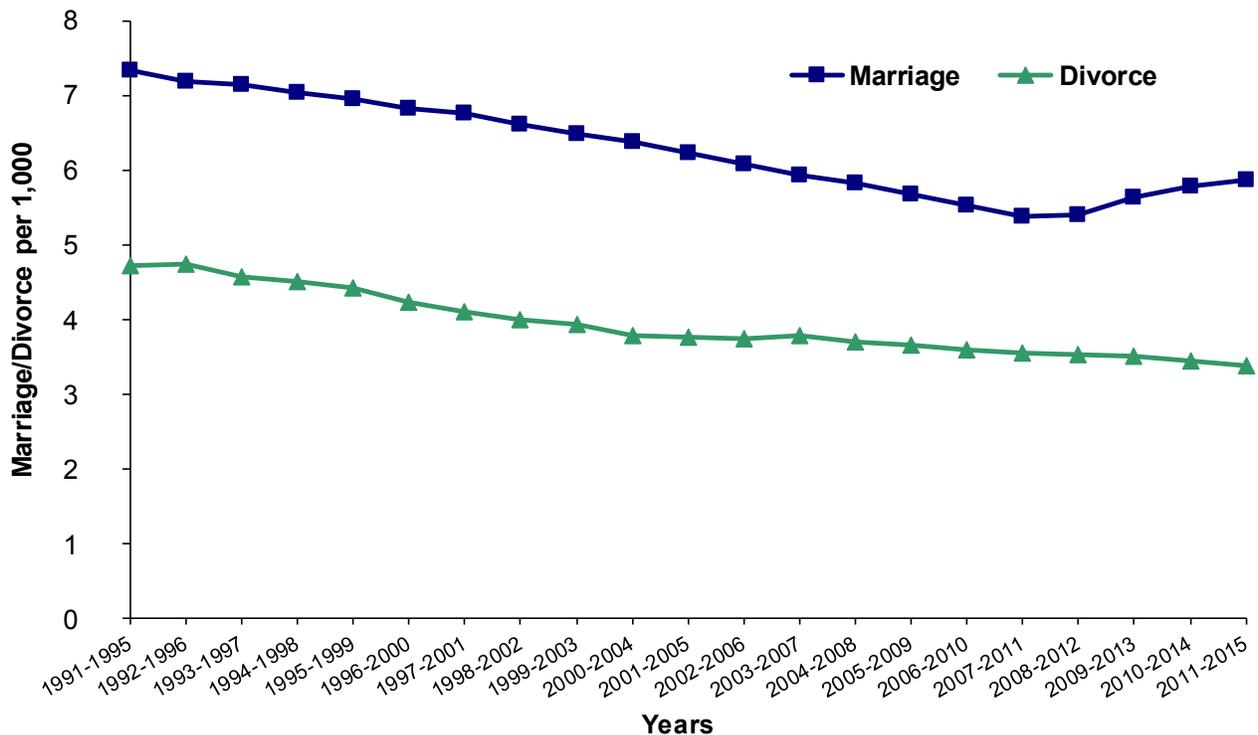
Youngest: 19
Oldest: 87

Shortest duration of marriage: 69 days.
Longest duration of marriage: 61 years.
Median duration of marriage: 9 years.
Total children under 18 years of age: 2,303.

Between 1991-1995 and 2011-2015, the five-year average marriage rate decreased from 7.3 to 5.9 marriages per 1,000 population.

Divorce rates remained fairly stable between 1991-1995 and 1992-1996. Since 1992-1996, divorce rates declined 28 percent to 3.4 divorces per 1,000 population in 2011-2015.

Figure 7. Five-year Average Marriage and Divorce Rates, per 1,000 Population, Delaware, 1991-2015



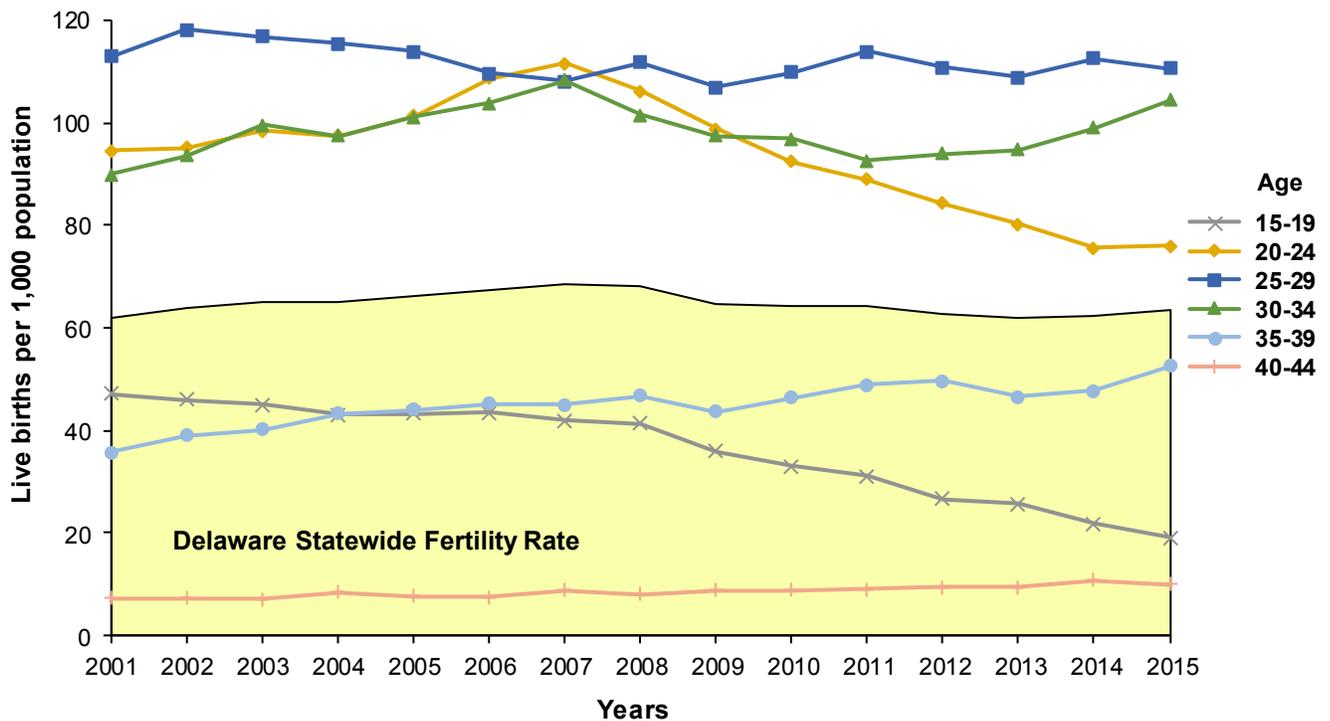
Source: Delaware Health and Social Services, Division of Public Health, Delaware Health Statistics Center

LIVE BIRTHS

In 2015, there were 11,511 births in Delaware; 10,578 were to Delaware residents and 933 were to non-residents. Additionally, 569 births to Delaware residents occurred out of state, for a total of 11,147 Delaware resident births, 213 more Delaware residents births than in 2014.

The recent national declines in general fertility and live birth rates were also apparent in Delaware statistics. From 2007 to 2015, the general fertility rate (number of births per 1,000 women ages 15-44 years) declined from a high of 68.5 to 63.5 births per 1,000 women ages 15-44. The birth rate of teens (15-19) exhibited the largest decline at 54.4 percent, followed by a 32.0 percent decrease for women ages 20-24. Although birth rates for women ages 30-34 years increased by 12.7 percent between 2011 and 2015, the 2015 birth rate remains lower than the 2007 rate. For women ages 35-39 and 40-44, the birth rate increased, with the 35-39 age group having the larger increase of the two (16.6 percent).

Figure 8. Annual Fertility and Age-Specific Live Birth Rates, Delaware, 2001-2015



Note: Age unit is in years.

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

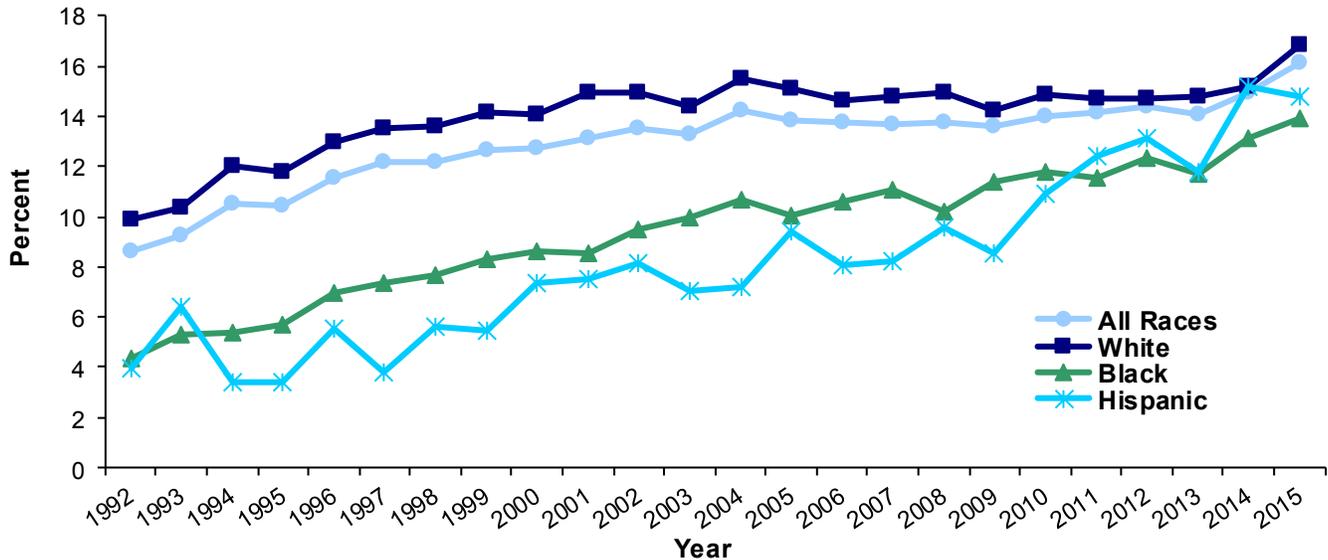
The 2011 to 2015 decline seen in teens ages 15-19 was apparent in both the 15-17 and 18-19 age groups. Birth rates among teens ages 15-17 decreased 50.7 percent while birth rates among teens 18-19 fell 44.4 percent. In the 2011-2015 time period, Sussex County had the highest birth rate for teens in both age groups, followed by Kent County.

To view long-term birth rate trends by more detailed age and race categories, see Tables C-5 through C-8 in the Live Births section of the annual report.

LIVE BIRTHS

Between 1992 and 2004, the percentage of births to women 35 and older exhibited a clear upward trend. The percentage then remained stable until 2009. In 2015, 16.1 percent of all births were to women 35 and older, an 18.4 percent increase since 2009.

Figure 9. Annual Percent of Live Births to Women 35 or Older by Race and Hispanic Origin,* Delaware, 1992-2015

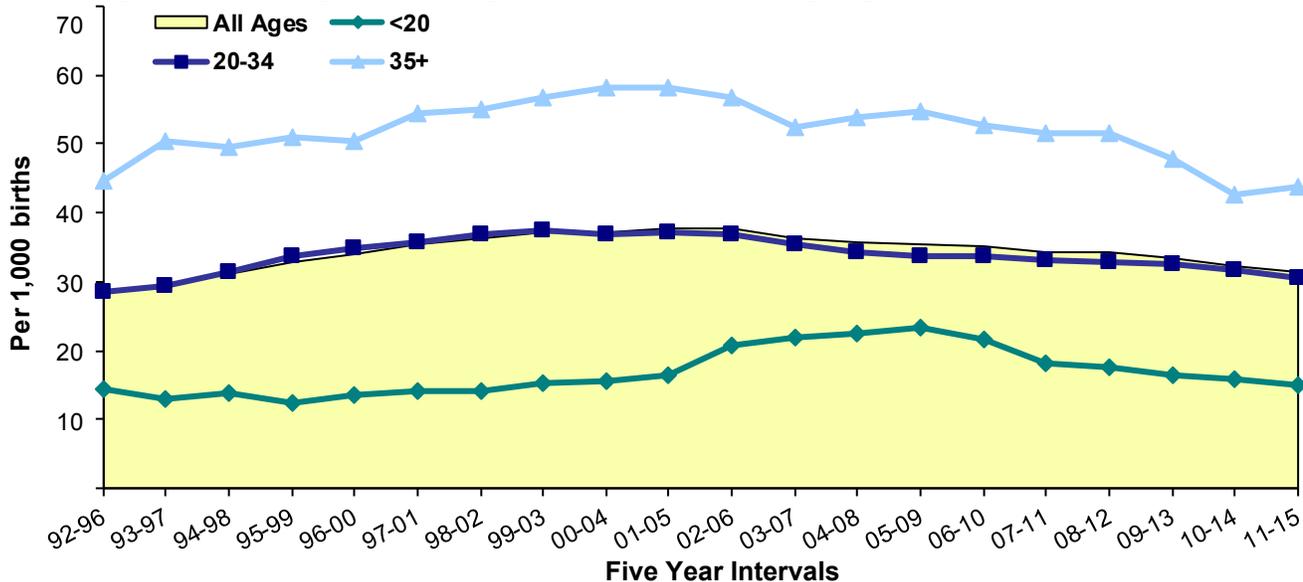


* Note: Hispanic can be of any race

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

For mothers of all ages, the rate of plural births increased 12 percent between 1992-1996 and 2011-2015. In 2011-2015, older mothers (ages 35+) had the highest plural birth rates, at 44 multiples per 1,000 births, almost three times that of mothers under 20, and 43 percent higher than mothers ages 20-34.

Figure 10. Five-year Average Plural Birth Rate by Age of Mother, Delaware, 1992-2015



Note: Age unit is in years.

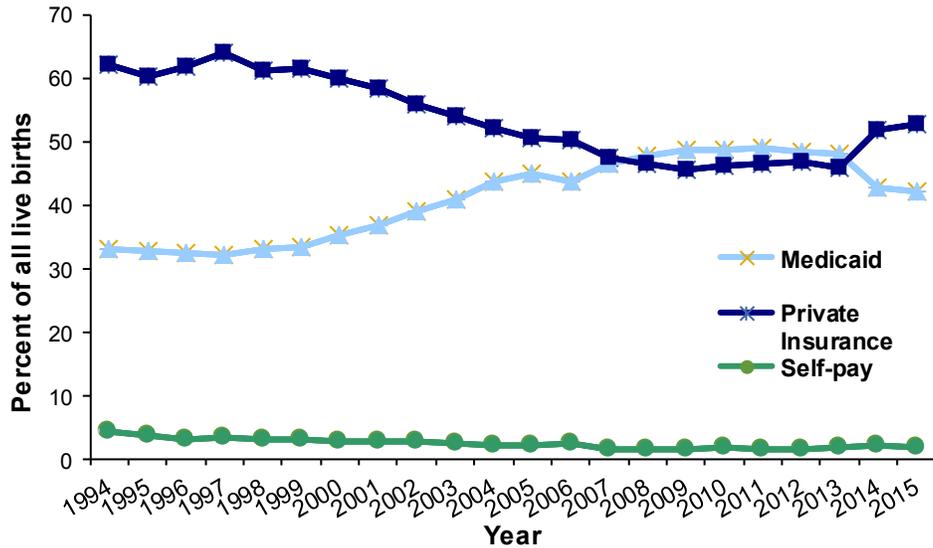
Source: Delaware Health and Social Services, Division of Public Health, Delaware Health Statistics Center

LIVE BIRTHS

In 2015, 95 percent of live births had either private insurance or Medicaid listed as the primary source of payment; the remaining 5 percent were split between other government coverage and self-pay.

- In 2015, private insurance paid for more births than Medicaid.
- Medicaid was still the primary source of payment for the majority of mothers under 20, covering 80.6 percent of black mothers, and 73.2 percent of white mothers.

Figure 11. Percent of Births by Source of Payment for Delivery, Delaware, 1994-2015

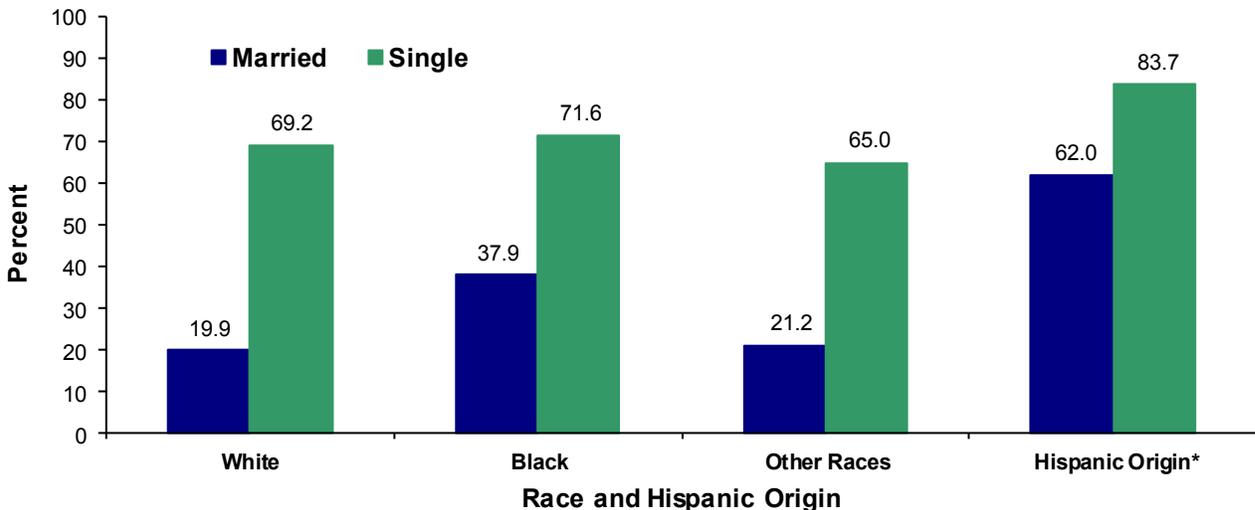


Source: Delaware Health and Social Services, Division of Public Health, Delaware Health Statistics Center

Marital status has a tremendous effect on the use of Medicaid as the primary source of payment for delivery:

- The number of single white women who used Medicaid as their primary source of payment (69.2 percent) was more than triple that of white married women (19.9 percent).
- The number of single black women who used Medicaid as their primary source of payment (71.6 percent) was almost double that of black married women (37.9 percent).
- The number of single women of other race who used Medicaid as their primary source of payment (65 percent) was more than three times higher than among married women of other races (21.2 percent).
- The number of single Hispanic women who used Medicaid as their primary source of payment (83.7 percent) was significantly higher than Hispanic married women (62 percent).

Figure 12. Percent of Births by Race, Hispanic Origin, Marital Status, and Medicaid as Primary Source of Payment, Delaware, 2015

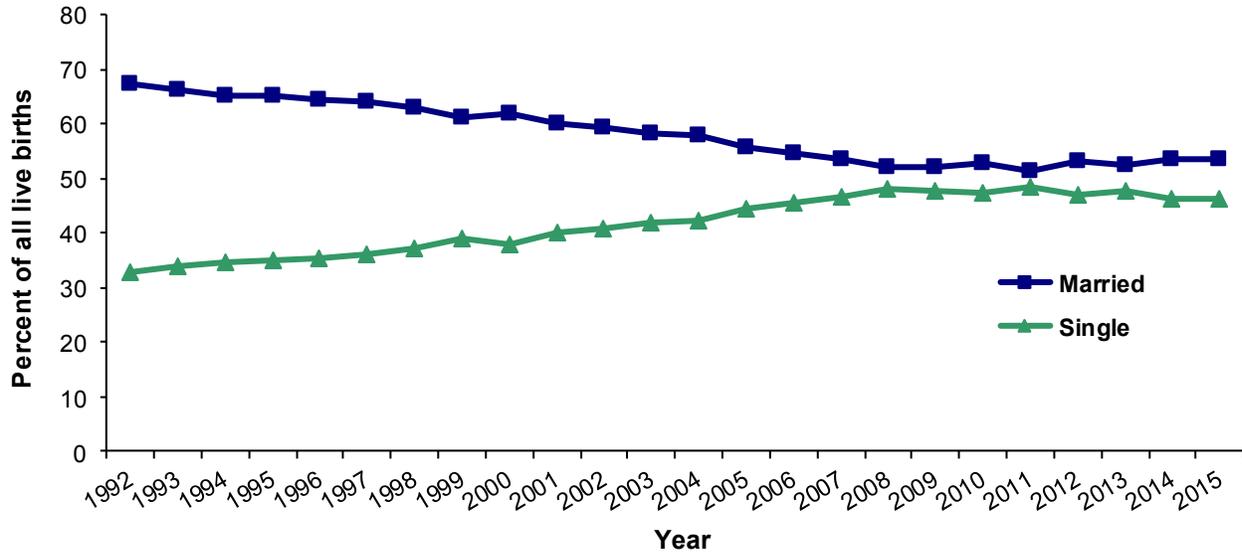


Source: Delaware Health and Social Services, Division of Public Health, Delaware Health Statistics

LIVE BIRTHS

After increasing steadily from 1992 to 2008, the percent of births to unmarried women stabilized. The number of births to unmarried women fell 3.6 percent from 2008 to 2015, compared to a 3.1 percent increase in births to married women during that same time period. In 2015, 46.3 percent of all births were to unmarried women.

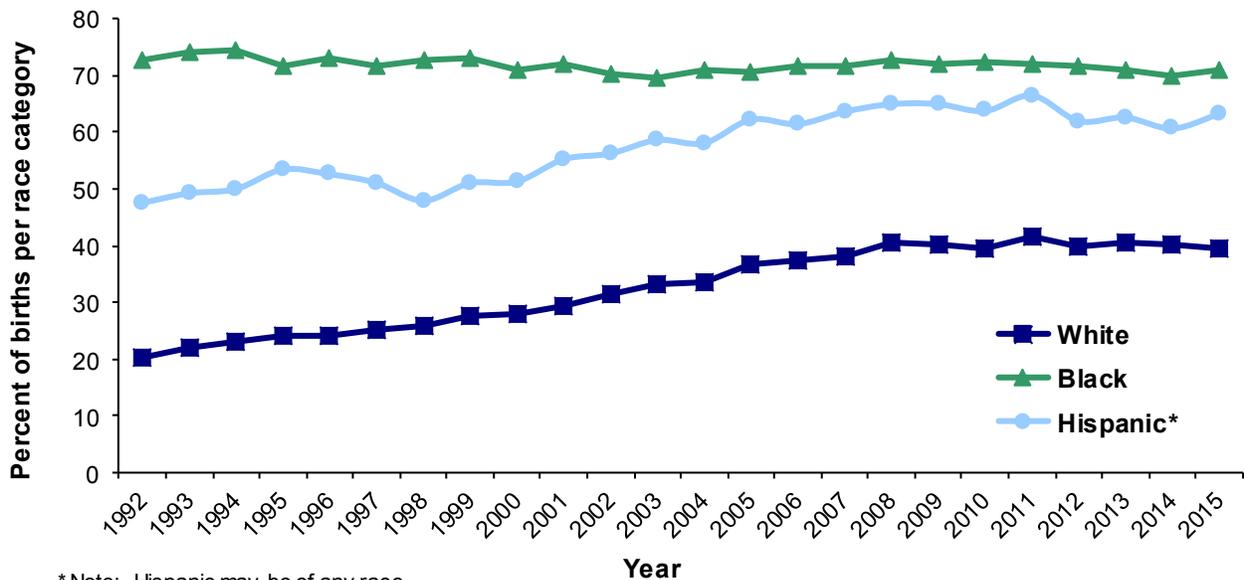
Figure 13. Annual Percent of Births by Mother's Marital Status, Delaware, 1992-2015



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

This shift in the distribution of mother's marital status was only apparent in births to white and Hispanic women. Between 1992 and 2015, the percentage of births to unmarried white women increased from 20 to 40 percent, and the percentage of births to unmarried Hispanic women rose from 48 to 63 percent. During the same time period, the percent of births to unmarried black women remained stable at approximately 70 percent.

Figure 14. Percent of Live Births to Unmarried Women by Race and Ethnicity, Delaware, 1992-2015



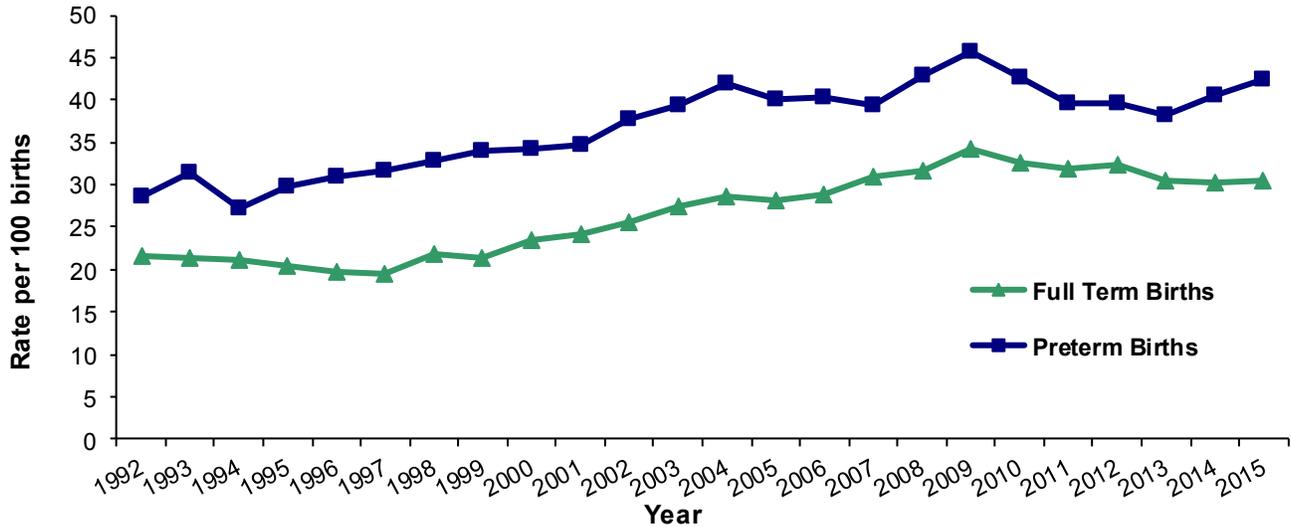
* Note: Hispanic may be of any race.

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

LIVE BIRTHS

From 1998 to 2015, the rate of cesarean deliveries increased 37.6 percent, to 31.9 per 100 live births, whereas vaginal births decreased only 11.4 percent. Since 1998, both preterm (<37 weeks gestation) and term (37+ weeks gestation) births had increases in cesarean delivery rates. Although term births demonstrated a greater increase in rates between 1998 and 2015, the C-section rate for preterm births remained higher at 42.5 per 100 preterm births, versus 32.9 per 100 term births in 2015.

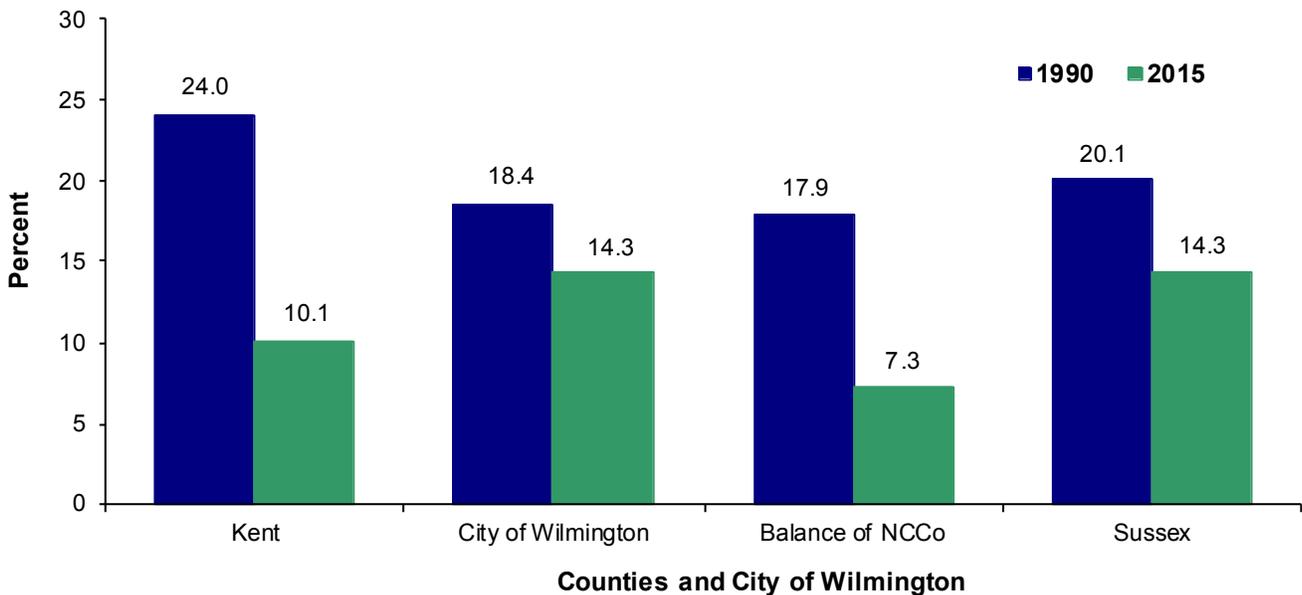
Figure 15. Annual Rate of Cesarean Deliveries by Gestational Category, Delaware, 1992-2015



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

From 1990 to 2015, the percentage of Delaware mothers who used tobacco while pregnant decreased in all three counties and the city of Wilmington. In 2015, the city of Wilmington and Sussex County had the highest percentage of mothers who smoked while pregnant.

Figure 16. Percent of Mothers who Smoked while Pregnant, Delaware Counties and City of Wilmington, 1990 and 2015



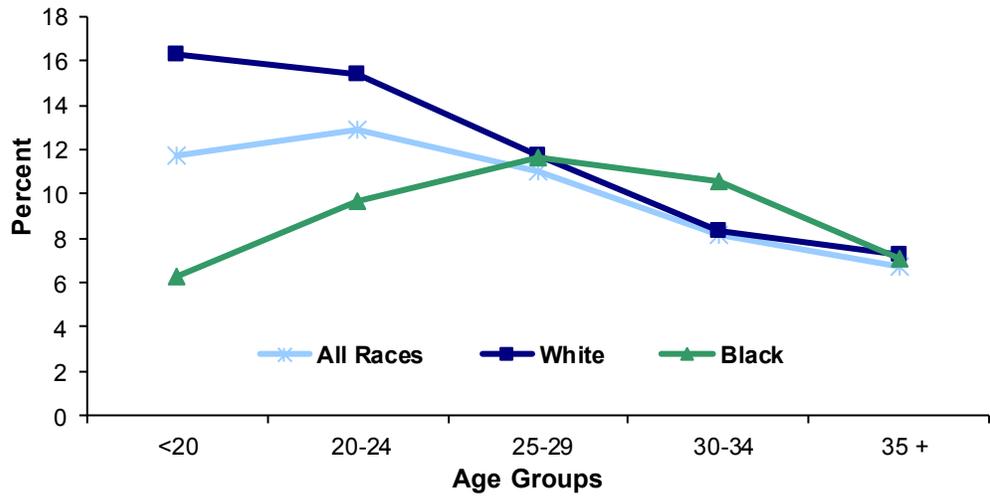
Source: Delaware Health and Social Services, Division of Public Health, Delaware Health Statistics Center

LIVE BIRTHS

White mothers younger than 25 were more likely to smoke while pregnant than black mothers in the same age group.

In the 30-34 age group, black mothers were more likely to smoke while pregnant than white mothers.

Figure 17. Percent of Mothers who Smoked While Pregnant, by Age Group and Race, Delaware, 2015

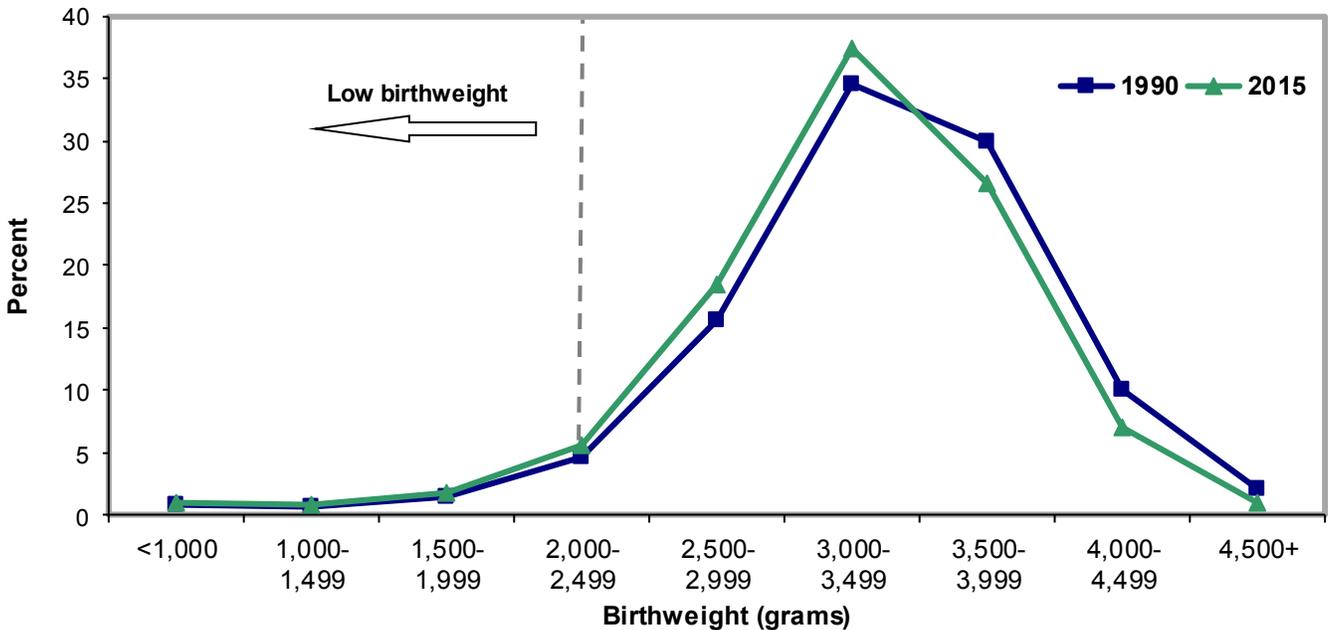


Source: Delaware Health and Social Services, Division of Public Health, Delaware Health Statistics Center

In 2015, 15.0 percent of Delaware women who smoked while pregnant gave birth to low birthweight babies (< 2,500 grams), versus the significantly lower percentage (8.6) of non-smokers who gave birth to low birthweight babies.

The percent distribution of births by birthweight did not differ significantly between 1990 and 2015. The greatest percentage of births fell within the 3,000 to 3,499 gram range.

Figure 18. Percent Distribution of Births by Birthweight, Delaware, 1990 and 2015



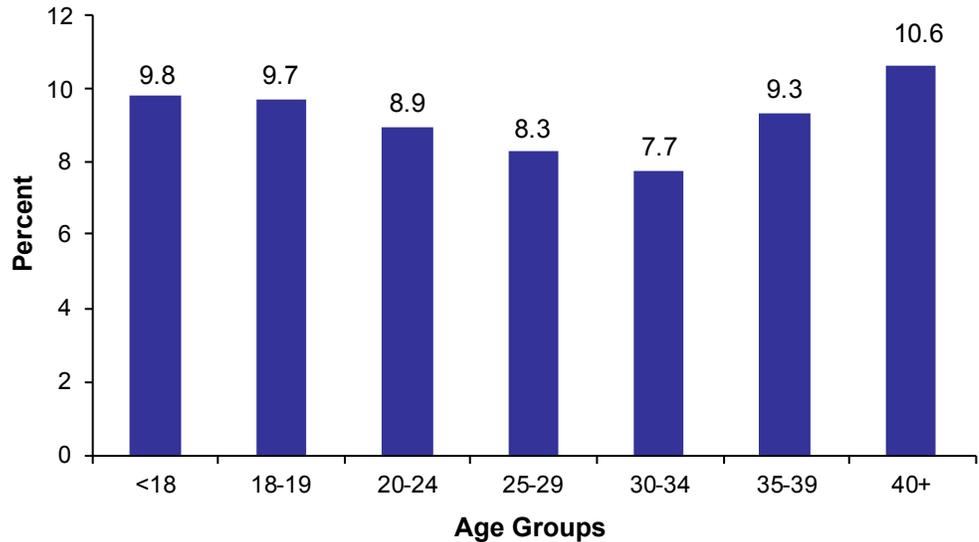
Source: Delaware Health and Social Services, Division of Public Health, Delaware Health Statistics Center

LIVE BIRTHS

From 2006-2010 to 2011-2015, the five-year percent of low birthweight (LBW) births and very low birthweight (VLBW) births remained relatively stable at 8.5 and 1.8, respectively.

The percent of LBW births was greatest for mothers in the 40 and older age group (10.6 percent) and lowest for those in the 30-34 age group (7.7 percent).

Figure 19. Five-year Percent of Low Birthweight Births (<2,500 grams), by Mother's Age, Delaware, 2011-2015

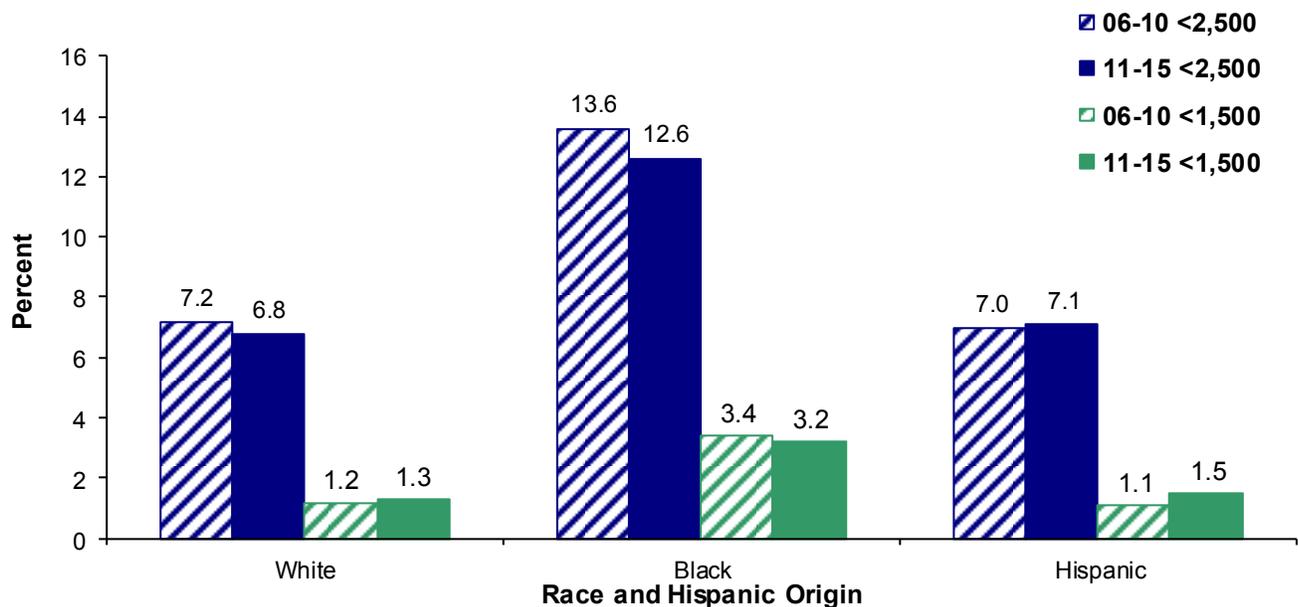


Source: Delaware Health and Social Services, Division of Public Health, Delaware Health Statistics Center

In 2011-2015 among mothers of all ages, black mothers had the highest percentage of LBW and VLBW births, at 12.6 percent and 3.2 percent, respectively.

Between 2006-2010 and 2011-2015, the percentages of white and black infants born at low birthweight declined. During this same time period, the percentage of black infants born at very low birthweight declined, while the percentage of white and Hispanic infants born at very low birthweight showed a slight increase.

Figure 20. Five-year Average Percent of Low (<2,500 grams) and Very Low Birth Weight Births (<1,500 grams), by Race and Hispanic Origin, Delaware, 2006-2010 and 2011-2015

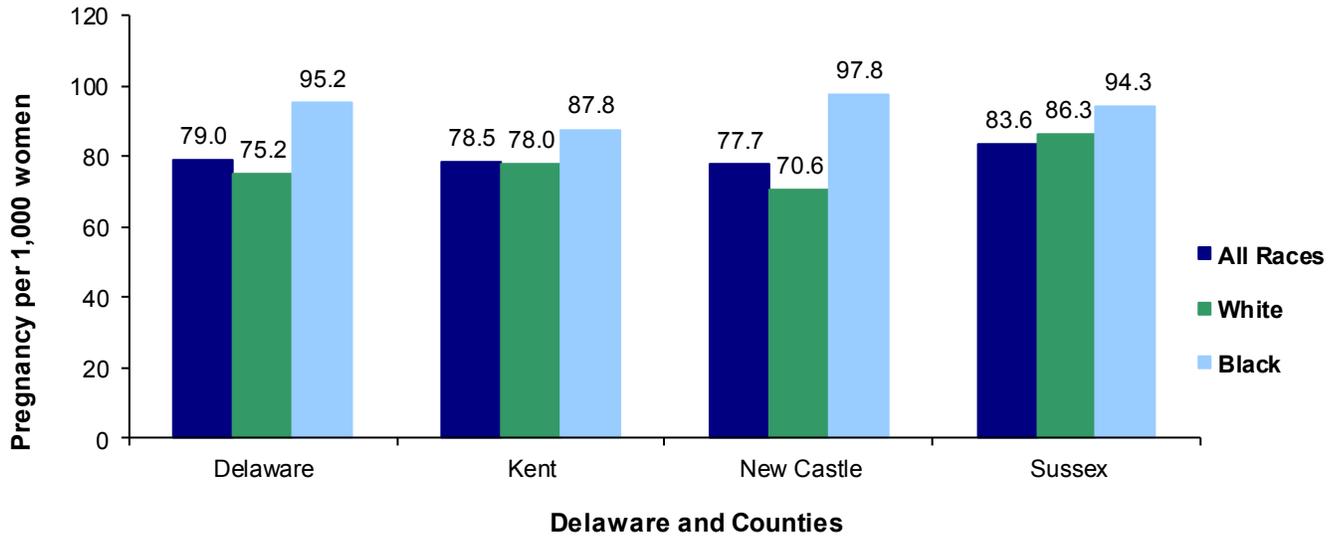


Source: Delaware Health and Social Services, Division of Public Health, Delaware Health Statistics Center

REPORTED PREGNANCIES

At 79 reported pregnancies per 1,000 women ages 15-44, the 2011-2015 rate of reported pregnancies remained stable. Although pregnancy rates of black mothers were significantly higher than those of white mothers in every county, the largest difference between the pregnancy rate of white (70.6 percent) and black (97.8 percent) mothers occurred in New Castle County.

Figure 21. Five-year Average Rate of Reported Pregnancies by Race, Delaware and Counties, 2011-2015

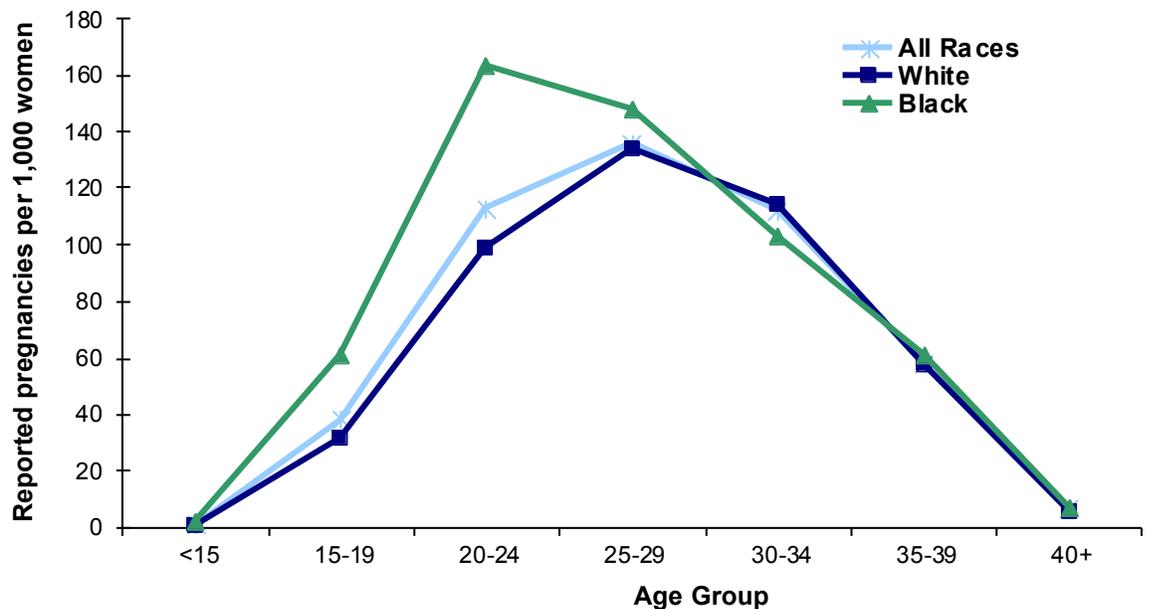


Source: Delaware Health and Social Services, Division of Public Health, Delaware Health Statistics Center

Figure 22. Five-year Average Rate of Reported Pregnancies by Age and Race, Delaware, 2011-2015

For women of all races, the 25-29 year age group had the highest pregnancy rate, at 136 pregnancies per 1,000 women in 2011-2015.

Black women had higher pregnancy rates than white women in all age groups except the 30-34 age group.

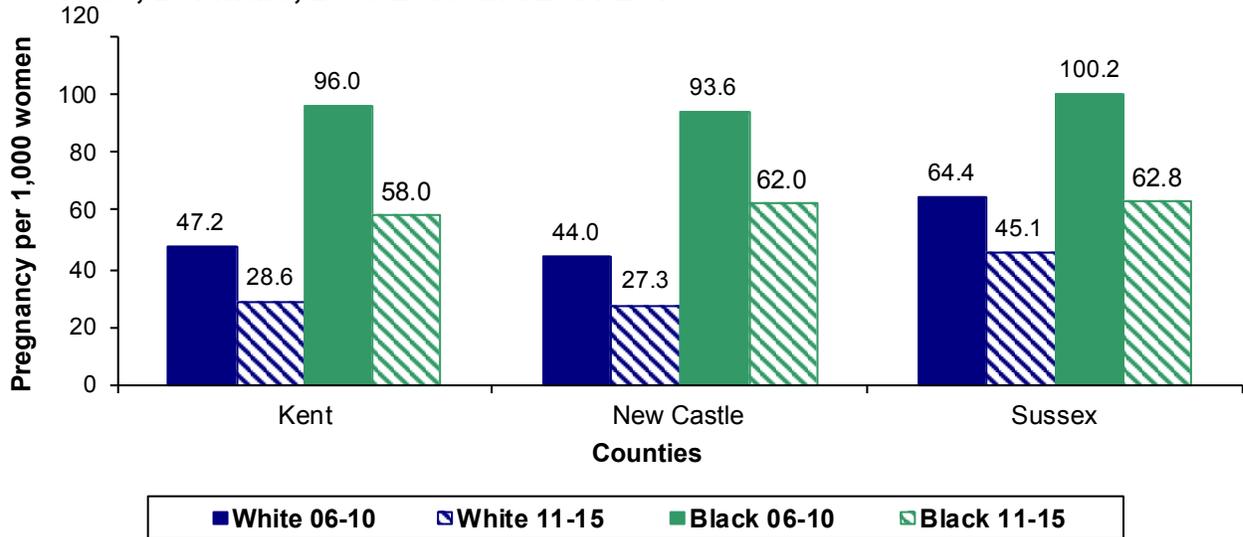


Source: Delaware Health and Social Services, Division of Public Health, Delaware Health Statistics Center

REPORTED PREGNANCIES

In all three counties the teen (15-19) pregnancy rates for all races declined between 2006-2010 and 2011-2015. Although all three Counties had a significant decline in the black teen pregnancy rate, Kent County's black teen pregnancy rate showed the greatest decline from 96 in 2006-2010 to 58 in 2011-2015. White teens in New Castle County had the lowest reported pregnancy rate at 27.3 pregnancies per 1,000 women in 2011-2015. With the exception of Sussex County, where white teen pregnancy rates were the highest, black teen pregnancy rates were more than twice that of white teens.

Figure 23. Five-year Average Teenage (15-19) Pregnancy Rates by County and Race, Delaware, 2006-2010 and 2011-2015

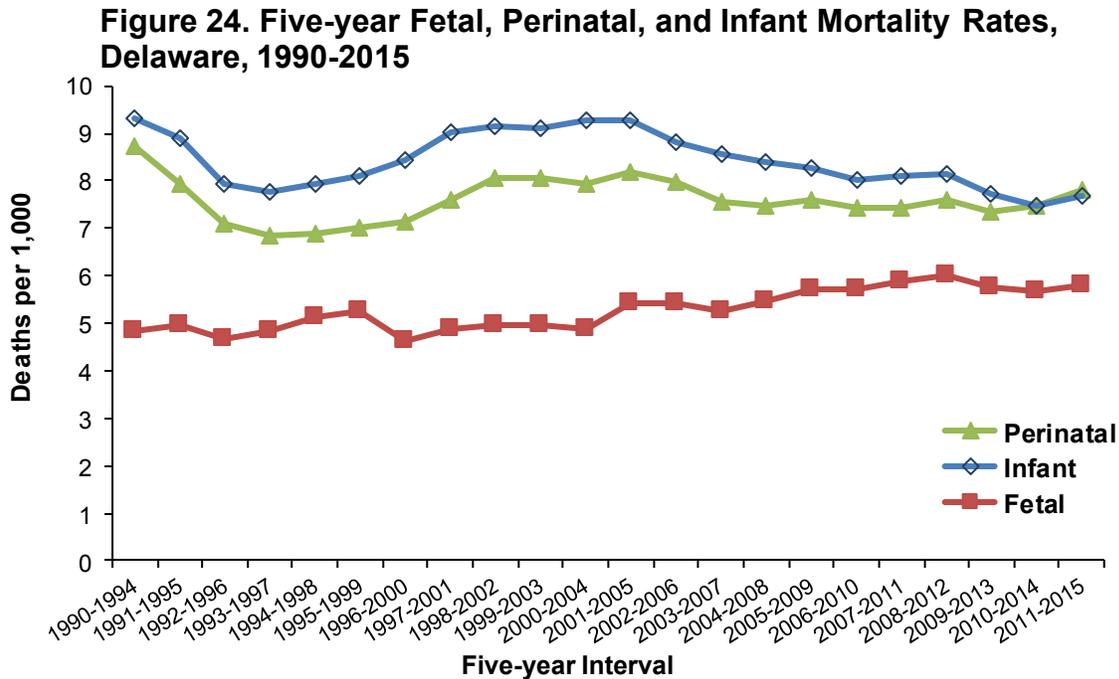


Source: Delaware Health and Social Services, Division of Public Health, Delaware Health Statistics Center

- ▶ The five-year average (2011-2015) pregnancy rate for younger teens ages 15-17 was lowest in Kent County, with 16.3 pregnancies per 1,000 females, followed by New Castle County with a rate of 19 and Sussex County with a rate of 21.6 (see Table D-8). The rates decreased in all three counties between 2006-2010 and 2011-2015.
- ▶ The five-year average (2011-2015) pregnancy rate for older teens ages 18-19 was lowest in New Castle County (60.5 pregnancies per 1,000 females), and highest in Sussex County (79.9).
- ▶ In 2015, there were 2,785 abortions performed in Delaware: 2,364 to Delaware residents and 421 to non-residents.
 - One fourth of all pregnancies to females under 15 ended in termination.
 - ⇒ 16.7 percent of pregnancies to white females under 15, and 30 percent of pregnancies to black females under 15, ended in terminations.
 - Married women undergo significantly fewer terminations than their single counterparts.
 - ⇒ 3 percent of pregnancies to white married women ended in termination and 7.8 percent of pregnancies to black married women ended in termination.
 - ⇒ When the women were unmarried, these numbers increased to 25.9 percent among white women and 31.1 percent among black women.
 - There were 68 fetal deaths of Delaware residents in 2015.
 - There were 11,147 live births to Delaware residents in 2015.

FETAL AND PERINATAL DEATHS

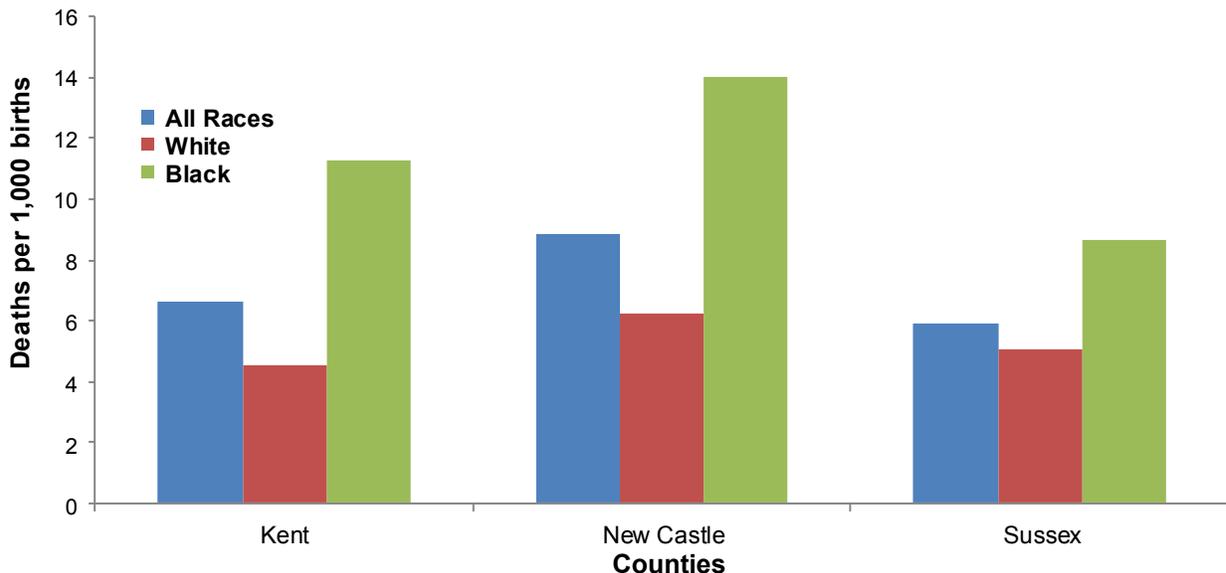
Perinatal mortality refers to deaths occurring in the period around delivery, and includes late fetal deaths (>28 weeks gestation) and early infant deaths (<7 days of age). Perinatal mortality trends paralleled those of infant mortality, decreasing from 1990-1994 to their lowest level in 1993-1997, and then increasing through 2001-2005, after which they began a gradual decrease and closed the gap between the rates through 2009-2013. The infant and perinatal mortality rates became nearly equal in the 2011-2015 time period (7.7 infant deaths per 1,000 live births and 7.8 perinatal deaths per 1,000 live births).



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

Like infant mortality rates, black perinatal mortality rates were substantially higher than white perinatal mortality rates, regardless of county. In New Castle County, the black perinatal mortality rate of 14.0 perinatal deaths per 1,000 live births was more than double the white perinatal mortality rate of 6.3 perinatal deaths per 1,000 live births.

Figure 25. Five-year Average Perinatal Mortality Rates by Race and County, Delaware, 2011-2015

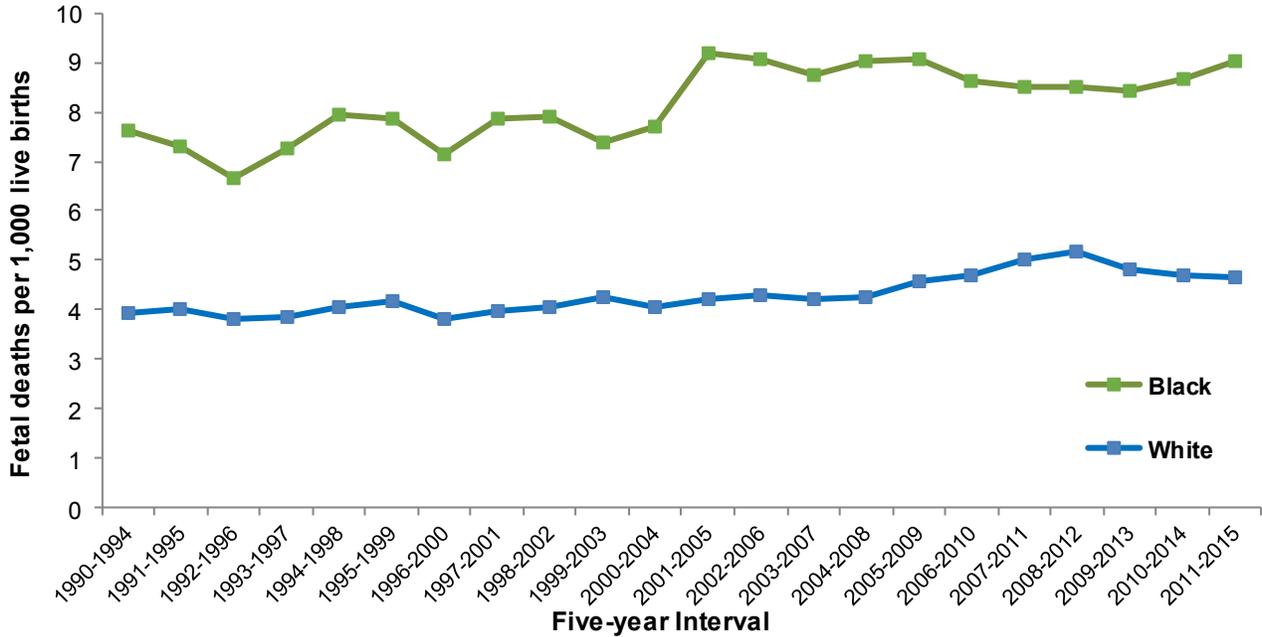


Source: Delaware Health and Social Services, Division of Public Health, Delaware Health Statistics Center

FETAL AND PERINATAL DEATHS

In 2015, there were 68 reported fetal deaths in Delaware. In 2011-2015, the fetal mortality rate was 5.8 fetal deaths per 1,000 live births. Fetal mortality rates for black women have been consistently higher than the rates for white women, and in 2011-2015 they were 48 percent higher than the rate of white women (9.0 versus 4.7).

Figure 26. Five-year Average Fetal Mortality Rates by Mother's Race, Delaware, 1990-2015

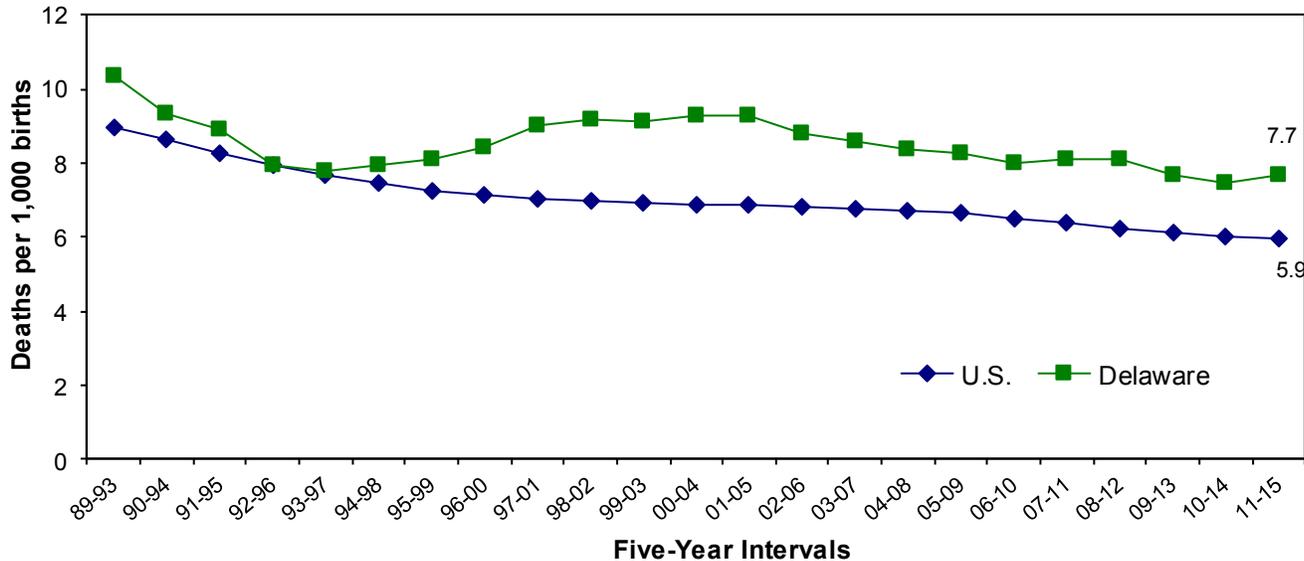


Source: Delaware Health and Social Services, Division of Public Health, Delaware Health Statistics Center

INFANT MORTALITY

In 2011-2015, Delaware's infant mortality rate (IMR) was 7.7 infant deaths per 1,000 live births, resulting in a total decline of 17.2 percent from the 2000-2004 rate of 9.3 infant deaths per 1,000 live births. At 5.9 infant deaths per 1,000 live births, the U.S. rate remained lower than the Delaware rate.

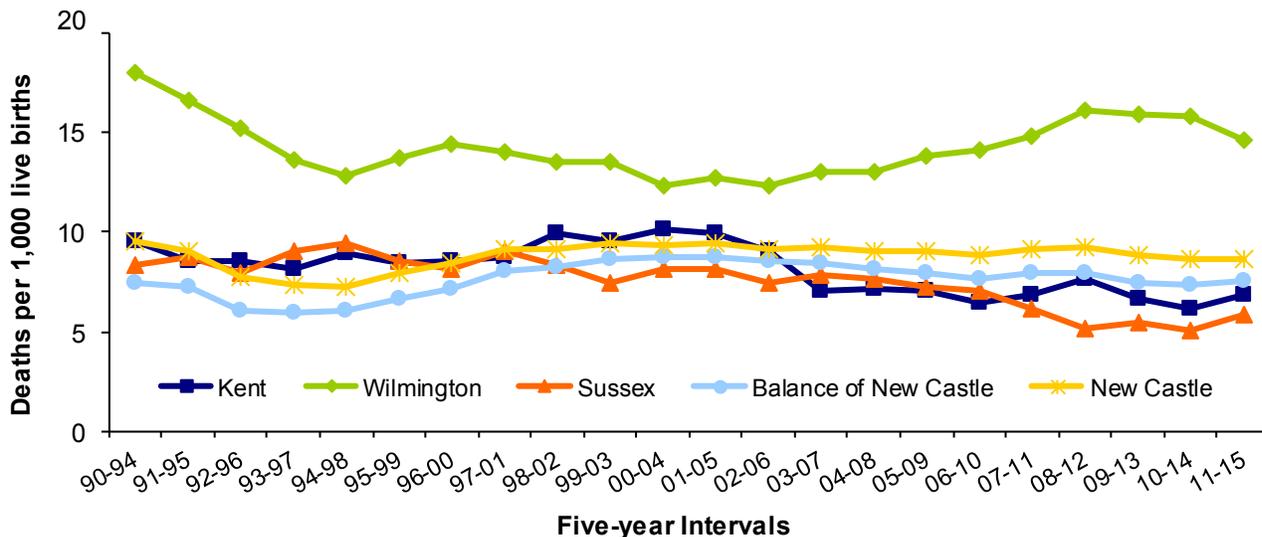
Figure 27. Five-year Average Infant Mortality Rates, Delaware and U.S., 1989-2015



Source: Delaware 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 5.8 infant deaths per 1,000 live births. In 2011-2015, the balance of New Castle County's IMR was 7.5 infant deaths per 1,000 live births, Wilmington's IMR was 14.6 infant deaths per 1,000 live births, and Kent County's IMR was 6.9 infant deaths per 1,000 live births.

Figure 28. Five-year Average Infant Mortality Rates, Delaware Counties and City of Wilmington, Delaware, 1990-2015

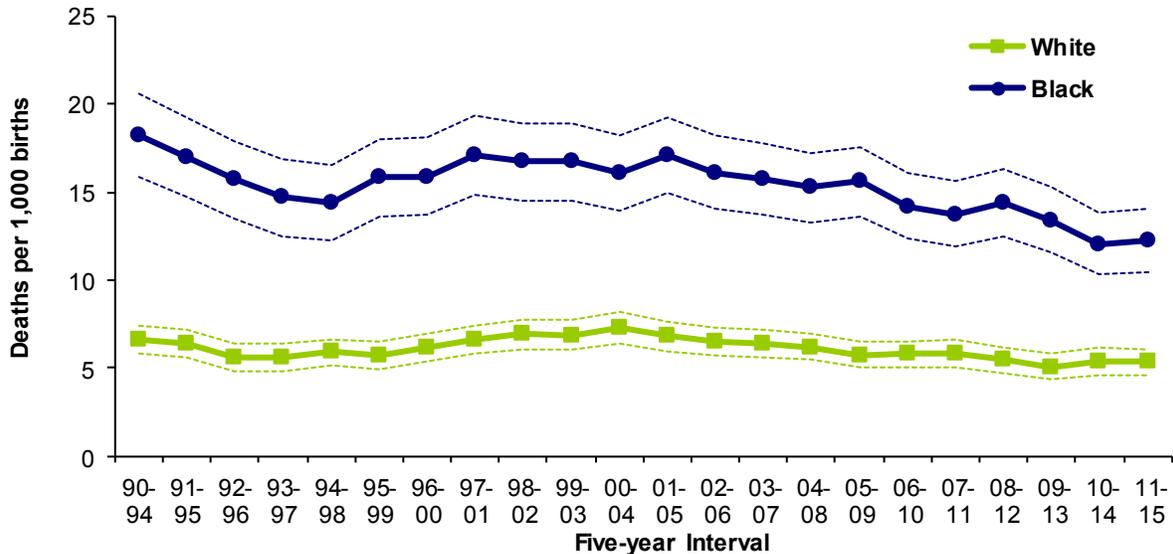


Source: Delaware Health and Social Services, Division of Public Health, Delaware Health Statistics Center

INFANT MORTALITY

Black infants experienced significantly higher mortality rates than white infants, but the gap is decreasing. In 2011-2015 the black IMR of 12.3 infant deaths per 1,000 live births was more than two times higher than the white IMR of 5.3 infant deaths per 1,000 live births, whereas in 1990-1994 the black IMR was three times higher than the white IMR.

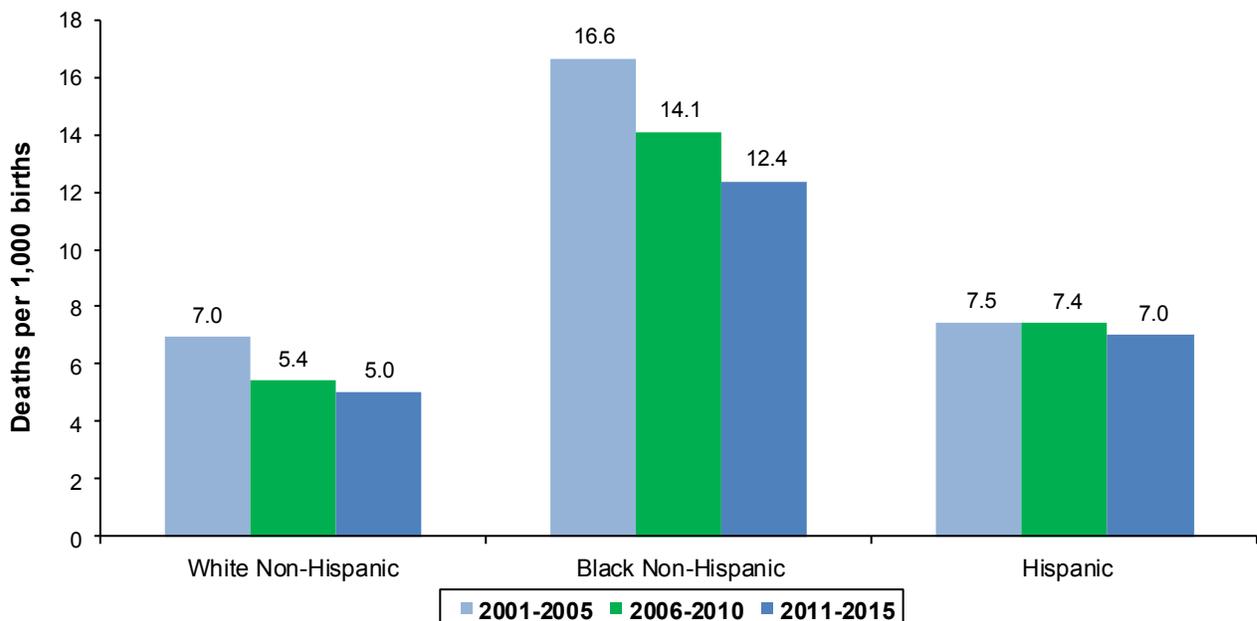
Figure 29. Five-year Average Black and White Infant Mortality Rates with Confidence Intervals, Delaware, 1990-2015



Source: Delaware 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 12.4 infant deaths per 1,000 live births in 2011-2015 was more than double the white non-Hispanic rate of 5.0 and 1.8 times the Hispanic rate of 7.0 infant deaths per 1,000 live births. Although the rates for each of the race groupings decreased from 2001-2005 to 2011-2015, white non-Hispanics had the largest percentage decrease at 28.5 percent.

Figure 30. Five-year Average Infant Mortality Rates by Race and Hispanic Origin, Delaware, 2001-2015



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

INFANT MORTALITY

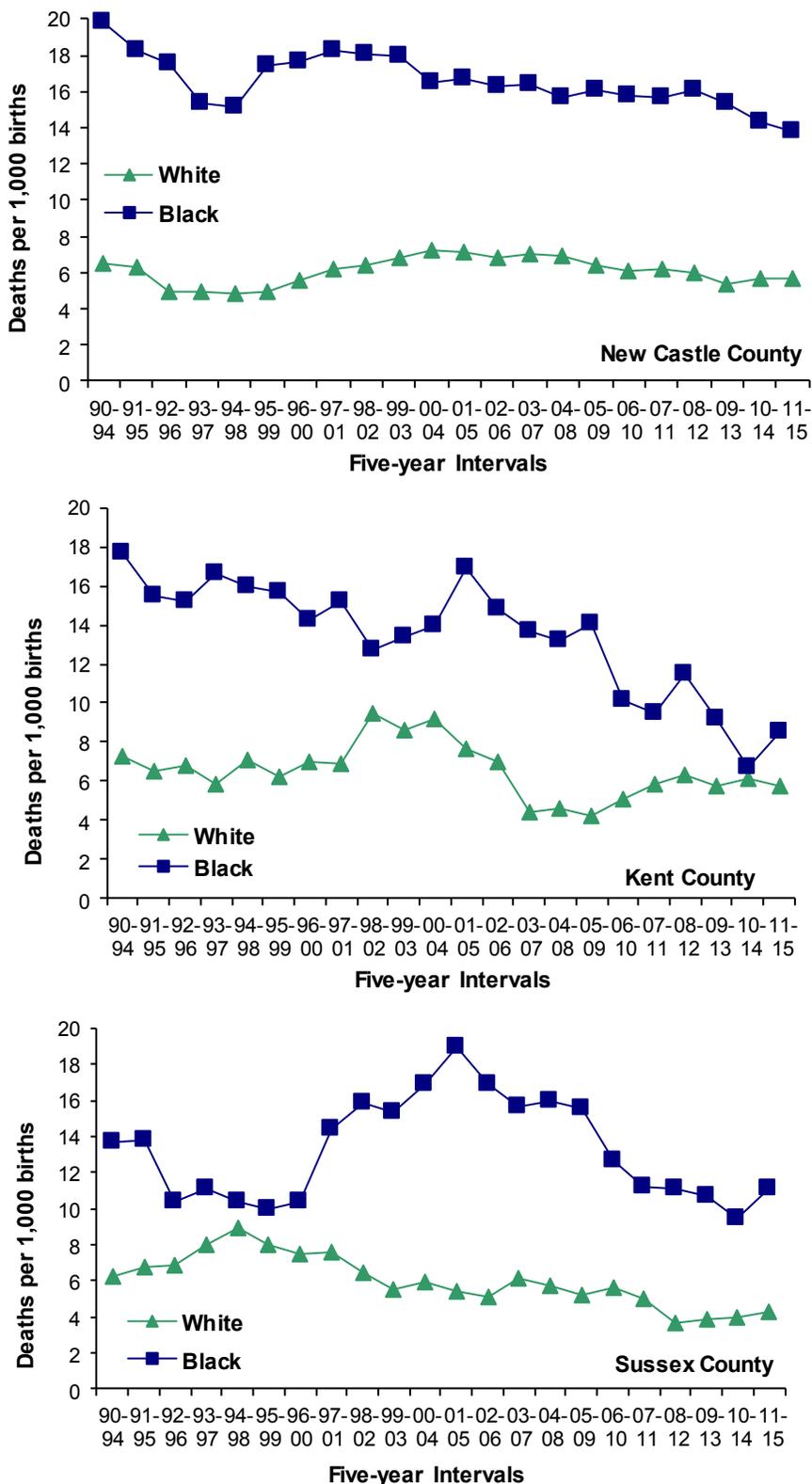
In 2011-2015, New Castle County had the highest IMRs and Sussex County had the lowest.

Black IMRs in New Castle County have hovered around 16 infant deaths per 1,000 live births since 2000-2004, and decreased the last three time periods to 13.7 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 dropped to 8.5 in 2011-2015, a 50 percent decrease in black IMRs from 2001-2005. The white IMR had a 31.8 percent increase from 2003-2007 to 2011-2015 (4.4 to 5.8 infant deaths per 1,000 live births) which resulted in some narrowing of the disparity between the white and black IMR.

Sussex County's black IMR rose to 11.1 infant deaths per 1,000 live births in 2011-2015, a 6 percent increase since 1996-2000; and a 42 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 2011-2015 the rate dropped to 4.3 infant deaths per 1,000 live births.

Figure 31. Five-year Average Infant Mortality Rates by Race and County, Delaware, 1990-2015



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

INFANT MORTALITY- Leading Causes of Death

In 2011-2015 the five leading causes of infant death in Delaware were:

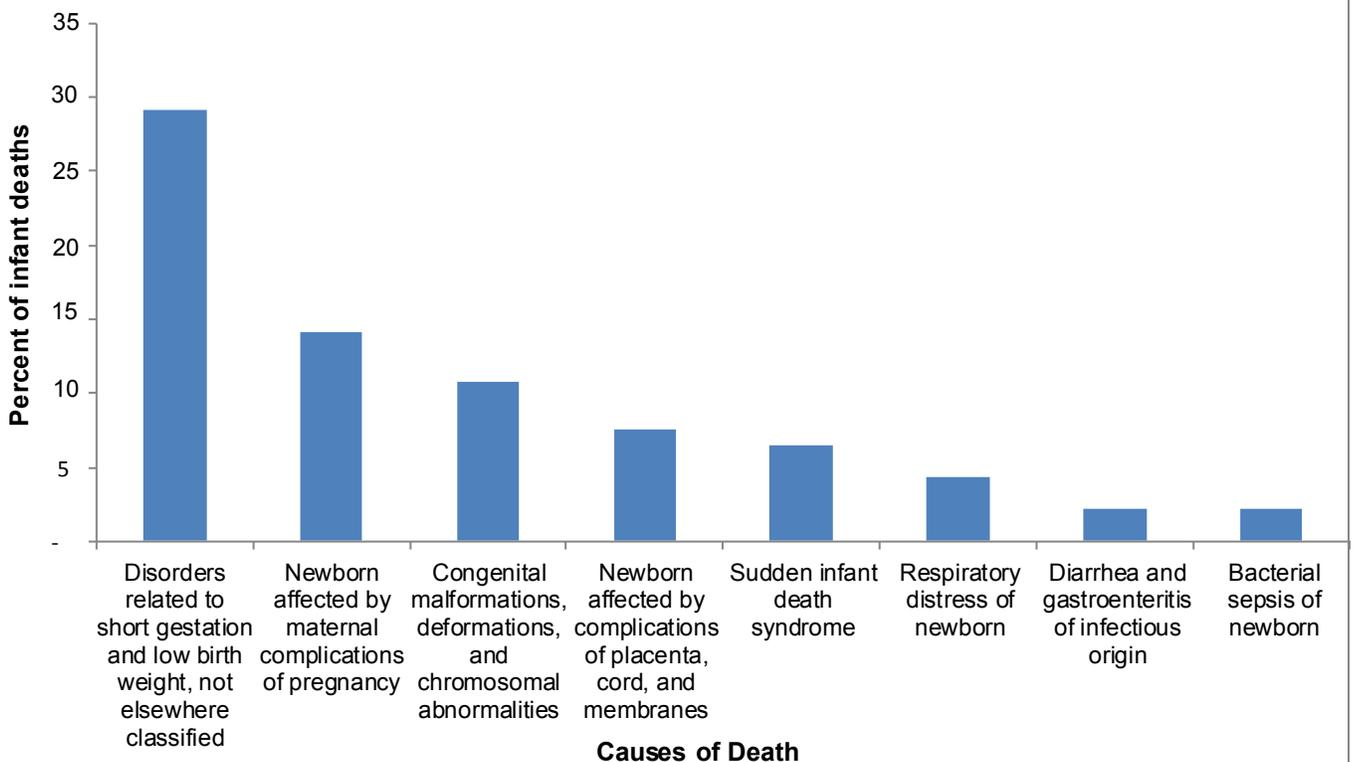
- Disorders related to short gestation and fetal malnutrition (prematurity and low birthweight), which accounted for 22.2 percent of infant deaths.
- Newborns affected by maternal complications of pregnancy, which accounted for 13.9 percent of infant deaths. Of the 59 deaths attributed to this cause, 50 were due to the newborn being affected by incompetent cervix and premature rupture of membranes.
- Congenital anomalies (birth defects), which accounted for 13.7 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: 5.9 percent of infant deaths.

In sum, the five most common causes of infant death accounted for 62.5 percent, or 265 of the 424 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 are both listed in the top three most frequent causes of death for both black and white infants.

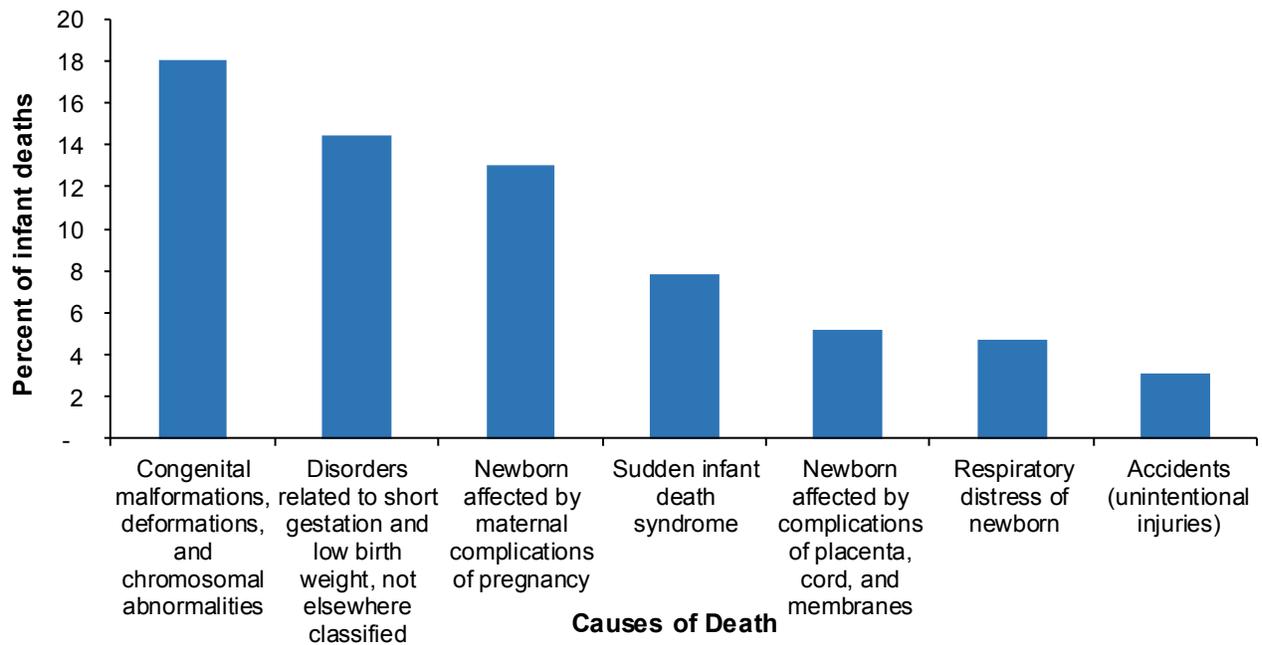
Though the proportions of deaths by race were similar for many of the causes of death, notable exceptions were birth defects and disorders due to prematurity and low birthweight. While birth defects were responsible for 18 percent of all white infant deaths, they accounted for only 11 percent of black infant deaths. Conversely, 2011-2015, infant deaths due to disorders related to prematurity and low birthweight accounted for larger percentages of black infant deaths than white infant deaths (29 versus 15 percent for prematurity and low birthweight).

Figure 32. Most Frequent Causes of Black Infant Death, Delaware, 2011-2015



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

Figure 33. Most Frequent Causes of White Infant Death, Delaware, 2011-2015

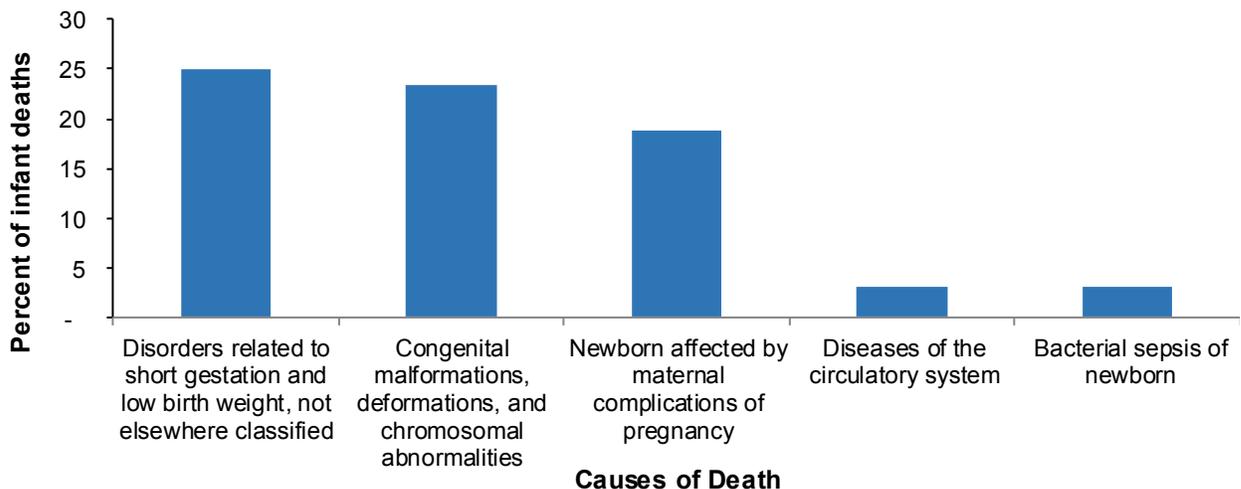


Source: Delaware Health and Social Services, Division of Public Health, Delaware Health Statistics Center

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, 2011-2015, 13.2 percent of all live births were to Hispanic mothers, and 12.1 percent of all infant deaths were of Hispanic origin.

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

Figure 34. Most Frequent Causes of Hispanic Infant Death, Delaware, 2011-2015



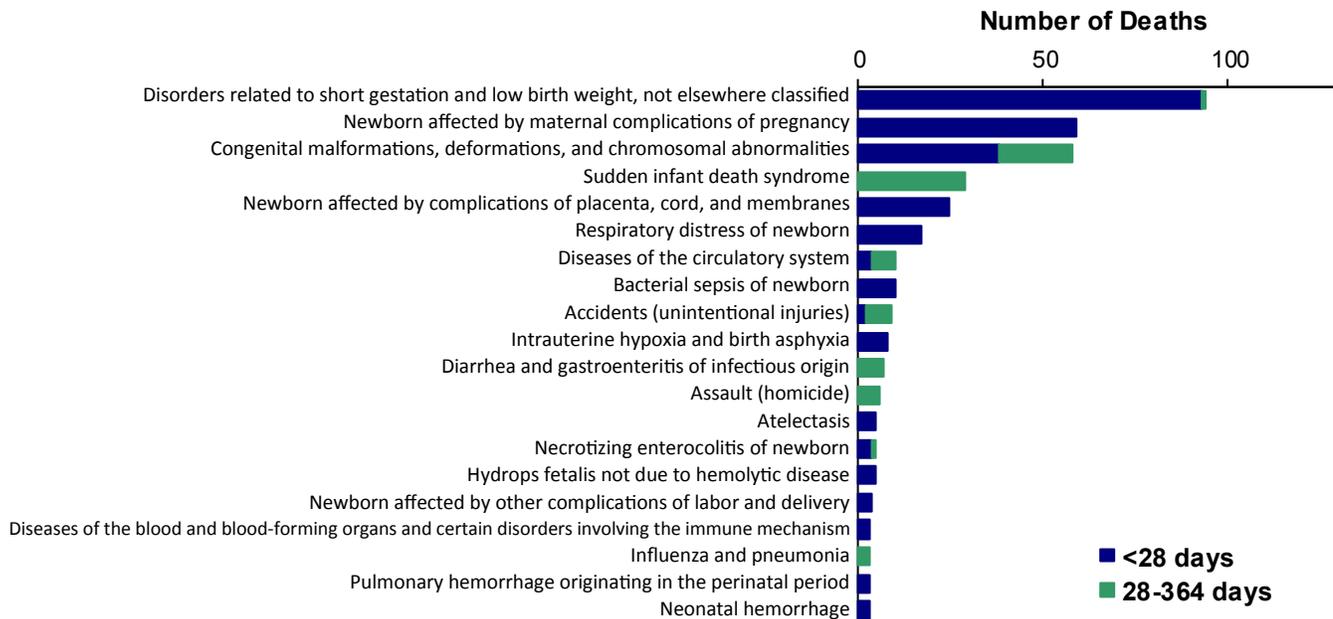
Source: Delaware Health and Social Services, Division of Public Health, Delaware Health Statistics Center

INFANT MORTALITY - Leading Causes of Death

In Delaware in 2011-2015, approximately 94 percent of all infant deaths occurred within the first six months of life, 76 percent occurred within the first 28 days of life, and 47 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, 2011-2015



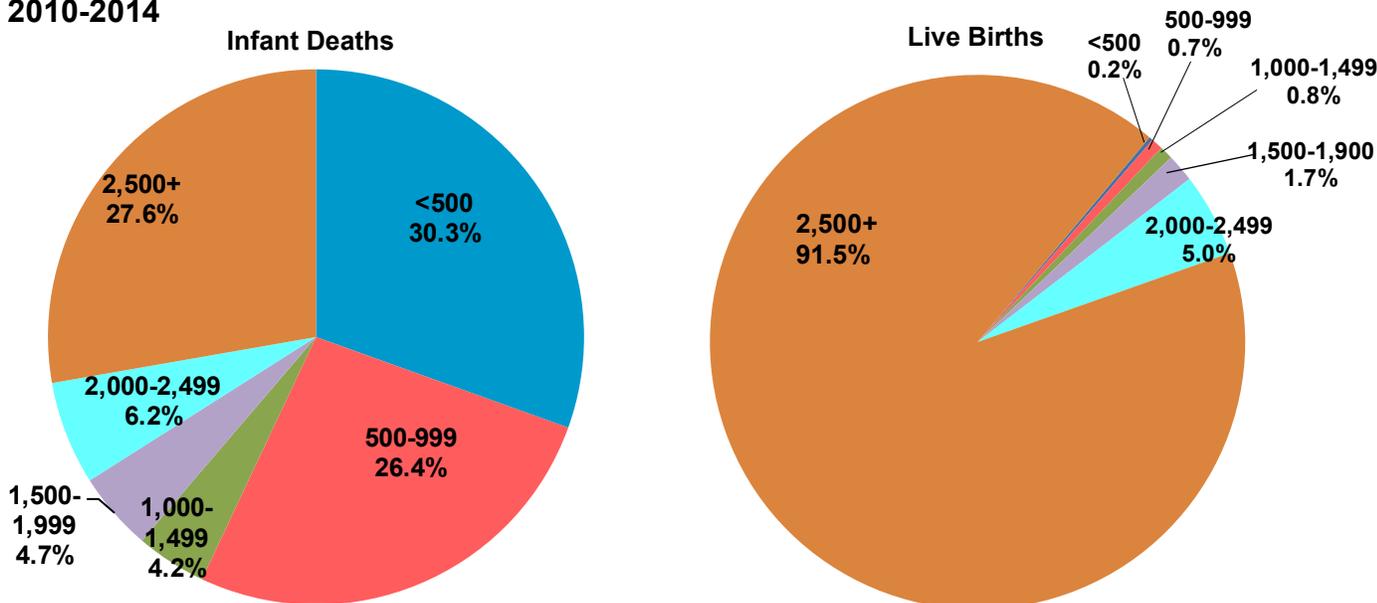
Source: Delaware Health and Social Services, Division of Public Health, Delaware Health Statistics Center

- Prematurity and low birthweight accounted for the greatest number of infant deaths in 2011-2015; all but one 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 110 days. Although more infants died in 2011-2015 compared to 2006-2010, and less infants died due to SIDS, it remained in the top five leading causes of infant death in 2011-2015.
 - ⇒ 45 percent (13 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 2011-2015, there were 11 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, 10.4 percent of all infant deaths were associated with co-sleeping and/or unsafe sleep practices.

INFANT MORTALITY - Live Birth Cohort

Though only about 1 percent of all live births in 2010-2014 were infants weighing less than 1000 grams, they accounted for over half (57 percent) of all infant deaths. In total, 8.4 percent of all live births in 2010-2014 were infants of low birthweight (under 2,500 grams) and 71.9 percent of infant deaths were low birthweight.

Figure 36. Percent Distribution by Birthweight in Grams, Delaware, Live Birth Cohort, 2010-2014

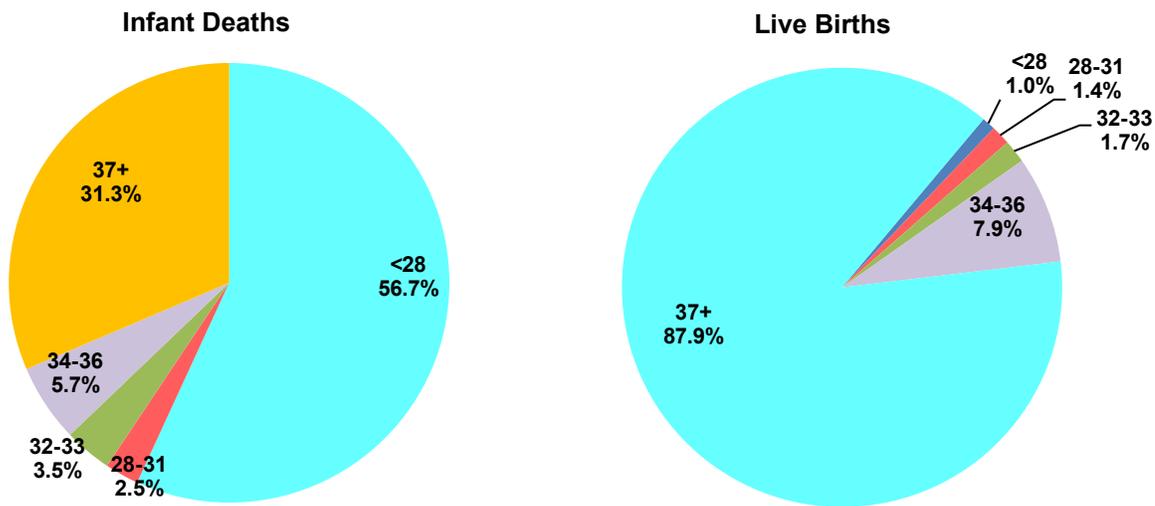


Source: Delaware Health and Social Services, Division of Public Health, Delaware Health Statistics Center

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 2010-2014 were less than 28 weeks gestation at birth, but they accounted for 57 percent of all infant deaths. In total, 12 percent of all live births in 2010-2014 were born preterm (<37 weeks of gestation) and 68 percent of infant deaths were born preterm.

Figure 37. Distribution by Gestation in Weeks, Delaware Live Birth Cohort, 2010-2014



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

INFANT MORTALITY - Live Birth Cohort

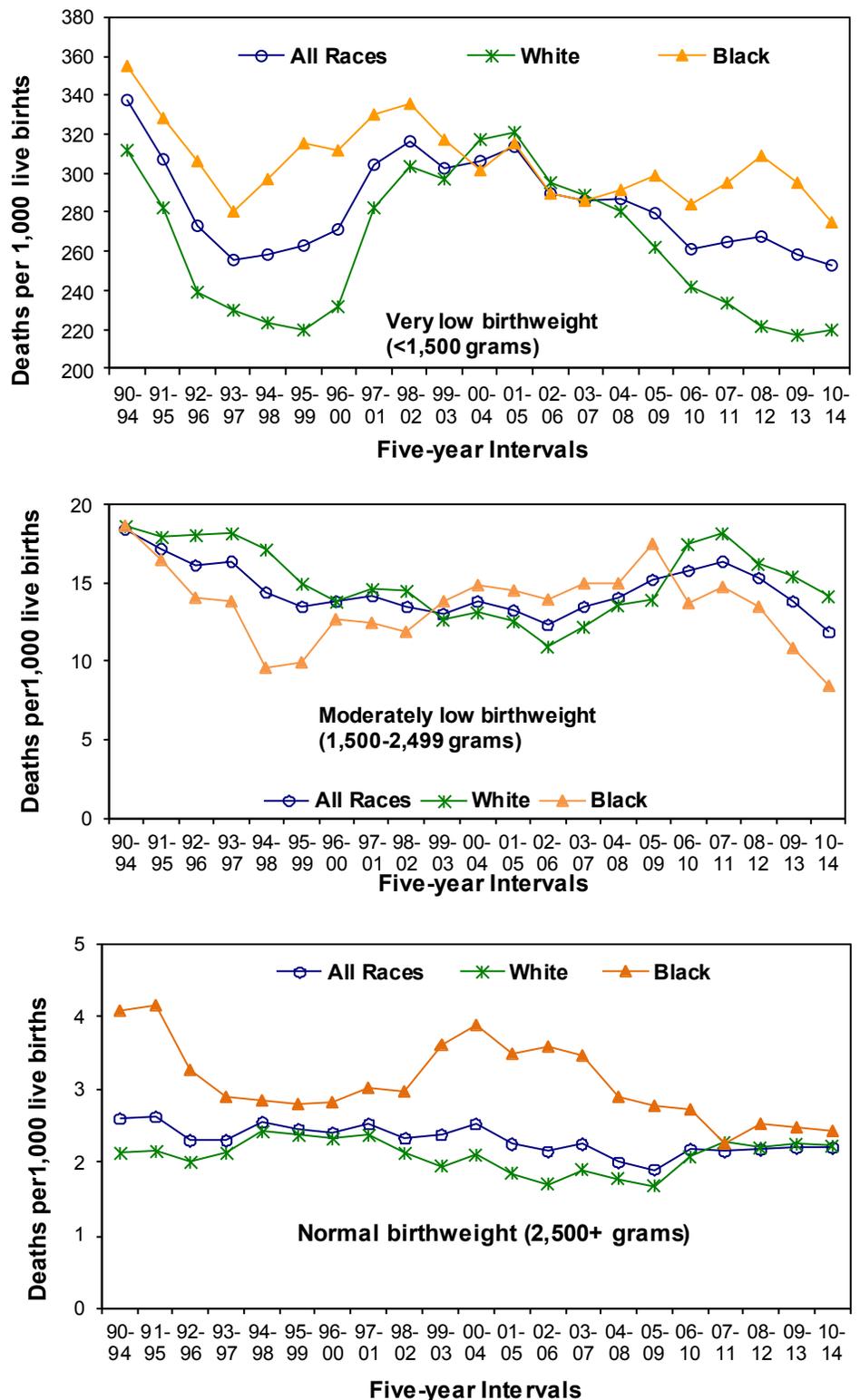
Birthweight and gestation are considered to be the most important predictors of infant health and mortality risk. Infants born too small or too early have a much greater risk of mortality than those who reach a normal birthweight (2,500+ grams) or full-term gestation (37+ weeks).

The IMR for very low birthweight (VLBW) (<1,500 grams) black infants continued to decrease in 2010-2014 while the IMR for VLBW white infants increased for the first time since 2001-2005. In 2010-2014, IMRs for VLBW infants were 220 white infant deaths and 275 black infant deaths per 1,000 live births.

IMRs for moderately low birthweight infants of all races declined 21.7 percent between 2005-2009 and 2010-2014. During that time, white IMRs (14.1) increased 1.4 percent while the black IMR (8.4) decreased by 52 percent, making the black rates lower than the white rates.

The IMR for all races and normal birthweight increased 16 percent from 2005-2009 to 2010-2014. IMRs for normal birthweight white infants increased 5 percent since 2000-2004, while the IMRs for black infants declined 38 percent between 2000-2004 and 2010-2014. The divergent movement in black and white rates in 2010-2014 narrowed the black/white disparity ratio; the black IMR for normal birthweight infants was 2.4, versus 2.2 for white infants of normal birthweight.

Figure 38. Five-year Average Infant Mortality Rate by Birthweight and Race, Delaware, 1990-2014 Live Birth

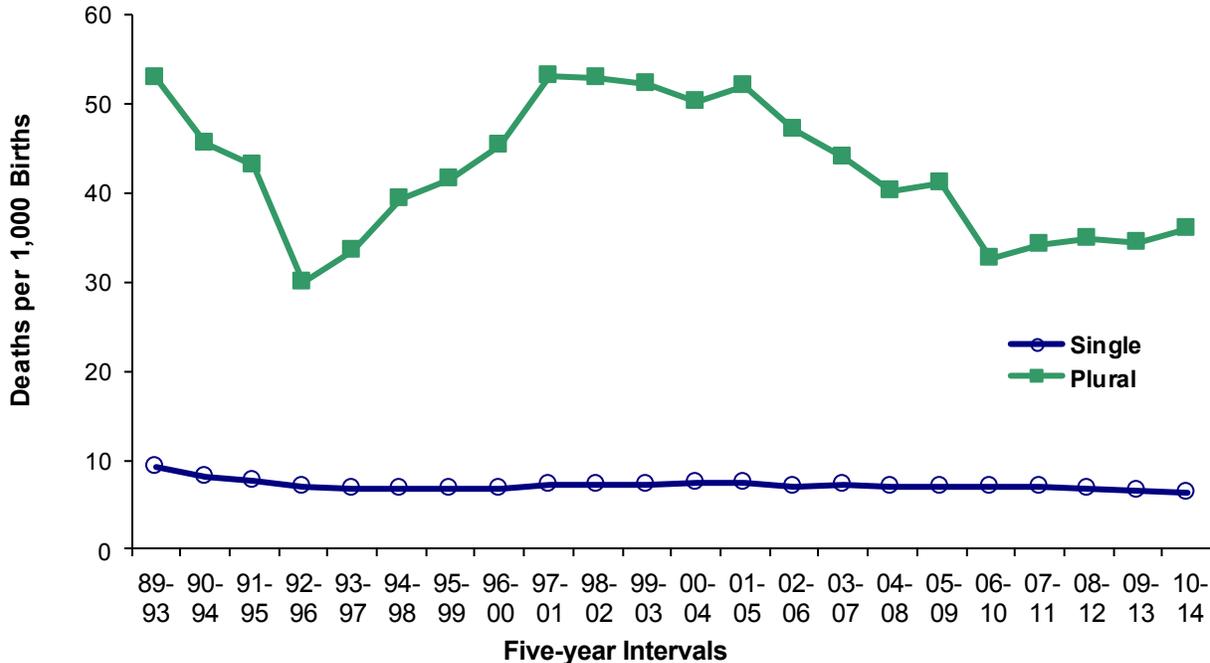


Source: Delaware Health and Social Services, Division of Public Health, Health Statistics Center

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 5 percent. Since then, plural IMRs have decreased 32 percent. IMRs for singleton births experienced a decrease of 13 percent. In 2010-2014, the infant mortality rate for plural births (36.1) was nearly six times that of singleton births (6.3 infant deaths per 1,000 live births).

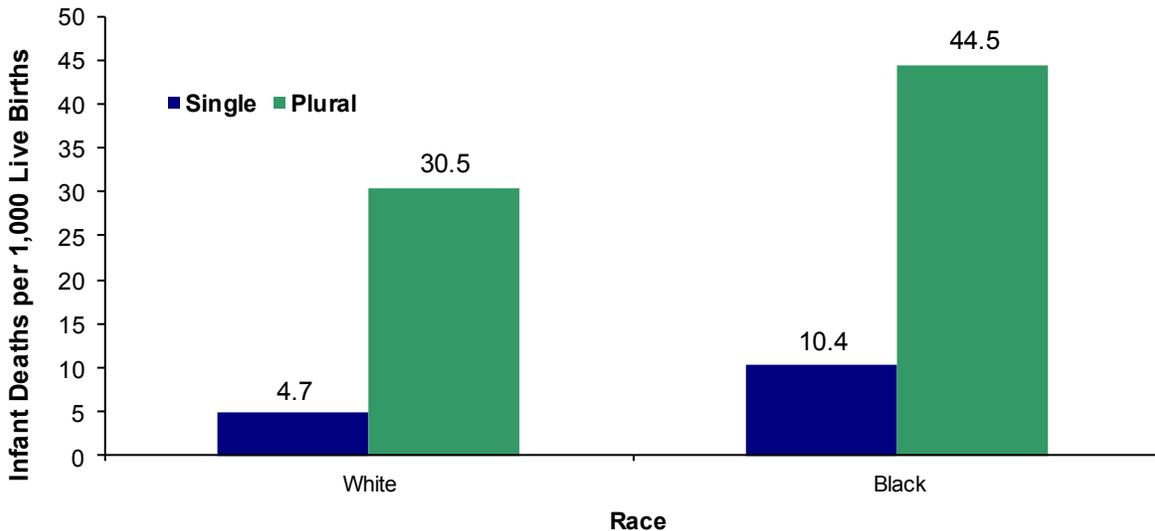
Figure 36. Five-year Average Infant Mortality Rates by Plurality, Delaware Live Birth Cohort, 1989-2014



Source: Delaware 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 rates for black infants, both singleton and plural, were at least one and a half times those of white infants.

Figure 37. Five-year Average Infant Mortality Rates by Plurality and Race, Delaware Live Birth Cohort, 2010-2014

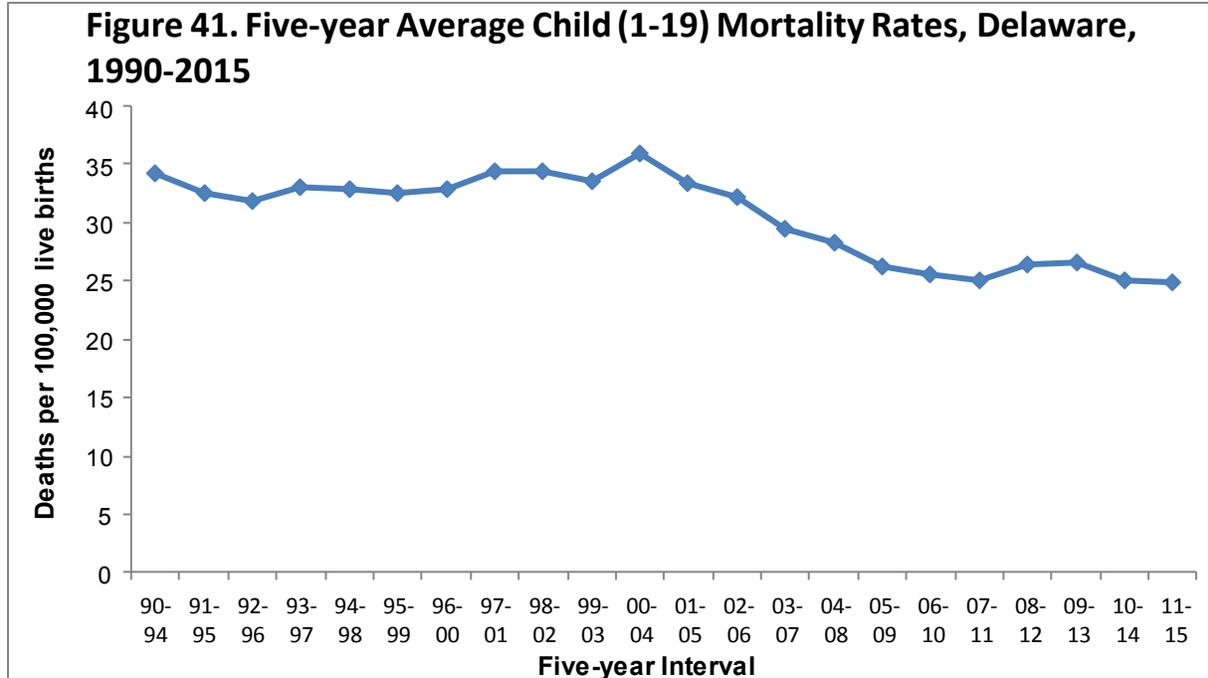


Source: Delaware Health and Social Services, Division of Public Health, Delaware Health Statistics Center

CHILD MORTALITY

For 2011-2015, 278 children and adolescents between the ages of 1 and 19 died in Delaware, representing 0.7 percent of the total deaths that occurred during that time. Males accounted for 65 percent of all child deaths in 2011-2015.

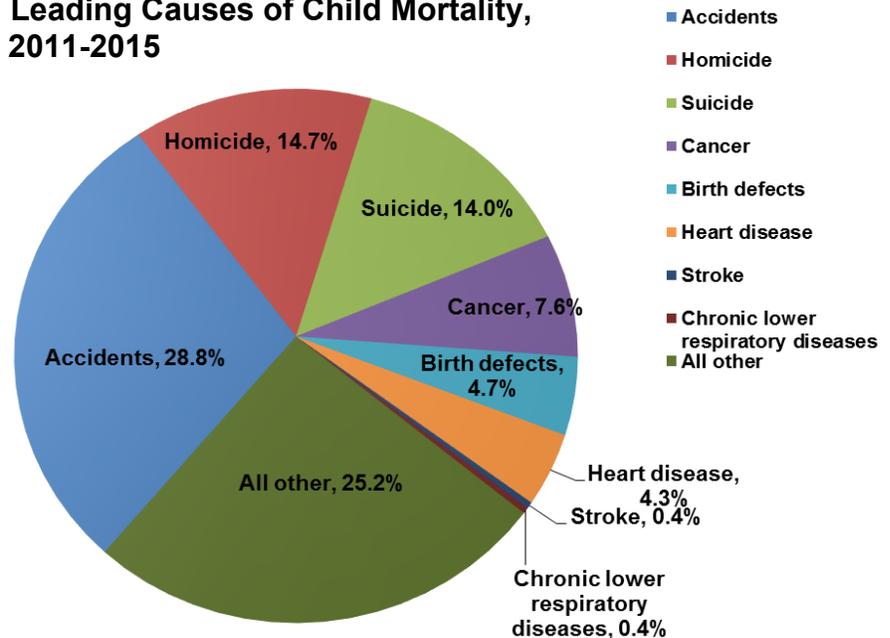
After small fluctuations throughout the 1990s, the mortality rate for children ages 1 to 19 began to decline. Since its peak of 36 in 2000-2004, the rate has decreased 30 percent, to 25 deaths per 100,000 children in 2011-2015.



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

Accidents, homicide, suicide, and cancer were the four most common causes of child mortality in 2011-2015. Together, they accounted for nearly two-thirds of all child deaths.

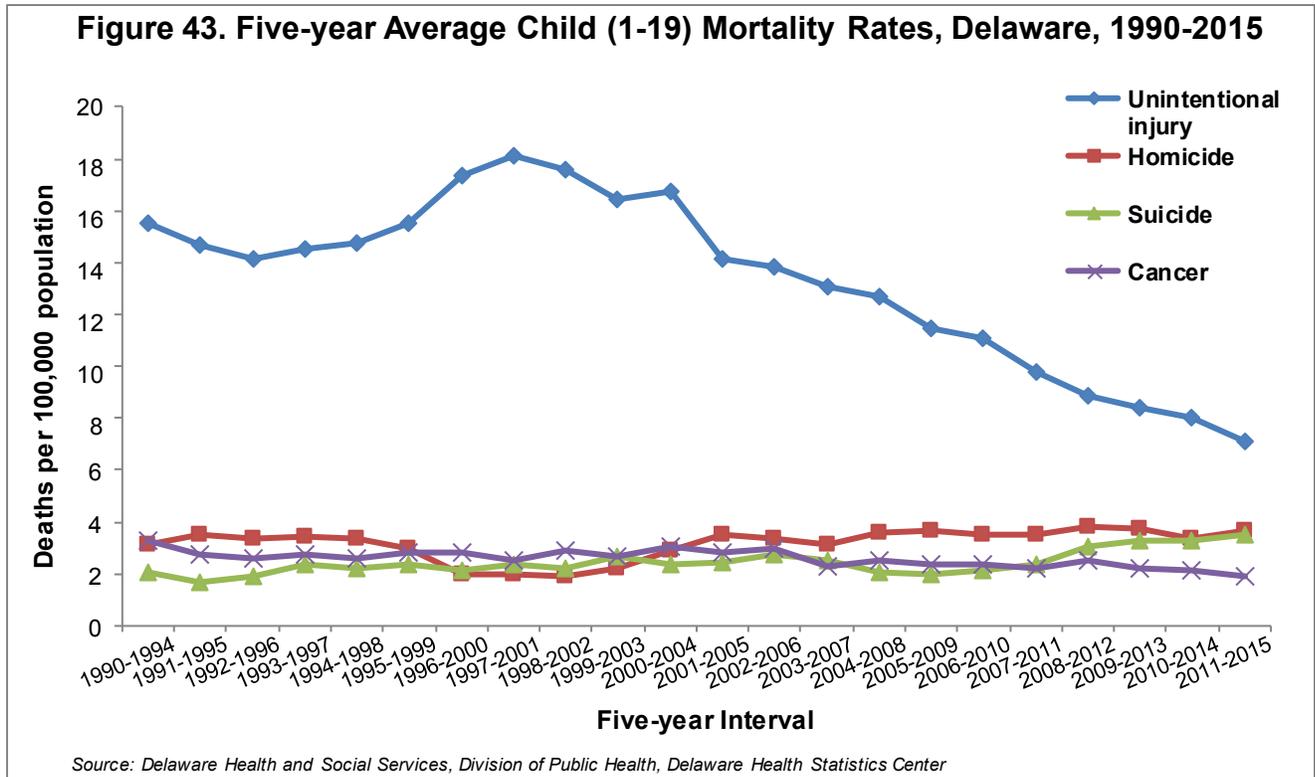
Figure 42. Leading Causes of Child Mortality, Delaware, 2011-2015



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

CHILD MORTALITY

From 2001-2005 to 2011-2015, rates for two of the four leading causes of mortality in children ages 1-19 declined. Unintentional injury mortality rates declined by 50 percent; cancer mortality rates fell 34 percent; and homicide mortality rates increased by 5 percent. Suicide mortality rates increased 41 percent to 3.5 deaths per 100,000 children.



The most common causes of child deaths in 2011-2015 are:

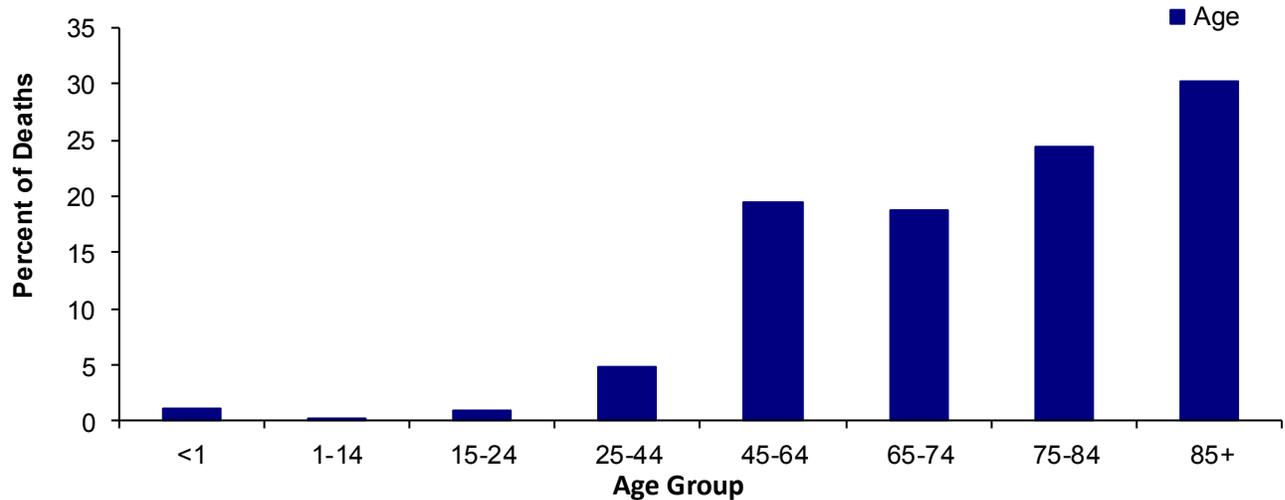
- Motor vehicle crashes accounted for 56 percent of all deaths due to unintentional injuries. The second and third most common causes of unintentional injury deaths of children were poisoning and drowning, which accounted for 18 and 11 percent of deaths, respectively.
- Most child homicides were due to firearms (76 percent) and fire/burning (2 percent).
- The majority of child cancer deaths were due to brain cancer (48 percent) and leukemia (19 percent).
- Suffocation, followed by firearms, were the most common methods of suicide, and accounted for 51 and 26 percent of the total suicide deaths.

MORTALITY

More Delaware residents died in 2015 than in 2014. A total of 8,580 residents died, 100 of whom were infants under the age of 1. Deaths were split almost equally between males and females. Cancer and heart disease were the most common causes of death, accounting for 46 percent of all deaths in 2015.

- Thirty percent of the Delawareans who died in 2015 were 85 or older. Deaths of those 75 and older accounted for more than half of all deaths.

Figure 44. Percent of Deaths by Age, Delaware, 2015



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

- A Delaware resident born in 2015 could expect to live an average of 79.2 years.
- Life expectancy at birth varied by race and sex; white females had the highest life expectancy (82.5) while black males had the lowest (74.1).
- In 1989, 80 percent of Delaware decedents were buried and 15 percent were cremated. By 2015, the distribution had shifted: 48 percent of decedents were buried and 47 percent were cremated.
- In 2015, the 10 leading causes of death for residents of all ages changed slightly from the top 10 in 2014. Influenza became the eighth leading cause of death, whereas nephritis became the ninth leading cause of death.

Figure 45. Number of Deaths by Leading Cause, Delaware, 2015

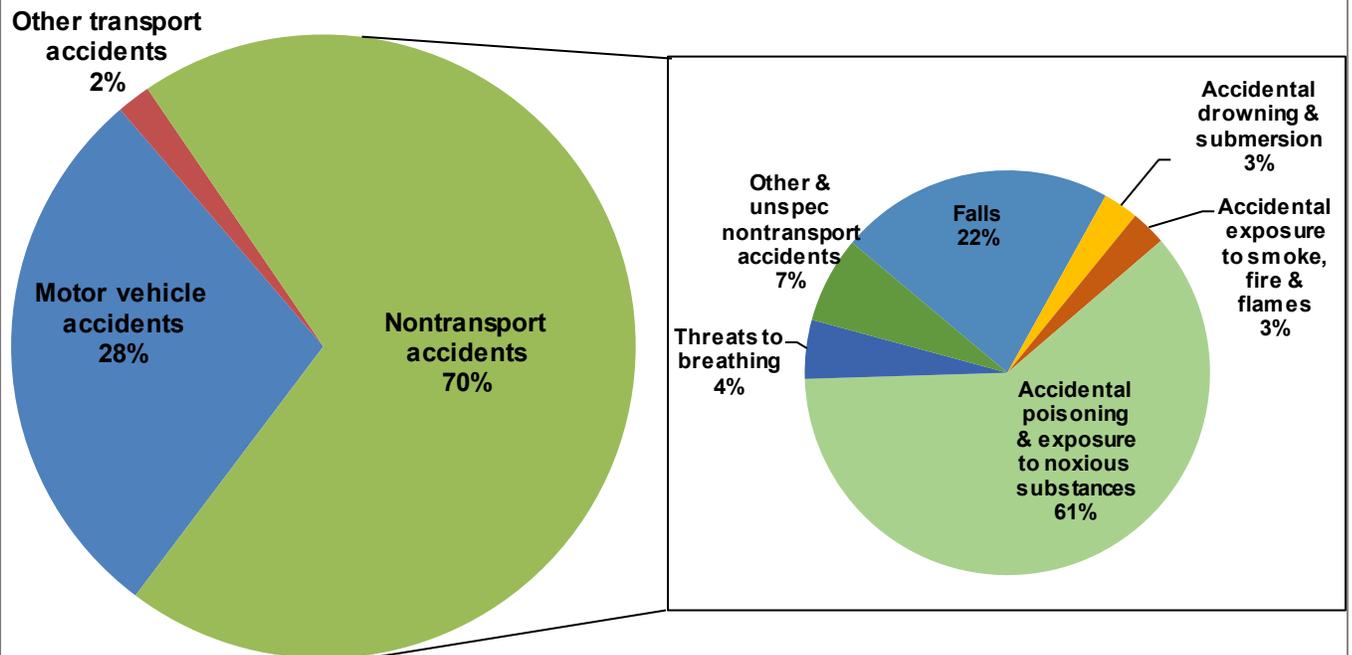
Rank	Leading Cause of Death	Number
1	Malignant neoplasms	2,011
2	Diseases of heart	1,930
3	Chronic lower respiratory diseases	507
4	Cerebrovascular diseases	469
5	Accidents (unintentional injuries)	457
6	Alzheimer's disease	266
7	Diabetes mellitus	212
8	Influenza and pneumonia	193
9	Nephritis, nephrotic syndrome & nephrosis	175
10	Septicemia	146

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

MORTALITY

- Of the 457 deaths due to unintentional injury in 2015 (5.3 percent of all deaths), 28 percent were due to motor vehicle accidents and 70 percent were due to non-transport accidents. More than half of the 319 non-transport accidents were caused by unintentional poisonings; the majority (60 percent) of unintentional poisonings were drug-induced poisonings.
- For the seventh year, unintentional poisonings surpassed motor vehicle injuries and became the leading cause of unintentional injury death in 2015.
 - Poisonings caused the most unintentional injuries for white males and females. The second highest unintentional injuries were motor vehicle traffic accidents for white males and falls for white females.
 - Poisoning caused the most unintentional injuries for black females and the second highest for black males. Motor vehicle traffic accidents were the highest unintentional injuries for black males and the second highest for black females.
- In 2011-2015, accidents were the number one cause of deaths for people 1-44 years of age, and they were responsible for 40 percent of all deaths of people 15-24 years of age. For decedents ages 15-24, accidents, homicides, and suicides were the three most frequent causes of death and accounted for more than three-quarters of total deaths.

Figure 46. Accidental Causes of Death by Specific Cause of Injury Delaware, 2015

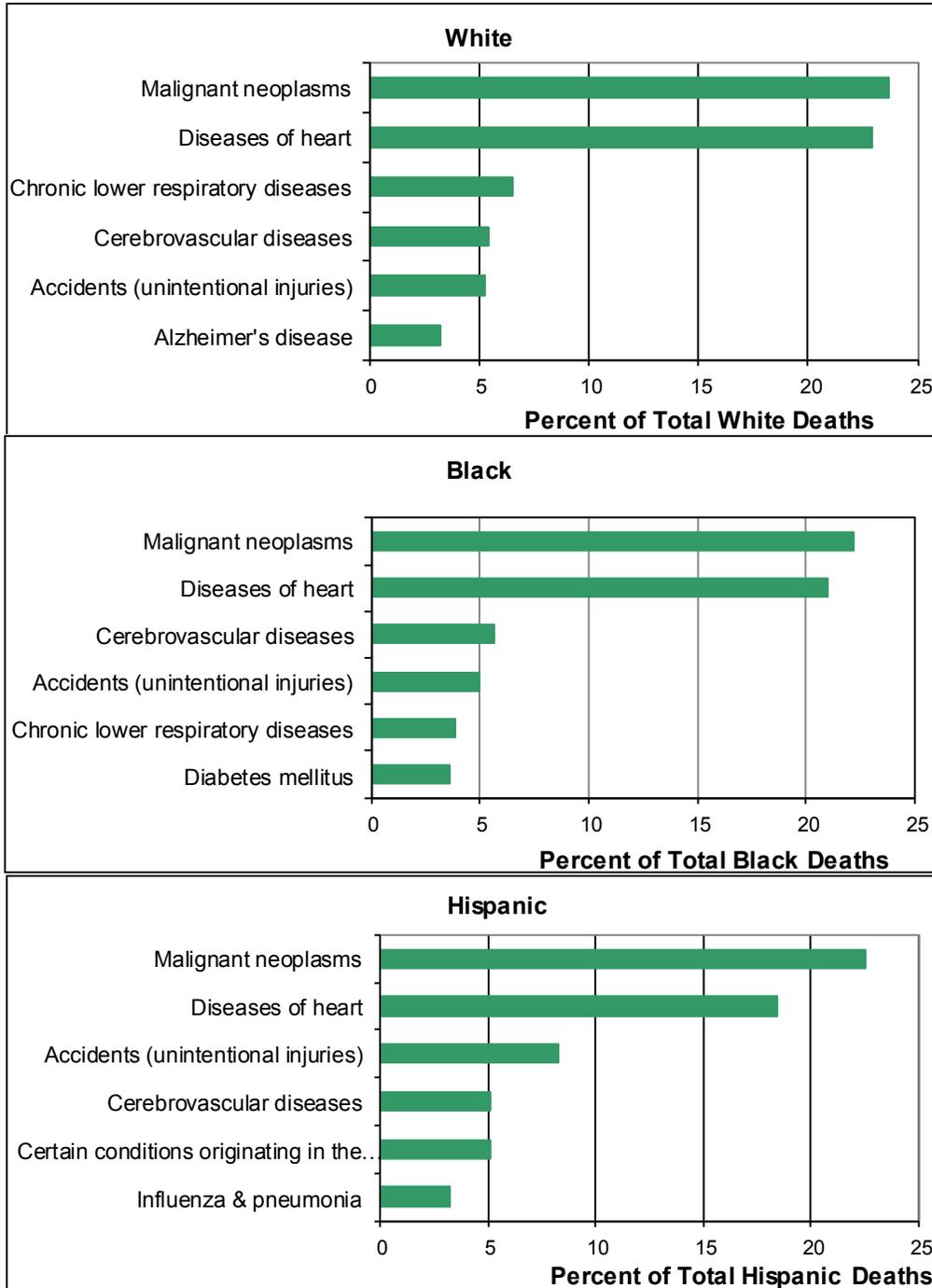


Note: Classification of causes of death are specified in the Technical Notes and Appendices section of the report.

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

The leading causes of death varied by race and ethnic group. In 2015, the most common causes of death for white, black, and Hispanic Delawareans were:

Figure 47. Leading Causes of Death by Race and Ethnicity, Delaware, 2015



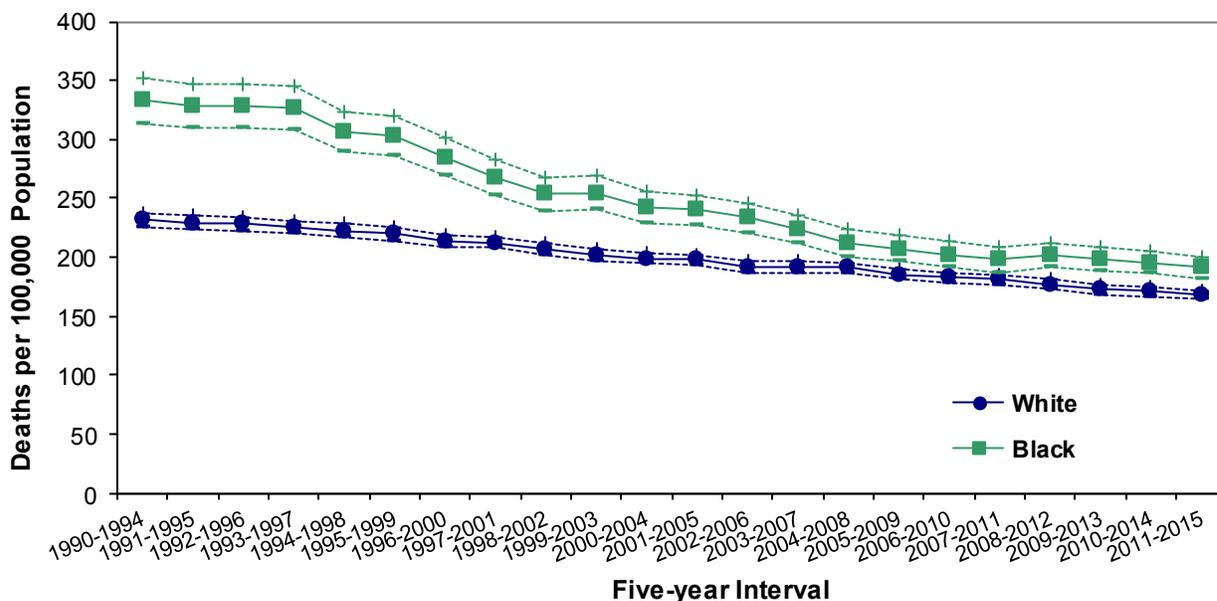
Source: Delaware Health and Social Services, Division of Public Health, Delaware Health Statistics Center

MORTALITY

Cancer mortality rates have decreased in all three counties since the early 1990s. In 2011-2015, the five-year age-adjusted cancer mortality rates were 156.9 in Sussex County, 169 in New Castle County and in Kent County 198.8 deaths per 100,000 population. The cancer mortality rate in Wilmington exceeded all counties at 214.4 deaths per 100,000 population.

Cancer mortality rates for black and white decedents followed the same declining trend, and though the gap between black and white cancer mortality rates has narrowed, black cancer mortality rates in 2011-2015 remained higher than white rates (191.4 and 168.3 deaths per 100,000 population).

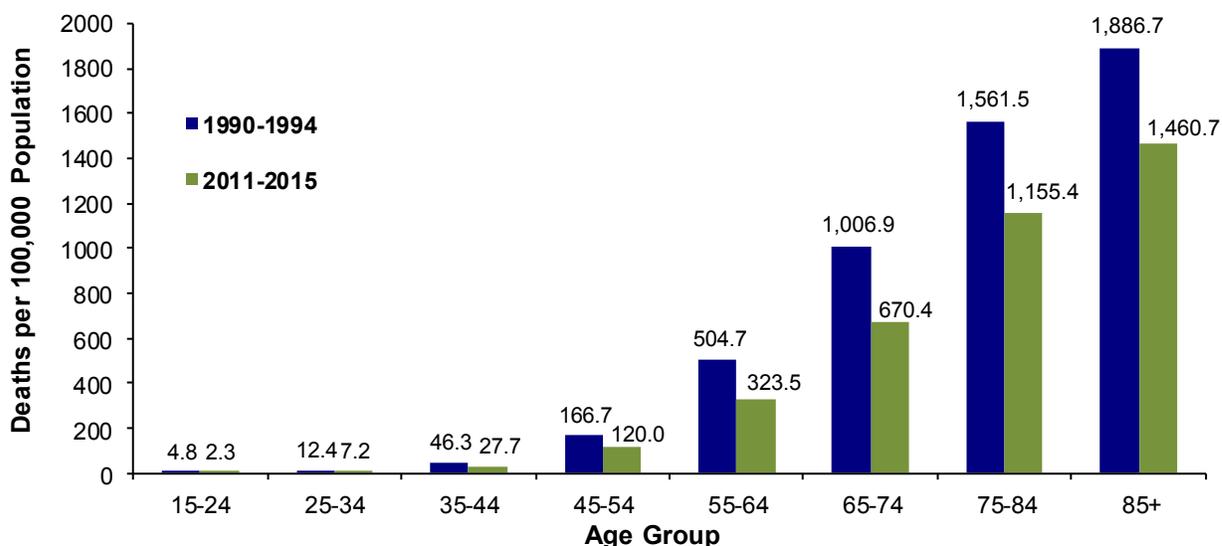
Figure 48. Five-year Age-Adjusted Cancer Mortality Rates by Race, Delaware, 1990-2015



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

The same decreases seen in the age-adjusted cancer mortality rates were reflected in the age-specific rates. Cancer mortality rates declined for all age groups between 1990-1994 and 2011-2015. The 15-24 and 25-34 age groups experienced the largest decreases.

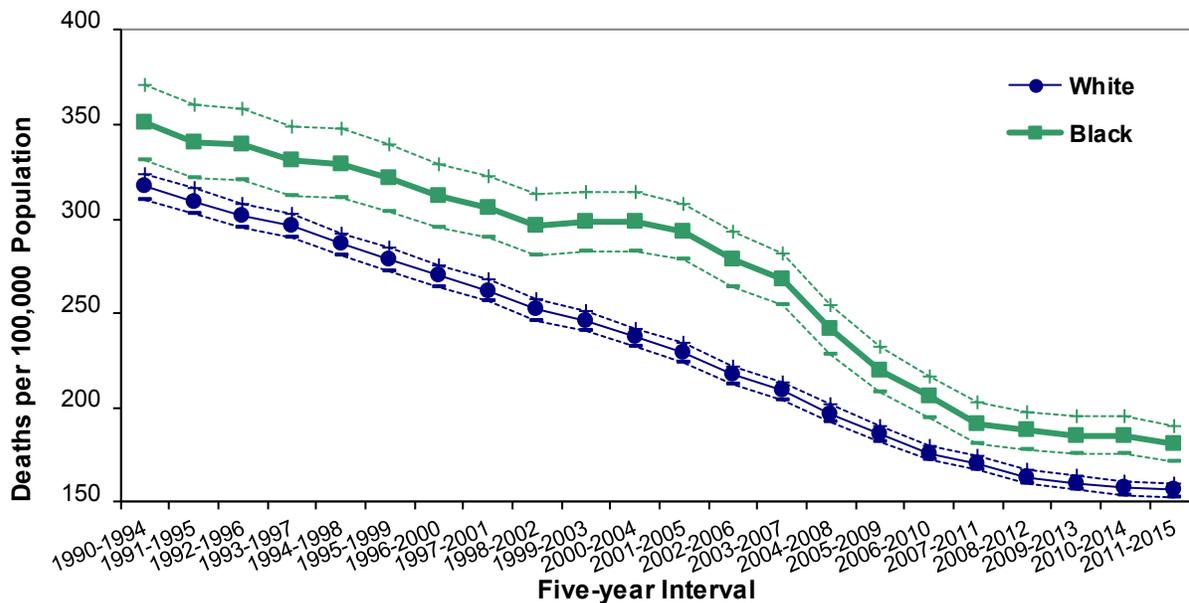
Figure 49. Five-year Average Age-Specific Cancer Mortality Rates, Delaware, 1990-1994 and 2011-2015



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

Heart disease was the second most common cause of death for both black and white Delawareans in 2011-2015. Both black and white heart disease mortality rates have declined significantly since 1990-1994, with white rates declining 50.7 percent and black rates declining 48.3 percent.

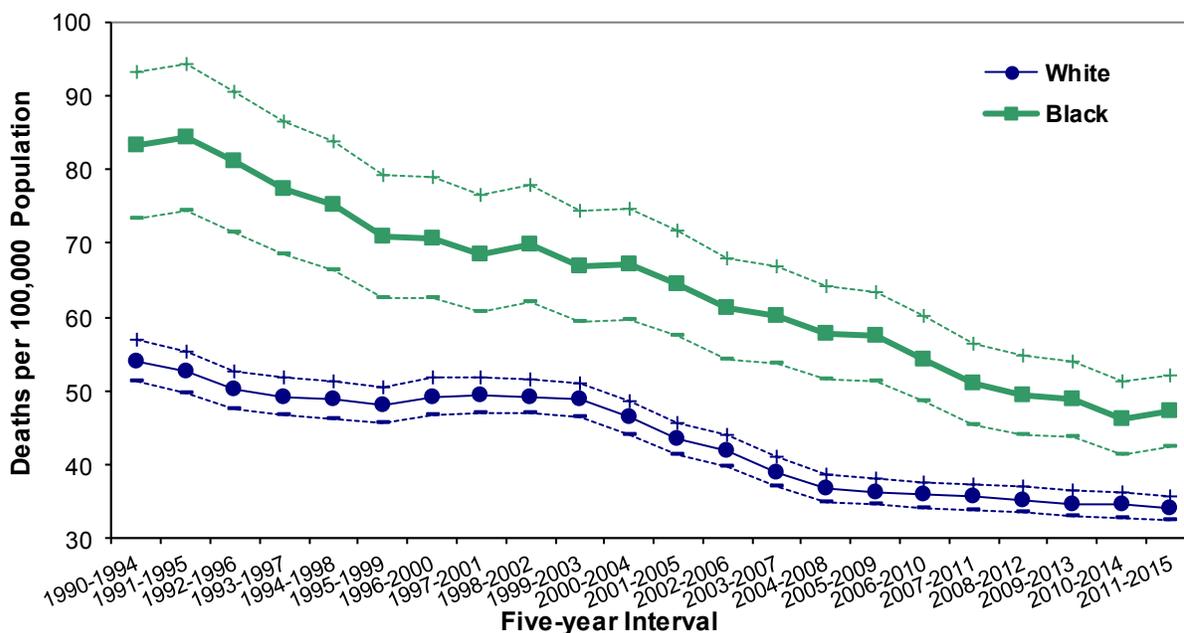
Figure 50. Five-year Age-Adjusted Heart Disease Mortality Rates by Race, Delaware, 1990-2015



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

Stroke mortality rates for both races continued their declining trends between 1990-1994 and 2011-2015, with white rates decreasing 37 percent and black rates declining 43 percent. In 2011-2015, the black stroke mortality rate of 47.2 deaths per 100,000 population remained approximately 38 percent higher than the white rate of 34.1 deaths per 100,000 population .

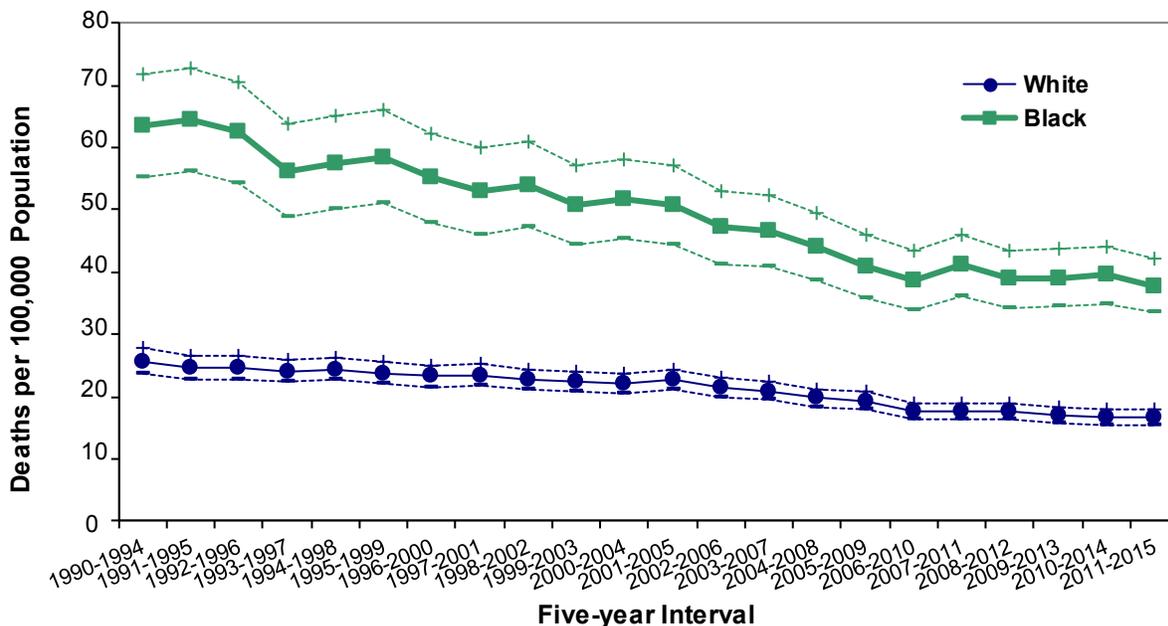
Figure 51. Five-year Age-Adjusted Stroke Mortality Rates by Race, Delaware 1990-2015



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

Though black mortality rates for diabetes have declined 41 percent since 1990-1994, their rates were more than double that of whites in 2011-2015.

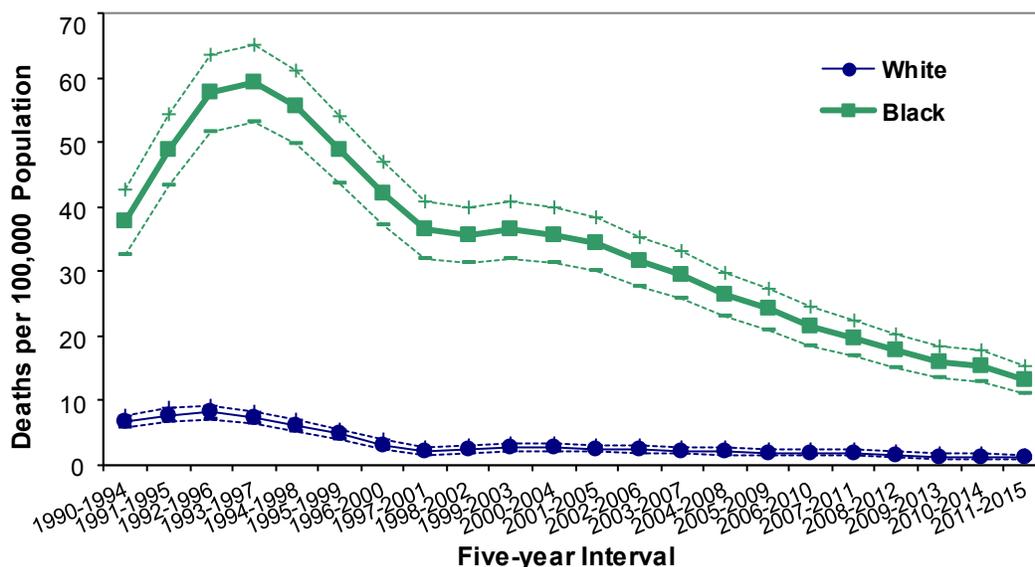
Figure 52. Five-year Age-Adjusted Diabetes Mortality Rates by Race, Delaware, 1990-2015



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

HIV/AIDS mortality has disproportionately affected Delaware’s black population. Despite black HIV/AIDS mortality rates decreasing significantly since the 1993-1997 peak, their 2011-2015 mortality rate of 13.2 deaths per 100,000 population was more than 10 times that of whites. Though they made up only 22 percent of the total Delaware population in 2011-2015, black decedents accounted for 76 percent of all deaths due to HIV/AIDS.

Figure 53. Five-year Age-Adjusted HIV/AIDS Mortality Rates by Race, Delaware, 1990-2015

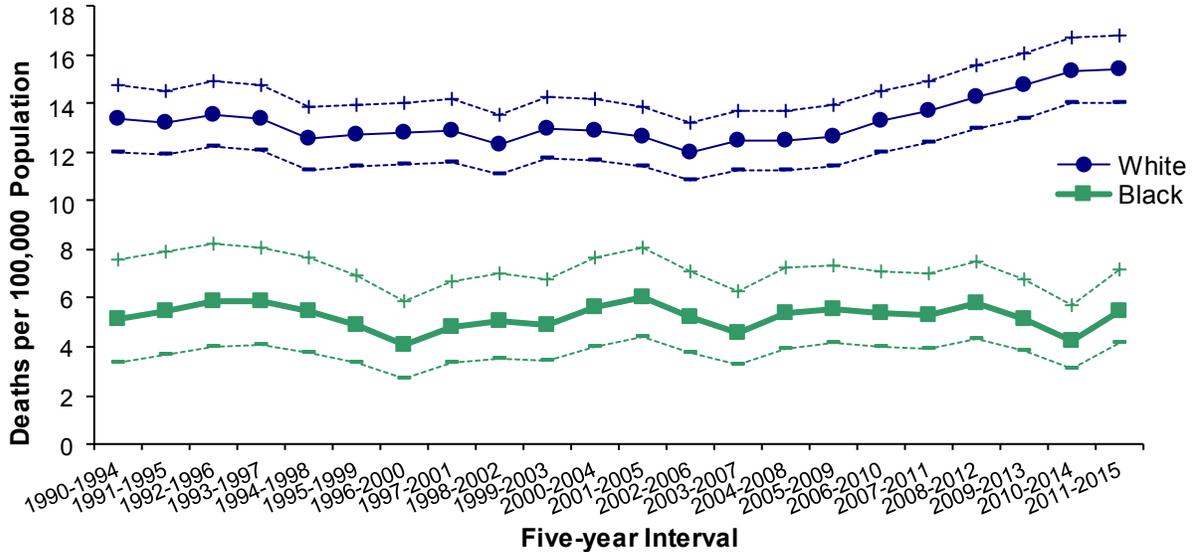


In 2011-2015, HIV was the tenth leading cause of death for black Delawareans; it ranked ninth for black males and twelfth for black females.

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

Suicide mortality trends for white populations increased 16 percent between 1990-1994 and 2011-2015, with the white rate (15.4 deaths per 100,000 population) nearly triple the black rate (5.5 deaths per 100,000 population).

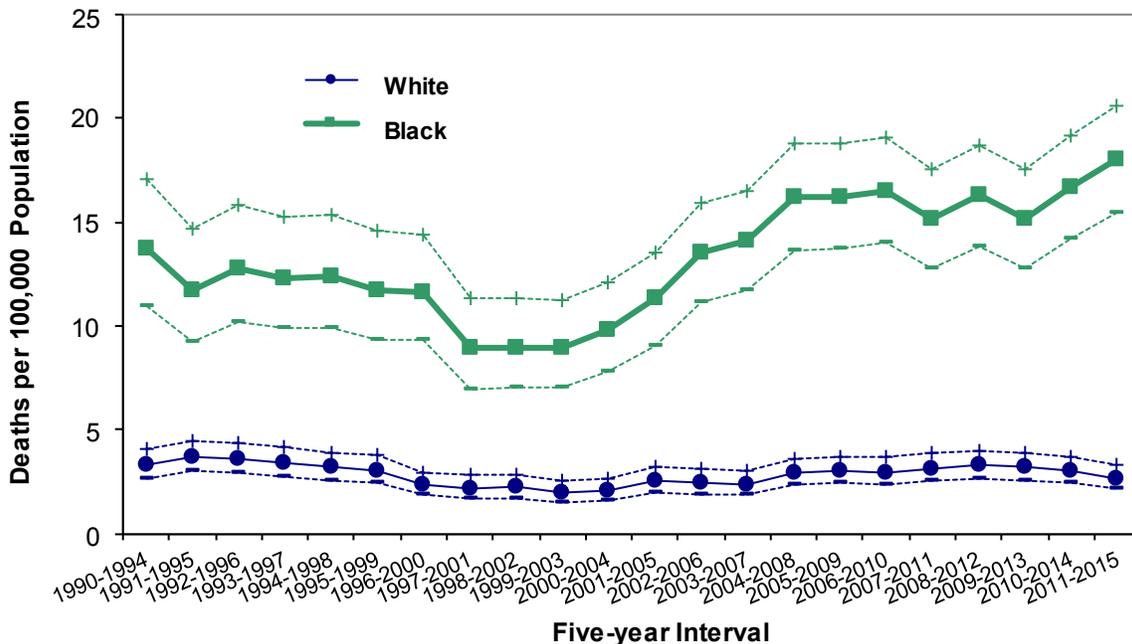
Figure 54. Five-year Age-Adjusted Suicide Mortality Rates by Race, Delaware, 1990-2015



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

After declining throughout most of the 1990s and reaching their lowest point in 1999-2003, homicide mortality rates have risen 86.4 percent to 6.6 deaths per 100,000 population in 2011-2015. During the same time period, the black homicide rate increased 102 percent to 18.0 and the white homicide mortality rate increased 33 percent to 2.7 deaths per 100,000 population.

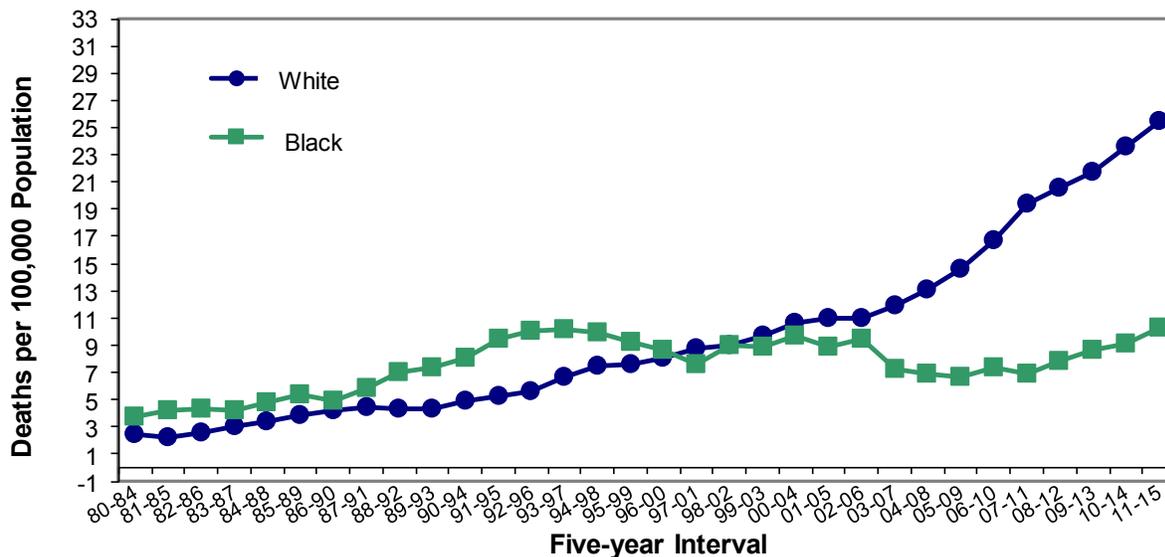
Figure 55. Five-year Age-Adjusted Homicide Mortality Rates by Race, Delaware, 1990-2015



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

Though black mortality rates for drug-induced deaths were historically higher than white rates, in 1994-1998 they began a four-year decline that moved them just below the white rates by 1997-2001. Since then, white mortality rates remained higher and continued to rise. By 2011-2015, the white drug-induced mortality rate (25.4 deaths per 100,000 population) was more than twice the black rate (10.3).

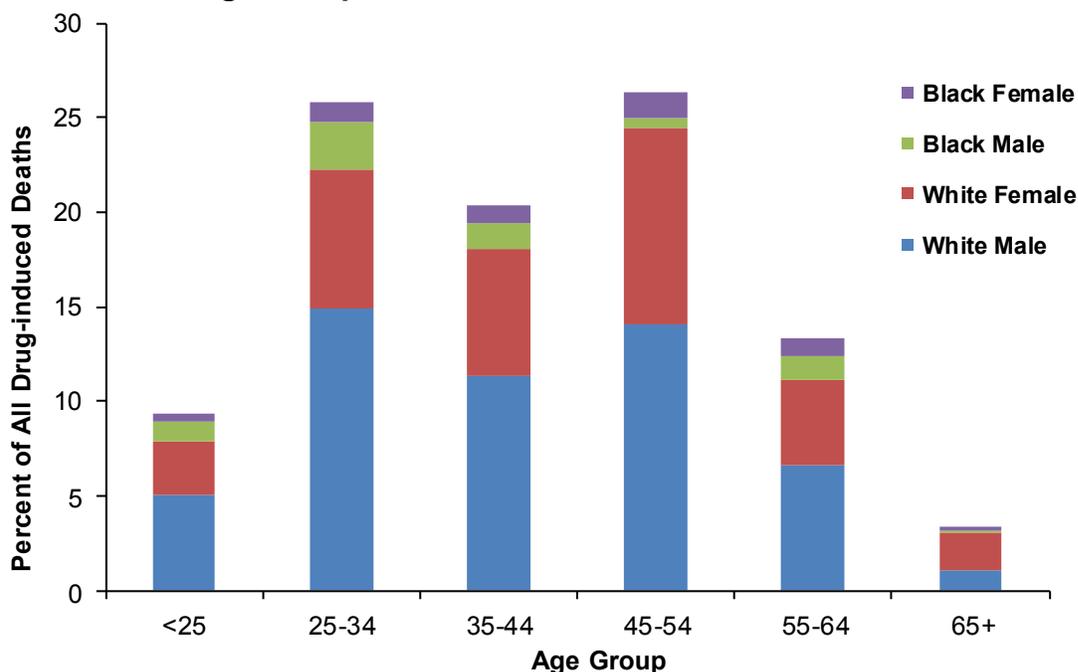
Figure 56. Five-year Age-adjusted Mortality Rates for Drug-Induced Deaths by Race, Delaware, 1980-2015



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

The white population has a significantly higher percentage of drug-induced deaths than the black population. In 2011-2015, 53 percent of all drug-induced deaths were white males. Of those deaths, 29 percent were white males ages 25-34 and 45-54. White females ages 45-54 accounted for 10.4 percent of drug-induced deaths. In contrast, black males ages 25-34 and 45-54, and black females ages 45-54 were only 4 percent of the drug-induced deaths.

Figure 57. Distribution of Drug-induced Deaths by Race, Sex, and Age Group, Delaware, 2011-2015



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