

ALLEGHENY COUNTY
HEALTH DEPARTMENT

MORTALITY REPORT

2018



ALLEGHENY COUNTY MORTALITY REPORT 2018

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Allegheny County Health Department

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INTRODUCTION

Allegheny County Health
Department's Administration
Building Conference Room



INTRODUCTION

This report presents final 2018 mortality data for Allegheny County, provided by the Pennsylvania Department of Health. This annual report provides an overview of the top 15 causes of death, and the demographic groups of those most impacted by each. The data include deaths and death rates by leading causes of death, sex, and race, for the population and specifically for children less than one year old. Death surveillance data describes significant health outcomes within Allegheny County, compares mortality rates between populations, identifies health disparities, and offers insights critical for informed decision-making.

The Pennsylvania Vital Statistics Law of 1953 requires that deaths that occur in Pennsylvania be reported to the Department of Health within four days of the date of death. Funeral homes, medical professionals, coroners, and medical examiners report these deaths through an Electronic Death Registration System (EDRS) established in 2016. Death records are then shared with the Allegheny County Health Department through a cooperative agreement that requires the following disclaimer: "These data were provided by the Pennsylvania Department of Health. The Department specifically disclaims responsibility for any analyses, interpretations, or conclusions."

Death records shared with the Allegheny County Health Department were processed with ArcGIS Pro 2.4.1 to determine resident status; SAS 9.4 software was used to calculate summary statistics and age-adjusted rates. Because the likelihood of death increases with age, the use of crude or unadjusted rates for comparisons can distort results if one population is much older than the other. Age-adjusted mortality rates use population estimates to balance groups by age, allowing for otherwise hidden disparities to emerge. Confidence intervals from age-adjusted calculations provide a range indicating how precise the estimate is and are comparable to the margin of error provided in news polls. In this report, the term "significance" is used when two estimates are compared and have non-overlapping confidence intervals. Because estimates based on low counts can produce wide confidence intervals, rates based on counts < 10 are suppressed, and rates based on counts < 20 should be interpreted with caution. Analysis by race and ethnicity was exclusive to black and white decedents, and not disaggregated by ethnicity due to sample size limitations. Additional details related to data source, definitions, and methodology can be found in the Technical Notes section.

The quality of the death data presented in this report is directly related to the accuracy and completeness of the information collected through the EDRS. Therefore, missing data, underreporting, and potential misclassification may limit the interpretation of these analyses.

More data related to socioeconomic, demographic, and health outcomes of interest can be found at:

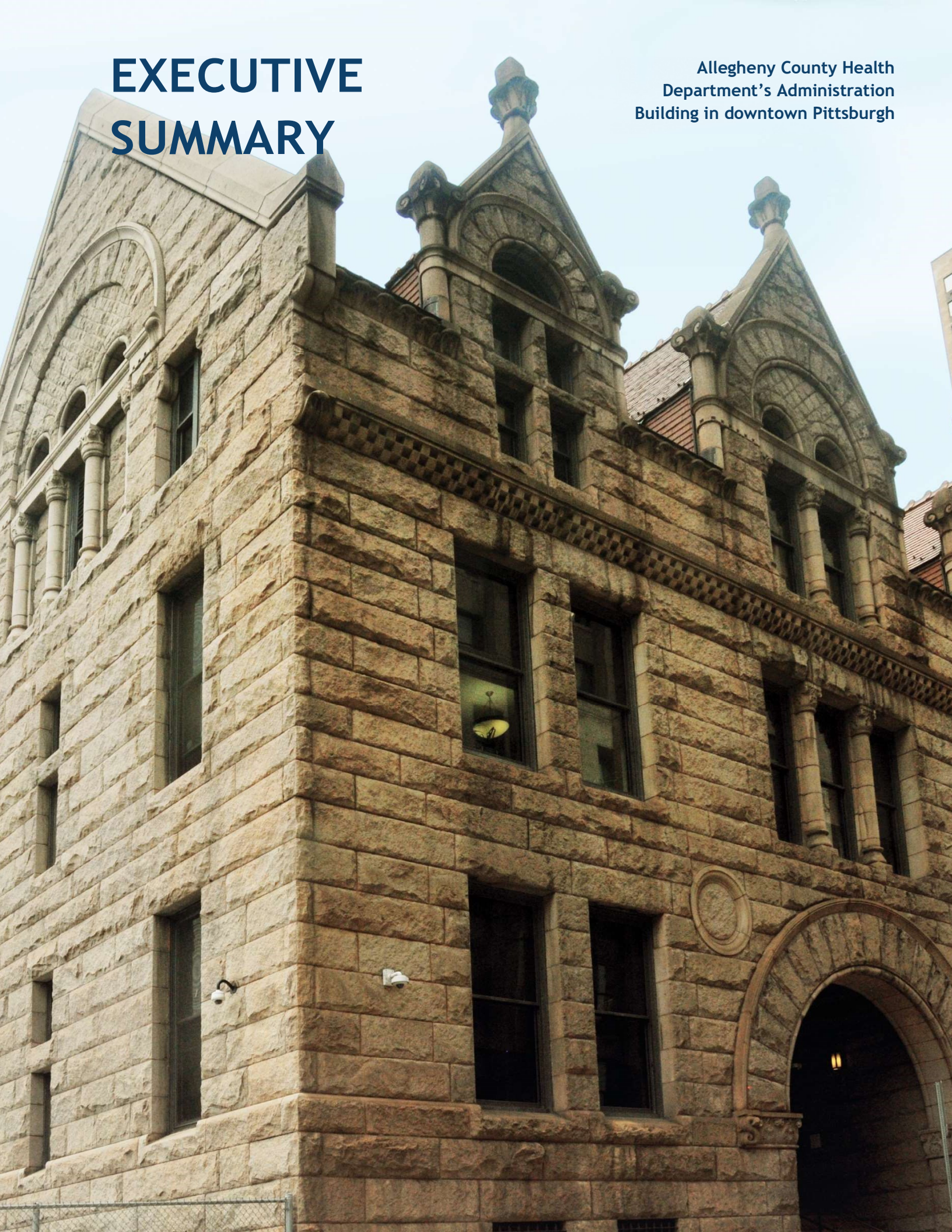
<https://www.alleghenycounty.us/Health-Department/Resources/Data-and-Reporting/Chronic-Disease-Epidemiology/Allegheny-County-Community-Indicators.aspx>

The Technical Notes section includes an example of how to access mortality data from the Community Indicators page.

**Custom data requests can be made through the 'Contact Us' link at the bottom of this webpage*

EXECUTIVE SUMMARY

Allegheny County Health
Department's Administration
Building in downtown Pittsburgh



EXECUTIVE SUMMARY

The 2018 Allegheny County Mortality Report contains final 2018 mortality data including: age-adjusted mortality rates from leading causes of death examined by sex and race, and infant, neonatal, and post-neonatal mortality rates. Where possible, data were compared between Allegheny County and Pennsylvania, and examined for trends through 2018. Relevant data were compared to the Healthy People 2020 goals set forth by the U.S. Department of Health and Human Services.

In 2018, there were 13,654 deaths in Allegheny County, resulting in an all-cause age-adjusted mortality rate of 765.5 per 100,000 (Table 1). This rate was slightly higher than that of Pennsylvania (759.4 per 100,000) and the United States (723.6 per 100,000) in the same year (Figure 2).

Major findings of the 2018 Allegheny County Mortality Report include:

- Diseases of the heart and malignant neoplasms (cancer) were the first and second leading causes of death, respectively, in 2018. These two diseases accounted for 46.7% of all deaths in 2018 (Table 1).
- The total number of deaths due to heart disease increased from 3,414 in 2017 to 3,584 in 2018, but cancer deaths slightly decreased during the same period (from 2,816 to 2,795) (Table 1).
- The all-cause age-adjusted mortality rate decreased significantly from 2017 (801.2 per 100,000) to 2018 (765.5 per 100,000) largely due to a 42.1% reduction in drug overdoses (accidental deaths) where rates declined from 89.4 per 100,000 to 62.6 per 100,000 during the same time period (Table 1).
- The median age at death for females (82 years of age) was 7 years higher than males (75 years of age) for all-cause mortality in 2018 (Table 5).
- Gender disparities in all-cause age-adjusted mortality rates remained consistent for Allegheny County in 2018, with a male-to-female age-adjusted mortality rate ratio of 1.5 since 2016 (Table 6).
- The largest male-to-female rate mortality ratio disparities in 2018 were observed for deaths due to assault (6.3), suicide (3.9), Parkinson’s disease (2.4), and unintentional injuries (2.0); males experienced lower mortality rates for Alzheimer’s disease (0.8) and Cerebrovascular disease (0.9) (Table 6).
- Both white and black decedents experienced a decrease in age-adjusted mortality rates for diabetes, but the significant decrease in the black population’s rate from 40.0 per 100,000 in 2017 to 24.0 per 100,000 in 2018 resulted in a decrease to the black-to-white mortality rate ratio from 2.5 to 1.6, during the same period (Tables 8 and 9).
- The largest black-to-white rate mortality ratio disparities by cause of death in 2018 were: assault (13.0), nephritis, nephrotic syndrome, and nephrosis (1.9), diabetes mellitus (1.6), septicemia (1.6), and cerebrovascular disease (1.5) (Table 9).

- The largest black-to-white disparities in median age at death by cause of death in 2018 were: assault (27 years), suicide (19.5 years), influenza and pneumonia (14 years), diseases of the heart (12 years) and malignant neoplasms (12 years), and septicemia (11 years) (Table 10).
- The age-adjusted mortality rate for Alzheimer’s disease decreased within the county’s black population from 28.4 per 100,000 in 2017 to 15.9 per 100,000 in 2018 and was the only cause of death for which the black population had an older median age (90 years of age) at death than the white population (88 years of age) (Tables 7 and 10).
- The age-adjusted mortality rate for chronic lower respiratory diseases significantly decreased for black females from 44.5 per 100,000 in 2017 to 22.3 per 100,000 in 2018, reducing the black-to-white mortality rate ratio for females from 1.0 in 2017 to 0.6 in 2018 (Tables 11 and 15).
- Mortality rate disparities for black men persisted in 2018 despite reductions in all-cause mortality (from 1294.6 per 100,000 in 2017 to 1244.3 per 100,000 in 2018), and black men had the highest age-adjusted mortality rates of any group for the top four causes of death (Figure 8; Table 13).
- The infant mortality rate in the county decreased from 5.9 per 1,000 live births in 2017 to 5.6 per 1,000 live births in 2018; however racial disparities persisted with a rate for black infants 3.5 times higher than that of white infants (Figure 9; Table 17).
- The neonatal mortality rate remained relatively stable at 4.4 per 1,000 live births in 2018; however, black neonates died at 4.2 times the rate of white neonates (10.1 per 1,000 live births and 2.4 per 1,000 live births, respectively) (Figure 10; Table 18).
- Post-neonatal mortality decreased to the lowest rate since 2002 at 1.3 per 1,000 live births in 2018, and while racial disparities in mortality persist (1.1 per 1,000 live births for white infants, 2.2 per 1,000 live births for black infants), the black-to-white mortality rate ratio decreased from 5.8 in 2017 to 2.0 in 2018 due to large reduction in black post-neonate mortality (Figure 11; Table 19).

SUMMARY AND ILLUSTRATIONS

Decorative wyrm, symbolic of the building's former role as morgue, adorns the Health Department Administration Building's Façade



2018 ALLEGHENY COUNTY MORTALITY REPORT SUMMARY AND ILLUSTRATIONS

MORTALITY SUMMARY

Deaths

The 2018 Allegheny County age-adjusted mortality rate of 765.5 per 100,000 from all causes exceeded the rate for Pennsylvania (759.4 per 100,000 standard population) and for the United States (723.6 per 100,000 standard population) (Figure 2). Since 2000, national mortality rates are typically lower than both county and state rates. There was a significant decrease in the county all-cause age-adjusted mortality rate from 801.2 to 765.5, a 4.5% decrease from 2017 and 2018.

Leading Causes

There were 15 leading causes of death evaluated in Allegheny County: 1) diseases of the heart, 2) malignant neoplasms (cancers), 3) accidents (unintentional injuries), 4) chronic lower respiratory diseases, 5) cerebrovascular diseases, 6) Alzheimer’s disease, 7) influenza and pneumonia, 8) diabetes mellitus, 9) nephritis, nephrotic syndrome, and nephrosis (kidney disease), 10) septicemia, 11) intentional self-harm (suicide), 12) Parkinson’s disease, 13) chronic liver disease and cirrhosis, 14) pneumonitis due to solids and liquids, and 15) assault (homicide).

Diseases of the heart and malignant neoplasms are the first and second leading causes of death, respectively, in Allegheny County (Figure 3). These two diseases accounted for 46.7% of all deaths in 2018. There were 170 additional deaths from diseases of the heart and 21 fewer deaths due to malignant neoplasms in 2018 compared to 2017 (Figure 4). Figure 4 illustrates other notable changes in number of deaths, by cause, from 2017 to 2018:

- A decrease of 332 deaths due to unintentional injuries (including motor vehicle crashes, overdose, falls, and drownings, among others).
- A decrease of 87 deaths due to chronic lower respiratory diseases, 61 deaths due to Alzheimer’s disease, and 47 deaths due to cerebrovascular disease.
- An increase of 23 deaths due to influenza and pneumonia.

The age-adjusted mortality rate increased for deaths due to diseases of the heart (from 180.7 per 100,000 in 2017 to 190.9 per 100,000 in 2018) but decreased for malignant neoplasms (from 159.8 per 100,000 in 2017 to 157.6 per 100,000 in 2018) (Table 1). Other important changes in age-adjusted mortality rates include:

- The age-adjusted mortality rate due to unintentional injuries significantly decreased from 89.4 per 100,000 in 2017 to 62.6 per 100,000 in 2018 (Table 1).

- The age-adjusted mortality rate due to influenza and pneumonia increased from 14.5 per 100,000 in 2017 to 15.8 per 100,000 in 2018 (Table 1).
- Age-adjusted mortality rates increased for chronic liver disease and cirrhosis (from 10.5 per 100,000 in 2017 to 10.6 per 100,000 in 2018), and Parkinson’s disease (from 9.6 per 100,000 in 2017 to 9.9 per 100,000 in 2018) (Table 1).
- Age-adjusted mortality rates decreased from 2017 to 2018 for chronic lower respiratory disease (from 41.1 per 100,000 to 37.0 per 100,000), cerebrovascular disease (from 34.4 per 100,000 to 31.7 per 100,000), Alzheimer’s disease (from 22.7 per 100,000 to 19.8 per 100,000), diabetes mellitus (from 18.8 per 100,000 to 16.3 per 100,000), suicide (from 16.3 per 100,000 to 14.2 per 100,000), septicemia (from 13.1 per 100,000 to 12.2 per 100,000), homicide (from 9.0 per 100,000 to 8.4 per 100,000), and pneumonitis due to solids and liquids (from 7.3 per 100,000 to 5.5 per 100,000) (Table 1).
- Age-adjusted mortality rates for intentional self-harm (suicide) declined in 2018, reversing a continuous annual rate increase since yearly calculations began at the county level in 1970 (Table 2).
- Age-adjusted mortality rates for malignant neoplasms and diabetes mellitus have declined since 1970, reaching a county low since yearly calculations began (Table 2).

Mortality by Sex

From 1970 through 2018, the all-cause age-adjusted mortality rate for both males and females has trended downward (Figure 5). In 2018, the number of deaths due to all causes was 6,985 for females and 6,669 for males (Tables 3 and 4). The age-adjusted mortality rate for females decreased in 2018 to 636.6 per 100,000 from 665.6 per 100,000 in 2017, however this exceeds sex-specific mortality rates for Pennsylvania (636.1 per 100,000) and the United States (611.3 per 100,000) (Table 3). The median age at death for females (82 years) remained constant in 2018 (Table 5). Males also saw a decrease in mortality rates from 972.3 per 100,000 in 2017 to 930.0 per 100,000 in 2018 yet remained higher compared to Pennsylvania (909.1 per 100,000) and the United States (855.5 per 100,000) (Table 4). Males also experienced a one-year increase (from 74 years of age to 75 years of age) in median age at death (Table 6). The mortality rate for males has been consistently higher than females and the male-to-female mortality rate ratio has remained at 1.5 since 2014.

- In 2018, the age-adjusted mortality rate due to unintentional injuries significantly decreased among both males and females. Males experienced a rate decrease from 122.4 per 100,000 in 2017 to 84.5 per 100,000 in 2018, and females saw a decrease from 58.0 per 100,000 in 2017 to 42.4 per 100,000 in 2018. The rate for males was double that of females (Tables 3, 4, and 6). The median age at death from unintentional injuries in 2018 increased by 6 years for men (to 52 years of age) and 4 years for women (to 60 years of age) (Table 5).
- Age-adjusted mortality rates for death by suicide decreased for both men (25.8 per 100,000 in 2017 to 22.9 per 100,000 in 2018) and women (7.4 per 100,000 in 2017 to 5.9 per 100,000 in 2018), however the male-to-female mortality rate ratio increased from 3.5 in 2017 to 3.9 in 2018 (Tables 3, 4, and 6).
- Age-adjusted mortality rates for death by homicide decreased for men (15.3 per 100,000 in 2017 to 14.5 per 100,000 in 2018); however, counts were too low for women to report meaningful comparisons between sexes (Tables 3 and 4).

- In 2018, the rate at which men died from heart disease or cancer was higher than women (1.7 and 1.4 times higher, respectively) (Table 6).
- Age-adjusted mortality rates for Alzheimer’s disease decreased for males (from 18.9 per 100,000 in 2017 to 16.5 per 100,000 in 2018) and females (from 25.0 per 100,000 in 2017 to 21.6 per 100,000 in 2018), and since 2016 this condition is consistently the lowest annual male-to-female mortality rate ratio at 0.8 in 2018 (Tables 3, 4, and 6).

Mortality by Race*

From 1970 through 2018, the all-cause age-adjusted mortality rate decreased for both the white and black populations (Figure 6). The mortality rate has been consistently higher for the black population compared to the white population. In 2018, the age-adjusted rate for all-cause mortality was 982.4 per 100,000 for the black population and 741.8 per 100,000 for the white population (Tables 7 and 8).

*Note: Low mortality counts prevented analysis by ethnicity and restricted racial analysis to black and white decedents without disaggregating by ethnicity.

- In 2018, the rate of homicides was the largest mortality disparity by race. The age-adjusted mortality rate for homicide for the county’s black population was 13.0 times higher than the white population (40.1 per 100,000 compared to 3.1 per 100,000, respectively) (Tables 7, 8, and 9). The black-to-white mortality ratio for homicides has declined annually since 2016 as mortality rates continue to slightly decrease for the black population but slightly increase for the white population (Table 9). Among homicides, the median age at death for the white population was 54 years of age, compared to 27 years of age for the county’s black population in 2018 (Table 10).
- The black-to-white mortality rate ratio for nephritis, nephrotic syndrome and nephrosis was 1.9 in 2018. Age-adjusted mortality rates for both the black and white population in 2018 were largely unchanged from 2017, however the median age at death increased from 70 to 81 years of age for the black population (n=44 in 2017, n=43 in 2018) (Tables 9 and 10).
- Both races experienced a decrease in age-adjusted mortality rates for diabetes, but the significant decrease in the black population’s rate from 40.0 per 100,000 in 2017 to 24.0 per 100,000 in 2018 resulted in a decrease to the black-to-white mortality rate ratio from 2.5 to 1.6 during the same period (Tables 8 and 9).
- Both populations experienced a decrease in age-adjusted mortality rates for suicide in 2018, and the black-to-white ratio was the lowest observed at 0.6 (Table 9). Despite lower mortality rates, the black population’s median age at death for suicide was 31.5 years of age in 2018, compared to 51 years of age for the white population (Table 10). Note, comparisons should be made cautiously as n=17 in 2017 and n=16 in 2018 for the black population.
- In 2018, the black population’s age-adjusted mortality rate for diseases of the heart (249.4 per 100,00) was 1.4 times higher than the white population (184.3 per 100,000) and the median age at death was lower at 72 years of age, compared to the white population at 84 years of age (Tables 7, 8, and 10). In 2018, heart disease mortality ranks first for both populations, and each group experienced rate increases from 2017.

- Age-adjusted mortality rates for cancer improved for the white population from 157.7 per 100,000 in 2017 to 153.9 per 100,000 in 2018 but worsened for the black population during the same period (184.7 per 100,000 to 202.0 per 100,000) (Tables 7 and 8). The median age at death from cancer in 2018 for the black population was 68 years of age, compared to 75 years of age for the white population (Table 10).
- The age-adjusted mortality rate for Alzheimer’s disease decreased among the black population from 28.4 per 100,000 in 2017 (n=49) to 15.9 per 100,000 in 2018 (n=27) (Table 7). The median age at death from Alzheimer’s disease in the black population also increased from 87 years of age in 2017 to 90 years of age in 2018 (Table 10). Mortality due to Alzheimer’s disease was the only cause for which African Americans had an older median age at death than the white population (Table 10).
- Additional black-to-white mortality rate ratio disparities in 2018 include: septicemia (1.6), cerebrovascular disease (1.5), accidents (1.3), and influenza and pneumonia (1.2) (Table 9).
- Additional median ages at death in 2018 to note: influenza and pneumonia was 72 years of age for the black population and 86 years of age for the white population (14-year difference), age at death for septicemia was 68 years of age for the black population compared to 79 years of age for the white population (11-year difference), and death from cerebrovascular disease was at 77 years of age for the black population and 86 years of age for the white population (9-year difference) (Table 10).

Mortality by Sex and Race

Since 1970, the all-cause mortality rate has been trending downward for females and males, both black and white (Figure 8). In 2018, the second lowest age-adjusted rates for black males on record occurred (1244.3 per 100,000) (Table 13), yet despite declining, the 2018 rate was 1.4 times higher than the all-cause mortality rate for white males (898.5 per 100,000) (Table 14). Black females experienced an all-cause mortality rate of 799.0 per 100,000 in 2018, compared to 617.4 per 100,000 for white females (Tables 11 and 12). Since 2016, black females consistently died at 1.3 times the rate of white females (Table 15). In 2018, lower median ages at death for all-cause mortality were observed for both black females (73 years of age) and black males (66 years of age) when compared to either white females (83 years of age) or white males (76 years of age) (Table 16).

- Age-adjusted mortality rates due to chronic lower respiratory diseases decreased in 2018 for all observed populations. Black females were the only population with a statistically significant rate improvement from 44.5 deaths per 100,000 in 2017 (n=47) to 22.3 deaths per 100,000 in 2018 (n=24); this resulted in a cause-specific rank improvement from fourth to fifth (Table 11). Total deaths by this condition continue to rank third for white women (37.7 per 100,000) and fourth for white men (39.4 per 100,000) in 2018 (Tables 12 and 14). The chronic lower respiratory disease age-adjusted mortality rate for black men was nearly double the rate for black women (41.2 per 100,000) (n=24), yet this condition was not among the top five causes of death for black men (Table 13).

- Age-adjusted mortality rates due to accidents (unintentional injuries) decreased for most observed populations. From 2017 to 2018, statistically significant rate improvements were experienced by white women (63.5 per 100,000 to 40.7 per 100,000) and white men (123.1 per 100,000 to 85.1 per 100,000) (Tables 12 and 14). Accidental death rates also improved for black men from 149.1 per 100,000 to 103.4 per 100,000 during the same period (Table 13). However, mortality rates due to unintentional injuries increased for black women from 42.7 per 100,000 in 2017 to 57.2 per 100,000 in 2018 (Table 11). Despite overall mortality rate decreases, unintentional injuries remain a top five cause of death for each observed population.
- Age-adjusted mortality rates for diabetes decreased for both white women (12.2 per 100,000 in 2017 to 10.8 per 100,000 in 2018) and black women (36.9 per 100,000 in 2017 to 24.3 per 100,000 in 2018), however, white women died at a considerably lower rate than black women in 2018 (Tables 11 and 12). The black-to-white female mortality rate ratio for diabetes was 2.3 in 2018, one of the highest observed disparities, and diabetes mortality was ranked fifth among the top causes for black females (Table 15). In 2018, the median age at death by diabetes for black females (67.5 years of age) was 12.5 years less than white females (80 years of age) (Table 16). Comparably, the black-to-white male mortality rate ratio for diabetes was 1.2 in 2018, as white men died at a rate of 21.5 per 100,000 (n=131), compared to black men at 25.6 per 100,000 (n=17) (Tables 13 and 14). Comparisons to black men should be cautiously interpreted given low counts in 2018.
- The black-to-white male mortality rate ratio for homicide decreased from 24.7 in 2017 to 14.5 in 2018, due to an increase in white male homicides (n=14 in 2017, n=26 in 2018) (Tables 14 and 15). Despite the decrease, this was the most significant rate disparity observed in 2018. The age-adjusted mortality rate for black men was 74.9 per 100,000 in 2018, compared to 5.2 per 100,000 for white men (Tables 13 and 14). In 2018, the median age at death by homicide for black males (27 years of age) was 24.0 years less than white males (51 years of age) (Table 16).
- Age-adjusted mortality rates for diseases of the heart increased in 2018 and was ranked first for total deaths within all observed populations. While men died at higher rates than women, black men experienced the highest rates of heart disease mortality at 318.9 per 100,000 in 2018 compared to white men at 240.4 per 100,000 in 2018 (Tables 13 and 14). Additionally, the median age at death from diseases of the heart for black men (67 years of age) was 12.0 years less than white men (79 years of age) (Table 16). Racial disparities were further observed in 2018 as heart disease mortality rates for black women (201.0 per 100,000) exceeded white women (140.8 per 100,000), and the median age at death for black women (78 years of age) was 10.0 years less than white women (88 years of age) (Tables 11, 12, and 16).
- Age-adjusted mortality rates for cancer remained relatively stable from 2017 to 2018 but continued to rank second for total deaths within all observed populations. In 2018, black women had higher cancer mortality rates (172.2 per 100,000) compared to white women (134.9 per 100,000 and died 9 years earlier (67 years of age and 76 years of age, respectively) (Tables 11, 12, and 16). Black men experienced the highest cancer mortality rates of any group, increasing from 207.5 per 100,000 in 2017 to 257.4 per 100,000 in 2018, while cancer mortality rates slightly improved from 193.8 per 100,000 in 2017 to 183.7 per 100,000 in 2018 for white men (Tables 13 and 14).

- Age-adjusted mortality rates for cerebrovascular disease declined for most observed populations in 2018 but ranked in the top five causes of death for each group. Despite a mortality rate decrease from 58.5 per 100,000 in 2017 to 47.7 per 100,000 in 2018, black women had the highest cerebrovascular disease mortality rates of any group (Table 11). While mortality rates for cerebrovascular disease in white women remained stable (30.4 per 100,000 in 2017 to 31.0 per 100,000 in 2018), the cause-specific rank for total deaths increased from fifth to fourth due to significant decreases in accidental deaths (Table 12). Black men and white men experienced mortality rate decreases for cerebrovascular disease (59.3 per 100,000 in 2017 to 39.0 per 100,000 in 2018 for black men, and 32.3 per 100,000 in 2017 to 27.9 per 100,000 in 2018 for white men), but the rate for black men in 2018 continued to exceed rates for white men (Tables 13 and 14).
- Additional black-to-white mortality rate ratio disparities in 2018 by sex include: nephritis (2.2 between men, 1.7 between women), influenza (1.5 between women) and suicide (0.6 between men) (Table 15). Note comparisons between populations with low counts (n=19 black female influenza mortality, and n=11 for black male suicide mortality) should be interpreted cautiously.

Infant Mortality

Infant mortality is defined as death occurring within the first year of life. In 2018 there were 71 infant deaths in Allegheny County with a rate of 5.5 per 1,000 live births, decreasing slightly from 5.6 per 1,000 live births in 2017 (Table 17). Allegheny County had a lower infant mortality rate than Pennsylvania (5.9 per 1,000) and the United States (5.7 per 1,000) in 2018.

There are racial disparities in infant mortality rates between black and white populations in Allegheny County and at the state level (Figure 9). In Allegheny County, the mortality rate for black infants decreased from 16.1 deaths per 1,000 live births in 2017 to 12.3 deaths per 1,000 live births in 2018. While slightly lower than Pennsylvania's rate (12.6 per 1,000 live births), the rate of black infant mortality in Allegheny County was 3.5 times higher than that of white infants (3.5 per 1,000 live births,) in 2018. The Healthy People 2020 goal of reaching an infant mortality rate of 6 deaths per 1,000 live births was met for the county's white population and the overall rate, but was not attained for the black population.

Neonatal Mortality

Neonatal mortality refers to a death that occurs within the first 28 days of life following a live birth. In Allegheny County, there were 55 neonatal deaths in 2018 which was an increase of 7 deaths from 2017 (48 neonatal deaths) (Table 18). The neonatal mortality rate for the county has remained relatively stable since 2014 at 4.4 per 1,000 live births, slightly higher than Pennsylvania's rate of 4.2 per 1,000 live births. The county rate of neonatal mortality for white infants increased to 2.4 per 1,000 live births in 2018 from the lowest recorded rate of 1.2 per 1,000 live births in 2017. The county neonatal mortality rate for black infants decreased slightly from 10.5 per 1,000 live births in 2017 to 10.1 per 1,000 live births in 2018, exceeding Pennsylvania's rate of 9.0 per 1,000 live births (Figure 10). The Healthy People 2020 goal of reaching the rate of 4.1 neonatal deaths per 1,000 live births has been consistently maintained within the county's white population since 2011 but has yet to be attained for the black population.

Post-neonatal Mortality

Post-neonatal mortality refers to a death that occurs between the 28th and 364th day of life following a live birth. There were 16 post-neonatal deaths in 2018 which, at a rate of 1.3 deaths per 1,000 live births, is the lowest county rate since 2002 (Table 19). The county rate was also lower than Pennsylvania's rate of 1.7 per 1,000 live births in 2018.

The 2018 post-neonatal mortality rate for black infants was the lowest recorded rate for this population since 1990, at 2.2 per 1,000 live births (Table 19). When black post-neonatal mortality rates peaked in 2009, 61.1% of deaths were sleep-related. In 2018, 16.7% of black post-neonatal deaths were sleep-related. The white post-neonatal mortality rate of 1.1 per 1,000 live births was 50% lower than the black post-neonatal mortality rate of 2.2 per 1,000 live births (n=6), however 70.0% of white post-neonatal deaths in 2018 were sleep-related (n=10) (Table 19). Pennsylvania post-neonatal mortality rates for white and black infants (1.5 and 3.6 per 1,000 live births, respectively) exceeded county rates for both populations in 2018 (Figure 11). The Healthy People 2020 goal of reaching the rate of 2.0 post-neonatal deaths per 1,000 live births has been maintained within the county's white population since 1992 but has yet to be attained for the black population.

MORTALITY TABLES AND ILLUSTRATIONS

Decorative wyrm, symbolic of the building's former role as morgue, adorns the Health Department Administration Building's Façade



MORTALITY TABLES AND ILLUSTRATIONS

Figure 1. All-cause age-adjusted mortality rate: Allegheny County, 1970-2018

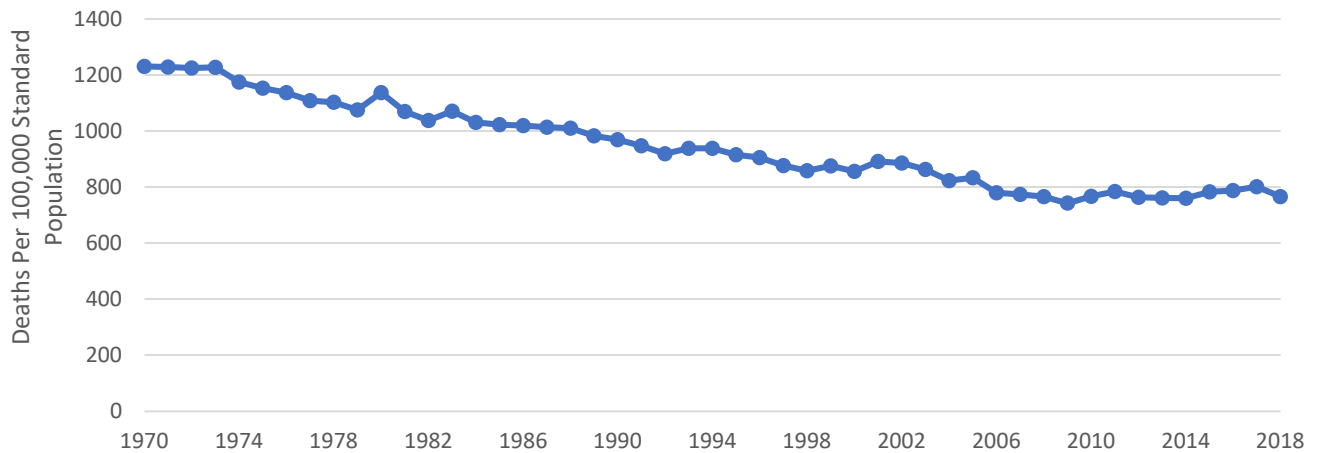
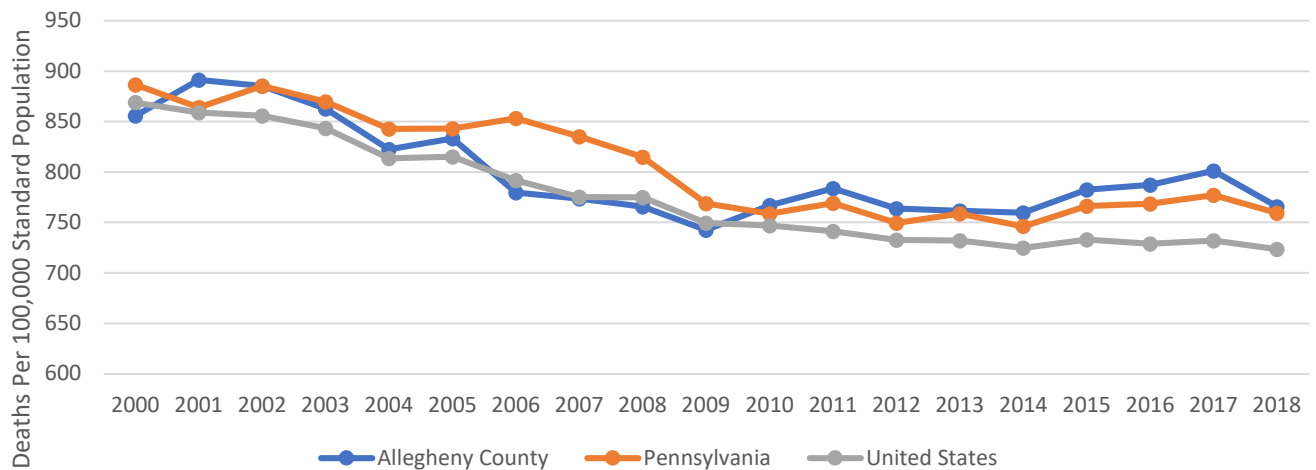
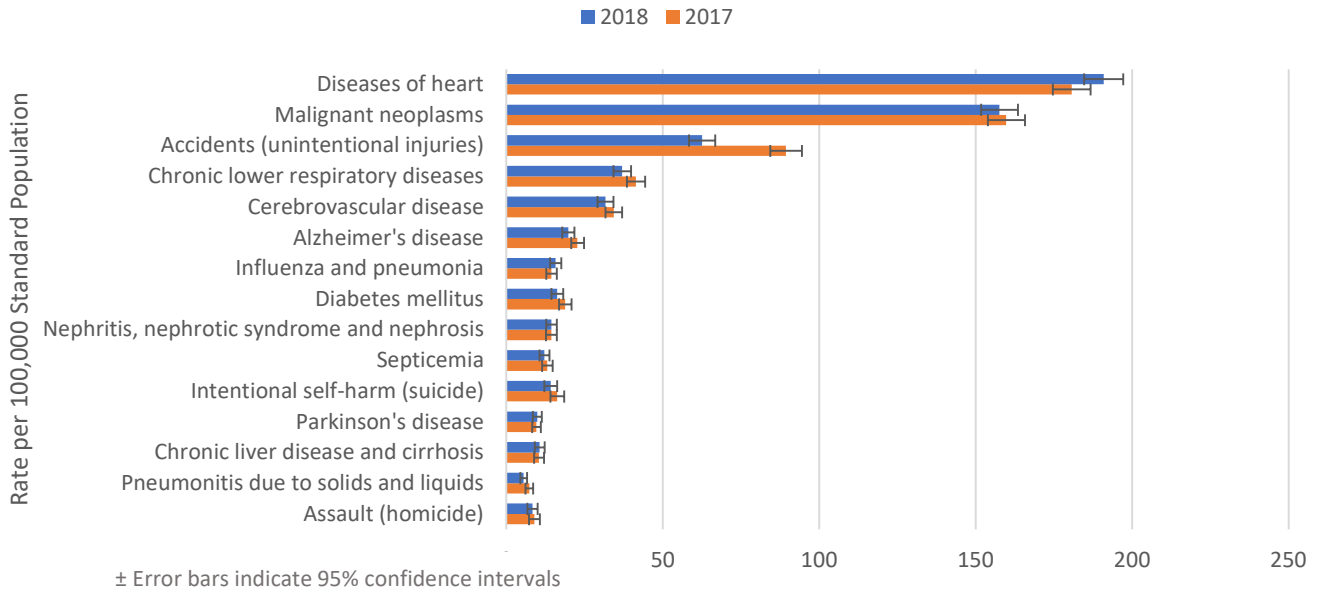


Figure 2. All-cause age-adjusted mortality rate: Allegheny County, Pennsylvania, and the United States, 2000-2018



**Figure 3. Age-adjusted mortality rate for leading causes of death:
Allegheny County, 2017 and 2018**



**Figure 4. Change in number of deaths by cause:
Allegheny County, 2017 to 2018**

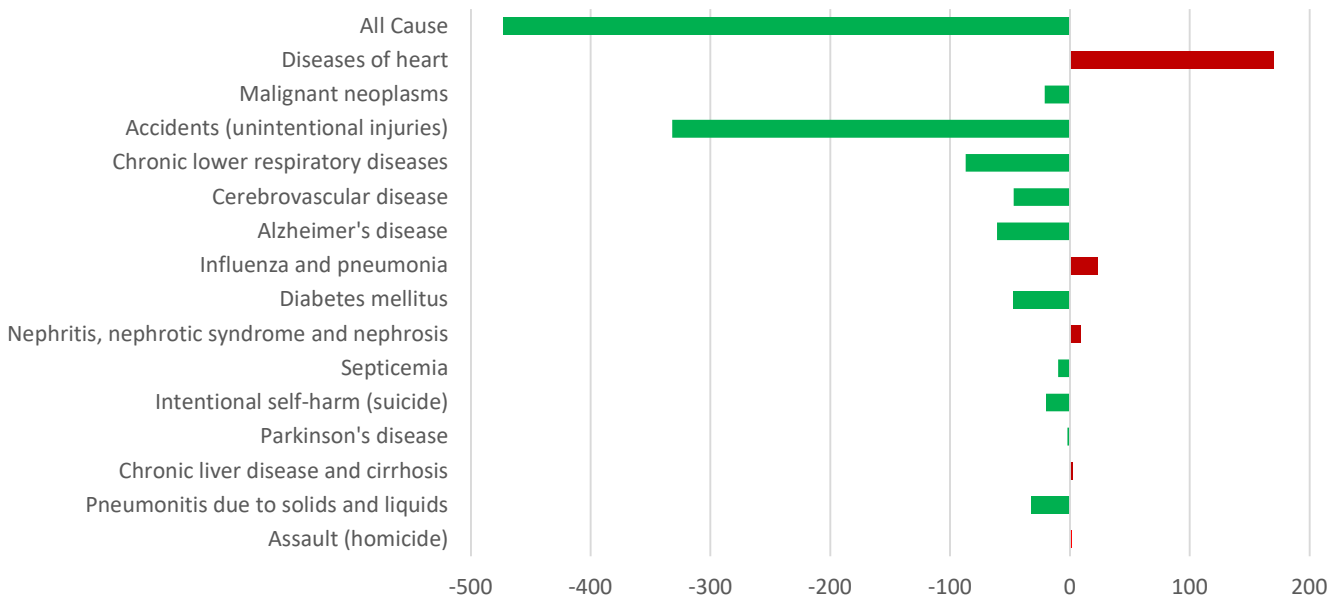


Table 1: Number of total deaths, percent of total deaths, age-adjusted mortality rate, 95% confidence intervals, and percent change for leading causes of death: Allegheny County, 2017 and 2018

Cause of Death	2017				2018				Percent Change in Rates
	Number	Percent	Age-Adjusted Rate ^a	95% Confidence Interval	Number	Percent	Age-Adjusted Rate ^a	95% Confidence Interval	
All Cause	14,127	100%	801.2	(788.0, 814.4)	13,654	100%	765.5	(752.7, 778.4)	-4.5%
Diseases of heart	3,414	24%	180.7	(174.6, 186.8)	3,584	26%	190.9	(184.7, 197.2)	5.7%
Malignant neoplasms	2,816	20%	159.8	(153.9, 165.7)	2,795	20%	157.6	(151.8, 163.5)	-1.4%
Accidents (unintentional injuries)	1,198	8%	89.4	(84.4, 94.5)	866	6%	62.6	(58.4, 66.7)	-30.0%
Chronic lower respiratory diseases	765	5%	41.4	(38.5, 44.4)	678	5%	37.0	(34.2, 39.8)	-10.7%
Cerebrovascular disease	643	5%	34.4	(31.7, 37.0)	596	4%	31.7	(29.1, 34.2)	-7.9%
Alzheimer's disease	469	3%	22.7	(20.7, 24.8)	408	3%	19.8	(17.9, 21.8)	-12.8%
Influenza and pneumonia	283	2%	14.5	(12.8, 16.2)	306	2%	15.8	(14.0, 17.5)	8.9%
Diabetes mellitus	333	2%	18.8	(16.8, 20.8)	286	2%	16.3	(14.4, 18.1)	-13.5%
Nephritis, nephrotic syndrome and nephrosis	264	2%	14.4	(12.7, 16.1)	273	2%	14.4	(12.7, 16.1)	0.1%
Septicemia	233	2%	13.1	(11.4, 14.8)	223	2%	12.2	(10.6, 13.8)	-7.1%
Intentional self-harm (suicide)	211	1%	16.3	(14.1, 18.5)	191	1%	14.2	(12.2, 16.2)	-12.9%
Parkinson's disease	182	1%	9.6	(8.2, 11.0)	180	1%	9.9	(8.5, 11.4)	3.3%
Chronic liver disease and cirrhosis	168	1%	10.5	(8.9, 12.0)	170	1%	10.6	(9.0, 12.2)	1.7%
Pneumonitis due to solids and liquids	142	1%	7.3	(6.1, 8.5)	110	1%	5.5	(4.5, 6.6)	-24.5%
Assault (homicide)	102	1%	9.0	(7.2, 10.7)	103	1%	8.4	(6.7, 10.0)	-6.7%

^aRate is deaths per 100,000 standard population

Table 2: Age-adjusted mortality rate^a for leading causes of death: Allegheny County, 1970-2018

Cause of Death	1970	1975	1980	1985	1990	1995	2000	2005	2010	2012	2013	2014	2015	2016	2017	2018
All causes	1230.9	1152.9	1197.1	1022.6	968.5	915.5	855.7	833.3	767	763.6	761.5	701.2	782.5	787.1	801.2	765.5
Diseases of heart	545.8	213.5	497.7	427.9	345.7	308.3	256.2	228.3	183.6	181.4	185.7	185.9	188.4	183	180.7	190.9
Malignant neoplasms	214.9	224.9	237.5	228.3	242.1	228.1	214.2	203.5	184.8	184.2	174.4	174	169	166.7	159.8	157.6
Accidents (unintentional injuries)	38.1	36	35.3	27.8	25.9	25.6	29.3	36.7	43.2	45.6	46.3	47.2	56.6	74.97	89.4	62.6
Chronic lower respiratory diseases	12.5	21.5	25.8	31.3	35	36.3	37.8	37.9	36.6	36.4	38.5	37.3	35.9	38.96	41.4	37.0
Cerebrovascular disease	128.8	110.3	89.2	69	61.2	28.9	53.2	43.7	38.9	34.5	37.1	34.7	34.2	35.9	34.4	31.7
Alzheimer's disease	NA ^b	NA	0.5	2.7	5.3	5.3	12.4	20	17.9	18.6	16.6	21	24.2	23.1	22.7	19.8
Influenza and Pneumonia	39.8	33.5	28.6	30.2	33.2	30.8	18.9	18.8	17	15.2	17.8	16.3	17.1	13.6	14.5	15.8
Diabetes mellitus	23	20.7	25.4	22.9	23.7	23.3	24.8	20.5	17.2	20.7	20	16.8	19.9	20.1	18.8	16.3
Nephritis, nephrotic syndrome and nephrosis	6.9	10.1	11.6	13.2	13.7	12.7	17.8	19.3	18.4	15.3	15	14.4	16.3	14.8	14.4	14.4
Septicemia	2.4	4.4	7.4	9.6	11.1	11.3	16.2	14.7	14	11.6	13	13.2	11.8	11.2	13.1	12.2
Intentional self-harm	13.5	12.7	11.1	11.5	11.1	10.2	10.8	11.4	9.8	11.7	12.9	11.3	12.9	13.9	16.3	14.2
Parkinson's disease	NA	NA	2.9	3	3.1	4.7	6.5	7.3	7.4	7.9	7.5	7.2	7.3	7.5	9.6	9.9
Chronic liver disease and cirrhosis	21.3	19.1	20.5	11	10.3	9.4	9.3	9.4	10.6	9	10.1	12.6	11.5	11.3	10.5	10.6
Pneumonitis due to solids and liquids	NA	NA	NA	NA	NA	NA	8.3	13.7	7.9	6.4	6.3	6	6.6	6.8	7.3	5.5
Assault (homicide)	5.1	6.9	5.7	3.8	5.3	6.8	5.8	7.5	8.6	8	7.3	9.6	9.6	8.8	9.0	8.4

^aRate is deaths per 100,000 standard population

^bNA = Data are not available

Figure 5. All-cause age-adjusted death rate by sex: Allegheny County, 1970-2018

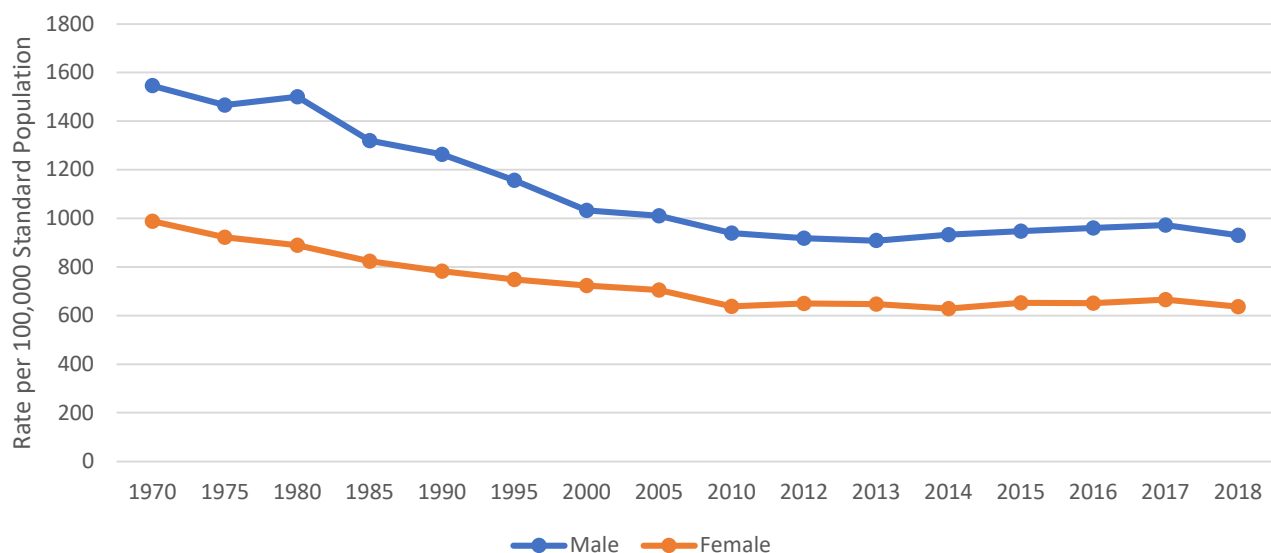


Table 3: Leading cause rank, number of total deaths, age-adjusted mortality rate, and 95% confidence intervals for county leading causes of death for females: Allegheny County, 2017 and 2018

Cause of Death	Females							
	2017				2018			
	Rank for Females	Number	Age-Adjusted Rate ^a	95% Confidence Interval	Rank for Females	Number	Age-Adjusted Rate ^a	95% Confidence Interval
All Causes		7,214	665.6	(650.2, 681.0)		6985	636.6	(621.6, 651.5)
Diseases of heart	1	1,681	140.1	(133.4, 146.8)	1	1753	147.4	(140.5, 154.3)
Malignant neoplasms	2	1,367	137.1	(129.8, 144.3)	2	1384	137.6	(130.4, 144.9)
Accidents (unintentional injuries)	4	439	58.0	(52.6, 63.5)	5	337	42.4	(37.9, 46.9)
Chronic lower respiratory diseases	3	460	42.3	(38.5, 46.2)	3	390	35.9	(32.3, 39.5)
Cerebrovascular disease	5	392	33.3	(30.0, 36.6)	4	385	32.5	(29.2, 35.7)
Alzheimer's disease		330	25.0	(22.3, 27.7)		289	21.6	(19.1, 24.1)
Influenza and pneumonia		149	11.9	(10.0, 13.8)		158	13.2	(11.2, 15.3)
Diabetes mellitus		165	15.0	(12.7, 17.3)		132	12.5	(10.4, 14.7)
Nephritis, nephrotic syndrome and nephrosis		134	12.3	(10.2, 14.4)		131	11.1	(9.2, 13.0)
Septicemia		114	10.6	(8.7, 12.6)		114	10.6	(8.7, 12.6)
Intentional self-harm (suicide)		49	7.4	(5.3, 9.4)		42	5.9	(4.1, 7.7)
Parkinson's disease		71	6.0	(4.6, 7.4)		73	6.4	(5.0, 7.9)
Chronic liver disease and cirrhosis		70	8.4	(6.4, 10.3)		64	7.6	(5.7, 9.4)
Pneumonitis due to solids and liquids		64	5.3	(4.0, 6.6)		53	4.3	(3.1, 5.4)
Assault (homicide)		16	2.6	(1.3, 3.8)		15	2.3	(1.1, 3.5)

Table 4: Leading cause rank, number of total deaths, age-adjusted mortality rate, and 95% confidence intervals for county leading causes of death for males: Allegheny County, 2017 and 2018

Cause of Death	Males							
	2017				2018			
	Rank for Males	Number	Age-Adjusted Rate ^a	95% Confidence Interval	Rank for Males	Number	Age-Adjusted Rate ^a	95% Confidence Interval
All Causes		6,913	972.3	(949.4, 995.3)		6,669	930.0	(907.7, 952.4)
Diseases of heart	1	1,733	236.0	(224.9, 247.1)	1	1,831	247.9	(236.5, 259.2)
Malignant neoplasms	2	1,449	194.6	(184.5, 204.6)	2	1,411	189.4	(179.5, 199.3)
Accidents (unintentional injuries)	3	759	122.4	(113.7, 131.1)	3	529	84.5	(77.3, 91.8)
Chronic lower respiratory diseases	4	305	40.9	(36.3, 45.5)	4	288	39.0	(34.5, 43.6)
Cerebrovascular disease	5	251	35.0	(30.6, 39.3)	5	211	29.1	(25.2, 33.1)
Alzheimer's disease		139	18.9	(15.8, 22.1)		119	16.5	(13.6, 19.5)
Influenza and pneumonia		134	18.4	(15.3, 21.6)		148	19.6	(16.4, 22.8)
Diabetes mellitus		168	23.1	(19.6, 26.6)		154	21.4	(18.0, 24.8)
Nephritis, nephrotic syndrome and nephrosis		130	17.9	(14.8, 20.9)		142	19.7	(16.4, 22.9)
Septicemia		119	16.6	(13.7, 19.6)		109	14.9	(12.1, 17.7)
Intentional self-harm (suicide)		162	25.8	(21.8, 29.8)		149	22.9	(19.2, 26.5)
Parkinson's disease		111	15.7	(12.8, 18.7)		107	15.6	(12.6, 18.5)
Chronic liver disease and cirrhosis		98	12.7	(10.2, 15.2)		106	14.1	(11.4, 16.8)
Pneumonitis due to solids and liquids		78	10.7	(8.3, 13.1)		57	7.9	(5.8, 9.9)
Assault (homicide)		86	15.3	(12.1, 18.5)		88	14.5	(11.5, 17.6)

Table 5. Median age (years) at death for county leading causes of death by sex: Allegheny County, 2017 and 2018

Cause of Death	2017			2018		
	Total	Male	Female	Total	Male	Female
All causes	78	74	82	79	75	82
Diseases of heart	83	78	86	83	77	87
Malignant neoplasms	74	73	75	74	74	75
Accidents (unintentional injuries)	49	46	56	55	52	60
Chronic lower respiratory diseases	81	79	82	80	78.5	81
Cerebrovascular disease	84	80	86	84	79	87
Alzheimer's disease	88.5	88	89	89	87	90
Influenza and pneumonia	86	83	88	85	81.5	88
Diabetes mellitus	75	69	80	76	75	77.5
Nephritis, nephrotic syndrome and nephrosis	82	80	82.5	83	83	84
Septicemia	77	75	80	78	77	79.5
Intentional self-harm (suicide)	49	48	50	49	49	50
Parkinson's disease	85	85	85	83	82	83
Chronic liver disease and cirrhosis	62	61	64	63	62.5	66.5
Pneumonitis due to solids and liquids	87	85	88	88	87	89
Assault (homicide)	26	24	29.5	28	28	39

Table 6. Male-to-female age-adjusted mortality rate ratio Allegheny County, 2016 - 2018

Cause of Death	Male to Female Ratio		
	2016	2017	2018
All Causes	1.5	1.5	1.5
Diseases of heart	1.7	1.7	1.7
Malignant neoplasms	1.7	1.4	1.4
Accidents (unintentional injuries)	2.2	2.1	2.0
Chronic lower respiratory diseases	1.2	1.0	1.1
Cerebrovascular disease	1.1	1.0	0.9
Alzheimer's disease	0.7	0.8	0.8
Influenza and pneumonia	1.5	1.5	1.5
Diabetes mellitus	1.3	1.5	1.7
Nephritis, nephrotic syndrome and nephrosis	1.7	1.5	1.8
Septicemia	1.4	1.6	1.4
Intentional self-harm (suicide)	3	3.5	3.9
Parkinson's disease	2.4	2.6	2.4
Chronic liver disease and cirrhosis	1.8	1.5	1.9
Pneumonitis due to solids and liquids	1.7	2.0	1.8
Assault (homicide)	5.2	5.9	6.3

**Figure 6. All-cause age-adjusted mortality rate by race:
Allegheny County, 1970 - 2018**

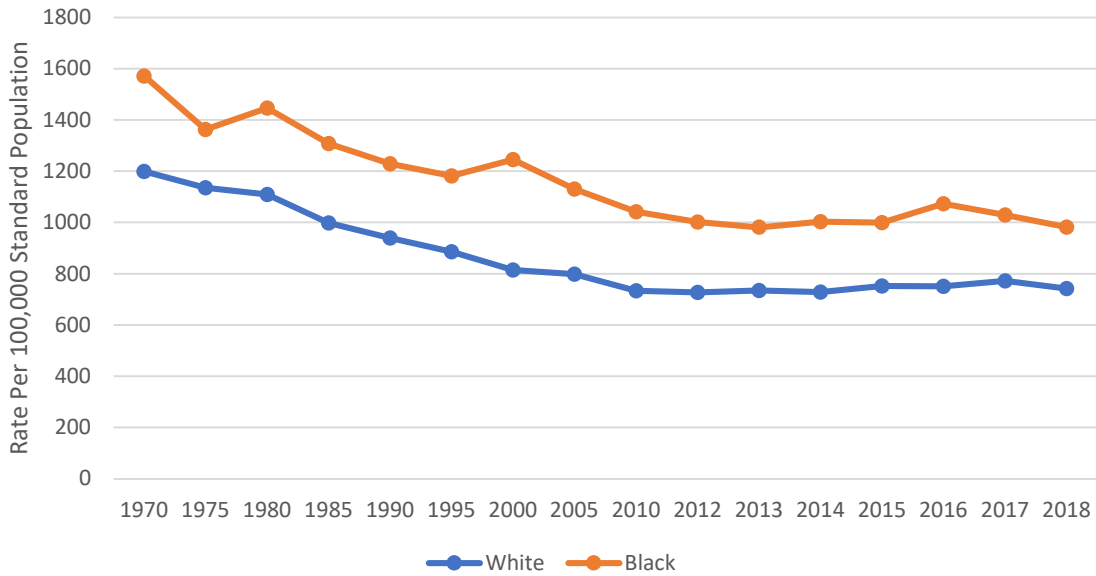


Figure 7. Age-adjusted mortality rates and confidence intervals by race for county leading causes of death: Allegheny County 2018

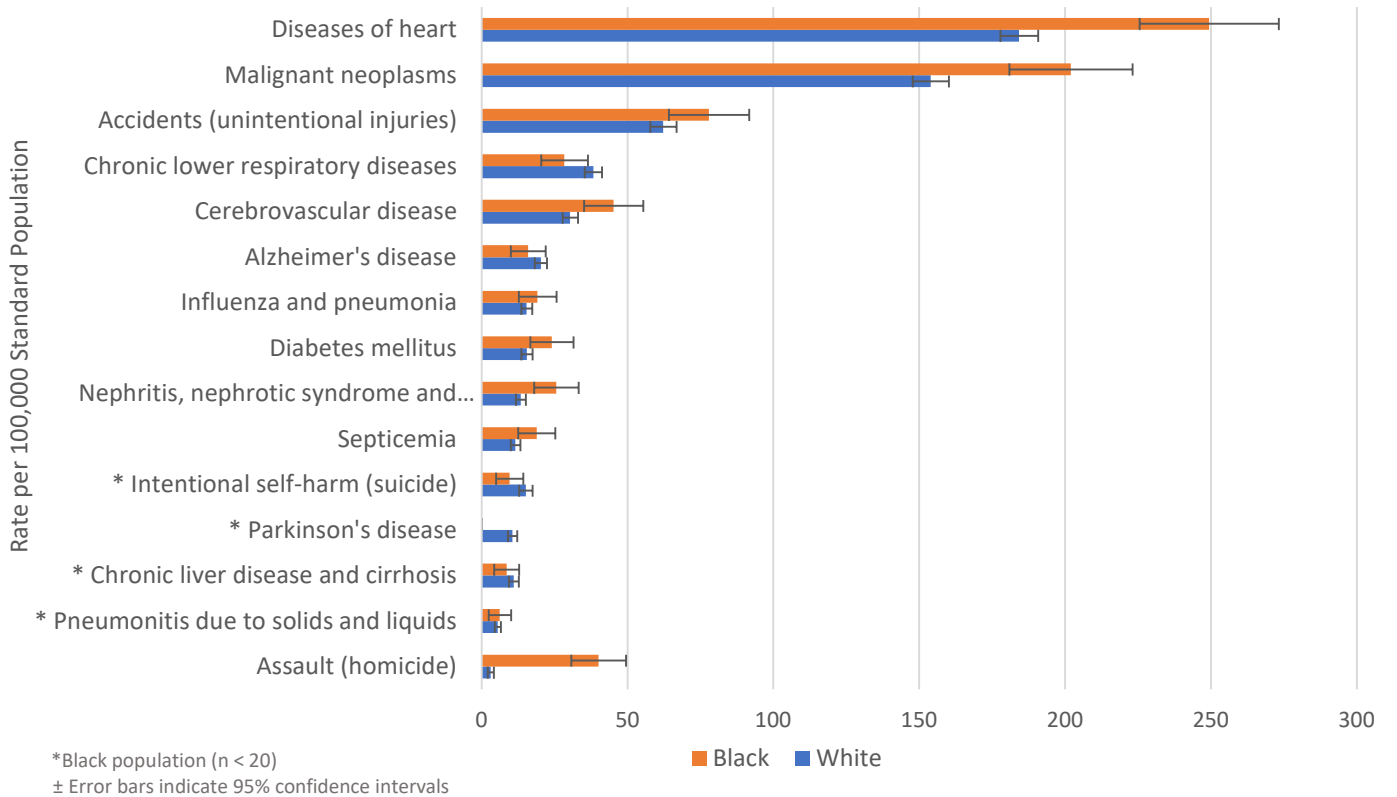


Table 7: Leading cause rank, number of total deaths, age-adjusted mortality rate, and 95% confidence intervals for county leading causes of death for black people: Allegheny County, 2017 and 2018

Cause of Death	Black							
	2017				2018			
	Rank for Blacks	Number	Age-Adjusted Rate ^a	95% Confidence Interval	Rank for Blacks	Number	Age-Adjusted Rate ^a	95% Confidence Interval
All Causes		1,745	1028.8	(980.5 , 1077.1)		1,670	982.4	(935.3 , 1029.6)
Diseases of heart	1	394	232.5	(209.5 , 255.5)	1	421	249.4	(225.6 , 273.2)
Malignant neoplasms	2	321	184.7	(164.5 , 204.9)	2	352	202.0	(180.9 , 223.1)
Accidents (unintentional injuries)	3	138	89.7	(74.8 , 104.7)	3	123	77.9	(64.1 , 91.6)
Chronic lower respiratory diseases	5	78	45.0	(35.0 , 55.0)		48	28.4	(20.3 , 36.4)
Cerebrovascular disease	4	101	59.9	(48.2 , 71.6)	4	76	45.2	(35.0 , 55.3)
Alzheimer's disease		49	28.4	(20.4 , 36.3)		27	15.9	(9.9 , 21.9)
Influenza and pneumonia		34	19.2	(12.7 , 25.6)		34	19.1	(12.7 , 25.6)
Diabetes mellitus		71	40.0	(30.7 , 49.3)		41	24.0	(16.7 , 31.4)
Nephritis, nephrotic syndrome and nephrosis		44	25.7	(18.1 , 33.3)		43	25.6	(17.9 , 33.2)
Septicemia		28	16.3	(10.2 , 22.3)		34	18.8	(12.5 , 25.2)
Intentional self-harm (suicide)		17	10.5	(5.5 , 15.5)		16	9.6	(4.9 , 14.3)
Parkinson's disease		NA	.	.		NA	.	.
Chronic liver disease and cirrhosis		24	13.6	(8.2 , 19.0)		15	8.5	(4.2 , 12.8)
Pneumonitis due to solids and liquids		14	7.8	(3.7 , 11.9)		10	6.2	(2.3 , 10.0)
Assault (homicide)		72	41.8	(32.1 , 51.4)	5	70	40.1	(30.7 , 49.5)

Table 8: Leading cause rank, number of total deaths, age-adjusted mortality rate, and 95% confidence intervals for county leading causes of death for white people: Allegheny County, 2017 and 2018

Cause of Death	White							
	2017				2018			
	Rank for Whites	Number	Age-Adjusted Rate ^a	95% Confidence Interval	Rank for Whites	Number	Age-Adjusted Rate ^a	95% Confidence Interval
All Causes		12,113	772.7	(758.9 , 786.4)		11,790	741.8	(728.4 , 755.2)
Diseases of heart	1	2,966	174.2	(168.0 , 180.5)	1	3,116	184.3	(177.8 , 190.7)
Malignant neoplasms	2	2,449	157.7	(151.5 , 164.0)	2	2,406	153.9	(147.8 , 160.1)
Accidents (unintentional injuries)	3	1,032	93.0	(87.4 , 98.7)	3	727	62.3	(57.7 , 66.8)
Chronic lower respiratory diseases	4	677	41.2	(38.1 , 44.3)	4	623	38.3	(35.2 , 41.3)
Cerebrovascular disease	5	533	31.5	(28.8 , 34.2)	5	513	30.3	(27.7 , 32.9)
Alzheimer's disease		413	22.1	(20.0 , 24.3)		377	20.3	(18.2 , 22.3)
Influenza and pneumonia		244	13.9	(12.2 , 15.7)		269	15.4	(13.6 , 17.2)
Diabetes mellitus		254	16.3	(14.3 , 18.3)		241	15.5	(13.5 , 17.4)
Nephritis, nephrotic syndrome and nephrosis		217	13.1	(11.3 , 14.8)		229	13.4	(11.7 , 15.1)
Septicemia		200	12.8	(11.0 , 14.6)		188	11.6	(9.9 , 13.2)
Intentional self-harm (suicide)		186	17.4	(14.9 , 19.9)		166	15.1	(12.8 , 17.4)
Parkinson's disease		172	10.1	(8.6 , 11.6)		172	10.5	(9.0 , 12.1)
Chronic liver disease and cirrhosis		140	10.1	(8.4 , 11.8)		152	11.0	(9.2 , 12.7)
Pneumonitis due to solids and liquids		126	7.3	(6.0 , 8.6)		99	5.5	(4.4 , 6.6)
Assault (homicide)		22	2.5	(1.5 , 3.5)		33	3.1	(2.0 , 4.1)

Table 9. Black-to-white age-adjusted mortality rate ratio, Allegheny County 2016 - 2018

Cause of Death	Black-to-White Ratio		
	2016	2017	2018
All Cause	1.4	1.3	1.3
Diseases of heart	1.5	1.3	1.4
Malignant neoplasms	1.2	1.2	1.3
Accidents (unintentional injuries)	1.1	1.0	1.3
Chronic lower respiratory diseases	1.1	1.1	0.7
Cerebrovascular disease	1.7	1.9	1.5
Alzheimer's disease	0.6	1.3	0.8
Influenza and pneumonia	0.9	1.4	1.2
Diabetes mellitus	1.9	2.5	1.6
Nephritis, nephrotic syndrome and nephrosis	3.0	2.0	1.9
Septicemia	1.4	1.3	1.6
Intentional self-harm (suicide)	0.9	0.6	0.6
Parkinson's disease	NA	NA	NA
Chronic liver disease and cirrhosis	1.2	1.3	0.8
Pneumonitis due to solids and liquids	1.3	1.1	1.1
Assault (homicide)	19.6	16.7	13.0

NA not available due to low number of events

Table 10. Median age (years) at death for county leading causes of death by race: Allegheny County, 2017 and 2018

Cause of Death	2017		2018	
	White	Black	White	Black
All causes	79	68.5	80	68
Diseases of heart	84	74	84	72
Malignant neoplasms	75	69	75	68
Accidents (unintentional injuries)	49	48	56	50
Chronic lower respiratory diseases	81	74.5	80	76
Cerebrovascular disease	86	74.5	86	77
Alzheimer's disease	89	87	88	90
Influenza and pneumonia	87	77	86	72
Diabetes mellitus	77	68	77	69
Nephritis, nephrotic syndrome and nephrosis	84	70	84	81
Septicemia	77	69	79	68
Intentional self-harm (suicide)	51	30.5	51	31.5
Parkinson's disease	85	80	83	79
Chronic liver disease and cirrhosis	62	61	64	58
Pneumonitis due to solids and liquids	87	74.5	88	85
Assault (homicide)	33.5	24	54	27

Figure 8. All-cause age-adjusted mortality rate by sex and race: Allegheny County, 1970-2018

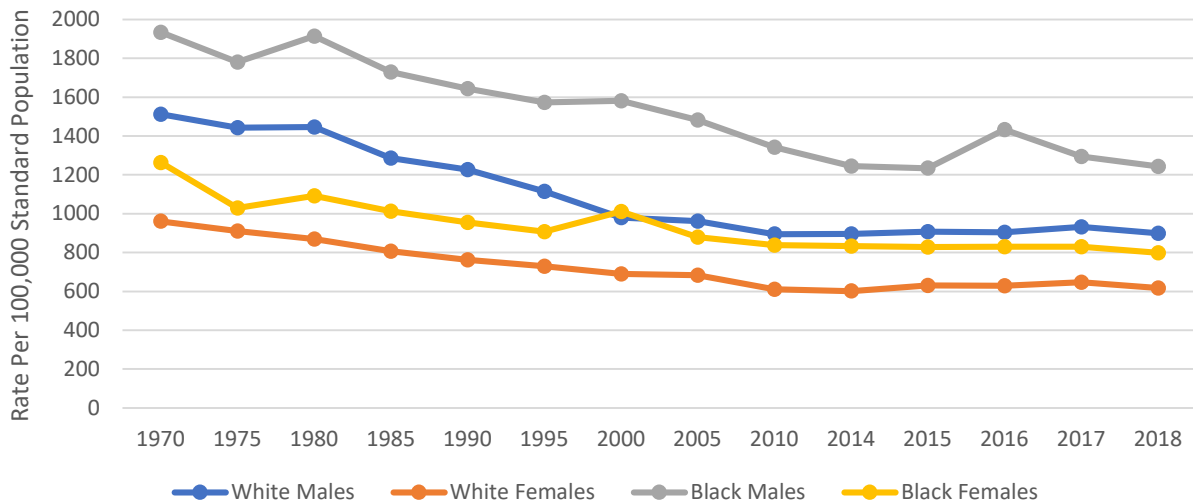


Table 11: Leading cause rank, number of total deaths, age-adjusted mortality rate, and 95% confidence intervals for county leading causes of death for black females: Allegheny County, 2017 and 2018

Cause of Death	Black Females							
	2017				2018			
	Rank for Black Females	Number	Age-Adjusted Rate ^a	95% Confidence Interval	Rank for Black Females	Number	Age-Adjusted Rate ^a	95% Confidence Interval
All Causes		871	830.4	(775.3, 885.6)		826	799.0	(744.5, 853.5)
Diseases of heart	1	195	178.4	(153.3, 203.4)	1	208	201.0	(173.7, 228.3)
Malignant neoplasms	2	178	172.2	(146.9, 197.5)	2	179	172.2	(146.9, 197.4)
Accidents (unintentional injuries)		36	42.7	(28.8, 56.7)	4	48	57.2	(41.0, 73.4)
Chronic lower respiratory diseases	4	47	44.5	(31.8, 57.3)	5	24	22.3	(13.4, 31.2)
Cerebrovascular disease	3	61	58.5	(43.8, 73.2)	3	49	47.7	(34.3, 61.1)
Alzheimer's disease		33	28.5	(18.8, 38.3)		23	20.1	(11.9, 28.3)
Influenza and pneumonia		21	17.3	(9.9, 24.7)		19	18.3	(10.1, 26.5)
Diabetes mellitus	5	39	36.9	(25.3, 48.5)	5	24	24.3	(14.6, 34.0)
Nephritis, nephrotic syndrome and nephrosis		21	19.9	(11.4, 28.4)		20	18.1	(10.2, 26.0)
Septicemia		16	14.5	(7.4, 21.6)	5	24	21.7	(13.0, 30.3)
Intentional self-harm (suicide)		NA	NA	NA		NA	NA	NA
Parkinson's disease		NA	NA	NA		NA	NA	NA
Chronic liver disease and cirrhosis		10	10.2	(3.9, 16.6)		NA	NA	NA
Pneumonitis due to solids and liquids		NA	NA	NA		NA	NA	NA
Assault (homicide)		NA	NA	NA		NA	NA	NA

Table 12: Leading cause rank, number of total deaths, age-adjusted mortality rate, and 95% confidence intervals for county leading causes of death for white females: Allegheny County, 2017 and 2018

Cause of Death	White Females							
	2017				2018			
	Rank for White Females	Number	Age-Adjusted Rate ^a	95% Confidence Interval	Rank for White Females	Number	Age-Adjusted Rate ^a	95% Confidence Interval
All Causes		6,231	646.5	(630.4, 662.5)		6,073	617.4	(601.9, 632.9)
Diseases of heart	1	1,462	134.7	(127.8, 141.6)	1	1,528	140.8	(133.7, 147.8)
Malignant neoplasms	2	1,168	133.6	(126.0, 141.3)	2	1,191	134.9	(127.3, 142.6)
Accidents (unintentional injuries)	4	397	63.5	(57.2, 69.7)	5	281	40.7	(35.9, 45.4)
Chronic lower respiratory diseases	3	411	42.4	(38.3, 46.5)	3	362	37.7	(33.8, 41.6)
Cerebrovascular disease	5	327	30.4	(27.1, 33.7)	4	335	31.0	(27.7, 34.3)
Alzheimer's disease		293	24.6	(21.8, 27.4)		263	21.7	(19.1, 24.4)
Influenza and pneumonia		127	11.5	(9.5, 13.5)		137	12.6	(10.5, 14.7)
Diabetes mellitus		123	12.2	(10.0, 14.3)		105	10.8	(8.7, 12.8)
Nephritis, nephrotic syndrome and nephrosis		111	11.4	(9.3, 13.5)		110	10.4	(8.5, 12.3)
Septicemia		96	10.2	(8.1, 12.2)		89	9.4	(7.5, 11.4)
Intentional self-harm (suicide)		43	7.9	(5.6, 10.3)		35	6.0	(4.0, 8.0)
Parkinson's disease		67	6.3	(4.8, 7.8)		70	6.9	(5.3, 8.5)
Chronic liver disease and cirrhosis		57	8.1	(6.0, 10.2)		60	8.3	(6.2, 10.4)
Pneumonitis due to solids and liquids		55	5.1	(3.7, 6.4)		50	4.5	(3.2, 5.7)
Assault (homicide)		NA	NA	NA		NA	NA	NA

Table 13: Leading cause rank, number of total deaths, age-adjusted mortality rate, and 95% confidence intervals for county leading causes of death for black males: Allegheny County, 2017 and 2018

Cause of Death	Black Males							
	2017				2018			
	Rank for Black Males	Number	Age-Adjusted Rate ^a	95% Confidence Interval	Rank for Black Males	Number	Age-Adjusted Rate ^a	95% Confidence Interval
All Causes		874	1294.6	(1208.8, 1380.4)		844	1244.3	(1160.4, 1328.3)
Diseases of heart	1	199	310.6	(267.5, 353.8)	1	213	318.9	(276.1, 361.8)
Malignant neoplasms	2	143	207.5	(173.5, 241.6)	2	173	257.4	(219.1, 295.8)
Accidents (unintentional injuries)	3	102	149.1	(120.2, 178.0)	3	75	103.4	(80.0, 126.9)
Chronic lower respiratory diseases		31	49.0	(31.7, 66.2)		24	41.2	(24.7, 57.6)
Cerebrovascular disease	5	40	59.3	(40.9, 77.6)	5	27	39.0	(24.3, 53.7)
Alzheimer's disease		16	29.5	(15.1, 44.0)		NA	NA	NA
Influenza and pneumonia		13	21.6	(9.9, 33.3)		15	19.7	(9.7, 29.7)
Diabetes mellitus		32	44.4	(29.0, 59.7)		17	25.6	(13.4, 37.8)
Nephritis, nephrotic syndrome and nephrosis		23	33.0	(19.5, 46.4)		23	39.9	(23.6, 56.2)
Septicemia		12	18.8	(8.2, 29.4)		10	13.9	(5.3, 22.5)
Intentional self-harm (suicide)		13	16.2	(7.4, 25.0)		11	14.7	(6.0, 23.4)
Parkinson's disease		NA	NA	NA		NA	NA	NA
Chronic liver disease and cirrhosis		14	18.1	(8.6, 27.6)		11	13.7	(5.6, 21.8)
Pneumonitis due to solids and liquids		NA	NA	NA		NA	NA	NA
Assault (homicide)	4	64	79.2	(59.8, 98.6)	4	62	74.9	(56.2, 93.5)

Table 14: Leading cause rank, number of total deaths, age-adjusted mortality rate, and 95% confidence intervals for county leading causes of death for white males: Allegheny County, 2017 and 2018

Cause of Death	White Males							
	2017				2018			
	Rank for White Males	Number	Age-Adjusted Rate ^a	95% Confidence Interval	Rank for White Males	Number	Age-Adjusted Rate ^a	95% Confidence Interval
All Causes		5,882	931.6	(907.8 , 955.5)		5,717	898.5	(875.2 , 921.7)
Diseases of heart	1	1,504	227.7	(216.2 , 239.3)	1	1,588	240.4	(228.6 , 252.2)
Malignant neoplasms	2	1,281	193.8	(183.2 , 204.4)	2	1,215	183.7	(173.4 , 194.1)
Accidents (unintentional injuries)	3	635	123.1	(113.5 , 132.7)	3	446	85.1	(77.2 , 93)
Chronic lower respiratory diseases	4	266	39.8	(35.0 , 44.6)	4	261	39.4	(34.6 , 44.2)
Cerebrovascular disease	5	206	32.3	(27.9 , 36.7)	5	178	27.9	(23.8 , 32)
Alzheimer's disease		120	18.0	(14.7 , 21.2)		114	17.4	(14.2 , 20.6)
Influenza and pneumonia		117	17.8	(14.5 , 21.0)		132	19.7	(16.3 , 23)
Diabetes mellitus		131	20.9	(17.3 , 24.5)		136	21.5	(17.9 , 25.2)
Nephritis, nephrotic syndrome and nephrosis		106	16.1	(13.1 , 19.2)		119	18.2	(14.9 , 21.4)
Septicemia		104	16.4	(13.2 , 19.5)		99	15.1	(12.2 , 18.1)
Intentional self-harm (suicide)		143	27.3	(22.8 , 31.8)		131	24.5	(20.3 , 28.7)
Parkinson's disease		105	16.4	(13.3 , 19.5)		102	16.3	(13.2 , 19.5)
Chronic liver disease and cirrhosis		83	12.3	(9.6 , 14.9)		92	14.0	(11.1 , 16.8)
Pneumonitis due to solids and liquids		71	11.0	(8.4 , 13.5)		49	7.4	(5.3 , 9.5)
Assault (homicide)		14	3.2	(1.5 , 4.9)		26	5.2	(3.2 , 7.1)

Table 15. Black to white age-adjusted mortality rate ratio by sex: Allegheny County, 2016 - 2018

Cause of Death	Black to White Females			Black to White Males		
	2016	2017	2018	2016	2017	2018
All Causes	1.3	1.3	1.3	1.6	1.4	1.4
Diseases of heart	1.5	1.3	1.4	1.5	1.4	1.3
Malignant neoplasms	1.1	1.3	1.3	1.4	1.1	1.4
Accidents (unintentional injuries)	0.8	0.7	1.4	1.4	1.2	1.2
Chronic lower respiratory diseases	0.9	1.0	0.6	1.5	1.2	1.0
Cerebrovascular disease	1.6	1.9	1.5	1.9	1.8	1.4
Alzheimer's disease	0.6	1.2	0.9	NA	1.6	NA
Influenza and pneumonia	1.4	1.5	1.5	NA	1.2	1.0
Diabetes mellitus	2.4	3.0	2.3	1.4	2.1	1.2
Nephritis, nephrotic syndrome and nephrosis	2.8	1.7	1.7	3.2	2.0	2.2
Septicemia	1.1	1.4	2.3	1.9	1.1	0.9
Intentional self-harm (suicide)	NA	NA	NA	1.1	0.6	0.6
Parkinson's disease	NA	NA	NA	NA	NA	NA
Chronic liver disease and cirrhosis	NA	1.3	NA	1.3	1.5	1.0
Pneumonitis due to solids and liquids	NA	NA	NA	NA	NA	NA
Assault (homicide)	NA	NA	NA	22.1	24.7	14.5

NA: not available due to low number of events

Table 16. Median age (years) at death for county leading causes of death by race and sex: Allegheny County, 2017 and 2018

Cause of Death	Females				Males			
	2017		2018		2017		2018	
	Black	White	Black	White	Black	White	Black	White
All causes	74	83	73	83	65	75	66	76
Diseases of heart	82	87	78	88	69	80	67	79
Malignant neoplasms	70	76	67	76	68.5	74	69	75
Accidents (unintentional injuries)	50.5	57.5	48	67	45	47	51	52
Chronic lower respiratory diseases	74	83	75	81	75	79	81	78
Cerebrovascular disease	76	87	79	88	68	81.5	69	81
Alzheimer's disease	87	89	90	89.5	88.5	88	92.5	87
Influenza and pneumonia	81.5	88	73	88	75	85	71	82.5
Diabetes mellitus	72	85	67.5	80	65.5	71	69	75
Nephritis, nephrotic syndrome and nephrosis	75	83	81	85	64.5	84	81	83
Septicemia	67	81.5	69.5	80	71	76	65	78
Intentional self-harm (suicide)	47	50	26	56	27	52	41	51
Parkinson's disease	85.5	85	79	83.5	79	85	81	82
Chronic liver disease and cirrhosis	57.5	64	58	67	64	61	58	63
Pneumonitis due to solids and liquids	76	88	86	89	68	86	85	88
Assault (homicide)	27.5	38	27	73	24	30.5	27	51

Figure 9. Infant mortality rate by race and geography:
Allegheny County and Pennsylvania, 1999-2018

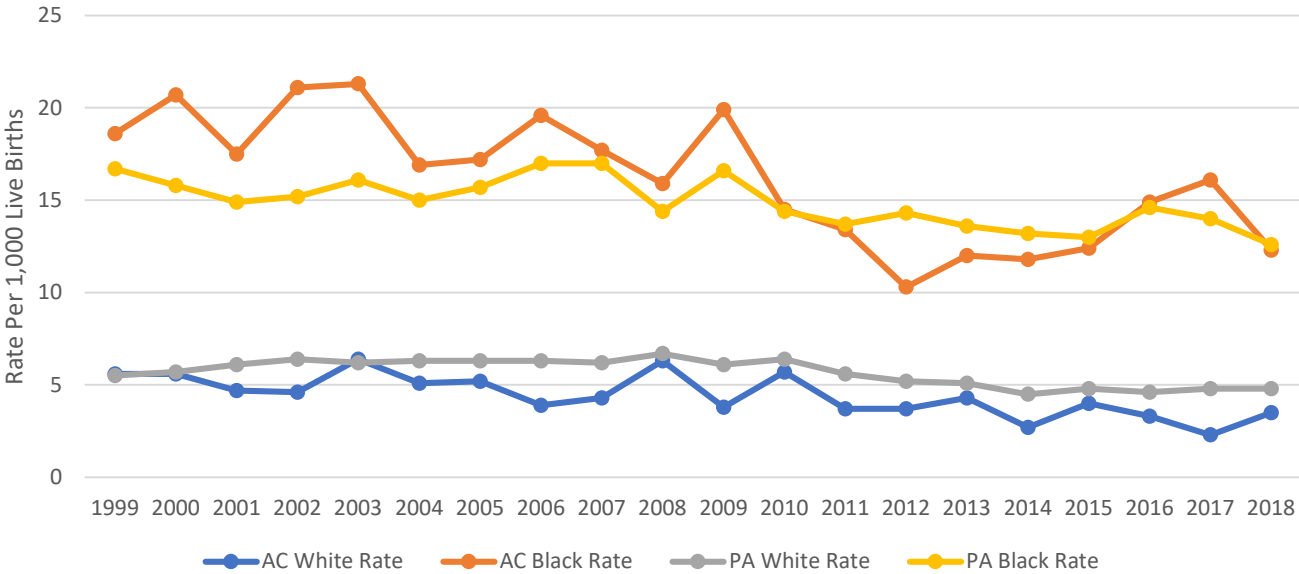


Table 17. Infant¹ mortality number and rate by race: Allegheny County, 1990 - 2018

Year	Total Number	Total Rate ²	White Number	White Rate ³	Black Number	Black Rate ³	Black-to-White Rate Ratio
2018	71	5.5	31	3.5	33	12.3	3.5
2017	72	5.6	19	2.3	42	16.1	7.0
2016	78	5.9	30	3.3	38	14.9	4.5
2015	83	6.2	38	4	32	12.4	3.1
2014	75	5.6	26	2.7	30	11.8	4.4
2013	88	6.6	41	4.3	32	12	2.8
2012	77	5.9	35	3.7	27	10.3	2.8
2011	80	6.1	35	3.7	35	13.4	3.6
2010	97	7.5	54	5.7	38	14.5	2.5
2009	93	7.1	36	3.8	54	19.9	5.2
2008	108	8.1	60	6.3	44	15.9	2.5
2007	96	7.2	42	4.3	50	17.7	4.1
2006	91	7.1	37	3.9	52	19.6	5.0
2005	97	7.5	51	5.2	44	17.2	3.3
2004	97	7.3	50	5.1	45	16.9	3.3
2003	120	8.8	66	6.4	54	21.3	3.3
2002	105	7.8	46	4.6	48	21.1	4.6
2001	101	7.3	50	4.7	46	17.5	3.7
2000	120	8.4	62	5.6	57	20.7	3.7
1999	117	8.1	63	5.6	51	18.6	3.3
1998	101	7	58	5.2	42	15.6	3.0
1997	102	7	49	4.3	53	19	4.4
1996	117	7.9	63	5.4	54	19	3.5
1995	137	8.8	79	6.5	58	19.7	3.0
1994	130	8.1	69	5.5	59	18.6	3.4
1993	161	9.7	79	6.1	77	22.5	3.7
1992	171	9.7	81	5.9	87	23.9	4.1
1991	168	9.7	91	6.7	76	21.4	3.2
1990	168	9.3	83	5.8	81	23.6	4.1

¹Infant death is defined as a death that occurs within the first year of life

²Per 1,000 live births. See Technical Notes for calculation

³Per 1,000 live births of mother's racial group. See Technical Notes for calculation

Figure 10. Neonatal mortality rate by race and geography: Allegheny County and Pennsylvania, 1999-2018

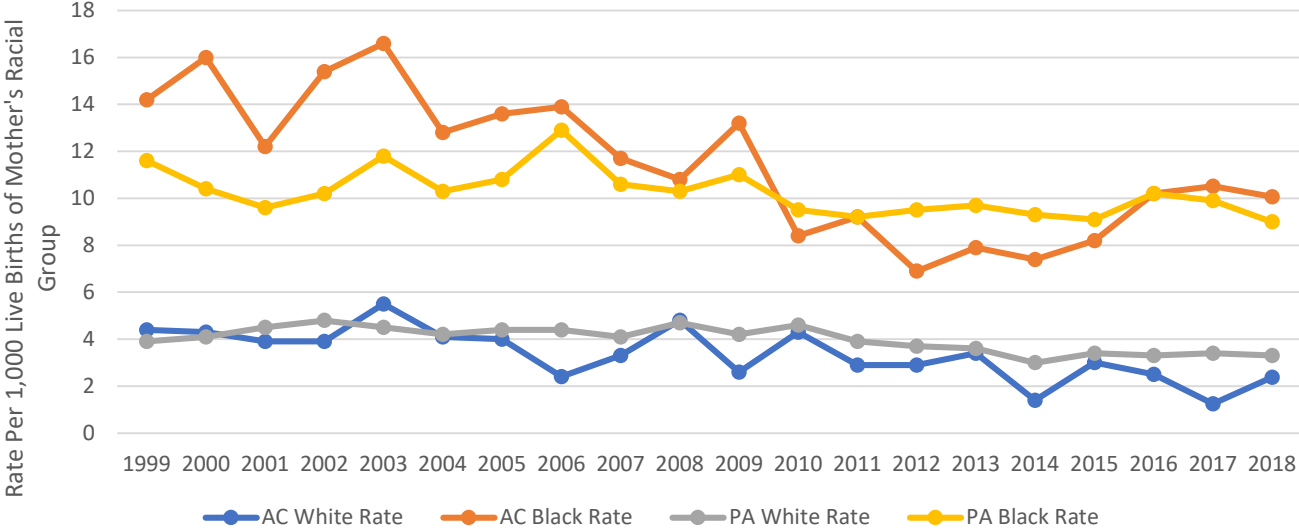


Table 18. Neonatal¹ mortality number and rate by race: Allegheny County, 1990 - 2018

Year	Total Number	Total Rate ²	White Number	White Rate ³	Black Number	Black Rate ³	Black-to-White Rate Ratio
2018	55	4.4	21	2.4	27	10.1	4.2
2017	48	3.7	11	1.2	28	10.5	8.4
2016	58	4.4	23	2.5	26	10.2	4.1
2015	59	4.4	28	3	21	8.2	2.7
2014	48	3.6	13	1.4	19	7.4	5.3
2013	67	5	32	3.4	21	7.9	2.3
2012	59	4.5	27	2.9	18	6.9	2.4
2011	55	4.2	27	2.9	24	9.2	3.2
2010	65	5	40	4.3	22	8.4	2.0
2009	64	4.9	25	2.6	36	13.2	5.1
2008	79	6	46	4.8	30	10.8	2.3
2007	69	5.2	32	3.3	33	11.7	3.5
2006	62	4.9	23	2.4	37	13.9	5.8
2005	76	5.8	39	4	35	13.6	3.4
2004	76	5.8	40	4.1	34	12.8	3.1
2003	99	7.3	57	5.5	42	16.6	3.0
2002	83	6.2	40	3.9	40	15.4	3.9
2001	78	5.6	41	3.9	32	12.2	3.1
2000	91	6.4	47	4.3	44	16	3.7
1999	91	6.3	49	4.4	39	14.2	3.2
1998	67	4.7	41	3.6	25	9.3	2.6
1997	76	5.2	34	3	42	15.1	5.0
1996	79	5.3	45	3.9	34	12	3.1
1995	103	6.6	62	5.1	41	13.9	2.7
1994	91	5.6	51	4	38	12	3.0
1993	118	7.1	60	4.7	54	15.8	3.4
1992	116	6.6	56	4.1	58	16	3.9
1991	112	6.4	56	4.1	55	15.5	3.8
1990	117	6.5	58	4	57	16.6	4.2

¹ Neonatal death is defined as a death that occurs between 0 and 27 days after birth

² Per 1,000 live births. See Technical Notes for calculation

³ Per 1,000 live births of mother's racial group. See Technical Notes for calculation

Figure 11. Post-neonatal mortality rate by race and geography: Allegheny County and Pennsylvania, 1999-2018

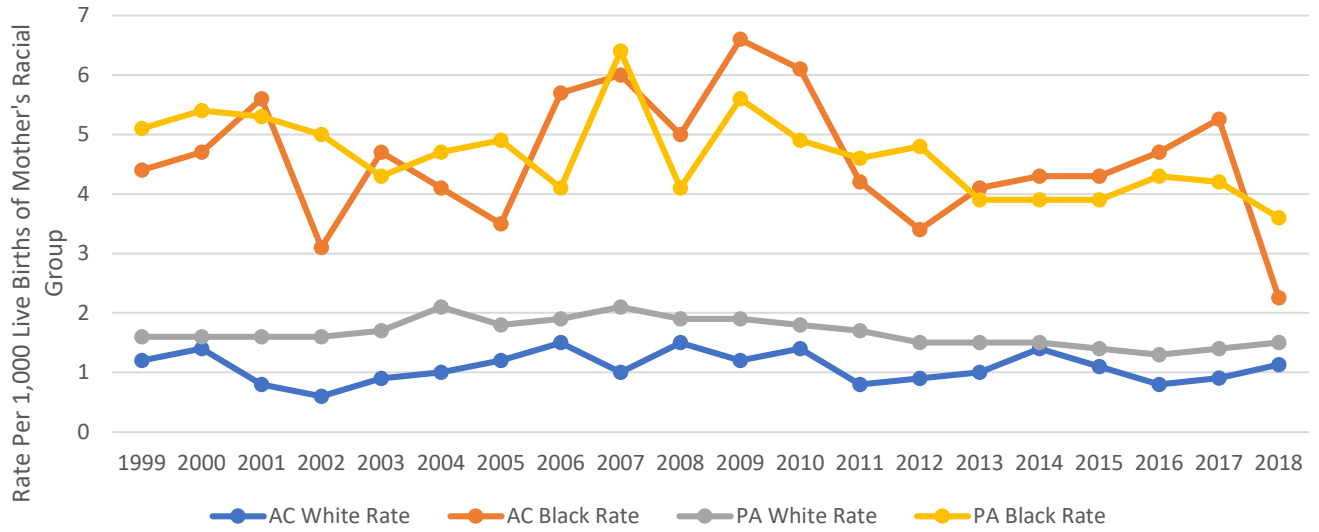


Table 19. Post-neonatal¹ mortality number and rate by race: Allegheny County, 1990-2018

Year	Total Number	Total Rate ²	White Number	White Rate ³	Black Number	Black Rate ³	Black-to-White Rate Ratio
2018	16	1.3	10	1.1	6	2.2	2.0
2017	24	1.9	8	0.9	14	5.3	5.8
2016	20	1.5	7	0.8	12	4.7	5.9
2015	24	1.8	10	1.1	11	4.3	3.9
2014	27	2	13	1.4	11	4.3	3.1
2013	21	1.6	9	1	11	4.1	4.1
2012	18	1.4	8	0.9	9	3.4	3.8
2011	25	1.9	8	0.8	11	4.2	5.3
2010	32	2.5	14	1.4	16	6.1	4.4
2009	29	2.2	11	1.2	18	6.6	5.5
2008	28	2.1	14	1.5	14	5	3.3
2007	27	2	10	1	17	6	6.0
2006	29	2.3	14	1.5	15	5.7	3.8
2005	21	1.6	12	1.2	9	3.5	2.9
2004	21	1.6	10	1	11	4.1	4.1
2003	21	1.5	9	0.9	12	4.7	5.2
2002	16	1.2	6	0.6	8	3.1	5.2
2001	23	1.7	9	0.8	14	5.6	7.0
2000	29	2	15	1.4	13	4.7	3.4
1999	26	1.8	14	1.2	12	4.4	3.7
1998	34	2.4	17	1.5	17	6.3	4.2
1997	26	1.8	15	1.3	11	3.9	3.0
1996	38	2.6	18	1.5	20	7	4.7
1995	34	2.2	17	1.4	17	5.8	4.1
1994	39	2.4	18	1.4	21	6.6	4.7
1993	43	2.6	19	1.5	23	6.7	4.5
1992	55	3.1	25	1.8	29	8	4.4
1991	56	3.2	35	2.6	21	5.9	2.3
1990	51	2.8	25	1.7	24	7	4.1

¹Post-neonatal death is defined as a death that occurs between 28 and 364 days after birth

²Per 1,000 live births. See Technical Notes for calculation

³Per 1,000 live births of mother's racial group. See Technical Notes for calculation

TECHNICAL NOTES

Allegheny County Morgue
being moved to its
current location in
downtown Pittsburgh



TECHNICAL NOTES

A. SOURCES OF DATA

DEATH RECORDS

The latest revision of the U.S. Standard Certificate of Death was implemented by Pennsylvania in 2006. These revisions were based upon changes made by the Centers for Disease Control and Prevention and consisted of three new data items added to the certificate. These three questions pertained to tobacco use contributing to death, pregnancy at the time of death, and type of transportation injury death if a transportation-related injury death occurred.

Beginning in 2013, race was derived from multiple race selections, when previously it was derived from a single race designation field. From 2013, “multirace” was a new race designation assigned to people who chose more than one race out of the possible selections. When only one race was selected, the individual would be designated as that race only.

POPULATION DATA

Population estimates for the state and county were provided by the Division of Health Informatics, Pennsylvania Department of Health. These data were used to compute standard population rates and were produced jointly by the United States Bureau of the Census and the Pennsylvania State Data Center of the Pennsylvania State University at Harrisburg under the Federal-State Cooperative Program for Local Population Estimates.

B. DEFINITIONS OF TERMS

CAUSE OF DEATH: Cause of death is determined to be the most proximal or causal condition or action resulting in an individual’s death. The International Classification of Disease, Tenth Revision (ICD-10) acts as a means of categorizing such causes using an alpha-numeric system, which is set forth by the World Health Organization.

INFANT DEATH: The death of a child within the first year of life.

NEONATAL DEATH: The death of a child within the first 28 days of life.

POST-NEONATAL DEATH: The death of a child between 28 and 364 days of life.

MEDIAN AGE: The age that falls exactly in the middle of the entire range of ages ranked in order from low to high such that 50% of the ages fall above it and 50% fall below it.

RACE: Mortality counts for all races other than White and Black were too small to be considered statistically reliable, and therefore only data for these two races are presented in this report.

STATISTICALLY SIGNIFICANT: The use of confidence intervals to determine significance without additional statistical testing may underestimate the number of significant changes in rates detected.

LEADING CAUSES OF DEATH: Leading causes of death are defined using the Centers for Disease Control and Prevention/ National Center for Health Statistics Instruction Manual Part 9, “ICD-10 Cause-of-Death Lists for Tabulating Mortality Statistics”, Table B.

C. FORMULAS

The following formulas were used to calculate rates in this report allowing for comparable examination across populations of different sizes. Rates were compared between years and differences were deemed statistically significant at α level of 0.05.

Infant Mortality Rate =	$\frac{\text{Number of deaths under 1 year of age}}{\text{Number of live births}} \times 1,000$
Race-Specific Infant Mortality Rate =	$\frac{\text{Number of infant deaths of a specific race}}{\text{Number of live births of a specific race}} \times 1,000$
Neonatal Mortality Rate =	$\frac{\text{Number of infant deaths under 28 days of age}}{\text{Number of live births}} \times 1,000$
Post-Neonatal Mortality Rate =	$\frac{\text{Number of infant deaths 28 to 364 days}}{\text{Number of live births}} \times 1,000$
Crude Death Rate =	$\frac{\text{Number of total deaths}}{\text{Total Population}} \times 1,000$
Age-Specific Mortality Rate =	$\frac{\text{Number of deaths in a specific age group}}{\text{Population in a specific age group}} \times 1,000$
Race-Specific Mortality Rate =	$\frac{\text{Number of deaths of a specific race}}{\text{Population of a specific race}} \times 1,000$
Cause-Specific Mortality Rate =	$\frac{\text{Number of deaths from a specific cause}}{\text{Total population}} \times 1,000$
Age-Adjusted Mortality Rate =	$\frac{\text{Sum of (age specific mortality rates per 100,000 for selected population x standard population in corresponding age groups)}}{\text{Sum of standard population}}$
Standard Error =	$\frac{\text{Age-adjusted rate}}{\sqrt{\text{Number of deaths}}}$
95% Confidence Interval =	Age – adjusted rate \pm (1.96 \times standard error)
Group A-to-Group B Rate Ratio =	$\frac{\text{Mortality Rate for Group A}}{\text{Mortality Rate for Group B}}$

All age-adjusted rates found within this report are adjusted by the direct method using the 2000 U.S. Standard Million Population. The 2000 U.S. standard million population and age distributions used in calculating age-adjusted mortality rates are as follows:

All Ages.....	1,000,000
Under 1.....	13,818
1-4.....	55,317
5-14.....	145,565
15-24.....	138,646
25-34.....	135,573
35-44.....	162,613
45-54.....	134,834
55-64.....	87,247
65-74.....	66,037
75-84.....	44,842
85+.....	15,508

D. Accessing Mortality Data

The following is a brief guide to accessing mortality data using the Allegheny County Indicators (ACI) dashboard. Please note that Custom data requests can be made through the ‘Contact Us’ link at the bottom of this webpage.

Example: “As a resident of Penn Hills, I would like to see data on cancer deaths in my municipality over time.”

Step 1: Click the following link to be directed to the Community Indicators page:

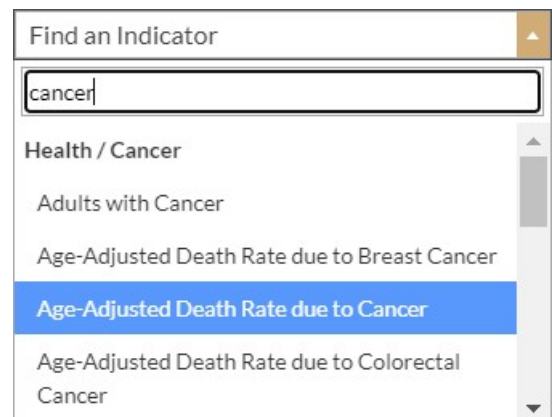
<https://www.alleghenycounty.us/Health-Department/Resources/Data-and-Reporting/Chronic-Disease-Epidemiology/Allegheny-County-Community-Indicators.aspx>

Step 2: Click the “Find Health Data” icon:



Find Health Data

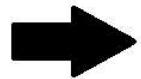
Step 3: Type “cancer” into the “Find an Indicator” field, then select the topic of interest.



This indicator shows the age-adjusted death rate per 100,000 population due to cancer.

SEE AN OVERVIEW FOR

- COUNTY
- CENSUS PLACE (CITY)
- MUNICIPALITY
- ZIP CODE
- STATE



Step 4: A pop-up will appear with options for locations. Select "Municipality."

VIEW A SPECIFIC LOCATION

Select a Location ▼

Step 5: Click "Select a Municipality" at the top of the page, and then type your desired location.

Age-Adjusted Death Rate due

Select a Municipality ▲ Measurement Per

This eath rate per 100,000 pe

Municipalities

Penn Hills

Why is this im... The National Cancer Institute (NCI) diseases in which abnormal cells divide without control and are able to invade other tissues. cancer. According to the NCI, lung, colon and rectal, breast, pancreatic, and prostate cancer deaths.

The page will update automatically and produce all available data, based on your selections.



Suggested Citation: Allegheny County Health Department. Allegheny County Mortality Report: 2018. Pittsburgh, PA: Allegheny County Health Department. 2021.

Contact Information:

<https://www.alleghenycounty.us/Health-Department/Resources/Data-and-Reporting/Chronic-Disease-Epidemiology/Chronic-Disease-Epidemiology.aspx>

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