Abramson Cancer Center Catchment Report 2019-2020

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ABRAMSON CANCER CENTER

Penn Medicine

Contents

Executive Summary

The Abramson Cancer Center (ACC) catchment area is a geographically defined, population-based area that covers 12 counties in Pennsylvania, New Jersey, and Delaware. This area includes the residence of 81.4% of ACC cancer patients. This report presents a comprehensive summary of the demographic information and cancer burden data for the catchment area. It also describes behavioral and environmental risk factors, as well as health disparities, in the catchment area. The report serves as a reference source and a foundation to develop strategies to address cancer burdens and risk factors in the ACC catchment area.

Demographic Characteristics and Access to Healthcare

The 12 counties of the catchment area have a population of 7,015,781 residents. The region is ethnically diverse, with a larger share of African Americans, Asians, and Hispanics than the US as a whole. Catchment residents are mostly White (69.2%), with the remaining population being mostly African American (19.4%) and Asian (5.1%), and 8.7% being of Hispanic ethnicity.

Twenty percent of ACC patients from the 12 counties live in neighborhoods that meet HRSA's definition of Medically Underserved Areas/Populations, reflecting the many people in the region who live below the poverty line, and lack adequate access to healthcare and/or insurance. Relative to other groups, African Americans and Hispanics experience higher poverty and unemployment rates and have lower rates of insurance coverage and less formal education.

Cancer Burden

Incidence

The most-diagnosed cancers in the catchment area are breast, prostate, lung, colorectal, melanoma, and pancreatic cancers. Female breast, prostate, and lung cancers have the highest incidence rates–with 140, 131, and 66 cases per 100,000 respectively. However, there is a great deal of variation by race and across counties within the catchment area. The age-adjusted incidence rates in the catchment area exceed the national rates for the 2011-2015 period, for all cancers combined and for each type of cancer analyzed.

Mortality

Cancer is the second leading cause of death in the catchment area, after heart disease. Lung cancer has the highest cancer mortality rate at 44 deaths per 100,000. Cancer mortality rates in the catchment area are higher than the U.S. age-adjusted rate for the same 5-year period, for all cancer sites combined, and for breast, prostate, lung, colorectal, and pancreatic cancers.

Cancer Risk Behavior and Environmental Risk Factors

Almost 30% of the catchment area adult population is obese, with many people (42%) not meeting physical activity recommendations, and with 84% not consuming the daily recommended servings of fruits and vegetables. Alcohol consumption and smoking are also

common risk behaviors among the residents of the ACC counties, with 7% of the residents reporting heavy drinking and 15% reporting being current smokers.

Environmental risk factors affect many people in the catchment area, especially asbestos exposure. All ACC Catchment counties (except for Mercer County, NJ) report significantly higher death rates than the national rates due to asbestos-related diseases such as asbestosis, mesothelioma, and other lung cancers. Delaware, Montgomery, Camden, Gloucester, and Ocean counties all have asbestos-related death rates that are more than twice the national average.

Disparities by Gender, Race, Income, and Location

Cancer disproportionately affects men (more than women) in the catchment area, and most types of cancer are more often diagnosed in Whites than African Americans. African Americans/ Blacks have the highest cancer incidence rates for prostate, colorectal, and pancreatic cancers. African Americans/Blacks experience higher cancer mortality rates than other racial groups, for all cancer sites combined as well as for breast, prostate, lung, colorectal, pancreatic, and stomach cancers.

Philadelphia has the highest cancer burden compared to the other 11 counties in the catchment area. Philadelphia has higher incidence of cancer for all cancer sites combined, and for prostate, lung, colorectal, and pancreatic cancers. It has higher mortality rates for all cancer sites combined, and for breast, prostate, lung, colorectal, and pancreatic cancers. Further, many Philadelphia residents have lower access to healthy foods and report high rates of smoking, binge drinking, and obesity, than in the other counties. Compared to the other counties in the catchment area, Philadelphia residents have lower education levels, more people who are homeless and/or living in poverty, unemployed, living in medically underserved areas, and with disabilities, mental illnesses, and HIV.

Introduction

The catchment area of the Abramson Cancer Center (ACC) at the University of Pennsylvania is the region at the intersection of Southeastern Pennsylvania, southern New Jersey and Delaware, consisting of 12 counties with a population of 7,015,781 residents. These communities include urban and suburban settings, and are economically and racially diverse.

This report provides a wide range of information that describes the Abramson Cancer Center catchment area that are currently available. It should be used in conjunction with other resources, such as state and national reports, analyses from datasets, and peer-reviewed publications.

The 2019-2020 ACC Catchment Report is divided into 8 sections and addresses: (1) demographic information; (2) incidence and mortality rates of the most prevalent cancers; (3) information on ACC patients; (4) modifiable cancer risk factors and environmental hazards; (5) social and economic characteristics of the catchment area population; (6) access to healthcare; (7) information on special populations in the catchment; and (8) health disparities.

This report summarizes current data and evidence from various sources: American Cancer Society; Behavioral Risk Factor Surveillance System (BRFSS); Center for Disease Control and Prevention; Healthy People.gov; National Cancer Institute; US 2010 Census; Pennsylvania Department of Public Health (EDDIE); Philadelphia Department of Public Health; New Jersey State Health Assessment Data; Delaware Department of Health and Social Services; and many other sources.

For the purpose of this report, we used cancer burden data were from the Surveillance, Epidemiology, and End Results (SEER) Program; from the CDC State cancer profiles; and from PA, NJ and DE state cancer registries. Cancer incidence and mortality rates are presented for the five-year period of 2011-2015, per 100,000 population per year. Rates are age-adjusted to the 2000 US standard population (18 and 19 age groups). Cancer data are analyzed by State, County, Gender, Race and Ethnicity, and presented in tables and charts. (NOTE: Some of the figures in this report were created before the final calculations, so you may see small differences between the numbers presented in the tables and the numbers reflected in graphs and boxplots.)

1. ACC Catchment Area: Demographic Characteristics

1.1 General Description: ACC catchment area

The Abramson Cancer Center (ACC) Catchment Area is a geographically defined, population-based area of 12 contiguous counties in Pennsylvania, New Jersey, and Delaware (Figure 1). This region includes five counties in southeastern Pennsylvania (Bucks, Chester, Delaware, Montgomery, and Philadelphia); six counties in southern New Jersey (Atlantic, Burlington, Camden, Gloucester, Mercer, and Ocean); and one county in northern Delaware (New Castle).

The criteria used to define the catchment area consisted of: (1) a population-based definition using counties and county level data; (2) an area that is geographically contiguous; and (3) counties that contribute at least 2% of the ACC cancer patient population.

These 12 counties have a population of 7,015,781 residents and include the residences of 81.4% of the ACC patients seen in the past five years. One-fifth (21.5%) of the ACC cancer patients live in Philadelphia County.
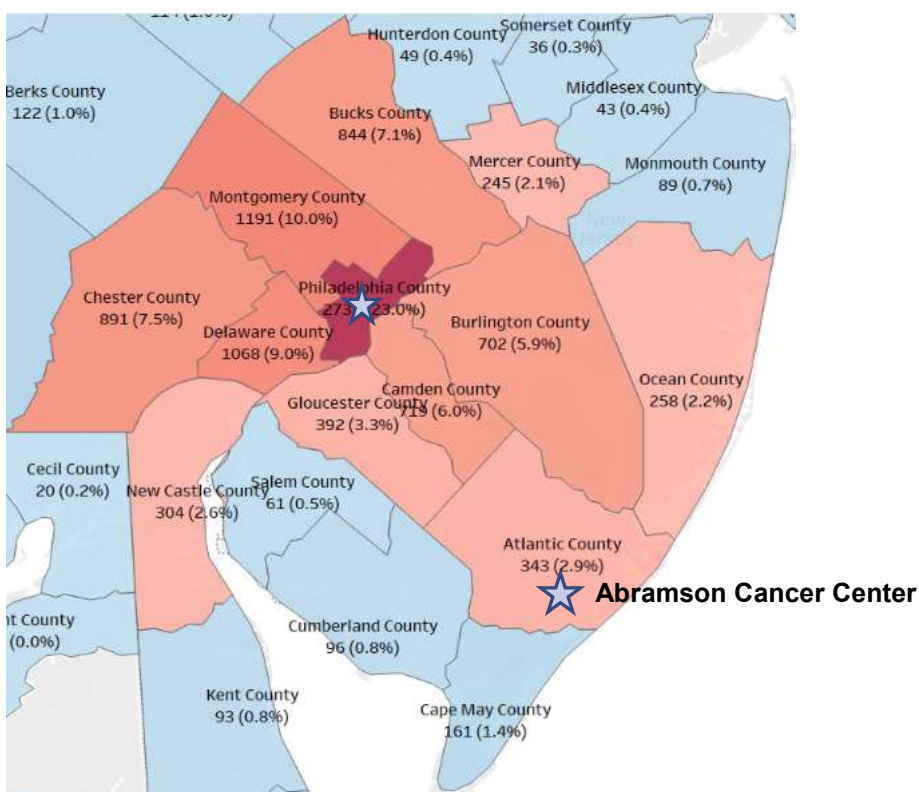

Figure 1 – Abramson Cancer Catchment Area

1.2. Demographics

1.2.1. Demographic characteristics for the total 12 ACC counties

Table 1 presents the demographic characteristics for the 12 ACC Counties combined, the counties within each state, the US, and the three states overall. Together, the 12 counties have a population of 7,015,781. Pennsylvania's 5 counties have the largest population with 4,008,994; followed by New Jersey's 6 counties with 2,468,308; and New Castle County (DE) with 538,479 people. The catchment has a slight female majority. The catchment area is racially and ethnically diverse, with a lower proportion of Whites and a higher proportion of Blacks, Asians, and Hispanics than the US as a whole. The Pennsylvania counties have the highest proportion of Whites (81%), New Castle County has the highest proportion of Blacks (24%), and the New Jersey counties have the highest proportion of Hispanics (11%). The median age of the catchment population is 39 years of age, similar to the US and the states.

Table 1 – Demographic characteristics for the total 12 ACC counties							
Characteristics	Total**	5 PA counties	6 NJ counties	1 DE county	US	PA state	NJ state	DE state
Population	7,015,781	4,008,994	2,468,308	538,479	308,745,538	12,702,379	8,791,894	897,934
% Males	48.2	48.5	48.5	48.4	48.7	48.7	48.7	48.4
% Females	51.8	51.5	51.5	51.6	51.3	51.3	51.3	51.6
% White	69.2	81.1	69.6	65.5	81.9	81.9	68.6	68.9
% Black	19.4	8.7	16.4	23.7	10.8	10.8	13.7	21.4
% Asian	5.1	4.7	4.7	4.3	2.7	2.7	8.3	3.2
% Other*	6.3	3.6	7.3	6.3	4.5	4.5	9.4	6.6
% Hispanic	8.7	4.3	11.2	8.7	5.7	6.7	17.7	8.2
Median age	39	39.3	39.3	37.2	40.1	40.1	39.0	38.8

*Other race included American Indian, Alaska Native, Native Hawaiian, and other pacific islander, other, and two or more races.
**Data from all 12 counties combined.
Sources: 2010 US Census (https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml), downloaded on 02/24/2019
**Combined file location: SEPa_ACC supp\ACC renewal stat\files for presentations\census demo 12 counties.xls

Table 2 – Racial and Ethnic distribution of the Catchment area (2017)			
	Entire Catchment Area	Philadelphia	Outside Philadelphia
White, Non-Hispanic	63.8%	45.2%	75.8%
Black, Non-Hispanic	19.5%	34.5%	9.8%
Hispanic	9.1%	10.8%	8%
Other, Non-Hispanic	6.1%	7.2%	5.4%
Multiracial Non-Hispanic	1.5%	2.3%	1%

Note: Information received on November 6th 2019
Source: Behavioral Risk Factor Surveillance System

1.2.2. Age, gender, and racial and ethnic distribution for the 12 ACC counties

Table 3 presents gender, racial/ethnic, and age distribution for the 12 ACC Counties. There are slightlyl more women than men in all counties. The racial and ethnic diversity varies greatly across the 12 counties, with Ocean County having the highest portion of Whites (91%); Philadelphia having the highest rates of African Americans (43%); and Atlantic County with the highest rates of Hispanics (17%); and Mercer the highest rates of Asians (9%).

Ocean County has the oldest population with a median age of 42.6 years, and Philadelphia has the youngest population with a median age of 33.5 years.

Table 3 – Age, gender, and racial/ethnic distribution for the 12 counties									
State	County	Male (%)	Female (%)	White (%)	Black (%)	American Indian and Alaska Native (%)	Asian (%)	Hispanic (%)	Median Age
PA	Philadelphia	47.2	52.8	41	43.4	0.5	6.3	12.3	33.5
	Bucks	49	51	89.2	3.6	0.2	3.8	4.3	42
	Chester	49.1	50.9	85.5	6.1	0.2	3.9	6.5	39.3
	Delaware	47.9	52.1	72.5	19.7	0.2	4.7	3	38.7
	Montgomery	48.5	51.5	81.1	8.7	0.1	6.4	4.3	40.6
NJ	Atlantic	48.5	51.5	65.4	16.1	0.4	7.5	16.8	39.9
	Burlington	49.1	50.9	73.8	16.6	0.2	4.3	6.4	40.4
	Camden	48.2	51.8	65.3	19.6	0.3	5.1	14.2	37.9
	Gloucester	48.6	51.4	83.6	10.1	0.2	2.6	4.8	38.7
	Mercer	48.8	51.2	61.4	20.3	0.3	8.9	15.1	37.8
	Ocean	47.9	52.1	91	3.2	0.2	1.7	8.3	42.6
DE	New Castle	48.4	51.6	65.5	23.7	0.3	4.3	8.7	37.2

Data sources: US 2010 Census (https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml), downloaded on 3/2019

1.2.3. ACC population in Medically Underserved Areas (MUAs)

Table 4 presents the ACC catchment's population in medically underserved areas (MUAs), by race, and by ethnicity. According to the American Community Survey (2017), a total of 20.8% of people in the 12 ACC counties, and a total of 49.4% of people in Philadelphia, live in medically underserved areas. If we exclude Philadelphia County, this number lowers to 12.7% for the catchment area. The highest percentages of people living in MUAs are observed among Blacks and Hispanics. In the 12 ACC Counties, 42.2% of Blacks and 39.4% of Hispanics live in MUAs. In Philadelphia County alone, these numbers are higher—63% of Blacks and 66.3% of Hispanics live in MUAs.

Table 4 – ACC population estimates (%)* in medically underserved areas (2017)			
	12 County ACC Catchment	**Philadelphia County**	**ACC Catchment Excluding Philadelphia**
All People	20.8%	49.4%	12.7%
White	14.2%	35.3%	10.8%
Black	42.2%	63.0%	23.0%
Asian	18.9%	43.6%	9.5%
Hispanic	39.4%	66.3%	26.9%

Source: American Community Survey, 2017 (Data received on October 22nd, 2019)
*Percentages of all people 18 years of age or older.

2. Cancer Burden in the Catchment Area

SUMMARY: Cancer Burden in the ACC Catchment Area

Increased cancer incidence vs. national averages:

Entire catchment area
Overall, prostate, lung, melanoma, NHL, pancreas, liver

Philadelphia County
Overall, prostate, lung, colorectal, liver, pancreas, leukemia, cervical

non-Philadelphia catchment area counties
Overall, breast, prostate, melanoma, NHL, pancreas

Among Black residents
Overall, lung, liver

Among White residents
Overall, breast, prostate, melanoma, NHL, pancreas

Among females
Lung

Increased cancer mortality vs. national averages:

Entire catchment area
Pancreas

Philadelphia County
Overall, lung, prostate, breast, colorectal, pancreas, liver, cervical

Among Black residents
Overall, lung, prostate

Among females
Pancreatic

Risk populations/risk factors in catchment area:
Black and young Hispanic residents
Medically underserved population
Sexual and gender minorities
People living with HIV
People living with serious mental illness
Ashkenazi Jews
Smoking and e-cigarette use, alcohol use, obesity, and environmental exposures

2.1. Cancer incidence rates and trends

Cancer is the second most common cause of death in the US, exceeded only by heart disease.[1] More than 1.7 million new cancer cases were expected to be diagnosed in 2019 and about 606,880 Americans were expected to die of cancer in 2019.[1] The four most prevalent cancers are lung, colorectal, breast, and prostate.

2.1.1. All Cancers
2.1.1.1. 12 ACC Counties

Cancer incidence rates in the catchment area are higher than national rates and vary by county and race/ethnicity. Cancer affects more men than women. In the catchment area, cancer is most common among Whites (78% of cancer cases), followed by African Americans (17%). Hispanics and Asians comprise lower proportions of cases.

The most common types of cancer are female breast cancer (136 cases per 100,000), followed by prostate (131 cases per 100,000), lung (66 cases per 100,000), colorectal (43 cases per 100,000), and melanoma (25 cases per 100,000) - all with higher incidence rates than the national average.

The six counties in the catchment area in New Jersey have the highest median incidence rates for all cancer sites, colorectal, lung, and prostate cancer, while the five Pennsylvania Counties have the highest median rates for breast cancer and melanoma. New Castle County in Delaware has the highest rate of pancreatic cancer.

The cancer incidence rates for all cancer sites are highest in Gloucester, Burlington, Philadelphia, and Ocean counties. These rates are highest among Whites in all counties, except for Philadelphia, Chester, and Mercer, where rates are higher among African Americans.

Table 5 - Cancer cases seen at ACC by race and ethnicity		
Race and Ethnicity		**Cancer cases in 12 ACC counties (2011-2015)[*]**
Race	White	78.3%
	Black	16.5%
	Asian/Pacific Islander	2.3%
	American Indian/Alaskan Native	0.07%
	Other/unknown/Multiracial	3.9%
Ethnicity	Hispanic	3.3%

Note: Information received on December 21st, 2019
†PA, NJ and DE state registry data 2015

Table 6 - 5-year (2011-2015) age-adjusted incidence rates

	ACC catchment area (12 counties combined)* (Rate)	Philadelphia County (Rate)	Non-Philadelphia catchment area (11 counties) (Rate)	12 ACC counties (Median)			CDC State Center Profiles** (Rate)			
	Total	Total	Total	5 PA counties	6 NJ counties	1 DE county	US***	PA state	NJ state	DE state
All cancer	499.5	510.7	497.3	488.2	514.9	484.4	411.2	481.7	477.5	493.5
Breast(F)	135.5	125.0	138.1	140.1	139.8	135.5	124.7	131.0	133.4	133.8
Prostate(M)	130.6	140.8	128.5	124.9	139.25	136.2	109.0	111.1	134.7	136.1
Lung	66.3	78.4	63.6	61.8	69.3	66.2	60.2	64.7	57.3	71.2
Colorectal	42.5	47.0	41.4	39.5	44.8	36.2	39.2	42.6	41.9	37.2
Melanoma	25.2	11.4	28.5	31.2	26.05	27.0	21.3	24.0	22.1	30.0
Pancreas	14.5	15.1	14.3	14.1	14.5	14.9	12.6	13.9	14.0	14.4
Stomach	¶	¶	¶	¶	¶	¶	6.6	6.4	8	6.7

Unit: cases per 100,000 per year, age-adjusted to the 2000 US standard population (18 age groups).

Data sources:

*US, state- and county-specific estimates: CDC State Cancer Profiles Incidence rates (https://statecancerprofiles.cancer.gov/incidencerates/index.php). Data downloaded 3/20/2019.

12-county estimate: Calculation was based on:

- PA: Yearly age-specific cases and population counts were downloaded from Enterprise Data Dissemination Informatics Exchanges (EDDIE).

- NJ: 5-year age-specific cases and population counts were obtained from NJ Stat Cancer Registry Data Request in 6/2019. Data were only available for 2012 to 2016.

- DE: Yearly age-specific cases and population counts were obtained from DE Stat Cancer Registry Data Request in 7/2019.

Confidence interval was calculated based on the formula by Fay and Feuer (1997).

**State cancer profiles: https://statecancerprofiles.cancer.gov/incidencerates/index.php, downloaded on 03/20/2019.

***CDC's National Program of Cancer Registries Cancer Surveillance System (NPCR-CSS) November 2017 data submission and SEER November 2017 submission as published in United States Cancer Statistics. State Cancer Registry and the CDC's National Program of Cancer Registries Cancer Surveillance System (NPCR-CSS) November 2017 data submission.

¶ Missing data has not been calculated

	ACC Catchment Area (12 Counties)				Philadelphia County				non-Philadelphia Catchment area (11 Counties)				United States			
	Race		Gender		Race		Gender		Race		Gender		Race		Gender	
	W	B	M	F	W	B	M	F	W	B	M	F	W	B	M	F
All cancers	498.3	494.5	551.0	464.4	505.3	509.2	581.5	465.9	497.8	481.1	544.4	464.6	442.8	447.9	483.8	412.5
Breast (F)	139.5	127.6	-	135.5	128.4	128.3	-	125.0	141.1	121.9	-	138.1	125.6	123.8	-	124.7
Prostate (M)	115.0	182.7	130.6	-	97.0	167.0	140.8	-	117.4	196.7	128.5	-	100.1	175.2	109.0	-
Lung	66.0	72.5	74.7	60.1	78.2	81.3	90.3	71	64.4	64.1	71.4	57.5	61.1	62.3	70.8	52.2
Colorectal	41.8	45.0	48.9	36.2	46.8	47.1	57.2	40.1	41.1	43.2	47.2	36.2	38.4	45.7	45.1	34.3
Melanoma	28.5	0.8	33.0	19.8	19.4	0.6	16.3	8.2	29.8	1.0	36.6	22.8	24.2	1.0	27.3	16.8
NH Lymphoma	22.1	14.5	26.1	17.2	23.2	16.1	24.7	17.4	22.0	12.9	26.3	17.1	19.4	14.0	22.8	15.6
Pediatric*	16.1	12.2	16.6	15.5	14.5	13.1	18.0	13.8	16.3	11.4	16.2	15.9	17.4	12.7	17.1	15.6
Pancreas	14.1	15.8	16.4	12.5	14.1	16.8	17.3	13.5	14.2	14.7	16.3	12.3	12.4	15.6	14.4	11.1
Leukemia	13.7	9.7	17.4	10.4	12.3	9.6	14.4	9.3	13.9	9.8	18.0	10.6	14.1	10.5	17.4	10.6
Ovary (F)	13.1	9.3	-	12.4	12.5	8.8	-	10.6	13.2	9.6	-	12.7	12.0	9.4	-	11.6
Oral/Pharynx	11.9	9.1	17.2	6.5	12.6	11.0	17.8	6.9	11.8	7.2	17.0	6.4	12.0	9.0	17.6	6.4
Liver/Bile Duct	7.7	14.3	15.1	4.2	13.3	17.8	27.9	6.9	6.9	10.8	12.3	3.6	7.4	10.6	12.4	4.3
Cervix (F)	6.4	9.3	-	7.0	10.2	11.7	-	11.0	5.9	7.1	-	6.0	7.5	9.2	-	7.7

Sources: PA, NJ and DE state cancer registries, SEER; 2011-2015.*ages 0-14

Table 8 - 2011-2015 Age-adjusted Male and Female Cancer Incidence Rates by Race per 100,000 in the ACC catchment area, Philadelphia County, non-Philadelphia Catchment area, and the U.S.

	ACC Catchment Area (12 Counties)				Philadelphia County				non-Philadelphia Catchment Area (11 counties)				United States			
	Male		Female		Male		Female		Male		Female		Male		Female	
	W	B	W	B	W	B	W	B	W	B	W	B	W	B	W	B
All cancers	541	576.5	472.2	442.9	552.5	587.1	478.2	462.2	539.8	568	471.8	423.7	480.1	529.2	418.5	393.5
Lung	73.8	86.7	60.6	64	87.5	96.1	72.1	73.1	72	78.2	59.1	54.9	71.9	83.1	53.9	48.3
Colorectal	48.3	53.3	36.5	39.5	57.3	56.2	38.9	41.4	47.1	50.9	36.2	37.7	44.1	55.2	33.5	40.8
Melanoma	36.8	1	18	12.2	26.2	0.8	20.1	13.5	38.2	1.2	17.7	10.8	30.6	1.2	16.1	11.9
NH Lymphoma	27.3	17.6	22.7	0.7	27.2	19.5	14.7	0.5	27.3	15.9	23.8	0.9	23.4	16.7	19.5	0.9
Leukemia	17.8	11.9	15.7	11.5	15.6	11.3	13.1	11.3	18.1	12.6	16	11.7	18.0	13.2	16.2	11.9
Oral/Pharynx	17.8	14.6	12.2	14.7	18.3	18.4	11.7	15.5	17.7	11.2	12.3	13.8	18.6	14.6	10.9	14.8
Pediatric*	16.5	12.8	10.5	8.2	15.7	14.8	9.9	8.4	16.5	11	10.6	8	17.7	12.8	11.0	14.8
Pancreas	16.5	17.1	6.8	5.3	17.1	18.7	7.6	6.2	16.5	15.6	6.6	4.4	14.3	16.9	6.5	5.1
Liver/Bile Duct	12.6	25.8	3.5	6	22.2	33.1	5.7	7.4	11.3	19	3.2	4.6	11.2	17.5	3.9	5.3

Sources: PA, NJ and DE state cancer registries, SEER; 2011-2015.*ages 0-14

Counties	Total	Gender		Race			Ethnicity
		Male	Female	White*	Black*	Asian*	Hispanic**
US	441.2	483.8	412.5	442.8	447.9	285.4	340.9
12 ACC Counties ¶	499.5	551.0	464.4	498.3	494.5	-	-
Pennsylvania	481.7	524.3	455.2	475.9	492.7	270.8	353.5
Philadelphia	517.7	591.8	470.4	511.3	512.2	295.1	400.1
Bucks	488.2	532.4	457.7	482.2	427.4	242.4	278.6
Chester	477.8	517.3	451.2	467.8	476.2	272.3	362.0
Delaware	508.3	562.0	473.2	513.3	483.1	275.3	220.3
Montgomery	484.0	525.8	457.4	482.2	446.2	261.4	247.2
New Jersey	477.5	525.2	447.6	488	441.5	427.1	385.6
Atlantic	490.9	540.7	454.4	501.5	465.8	249.5	412.6
Burlington	521.7	579.2	481.8	532.4	473.2	280.6	509.2
Camden	513.9	567.0	480.4	519.6	515.9	286.5	408.7
Gloucester	529.7	593.3	487.3	527.3	507.8	344.4	486.2
Mercer	498.1	551	467.3	504.2	509.3	273.8	420.2
Ocean	515.9	564.5	486.0	514	427.1	258.7	490.9
Delaware	493.5	552.2	451.8	499.7	484	§	§
New Castle	484.4	542.5	446.3	493.1	477.5	§	§

Table 9 - 5-year (2011-2015) age-adjusted cancer incidence rates (per 100,000) for states and 12 ACC counties - All Cancers

Source: https://statecancerprofiles.cancer.gov/incidencerates/ (accessed 5/31)

¶ 12-county combined estimate: US, state- and county-specific estimates: CDC State Cancer Profiles Incidence rates (https://statecancerprofiles.cancer.gov/incidencerates/index.php). Data downloaded 3/20/2019.

*Includes Hispanic

**Any race

§ Asian and Hispanic incidence data have been excluded for Delaware.

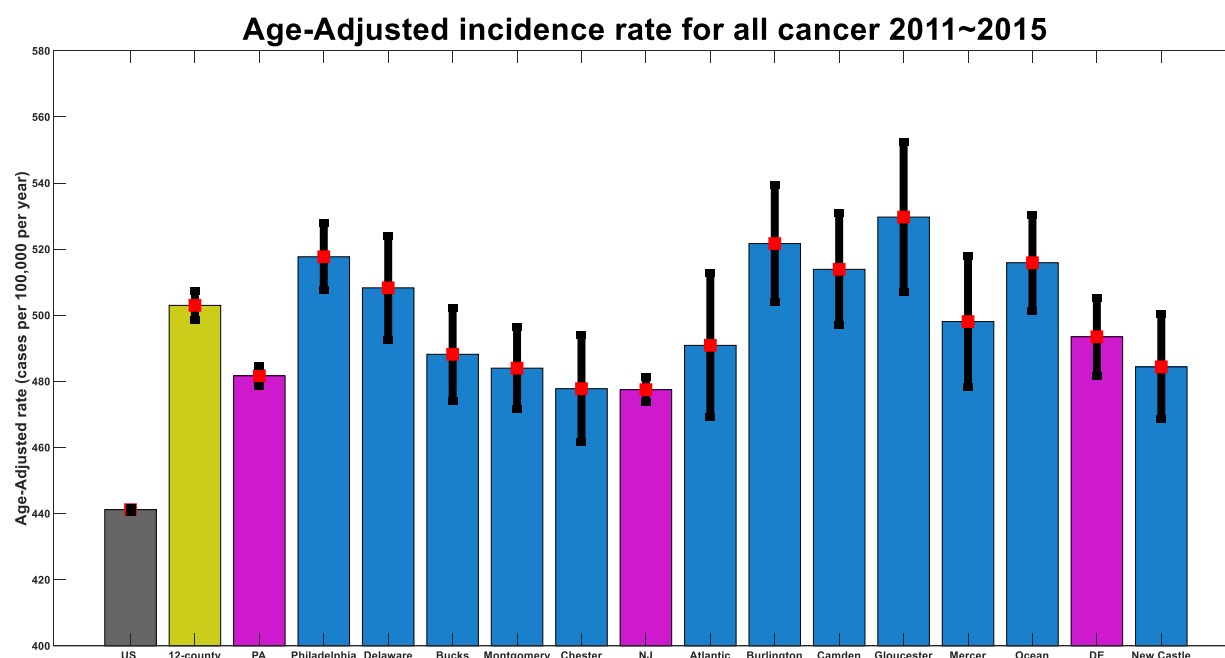**Age-Adjusted incidence rate for all cancer 2011~2015**

Figure 2 - 5-year (2011-2015) age-adjusted incidence rate for 12 ACC counties for all cancer sites. Unit: cases per 100,000 per year, age-adjusted to the 2000 US standard population (18 age groups).
Source: https://statecancerprofiles.cancer.gov/incidencerates/

Overall cancer incidence (2011-2015)
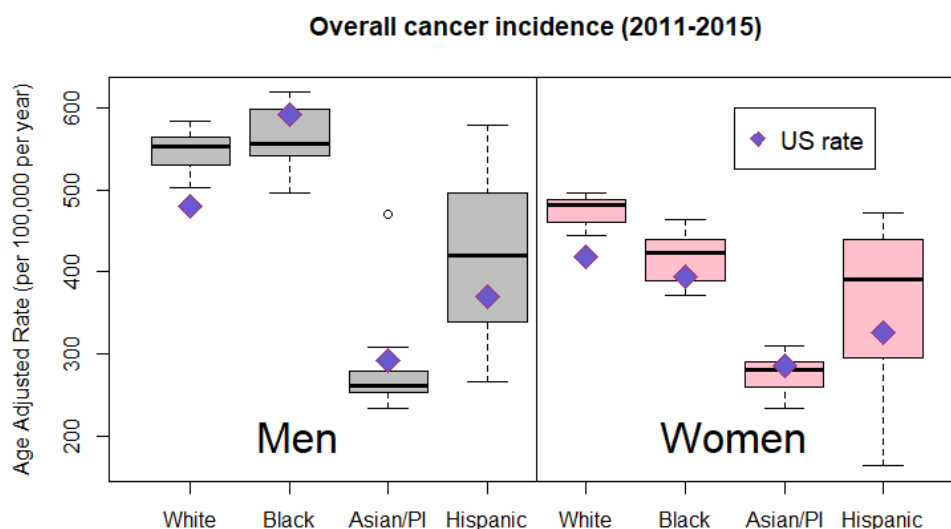
Figure 3 - Boxplots of Annual Age-adjusted Cancer Incidence rates (All Cancer Sites, 2011-2015) 12 counties vs. US, by Gender and Race/Ethnicity
Source: CDC State cancer profiles, https://statecancerprofiles.cancer.gov/index.html
Rate as cases per 100,000 population per year, age-adjusted to the 2000 US standard population (19 age groups).
Rates are for invasive cancer only.

2.1.1.2. Pennsylvania – 5 ACC Counties

For the five PA counties, cancer incidence rates have remained relatively stable since 2011 with minor fluctuations, except for prostate cancer, where a significant decline was observed from 165 cases per 100,000 in 2011 to 111 cases in 2012 and a slight rise occurred in 2015 (124 cases per 100,000). Breast and prostate cancers have the highest incidence rates, and all 5-year age-adjusted incidence rates, for all cancers, are equal to or higher than the national 5-year rates.
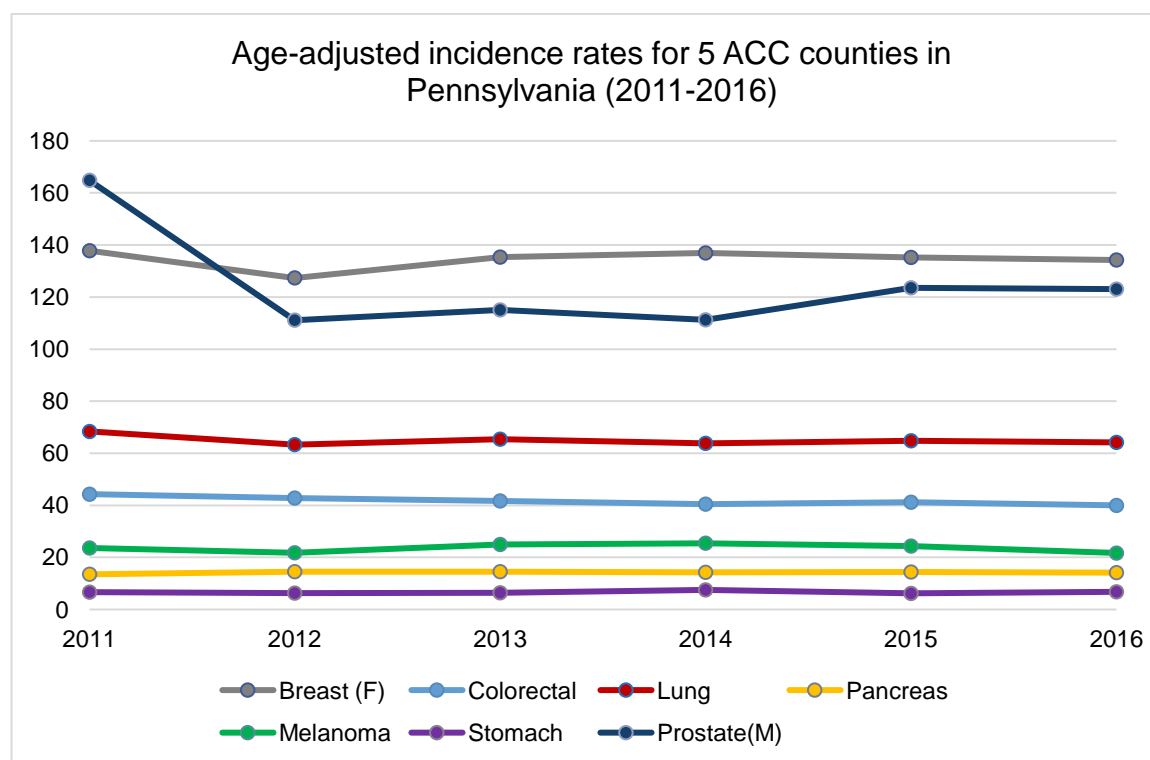

Figure 4 - Age-adjusted cancer incidence trends for 5 ACC counties in Pennsylvania (2011-2016)

Table 10 - Age-adjusted incidence rates for 5 ACC counties in Pennsylvania. Unit: cases per 100,000 per year, age-adjusted to the 2000 US standard population (19 age groups)							
	5 ACC counties in PA, EDDIE						
	2011-2015	2011	2012	2013	2014	2015	2016
All cancer	490.2	519.4	476.5	487.7	487.0	485.1	480.4
Breast (F)	134.5	137.8	127.3	135.3	136.9	135.2	134.2
Colorectal	42.0	44.3	42.8	41.7	40.5	41.2	40.0
Lung	65.0	68.4	63.3	65.4	63.8	64.8	64.2
Pancreas	14.2	13.5	14.5	14.5	14.3	14.4	14.2
Melanoma	24.0	23.6	21.8	25.0	25.4	24.3	21.7
Stomach	6.6	6.7	6.3	6.4	7.5	6.2	6.8
Prostate(M)	124.8	164.8	111.1	115.1	111.3	123.5	123.1

Data sources:

§: State cancer profiles: https://statecancerprofiles.cancer.gov/incidencerates/index.php, downloaded on 03/20/2019. Combined file location: SEPa_ACC supp\ACC renewal stat\files for presentations\CDC SCP allcancer_incidence.xls

¥: CDC's National Program of Cancer Registries Cancer Surveillance System (NPCR-CSS) November 2017 data submission and SEER November 2017 submission as published in *United States Cancer Statistics*. CDC's National Program of Cancer Registries Cancer Surveillance System (NPCR-CSS) November 2017 data submission and SEER November 2017 submission as published in *United States Cancer Statistics*. State Cancer Registry and the CDC's National Program of Cancer Registries Cancer Surveillance System (NPCR-CSS) November 2017 data submission.

Yearly age-adjusted incidence rate for 5 ACC counties combined in PA from 2010 to 2016, and the 5-year (2011-2015) age-adjusted incidence rates. Unit: cases per 100,000 per year, age-adjusted to the 2000 US standard million (EDDIE) or standard population (CDC) using 19 age groups

The following figures show the age-adjusted cancer incidence rate changes for all cancers, by race and ethnicity for the five ACC counties in Pennsylvania. Cancer incidence rates for all races combined have remained relatively stable since 2010, however when presented separately, great fluctuations can be observed among African Americans and Hispanics across the years presented. This may indicate that both African Americans and Hispanics are subject to external factors capable of influencing the incidence of cancer.[1]
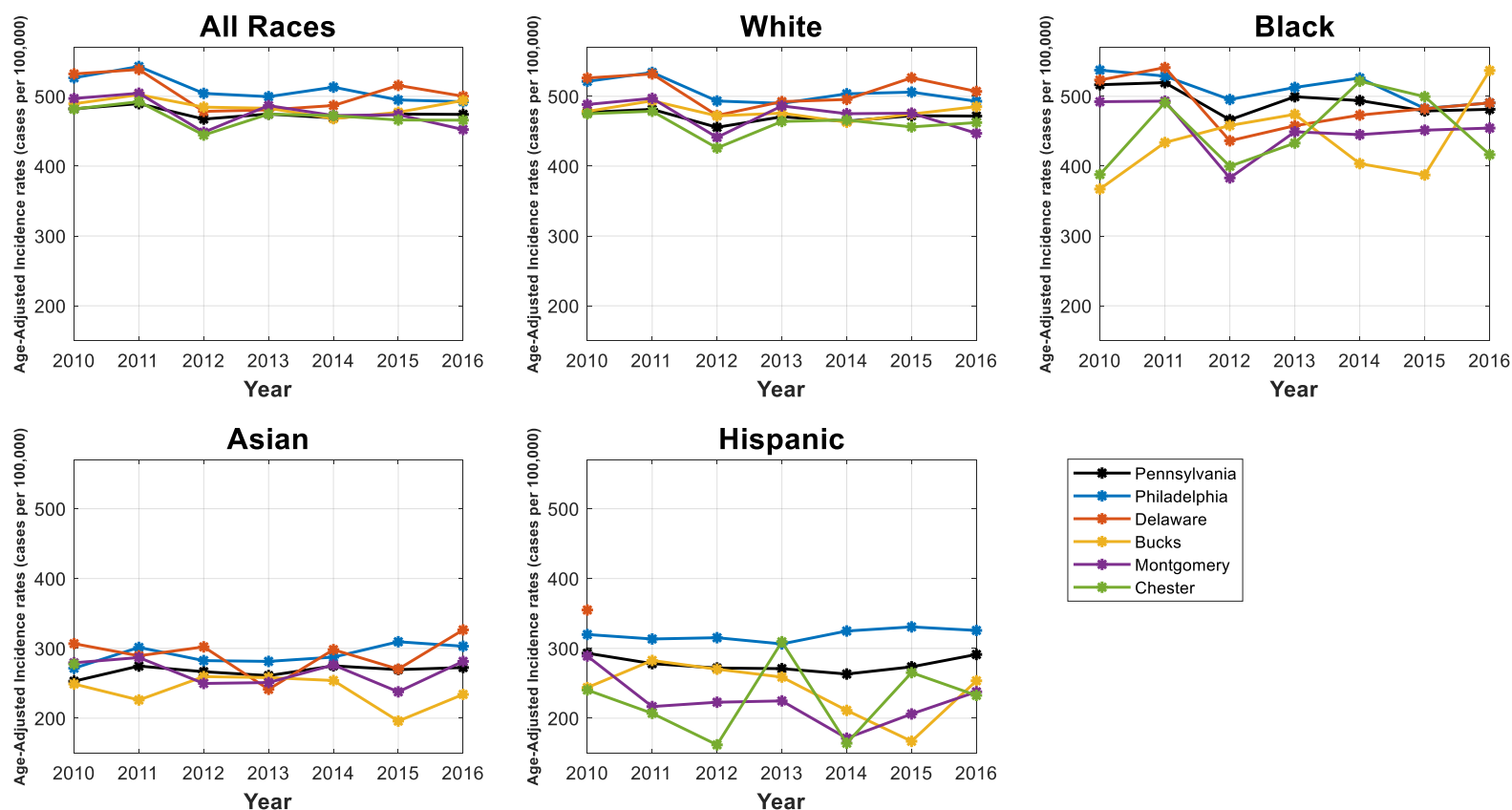

Figure 5 - Age-adjusted Cancer Incidence rate changes for all cancers, by race and ethnicity
Source: https://www.phaim1.health.pa.gov/EDD/WebForms/CancerCntySt.aspx

2.1.2. Breast Cancer

According to the Breast Cancer Facts & Figures 2017-2018 report,[2] the lifetime risk of being diagnosed with female breast cancer in the US is 12.4% (1 in 8), and an estimated 268,600 new cases will be diagnosed among women in 2019.[3]

When looking at trends, incidence rates have remained stable since 2000 among women 50 and older and since 2007 among younger women for in situ breast cancer. Incidence rates for invasive breast cancer also remained stable from 2005 to 2014.

Non-Hispanic White women have higher breast cancer incidence rates than non-Hispanic Black between the ages of 65 and 84. However, non-Hispanic Black women have higher incidence rates before age 40. Asian women present the lowest incidence rates.[2]

In the catchment area, breast cancer has the highest incidence rate, with 135.5 cases per 100,000 for the 2011-2015 period, which exceeds the national average. This rate does not vary much by geographic area, with half the counties reaching or exceeding 140 cases per 100,000. As to race/ethnic distribution of breast cancer, Whites are the group most affected in every county, followed by African Americans.

| Counties | Total | Race | | | Ethnicity |
		White*	Black*	Asian*	Hispanic**
US	124.7	125.6	123.8	92.3	93.4
12 ACC Counties ¶	135.5	139.5	127.6	-	-
Pennsylvania	131	131.9	126.6	76.8	85.9
Philadelphia	126.3	129.3	127.6	69.2	86.2
Bucks	139	142.6	120.7	58	61.8
Chester	142.2	143.4	110.5	87.8	99.6
Delaware	140.1	145.1	123.3	86.6	¥
Montgomery	142.3	146.3	126.6	86	66.9
New Jersey	133.4	137	122.4	94.1	102.6
Atlantic	132.5	138.6	110	83.1	106.6
Burlington	139.6	143.5	134.3	66.7	117.3
Camden	140.1	142.3	133.8	93.7	117.7
Gloucester	142.6	144.2	139.6	106.5	135.4
Mercer	140.0	144.2	122.2	111.4	127.5
Ocean	130.8	131.9	122.4	66.4	140.4
Delaware	133.8	133.8	131.9	§	§
New Castle	135.5	136.5	132.7	§	§

Table 11 - 5-year (2011-2015) age-adjusted cancer incidence rates (per 100,000) for states and 12 ACC counties – Female Breast Cancer

Source: https://statecancerprofiles.cancer.gov/incidencerates/ (accessed 5/31)

¶ 12-county combined estimate: US, state- and county-specific estimates: CDC State Cancer Profiles Incidence rates (https://statecancerprofiles.cancer.gov/incidencerates/index.php). Data downloaded 3/20/2019.

*Includes Hispanic

**Any race

§ Asian and Hispanic incidence data have been excluded for Delaware.

¥ Data has been suppressed to ensure confidentiality and stability of rate estimates. Counts are suppressed if fewer than 16 records were reported in a specific area-sex-race category. If an average count of 3 is shown, the total number of cases for the time period is 16 or more which exceeds suppression threshold (but is rounded to 3). (3 or fewer cases)

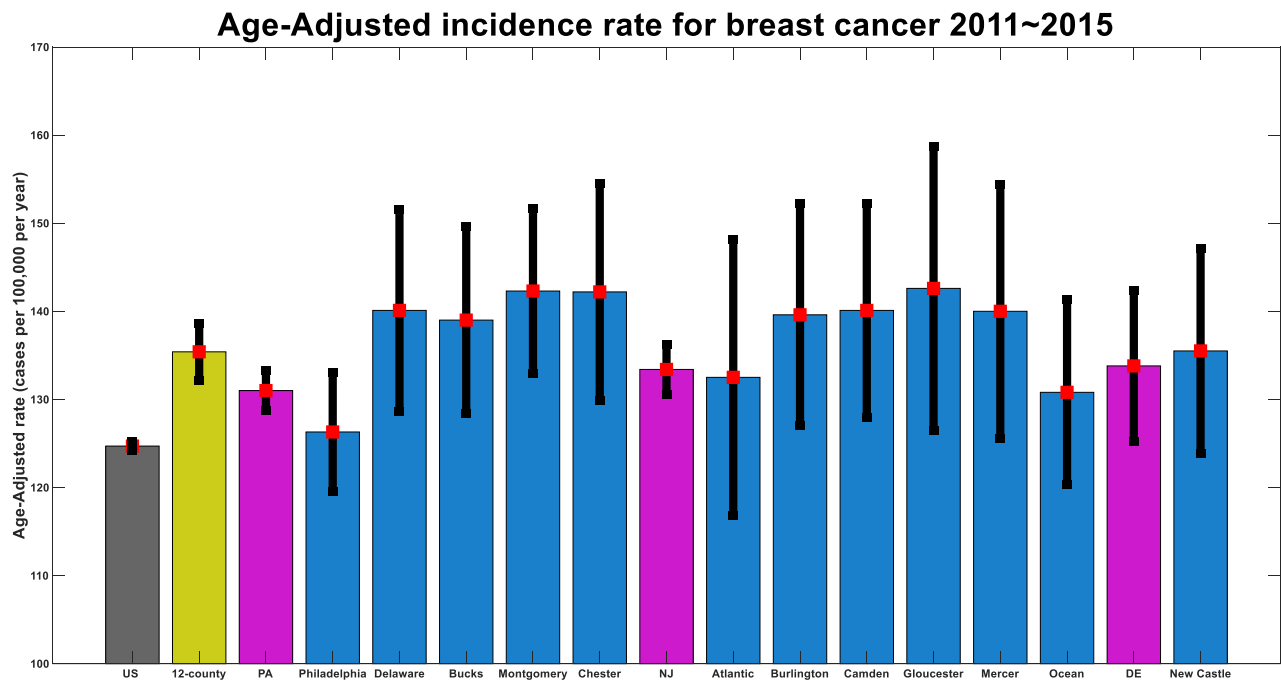# Age-Adjusted incidence rate for breast cancer 2011~2015

Figure 6 - 5-year (2011-2015) age-adjusted incidence rate for 12 ACC counties, for breast cancer. Unit: cases per 100,000 per year, age-adjusted to the 2000 US standard population (18 age groups)
Source: https://statecancerprofiles.cancer.gov/incidencerates/

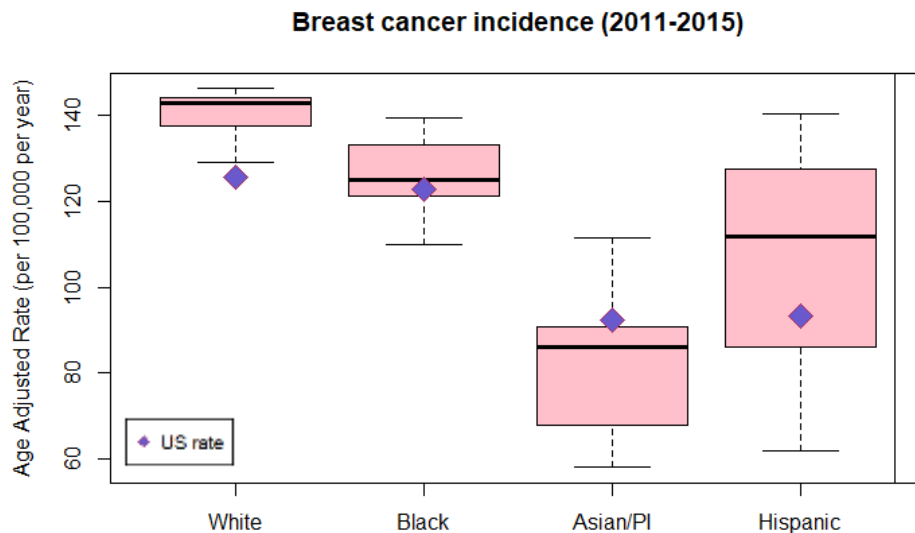## Breast cancer incidence (2011-2015)

Figure 7 - Boxplots of Annual Age-adjusted Cancer Incidence rates (Breast Cancer, 2011-2015) 12 counties vs. US, by Race/Ethnicity
Source: CDC State cancer profiles, https://statecancerprofiles.cancer.gov/index.html
Rate as cases per 100,000 population per year, age-adjusted to the 2000 US standard population (19 age groups).

2.1.3. Colorectal Cancer

Approximately 4.6% of men (1 in 22) and 4.2% of women (1 in 24) will be diagnosed with colorectal cancer (CRC) in their lifetime.[4] In 2019, there will be an estimated 101,420 new cases of colon cancer and 44,180 cases of rectal cancer diagnosed in the US.[1]

The incidence of CRC has decreased since the 1980s, a decline attributed to changing patterns in risk factors and increased CRC screening. The increase in CRC screening consequently led to the early detection and removal of precancerous polyps, which is reflected in the acceleration in the decline of CRC, from about 2% per year prior to the mid-2000s to 3% per year from 2004 to 2013.[4]

CRC incidence rates are higher in men and in older age groups, and are currently declining for all racial/ethnic groups. Data from 2009-2013 show that rates declined by about 3% per year in non-Hispanic Whites, non-Hispanic Blacks, and Hispanics, and about 2% per year in Asians.[4]

Colorectal cancer age-adjusted incidence rate for the 12 ACC counties is 42.5 cases per 100,000 for the 2011-2015 period (higher than the US—39.2 cases). All counties had 40 or more cases per 100,000, except for Montgomery, Chester, and New Castle, where incidence rates are slightly lower. African Americans are the racial group most affected by colorectal cancer, presenting the highest incidence rates in 6 counties, followed by Hispanics with the highest rates in four counties.

Counties	Total	Gender		Race			Ethnicity
		Male	**Female**	**White***	**Black***	**Asian***	**Hispanic****
US	39.2	45.1	34.3	38.4	45.7	30.7	34.5
12 ACC Counties ¶	42.5	48.9	36.2	41.8	45.0	-	-
Pennsylvania	42.6	49.5	37	42.0	46.2	27.1	33.1
Philadelphia	47.5	57.8	40.4	47.1	47.2	32.0	37.5
Bucks	39.5	47	33.3	39.2	40.9	25.3	31.6
Chester	35.7	38.4	33.5	35.1	43.8	¥	32.2
Delaware	45.3	54.5	38.1	44.9	48.1	32.2	¥
Montgomery	38.8	43.8	34.8	38.8	40.6	26.3	19.9
New Jersey	41.9	47.9	37	42.1	45.0	24.6	37.8
Atlantic	42.1	50.5	35.1	42.7	42.2	20.8	41.2
Burlington	46.8	52.3	42.0	47.4	44.7	30.3	50.3
Camden	45.5	50.3	41.6	44.6	53.5	32.4	40.3
Gloucester	44.1	50	39.5	42.9	49.5	¥	60.6
Mercer	39.5	46.8	33.5	40.6	39.6	23.4	41.4
Ocean	45.5	52.2	40.4	45.5	38.6	27.8	52.1
Delaware	37.2	42.7	32.8	36.6	42.4	§	§
New Castle	36.2	41	32.7	35.4	41.4	§	§

Table 12 - 5-year (2011-2015) age-adjusted cancer incidence rates (per 100,000) for states and 12 ACC counties - Colorectal Cancer

Source: https://statecancerprofiles.cancer.gov/incidencerates/ (accessed 5/31)

¶ 12-county combined estimate: US, state- and county-specific estimates: CDC State Cancer Profiles Incidence rates (https://statecancerprofiles.cancer.gov/incidencerates/index.php). Data downloaded 3/20/2019.

*Includes Hispanic

**Any race

§ Asian and Hispanic incidence data have been excluded for Delaware.

¥ Data has been suppressed to ensure confidentiality and stability of rate estimates. Counts are suppressed if fewer than 16 records were reported in a specific area-sex-race category. If an average count of 3 is shown, the total number of cases for the time period is 16 or more which exceeds suppression threshold (but is rounded to 3). (3 or fewer cases)

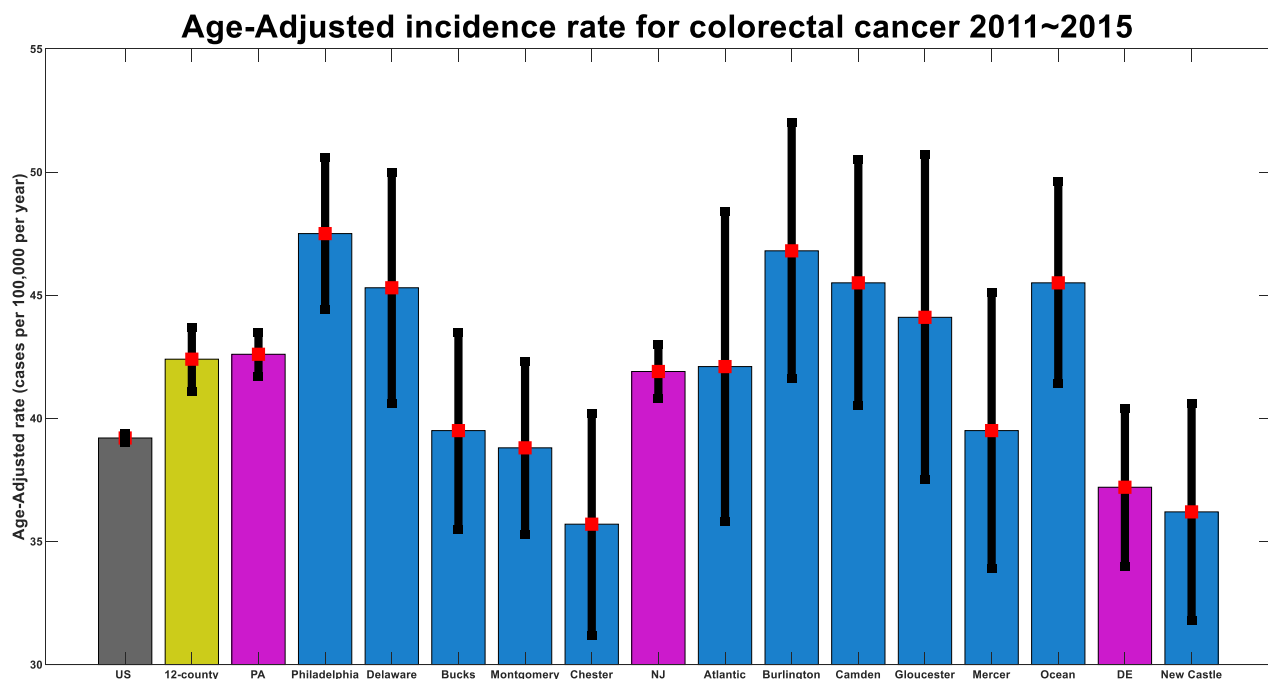## Age-Adjusted incidence rate for colorectal cancer 2011~2015

Figure 8 - 5-year (2011-2015) age-adjusted incidence rate for 12 ACC counties, for colorectal cancer. Unit: cases per 100,000 per year, age-adjusted to the 2000 US standard population (18 age groups)
Source: https://statecancerprofiles.cancer.gov/incidencerates/
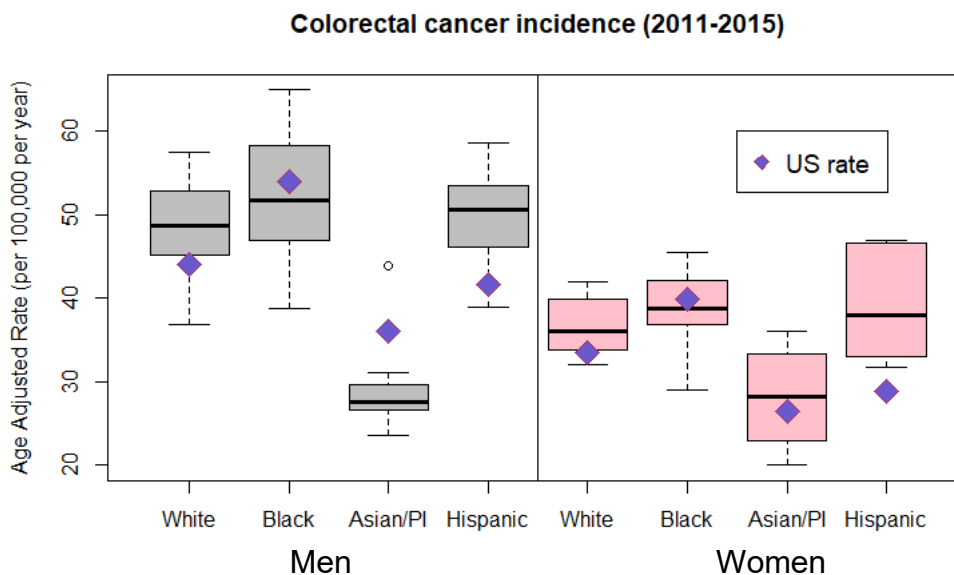
Colorectal cancer incidence (2011-2015)

Figure 9 - Boxplots of Annual Age-adjusted Cancer Incidence rates (Colorectal Cancer, 2011-2015) 12 counties vs. US, by Gender and Race/Ethnicity
Source: CDC State cancer profiles, https://statecancerprofiles.cancer.gov/index.html
Rate as cases per 100,000 population per year, age-adjusted to the 2000 US standard population (19 age groups).

2.1.4. Lung Cancer

The incidence rate for lung cancer has been declining in the US since the mid-1980s for men and the mid-2000s for women. From 2011 to 2015, the rates decreased by almost 3% per year in men and 1.5% per year in women. Despite this, incidence rates for lung cancer remain high despite the fact that in the majority of cases, it could be prevented. Cigarette smoking continues to be the biggest risk factor for lung cancer—81% of lung cancer deaths in the US are caused by smoking. Some other risk factors include exposure to carcinogens like secondhand smoke, radon gas, asbestos, certain metals, some organic chemicals, radiation, air pollution, and diesel exhaust.[1]

In 2011-2015, the age-adjusted incidence rate for lung cancer was for 66.3 cases per 100,000 in the 12 counties. Rates were highest among Whites and African Americans. The highest rates were found in Philadelphia, Camden, Gloucester, and Ocean counties, all exceeding 70 cases per 100,000.

Table 13 - 5-year (2011-2015) age-adjusted cancer incidence rates (per 100,000) for states and 12 ACC counties - Lung Cancer							
Counties		**Gender**		**Race**			**Ethnicity**
	Total	**Male**	**Female**	**White***	**Black***	**Asian***	**Hispanic****
US	60.2	70.8	52.2	61.1	62.3	34.9	30.9
12 ACC Counties ¶	66.3	74.7	60.1	66.0	72.5	-	-
Pennsylvania	64.7	76.5	56.3	64.1	76.7	34.3	35.4
Philadelphia	78.7	90.6	71.4	78.8	81.3	45.3	44.3
Bucks	61.8	71.4	54.8	63.2	45.4	30.5	24.6
Chester	52.9	60.9	46.8	52.1	72.8	30.5	38
Delaware	68.3	77.2	62.1	68.7	75.8	31.4	¥
Montgomery	54.2	62.3	48.5	55.5	52	25.4	¥
New Jersey	57.3	64.3	52.6	59.9	55.1	27.3	34.1
Atlantic	68.2	73.5	64.4	70.6	69.2	32.4	40.5
Burlington	63.1	71.2	57.3	66.7	53.9	24.1	54.8
Camden	71.4	79.5	65.7	73.9	70.6	32.9	48
Gloucester	76	90.3	66.2	78.5	65	¥	¥
Mercer	58.9	71.2	52.3	57.3	75	31.8	37.1
Ocean	70.3	75.1	67.1	71	58.1	33	59.3
Delaware	71.2	82.7	62.8	72.9	67.3	§	§
New Castle	66.2	76.4	58.9	68.3	64.6	§	§

Source: https://statecancerprofiles.cancer.gov/incidencerates/ (accessed 5/31)

¶ 12-county combined estimate: US, state- and county-specific estimates: CDC State Cancer Profiles Incidence rates (https://statecancerprofiles.cancer.gov/incidencerates/index.php). Data downloaded 3/20/2019.

*Includes Hispanic

**Any race

§ Asian and Hispanic incidence data have been excluded for Delaware.

¥ Data has been suppressed to ensure confidentiality and stability of rate estimates. Counts are suppressed if fewer than 16 records were reported in a specific area-sex-race category. If an average count of 3 is shown, the total number of cases for the time period is 16 or more which exceeds suppression threshold (but is rounded to 3). (3 or fewer cases)
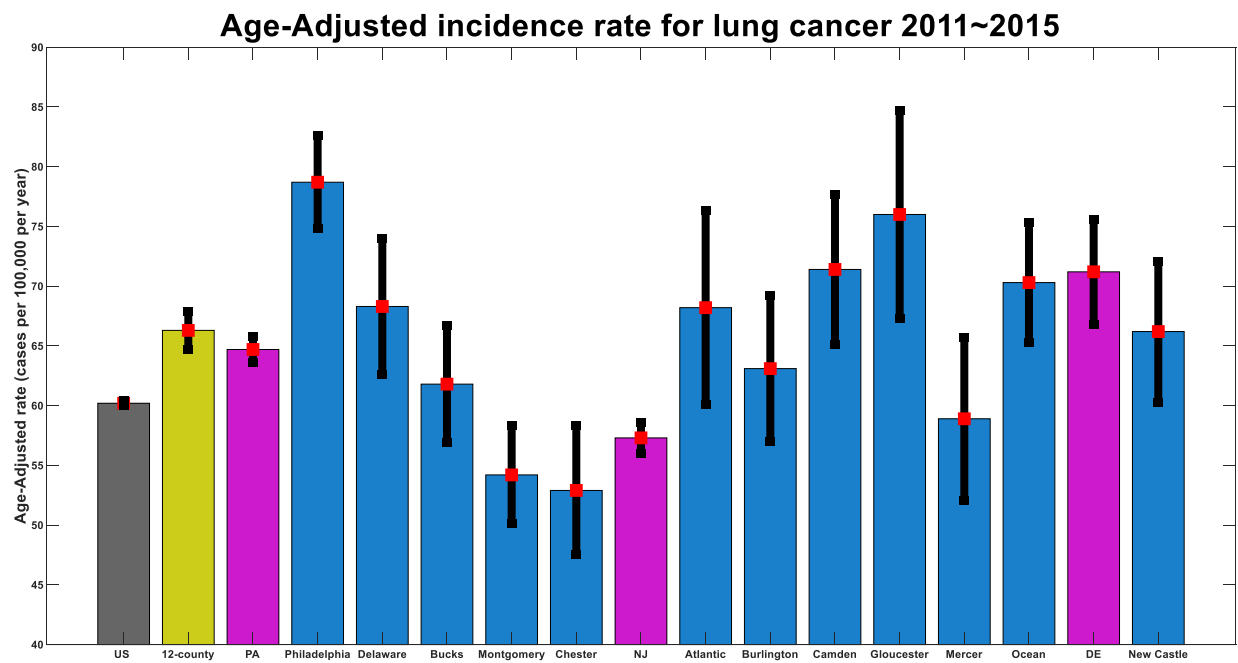
Figure 10 - 5-year (2011-2015) age-adjusted incidence rate for 12 ACC counties, for lung cancer. Unit: cases per 100,000 per year, age-adjusted to the 2000 US standard population (18 age groups)
Source: https://statecancerprofiles.cancer.gov/incidencerates/

2.1.5. Melanoma

Melanoma of the skin accounts for a small percentage of all skin cancer cases (about 1%), but is responsible for a large majority of skin cancer deaths. An estimated 96,480 new cases of melanoma will be diagnosed in the US in 2019: 57,220 in men and 39,260 in women[3]. Overall, Melanoma is more common in Whites and in men, however, before age 50 the rates are higher in women than in men. This fact may reflect age and gender differences in exposure to UV radiation, such as the use of indoor tanning.[1]

The incidence of melanoma of the skin has increased rapidly over the past 30 years, and from 2006 to 2015, the rate increased by 3% per year among men and women ages 50 and older, but was stable among those younger than age 50.[1]

The 2011-2015 age-adjusted melanoma incidence rate for the 12 ACC counties is 25 cases per 100,000. The highest rates are found among Whites and in Bucks, Chester, Montgomery, and Ocean counties—all exceeding 30 cases per 100,000.

Table 14 - 5-year (2011-2015) age-adjusted cancer incidence rates (per 100,000) for states and 12 ACC counties - Melanoma							
Counties	**Total**	**Gender**		**Race**			**Ethnicity**
		Male	**Female**	**White***	**Black***	**Asian***	**Hispanic****
US	21.3	27.3	16.8	24.2	1	1.4	4.5
12 ACC Counties ¶	25.2	33.0	19.8	28.5	0.8	-	-
Pennsylvania	24	29.9	19.9	24.4	0.9	1.9	4.7
Philadelphia	11.6	16.6	8.3	19.8	0.6	¥	3.5
Bucks	31.2	38.5	25.6	27.0	¥	¥	¥
Chester	32.6	42.2	25.5	29.7	¥	¥	¥
Delaware	28.1	34.3	24.3	31.9	¥	¥	¥
Montgomery	32.2	40.6	26.4	29.9	¥	¥	¥
New Jersey	22.1	28.9	17.3	26	1	1.2	4.4
Atlantic	25.5	34.4	18.6	29.4	¥	¥	¥
Burlington	26.6	33.9	21.5	31.1	¥	¥	¥
Camden	20.7	27.5	15.9	24.9	¥	¥	¥
Gloucester	26.9	34.3	21.5	27.9	¥	¥	¥
Mercer	23.4	31.6	18.1	29.2	¥	¥	¥
Ocean	34.3	44.1	27.3	33.8	¥	¥	9.9
Delaware	30	39.7	22.8	37.5	¥	§	§
New Castle	27	36.2	20.7	35.4	¥	§	§

Source: https://statecancerprofiles.cancer.gov/incidencerates/ (accessed 5/31)

¶ 12-county combined estimate: US, state- and county-specific estimates: CDC State Cancer Profiles Incidence rates (https://statecancerprofiles.cancer.gov/incidencerates/index.php). Data downloaded 3/20/2019.
*Includes Hispanic; **Any race; § Asian and Hispanic incidence data have been excluded for Delaware; ¥ Data has been suppressed to ensure confidentiality and stability of rate estimates. Counts are suppressed if fewer than 16 records were reported in a specific area-sex-race category. If an average count of 3 is shown, the total number of cases for the time period is 16 or more which exceeds suppression threshold (but is rounded to 3). (3 or fewer cases)

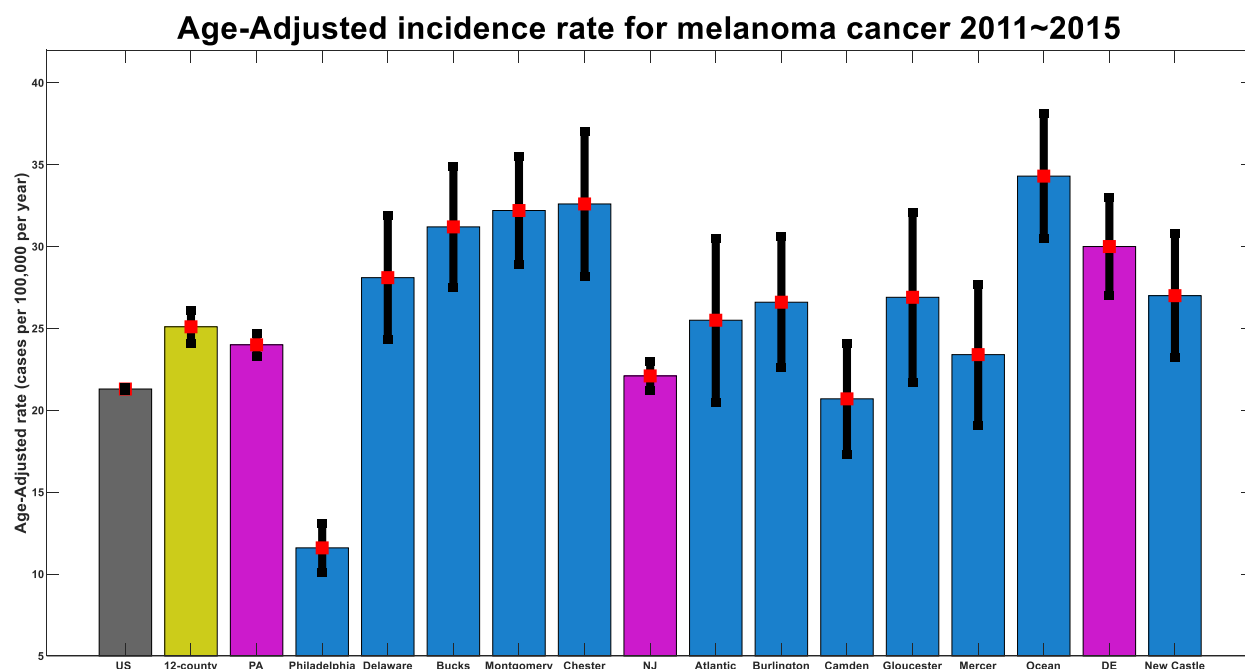## Age-Adjusted incidence rate for melanoma cancer 2011~2015

Figure 11 - 5-year (2011-2015) age-adjusted incidence rate for 12 ACC counties, for melanoma cancer. Unit: cases per 100,000 per year, age-adjusted to the 2000 US standard population (18 age groups)
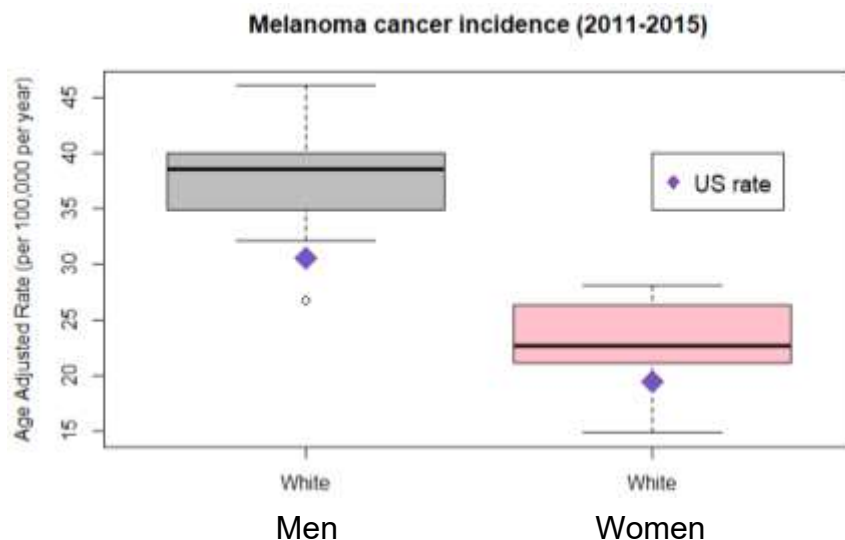Source: https://statecancerprofiles.cancer.gov/incidencerates/

Figure 12 - Boxplots of Annual Age-adjusted Cancer Incidence rates (Melanoma, 2011-2015) 12 counties vs. US, by Gender and Race/Ethnicity
Source: CDC State cancer profiles, https://statecancerprofiles.cancer.gov/index.html
Rate as cases per 100,000 population per year, age-adjusted to the 2000 US standard population (19 age groups).

2.1.6. Pancreatic Cancer

Pancreatic cancer incidence in the US increased at a rate of 1% per year from 2006 to 2015. An estimated 56,770 new cases of pancreatic cancer will we be registered in the US in 2019. Risk factors for this cancer include the use of tobacco and cigarette smoking, heavy alcohol consumption, excess body weight, type 2 diabetes, chronic pancreatitis, a family history of pancreatic cancer, and other genetic syndrome.[1]

In the catchment area, African Americans present the highest rates of pancreatic cancer in almost every county. The age-adjusted rate is 15 cases per 100,000 for the 2011-2015 period, higher than the US. Mercer County presents the highest rate with 17 cases per 100,000.

Counties	Total	Gender		Race			Ethnicity
		Male	Female	White*	Black*	Asian*	Hispanic**
US	12.6	14.4	11.1	12.4	15.6	9.3	11.1
12 ACC Counties ¶	14.5	16.4	12.5	14.1	15.8	-	-
Pennsylvania	13.9	16.2	12	13.7	17	9.2	10
Philadelphia	15.2	17.4	13.6	14.3	16.9	9.2	9.6
Bucks	13.8	15.8	12.1	14.1	¥	¥	¥
Chester	13	16.9	9.8	12.7	18.7	¥	¥
Delaware	14.1	16.4	12.3	14	16.8	¥	¥
Montgomery	14.4	16.8	12.4	14.4	16.9	11.5	¥
New Jersey	14	15.7	12.6	14.2	15.5	8.1	12.3
Atlantic	13.3	14.7	12.3	13.9	10.5	¥	¥
Burlington	15.7	17	14.6	15.6	17.6	¥	¥
Camden	13.6	15.9	12	13.5	14.8	¥	9.7
Gloucester	13.8	15.6	12.3	13.7	15	¥	¥
Mercer	17.1	19.9	14.8	16.1	25.3	¥	16.9
Ocean	15.2	17.1	13.8	15.2	¥	¥	17.1
Delaware	14.4	16.7	12.5	14	16.5	§	§
New Castle	14.9	16.2	14	14.5	16.9	§	§

Table 15 - 5-year (2011-2015) age-adjusted cancer incidence rates (per 100,000) for states and 12 ACC counties - Pancreatic Cancer

Source: https://statecancerprofiles.cancer.gov/incidencerates/ (accessed 5/31)

¶ 12-county combined estimate: US, state- and county-specific estimates: CDC State Cancer Profiles Incidence rates (https://statecancerprofiles.cancer.gov/incidencerates/index.php). Data downloaded 3/20/2019.
*Includes Hispanic **Any race

§ Asian and Hispanic incidence data have been excluded for Delaware.

¥ Data has been suppressed to ensure confidentiality and stability of rate estimates. Counts are suppressed if fewer than 16 records were reported in a specific area-sex-race category. If an average count of 3 is shown, the total number of cases for the time period is 16 or more which exceeds suppression threshold (but is rounded to 3). (3 or fewer cases)
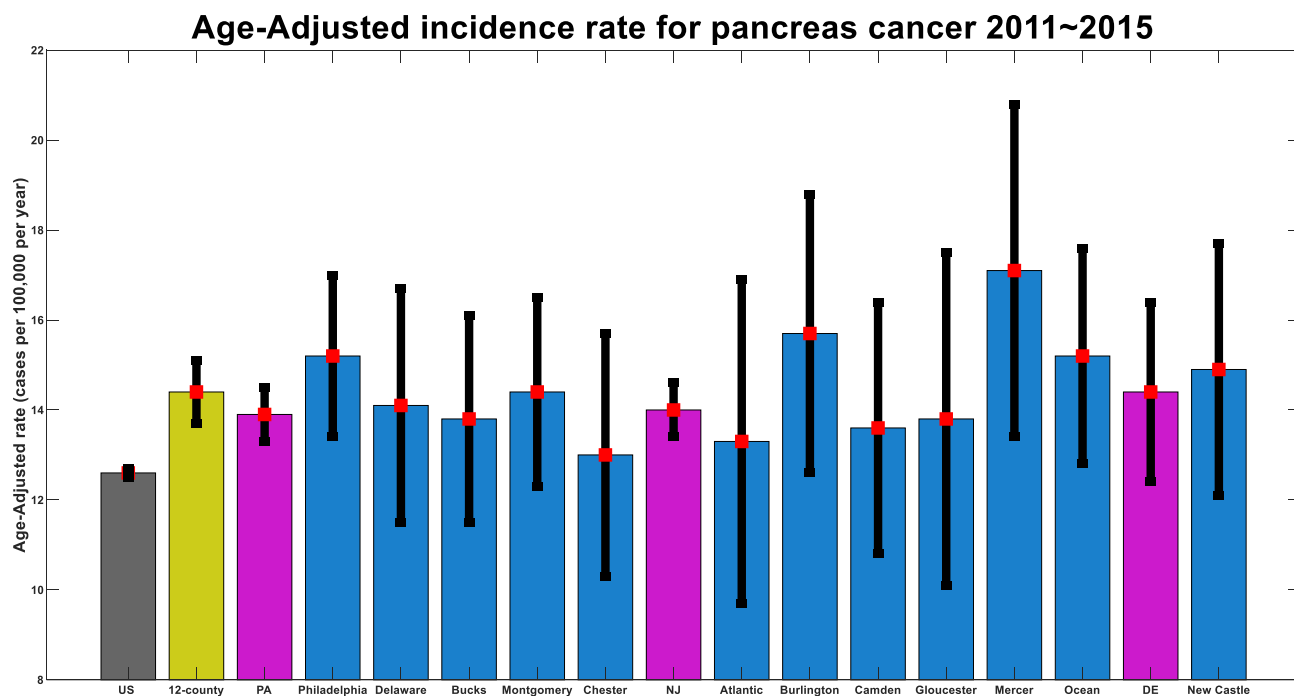
Figure 13 - 5-year (2011-2015) age-adjusted incidence rate for 12 ACC counties, for pancreatic cancer. Unit: cases per 100,000 per year, age-adjusted to the 2000 US standard population (18 age groups)
Source: https://statecancerprofiles.cancer.gov/incidencerates/

2.1.7. Prostate Cancer

In 2019, an estimated 174,650 new cases of prostate cancer will be diagnosed among men in the US. Between 2011 and 2015, the overall prostate cancer incidence rate declined at approximately 7% per year. This decline has been thought to be due to decreased prostate-specific antigen (PSA) testing from 2008 to 2013, as a result of US Preventive Services Task Force recommendations against the routine use of the test, due to the growing concerns about over diagnosis and over treatment.[3]

Risk factors for this cancer include African ancestry, older age, a family history of prostate cancer, and certain inherited genetic conditions. Smoking and excess body weight increase the risk of aggressive and fatal prostate cancer.[1]

In the catchment area, prostate cancer has the second highest incidence rate, with 131 cases per 100,000 in 2011-2015—a number that exceeds the national average. Philadelphia, Burlington, Camden, and Mercer have the highest rates, exceeding 140 cases per 100,000. Similar to what is described in the literature, African Americans present the highest incidence rates for this cancer in all counties.

Counties	Total	Race			Ethnicity
		White*	Black*	Asian*	Hispanic**
US	109	100.1	175.2	55.7	91.2
12 ACC Counties ¶	130.6	115.0	182.7	-	-
Pennsylvania	111.1	100.7	167	49.4	105.4
Philadelphia	147.2	100.8	174.1	48.5	128.5
Bucks	114.1	104.8	163	35.8	107.2
Chester	119	111.5	160.4	47	72.5
Delaware	135.7	124.2	181.7	54.2	¥
Montgomery	124.9	114	172.3	56.2	92.6
New Jersey	134.7	123.9	190.7	61.3	124.9
Atlantic	120.7	109.1	201.4	36.5	97.4
Burlington	147.8	133.7	205.6	54.8	184.1
Camden	141.7	128.2	203.9	53.7	111.1
Gloucester	136.8	124	224.2	154.1	121.0
Mercer	147	126.6	232.1	76.6	129.4
Ocean	125.8	121.2	208.8	80.1	117.7
Delaware	136.1	121.7	212.3	§	§
New Castle	136.2	123	200.2	§	§

Table 16 - 5-year (2011-2015) age-adjusted cancer incidence rates (per 100,000) for states and 12 ACC counties - Prostate Cancer

Source: https://statecancerprofiles.cancer.gov/incidencerates/ (accessed 5/31)
¶ 12-county combined estimate: US, state- and county-specific estimates: CDC State Cancer Profiles Incidence rates (https://statecancerprofiles.cancer.gov/incidencerates/index.php). Data downloaded 3/20/2019.
*Includes Hispanic

**Any race
§ Asian and Hispanic incidence data have been excluded for Delaware.
¥ Data has been suppressed to ensure confidentiality and stability of rate estimates. Counts are suppressed if fewer than 16 records were reported in a specific area-sex-race category. If an average count of 3 is shown, the total number of cases for the time period is 16 or more which exceeds suppression threshold (but is rounded to 3). (3 or fewer cases)
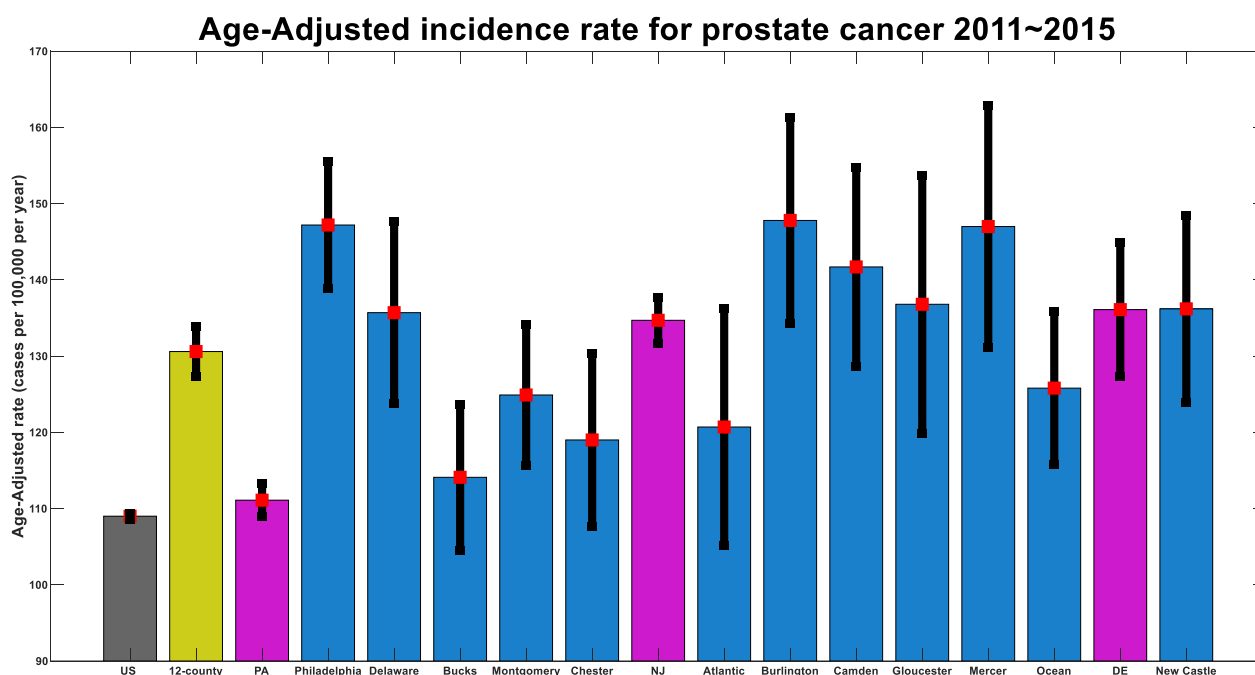
Age-Adjusted incidence rate for prostate cancer 2011~2015

Figure 14 - 5-year (2011-2015) age-adjusted incidence rate for 12 ACC counties, for prostate cancer. Unit: cases per 100,000 per year, age-adjusted to the 2000 US standard population (18 age groups)
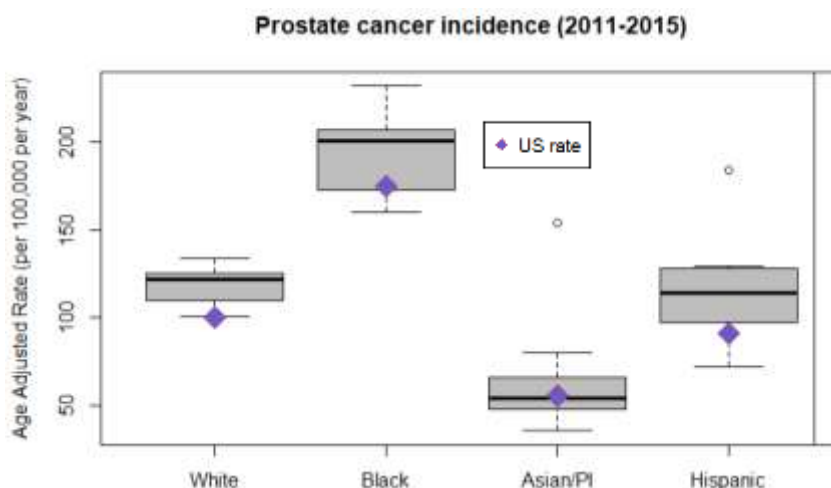Source: https://statecancerprofiles.cancer.gov/incidencerates/

Figure 15 - Boxplots of Annual Age-adjusted Cancer Incidence rates (Prostate Cancer, 2011-2015) 12 counties vs. US, by Race/Ethnicity
Source: CDC State cancer profiles, https://statecancerprofiles.cancer.gov/index.html
Rate as cases per 100,000 population per year, age-adjusted to the 2000 US standard population (19 age groups).

2.1.8. Stomach Cancer

In 2019, an estimated 27,510 new cases of stomach cancer will be observed among men and women in the US. The incidence of this cancer has decreased about 1.5% each year over the last 10 years.[5] Some common risk factors for this disease include the bacteria Helicobacter pylori; increasing age; tobacco use; excess body weight; diet with large amounts of salted, smoked, and cured food; and alcohol consumption.[5]

Stomach cancer incidence rate in the catchment area varies from five cases per 100,000 in Bucks County to nine cases per 100,000 in Camden (for the 2011-2015 period). Rates are higher among Asians and African Americans than Whites overall.

Counties		Gender		Race			Ethnicity
	Total	Male	Female	White*	Black*	Asian*	Hispanic**
US	6.6	9.1	4.6	5.9	10.1	10.4	9.7
Pennsylvania	6.4	9.2	4.1	5.9	9.1	9.8	9.2
Philadelphia	8.7	12.3	6.2	7.8	9	12.2	8.4
Bucks	5.1	7.3	3.2	4.7	¥	¥	¥
Chester	6.1	8.2	4.2	5.6	13	¥	¥
Delaware	5.9	9.1	3.6	5.2	9	¥	¥
Montgomery	5.8	8.3	3.9	5	10.7	9.3	¥
New Jersey	8	10.9	5.8	7.4	10.1	10.1	12
Atlantic	7.5	9.4	6	7.1	7.1	¥	¥
Burlington	6.4	8.2	5	6.1	7.7	¥	¥
Camden	8.9	11.9	6.7	7.7	12.7	15	8.5
Gloucester	6.7	9.5	4.4	6.2	¥	¥	¥
Mercer	8.2	10.5	6.6	7.6	9.1	¥	¥
Ocean	7.6	11.1	5	7.3	¥	¥	14.5
Delaware	6.7	9.4	4.5	6.1	9	§	§
New Castle	7.4	10.7	5	6.6	10.4	§	§

Table 17 - 5-year (2011-2015) age-adjusted cancer incidence rates (per 100,000) for states and 12 ACC counties - Stomach Cancer

Source: https://statecancerprofiles.cancer.gov/incidencerates/ (accessed 5/31)
*Includes Hispanic **Any race
§ Asian and Hispanic incidence data have been excluded for Delaware.
¥ Data has been suppressed to ensure confidentiality and stability of rate estimates. Counts are suppressed if fewer than 16 records were reported in a specific area-sex-race category. If an average count of 3 is shown, the total number of cases for the time period is 16 or more which exceeds suppression threshold (but is rounded to 3). (3 or fewer cases)

2.2. Cancer mortality rates and trends

2.2.1. All Cancers

An estimated 606,880 Americans will die from cancer in 2019, corresponding to almost 1,700 deaths per day. The greatest number of deaths are from cancers of the lung, prostate, and colorectum in men, and the lung, breast, and colorectum in women.[3]

Cancer death rates rose during most of the 20th century, largely due to the rapid increase in lung cancer deaths as a consequence of the tobacco epidemic. However, since 1991, the cancer death rate has dropped steadily by approximately 1.5% per year, resulting in an overall decline of 27% as of 2016 (156 per 100,000 population). The decline in cancer mortality over the past 2 decades is primarily the result of steady reductions in smoking and advances in early detection and treatment, which are reflected in the rapid declines for the four major cancers (lung, breast, prostate, and colorectal).[3]

Cancer mortality rates in the catchment area are higher than national level rates for all cancer sites (171 deaths per 100,000), as well as for breast, colorectal, lung, melanoma, pancreatic, and prostate cancers. Lung cancer is responsible for the highest number of deaths (44 deaths per 100,000). The highest death rates are seen in Philadelphia and in Gloucester Counties. More African Americans die from cancer when compared to other races and ethnicity.

Table 18 - 5-year (2011-2015) age-adjusted mortality rates			
	ACC catchment area (12 counties)*	**Philadelphia County***	**non-Philadelphia catchment area (11 counties)***	**US****
All cancers	171.0	201.5	164	163.5
Lung	44.4	55.2	41.9	43.4
Breast (F)	22.6	26.6	21.7	20.9
Prostate (M)	20.5	30.3	18.5	19.5
Colorectal	15.1	17.7	14.5	14.5
Pancreas	12.1	13.1	11.9	10.9
Melanoma	2.4	1.8	2.5	2.6
Stomach	¶	¶	¶	3.2

Unit: cases per 100,000 per year, age-adjusted to the 2000 US standard population (18 age groups)
Rates are for invasive cancer only.
Source: CDC State cancer profiles, https://statecancerprofiles.cancer.gov/index.html
***US, state- and county-specific estimates: CDC State Cancer Profiles Mortality rates
(https://statecancerprofiles.cancer.gov/deathrates/index.php). Data downloaded 3/20/2019.

12-county estimate: Calculation was based on:
- PA: Yearly age-specific cases and population counts were downloaded from Enterprise Data Dissemination Informatics Exchanges (EDDIE).
- NJ: 5-year age-specific cases and population counts were obtained from NJ Stat Cancer Registry Data Request in 6/2019. Data were only available for 2012 to 2016.
- DE: Yearly age-specific cases and population counts were obtained from DE Stat Cancer Registry Data Request in 7/2019.
Confidence interval was calculated based on the formula by Fay and Feuer (1997).
**2011-2015 age-adjusted mortality rates – Estimate.
Source: https://statecancerprofiles.cancer.gov/deathrates/index.php
¶ Missing data has not been calculated

Table 19 - 2011-2015 Age-adjusted rates per 100,000 for Cancer Mortality by Race and Gender in the ACC catchment area, Philadelphia County, non-Philadelphia Catchment area, and the U.S.																
	ACC Catchment Area (12 Counties)				Philadelphia County				Non-Philadelphia Catchment area (11 Counties)				United States			
	Race		Gender		Race		Gender		Race		Gender		Race		Gender	
	W	B	M	F	W	B	M	F	W	B	M	F	W	B	M	F
All cancers	165.7	204.7	202.7	149.8	181.5	223.4	246.6	173.7	163.6	186.6	193.3	144.0	161.5	185.7	196.8	139.6
Breast (F)	21.4	29.8	-	22.6	22.5	30.9	-	26.6	21.2	28.7	-	21.7	20.1	28.1	-	20.9
Prostate (M)	17.1	44.9	20.5	-	18.1	51.7	30.3	-	17.0	38.2	18.5	-	18.0	38.9	19.2	-
Lung	43.6	51.2	53.0	38.2	52.8	58.9	68.6	46.5	42.4	43.7	49.7	36.2	44.1	46.2	53.8	35.4
Colorectal	14.4	17.5	17.8	12.7	15.1	20.4	22.5	14.5	14.3	14.7	16.8	12.2	14.1	19.4	17.3	12.2
Melanoma	2.9	0.3	3.6	1.5	2.9	0.5	2.8	1.2	2.9	0.1	3.7	1.6	3	0.4	3.9	1.6
NH Lymphoma	5.8	3.0	7.5	3.9	6.6	4.3	7.7	4.4	5.7	1.8	7.4	3.8	6.0	4.2	7.4	4.5
Pediatric*	1.5	1.0	1.1	1.0	1.5	1.5	1.9	1.7	1.5	0.6	0.9	0.8	2.2	2.1	2.3	1.9
Pancreas	11.7	13.4	13.5	10.6	11.4	15.2	14.9	11.7	11.9	12.0	13.2	10.4	10.8	13.3	12.6	9.5
Leukemia	6.2	3.6	7.9	4.6	6.7	4.7	7.6	4.8	6.2	2.5	7.9	4.5	6.9	5.6	9.0	5.0
Ovary (F)	7.4	5.8	-	7.2	7.1	7.4	-	7.1	7.4	4.3	-	7.2	7.3	6.1	-	7.0
Oral/Pharynx	1.8	1.8	3.0	1.0	1.9	2.7	4.0	1.1	1.8	0.9	2.8	1.0	2.5	2.8	3.9	1.3
Liver/Bile Duct	5.6	8.8	10.2	3.5	8.9	11.3	17.9	5.4	5.2	6.3	8.5	3.1	6	8.3	9.4	3.8
Cervix (F)	1.4	2.8	-	1.9	2.5	4.6	-	3.6	1.3	1.1	-	1.5	2.2	3.5	-	2.3

Sources: PA, NJ and DE state cancer registries, SEER; 2011-2015.*ages 0-14

Table 20 - 2011-2015 Age-adjusted Male and Female Cancer Mortality Rates by Race per 100,000 in the ACC catchment area, Philadelphia County, non-Philadelphia Catchment area, and the U.S.															
	ACC Catchment Area (12 Counties)				Philadelphia County				Non-Philadelphia Catchment Area (11 Counties)				United States			
	Male		Female		Male		Female		Male		Female		Male		Female	
	W	B	W	B	W	B	W	B	W	B	W	B	W	B	W	B
All cancers	196.4	250.4	144.6	178.8	220.2	280.6	155.8	192.5	193.3	223.1	143.1	164.8	193.0	239.9	140.0	159
Lung	51.5	65.3	38.0	42.4	63.3	75.3	45.5	49.4	49.9	56.2	36.9	35.2	53.9	65.1	36.6	33.5
Colorectal	17.0	22.6	12.3	14.2	18.5	27.2	12.7	16.3	16.9	18.5	12.3	12.1	16.8	24.4	11.9	16.1
Melanoma	4.2	0.4	4.0	2.1	4.4	0.6	4.9	3.2	4.2	0.1	3.9	0.8	4.3	0.5	4.6	3.4
NH Lymphoma	8.0	3.7	1.7	0.2	8.7	5.9	1.9	0.4	7.9	1.8	1.7	0	7.7	5.2	1.9	0.3
Leukemia	8.3	3.8	0.9	1.4	8.9	5.3	1.5	0.6	8.5	2.5	0.8	0.9	9.1	7.4	2	1.9
Oral/Pharynx	2.8	3.1	10.2	13.1	3.2	5.2	9.5	14.5	2.7	1.1	10.3	11.7	3.8	4.7	9.4	12.2
Pediatric*	1.1	1.2	4.8	2.7	1.5	2.3	5.3	4.1	1.1	0.2	4.7	1.3	2.3	2.1	5.2	4.5
Pancreas	13.7	13.3	0.9	0.7	14.1	15.8	0.8	1.2	13.6	10.9	0.9	0.3	12.6	14.8	1.3	1.3
Liver/Bile Duct	8.7	14.8	3.1	3.6	13.7	20.3	5.1	5.3	8.0	9.8	2.8	1.8	8.9	13.2	3.6	4.6

Sources: PA, NJ and DE state cancer registries, SEER; 2011-2015.*ages 0-14

Counties	Total	Gender		Race			Ethnicity
		Male	Female	White*	Black*	Asian*	Hispanic**
US	163.5	196.8	139.6	163.8	189.8	102	115
12 ACC Counties ¶	171.0	202.7	149.8	165.7	204.7	-	-
Pennsylvania	171.6	207.1	147.1	169.6	212.5	102.2	111.1
Philadelphia	204.1	249.6	176	196.5	225.2	110.9	135.5
Bucks	159.6	191.2	138.3	161.8	153.7	98.8	77.6
Chester	152.8	179.3	134.2	151.9	201.8	98.2	97.2
Delaware	177.9	212.7	151.1	175.8	210.0	94.4	85.4
Montgomery	155	181.4	137.5	155.6	179.8	99.2	107.4
New Jersey	157.7	186.2	139	161.4	177.1	77.3	101
Atlantic	173.8	202.9	153.9	176.8	206.7	80.3	112.2
Burlington	166.6	197.8	145.2	169.3	171.8	91.5	107.3
Camden	178.0	210	157.4	179.4	202.2	79.3	124.8
Gloucester	182.2	217.5	158.5	185.7	171.4	103.9	126.5
Mercer	157	184.9	139.5	153.4	200.9	78.2	86.1
Ocean	169	199.4	148.6	170.3	172.6	83.8	80.6
Delaware	171.1	201.8	149.2	171.2	184.7	88	88.2
New Castle	169.8	199.9	149.6	170	185.2	78.9	98.9

Table 21 - 5-year (2011-2015) age-adjusted cancer mortality rates (per 100,000) for states and 12 ACC counties - All Cancers

Source: https://statecancerprofiles.cancer.gov/deathrates/index.php (accessed 5/31)

¶ 12-county combined estimate: US, state- and county-specific estimates: CDC State Cancer Profiles Incidence rates (https://statecancerprofiles.cancer.gov/deathrates/index.php). Data downloaded 3/20/2019.

*Includes Hispanic

**Any race

Age-Adjusted mortality rate for all cancer 2011~2015
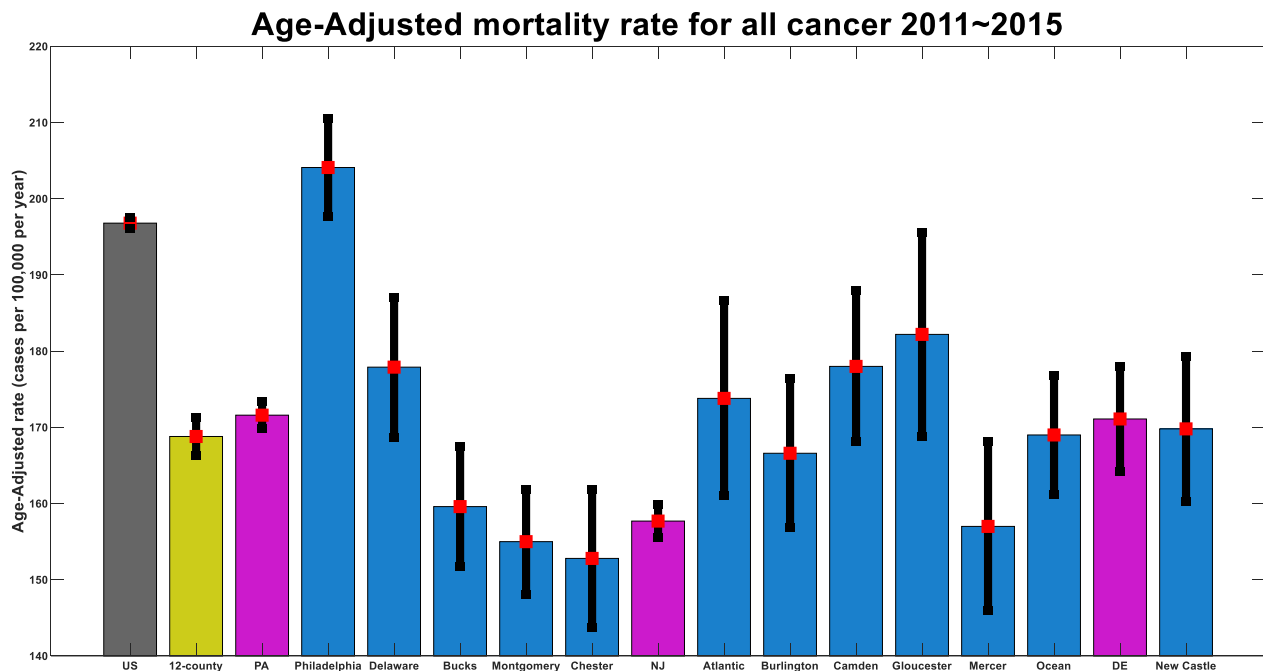
Figure 16 - 5-year (2011-2015) age-adjusted mortality rates for 12 ACC counties for all cancer sites. Unit: cases per 100,000 per year, age-adjusted to the 2000 US standard population (18 age groups)
Source: https://statecancerprofiles.cancer.gov/data-topics/mortality.html
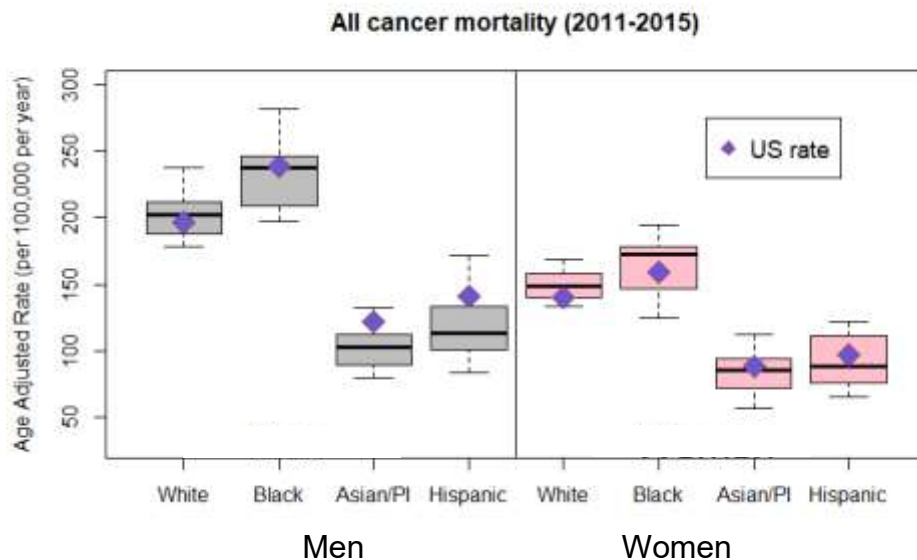
Figure 17 - *Boxplots of Annual Age-adjusted Cancer Mortality rates (All Cancer Sites, 2011-2015) 12 counties vs. US, by Gender and Race/Ethnicity*
Source: CDC State cancer profiles, https://statecancerprofiles.cancer.gov/index.html
Rate as cases per 100,000 population per year, age-adjusted to the 2000 US standard population (19 age groups). Rates are for invasive cancer only.

2.2.2. Breast Cancer

Overall breast cancer death rates have been decreasing rapidly in the US since 1989, and from 2006 through 2015, death rates declined annually by 2.6%[1]. This decline has been attributed to both improvements in treatment and early detection. However, mortality rates are still high and approximately 41,760 women are expected to die from breast cancer in 2019.[3]

In relation to race/ethnicity, death rates are higher among non-Hispanic Black than non-Hispanic White women; in 2015, the mortality rate was 39% higher in Black than in White women in every state. In addition, non-Hispanic Black women are more likely to die from breast cancer at every age. This may reflect differences in mammography screening; access, adherence, and response to treatment; stage at diagnosis; obesity; and comorbidities.[2]

In the catchment area, the 2011-2015 age-adjusted mortality rate for the 12 ACC counties is 23 deaths per 100,000—higher than the US. Philadelphia and Camden present the highest rates with more than 26 deaths per 100,000. African American women as a group have higher mortality rates than Asian or White women.

Counties	Total	Race			Ethnicity
		White*	Black*	Asian*	Hispanic**
US	20.9	20.3	28.7	11.4	14.3
12 ACC Counties ¶	22.6	21.4	29.8	-	-
Pennsylvania	21.9	21.1	31.2	11.2	12.2
Philadelphia	26.9	24	31.4	13.3	14
Bucks	22.7	23	¥	¥	¥
Chester	22.6	22.3	36	¥	¥
Delaware	23	21.3	33	¥	¥
Montgomery	21.4	21	29.3	15.1	¥
New Jersey	22.5	22.1	30.1	11.3	13.2
Atlantic	24.3	23.7	33.9	¥	¥
Burlington	24.7	24.8	29.7	¥	¥
Camden	26.5	25.1	35	¥	14.9
Gloucester	24.6	23.4	43.5	¥	¥
Mercer	21.5	20.5	26.4	¥	¥
Ocean	21.4	21.2	34.8	¥	¥
Delaware	21.6	21.2	25.9	¥	¥
New Castle	20.5	20.1	24.7	¥	¥

Table 22 - 5-year (2011-2015) age-adjusted cancer mortality rates (per 100,000) for states and 12 ACC counties – Female Breast Cancer

Source: https://statecancerprofiles.cancer.gov/deathrates/index.php (accessed 5/31)
¶ 12-county combined estimate: US, state- and county-specific estimates: CDC State Cancer Profiles Mortality rates (https://statecancerprofiles.cancer.gov/deathrates/index.php). Data downloaded 3/20/2019.
*Includes Hispanic

**Any race
¥ Data has been suppressed to ensure confidentiality and stability of rate estimates. Counts are suppressed if fewer than 16 records were reported in a specific area-sex-race category. If an average count of 3 is shown, the total number of cases for the time period is 16 or more which exceeds suppression threshold (but is rounded to 3). (3 or fewer cases)
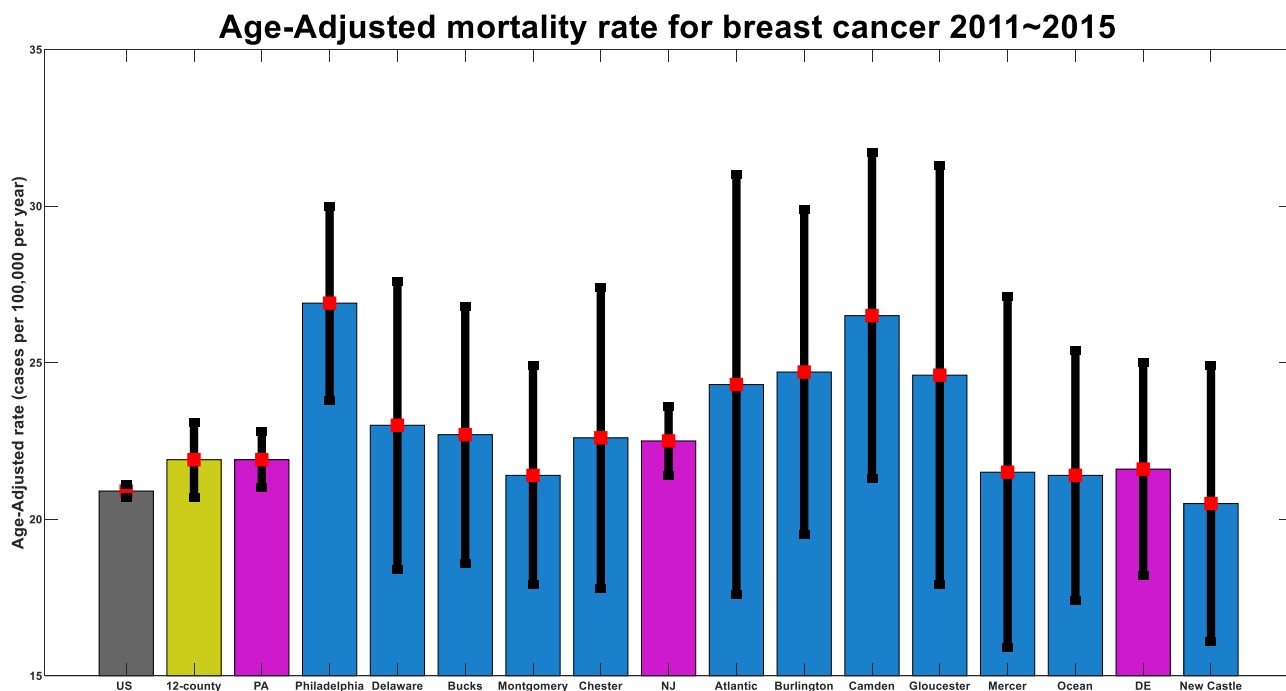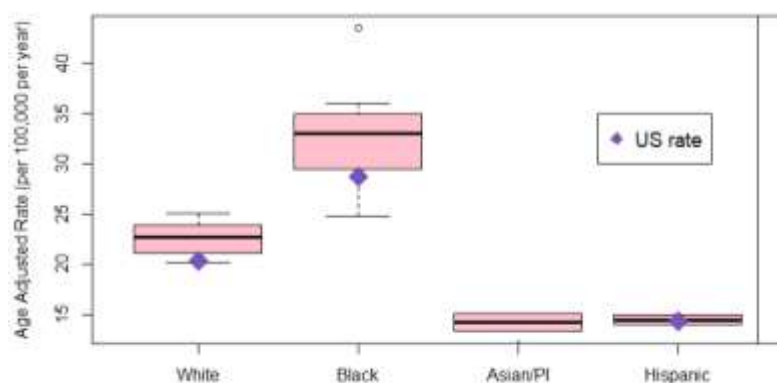
Age-Adjusted mortality rate for breast cancer 2011~2015

Figure 18 - 5-year (2011-2015) age-adjusted mortality rate for 12 ACC counties, for breast cancer. Unit: cases per 100,000 per year, age-adjusted to the 2000 US standard population (18 age groups)
Source: https://statecancerprofiles.cancer.gov/data-topics/mortality.html

Figure 19 - Boxplots of Annual Age-adjusted Cancer Mortality rates (Breast Cancer, 2011-2015) 12 counties vs. US, by Race/Ethnicity
Rate as cases per 100,000 population per year, age-adjusted to the 2000 US standard population (19 age groups).
Source: CDC State cancer profiles, https://statecancerprofiles.cancer.gov/index.html

2.2.3. Colorectal Cancer

Colorectal cancer (CRC) will be responsible for an estimated 51,020 deaths (27,640 men and 23,380 women) in the US in 2019.[1]

Overall, CRC death rates have been decreasing since 1980 among men and since 1947 among women. During the 1990s, rates decreased by an average of 2% per year in both men and women, and by 2.5% per year from 2005 to 2014. This decline in mortality is attributed to increased screening (53%), changing patterns in risk factors (35%), and improvements in treatment (12%).[4]

CRC mortality rates declined by about 3% per year in non-Hispanic Blacks from 2005 to 2014; and about 2% per year in non-Hispanic Whites, Hispanics, and Asians. Despite this, death rates among non-Hispanic Blacks continue to be higher than among non-Hispanic Whites.[4]

In 2011-2015, the age-adjusted CRC mortality rate for the 12 counties was 15 per 100,000. The highest death rates were recorded in Philadelphia with 18 deaths per 100,000 and in Delaware with 17 deaths per 100,000. African Americans are, again, the race group with the highest mortality rates.

Table 23 - 5-year (2011-2015) age-adjusted cancer mortality rates (per 100,000) for states and 12 ACC counties - Colorectal Cancer							
Counties	Total	Gender		Race			Ethnicity
		Male	Female	White*	Black*	Asian*	Hispanic**
US	14.5	17.3	12.2	14.1	19.4	10.1	11.5
12 ACC Counties ¶	15.1	17.8	12.7	14.4	17.5	-	-
Pennsylvania	15.5	18.4	13.2	15.2	19.8	10.3	10.4
Philadelphia	18	22.9	14.7	16.6	20.6	12.2	12.8
Bucks	13.4	15.5	11.8	13.4	17.8	¥	¥
Chester	12.8	14.6	11.3	12.6	20.1	¥	¥
Delaware	17.4	21.3	14.3	17.2	20.5	¥	¥
Montgomery	12.8	13.7	12.2	12.9	14.6	7.8	¥
New Jersey	14.8	17.9	12.4	14.8	18.7	6.6	9.9
Atlantic	15.8	19	13.4	15.4	20.8	¥	11.8
Burlington	16.5	19.3	14.3	16.4	18.1	¥	¥
Camden	15.4	19.3	12.6	15.2	20.1	¥	12
Gloucester	16.9	20.1	14.2	17.3	16.4	¥	¥
Mercer	15	17.1	13.4	15	17.1	¥	¥
Ocean	15.5	19.1	12.9	15.7	¥	¥	¥
Delaware	13.3	16.1	11.1	13.2	15.5	¥	¥
New Castle	13.4	15.8	11.6	13.2	15.7	¥	¥

Source: https://statecancerprofiles.cancer.gov/deathrates/index.php (accessed 5/31)

¶ 12-county combined estimate: US, state- and county-specific estimates: CDC State Cancer Profiles Mortality rates (https://statecancerprofiles.cancer.gov/deathrates/index.php). Data downloaded 3/20/2019.
*Includes Hispanic; **Any race; ¥ Data has been suppressed to ensure confidentiality and stability of rate estimates. Counts are suppressed if fewer than 16 records were reported in a specific area-sex-race category. If an average count of 3 is shown, the total number of cases for the time period is 16 or more which exceeds suppression threshold (but is rounded to 3). (3 or fewer cases)
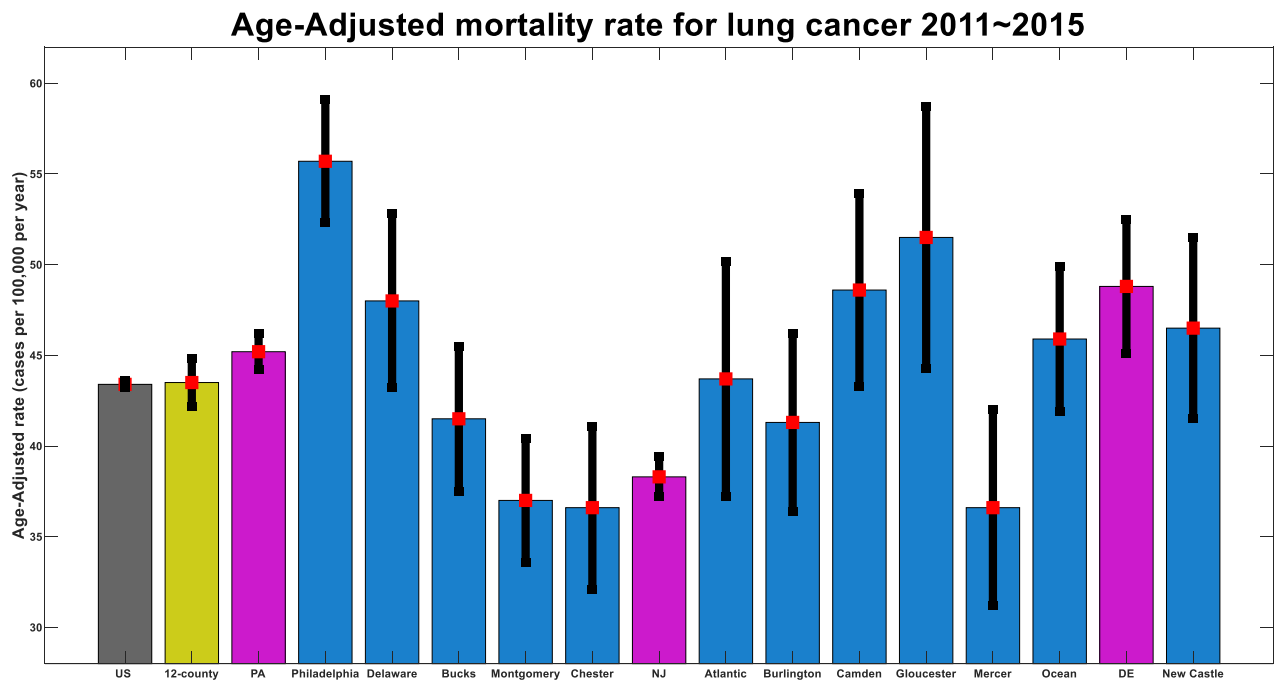

Figure 20 - 5-year (2011-2015) age-adjusted mortality rate for 12 ACC counties, for colorectal cancer. Unit: cases per 100,000 per year, age-adjusted to the 2000 US standard population (18 age groups)
Source: https://statecancerprofiles.cancer.gov/data-topics/mortality.html
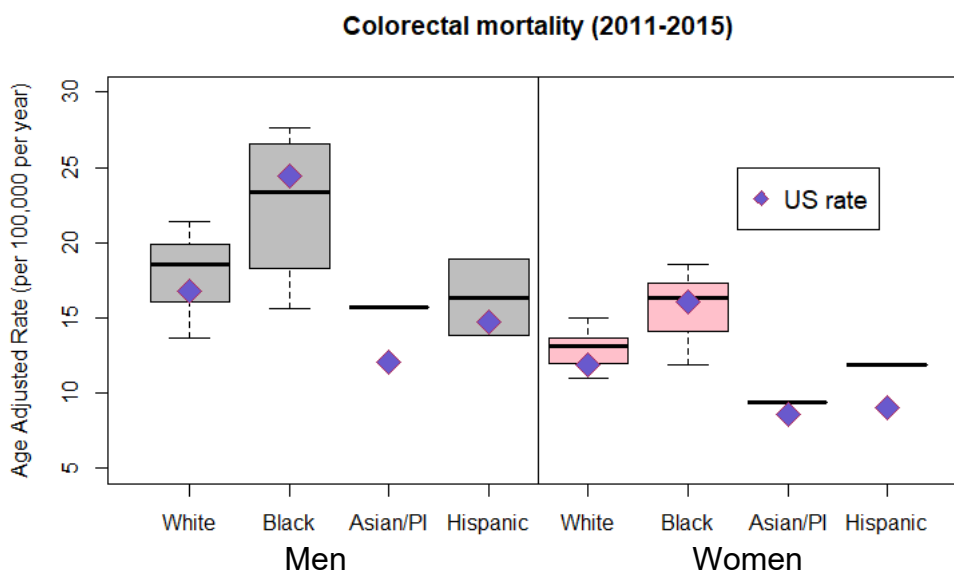
Figure 21 - Boxplots of Annual Age-adjusted Cancer Mortality rates (Colorectal Cancer, 2011-2015) 12 counties vs. US, by Gender and Race/Ethnicity
Source: CDC State cancer profiles, https://statecancerprofiles.cancer.gov/index.html
Rate as cases per 100,000 population per year, age-adjusted to the 2000 US standard population (19 age groups).

2.2.4. Lung Cancer

An estimated 142,670 people are expected to die from lung cancer in the US in 2019. Lung cancer death rates have decreased by 48% in men since 1990 and by 23% in women since 2002 due to reductions in smoking. From 2012 to 2016, the smoking rate decreased by about 4% per year in men and 3% per year in women.[1]

Lung cancer is the leading cause of cancer death in the catchment area, with 44 deaths per 100,000 in the 2011-2015 period, similar to the US. Lung cancer death rates are higher in Philadelphia with 56 deaths per 100,000, and in Gloucester with 52 deaths per 100,000. Whites and African Americans are the racial groups most likely to die due to this cancer.

Table 24 - 5-year (2011-2015) age-adjusted cancer mortality rates (per 100,000) for states and 12 ACC counties - Lung Cancer							
Counties	**Total**	**Gender**		**Race**			**Ethnicity**
		Male	**Female**	**White***	**Black***	**Asian***	**Hispanic****
US	43.4	53.8	35.4	44.1	46.2	23.4	18.9
12 ACC Counties ¶	44.4	53.0	38.2	43.6	51.2	-	-
Pennsylvania	45.2	57.1	36.5	44.8	55.2	23.3	20.3
Philadelphia	55.7	69.2	46.9	55.8	58.8	31.6	26.4
Bucks	41.5	50.3	35.2	42.3	34.6	21.8	¥
Chester	36.6	41.4	32.9	36.1	48.5	29.4	¥
Delaware	48	58.4	40.5	47.7	57.1	21.5	¥
Montgomery	37	45.5	30.9	38.1	36.1	14.8	¥
New Jersey	38.3	45.9	32.9	39.9	39.3	16.4	16.6
Atlantic	43.7	50.5	38.9	44.5	51.5	19.9	17.8
Burlington	41.3	48.6	35.9	42.4	40.8	21.4	¥
Camden	48.6	57.4	42.2	50.1	51.2	15.5	29.4
Gloucester	51.5	64.5	42.7	54	34.7	¥	¥
Mercer	36.6	44.3	31.4	35.2	48.6	16.6	¥
Ocean	45.9	52.6	41.1	46.3	41.8	¥	18.8
Delaware	48.8	59.4	40.9	49.9	46.5	20.3	14.8
New Castle	46.5	55.7	40	48.1	44.8	¥	¥

Source: https://statecancerprofiles.cancer.gov/deathrates/index.php (accessed 5/31)

¶ 12-county combined estimate: US, state- and county-specific estimates: CDC State Cancer Profiles Mortality rates (https://statecancerprofiles.cancer.gov/deathrates/index.php). Data downloaded 3/20/2019.
*Includes Hispanic
**Any race
¥ Data has been suppressed to ensure confidentiality and stability of rate estimates. Counts are suppressed if fewer than 16 records were reported in a specific area-sex-race category. If an average count of 3 is shown, the total number of cases for the time period is 16 or more which exceeds suppression threshold (but is rounded to 3). (3 or fewer cases)
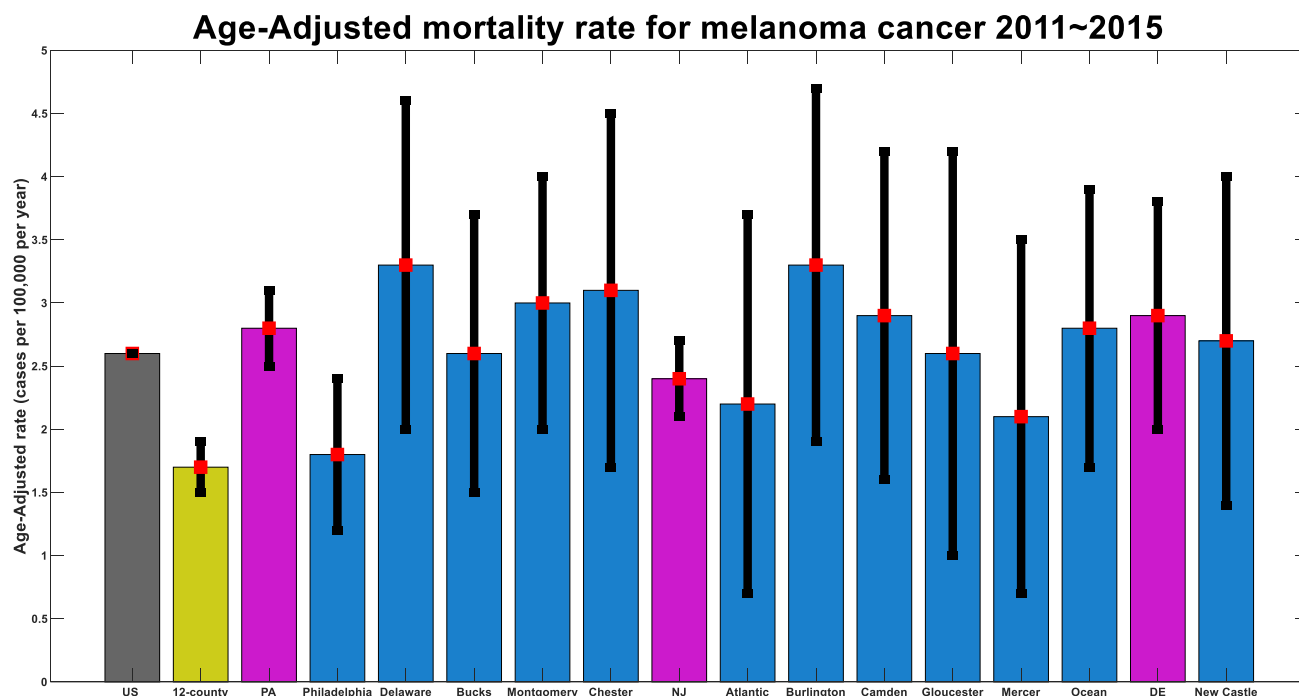
Age-Adjusted mortality rate for lung cancer 2011~2015

Figure 22 - 5-year (2011-2015) age-adjusted mortality rate for 12 ACC counties, for lung cancer. Unit: cases per 100,000 per year, age-adjusted to the 2000 US standard population (18 age groups)
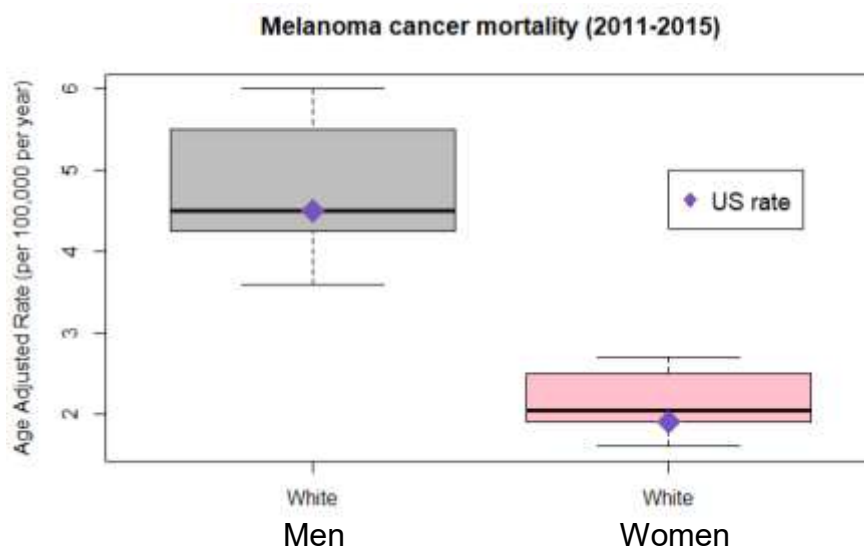*Source:* https://statecancerprofiles.cancer.gov/data-topics/mortality.html

2.2.5. Melanoma

In 2019, an estimated 7,230 deaths from melanoma will occur in the US: 4,740 in men and 2,490 in women.[3] Over time, the death rate for melanoma declined by about 2% per year in adults 50 years of age and older and by about 4% per year in those younger than 50, from 2007 to 2016.[1]

The age-adjusted mortality rate for Melanoma in the catchment area was 2.4 deaths per 100,000 from 2011 to 2015. The highest death rate for this cancer was recorded in Delaware County with 3.3 deaths per 100,000, and the lowest in Philadelphia with 1.8 deaths per 100,000. In relation to race and ethnicity, Whites have the highest mortality rates.

Table 25 - 5-year (2011-2015) age-adjusted cancer mortality rates (per 100,000) for states and 12 ACC counties - Melanoma							
Counties	Total	Gender		Race			Ethnicity
		Male	Female	White*	Black*	Asian*	Hispanic**
US	2.6	3.9	1.6	3	0.4	0.3	0.7
12 ACC Counties ¶	2.4	3.6	1.5	2.9	0.3	-	-
Pennsylvania	2.8	4	1.8	3	0.4	¥	¥
Philadelphia	1.8	2.8	1.2	3	¥	¥	¥
Bucks	2.6	4	1.5	2.8	¥	¥	¥
Chester	3.1	5	1.7	3.4	¥	¥	¥
Delaware	3.3	5	2.1	3.9	¥	¥	¥
Montgomery	3	4	2.4	3.4	¥	¥	¥
New Jersey	2.4	3.6	1.5	2.8	¥	¥	0.5
Atlantic	2.2	2.9	¥	2.8	¥	¥	¥
Burlington	2.3	5	2.1	4	¥	¥	¥
Camden	2.9	4.5	1.7	3.6	¥	¥	¥
Gloucester	2.6	3.7	1.7	2.9	¥	¥	¥
Mercer	2.1	3.4	¥	2.5	¥	¥	¥
Ocean	2.8	4.2	1.8	2.9	¥	¥	¥
Delaware	2.9	4.1	2	3.5	¥	¥	¥
New Castle	2.7	4	1.8	3.4	¥	¥	¥

Source: https://statecancerprofiles.cancer.gov/deathrates/index.php (accessed 5/31)

¶ 12-county combined estimate: US, state- and county-specific estimates: CDC State Cancer Profiles Mortality rates (https://statecancerprofiles.cancer.gov/deathrates/index.php). Data downloaded 3/20/2019.

*Includes Hispanic

**Any race

¥ Data has been suppressed to ensure confidentiality and stability of rate estimates. Counts are suppressed if fewer than 16 records were reported in a specific area-sex-race category. If an average count of 3 is shown, the total number of cases for the time period is 16 or more which exceeds suppression threshold (but is rounded to 3). (3 or fewer cases)
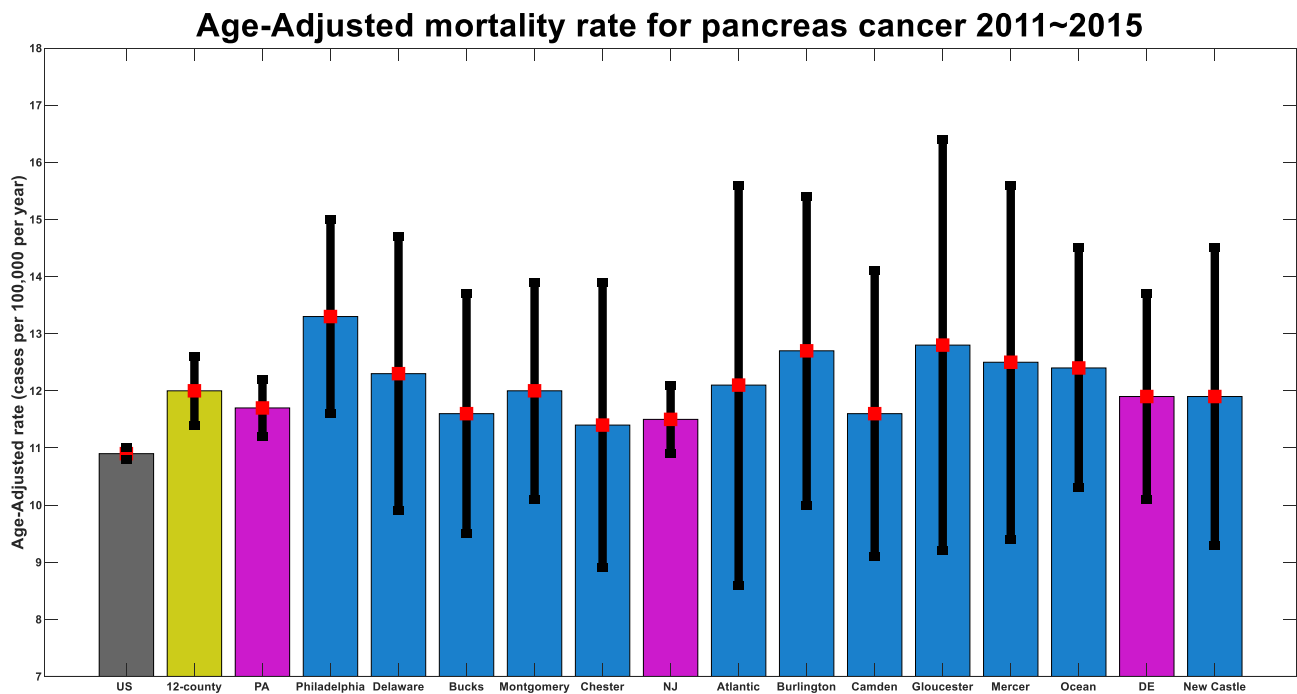
Age-Adjusted mortality rate for melanoma cancer 2011~2015

Figure 23 - 5-year (2011-2015) age-adjusted mortality rate for 12 ACC counties, for melanoma cancer. Unit: cases per 100,000 per year, age-adjusted to the 2000 US standard population (18 age groups)
Source: https://statecancerprofiles.cancer.gov/data-topics/mortality.html

Figure 24 - Boxplots of Annual Age-adjusted Cancer Mortality rates (Melanoma, 2011-2015) 12 counties vs. US, by Gender and Race/Ethnicity
Source: CDC State cancer profiles, https://statecancerprofiles.cancer.gov/index.html
Rate as cases per 100,000 population per year, age-adjusted to the 2000 US standard population (19 age groups).

2.2.6. Pancreatic Cancer

In 2019, 45,750 people will die from pancreatic cancer in the US. A slight increase of the mortality rate (0.3% per year) was observed from 2007 to 2016.[1]

In the catchment area, the 2011-2015 age-adjusted mortality rate for pancreatic cancer is 12 per 100,000, higher than the US. The highest death rates are observed among African Americans and in Philadelphia with 13 deaths per 100,000.

Counties	Total	Gender		Race			Ethnicity
		Male	Female	White*	Black*	Asian*	Hispanic**
US	10.9	12.6	9.5	10.8	13.3	7.7	8.6
12 ACC Counties ¶	12.1	13.5	10.6	11.7	13.4	-	-
Pennsylvania	11.7	13.7	10.1	11.6	15.2	7.5	7.2
Philadelphia	13.3	15.1	12	12.4	15.3	7.1	7.8
Bucks	11.6	12.9	10.5	11.9	¥	¥	¥
Chester	11.4	13.7	9.5	11.4	15.6	¥	¥
Delaware	12.3	14.4	10.6	12	16.2	¥	¥
Montgomery	12	13.7	10.5	12.1	13.4	9.6	¥
New Jersey	11.5	13.1	10.2	11.7	13.3	6	8
Atlantic	12.1	13.5	11.2	12.6	11.6	¥	¥
Burlington	12.7	14.3	11.4	12.7	15.7	¥	¥
Camden	11.6	13	10.6	11.4	14.5	¥	¥
Gloucester	12.8	15.8	10.4	12.9	12	¥	¥
Mercer	12.5	14.9	10.7	11.7	19	¥	¥
Ocean	12.4	13.7	11.3	12.4	¥	¥	¥
Delaware	11.9	13.8	10.3	12	12.3	¥	11.5
New Castle	11.9	12.9	11.3	12.1	12.2	¥	¥

Table 26 - 5-year (2011-2015) age-adjusted cancer mortality rates (per 100,000) for states and 12 ACC counties - Pancreatic Cancer

Source: https://statecancerprofiles.cancer.gov/deathrates/index.php (accessed 5/31)

¶ 12-county combined estimate: US, state- and county-specific estimates: CDC State Cancer Profiles Mortality rates (https://statecancerprofiles.cancer.gov/deathrates/index.php). Data downloaded 3/20/2019.

*Includes Hispanic

**Any race

¥ Data has been suppressed to ensure confidentiality and stability of rate estimates. Counts are suppressed if fewer than 16 records were reported in a specific area-sex-race category. If an average count of 3 is shown, the total number of cases for the time period is 16 or more which exceeds suppression threshold (but is rounded to 3). (3 or fewer cases)
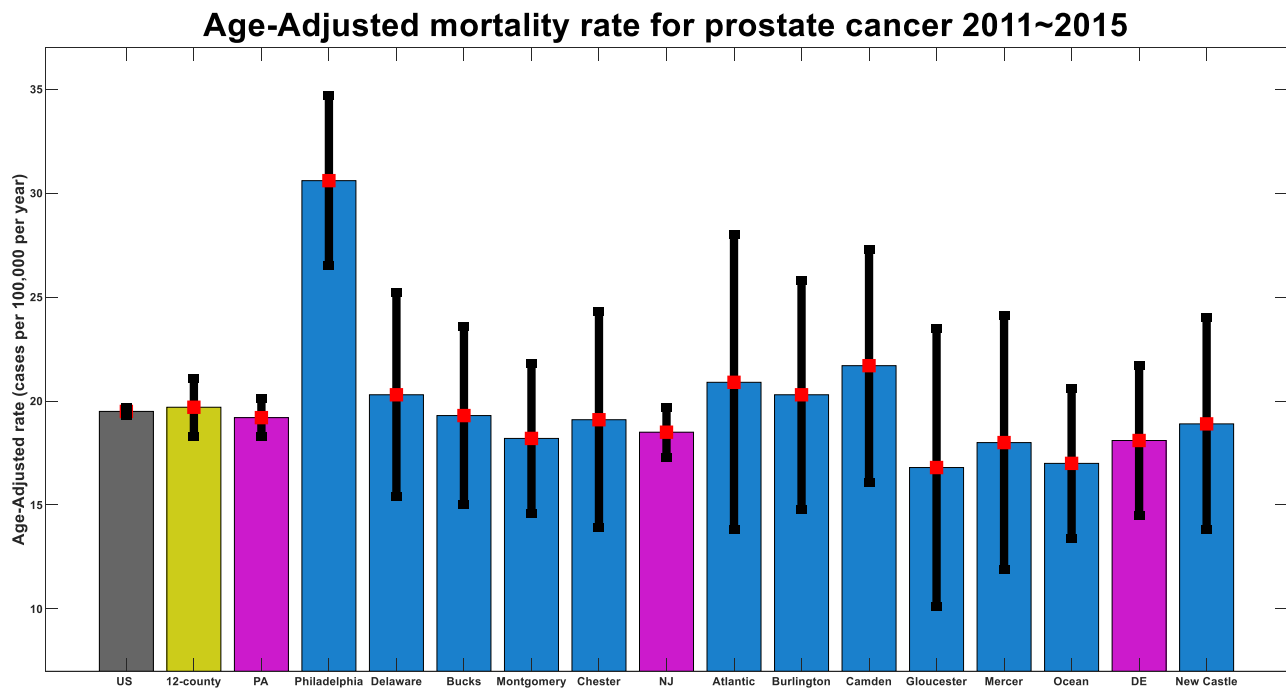
Age-Adjusted mortality rate for pancreas cancer 2011~2015

Figure 25 - 5-year (2011-2015) age-adjusted mortality rate for 12 ACC counties, for pancreatic cancer. Unit: cases per 100,000 per year, age-adjusted to the 2000 US standard population (18 age groups)
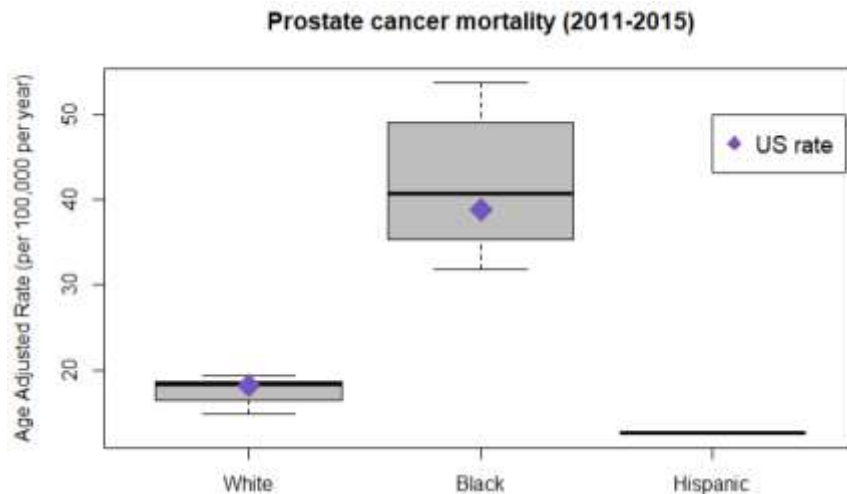*Source:* https://statecancerprofiles.cancer.gov/data-topics/mortality.html

2.2.7. Prostate Cancer

In the US, the mortality rate for this cancer dropped by 51% from 1993 to 2016, a reduction that is attributed to an earlier stage at diagnosis due to PSA testing and advances in treatments. Despite this reduction, an estimated 31,620 people will die from this cancer in 2019.[1]

Comparing the 12 ACC counties, Philadelphia stands out with the highest mortality rate for prostate cancer, much higher than the national level and all the other counties, with more than 30.6 deaths per 100,000. The age-adjusted mortality rate for the 12 counties is 20.5 per 100,000 for the 2011-2015 period. African Americans present the highest mortally rates for this cancer.

Counties	Total	Race			Ethnicity
		White*	Black*	Asian*	Hispanic**
US	19.5	18.2	39.9	8.8	16.2
12 ACC Counties ¶	20.5	17.1	44.9	-	-
Pennsylvania	19.2	17.8	44	6.2	15.7
Philadelphia	30.6	19.4	52.2	¥	12.6
Bucks	19.3	19.4	¥	¥	¥
Chester	19.1	18.4	35.4	¥	¥
Delaware	20.3	18.7	37.1	¥	¥
Montgomery	18.2	16.7	50.4	¥	¥
New Jersey	18.5	16.9	41.5	6.4	13.7
Atlantic	20.9	18.5	47.6	¥	¥
Burlington	20.3	18.5	34	¥	¥
Camden	21.7	18.2	47.8	¥	¥
Gloucester	16.8	14.8	35.3	¥	¥
Mercer	18	14.8	40.8	¥	¥
Ocean	17	16.6	53.7	¥	¥
Delaware	18.1	16.3	32.5	¥	¥
New Castle	18.9	16.4	31.8	¥	¥

Table 27 - 5-year (2011-2015) age-adjusted cancer mortality rates (per 100,000) for states and 12 ACC counties - Prostate Cancer

Source: https://statecancerprofiles.cancer.gov/deathrates/index.php (accessed 5/31)
¶ 12-county combined estimate: US, state- and county-specific estimates: CDC State Cancer Profiles Mortality rates (https://statecancerprofiles.cancer.gov/deathrates/index.php). Data downloaded 3/20/2019.
*Includes Hispanic
**Any race
¥ Data has been suppressed to ensure confidentiality and stability of rate estimates. Counts are suppressed if fewer than 16 records were reported in a specific area-sex-race category. If an average count of 3 is shown, the total number of cases for the time period is 16 or more which exceeds suppression threshold (but is rounded to 3). (3 or fewer cases)

Age-Adjusted mortality rate for prostate cancer 2011~2015

Figure 26 - 5-year (2011-2015) age-adjusted mortality rate for 12 ACC counties, for prostate cancer.
Unit: cases per 100,000 per year, age-adjusted to the 2000 US standard population (18 age groups)
Source: https://statecancerprofiles.cancer.gov/data-topics/mortality.html

Figure 27 - Boxplots of Annual Age-adjusted Cancer Mortality rates (Prostate Cancer, 2011-2015) 12 counties
vs. US, by Race/Ethnicity
Source: CDC State cancer profiles, https://statecancerprofiles.cancer.gov/index.html
Rate as cases per 100,000 population per year, age-adjusted to the 2000 US standard population (19 age groups).

2.2.8. Stomach Cancer

An expected number of 11,140 people will die from stomach cancer in 2019 in the US. The death rate for this cancer has been declining since 1930, in part due to increased use of refrigeration and antibiotics.[5]

Stomach cancer mortally rates in the catchment area vary from 4.5 deaths per 100,000 in Philadelphia to 2.4 deaths per 100,000 in Montgomery and Burlington Counties for the 2011-2015 period.

Counties	Total	Gender		Race			Ethnicity
		Male	Female	White*	Black*	Asian*	Hispanic**
US	3.2	4.3	2.3	2.8	5.7	5.3	5.1
Pennsylvania	2.7	3.9	1.9	2.5	5.4	5.2	4.9
Philadelphia	4.5	6.5	3.1	3.6	5.4	5.5	4.6
Bucks	2.5	3.5	1.7	2.4	¥	¥	¥
Chester	2.6	2.8	2.4	2.3	¥	¥	¥
Delaware	2.6	4	1.7	2.3	3.4	¥	¥
Montgomery	2.4	3.2	1.8	2	6	¥	¥
New Jersey	3.5	4.9	2.4	3.3	5.1	3.5	5.1
Atlantic	3.4	5	1.9	3.5	¥	¥	¥
Burlington	2.4	3.5	1.6	2	¥	¥	¥
Camden	3.2	4.5	2.2	2.8	4.9	¥	¥
Gloucester	2.7	3	2.5	2.6	¥	¥	¥
Mercer	2.8	3.6	2.4	2.2	5	¥	¥
Ocean	2.8	4.2	1.7	2.7	¥	¥	¥
Delaware	3	3.7	2.4	2.6	4.9	¥	¥
New Castle	3.5	4.3	2.9	3.1	5.4	¥	¥

Table 28 - 5-year (2011-2015) age-adjusted cancer mortality rates (per 100,000) for states and 12 ACC counties - Stomach Cancer

Source: https://statecancerprofiles.cancer.gov/deathrates/index.php (accessed 5/31)
*Includes Hispanic
**Any race
¥ Data have been suppressed to ensure confidentiality and stability of rate estimates. Counts are suppressed if fewer than 16 records were reported in a specific area-sex-race category. If an average count of 3 is shown, the total number of cases for the time period is 16 or more which exceeds suppression threshold (but is rounded to 3). (3 or fewer cases)

3. ACC Cancer Patients

3.1. General information on ACC patients and research/ clinical trial participation

The following table shows the gender, racial and ethnic composition of the residents of the ACC catchment area; patients with cancer in the catchment area; patients with cancer seen at the ACC; and cancer patients who were enrolled on adult interventional treatment clinical trials, adult interventional non-therapeutic clinical trials, and adult non-interventional studies.

ACC patients are mostly White (79%). Sixteen percent of ACC patients are African Americans, 3% are Asians, and 2% are Hispanics. The proportion of ACC patients enrolled in trials who are Black is higher than the % of Black patients overall.

Table 29 - Demographics of cancer patients in the ACC catchment area and seen at the ACC						
	ACC catchment area*	Cancer Cases in ACC catchment area†	ACC patients‡	Adult interventional treatment clinical trials‡	Adult interventional non-therapeutic clinical trials‡	Adult non-interventional studies‡
Gender						
Male	48.2%	49.5%	51.5%	46.3%	31.5%	38.5%
Female	51.8%	50.5%	48.5%	53.7%	68.5%	61.5%
Race						
White	69.2%	78.3%	78.6%	73.0%	55.5%	68.4%
Black	19.4%	16.5%	16.2%	23.9%	33.1%	22.5%
Asian/Pacific Islander	5.1%	2.3%	3.1%	1.4%	2.2%	0.7%
Amer Indian/Alaskan Nat.	0.3%	0.07%	0.1%	0.3%	1.0%	0%
Other/Unknown/Multiple	6.0%	3.9%	2.0%	1.5%	8.1%	8.4%
Ethnicity						
Hispanic	8.7%	3.3%	2.0%	1.7%	3.4%	0.5%

Note: Information received on December 21st, 2019
*2010 Census data
†PA, NJ and DE state registry data 2015
‡2018

3.2. ACC patients by Cancer Site

The following tables present distinct case counts of all ACC patients, as well as of ACC patients in the catchment area and in Philadelphia County. These tables show gender and racial/ethnical counts of patients by cancer site (including rare cancers). The counts are of cancer patients treated at HUP, PAH, or PPMC, with date of first contact in 2017. These data do not include tumors with in-situ, benign, or uncertain histology and do not include pediatric patients.

3.2.1. All ACC patients by Cancer Site

Table 30 – Total number of all ACC patients by Cancer Site (2017 Cases from HUP, PPMC, and PAH), by race/ethnicity					
COE Cancer Category	**All Patients**	**White**	**Black**	**Asian**	**Hispanic**
All Cancers	10917	8660	1711	318	249
Bladder	170	145	21	3	2
Brain & ONS	263	208	20	5	12
Breast (Female)	1295	969	257	49	31
Cervix	59	35	17	6	4
Colon & Rectum	589	440	107	31	13
Esophagus	119	101	15	2	1
Kidney & Renal Pelvis	359	258	83	7	9
Leukemia	383	321	41	13	7
Liver & Bile Duct	281	199	60	14	14
Lung and Bronchus	1272	982	245	27	15
Melanoma of the Skin	595	586	6	1	5
Non-Hodgkin Lymphoma	850	715	93	18	23
Oral Cavity and Pharynx	527	464	47	8	14
Other Cancers	1439	1099	252	35	37
Ovary	134	102	20	11	0
Pancreas	355	297	43	9	7
Prostate	1265	991	242	22	22
Stomach	151	105	32	8	7
Testicular	64	55	2	3	2
Thyroid	622	518	60	37	20
Uterus	282	196	72	11	5
Rare Cancers					
All Rare Cancers	870	667	177	14	17
Acute myelogenous leukemia	167	141	19	5	5
Multiple myeloma	299	206	83	4	7
Neuroendocrine tumors	395	312	74	5	5
Paraganglioma	5	4	1	0	0
Pheochromocytoma	4	4	0	0	0

Note: Information received on October 16th, 2019

COE Cancer Category	Female Patients					Male Patients				
	All Patients	White	Black	Asian	Hispanic	All Patients	White	Black	Asian	Hispanic
All Cancers	5318	4083	950	182	127	5599	4577	761	136	122
Bladder	35	25	9	1	0	135	120	12	2	2
Brain & ONS	101	83	5	0	6	162	125	15	5	6
Breast	1295	969	257	49	31	-	-	-	-	-
Cervix	59	35	17	6	4	-	-	-	-	-
Colon & Rectum	298	210	65	17	5	291	230	42	14	8
Esophagus	32	26	5	1	1	87	75	10	1	0
Kidney & Renal Pelvis	119	73	37	4	1	240	185	46	3	8
Leukemia	171	146	20	3	4	212	175	21	10	3
Liver & Bile Duct	61	44	13	3	3	220	155	47	11	11
Lung and Bronchus	688	526	142	12	6	584	456	103	15	9
Melanoma of the Skin	242	235	6	1	4	353	351	0	0	1
Non-Hodgkin Lymphoma	364	303	45	9	12	486	412	48	9	11
Oral Cavity and Pharynx	149	123	19	5	4	378	341	28	3	10
Other Cancers	670	496	130	19	18	769	603	122	16	19
Ovary	134	102	20	11	0	-	-	-	-	-
Pancreas	186	153	26	4	3	169	144	17	5	4
Prostate	-	-	-	-	-	1265	991	242	22	22
Stomach	59	36	16	4	2	92	69	16	4	5
Testicular	-	-	-	-	-	64	55	2	3	2
Thyroid	432	351	53	23	18	190	167	7	14	2
Uterus	282	196	72	11	5	-	-	-	-	-
Rare Cancers										
All Rare Cancers	434	324	98	6	10	436	343	79	8	7
Acute myelogenous leukemia	76	68	7	1	3	91	73	12	4	2
Multiple myeloma	138	85	47	2	3	161	121	36	2	4
Neuroendocrine tumors	215	166	44	3	4	180	146	30	2	1
Paraganglioma	2	2	0	0	0	3	2	1	0	0
Pheochromocytoma	3	3	0	0	0	1	1	0	0	0

Table 31 - Total number of all ACC patients by Cancer Site (2017 Cases from HUP, PPMC, and PAH), by sex and race/ethnicity

Note: Information received on October 16th, 2019

3.2.2. ACC patients from the Catchment Area by Cancer Site

Table 32 – Total number of ACC patients from the Catchment area by Cancer Site (2017 Cases from HUP, PPMC, and PAH), by race/ethnicity					
COE Cancer Category	**All Patients**	**White**	**Black**	**Asian**	**Hispanic**
All Cancers	8887	6849	1607	276	189
Bladder	144	121	21	2	2
Brain & ONS	180	144	17	5	9
Breast (Female)	1147	834	249	44	29
Cervix	52	28	17	6	3
Colon & Rectum	504	360	105	30	8
Esophagus	101	83	15	2	1
Kidney & Renal Pelvis	296	204	79	6	8
Leukemia	300	246	37	12	6
Liver & Bile Duct	210	142	52	11	7
Lung and Bronchus	1061	787	235	23	10
Melanoma of the Skin	488	480	6	0	4
Non-Hodgkin Lymphoma	680	571	79	16	18
Oral Cavity and Pharynx	372	315	44	7	9
Other Cancers	1096	806	231	28	26
Ovary	109	81	20	7	0
Pancreas	274	223	40	8	4
Prostate	1061	805	227	21	18
Stomach	120	75	31	8	4
Testicular	49	42	2	3	2
Thyroid	520	427	57	30	17
Uterus	250	171	67	9	5
Rare Cancers					
All Rare Cancers	685	506	157	12	14
Acute myelogenous leukemia	129	108	16	4	4
Multiple myeloma	223	144	71	3	7
Neuroendocrine tumors	328	250	69	5	3
Paraganglioma	3	2	1	0	0
Pheochromocytoma	2	2	0	0	0

Note: Information received on October 16th, 2019

COE Cancer Category	Female Patients					Male Patients				
	All Patients	White	Black	Asian	Hispanic	All Patients	White	Black	Asian	Hispanic
All Cancers	4429	3289	903	158	103	4458	3560	704	118	86
Bladder	30	20	9	1	0	114	101	12	1	2
Brain & ONS	71	59	5	0	5	109	85	12	5	4
Breast	1147	834	249	44	29	-	-	-	-	-
Cervix	52	28	17	6	3	-	-	-	-	-
Colon & Rectum	260	173	65	17	5	244	187	40	13	3
Esophagus	29	23	5	1	1	72	60	10	1	0
Kidney & Renal Pelvis	95	53	35	3	1	201	151	44	3	7
Leukemia	136	113	18	3	4	164	133	19	9	2
Liver & Bile Duct	45	30	13	2	1	165	112	39	9	6
Lung and Bronchus	564	410	138	10	3	497	377	97	13	7
Melanoma of the Skin	198	192	6	0	3	290	288	0	0	1
Non-Hodgkin Lymphoma	292	243	38	7	8	388	328	41	9	10
Oral Cavity and Pharynx	106	83	16	5	1	266	232	28	2	8
Other Cancers	517	365	120	15	14	579	441	111	13	12
Ovary	109	81	20	7	0	-	-	-	-	-
Pancreas	155	126	23	4	2	119	97	17	4	2
Prostate	-	-	-	-	-	1061	805	227	21	18
Stomach	49	26	16	4	2	71	49	15	4	2
Testicular	-	-	-	-	-	49	42	2	3	2
Thyroid	371	296	50	21	16	149	131	7	9	1
Uterus	250	171	67	9	5	-	-	-	-	-
Rare Cancers										
All Rare Cancers	346	247	88	6	9	339	259	69	6	5
Acute myelogenous leukemia	63	57	5	1	3	66	51	11	3	1
Multiple myeloma	107	60	42	2	3	116	84	29	1	4
Neuroendocrine tumors	173	127	41	3	3	155	123	28	2	0
Paraganglioma	1	1	0	0	0	2	1	1	0	0
Pheochromocytoma	2	2	0	0	0	0	0	0	0	0

Table 33 - Total number of ACC patients from the Catchment area by Cancer Site (2017 Cases from HUP, PPMC, and PAH), by sex and race/ethnicity

Note: Information received on October 16th, 2019

3.2.3. ACC patients from Philadelphia County by Cancer Site

Table 34 – Total number of ACC patients from Philadelphia County by Cancer Site (2017 Cases from HUP, PPMC, and PAH), by race/ethnicity					
COE Cancer Category	All Patients	White	Black	Asian	Hispanic
All Cancers	2312	1077	1110	84	63
Bladder	25	15	10	0	0
Brain & ONS	40	24	9	2	2
Breast (Female)	361	163	183	11	13
Cervix	27	6	16	4	3
Colon & Rectum	157	69	73	13	2
Esophagus	22	9	10	2	0
Kidney & Renal Pelvis	91	34	55	0	4
Leukemia	67	39	27	1	0
Liver & Bile Duct	64	21	41	1	2
Lung and Bronchus	313	129	174	8	2
Melanoma of the Skin	60	57	3	0	2
Non-Hodgkin Lymphoma	149	90	50	5	4
Oral Cavity and Pharynx	60	28	29	2	2
Other Cancers	294	123	150	12	8
Ovary	31	16	15	0	0
Pancreas	71	37	31	2	0
Prostate	278	124	149	5	7
Stomach	35	7	24	0	2
Testicular	10	6	1	1	1
Thyroid	119	72	33	13	8
Uterus	77	25	47	3	2
Rare Cancers					
All Rare Cancers	176	68	96	6	3
Acute myelogenous leukemia	23	14	9	0	0
Multiple myeloma	58	17	37	1	3
Neuroendocrine tumors	93	36	49	5	0
Paraganglioma	2	1	1	0	0
Pheochromocytoma	0	0	0	0	0

Note: Information received on October 16th, 2019

Table 35 - Total number of ACC patients from Philadelphia County by Cancer Site (2017 Cases from HUP, PPMC, and PAH), by sex and race/ethnicity

COE Cancer Category	Female Patients					Male Patients				
	All Patients	White	Black	Asian	Hispanic	All Patients	White	Black	Asian	Hispanic
All Cancers	1253	551	630	48	39	1059	526	480	36	24
Bladder	5	0	5	0	0	20	15	5	0	0
Brain & ONS	14	8	3	0	2	26	16	6	2	0
Breast	361	163	183	11	13	-	-	-	-	-
Cervix	27	6	16	4	3	-	-	-	-	-
Colon & Rectum	86	34	44	7	2	71	35	29	6	0
Esophagus	8	3	4	1	0	14	6	6	1	0
Kidney & Renal Pelvis	37	10	26	0	0	54	24	29	0	4
Leukemia	32	18	14	0	0	35	21	13	1	0
Liver & Bile Duct	12	1	11	0	0	52	20	30	1	2
Lung and Bronchus	157	58	94	4	1	156	71	80	4	1
Melanoma of the Skin	28	25	3	0	2	32	32	0	0	0
Non-Hodgkin Lymphoma	71	43	24	3	2	78	47	26	2	2
Oral Cavity and Pharynx	18	8	9	0	1	42	20	20	2	1
Other Cancers	150	62	78	5	3	144	61	72	7	5
Ovary	31	16	15	0	0	-	-	-	-	-
Pancreas	46	26	18	1	0	25	11	13	1	0
Prostate	-	-	-	-	-	278	124	149	5	7
Stomach	16	2	12	0	0	19	5	12	0	2
Testicular	-	-	-	-	-	10	6	1	1	1
Thyroid	91	52	29	9	8	28	20	4	4	0
Uterus	77	25	47	3	2	-	-	-	-	-
Rare Cancers										
All Rare Cancers	89	31	51	4	1	87	37	45	2	2
Acute myelogenous leukemia	8	6	2	0	0	15	8	7	0	0
Multiple myeloma	30	5	22	1	1	28	12	15	0	2
Neuroendocrine tumors	50	19	27	3	0	43	17	22	2	0
Paraganglioma	1	1	0	0	0	1	0	1	0	0
Pheochromocytoma	0	0	0	0	0	0	0	0	0	0

Note: Information received on October 16th, 2019

3.3. Cancer Patients treated at UPHS Hospitals in the ACC catchment area

A total of 12,493 patients were treated for cancer in 2017 at five UPHS (University of Pennsylvania Health System) hospitals in the ACC catchment area: Chester County Hospital (CCH), Hospital of the University of Pennsylvania (HUP), Medical Center At Princeton (MCP), Pennsylvania Hospital (PAH), and Penn Presbyterian Medical Center (PPMC). The gender, racial, and ethnic composition of the patients treated in 2017 is shown in tables 36 and 37. The majority of cancer patients treated were White (80%) and Non-Hispanic (97%).

3.3.1. Demographics of ACC patients across 5 hospitals: CCH, HUP, MCP, PAH, PPMC

Table 36 - Demographics of ACC patients across the 5 hospitals in the ACC catchment area, where the histology is malignant (2017)												
	Hospitals											
	CCH		HUP		MCP		PAH		PPMC		Total	
	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%
Race												
White	919	93.30%	5,710	80.30%	643	77.10%	1,415	75.70%	1,306	77.10%	9,993	79.99%
Black or African American	38	3.90%	1,039	14.60%	56	6.70%	360	19.30%	320	18.90%	1,813	14.51%
Asian/Pacific Islander	18	1.80%	220	3.10%	86	10.30%	60	3.20%	28	1.70%	412	3.30%
American Indian or Alaska Native	0	0.00%	7	0.10%	3	0.40%	1	0.10%	1	0.10%	12	0.10%
Other/Unknown/Multiracial	10	1.00%	136	1.90%	46	5.50%	32	1.70%	39	2.30%	263	2.11%
Ethnicity												
Hispanic or Latino	18	1.80%	150	2.10%	23	2.80%	41	2.20%	26	1.50%	258	2.07%
Not Hispanic or Latino	950	96.40%	6,887	96.80%	800	95.90%	1,801	96.40%	1,656	97.80%	12,094	96.81%
Unknown	17	1.70%	75	1.10%	11	1.30%	26	1.40%	12	0.70%	141	1.13%
Sex												
Female	599	60.80%	3,497	49.20%	531	63.70%	1,106	59.20%	660	39.00%	6,393	51.17%
Male	386	39.20%	3,615	50.80%	303	36.30%	762	40.80%	1,034	61.00%	6,100	48.83%
Total											12,493	100.00%

Note: Information received before May 2019

3.3.2. Demographics of ACC patients across 3 Philadelphia hospitals: HUP, PAH, and PPMC

	HUP		PAH		PPMC		Total	
Table 37 - Demographics of ACC patients across the 3 hospitals in the ACC catchment area, where the histology is malignant (2017)								
	Hospitals*							
	HUP		**PAH**		**PPMC**		**Total**	
	Total	%	Total	%	Total	%	Total	%
Race								
White	5,710	80.30%	1,415	75.70%	1,306	77.10%	8,431	78.99%
Black or African American	1,039	14.60%	360	19.30%	320	18.90%	1,719	16.10%
Asian/Pacific Islander	220	3.10%	60	3.20%	28	1.70%	308	2.89%
American Indian or Alaska Native	7	0.10%	1	0.10%	1	0.10%	9	0.08%
Other/Unknown/Multiracial	136	1.90%	32	1.70%	39	2.30%	207	1.94%
Ethnicity								
Hispanic or Latino	150	2.10%	41	2.20%	26	1.50%	217	2.03%
Not Hispanic or Latino	6,887	96.80%	1,801	96.40%	1,656	97.80%	10344	96.91%
Unknown	75	1.10%	26	1.40%	12	0.70%	113	1.06%
Sex								
Female	3,497	49.20%	1,106	59.20%	660	39.00%	5,263	49.31%
Male	3,615	50.80%	762	40.80%	1,034	61.00%	5,411	50.69%
Total							10,674	100%

Note: Information received before May 2019

* Hospitals:

        HUP - Hospital of the University of Pennsylvania

        PAH - Pennsylvania Hospital

        PPMC - Penn Presbyterian Medical Center

3.3.3. Racial distribution of ACC patients in Philadelphia hospitals, 2015-2017

The following tables show HUP, PAH, PPMC, and overall UPHS cases by race/ethnicity from 2015 to 2017. The majority of patients are White, followed by Black in all three hospitals. The Hospital of the University of Pennsylvania (HUP) has the highest number of cases with 9,624 in 2017, Pennsylvania Hospital (PAH) with 2,601 cases, and Penn Presbyterian Medical Center (PPMC) with 1,977 cases in 2017. (The numbers of the three hospitals do not equal the total from UPHS due to duplicate records.)

Table 38 - HUP Cases by Race between 2015 and 2017						
Race	**2015**		**2016**		**2017**	
	Total	**Percent**	**Total**	**Percent**	**Total**	**Percent**
White	7,224	80.23%	7,832	79.71%	7,746	80.49%
Black	1,298	14.42%	1,478	15.04%	1,400	14.55%
American Indian, Aleutian, or Eskimo	10	0.11%	7	0.07%	7	0.07%
Chinese	32	0.36%	33	0.34%	28	0.29%
Japanese	2	0.02%	1	0.01%	1	0.01%
Filipino	4	0.04%	5	0.05%	6	0.06%
Hawaiian	0	0.00%	0	0.00%	1	0.01%
Korean	8	0.09%	22	0.22%	9	0.09%
Vietnamese	20	0.22%	14	0.14%	11	0.11%
Kampuchean (including Khmer and Cambodian)	3	0.03%	4	0.04%	4	0.04%
Thai (effective with 1994 diagnoses)	0	0.00%	1	0.01%	2	0.02%
Asian Indian or Pakistani, NOS	36	0.40%	48	0.49%	65	0.68%
Asian Indian	46	0.51%	41	0.42%	38	0.39%
Pakistani	2	0.02%	1	0.01%	2	0.02%
Other Asian, including Asian/Oriental, NOS	121	1.34%	136	1.38%	111	1.15%
Pacific Islander, NOS	11	0.12%	4	0.04%	6	0.06%
Other	41	0.46%	19	0.19%	38	0.39%
Unknown	146	1.62%	180	1.83%	149	1.55%
Total	**9,004**	**100.00%**	**9,826**	**100.00%**	**9,624**	**100.00%**

HUP - Hospital of the University of Pennsylvania
Note: Information received on July 23rd, 2019.

Table 39 - PAH Cases by Race between 2015 and 2017						
Race	**2015**		**2016**		**2017**	
	Total	**Percent**	**Total**	**Percent**	**Total**	**Percent**
White	1,762	78.14%	1913	75.29%	1998	76.82%
Black	387	17.16%	492	19.36%	467	17.95%
American Indian, Aleutian, or Eskimo	0	0.00%	2	0.08%	1	0.04%
Chinese	9	0.40%	9	0.35%	12	0.46%
Japanese	1	0.04%	0	0.00%	0	0.00%
Filipino	0	0.00%	1	0.04%	3	0.12%
Hawaiian	0	0.00%	1	0.04%	0	0.00%
Korean	5	0.22%	5	0.20%	1	0.04%
Vietnamese	2	0.09%	1	0.04%	4	0.15%
Laotian	1	0.04%	0	0.00%	0	0.00%
Kampuchean (including Khmer and Cambodian)	0	0.00%	1	0.04%	2	0.08%
Thai (effective with 1994 diagnoses)	0	0.00%	0	0.00%	1	0.04%
Asian Indian or Pakistani, NOS	6	0.27%	11	0.43%	18	0.69%
Asian Indian	6	0.27%	6	0.24%	6	0.23%
Other Asian, including Asian/Oriental, NOS	35	1.55%	45	1.77%	52	2.00%
Pacific Islander, NOS	2	0.09%	2	0.08%	1	0.04%
Other	8	0.35%	7	0.28%	4	0.15%
Unknown	31	1.37%	45	1.77%	31	1.19%
Total	**2,255**	**100.00%**	**2541**	**100.00%**	**2601**	**100.00%**

PAH - Pennsylvania Hospital

Note: Information received on July 23rd, 2019.

Race	2015		2016		2017	
	Total	Percent	Total	Percent	Total	Percent
White	987	71.68%	1186	74.36%	1523	77.04%
Black	356	25.85%	360	22.57%	385	19.47%
American Indian, Aleutian, or Eskimo	1	0.07%	1	0.06%	1	0.05%
Chinese	3	0.22%	1	0.06%	6	0.30%
Japanese	0	0.00%	0	0.00%	0	0.00%
Filipino	1	0.07%	0	0.00%	0	0.00%
Hawaiian	0	0.00%	0	0.00%	1	0.05%
Korean	2	0.15%	2	0.13%	4	0.20%
Vietnamese	0	0.00%	3	0.19%	0	0.00%
Kampuchean (including Khmer and Cambodian)	1	0.07%	0	0.00%	0	0.00%
Asian Indian or Pakistani, NOS	1	0.07%	5	0.31%	6	0.30%
Asian Indian	1	0.07%	1	0.06%	2	0.10%
Pakistani	1	0.07%	0	0.00%	0	0.00%
Other Asian, including Asian/Oriental, NOS	9	0.65%	19	1.19%	16	0.81%
Pacific Islander, NOS	1	0.07%	0	0.00%	1	0.05%
Other	1	0.07%	3	0.19%	5	0.25%
Unknown	12	0.87%	14	0.88%	27	1.37%
Total	**1,377**	**100.00%**	**1595**	**100.00%**	**1977**	**100.00%**

Table 40 - PPMC Cases by Race between 2015 and 2017

PPMC - Penn Presbyterian Medical Center

Note: Information received on July 23rd, 2019.

Table 41 - UPHS Cases by Race between 2015 and 2017

Race	2015		2016		2017	
	Total	Percent	Total	Percent	Total	Percent
White	9,229	79.21%	9,933	78.61%	10,172	79.65%
Black	1,844	15.83%	2,061	16.31%	1,974	15.46%
American Indian, Aleutian, or Eskimo	11	0.09%	10	0.08%	7	0.05%
Chinese	40	0.34%	39	0.31%	40	0.31%
Japanese	3	0.03%	1	0.01%	1	0.01%
Filipino	4	0.03%	6	0.05%	8	0.06%
Hawaiian	0	0.00%	1	0.01%	2	0.02%
Korean	15	0.13%	23	0.18%	13	0.10%
Vietnamese	21	0.18%	17	0.13%	13	0.10%
Laotian	1	0.01%	0	0.00%	0	0.00%
Kampuchean (including Khmer and Cambodian)	4	0.03%	5	0.04%	5	0.04%
Thai (effective with 1994 diagnoses)	0	0.00%	1	0.01%	3	0.02%
Asian Indian or Pakistani, NOS	40	0.34%	57	0.45%	78	0.61%
Asian Indian	53	0.45%	44	0.35%	44	0.34%
Pakistani	3	0.03%	1	0.01%	2	0.02%
Other Asian, including Asian/Oriental, NOS	148	1.27%	176	1.39%	166	1.30%
Pacific Islander, NOS	13	0.11%	6	0.05%	7	0.05%
Other	48	0.41%	28	0.22%	42	0.33%
Unknown	175	1.50%	227	1.80%	194	1.52%
Total	**11,652**	**100.00%**	**12,636**	**100.00%**	**12,771**	**100.00%**

UPHS - University of Pennsylvania Health System

Note: Information received on July 23rd, 2019.

3.4. ACC patients by geography and MUA/P status

Table 42 shows the breakdown of 2017 ACC patients, by geography and medically underserved areas/populations (MUA/P) status, by race, and by ethnicity. These patients were diagnosed with malignant tumors reported by HUP, PPMC, or PAH, and the MUA/P designation characterizes the patient's address at diagnosis. A total of 20% of patients in the 12 ACC counties, and a total of 55.3% of patients in Philadelphia, live in medically underserved areas. If we exclude Philadelphia County, this number lowers to 7.6% for the rest of the catchment area. The highest percentages of people living in MUAs are observed among Blacks and Hispanics. In the 12 ACC Counties, 55.1% of Blacks and 38.1% of Hispanics live in MUAs. In Philadelphia County alone, these numbers are higher—72% of Blacks and 66.7% of Hispanics live in MUAs.

Table 42 – ACC patients by geography and residing in medically underserved areas (%)*, 2017				
	All ACC	**12 County ACC Catchment**	**Philadelphia County**	**ACC Catchment Excluding Philadelphia**
All Patients**	20.7%	20.0%	55.3%	7.6%
White	13.9%	11.7%	37.9%	6.8%
Black	54.8%	55.1%	72.0%	17.3%
Asian	19.5%	20.7%	59.5%	3.6%
Hispanic***	33.6%	38.1%	66.7%	23.8%

Source: American Community Survey, 2017 (Data received on October 22nd, 2019)
Notes:
*Percentages do not include reported tumors with in-situ, benign, or uncertain histology, and do not include pediatric patients (only patients 18 years of age or older).
**All patients- include the following races in addition to White, Black, and Asian: American Indian or Alaska Native; More Than One Race; Native Hawaiian or Other Pacific Islander; Other/Unknown.
***Hispanic- is among all races.

3.5. CHOP patients from the ACC catchment area

The following tables contain information on cancer patients (first seen in 2018) from the Children's Hospital of Philadelphia from the ACC catchment area. A total of 261 CHOP patients are from the 12 ACC catchment counties. Of the 261 patients in the catchment area, most are White (161) and non-Hispanic (236). The county with the highest number of patients is Philadelphia.

Table 43 - All reportable cases in CHOP (analytic and non-analytic) in 2018	
Overall volume	**Unique patients**
ACC catchment	261
All others excluding international	274
Total (excl. international)	535

Source: CHOP Cancer Registry
Data received on October 11th, 2019

Table 44 – CHOP patients from the ACC catchment area, by county (2018)		
State	**County**	**Unique patients**
Pennsylvania	Philadelphia	55
	Bucks	29
	Chester	16
	Delaware	20
	Montgomery	41
New Jersey	Atlantic	7
	Burlington	33
	Camden	17
	Gloucester	12
	Mercer	6
	Ocean	20
Delaware	New Castle	5
Total		**261**

Source: CHOP Cancer Registry
Data received on October 11th, 2019

Table 45 - CHOP patients from the ACC catchment area, by race and Ethnicity (2018)		
	Race/ Ethnicity	**Unique patients**
Race	White	161
	Black or African American	50
	Other	38
	Asian	8
	Indian	3
	Refused	1
Ethnicity	Not Hispanic or Latino	236
	Hispanic or Latino	23
	Refused	2

Source: CHOP Cancer Registry
Race & Ethnicity based on CHOP Data Warehouse (CDW) physician billings (PB) data
Data received on October 11th, 2019

4. Cancer risk factors

4.1. Behavioral risk factors

Certain behaviors are known to increase the risk of cancer; key behavioral risk factors include tobacco use, alcohol consumption, obesity, physical activity and diet, and UV radiation exposure.[6]

This section of the report presents summary data as well as more detailed information on each behavioral risk factor, for the catchment area and for the 12 counties.

The following summary table shows data on some behavioral cancer risk factors for the U.S., the ACC catchment area, for Philadelphia County, and for the other 11 counties in the catchment area (combined). Fifteen percent of catchment area residents are current smokers, and in Philadelphia County this number is higher (19.2%). Almost 7% of people in the catchment area are heavy drinkers; 29% are obese; 84% consume less than 5 servings of fruits and/or vegetables daily; and 42% do not meet the recommendations for a minimum level of aerobic physical activity.

Table 46 - Behavioral Cancer Risk Factors for the U.S., the ACC Catchment Area, and Philadelphia County						
	Current Smoker	e-Cigarettes	Alcohol Use†	Obesity	Fruits/Veg‡	Physical Activity*
United States	14.2%	4.0%	5.7%	28.8%	84.4%	43.4%
Entire Catchment Area	15.0%	4.5%	6.6%	29.4%	84.1%	42.3%
Philadelphia County	19.2%	3.7%	7.0%	32.0%	84.4%	42.0%
non-Philadelphia Catchment Area	12.3%	5.0%	6.3%	27.8%	84.0%	42.5%

Note: Information received on December 21st, 2019
Source: BRFFS 2017, 2018;
† heavy drinking;
‡ < 5 per day;
*does not meet aerobic PA recommendations;

4.1.1. Tobacco

Cigarette smoking is the leading preventable cause of death in the United States. Annually, it accounts for more than 480,000—almost one in five—deaths in the US. Smoking causes about 90% (nine out of 10) of all lung cancer deaths and increases the risk of developing several other types of cancer.[7]

In 2017, 14% of adults 18 years or older (15.8% of men and 12.2% of women) were current cigarette smokers in the US. Non-Hispanic American Indians/Alaska Natives presented the highest rates with 24%, followed by non-Hispanic Whites (15.2%) and non-Hispanic Blacks (14.9%). Hispanics (9.9%) and non-Hispanic Asians (7.1%) had lower rates of smoking.

4.1.1.1. Smoking in the ACC Catchment Area (combustible and e-cigarettes)

Data from the Behavioral Risk Factor Surveillance System (BRFSS) show that 15% of people in the catchment area and 19% of people in Philadelphia are current smokers. Of these current smokers, 10% smoke every day and 5% smoke some days in the catchment. In Philadelphia these rates are 12% and 7%, respectively. Twenty-six percent and 21% are former smokers in the catchment and in Philadelphia respectively.

E-cigarette use is not as widespread, with 5% of people in the catchment and 4% of people in Philadelphia currently using e-cigarettes. One to two percent of people in both the catchment and in Philadelphia smoke e-cigarettes every day and 3% use them some days.

Table 47 - Percentage of smokers and non-smokers (2017)			
	Entire Catchment Area	Philadelphia	Outside Philadelphia
Current smoker - No	81.3%	76.8%	84.2%
Current smoker - Yes	14.8%	18.9%	12.1%
Missing	3.9%	4.2%	3.6%

Notes:
- P = 0.0004
- Information received on November 6th 2019
- ACC catchment area includes the following metropolitan and micropolitan statistical areas (MMSA): (1) Camden, NJ, Metropolitan Division; (2) Montgomery County-Bucks County-Chester County, PA, Metropolitan Division; (3) Philadelphia, PA, Metropolitan Division; and (4) Wilmington, DE-MD-NJ, Metropolitan Division.
Source: Behavioral Risk Factor Surveillance System (https://www.cdc.gov/brfss/smart/smart_2017.html)

Table 48 - Percentage of people who currently smoke every day and some days, who are former smokers, and who never smoked (2017)			
	Entire Catchment Area	Philadelphia	Outside Philadelphia
Current smoker - every day	9.5%	11.6%	8%
Current smoker - some days	5.3%	7.2%	4.1%
Former smoker	25.5%	21.4%	28.2%
Never smoker	55.8%	55.4%	56%
Missing data	3.9%	4.2%	3.6%

Notes:
- P < 0.0001
- Information received on November 6th 2019
- ACC catchment area includes the following metropolitan and micropolitan statistical areas (MMSA): (1) Camden, NJ, Metropolitan Division; (2) Montgomery County-Bucks County-Chester County, PA, Metropolitan Division; (3) Philadelphia, PA, Metropolitan Division; and (4) Wilmington, DE-MD-NJ, Metropolitan Division.

Table 49 - Percentage of e-cigarette smokers and non-smokers (2017)			
	Entire Catchment Area	**Philadelphia**	**Outside Philadelphia**
Current e-cigarette smoker - No	91.1%	90.9%	91.2%
Current e-cigarette smoker - Yes	4.5%	3.7%	5%
Missing	4.4%	5.4%	3.7%

Notes:
- Information received on November 6th 2019
- ACC catchment area includes the following metropolitan and micropolitan statistical areas (MMSA): (1) Camden, NJ, Metropolitan Division; (2) Montgomery County-Bucks County-Chester County, PA, Metropolitan Division; (3) Philadelphia, PA, Metropolitan Division; and (4) Wilmington, DE-MD-NJ, Metropolitan Division.

Table 50 - Percentage of people who currently smoke e-cigarettes every day and some days, who are former e-cigarette smokers, and who never smoked e-cigarettes (2017)			
	Entire Catchment Area	**Philadelphia**	**Outside Philadelphia**
Current e-cigarette smoker - every day	1.7%	1.1%	2%
Current e-cigarette smoker - some days	2.8%	2.6%	2.9%
Former e-cig smoker	12.8%	14.7%	11.5%
Never e-cig smoker	78.3%	76.1%	79.8%
Missing data	4.4%	5.4%	3.8%

Notes:
- P = 0.03
- Information received on November 6th 2019
- ACC catchment area includes the following metropolitan and micropolitan statistical areas (MMSA): (1) Camden, NJ, Metropolitan Division; (2) Montgomery County-Bucks County-Chester County, PA, Metropolitan Division; (3) Philadelphia, PA, Metropolitan Division; and (4) Wilmington, DE-MD-NJ, Metropolitan Division.

4.1.1.2. Pennsylvania Counties

From 2016-2018, 18% of Pennsylvanians were current smokers. The highest percentage of smokers was recorded in Philadelphia with 22%, and the lowest in Bucks and Montgomery Counties with 11%. In relation to race and ethnicity, smokers were more likely to be non-White and more often were from minority racial-ethnic groups.
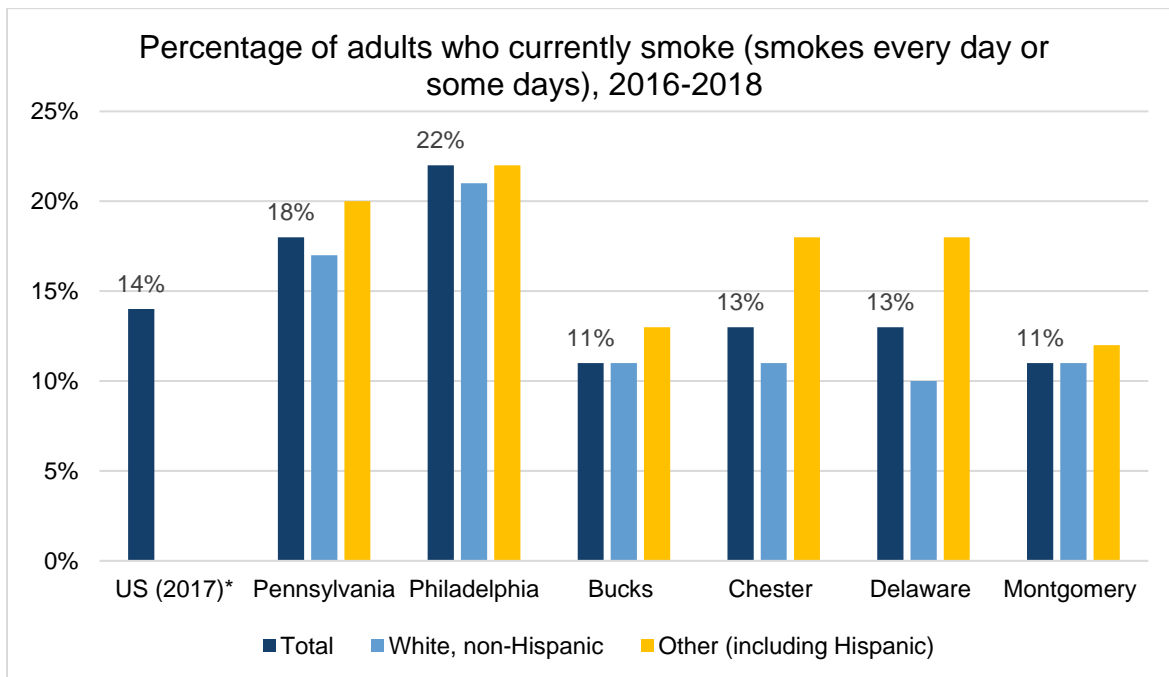
Figure 28 - Percentage of adults who currently smoke (smoke every day or some days), by race/ethnicity (2016-2018). Source: https://www.phaim1.health.pa.gov/EDD/WebForms/BRFSSregChrt.aspx
*US data from different year (2017) and source: https://www.cdc.gov/tobacco/data_statistics/fact_sheets/adult_data/cig_smoking/index.htm#anchor_154990204 7693

Philadelphia

While cigarette smoking is gradually declining in Philadelphia, smoking rates among adults in Philadelphia are among the highest in a large US city. In 2015, the percentage of adults who reported smoking at least 100 cigarettes in their lifetime <u>and</u> currently smoke every day or some days was 22.4%. The age-adjusted rate of deaths attributable to smoking was 468 per 100,000 adults 35 years and older in 2014. Smoking and smoking-attributable mortality are most common among Black non-Hispanic adults and least common among Asian non-Hispanic adults.
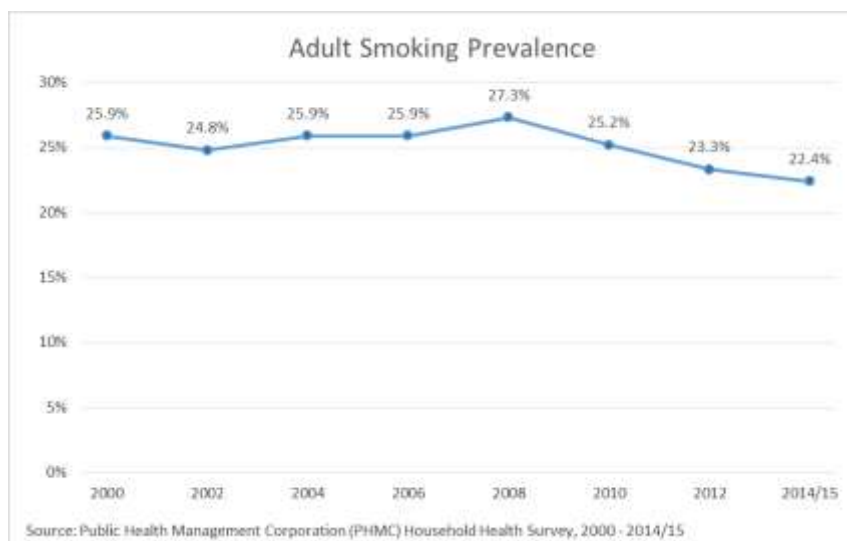
Figure 29 - Percentage of adults who have smoked at least 100 cigarettes in their lifetime and currently smoke every day or some days (2015).
Source - Philadelphia Department of Public Health, 2017
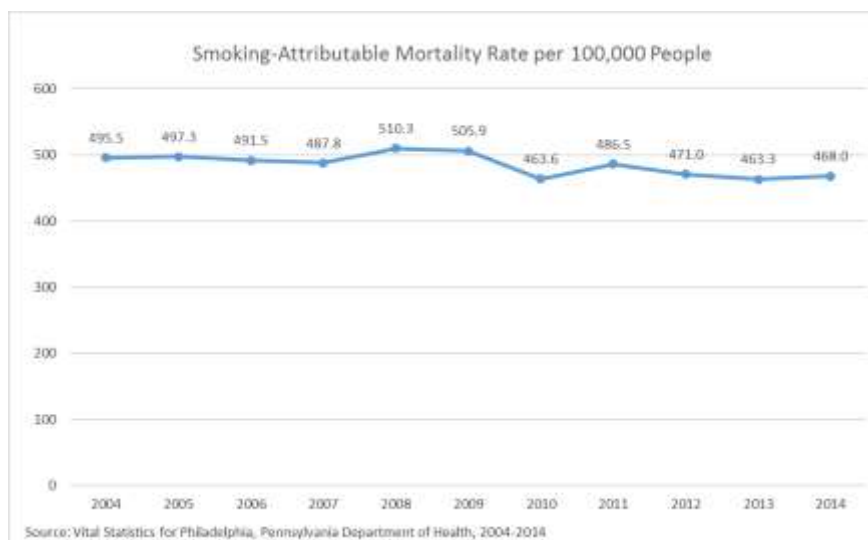
Figure 30 - Age-adjusted rate of deaths attributable to smoking per 100,000 adults 35 years and older. This measure is based on CDC's Smoking-Attributable Mortality, Morbidity, and Economic Costs (2014).
Source - Philadelphia Department of Public Health, 2017
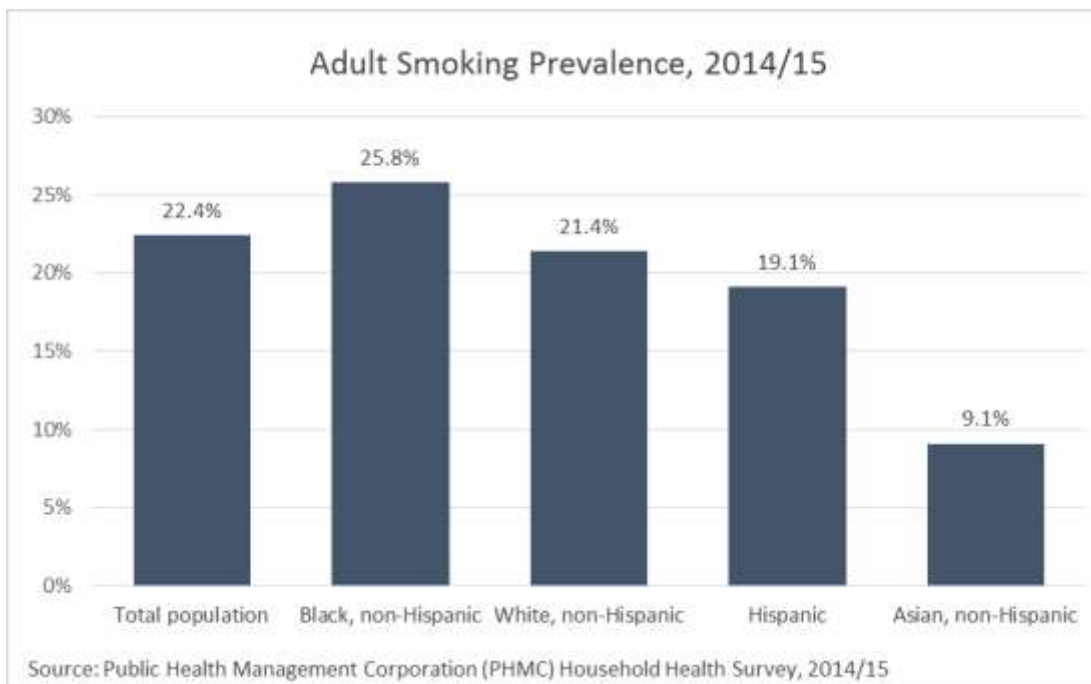
Figure 31 - Percentage of adults who have smoked at least 100 cigarettes in their lifetime and currently smoke every day or some days, per race/ethnicity (2015). Source - Philadelphia Department of Public Health, 2017
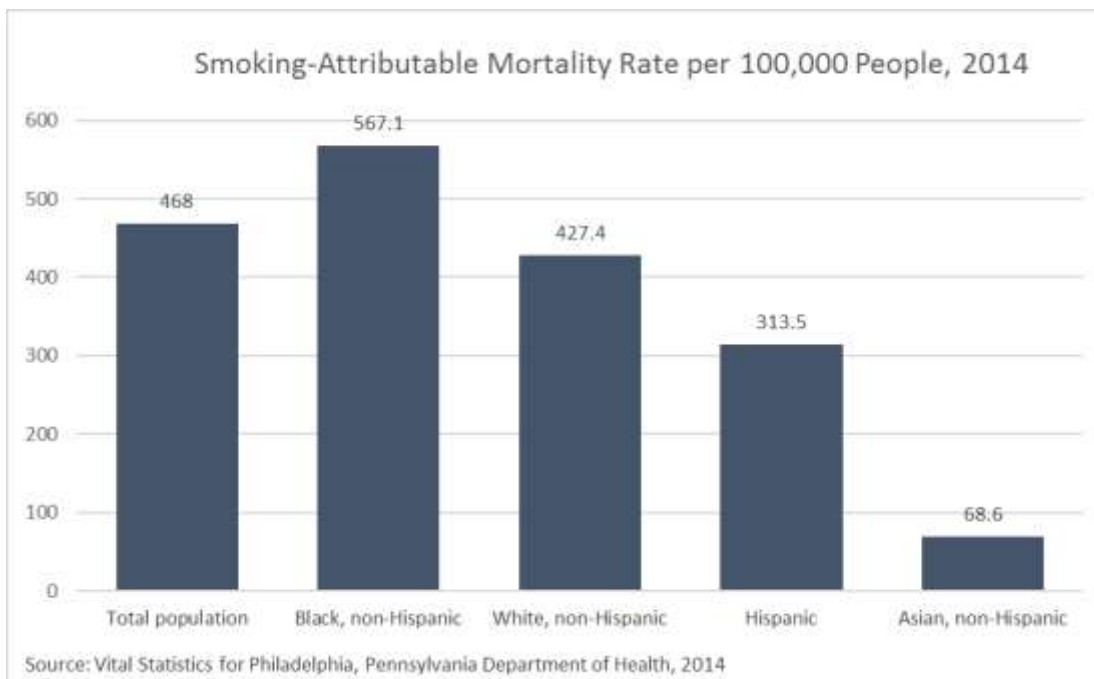
Figure 32 - Age-adjusted rate of deaths attributable to smoking per 100,000 adults 35 years and older, per race/ethnicity (2014). Source - Philadelphia Department of Public Health, 2017

Smoking-Attributable Mortality Rate per 100,000 People, 2014
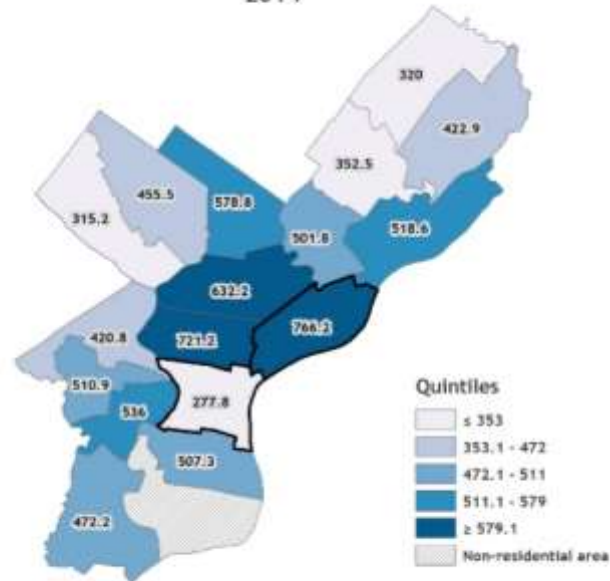
Source: Vital Statistics for Philadelphia, Pennsylvania Department of Health, 2014

Figure 33 - Percentage of adults who have smoked at least 100 cigarettes in their lifetime and currently smoke every day or some days, per planning districts (2015).
Source - Philadelphia Department of Public Health, 2017

Adult Smoking Prevalence, 2012-2015
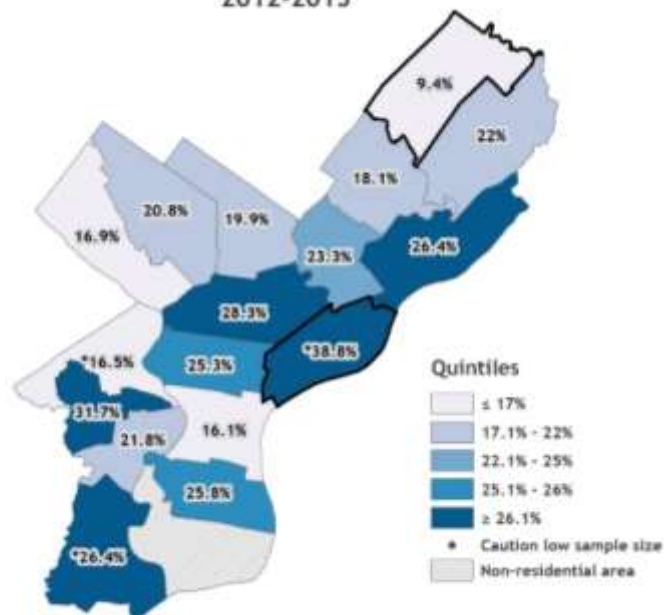
Source: Public Health Management Corporation (PHMC) Household Health Survey, 2012-2015

Figure 34 - Age-adjusted rate of deaths attributable to smoking per 100,000 adults 35 years and older, per planning districts (2014).
Source - Philadelphia Department of Public Health, 2017
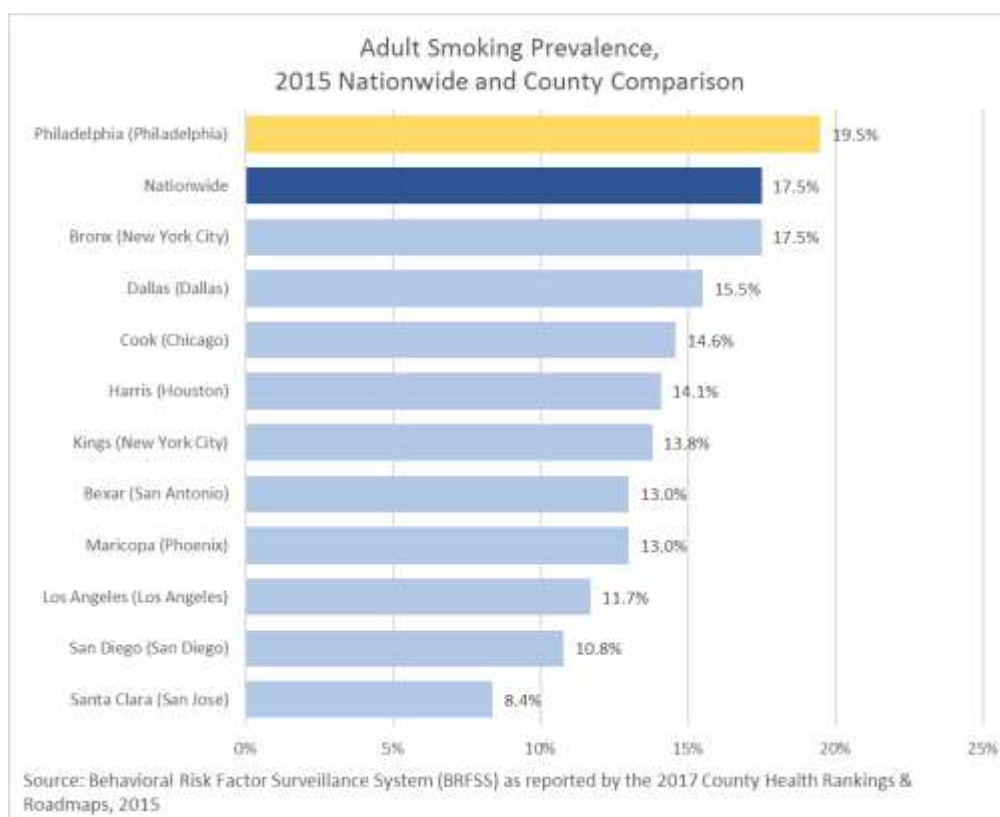
Figure 35 - Percentage of adults who have smoked at least 100 cigarettes in their lifetime and currently smoke every day or some days, nationwide and county comparison (2015).
Source - Philadelphia Department of Public Health, 2017

4.1.1.3. New Jersey Counties

Data from 2014-2016 show that cigarette smoking rates are relatively high in New Jersey's ACC Counties, ranging from 11.9% in Burlington to 20.5% in Ocean.
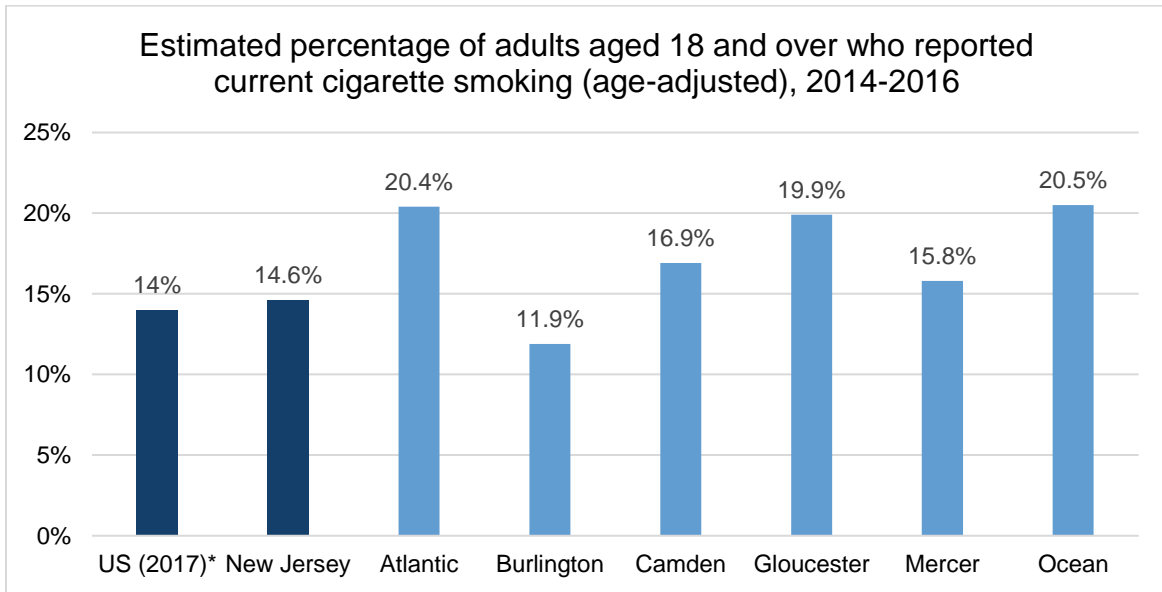
Figure 36 - Estimated percentage of adults aged 18 and over who reported current cigarette smoking (age-adjusted), 2014-2016. Source: New Jersey State Health Assessment Data https://www-doh.state.nj.us/doh-shad/ (downloaded on 6/18)
*US data from different year (2017) and source:
https://www.cdc.gov/tobacco/data_statistics/fact_sheets/adult_data/cig_smoking/index.htm#anchor_154990204 7693

4.1.1.4. Delaware – New Castle County

In Delaware, the percentage of smokers has been on a steady decline for the past decade, falling from 23% in 2000 to 17% in 2010. According to the most recent data from 2015, 19% of Delaware residents and 18% of New Castle County residents, currently smoke cigarettes—a percentage that is still higher than national rates for the same year (15%).

In addition to cigarette smoking, 6% of Delaware adults and 5% of New Castle County adults used electronic cigarettes (e-cigarettes) once or more in the past month.
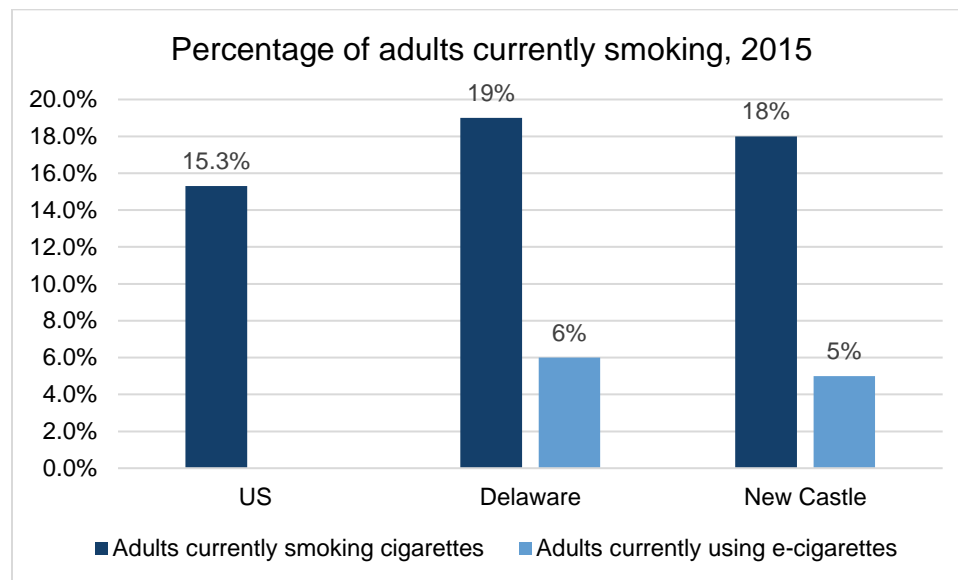
Figure 37 - Percentage of adults currently smoking cigarettes and using e-cigarettes, 2015
Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware State Health Needs Assessment, 2017.
*US data (2015) from different source: National Health Interview Survey, 2015
https://www.cdc.gov/nchs/data/nhis/earlyrelease/earlyrelease201605_08.pdf

4.1.2. Alcohol Consumption

Excessive alcohol intake has long been linked to premature death and an increased risk of a number of adverse health outcomes, including cancer. From 2006 to 2010, excessive alcohol use was responsible for approximately 88,000 deaths and 2.5 million years of potential life lost, each year in the United States.[8]

When it comes to alcohol and cancer, data from 2009 show that alcohol was responsible for 3.5% of cancer deaths in the United States (about 19,500 deaths).[9] Alcohol has been linked to several types of cancer: colon and rectal; breast; liver; head and neck (oral, pharynx, and larynx cancers); and esophageal cancer. Alcohol may also increase the risk of developing pancreatic and stomach cancers.[10]

The National Institute on Alcohol Abuse and Alcoholism uses the following definitions of alcohol misuse:[11]
- Excess daily consumption: more than 4 drinks per day for men or more than 3 drinks per day for women.
- Excess total consumption: more than 14 drinks per week for men or more than 7 drinks per week for women.

The Centers for Disease Control and Prevention (CDC) uses the following definitions of alcohol misuse:[11]
- Alcohol misuse: more than 2 drinks per day for men and more than 1 drink per day for women (on average).
- Binge drinking: 5 or more drinks during a single occasion for men and 4 or more drinks during a single occasion for women.
- Excessive drinking includes heavy drinking, binge drinking, or both.
- Alcohol misuse is a pattern of drinking that results in harm to one's health, interpersonal relationships, or ability to work.
- Alcohol dependence, also known as alcohol addiction and alcoholism, is a chronic disease and is associated with experiencing withdrawal symptoms, loss of control, or alcohol tolerance.

4.1.2.1. ACC Catchment Area

According to the BRFSS, residents from 11 counties in the catchment (New Castle County in Delaware not included) drank an estimated average of 88 alcoholic drinks in a month. In Philadelphia County, this number is lower (67 alcohol drinks in a month), but still might be considered as heavy drinking according to the CDC's definition of excessive drinking (if drinking patterns meet the CDC definitions on the preceding page).[11]

Table 51 – Number of alcohol beverages per month (2017)			
	Catchment Area (DE not included)	Philadelphia	Other MMSA (DE)
Number of alcohol beverages in a month	87.6	66.6	42.1

Notes:
- Information received on November 6th 2019
- ACC catchment area includes the following metropolitan and micropolitan statistical areas (MMSA): (1) Camden, NJ, Metropolitan Division; (2) Montgomery County-Bucks County-Chester County, PA, Metropolitan Division; (3) Philadelphia, PA, Metropolitan Division; and (4) Wilmington, DE-MD-NJ, Metropolitan Division.
Source: Behavioral Risk Factor Surveillance System (https://www.cdc.gov/brfss/smart/smart_2017.html)

4.1.2.2. Pennsylvania Counties: Heavy Drinking

In 2016-2018, the percentage of adults at risk for heavy drinking in Pennsylvania's 5 ACC Counties varied from 6% to 9%, while the percentage of binge drinkers was higher, varying from 16% to 22%.
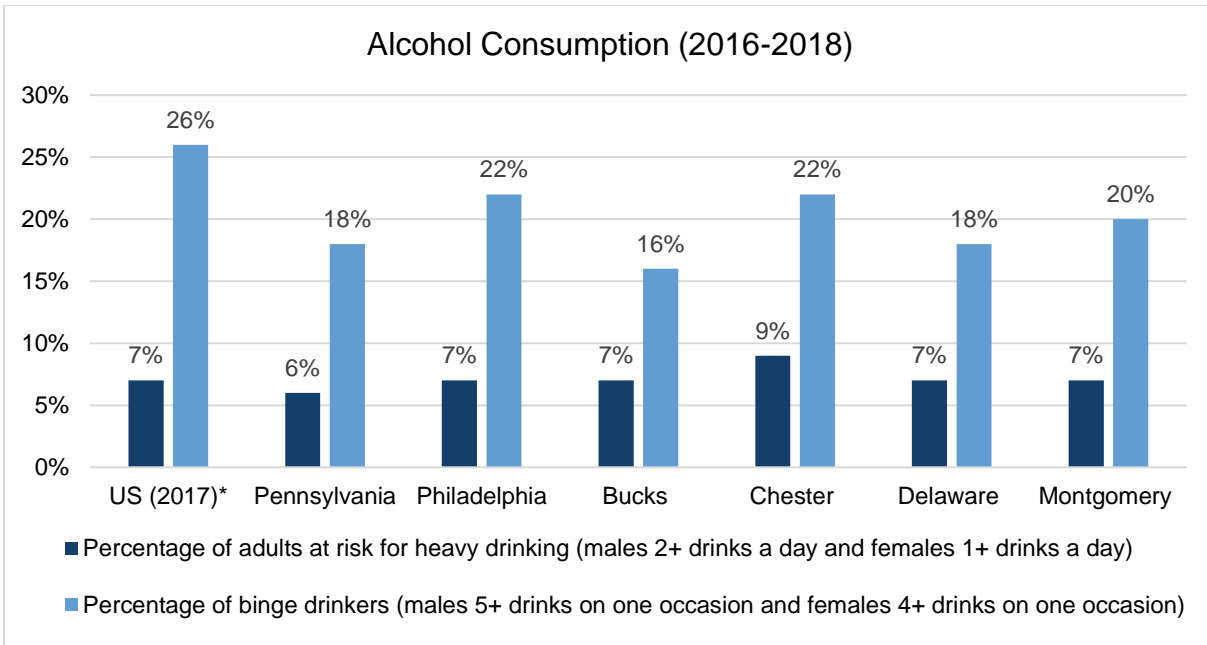
Figure 38 – Percentage of people who are at risk for heavy drinking and who binge drink, 2016-2018
Source: https://www.phaim1.health.pa.gov/EDD/WebForms/BRFSSregChrt.aspx
*US data from different year (2017) and source: 2017 National Survey on Drug Use and Health (NSDUH)
https://www.niaaa.nih.gov/publications/brochures-and-fact-sheets/alcohol-facts-and-statistics

Philadelphia

Adult excessive drinking is the percentage of adults reporting binge or heavy drinking. The Centers for Disease Control and Prevention define binge drinking as drinking five or more drinks on an occasion for men or four or more drinks on an occasion for women and heavy drinking as drinking 15 or more drinks per week for men, or eight or more drinks per week for women.[11]

In Philadelphia in 2015, the rate of adult excessive drinking was 19.5%. The race/ethnic group with the highest reported binge drinking rate, in 2012, was White non-Hispanic (25.8%), followed by Hispanics (22.1%), and Black non-Hispanic (14.2%; data not shown for Asian, non-Hispanic).
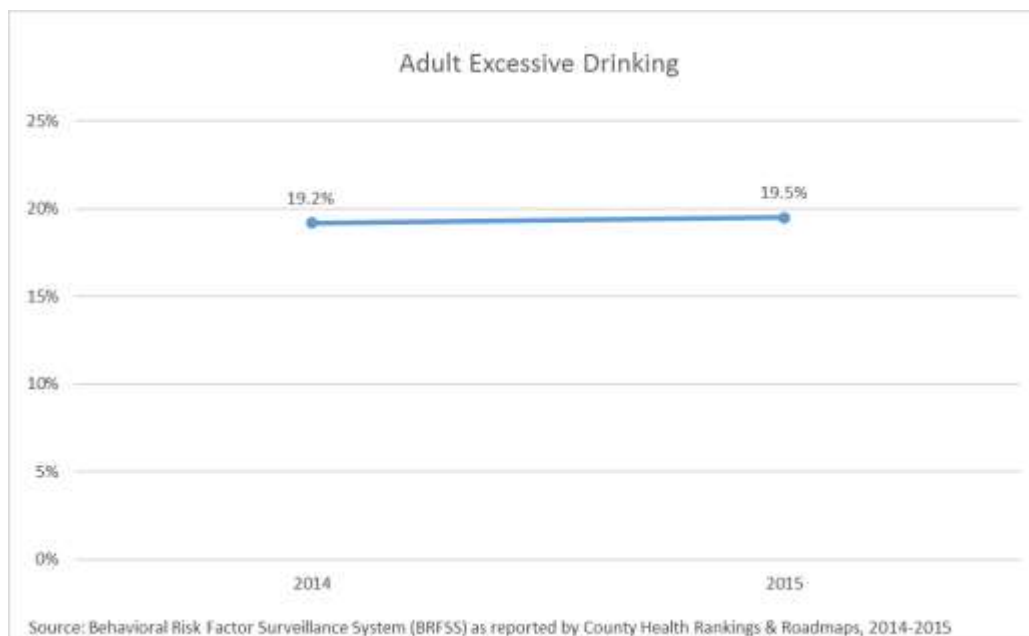
Figure 39 – Adult excessive drinking, percentage of adults reporting binge or heavy drinking (2015)
Source - Philadelphia Department of Public Health, 2017
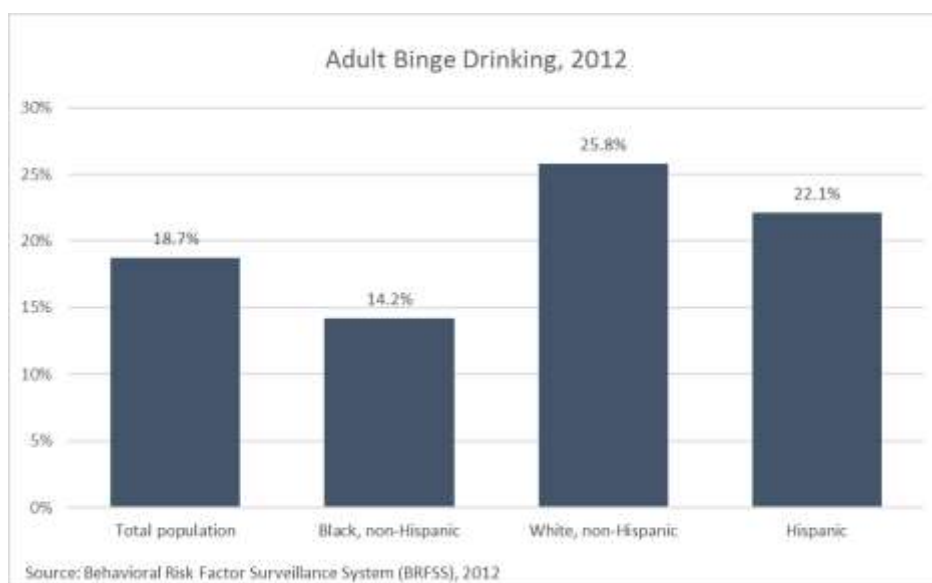
Figure 40 - Adult excessive drinking, percentage of adults reporting binge or heavy drinking, per race/ethnicity (2012).
Source - Philadelphia Department of Public Health, 2017
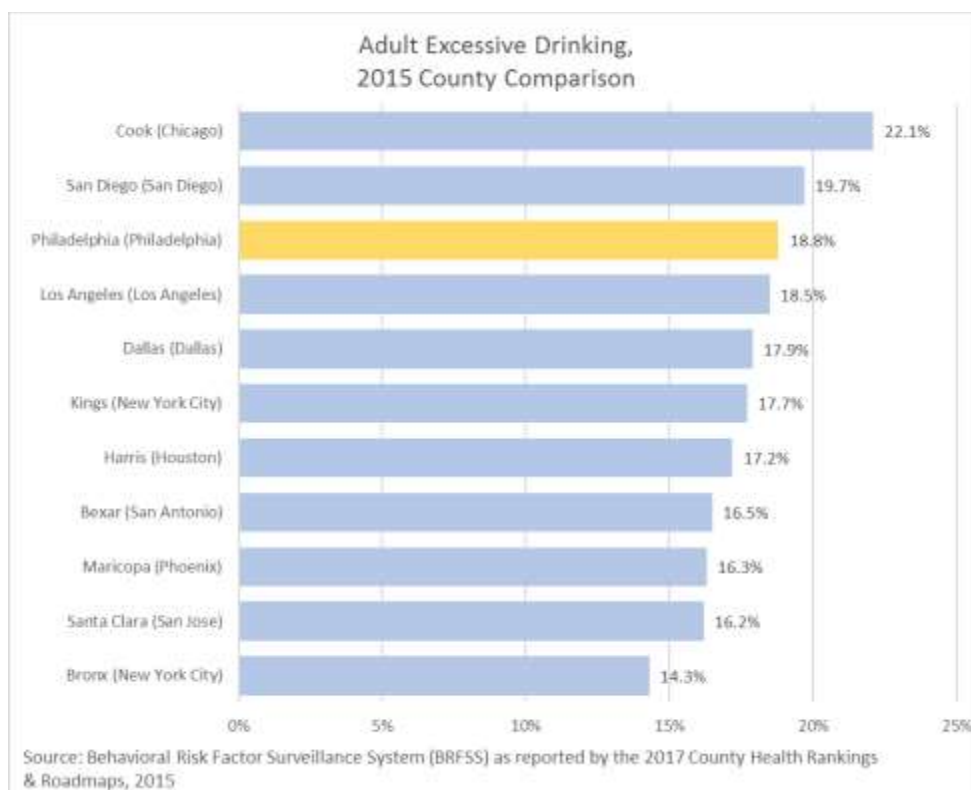
Figure 41 - Adult excessive drinking, percentage of adults reporting binge or heavy drinking, county comparison (2015)
Source - Philadelphia Department of Public Health, 2017

4.1.2.3. New Jersey Counties

In New Jersey Counties, data from 2017 show that 4% to 8% of the population are chronic heavy drinkers. The percentage of people who reported binge drinking on one occasion in the past 30 days ranged from 17.1% in Burlington County to 22.2% in Gloucester County.
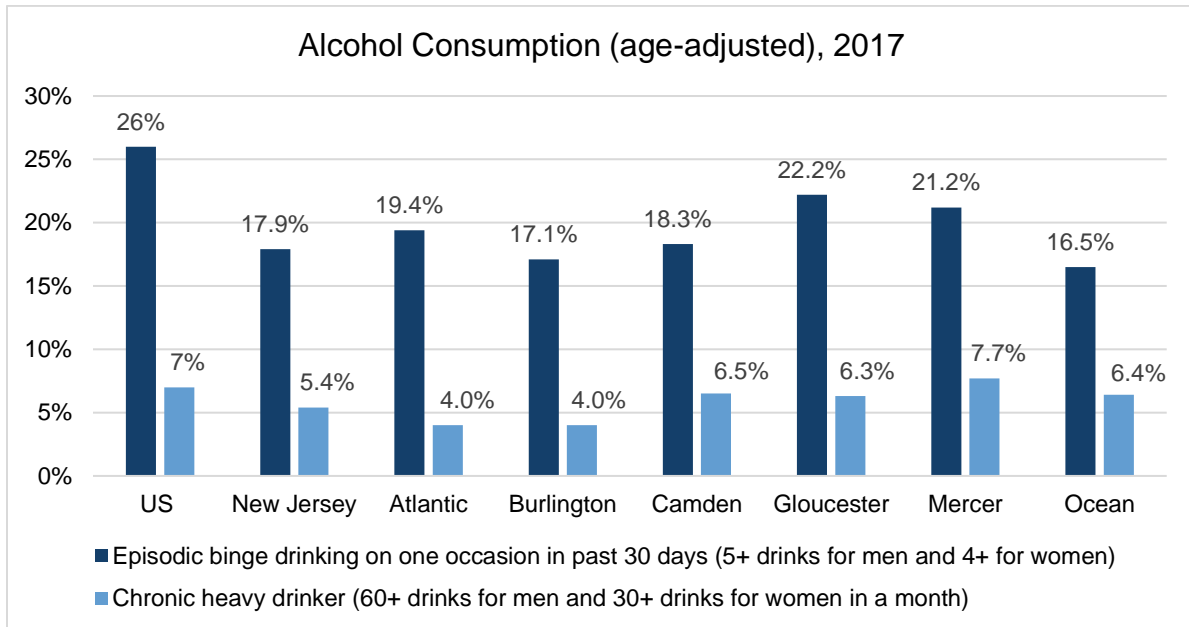
Figure 42 – Percentage of people who binge drink and who present chronic heavy drinking (age-adjusted), 2017
Source: New Jersey State Health Assessment Data https://www-doh.state.nj.us/doh-shad/ (downloaded on 6/21)
*US data (2017) from different source: 2017 National Survey on Drug Use and Health (NSDUH)
https://www.niaaa.nih.gov/publications/brochures-and-fact-sheets/alcohol-facts-and-statistics

4.1.2.4. Delaware – New Castle County

According to the 2019 County Health Rankings, 18% of Delawareans reported binge or heavy drinking in 2016. In New Castle County this number was 19%.
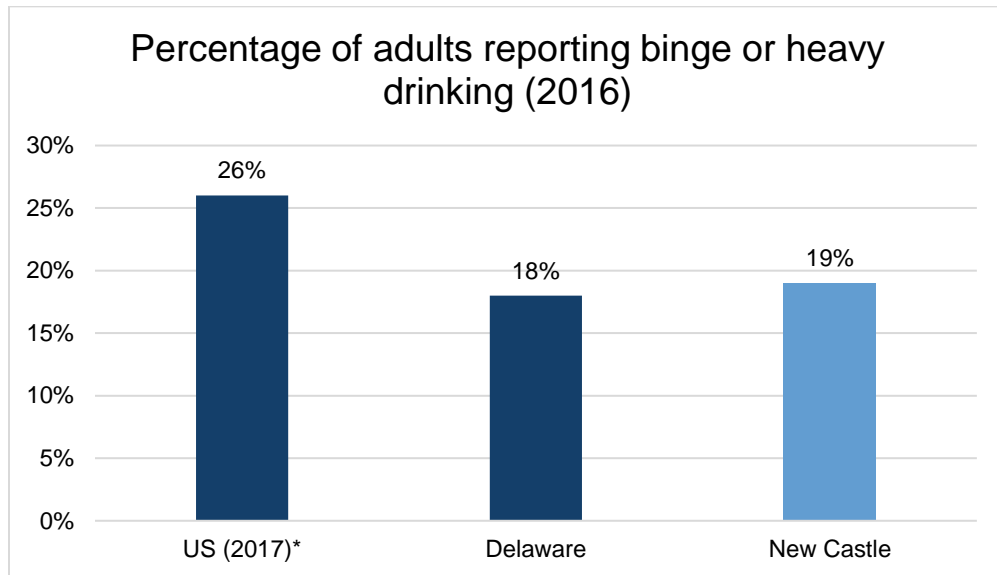
Figure 43 – Percentage of adults reporting binge or heavy drinking (2016)
Source: The 2019 County Health Rankings.
https://www.countyhealthrankings.org/app/delaware/2019/measure/factors/49/map
*Notes:

- Percentage of adults reporting binge drinking in the past month.

- US data from different year (2017) and source: 2017 National Survey on Drug Use and Health
(NSDUH): https://www.niaaa.nih.gov/publications/brochures-and-fact-sheets/alcohol-facts-and-statistics

4.1.3. Diet

Diet and body weight have a great impact on an individual's health status.[12] Poor diet and inadequate nutrition constitute significant risk factors for obesity and other chronic diseases, including certain cancers.[12] There are many factors that can influence diet; the individual's knowledge and skills to make healthier choices, the availability and affordability of healthier options, access to retail venues that sell healthier foods, and food marketing.[12]

4.1.3.1. Obesity

Obesity or overweight are described as weight that is higher than what is considered healthy for a given height.[13] Body Mass Index (BMI) is used as a standardized metric for overweight or obesity. If an adult's BMI is 25 to 30, it falls within the overweight range, and if the BMI is 30 or higher, it falls within the obese range.[13]

Obesity is a complex health issue that results from a combination of factors, including genetics, dietary patterns, access to healthy foods, physical (in)activity, medication use, education and skills, and many other factors.[13]

Adults who are obese are at increased risk of all-cause of death; many serious diseases; and endometrial, breast, prostate, and colon cancers. A healthy diet and physical activity are both important for achieving and maintaining a healthy weight.[13]

4.1.3.1.1. ACC Catchment Area

Data from the BRFSS indicate that in the catchment area, the obesity rate among adults is 29% and the overweight rate is 36%. In Philadelphia alone, these rates are 32% and 36% respectively.

	Entire Catchment Area	Philadelphia	Outside Philadelphia
Table 52 – Percentage of people who are underweight, normal weight, overweight, and obese (2017)			
Underweight	1.8%	1.6%	1.9%
Normal Weight	32.7%	30.8%	33.9%
Overweight	36.1%	35.6%	36.4%
Obese	29.4%	32%	27.8%

Notes:
- Information received on November 6th 2019
- ACC catchment area includes the following metropolitan and micropolitan statistical areas (MMSA): (1) Camden, NJ, Metropolitan Division; (2) Montgomery County-Bucks County-Chester County, PA, Metropolitan Division; (3) Philadelphia, PA, Metropolitan Division; and (4) Wilmington, DE-MD-NJ, Metropolitan Division.
Source: Behavioral Risk Factor Surveillance System (https://www.cdc.gov/brfss/smart/smart_2017.html)

4.1.3.1.2. Pennsylvania Counties

In 2016-2018, overweight and obesity were quite prevalent in the Pennsylvania Catchment counties, with percentages ranging from 56% in Chester County to 66% in Philadelphia. As to obesity prevalence, these percentages varied from 19% in Chester County to 32% in Philadelphia.
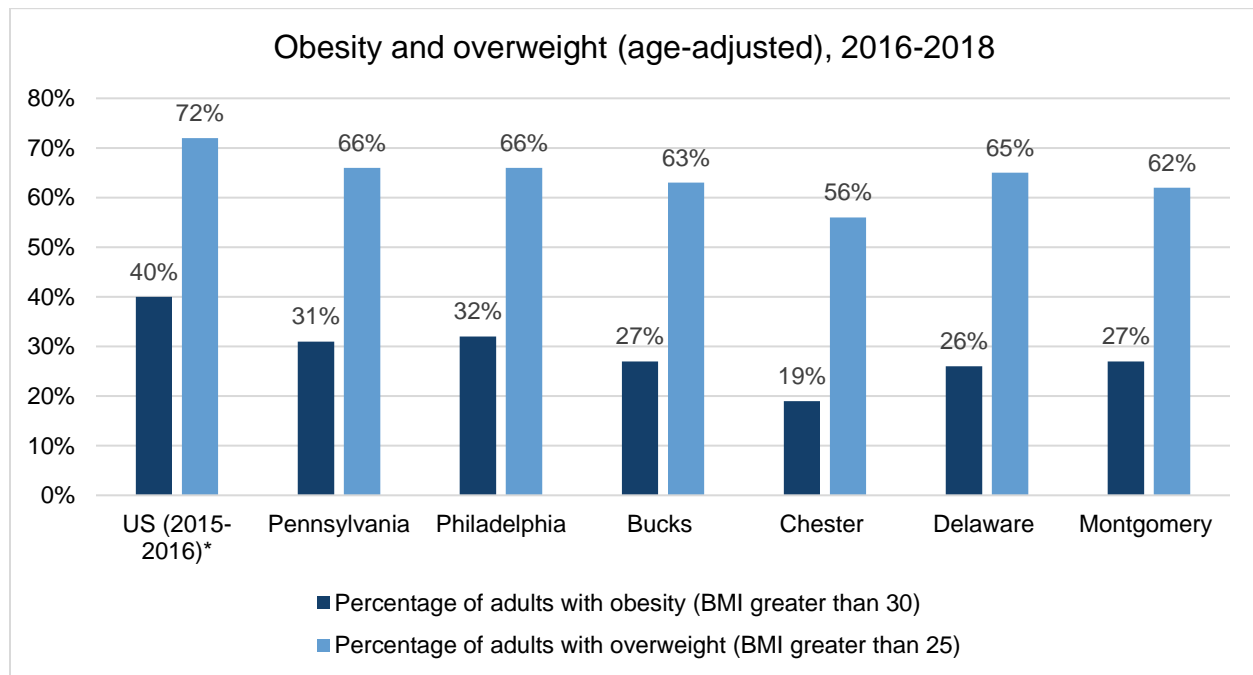
Figure 44 - Percentage of adults obese and overweight (age-adjusted), 2016-2018
Source: https://www.phaim1.health.pa.gov/EDD/WebForms/BRFSSregChrt.aspx
*US data from different year (2015-2016) and source: https://www.cdc.gov/nchs/fastats/obesity-overweight.htm

Philadelphia

Adult obesity prevalence, shown in the figures below, is the percentage of adults with BMI greater than or equal to 30kg/m2, based on self-reported height and weight.

Obesity rates in Philadelphia have been increasing over time across all race/ethnic groups and are higher than national rates. In 2015, 33.3% of adults had obesity, with the highest rates among Black non-Hispanic (40.1%) and the lowest rates among Asian non-Hispanic (9.8%).
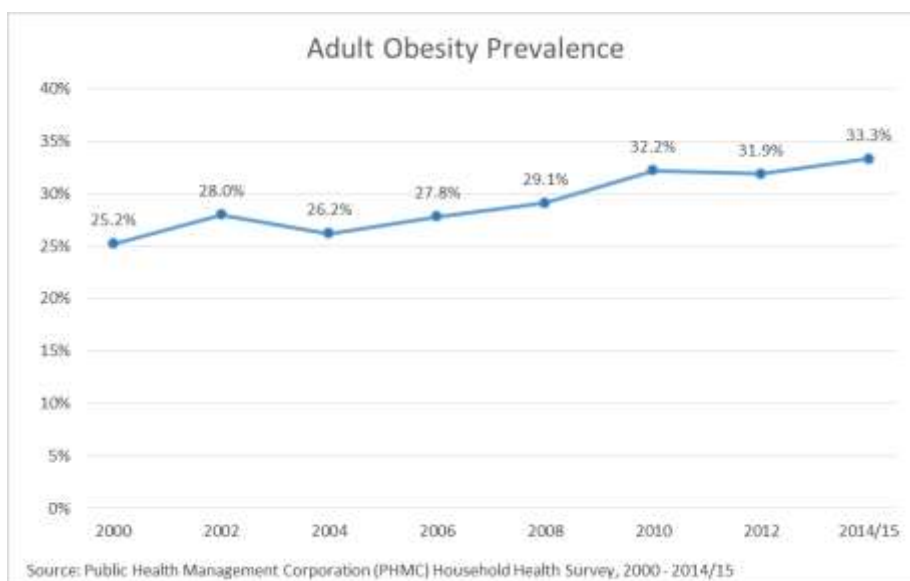
Figure 45 - Adult obesity prevalence (2000-2014/2015)
Source - Philadelphia Department of Public Health, 2017
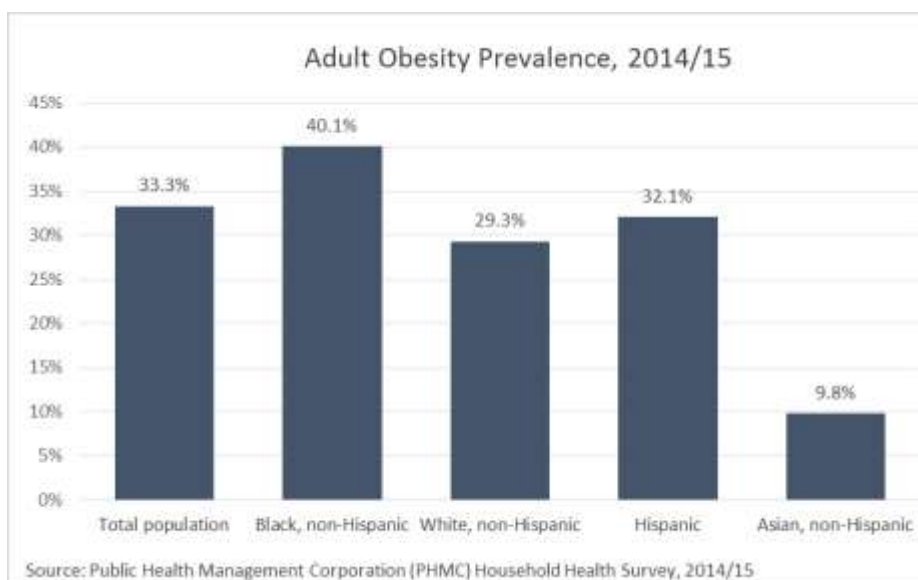
Figure 46 – Adult obesity prevalence, by race/ethnic group (2014/2015)
Source - Philadelphia Department of Public Health, 2017
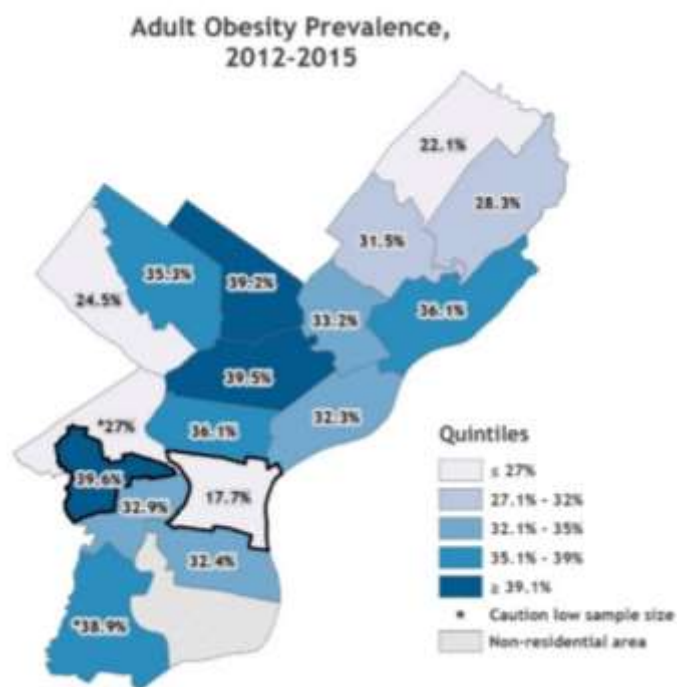
Figure 47 - Adult obesity prevalence, by planning districts (2015)
Source - Philadelphia Department of Public Health, 2017
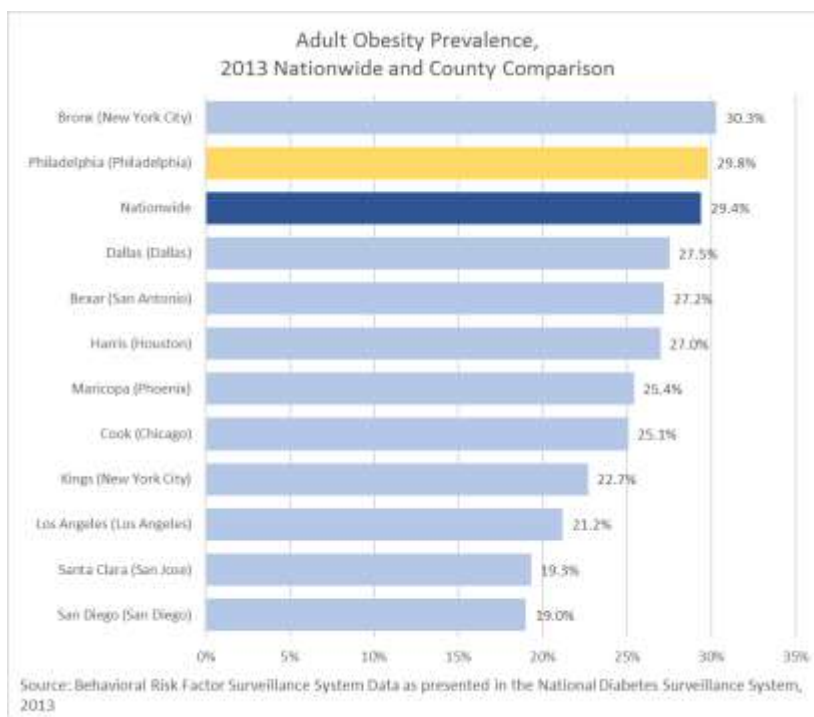
Figure 48 - Adult obesity prevalence, nationwide and county
comparison (2013)
Source - Philadelphia Department of Public Health, 2017

4.1.3.1.3. New Jersey Counties

More than a quarter (26.5%) of adults in New Jersey are obese, increasing from 23.8% in 2011 to 27% in 2016. Camden has the highest percentage of obese adults (32.3%) and Mercer County has the lowest (25.4%).
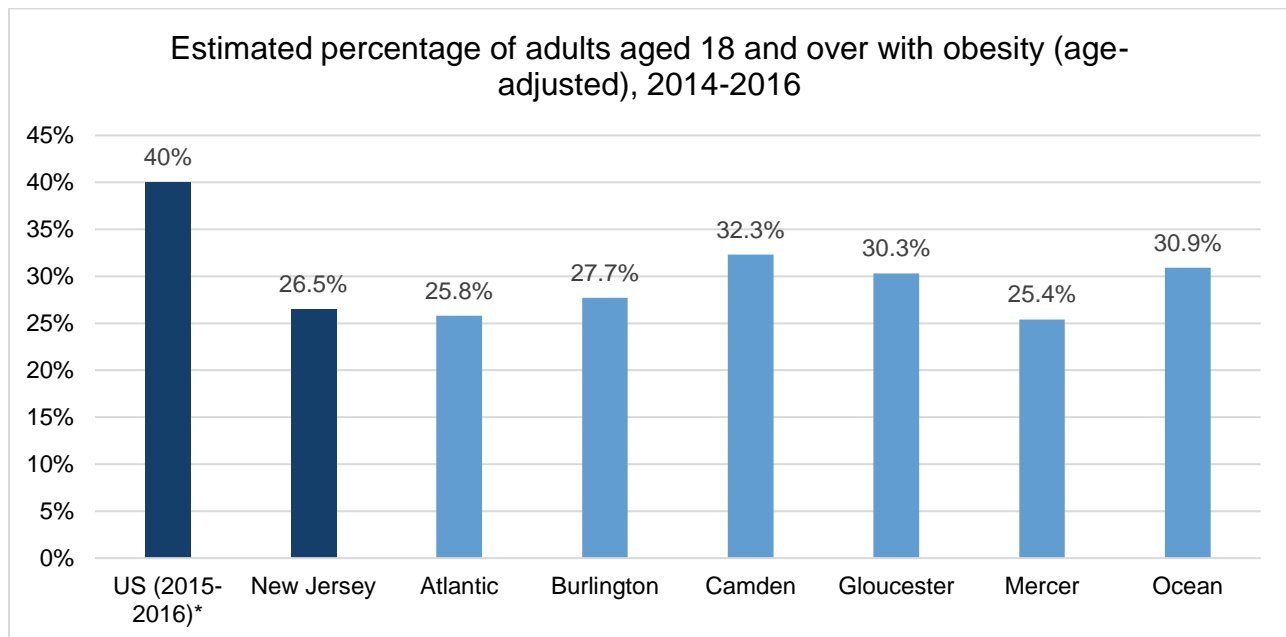
Figure 49 - Estimated percentage of adults aged 18 and over who are obese (age-adjusted), 2014-2016
Source: New Jersey State Health Assessment Data https://www-doh.state.nj.us/doh-shad/ (downloaded on 6/18)
*US data from different year (2015-2016) and source: https://www.cdc.gov/nchs/fastats/obesity-overweight.htm

4.1.3.1.4.   Delaware – New Castle County

According to the 2015 DPHI Delaware Household Health Survey, the majority of adults age 20 years and over in Delaware - 66% are overweight or obese, and 34% of adults who are of normal weight. In New Castle County, 62% of adults are overweight or obese.
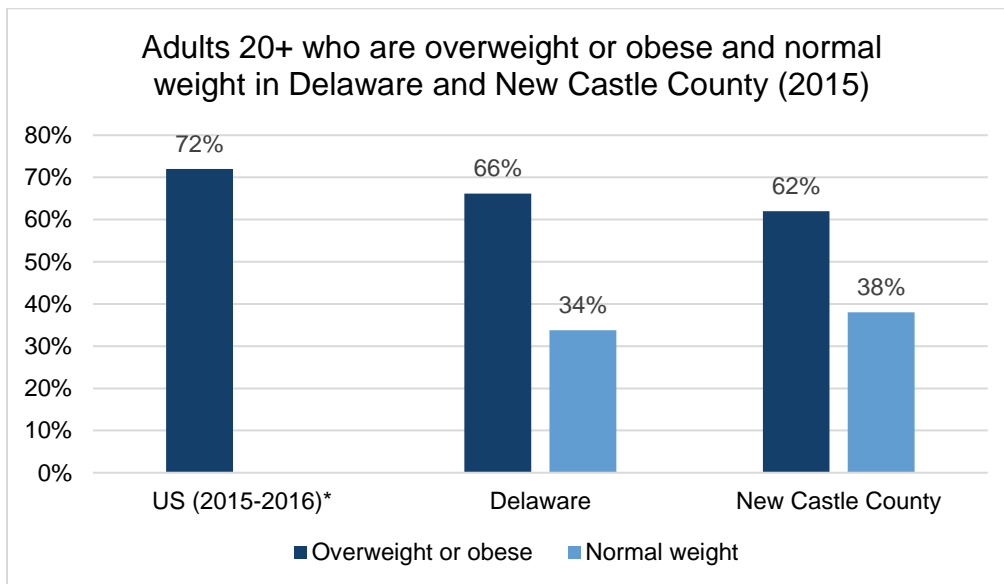
Figure 50 – Percentage of adults 20 years and over who are overweight or obese and normal weight in Delaware and New Castle County (2015)
Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware State Health Needs Assessment, 2017.
*US data from different year (2015-2016) and source: https://www.cdc.gov/nchs/fastats/obesity-overweight.htm

4.1.3.2. Sweetened beverages

Sugar-sweetened beverages (SSB) are any liquids that are sweetened with various forms of sugars, and include "regular soda (not sugar-free), fruit drinks, sports drinks, energy drinks, sweetened waters, and coffee and tea beverages with added sugars."[14]

SSBs are a major contributor of calories and added sugars to the American diet. According to the National Health and Nutrition Examination Survey, 49.3% of US adults consumed at least one SSB on a given day during 2011-2014, and consumed an average 6.5% of their total daily calories from SSB.[15]

The consumption of these beverages is associated with less healthy behaviors, (smoking, sedentary behavior, unhealthy diet, etc.), and varies by age, sex, race/ethnicity, and socioeconomic status.[14] It is more common among males, younger adults, Hispanic and non-Hispanic Blacks, and low-income adults.[15]

4.1.3.2.1. Pennsylvania Counties

In 2016-2017, 17% of high school students in the state of Pennsylvania reported drinking soda or pop one or more times a day. Boys (21%) were more likely than girls (12%) to consume soda.
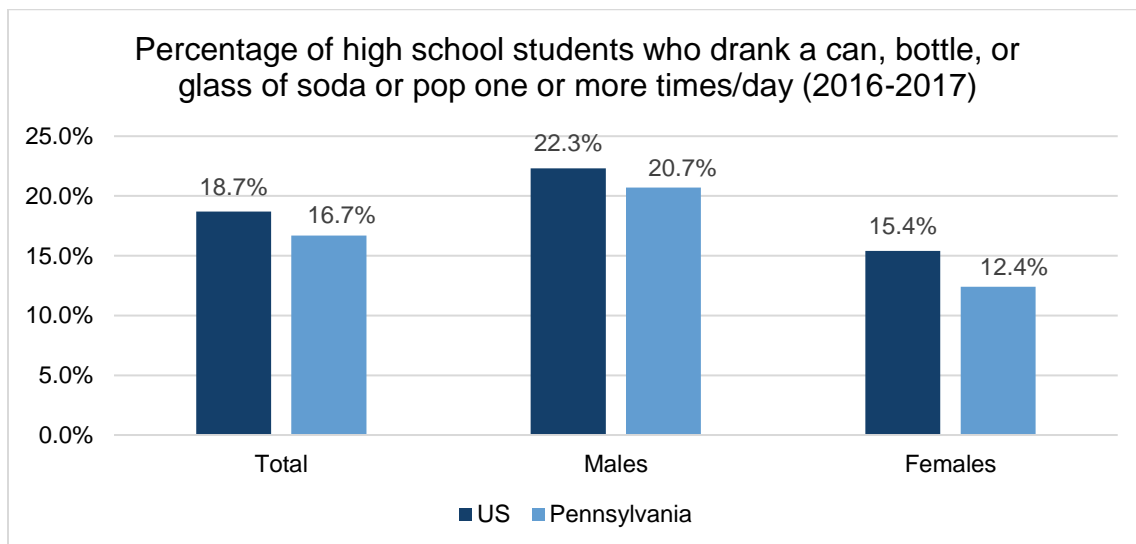
Figure 51 – Percentage of high school students (males and females) who drank a can, bottle, or glass of soda or pop* one or more times per day during the 7 days before the survey, in Pennsylvania (2016-2017)
*Such as Coke, Pepsi, or Sprite (not counting diet soda or diet pop).
Note: No data available on sugar-sweetened beverages consumption by county or for adults.
Source: Youth Risk Behavior Surveys, 2017 https://www.cdc.gov/healthyyouth/data/yrbs/pdf/2017/ss6708.pdf

Philadelphia

Daily consumption of sugary drinks has been decreasing among adults in Philadelphia. In 2015, 31.6% of adults consumed at least one or more sweetened beverage daily, down from more than 36% in 2010. Hispanic (41.3%) and Black non-Hispanic (39.4%) are more likely to consume sweetened beverages daily than other racial/ethnic groups.

The following figures show the percentage of adults who reported drinking soda, sweetened fruit drinks, and/or bottled teas at least once a day for the past 30 days (diet soda/drinks were excluded).
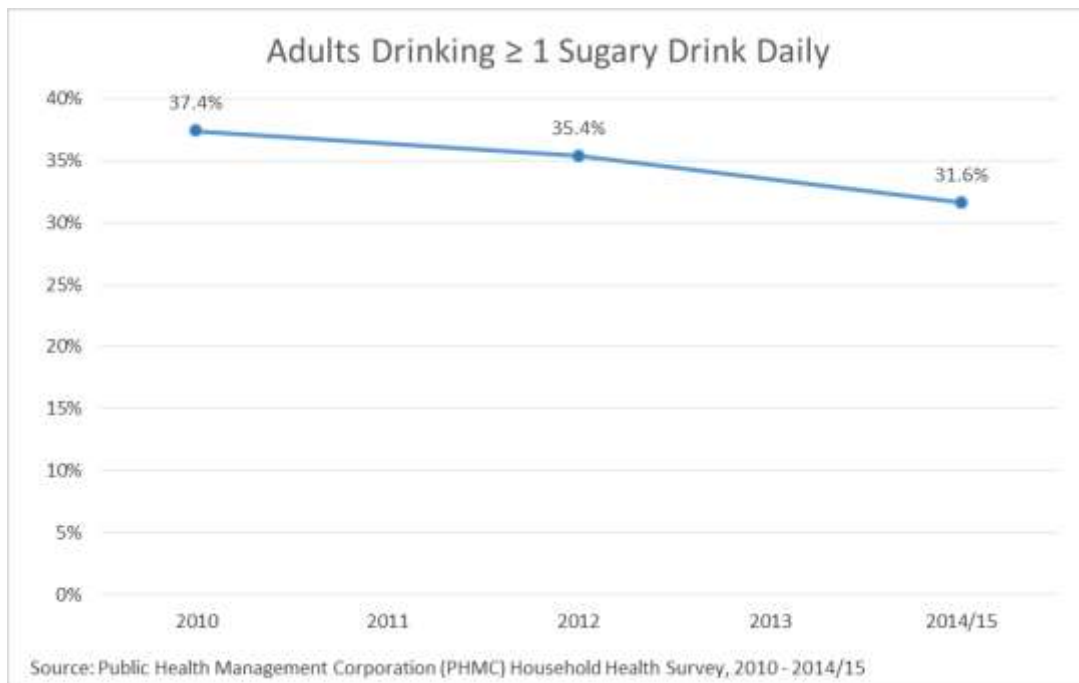
Figure 52 - Percentage of adults drinking one or more sweetened beverage, at least once a day, for the past 30 days (2010-2014/2015)
Source - Philadelphia Department of Public Health, 2017
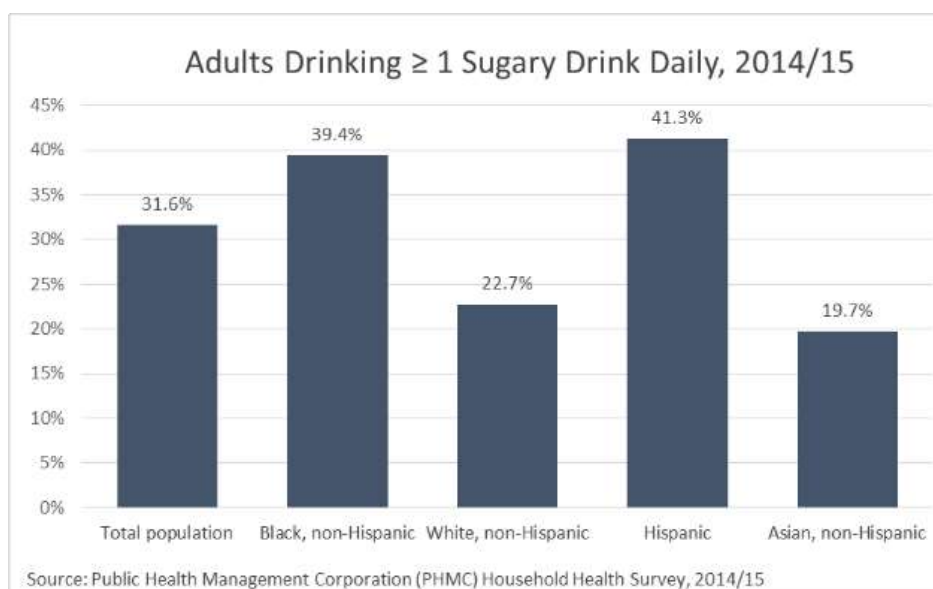
Figure 53 - Percentage of adults drinking one or more sweetened beverage,
at least once a day, for the past 30 days—by race/ethnicity (2014/2015)
Source - Philadelphia Department of Public Health, 2017
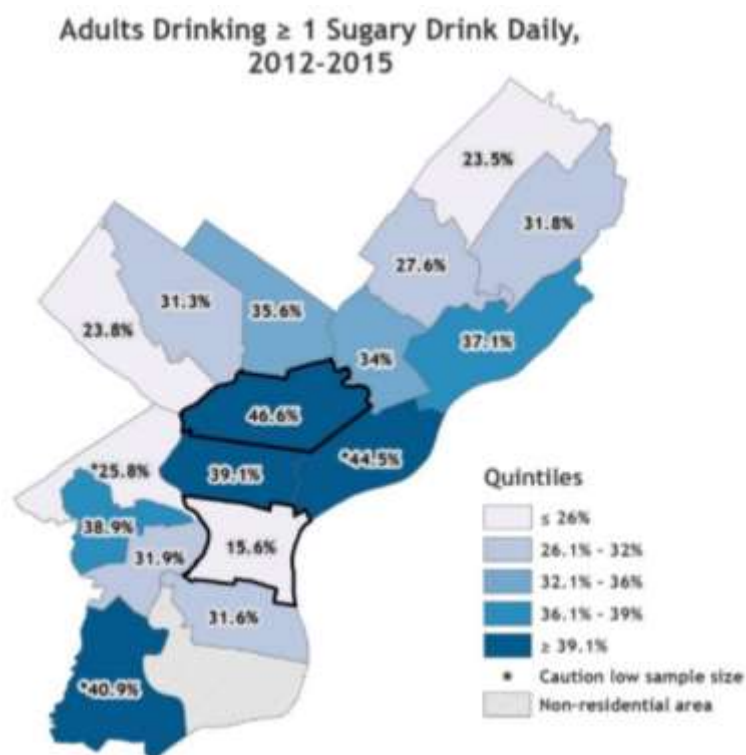
Figure 54 - Percentage of adults drinking one or more sweetened beverage,
at least once a day, for the past 30 days—by planning districts (2012/2015)
Source - Philadelphia Department of Public Health, 2017

4.1.3.2.2. New Jersey Counties

In 2013, 27% of high school students in the US and 12% of high school students in the state of New Jersey reported drinking soda one or more times a day. Soda consumption was higher among male students (14%) and among Hispanics (19%).
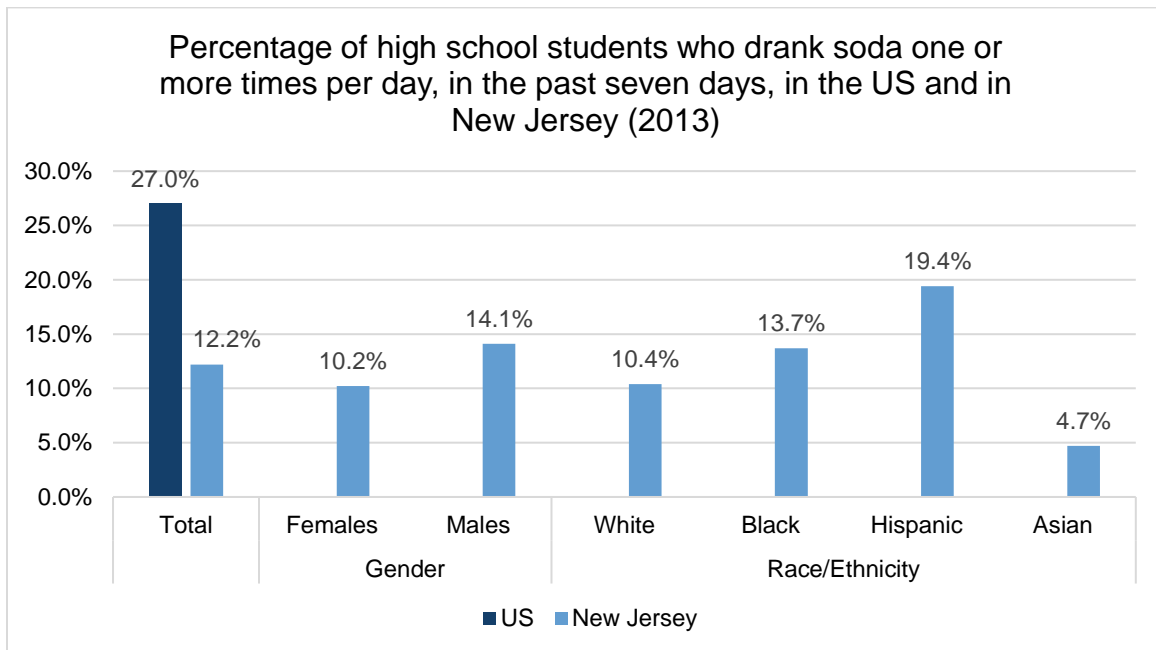
Figure 55 - Percentage of high school students who drank soda (excluding diet/sugar-free), one or more times per day, in the past seven days before the survey—in the US and in New Jersey, by gender and race/ethnicity (2013).

Note: No data available on sugar-sweetened beverages consumption by county or for adults.

Source: https://www-doh.state.nj.us/doh-shad/indicator/view/SodaConsAdo.race.html

4.1.3.2.3. Delaware – New Castle County

According to the Delaware State Health Needs Assessment, the majority of adults in Delaware (58%) and in New Castle County (56%), reported consuming one or more soda or juice drinks per day in 2015.
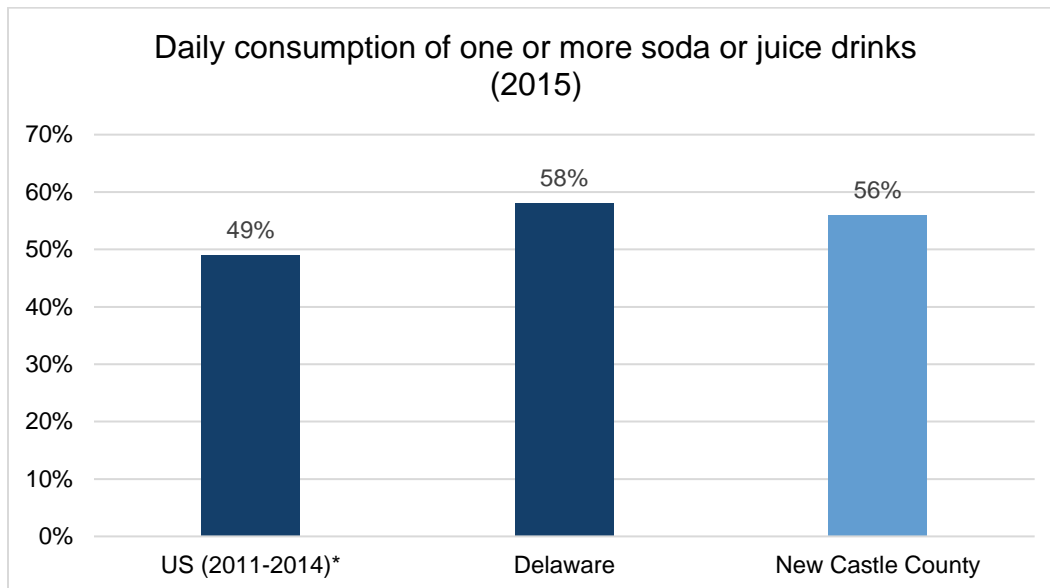
Figure 56 – Percentage of people that reported drinking one or more soda or juice drinks per day, 2015
Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware State Health Needs Assessment, 2017.
*US data from different year (2011-2014) and source: https://www.cdc.gov/nutrition/data-statistics/sugar-sweetened-beverages-intake.html

4.1.3.3. Healthy Food Access and Fruit and Vegetable Consumption

Access to healthy and affordable food is critical to health. An estimated 40 million people living in urban and rural parts of the US, do not have easy access to fresh, affordable, and nutritious food options.[16] This is especially true in low-income communities, where convenience stores and fast-food restaurants are widespread, but major grocery stores with healthy food options are often scarce. This lack of access to healthy food increases the risk for obesity, diabetes, and other preventable food-related health challenges.[17]

Many studies have examined the direct health impacts of access to healthy food on diet and on the risk of obesity or overweight, as measured by fruit and vegetable consumption and body mass index (BMI) respectively. Some research shows that lower produce prices, higher fast-food prices, and better geographic accessibility to multiple grocery stores are associated with increased fruit and vegetable consumption and lower BMI,[17] although these conclusions continue to be debated.

The following table presents Food Environment Index[18] results for the catchment area. The scores range from 0 to 10, with a higher number being better. Two factors are taken into account:

"1) Limited access to healthy foods examines the percentage of the population that is low income and does not live close to a grocery store. Low income is defined as having an annual family income of less than or equal to 200% of the federal poverty threshold for the family size. Living close to a grocery store is defined differently in rural and non-rural areas; in rural areas, it means living less than 10 miles from a grocery store whereas in non-rural areas, it means less than 1 mile.[18]

2) Food insecurity examines the percentage of the population that did not have access to a reliable source of food during the past year. A two-stage fixed effects model was created using information from the Community Population Survey, Bureau of Labor Statistics, and American Community Survey."[18]

In 2016, the average value of the Food Environment Index for the catchment area was quite high overall at 8.2, and county scores fell between 6.9 and 8.9. Philadelphia had the lowest Food Environment Index (6.9) in the Catchment Area, followed by Atlantic County (7.6).[18]

Table 53 – The Food Environment Index, 2016	
Counties	**Total**
Pennsylvania	8.2
Philadelphia	6.9
Bucks	8.9
Chester	8.7
Delaware	8.1
Montgomery	8.7
New Jersey	9.2
Atlantic	7.6
Burlington	8.4
Camden	8.1
Gloucester	8.1
Mercer	8.4
Ocean	8.2
Delaware	8.4
New Castle	8.2

Source: Robert Wood Johnson Foundation - 2019 County Health Rankings
https://www.countyhealthrankings.org/explore-health-rankings

4.1.3.3.1. Pennsylvania Counties

Only 24% of Pennsylvanians consumed at least five servings of fruits and/or vegetables daily (2005-2007), according to the most recent available data. Delaware has the highest percentage of people consuming the recommended amount of fruit or vegetables every day (29%) and in general, White non-Hispanic people consume more fruits and vegetables than other races/ethnicities.

Table 54 - Percentage of adults consuming at least five servings of fruits and/or vegetables every day (2005-2007)			
	Total	**White, non-Hispanic**	**Other (including Hispanic)**
US (2005)*	27%	-	-
Pennsylvania	24%	24%	26%
Philadelphia	26%	26%	25%
Bucks	28%	27%	ND
Chester	27%	27%	24%
Delaware	29%	27%	ND
Montgomery	28%	29%	24%

ND = Not displayed if sample is considered statistically unreliable
Source: https://www.phaim1.health.pa.gov/EDD/WebForms/BRFSSreg.aspx
*US data:
- From different year (2015) and source: https://www.cdc.gov/mmwr/preview/mmwrhtml/mm5610a2.htm
- Percentage of adults consuming vegetables three or more times per day.

Philadelphia

In 2014, 22.4% of Philadelphians living in high-poverty areas had no to low walkable access to healthy foods. Rates were higher in the North, Lower Southwest, and Lower North planning districts.

The percentage of adults reporting that it is "difficult" or "very difficult" to find fruit and vegetables in their neighborhood was 7.9%, with Hispanics (12.4%) and Black non-Hispanics (10.7%) reporting having limited access to healthy foods at higher rates than White non-Hispanics (3.9%) and Asian non-Hispanics (3.0%).
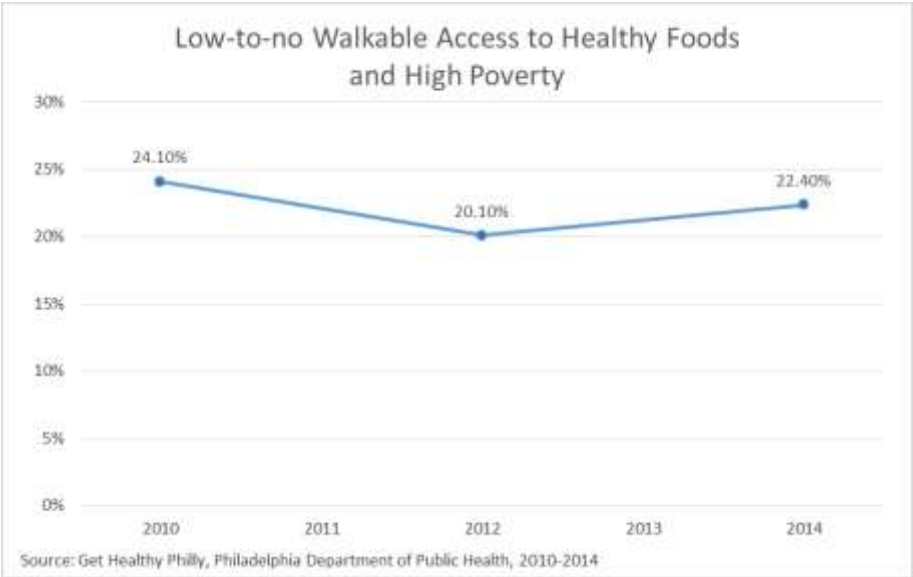
Figure 57 - Percentage of population living in high-poverty areas with low-to-no walkable access to healthy foods (2010-2014)
Source - Philadelphia Department of Public Health, 2017

Figure 58 - Percentage of adults with limited access to healthy foods, by race/ethnicity (2014/2015)
Source - Philadelphia Department of Public Health, 2017

Figure 59 - Low to no walkable access to healthy foods, by planning district (2014)
Source - Philadelphia Department of Public Health, 2017

4.1.3.3.2.   New Jersey Counties

Data from 2016 indicate that 9.4% to 13% of the residents of the six ACC Counties in New Jersey live in food-insecure households. Food insecurity refers to the USDA's measure of lack of access of food for an active, healthy life for all household members and limited or uncertain availability of nutritionally adequate foods.
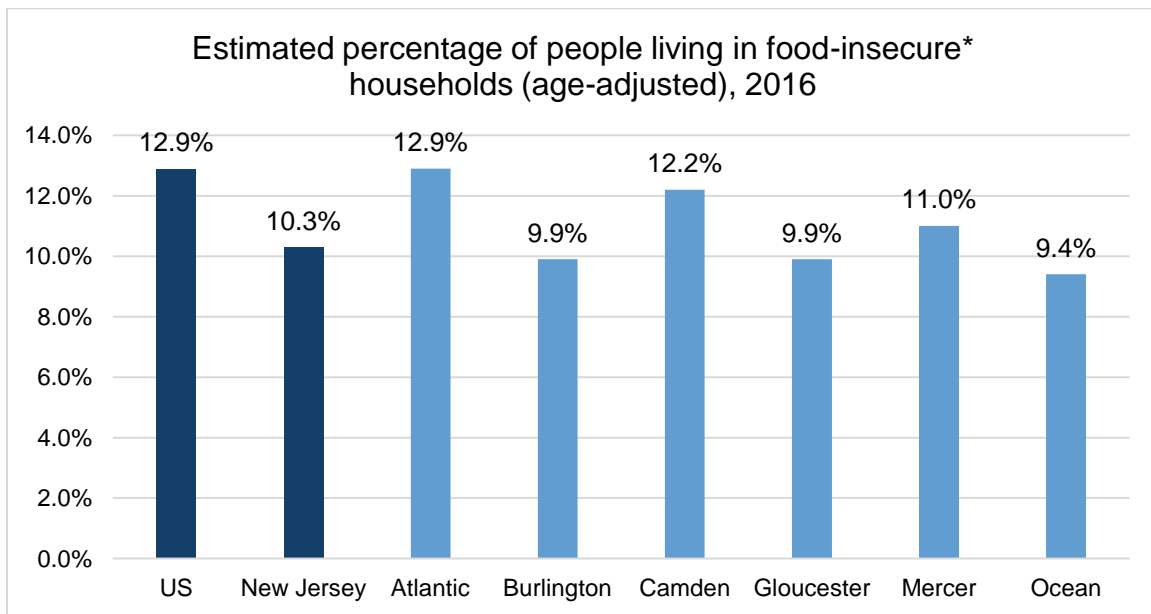
Figure 60 - Estimated percentage of people living in food-insecure* households (age-adjusted), 2016
*Food insecurity refers to the USDA's measure of lack of access, at times, to enough food for an active, healthy life for all household members and limited or uncertain availability of nutritionally adequate foods.
Source: New Jersey State Health Assessment Data https://www-doh.state.nj.us/doh-shad/ (downloaded on 6/21)

4.1.3.3.3. Delaware – New Castle County

According to the US Department of Agriculture's healthy eating guidelines, adults should eat five or more servings of fruits and vegetables daily. However, 83% of Delaware adults and 82% of residents in New Castle County do not meet this goal.

Only about 6% of Delawareans and 7% of New Castle County residents find it difficult or very difficult to get fruits or vegetables in their neighborhoods.

Healthy Food Access and Fruit and Vegetable Consumption, 2015

Location	Adult not eating 5+ servings of fruits and vegetables daily	Adults reporting that it is difficult or very difficult to get fruits or vegetables in their neighborhoods
US*	88%	
Delaware	83%	6%
New Castle	82%	7%

- ■ Adult not eating 5+ servings of fruits and vegetables daily
- ■ Adults reporting that it is difficult or very difficult to get fruits or vegetables in their neighborhoods

Figure 61 – Percentage of adults reporting consumption of five or more servings of fruits and vegetables per day and percentage of adults reporting access to fruits or vegetables in their neighborhoods (2015)
Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware State Health Needs Assessment, 2017.
*US data:
- From different source: https://www.cdc.gov/mmwr/volumes/66/wr/mm6645a1.htm?s_cid=mm6645a1_w
- Percentage of adults who did not meet fruit consumption recommendations.

4.1.4. UV Exposure

Exposure to ultraviolet (UV) radiation, both from the sun and from indoor tanning devices, increases the risk for developing skin cancer.[19,20]

4.1.4.1. Indoor tanning

Indoor tanning involves using artificial light sources (including beds, lamps, booths, bulbs, etc.) to get a tan. These light sources emit UVA and UVB radiation that is similar to, and often stronger than the sun. Indoor tanning is associated with an increased risk of melanoma, basal cell carcinoma, squamous cell carcinoma, and cancers of the eye (ocular melanoma).[19]

Nationwide, 3.5% of adults reported using an indoor tanning device (such as a sunlamp, sunbed, or tanning booth) one or more times during the 12 months before the survey. The prevalence of indoor tanning was higher among females (5.2%), younger adults between the ages of 18 and 29 years (6%), and among Non-Hispanic Whites (3.1%).[20]

Pennsylvania, New Jersey, and Delaware have passed legislation banning minors from using tanning devices, however, not all tanning facilities comply with state regulations. According to a study evaluating 427 tanning facilities in 42 states, 90% of the facilities in Delaware and 70% in Pennsylvania and New Jersey complied with state regulations. The table below illustrates each state's legislation and the percentage of compliant tanning facilities.[20]

Table 55 – Prevalence of indoor tanning* among adults in the US (2015)		
Total		**3.5%**
Sex	**Male**	1.6%
	Female	5.2%
Age groups	**18-29**	6.0%
	30-39	4.4%
	40-49	3.8%
	50+	1.8%
Race/Ethnicity	**Non-Hispanic White**	3.1%
	Black	0.2%**
	Hispanic	1.2%
	Other	0.8%

*Indoor tanning defined as using an indoor tanning device (such as a sunlamp, sunbed, or tanning booth) one or more times during the 12 months before the survey. It does not include getting a spray-on tan. Estimates are based on weighted data. Sample sizes are unweighted and may not add to the total because of missing data. Percentages are based on weighted population estimates.
**Estimates based on fewer than 30 observations or with a relative standard error >.30 are considered unreliable by the standards of the National Center for Health Statistics.
Note: Data not available by state or county.
Source: Skin Cancer Prevention Progress Report 2018:
https://www.cdc.gov/cancer/skin/pdf/SkinCancerPreventionProgressReport-2018-508.pdf

Table 56 – Indoor tanning state legislation and legislation compliance		
States	**State legislation**	**% Compliant with state legislation**
Pennsylvania	- Law prohibits minors under the age of 16 from indoor tanning. - Guardian must consent indoor tanning under the age of 18.	70%
New Jersey	- Law prohibits minors under the age of 17 from indoor tanning. - Guardian must accompany minors under the age of 18.	70%
Delaware	- Law prohibits minors under the age of 18 from indoor tanning.	90%

4.1.4.2. History of Sunburn

Sunburn is an indicator of inadequate sun protection, combined with a person's sun sensitivity, and is a good measure of the UVR dose received. A history of sunburns has been associated with an increased risk in the development of melanoma and basal cell carcinoma.[19]

In 2015, 35% of American adults reported having had at least one sunburn in the 12 months prior to the survey. The prevalence of sunburn was slightly higher among males (35.5%) than females (35.2%); was higher among younger adults between the ages of 18 and 24 years (46%); and higher among Non-Hispanic Whites (46.3%), followed by Hispanics (22.4%).[20]

Table 57 - Percentage of adults aged 18 years and older who were sunburned in the past year, in the U.S. (2015)		
Total		**35.3%**
Sex	**Male**	35.5%
	Female	35.2%
Age groups	**18-24**	46.0%
	25+	33.7%
Race/Ethnicity	**Non-Hispanic White**	46.3%
	Non-Hispanic Black	9.9%
	Hispanic	22.4%
Education Level	**Less than High School**	19.7%
	High School	30.8%
	Greater than High School	37.2%

Source: NIH, Cancer Trends Progress Report, Sunburn. Retrieved from: https://progressreport.cancer.gov/prevention/sunburn
Note: data not available by County

New Jersey Counties

In 2015, 18% of New Jersey's adult residents reported having a sunburn at least once in the past year. Sunburns were more commonly reported by younger adults, aged 18 to 34 years of age (28%), and among Whites (27%), when compared to other age groups and other races/ethnicity.
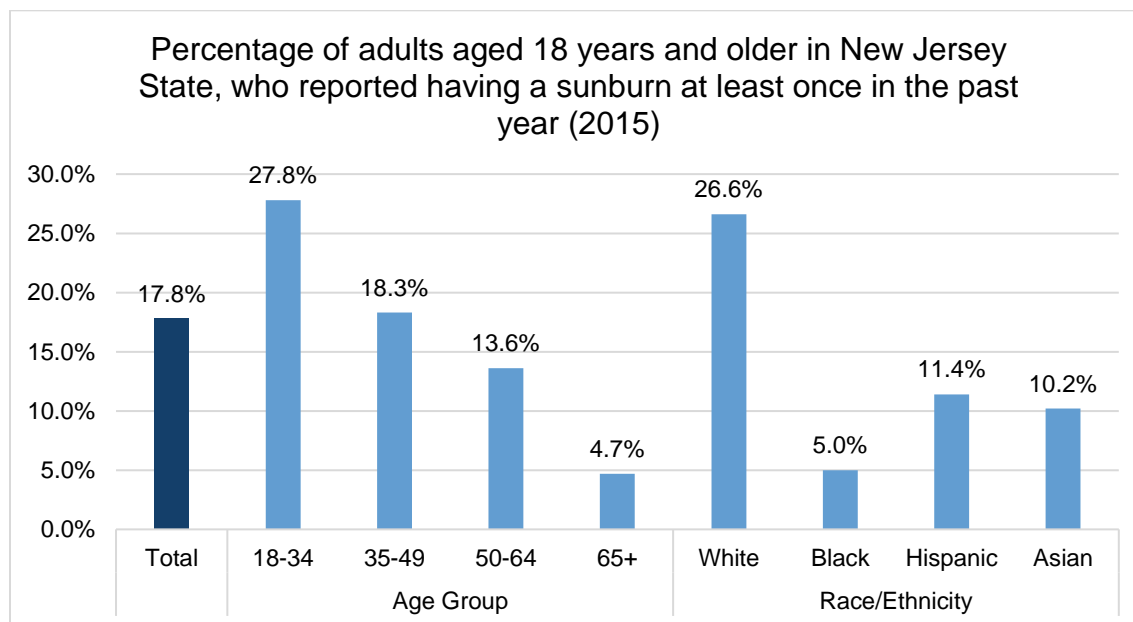
Figure 62 – Percentage of adults aged 18 years and older in New Jersey State, who reported having a sunburn at least once in the past year, by age group and race/ethnicity (2015)
Source: https://www-doh.state.nj.us/doh-shad/indicator/view/Sunburn.Year.html

4.1.5. Physical activity

Physical activity is essential to improve overall health and maintain a healthy lifestyle.[21] Evidence is clear that physical activity can help maintain a healthy weight, reduce the risk of various chronic diseases, and can make people feel better, function better, and sleep better. According to the 2018 Physical Activity Guidelines for Americans, nearly 80% of adults are not meeting the key guidelines for both aerobic and muscle-strengthening activity.[21] This lack of physical activity is linked to approximately $117 billion in annual health care costs and about 10% of premature mortality.[21]

Meeting the aerobic component of the Physical Activity Guidelines for Americans is defined as reporting at least 150 minutes of moderate-intensity or 75 minutes of vigorous-intensity aerobic physical activity a week, or an equivalent combination. Meeting the muscle-strengthening component is defined as reporting muscle-strengthening activities at least 2 days per week.[21]

4.1.5.1. ACC Catchment Area

Data from the BRFSS indicate that in both the catchment area and in Philadelphia County alone, 42% of people do not meet the aerobic recommendations outlined above. Twenty-three percent of adults in the catchment area and 24% of adults in Philadelphia reported no physical activity in a week.

Table 58 – Percentage of people who meet and do not meet the aerobic physical activity recommendations (2017)			
	Entire Catchment Area	Philadelphia	Outside Philadelphia
Meet Aerobic Recommendations	47.6%	44.8%	49.4%
Did not meet Aerobic Recommendations	42.3%	42.1%	42.4%
Missing	10.1%	13.1%	8.2%

Notes:
- P = 0.0002
- Information received on November 6th 2019
- ACC catchment area includes the following metropolitan and micropolitan statistical areas (MMSA): (1) Camden, NJ, Metropolitan Division; (2) Montgomery County-Bucks County-Chester County, PA, Metropolitan Division; (3) Philadelphia, PA, Metropolitan Division; and (4) Wilmington, DE-MD-NJ, Metropolitan Division.
Source: Behavioral Risk Factor Surveillance System (https://www.cdc.gov/brfss/smart/smart_2017.html)

Table 59 - Percentage of people who are and are not physically active (2017)			
	Entire Catchment Area	Philadelphia	Outside Philadelphia
150+ mins physical activity per week	47.6%	44.8%	49.4%
1-149 mins physical activity per week	19.7%	17.7%	20.9%
0 mins physical activity per week	22.6%	24.3%	21.5%
Missing	10.1%	13.1%	8.2%

Notes:
- P < 0.0001
- Information received on November 6th 2019
- ACC catchment area includes the following metropolitan and micropolitan statistical areas (MMSA): (1) Camden, NJ, Metropolitan Division; (2) Montgomery County-Bucks County-Chester County, PA, Metropolitan Division; (3) Philadelphia, PA, Metropolitan Division; and (4) Wilmington, DE-MD-NJ, Metropolitan Division.
Source: Behavioral Risk Factor Surveillance System (https://www.cdc.gov/brfss/smart/smart_2017.html)

4.1.5.2. Pennsylvania Counties

In 2016-2018, 24% of Pennsylvanians reported not engaging in any kind of physical activity in the past month. The highest percentage of inactive people were found in Philadelphia (26%) and among African Americans, Asians, and Hispanics (except for Bucks County, where White non-Hispanics were more inactive).
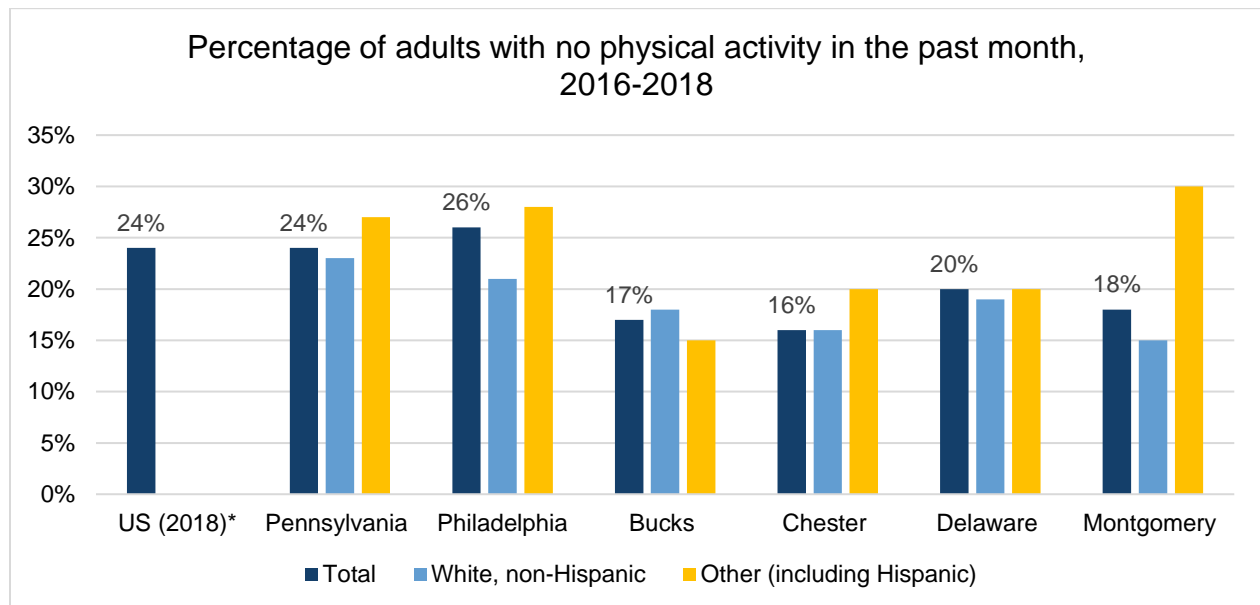
Figure 63 - Percentage of adults with no physical activity in the past month, by race/ethnicity (2016-2018)
Source: https://www.phaim1.health.pa.gov/EDD/WebForms/BRFSSregChrt.aspx
*US data from different year (2018) and source:
https://nccd.cdc.gov/dnpao_dtm/rdPage.aspx?rdReport=DNPAO_DTM.ExploreByTopic&islClass=PA&islTopic=PA1&go=GO

4.1.5.3. New Jersey Counties

In New Jersey (2011-2015), more than half of the population meet the aerobic physical activity recommendations in all ACC counties, except for Camden (48.4%).
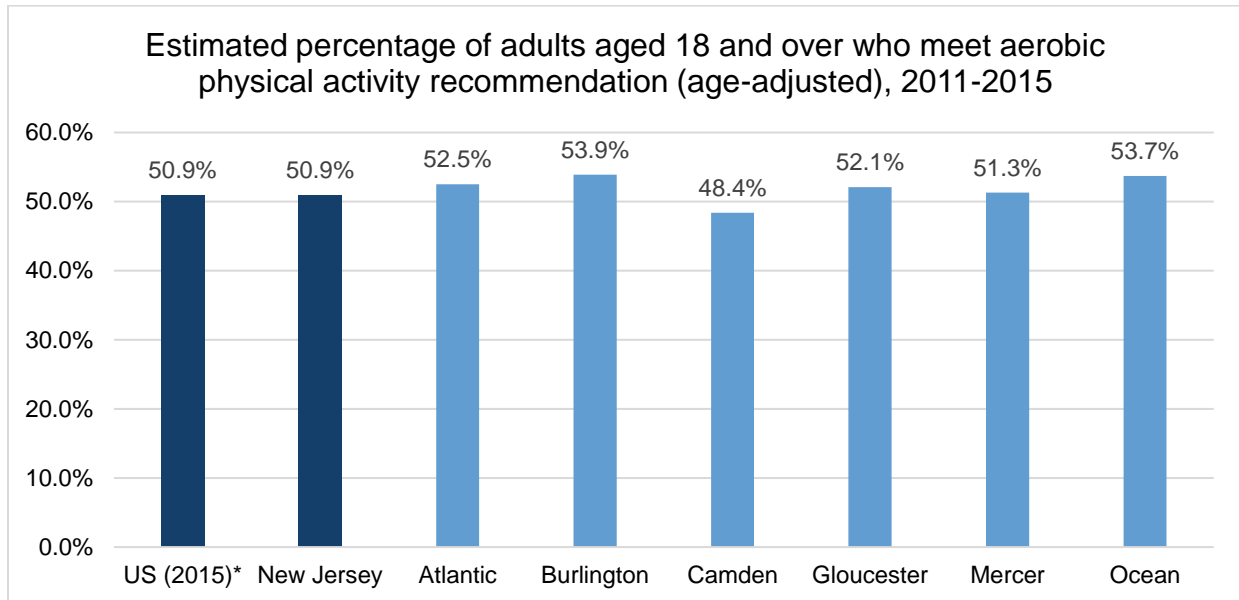
Figure 64 - Estimated percentage of adults aged 18 and over who meet aerobic physical activity recommendation (age-adjusted), 2011-2015
Source: New Jersey State Health Assessment Data https://www-doh.state.nj.us/doh-shad/ (downloaded on 6/18)
*US data from different year (2015) and source:
https://nccd.cdc.gov/dnpao_dtm/rdPage.aspx?rdReport=DNPAO_DTM.ExploreByTopic&islClass=PA&islTopic=PA1&go=GO

4.1.5.4. Delaware – New Castle County

The US Department of Health and Human Services' 2008 Physical Activity Guidelines for Americans recommends that adults (ages 18-64) get 2.5 hours of moderate aerobic physical activity each week. In Delaware, 41% of adults exercise less than the recommended three days per week and in New Castle County, this rate is lower (38%).
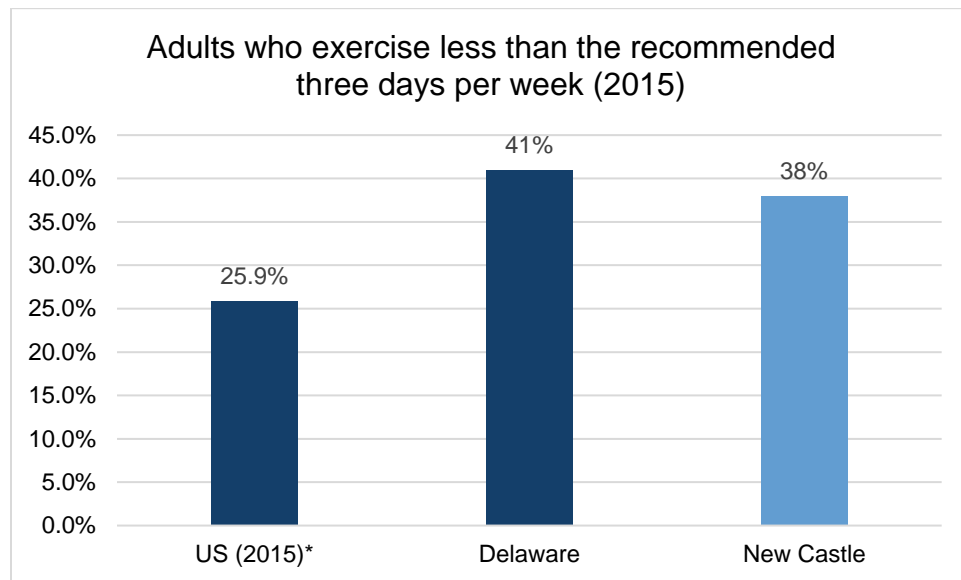
Figure 65 – Percentage of adults who exercise less than the recommended three days per week (2015) Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware State Health Needs Assessment, 2017.

*US data:

- Percentage of adults who engage in no leisure-time physical activity (2015)

- Source: https://nccd.cdc.gov/dnpao_dtm/rdPage.aspx?rdReport=DNPAO_DTM.ExploreByTopic&islClass=PA&islTopic=PA1&go=GO

4.2. Environmental risk factors and high-risk locations

Cancer develops when changes, or mutations, in a cell's DNA cause the cell to grow out of control. Sometimes, the mutations are caused by chemicals and other toxic substances in the environment, classified as carcinogens due to their cancer-causing potential.[22] While such chemicals are toxic, they do not always cause cancer. The risk for developing cancer depends on several factors, including the amount and duration of the exposure, the individual's genetic background, age, diet, lifestyle and overall health.[22]

The substances listed below are among the most likely carcinogens to affect human health, according to the National Toxicology Program's 14th Report on Carcinogens.[22]

Table 60 – Human Carcinogens	
- Aflatoxins - Aristolochic Acids - Arsenic - Asbestos - Benzene - Benzidine - Beryllium 1,3-Butadiene - Cadmium - Coal Tar and Coal-Tar Pitch - Coke-Oven Emissions - Crystalline Silica (respirable size) - Erionite - Ethylene Oxide - Formaldehyde	- Hexavalent Chromium Compounds - Indoor Emissions from the Household Combustion of Coal - Mineral Oils: Untreated and Mildly Treated - Nickel Compounds - Radon - Secondhand Tobacco Smoke - Soot - Strong Inorganic Acid Mists Containing Sulfuric Acid - Thorium - Trichloroethylene - Vinyl Chloride - Wood Dust

Source: https://www.cancer.gov/about-cancer/causes-prevention/risk/substances

4.2.1. Asbestos

Asbestos has been mined and used commercially in the US since the late 1800s. In 1973, domestic consumption of asbestos amounted to about 803,000 metric tons, but dropped to about 360 metric tons by 2015. Despite this significant reduction in the use of asbestos, the number of annual deaths held steady for more than a decade, because asbestos-related diseases may take decades to develop after exposure.[23]

Asbestos can be found nationwide, especially in building and construction industries. It is used in strengthening cement and plastics; to insulate steam pipes; on walls and ceilings for fire protection and soundproofing; in roofing; and inside floor and ceiling tiles.[23]

Asbestos is not dangerous if products are kept in good condition, but after years of wear and tear, the fibers can break off and be released into the air. Inhaled over time, the fibers can cause asbestosis, a debilitating lung disease, and mesothelioma, a rare and aggressive cancer that develops in the lining of the lungs, abdomen, or heart. Asbestos has also been linked to cancers of the esophagus, larynx, stomach, kidney, colon, rectum, and ovaries.[23]

The catchment area is considered to be a high-risk location for asbestos exposure. Some counties are home to chemical and plastic industries, construction companies, power plants, oil refineries, shipyards, and dry docks. The US Geological Survey (USGS) identified at least 41 asbestos mines and natural deposits in Pennsylvania, 38 in New Jersey, and 1 in New Castle County, Delaware. In addition to this, well over 1,000 worksites where asbestos products were used and where asbestos exposure is likely to have occurred were also catalogued in these counties.[24]

These facts are supported by the numbers of reported asbestos-related deaths in the 12 counties. When analyzing these rates, all ACC catchment area counties (except for Mercer County, NJ) report higher death rates than the national rates, for asbestos-related diseases such as asbestosis, mesothelioma, and other lung cancers. The highest mortality rates for the 1999-2013 period were observed in Gloucester County, NJ at 14.5 deaths per 100,000; Delaware County at 12.9 deaths per 100,000; and Camden County, PA at 12.1 deaths per 100,000—over twice the 4.9 deaths per 100,000 recorded for the US.[25]

Pennsylvania ranks third among all 50 states for the most asbestos-related deaths during the 14 year period with an estimated 14,216 deaths. More than 25% of Pennsylvania's estimated deaths come from three counties in the ACC catchment area: Montgomery, Delaware, and Philadelphia Counties.[25]

Table 61 - Asbestos-Related Deaths* (1999-2013)		
	Estimated Number of Deaths	**Death Rate per 100,000 People**
US	-	4.9
Pennsylvania	14,216	7.5
Philadelphia	1,345	5.9
Bucks	747	8
Chester	439	6.1
Delaware	1,078	12.9
Montgomery	1,272	10.8
New Jersey	9,395	7.2
Atlantic	272	6.7
Burlington	634	9.5
Camden	934	12.1
Gloucester	601	14.5
Mercer	252	4.6
Ocean	962	11.5
Delaware	981	7.6
New Castle	597	7.5

* Deaths with contributing causes of asbestosis, mesothelioma, and non-mesothelioma lung cancers
Source: EWG Action Fund, Asbestos Nation http://www.asbestosnation.org/facts/asbestos-deaths/
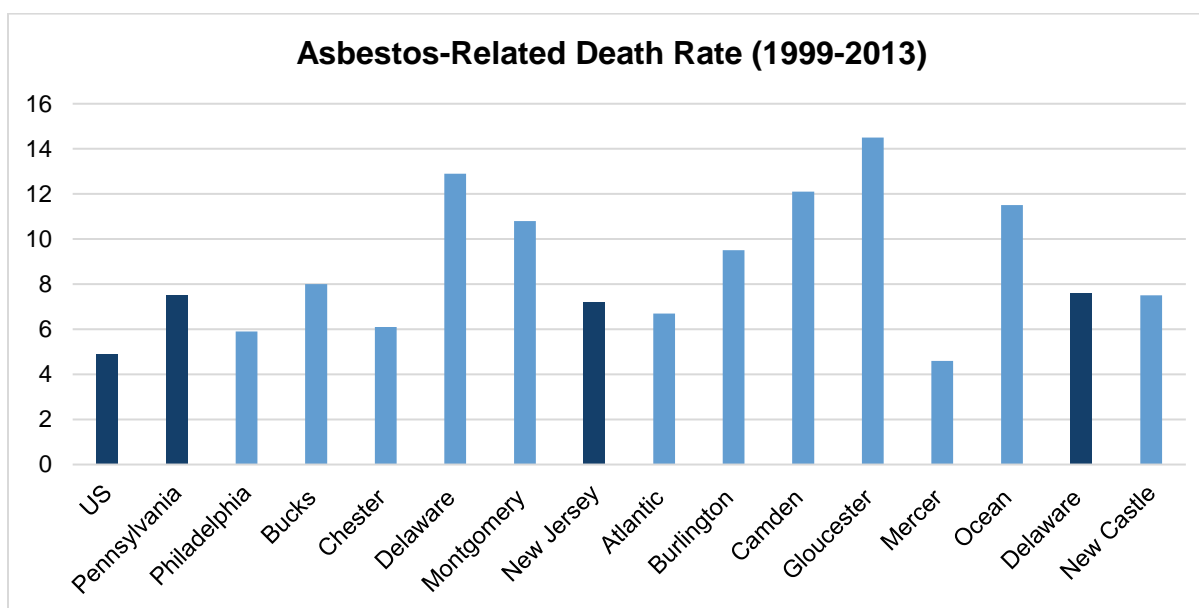
Figure 66 – Asbestos-related death rate per 100,000 population (1999-2013)
* Deaths with contributing causes of asbestosis, mesothelioma, and non-mesothelioma lung cancers
Source: EWG Action Fund, Asbestos Nation http://www.asbestosnation.org/facts/asbestos-deaths/

Philadelphia

In Philadelphia, asbestos remains a great public health problem. In a study conducted by Philadelphia Media Network and an analysis conducted by the International Asbestos Testing Laboratories, dust samples were collected to test for asbestos on 84 surfaces inside 11 Philadelphia district schools. Nine of the schools had elevated asbestos fiber counts in student-accessible areas. Half of the samples were above 5,000 fibers per square centimeter, a level the U.S. Environmental Protection Agency has previously used as a threshold for an area to qualify for federal clean-up.[26]

The School District of Philadelphia conducted a full inspection in the 2015-16 school year and found that more than 80% of the schools had damaged asbestos. In all, gouged, cracked, or loose asbestos was found in 2,252 locations. These location are marked in red in the figure below.[26]

SOURCE: Analysis of School District of Philadelphia Asbestos Hazard Emergency Response Act (AHERA) reports and environmental maintenance data.

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Figure 67 - Damaged asbestos locations in district-run schools based on inspections from the 2015-16 school year and from more recent reports.
Source: Analysis of School District of Philadelphia Asbestos Hazard Emergency Response Act (AHERA) reports and environmental maintenance data.

4.2.2. Air Quality

The International Agency for Research on Cancer (IARC) has classified outdoor air pollution as a cancer-causing agent. In its evaluation, the IARC concluded that high or prolonged levels of outdoor air pollution are associated with lung cancer, linked to an increased risk for bladder cancer, and increases morbidity and mortality from respiratory and heart diseases.[27]

Air quality is summarized by the Air Quality Index (AQI)—an indicator of overall air quality, which combines information about major air pollutants: Carbon monoxide, nitrogen dioxide, ozone at ground level, sulfur dioxide, and atmospheric particulate matter. The table below presents the Air Quality Index values and levels of concern. When the AQI is below 50, air quality conditions are considered good, and when it is above 100 the air is considered unhealthy.[28]

Table 62 - Air Quality Index (AQI)	
AQI Values	**Levels of Health Concern**
When the AQI is in this range:	*..air quality conditions are:*
0-50	Good
51-100	Moderate
101-150	Unhealthy for Sensitive Groups
151-200	Unhealthy
201-300	Very Unhealthy
301-500	Hazardous

Source: https://www.epa.gov/outdoor-air-quality-data/about-air-data-reports#aqi

ACC Catchment Area

The following table shows the total number of good, moderate, unhealthy and very unhealthy days in 2018 in the 12 ACC counties. Philadelphia and Bucks Counties presented the highest number of unhealthy days in 2018 (10 and 12 days respectively), and Atlantic County presented the highest number of good days (327 in 365 days).

Table 63 – Air Quality Index (AQI) for the 12 ACC Counties							
		Number of days with AQI*	Number of Good days	Number of Moderate days	Number of Unhealthy days for Sensitive Groups	Number of Unhealthy days	Number of Very Unhealthy days
PA	Philadelphia	365	217	138	9	1	0
	Bucks	333	288	33	9	3	0
	Chester	359	270	88	1	0	0
	Delaware	365	193	166	6	0	0
	Montgomery	352	284	61	7	0	0
NJ	Atlantic	365	327	37	1	0	0
	Burlington**	-	-	-	-	-	-
	Camden	365	237	123	5	0	0
	Gloucester	276	223	46	7	0	0
	Mercer	365	283	75	6	1	0
	Ocean	349	296	45	8	0	0
DE	New Castle	365	260	99	6	0	0

*Number of days in the year having an Air Quality Index value. This is the number of days on which measurements from any monitoring site in the county or MSA were reported to the AQS database.
**Data not available for Burlington
Source: https://www.epa.gov/outdoor-air-quality-data/air-quality-index-report

Philadelphia

In Philadelphia, the number of days with unhealthy air quality has been declining since 2002, while days with good air quality have been increasing over the years.
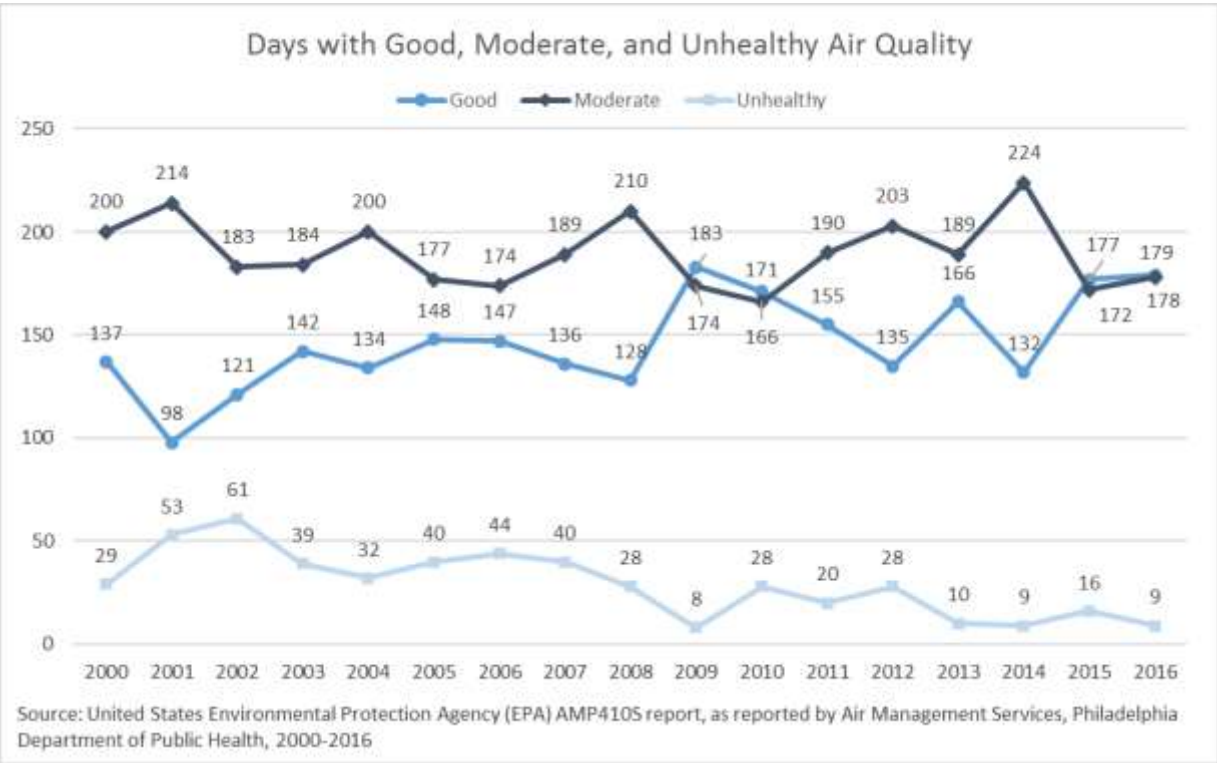
Figure 68 - Count of days that are Good, Moderate, and Unhealthy based on the Air Quality Index (AQI) – 2000-2016
Source – Philadelphia health of the city report 2017.

5. Social and Economic Characteristics of the Catchment Area

5.1. Income and social status

Poverty is associated with many health problems. Due to limited financial resources, the poor are subjected to environmental risks due to unavailability of suitable housing, may be undernourished, and more likely to lack appropriate access of health insurance and healthcare. As a result, they consistently have a higher incidence of numerous illnesses, including cancer.[29]

According the American Cancer Society, poverty remains one of the most potent carcinogens. People in lower socioeconomic status (SES) groups have higher cancer incidence and death rates than those with higher SES backgrounds, regardless of their race or ethnicity[1]. In addition, the poor and medically underserved are less likely to have recommended cancer screening tests and are more likely to be diagnosed with late-stage cancer than those who are medically well served.[29]

According to the National Cancer Institute (NCI), the high cancer burden in the poor may also reflect different rates of behavioral risk factors for cancer, such as higher rates of smoking, physical inactivity, obesity, and alcohol intake, as well as higher rates of exposure to environmental risk factors.[29]

In the catchment area, Philadelphia has the highest proportion of people living below poverty level (25.7%) and has higher poverty rates than the other ACC catchment area counties, other states, and the US. The lowest percentages of people below the poverty level (less than 7%) are in Bucks, Chester, Montgomery, Burlington, and Gloucester Counties.

When looking at these rates by race and ethnicity, Hispanic and Black non-Hispanic populations have the highest rates of people living below poverty level.

	Total	White (non-Hispanic)	Black (non-Hispanic)	Asian (non-Hispanic)	Hispanic
Table 64 – Estimated percentage of people below poverty level (2017), by race and ethnicity					
US	13.4%	11.1%	23.0%	11.1%	19.4%
Pennsylvania	12.5%	10.1%	24.8%	13.3%	28.7%
Philadelphia	25.7%	23.5%	27.1%	23.6%	38.2%
Bucks	6.1%	5.5%	11.0%	7.7%	17.8%
Chester	6.4%	5.7%	14.4%	3.9%	15.3%
Delaware	9.7%	5.9%	19.9%	7.7%	17.6%
Montgomery	5.7%	5.1%	10.6%	6.2%	17.2%
New Jersey	10.0%	7.8%	18.1%	6.6%	17.4%
Atlantic	14.8%	8.1%	26.2%	19.9%	29.9%
Burlington	6.3%	4.7%	12.2%	5.8%	10.0%
Camden	11.5%	7.5%	18.1%	7.8%	25.7%
Gloucester	6.2%	3.7%	17.4%	N	19.9%
Mercer	11.7%	8.3%	22.4%	4.2%	21.8%
Ocean	10.4%	10.3%	12.3%	6.5%	10.2%
Delaware	13.6%	10.7%	20.8%	11.9%	21.6%
New Castle	14.1%	10.6%	22.8%	11.7%	22.0%

N - indicates that data for this geographic area cannot be displayed because the number of sample cases is too small.

Source: US Census (*https://www.census.gov/acs/www/data/data-tables-and-tools/*), downloaded on 6/11
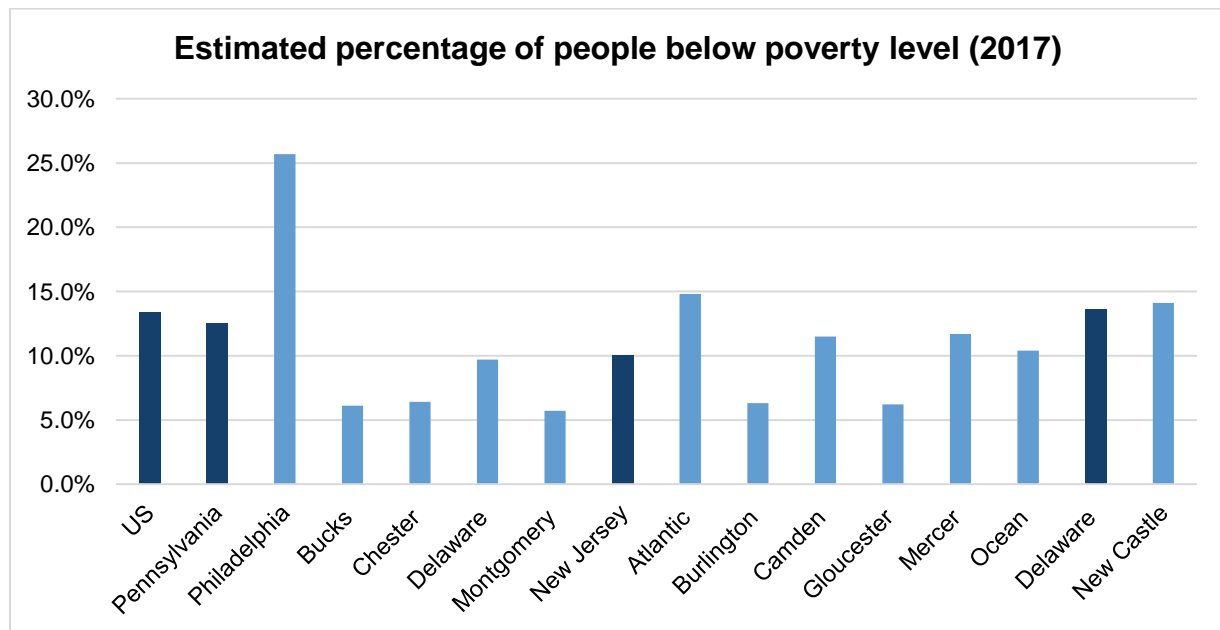
Figure 69 - Estimated percentage of people below poverty level (2017)
Source: US Census (*https://www.census.gov/acs/www/data/data-tables-and-tools/*), downloaded on 6/11

5.2. Employment

Unemployed individuals have fewer financial resources to meet their basic needs, including access to healthcare and health insurance. Moreover, psychological issues and stress caused by unemployment may cause individuals to engage in behaviors that are risk factors for diseases, injuries, and death.[30]

In the ACC catchment area, the counties that have the highest percentage of people (16 years of age and older) unemployed are Philadelphia with 9.1% and Atlantic County with 8.5%. African Americans have the highest rates of unemployment in almost every county and state, except for Bucks and Montgomery counties and New Jersey State, where the highest rates are among Hispanics.

Table 65 – Estimated percentage of people, 16 years or older, who are unemployed (2017), by race/ethnicity					
	Total	**White (non-Hispanic)**	**Black (non-Hispanic)**	**Asian (non-Hispanic)**	**Hispanic**
US	5.3%	4.5%	9.5%	4.2%	6.0%
Pennsylvania	5.3%	4.4%	10.6%	5.3%	9.3%
Philadelphia	9.1%	6.7%	11.6%	7.8%	11.0%
Bucks	3.7%	3.6%	4.2%	5.4%	6.6%
Chester	4.3%	3.5%	15.1%	5.0%	5.6%
Delaware	5.1%	4.2%	8.0%	3.5%	6.3%
Montgomery	3.9%	3.4%	6.0%	6.0%	7.5%
New Jersey	5.2%	5.3%	N	1.7%	6.6%
Atlantic	8.5%	6.9%	14.7%	5.1%	9.2%
Burlington	5.1%	4.2%	8.2%	4.8%	8.6%
Camden	6.4%	4.9%	12.1%	6.6%	8.2%
Gloucester	5.9%	4.7%	14.7%	N	8.5%
Mercer	5.6%	4.7%	8.4%	5.5%	6.0%
Ocean	5.3%	4.6%	9.6%	4.0%	5.3%
Delaware	5.3%	4.7%	7.8%	2.2%	6.5%
New Castle	5.9%	4.8%	10.1%	2.2%	5.3%

N - indicates that data for this geographic area cannot be displayed because the number of sample cases is too small.
Source: US Census (*https://www.census.gov/acs/www/data/data-tables-and-tools/*), downloaded on 6/11
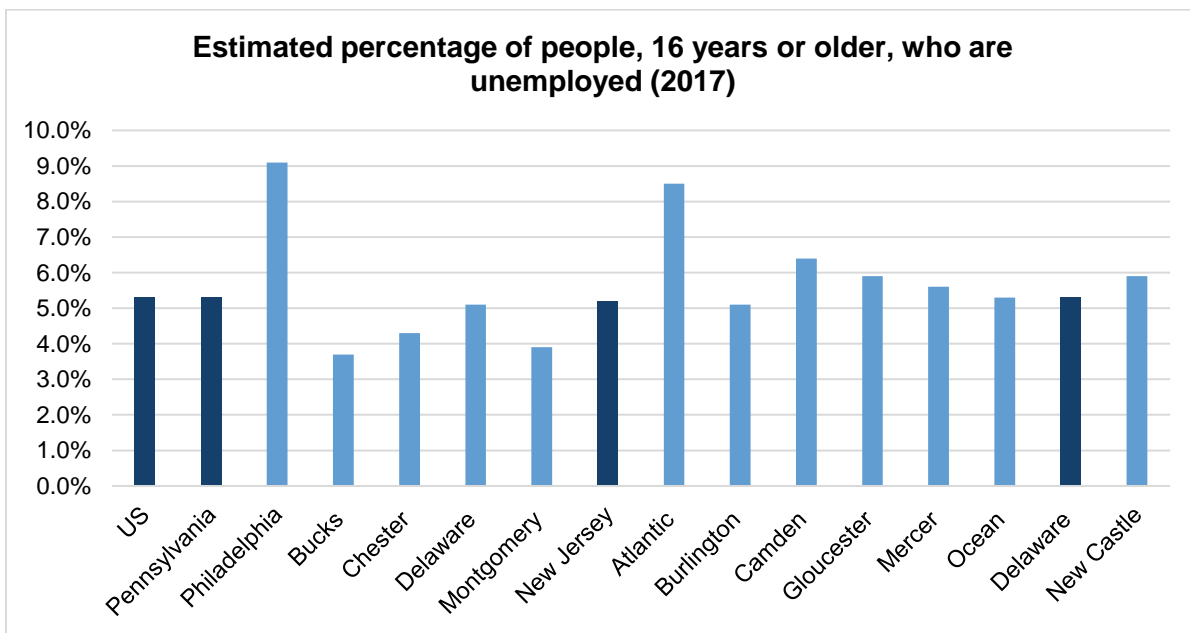
Figure 70 - Estimated percentage of people, 16 years or older, who are unemployed (2017)
Source: US Census (*https://www.census.gov/acs/www/data/data-tables-and-tools/*), downloaded on 6/11

5.3. Education

Education is a fundamental social determinant of health and is a powerful way to break the cycle of poverty and poor health. According to the Global Partnership for Education, education increases an individual's earnings and life expectancy. Educated people are more likely to find gainful employment, have stable families, be active, and be vaccinated, among other positive outcomes.[31]

In general, educational attainment rates for adults 25 years of age and older among the ACC counties are high and higher than the US as a whole. Philadelphia, Atlantic, Camden and Mercer Counties have the lowest rates of high school graduates. Concerning race/ethnicity, Hispanics have the lowest proportion of high school graduates.

When it comes to a higher education, the lowest percentages of people with a bachelor's degree or higher are in Hispanics and in Philadelphia and Atlantic counties.

Table 66 - Educational attainment for adults 25 years and older, by race/ethnicity High school graduate or higher (estimate) - 2017					
	Total	**White (alone)**	**Black (alone)**	**Asian (alone)**	**Hispanic**
US	88.0%	89.9%	85.9%	86.9%	68.7%
Pennsylvania	90.6%	91.7%	87.2%	83.7%	73.0%
Philadelphia	85.3%	88.7%	86.0%	70.1%	70.6%
Bucks	94.0%	94.6%	88.3%	91.6%	76.4%
Chester	93.3%	94.0%	91.0%	93.8%	60.3%
Delaware	93.7%	95.5%	92.6%	83.6%	77.9%
Montgomery	94.8%	95.8%	91.9%	92.4%	69.8%
New Jersey	89.9%	91.5%	87.2%	92.2%	75.3%
Atlantic	87.1%	91.4%	82.5%	75.7%	68.2%
Burlington	93.3%	93.9%	92.4%	86.1%	89.4%
Camden	88.9%	91%	87.8%	88.2%	70.0%
Gloucester	94.2%	95.2%	88.0%	93.9%	87.7%
Mercer	88.9%	90.2%	81.4%	96.5%	63.3%
Ocean	92.4%	93.0%	93.4%	89.7%	81.2%
Delaware	90.6%	91.0%	90.8%	93.3%	63.5%
New Castle	92.4%	92.6%	92.9%	94.2%	66.1%

Source: US Census (*https://www.census.gov/acs/www/data/data-tables-and-tools/*), downloaded on 6/12/19
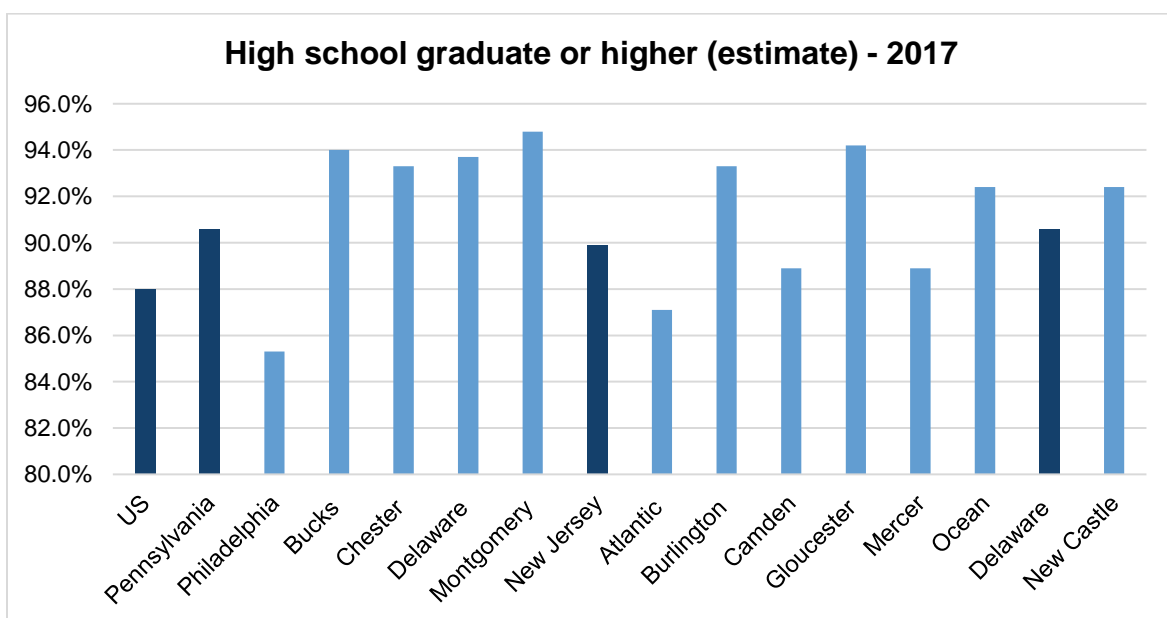
Figure 71 - Educational attainment for adults 25 years and older - High school graduate or higher (estimate) - 2017

Source: US Census (*https://www.census.gov/acs/www/data/data-tables-and-tools/*), downloaded on 6/12/19

Table 67 - Educational attainment for adults 25 years and older, by race/ethnicity Bachelor's degree or higher (estimate) - 2017					
	Total	**White (alone)**	**Black (alone)**	**Asian (alone)**	**Hispanic**
US	32.0%	33.4%	21.4%	53.8%	16.0%
Pennsylvania	31.4%	32.4%	19.3%	55.8%	16.1%
Philadelphia	28.3%	37.9%	17.8%	38.4%	15.1%
Bucks	41.4%	41.0%	28.7%	60.8%	21.1%
Chester	52.3%	52.9%	21.3%	80.9%	17.3%
Delaware	40.3%	43.4%	23.9%	61.1%	28.9%
Montgomery	50.2%	50.2%	34.8%	73.5%	27.7%
New Jersey	39.7%	40.1%	24.7%	70.1%	19.6%
Atlantic	28.4%	31.9%	14.4%	34.0%	12.5%
Burlington	37.3%	38.8%	28.8%	52.5%	27.2%
Camden	32.7%	35.2%	21.8%	55.7%	13.1%
Gloucester	34.4%	34.2%	28.0%	61.4%	36.5%
Mercer	43.9%	46.1%	18.8%	79.5%	19.1%
Ocean	30.5%	30.4%	31.7%	52.7%	26.2%
Delaware	31.5%	32.8%	22.4%	66.7%	10.8%
New Castle	35.2%	36.8%	24.2%	68.4%	12.2%

Source: US Census (*https://www.census.gov/acs/www/data/data-tables-and-tools/*), downloaded on 6/12
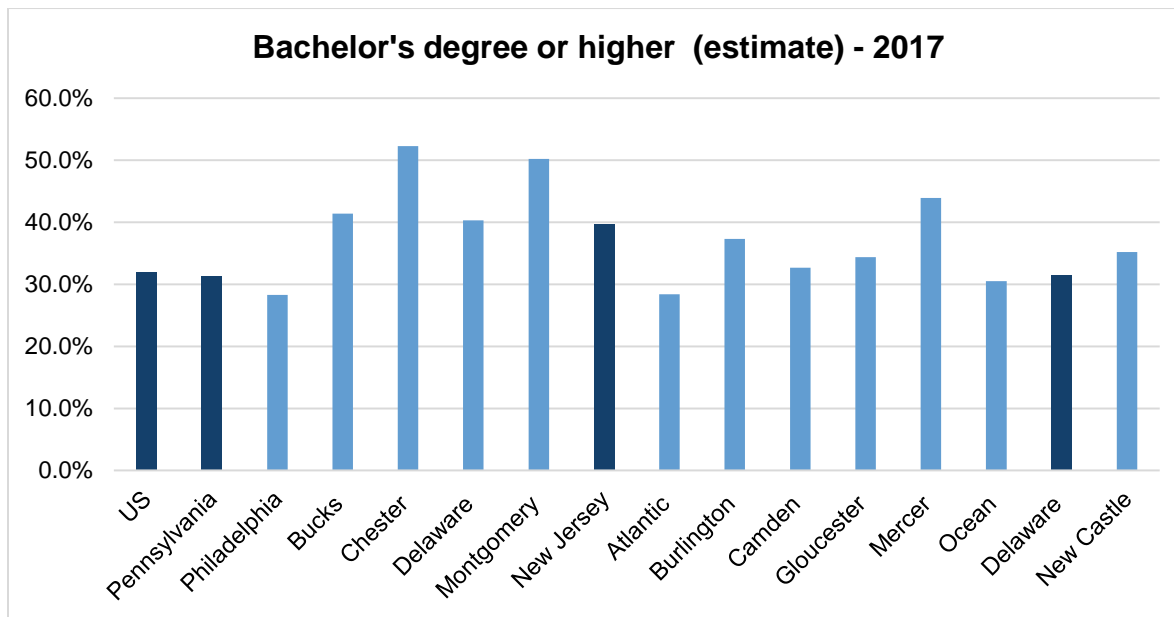
Figure 72 - Educational attainment for adults 25 years and older - Bachelor's degree or higher (estimate) - 2017
Source: US Census (*https://www.census.gov/acs/www/data/data-tables-and-tools/*), downloaded on 6/12

6. Health Measures and Access to Healthcare

6.1. Health Measures

6.1.1. Mortality rates

6.1.1.1. Pennsylvania Counties

The major causes of death in the Pennsylvania counties in the ACC catchment area are cancer, cardiovascular diseases, accidents, and respiratory diseases. Cancer is the leading cause of death in four of the five ACC counties, except for Philadelphia and the state as a whole, where the leading cause of death is heart disease. Philadelphia has the highest 2012-2016 age-adjusted death rate (8.7 per 1,000) and Chester has the lowest rate (6.2 per 1,000).

Table 68 - Selected major causes of death - average annual age-adjusted death rate per 100.000 population (2012-2016)						
	Age-Adjusted Death Rate per 1,000 (2014)	Cancer	Heart Diseases	Accidents	Chronic Lower Respiratory Disease	Cerebro-vascular Disease
US (2016)*	728.8**	155.8	165.5	47.4	40.6	37.3
Pennsylvania	7.6	168.5	176.2	49.4	37.8	37.1
Philadelphia	8.7	197.2	209.5	56.8	37.9	42.5
Bucks	6.8	156.0	137.5	45.4	32.3	33.4
Chester	6.2	150.3	148.9	36.6	29.9	33.4
Delaware	7.5	173.7	173.2	46.4	40.2	39.9
Montgomery	6.5	152.0	143.7	39.0	30.2	43.6

Source:
https://www.health.pa.gov/topics/HealthStatistics/VitalStatistics/CountyHealthProfiles/Documents/current/index.aspx
*US data from different date (2016) and source: https://www.cdc.gov/nchs/data/nvsr/nvsr67/nvsr67_05.pdf
**age-adjusted death rate per 100,000 U.S. standard population

Philadelphia

The 2006-2016 age-adjusted mortality rate for Philadelphians is 861.9 per 100,000 people and this rate has been improving over the years. The highest mortality rates were in non-Hispanic Blacks and the leading cause of death was heart disease, followed by cancer.
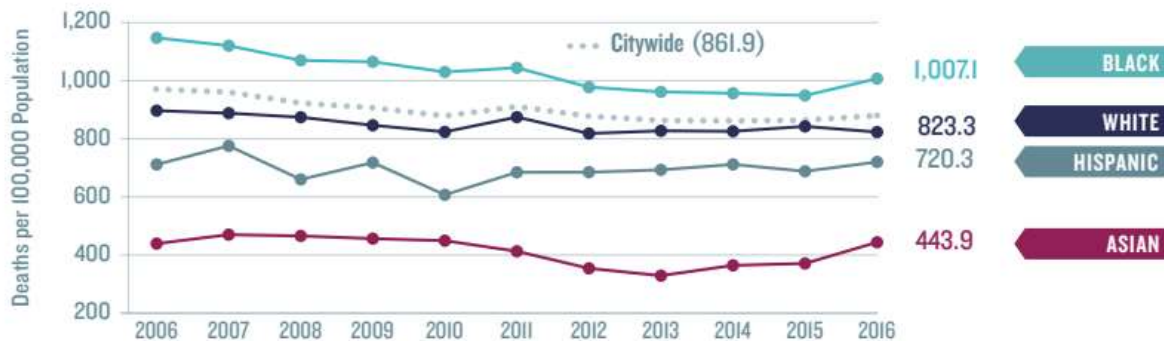
Figure 73 - Philadelphia´s age-adjusted mortality rate per 100,000 people (2006-2016)
Source – Philadelphia health of the city report 2017
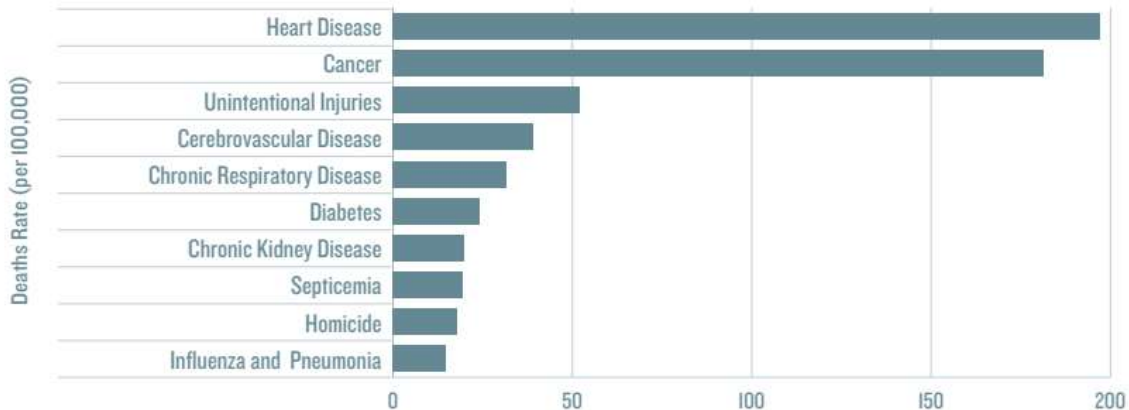
Figure 74 - Leading causes of death in Philadelphia (2016)
Source – Philadelphia health of the city report 2017

Life expectancy for men and women are 72.3 and 79.3 years respectively in 2016. Non-Hispanic Black men had the shortest life expectancy at 68.7 years and non-Hispanic Asian women had the longest life expectancy at 90.2 years. From 2006 to 2014 life expectancy increased both for men and for women, yet slightly declined in 2015 and 2016.
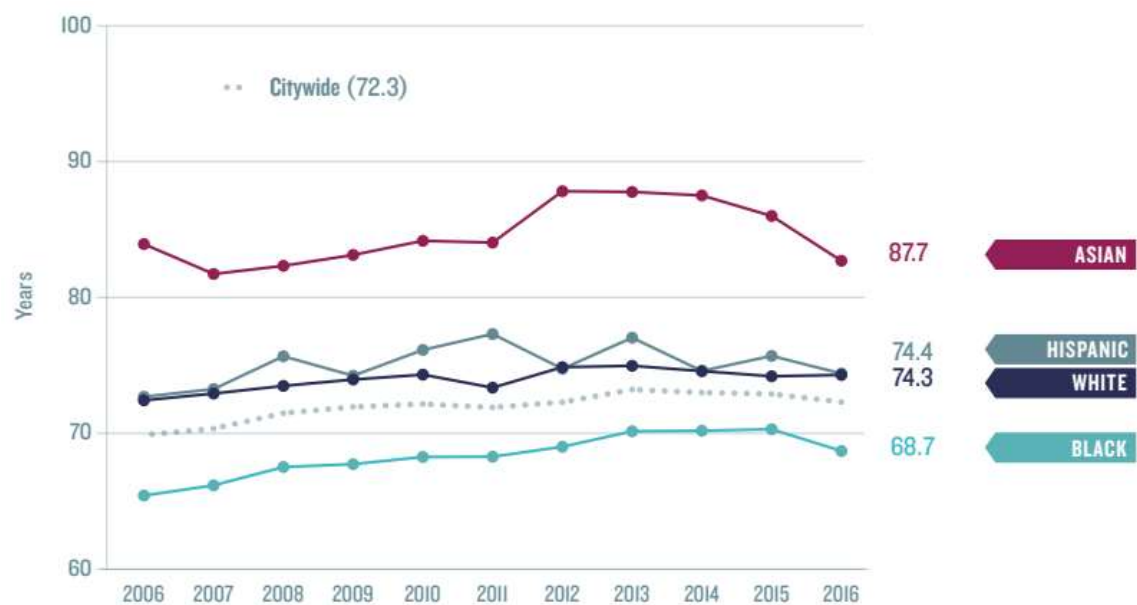
Figure 75 - Life expectancy at birth for men by race/ethnicity (2006-2016)
Source – Philadelphia health of the city report 2017
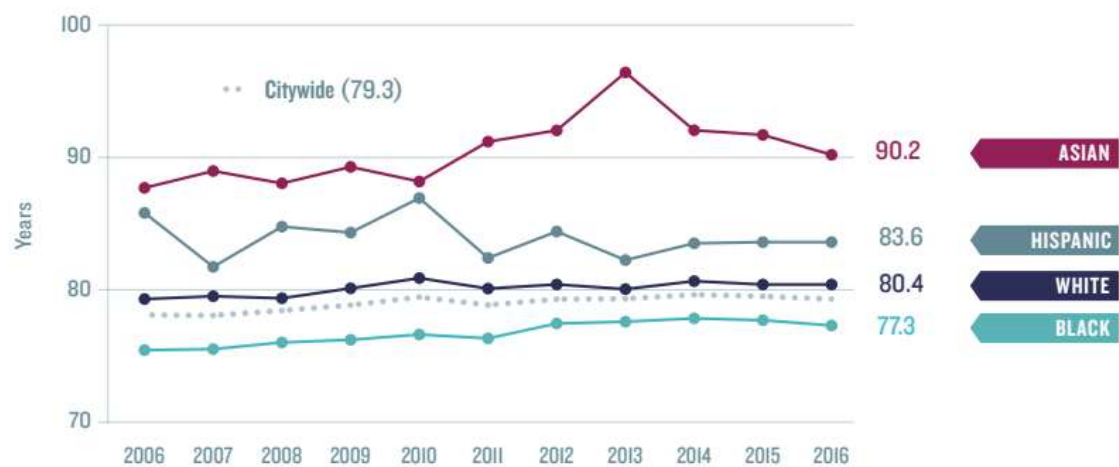
Figure 76 - Life expectancy at birth for women by race/ethnicity (2006-2016)
Source – Philadelphia health of the city report 2017

6.1.1.2. New Jersey Counties

The leading cause of death in NJ and in the six ACC counties is heart disease, followed by cancer. In 2016, the age-adjusted death rates for all counties were higher than the state's death rate (669 per 100,000). Atlantic has the highest age-adjusted death rate (807 per 100,000) and Mercer (678.3) has the lowest. The average age at death (2016) for New Jersey residents is 74.8 years. Ocean residents live longer (77.1 years) and Atlantic resident's average age at death is the lowest (72.1 years).
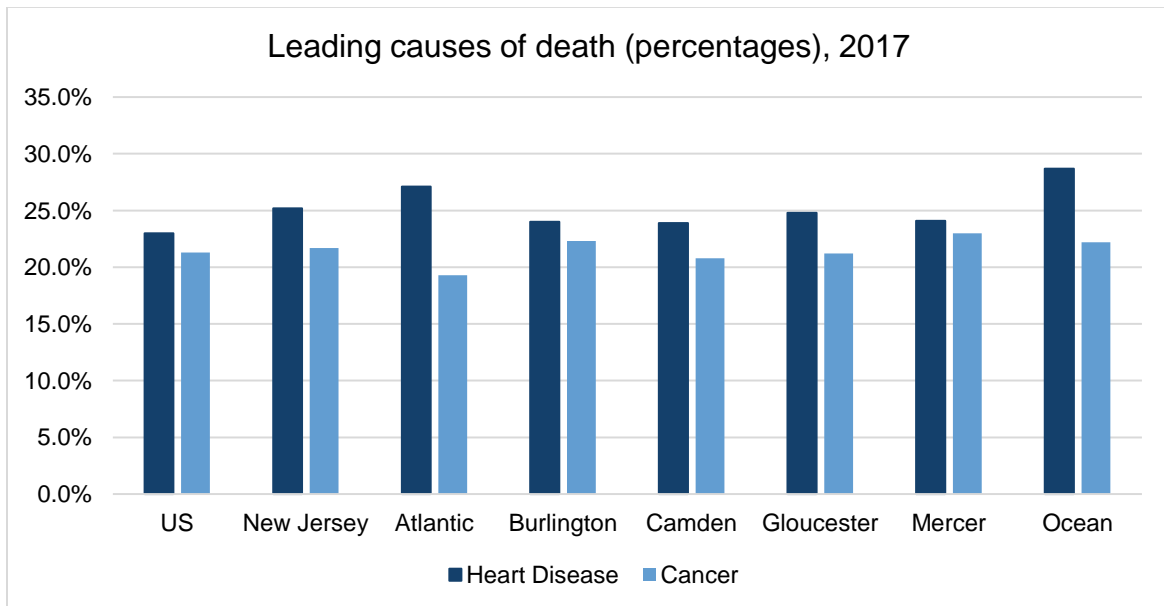
Figure 77 - Leading causes of death (percentages), 2017
Source: New Jersey State Health Assessment Data, https://www-doh.state.nj.us/doh-shad/ (downloaded on 6/18)
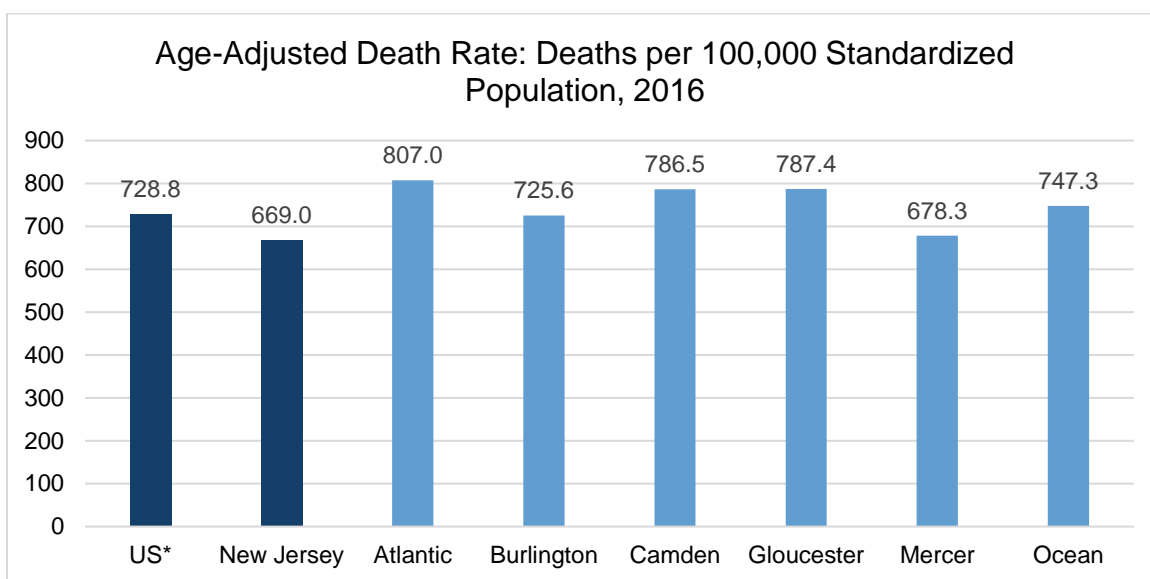
Figure 78 - Age-Adjusted Death Rate: Deaths per 100,000 Standardized Population, 2016
Source: New Jersey State Health Assessment Data https://www-doh.state.nj.us/doh-shad/ (downloaded on 6/18)
*US data (2016) from different source: https://www.cdc.gov/nchs/data/nvsr/nvsr67/nvsr67_05.pdf
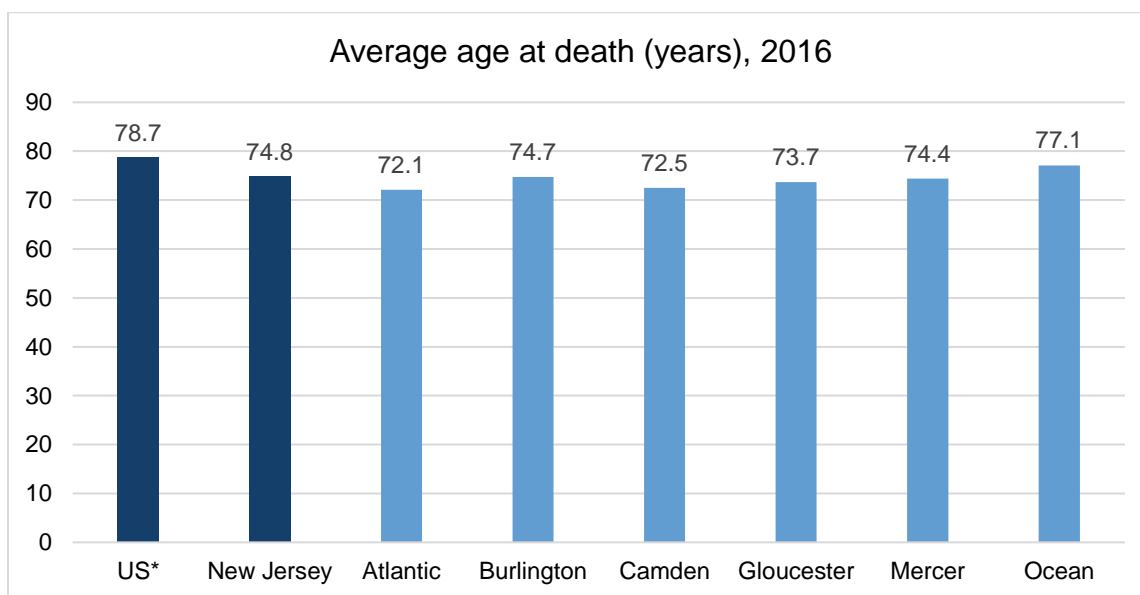
Figure 79 - Average age at death (years), 2016
Source: New Jersey State Health Assessment Data https://www-doh.state.nj.us/doh-shad/ (downloaded on 6/18)
*US data (2016) from different source: https://www.cdc.gov/nchs/data/nvsr/nvsr68/nvsr68_04-508.pdf

6.1.1.3. Delaware – New Castle County

Mortality data show that the five-year (2009-2013) age-adjusted mortality rate of deaths from all causes in Delaware was 755 per 100,000 population, and 746 per 100,000 in New Castle County.

The leading cause of death in both Delaware and New Castle County is cancer, with a five-year age-adjusted mortality rate of 177 per 100,000, followed by coronary heart disease, stroke, all accidents/drugs, and diabetes.
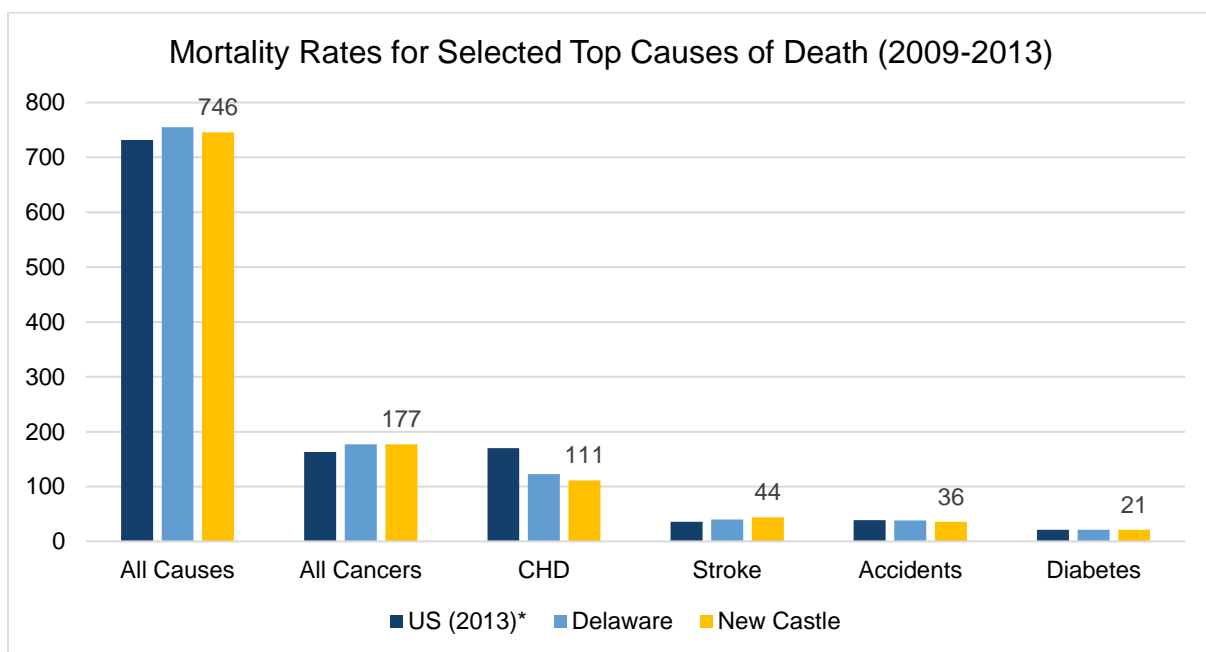
Figure 80 - Five-year (2009-2013) age-adjusted mortality rates per 100,000 population for top causes of death in Delaware and New Castle.
Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware State Health Needs Assessment, 2017.
*US data from different year (2013) and source: https://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64_02.pdf

6.1.2. Overall health status

Self-rated health is an independent predictor of important health outcomes including mortality, morbidity, and functional status. It is considered a reliable indicator of a person's perceived health and is a good global assessment of a person's well-being.[32]

6.1.2.1. Pennsylvania Counties

In 2012-2014, 17% of Pennsylvania residents reported having fair or poor health. Philadelphia presented the highest percentage of people unsatisfied with their health (22%) and Chester the lowest (only 10%).

Percentage of adults who reported having fair or poor general health (2012-2014)

Category	Percentage
US (2014)*	15%
Pennsylvania	17%
Philadelphia	22%
Bucks	15%
Chester	10%
Delaware	14%
Montgomery	11%
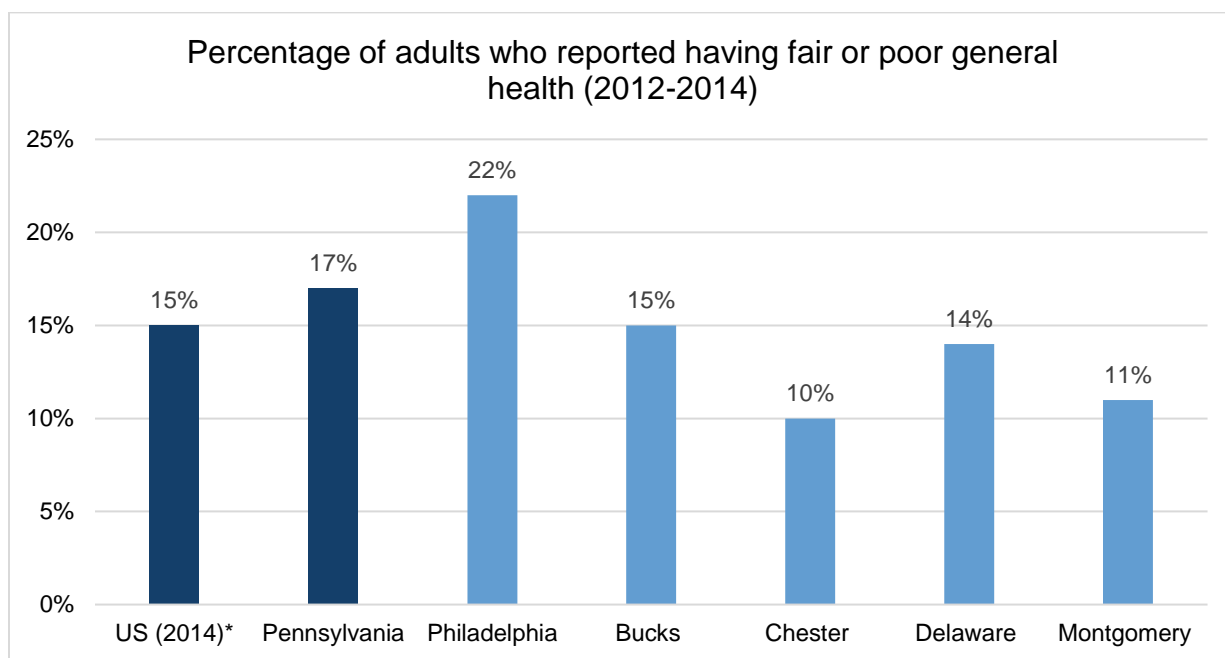
Figure 81 - Percentage of adults who reported having fair or poor general health (age-adjusted), 2012-2014
Source: https://www.health.pa.gov/Pages/default.aspx
*US data from different date (2014) and source: https://www.cdc.gov/pcd/issues/2018/17_0523.htm

Philadelphia

In a 2015 Southeastern Pennsylvania Household Health Survey (SePA-HHS), 23.6% of Philadelphians rated their health as poor or fair, with 76.4% rating their health as good, very good, or excellent. A higher percentage of Hispanics (36.5%) and non-Hispanic Blacks (27%) reported poor or fair health when compared with other race/ethnic groups.
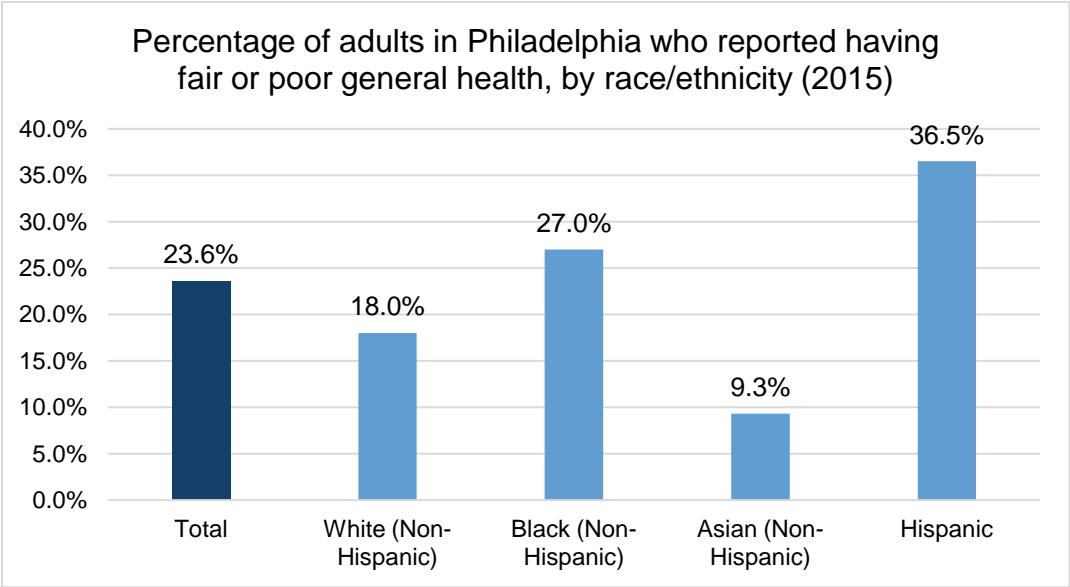
Figure 82 - Self-reported poor or fair health by race/ethnicity (2015)
Source: Philadelphia health of the city report 2017

6.1.2.2. New Jersey Counties

The majority of New Jersey residents (83.3%) reported having a good, very good or excellent general health status. A higher percentage of Burlington County residents (87%) and a slightly lower percentage of Atlantic County residents (81%) reported having a good, very good, or excellent general health status.
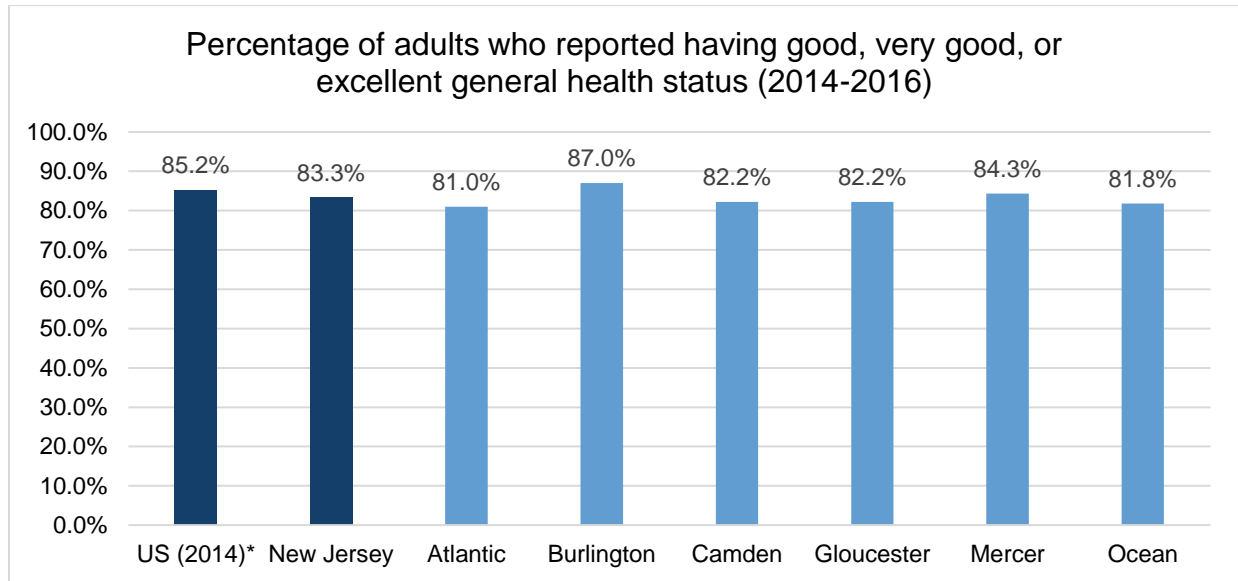
Figure 83 - Estimated percentage of adults aged 18 and over that reported good, very good, or excellent general health status, 2014-2016
Source: New Jersey State Health Assessment Data https://www-doh.state.nj.us/doh-shad/ (downloaded on 6/18)
*US data from different date (2014) and source: https://www.cdc.gov/pcd/issues/2018/17_0523.htm

6.1.2.3. Delaware – New Castle County

In the DPHI Delaware Household Health Survey (2015), 17% of Delaware adults reported themselves in fair or poor health, with 83% rating their health as good, very good, or excellent. In New Castle County, this rate was 86%.

Percentage of adults who reported having fair or poor general health (2015)

Category	Percentage
US (2014)*	15%
Delaware	17%
New Castle	14%
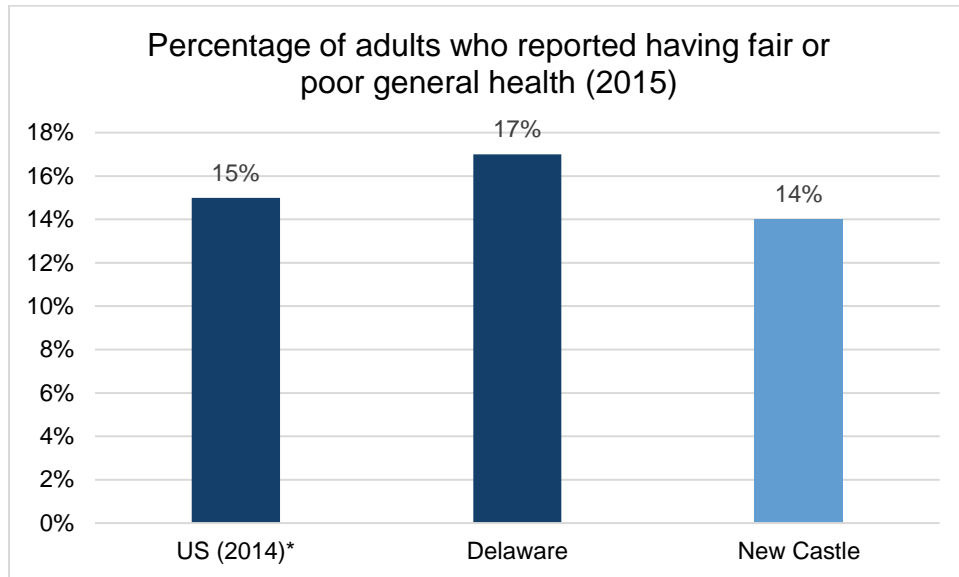
Figure 84 - Percentage of adults, 18 years of age and older, who reported having fair or poor general health (2015) - Age-adjusted using the Direct Method and the 2000 US Standard Population.
Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware State Health Needs Assessment, 2017.
*US data from different date (2014) and source: https://www.cdc.gov/pcd/issues/2018/17_0523.htm

6.2. Access to Health Care and Cancer Screening Uptake

6.2.1. Utilization of Primary Care Services

Primary care services are essential to help prevent and manage disease, as well as promote and maintain health. Access to health services normally depends on three different things:[33]
- Having health insurance coverage
- Being able to afford healthcare costs
- Having adequate availability and accessibility of healthcare providers and facilities

When cost of care is too high; when there is a lack of primary care providers or of available health services; when individuals do not have insurance coverage or have a lower income, these are more likely to avoid these services and use emergency ones instead. These barriers to accessing health services often can lead to delays in receiving appropriate care, preventable hospitalizations, unmet health needs and more.[33]

6.2.1.1. Pennsylvania Counties

In 2016-2018, the majority of residents of the five ACC catchment area Counties in Pennsylvania had visited a doctor in the past 2 years for a routine check-up (85%-90%).

In the same period, 14% of Philadelphians (highest rate) and 7% of Chester residents (lowest rate) reported forgoing care in the past year due to cost. Non-whites were more likely to forgo care due to cost than were Whites.

Data from the same years (2016-2018) show that 18% of Philadelphians and 12% of Delaware residents did not have a personal health care provider. When analyzing this data by race/ethnicity, the highest percentage of people without a health care provider were African Americans, Asians, and Hispanics—for all counties, except for Philadelphia where percentages are the same.
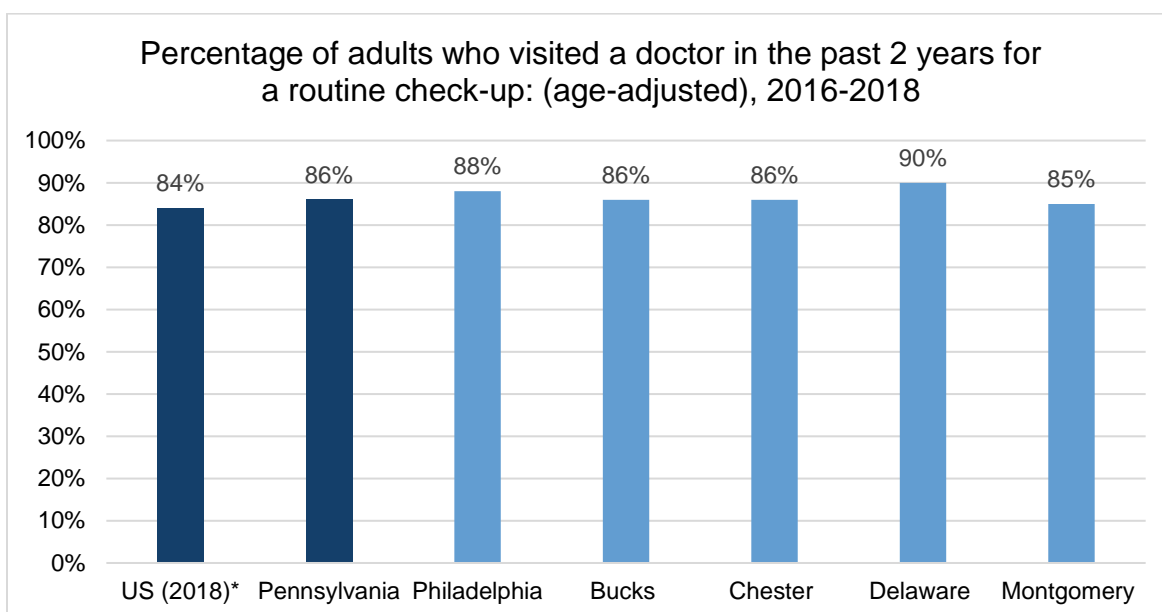
Figure 85 - Percentage of adults who visited a doctor in the past 2 years for a routine check-up: (age-adjusted), 2016-2018

Source: https://www.phaim1.health.pa.gov/EDD/WebForms/BRFSSregChrt.aspx

*US data:

- From different date (2018) and source: https://www.cdc.gov/nchs/fastats/physician-visits.htm

- Percentage of adults who had contact with a health care professional in the past year
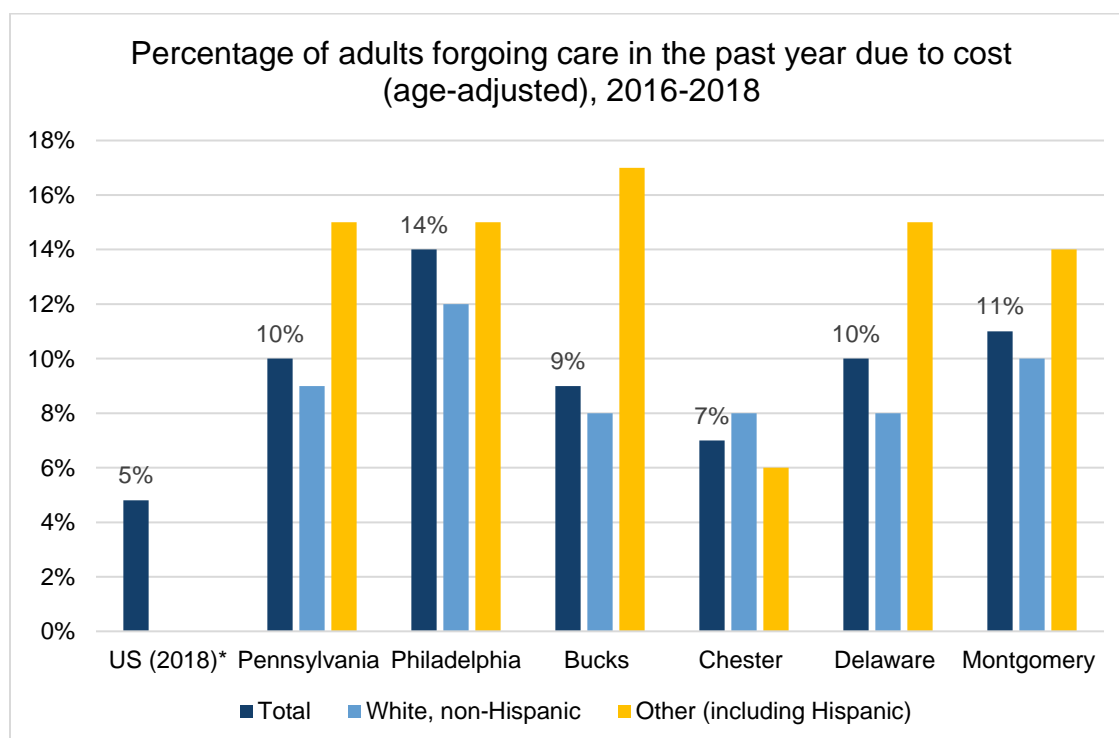
Figure 86 - Percentage of adults forgoing care in the past year due to cost (age-adjusted), by race/ethnicity (2016-2018)

Source: https://www.phaim1.health.pa.gov/EDD/WebForms/BRFSSregChrt.aspx

*US data from different date (2018) and source: https://www.cdc.gov/nchs/nhis/releases/released201905.htm#2
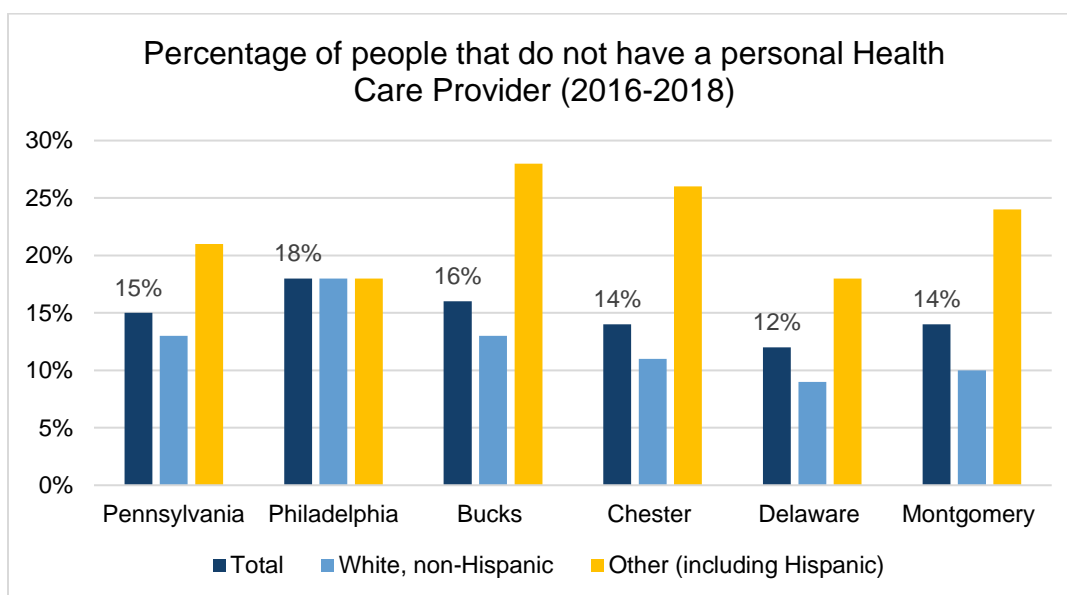
Figure 87 – Percentage of people without a personal Health Care Provider, by race/ethnicity (2016-2018)
Source: https://www.phaim1.health.pa.gov/EDD/WebForms/BRFSSregChrt.aspx

Philadelphia

In 2016, 18% of Philadelphians reported not having a primary care provider and 10% of adults reported the emergency room as their usual source of care. In both cases, people in these groups were more likely to be men, younger, low-income, and without health insurance.

Cost is another barrier to accessing preventive and other health care. In 2014/15, approximately 13.4% of adults age 18-64 years reported not accessing care when sick or injured due to cost, and were more likely to be Hispanic (18.3%).
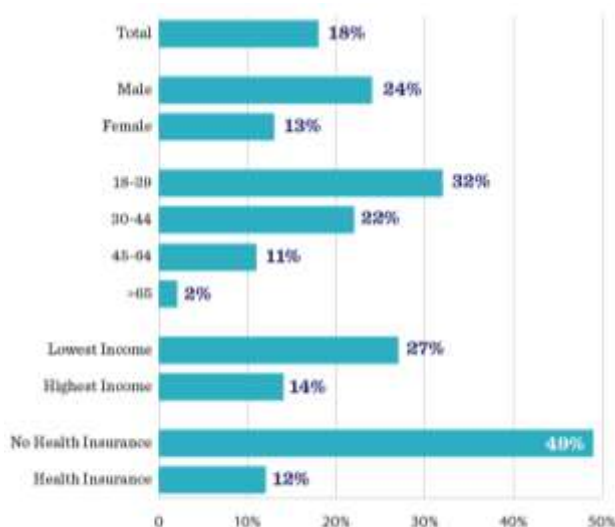
Figure 88 - Characteristics of adults without a Primary Healthcare Provider (2016)
Source - Philadelphia Department of Public Health, 2017
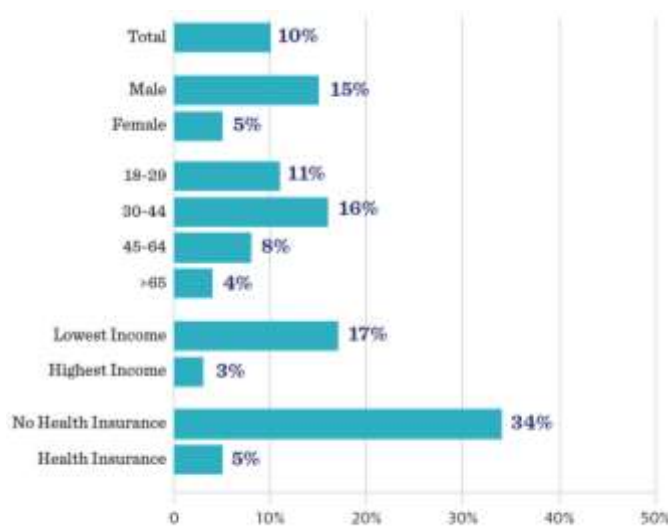
Figure 89 - Characteristics of adults who usually receive care at an Emergency Room (2014)
Source - Philadelphia Department of Public Health, 2017
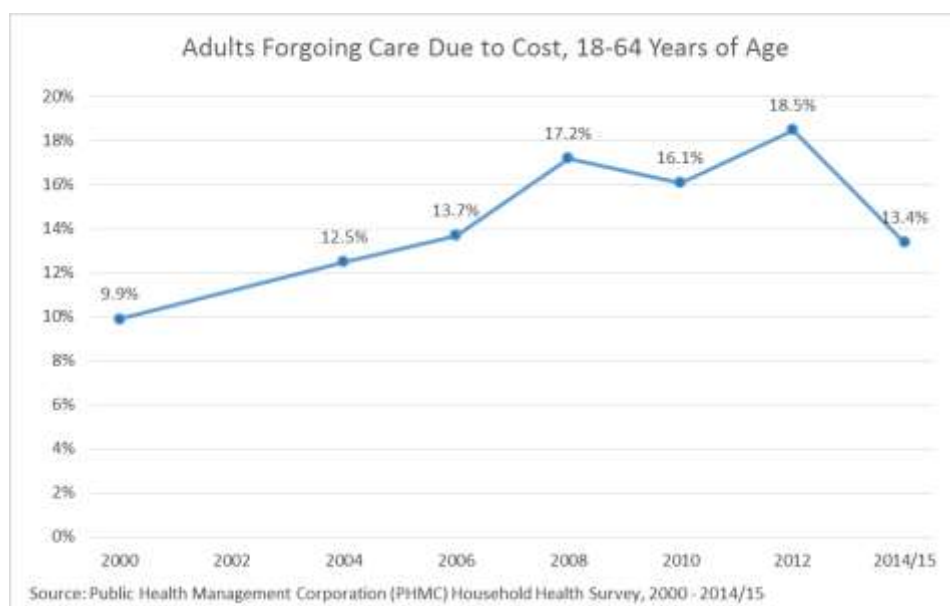
Figure 90 - Adults forgoing care due to cost, 18-64 years of age (2014/15)
Source - Philadelphia Department of Public Health, 2017
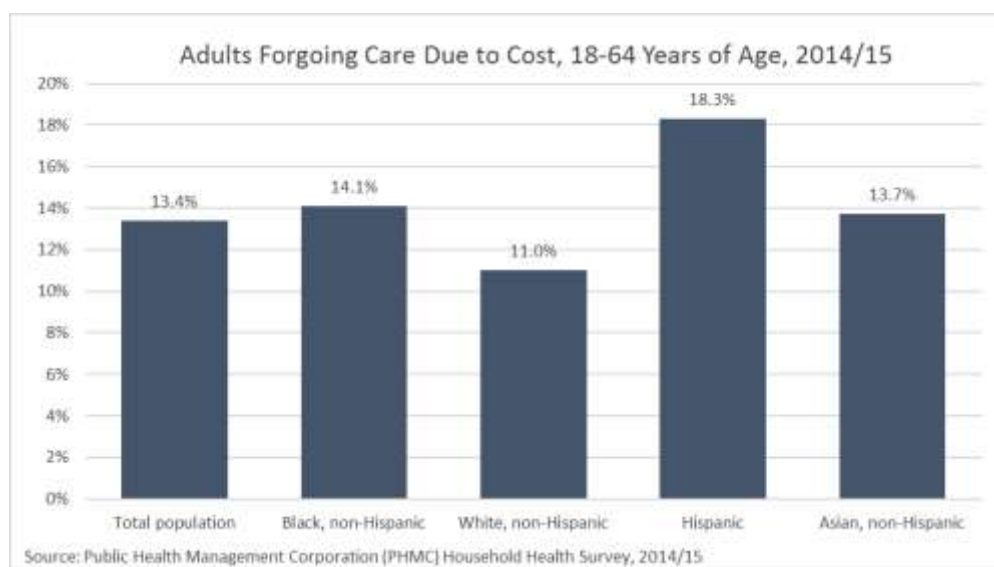
Figure 91 - Adults forgoing care due to cost, 18-64 years of age, by race/ethnicity (2014/15)
Source - Philadelphia Department of Public Health, 2017

6.2.1.2. New Jersey Counties

In 2016, 82% of New Jersey residents reported having at least one personal doctor or health care provider. Lack of a primary care provider was more common among Atlantic County residents (80.2% of them do have one). However, only 17.7% of Atlantic County residents reported not visiting a doctor for a routine checkup in the last year, whereas almost 90% of Gloucester County residents reported having a health care provider, but 30.5% of them did not visit their doctor.

In 2017, 19.5% of Camden County residents (highest number) and 8.7% of Burlington County residents (lowest number) were unable to get needed care due to cost. Concerning race and ethnicity, both African Americans and Hispanics were more likely to forgo care due to cost.
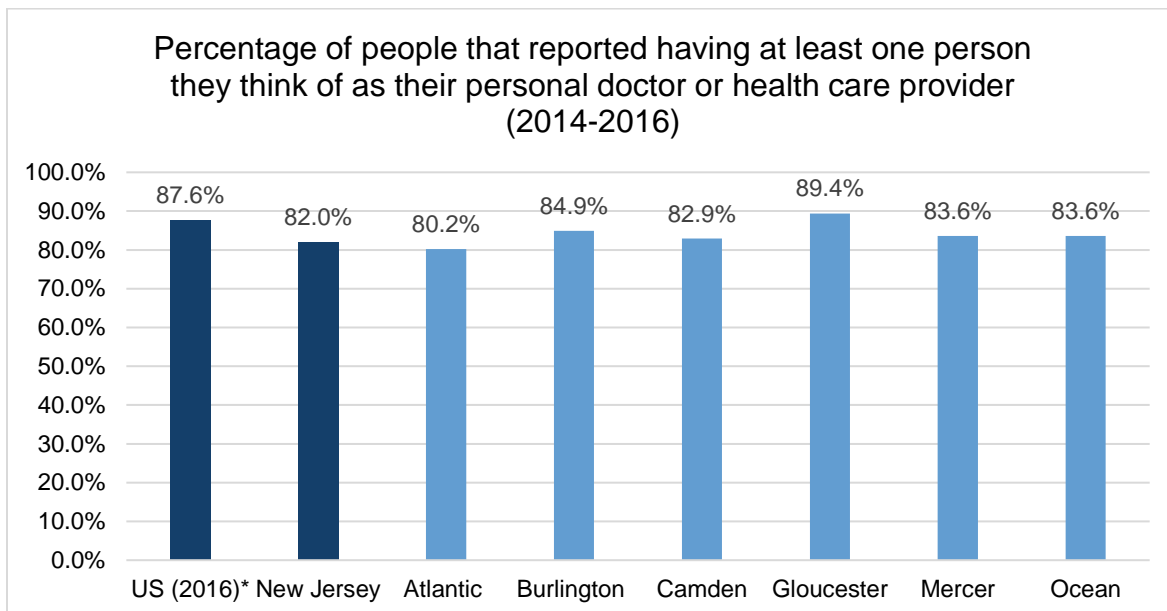
Figure 92 - Estimated percentage of people that reported having at least one person as their personal doctor or health care provider (crude rate), 2014-2016.
Source: New Jersey State Health Assessment Data https://www-doh.state.nj.us/doh-shad/ (downloaded on 6/18)
*US data:
- From different year (2016) and source: https://www.cdc.gov/nchs/nhis/releases/released201905.htm#2
- Percentage of persons with a usual place to go for medical care (age-adjusted).
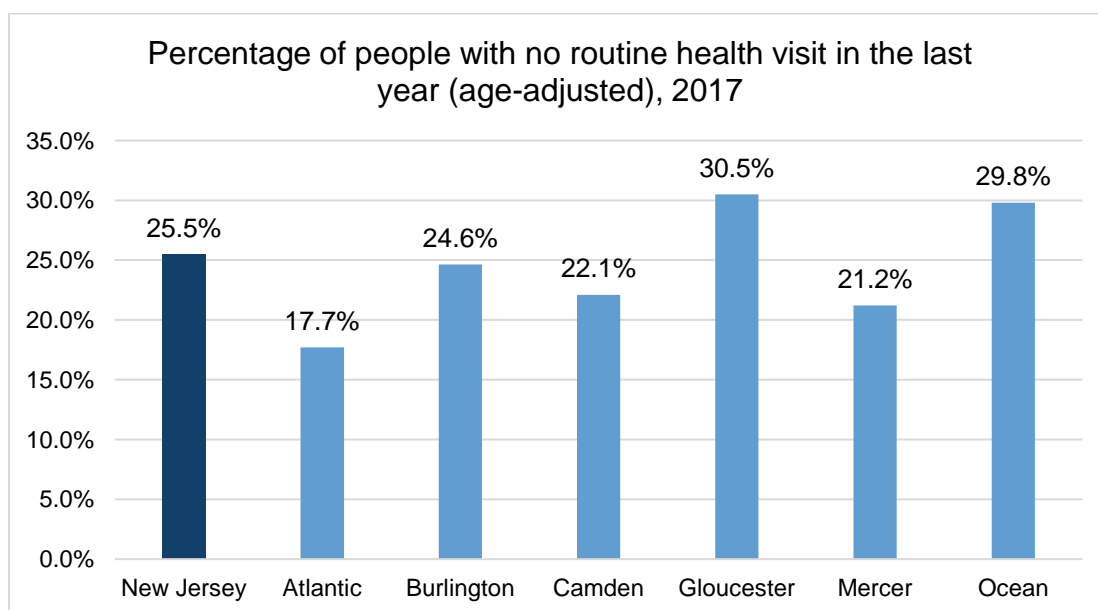
Figure 93 - Percentage of people that have not visited a doctor for a routine checkup in the last year (age-adjusted), 2017
Source: New Jersey State Health Assessment Data https://www-doh.state.nj.us/doh-shad/ (downloaded on 6/18)

	Total	White (non-Hispanic)	Black (non-Hispanic)	Asian (non-Hispanic)	Hispanic
Table 69 - Percentage of people forgoing care due to cost (age-adjusted), 2017					
US (2017)*	4.4%	-	-	-	-
New Jersey	15.2%	10.1%	17.8%	12.9%	25.4%
Atlantic	19.1%	18.7%	18.1%	*	25.8%
Burlington	8.7%	5.7%	7.1%	*	*
Camden	19.5%	11.8%	31.6%	*	23.0%
Gloucester	14.1%	13.7%	*	*	*
Mercer	13.6%	5.9%	26.1%	*	*
Ocean	17.9%	14.9%	*	*	*

*The value has been suppressed because it does not meet standards of reliability or precision or because it could be used to calculate the number in a cell that has been suppressed. Consider aggregating years to improve the reliability of the estimate.
Source: New Jersey Department of Health: https://www.nj.gov/health/hivstdtb/hiv-aids/statmap.shtml (downloaded on 6/21).
*US data from different source: https://www.cdc.gov/nchs/nhis/releases/released201905.htm#2
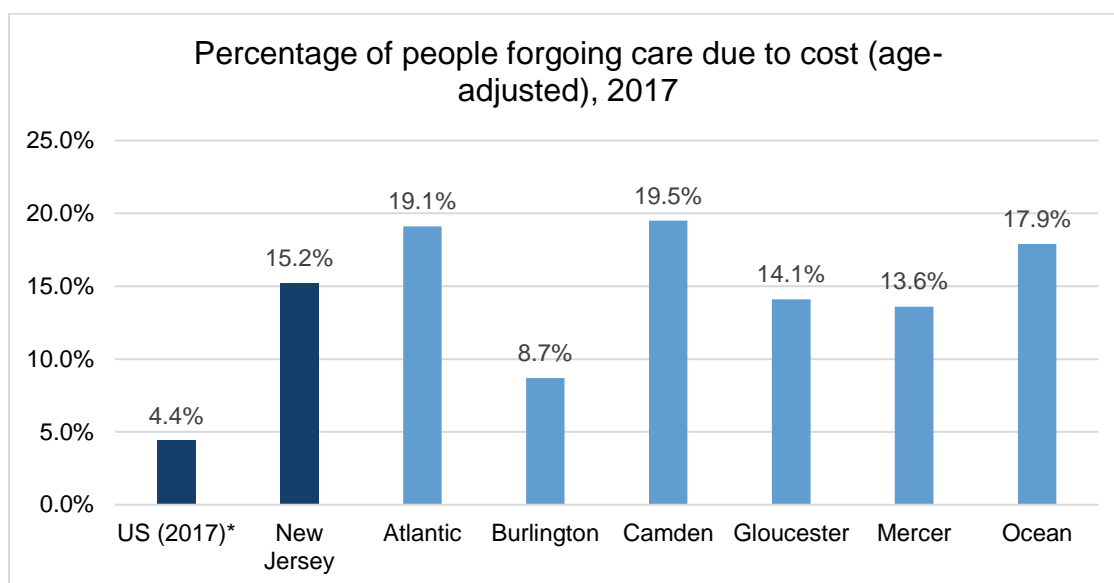
Figure 94 - Percentage of people forgoing care due to cost (age-adjusted), 2017
Source: New Jersey State Health Assessment Data https://www-doh.state.nj.us/doh-shad/ (downloaded on 6/21)
*US data from different source: https://www.cdc.gov/nchs/nhis/releases/released201905.htm#2

6.2.1.3. Delaware – New Castle County

In Delaware, 15% of adults over the age of 18 do not have a regular source of primary care. Cost is a substantial barrier to health care for many Delawareans. According to the 2015 DPHI Delaware Household Health Survey, Ten percent of Delawareans and 11% of adults in New Castle County did not acquire health care in 2015 due to cost. Nine percent of adults in both Delaware and New Castle reported not seeing a doctor due to transportation problems. Fourteen percent of people in New Castle County and 14.5% of people in Delaware could not afford to fill a prescription in the past year.
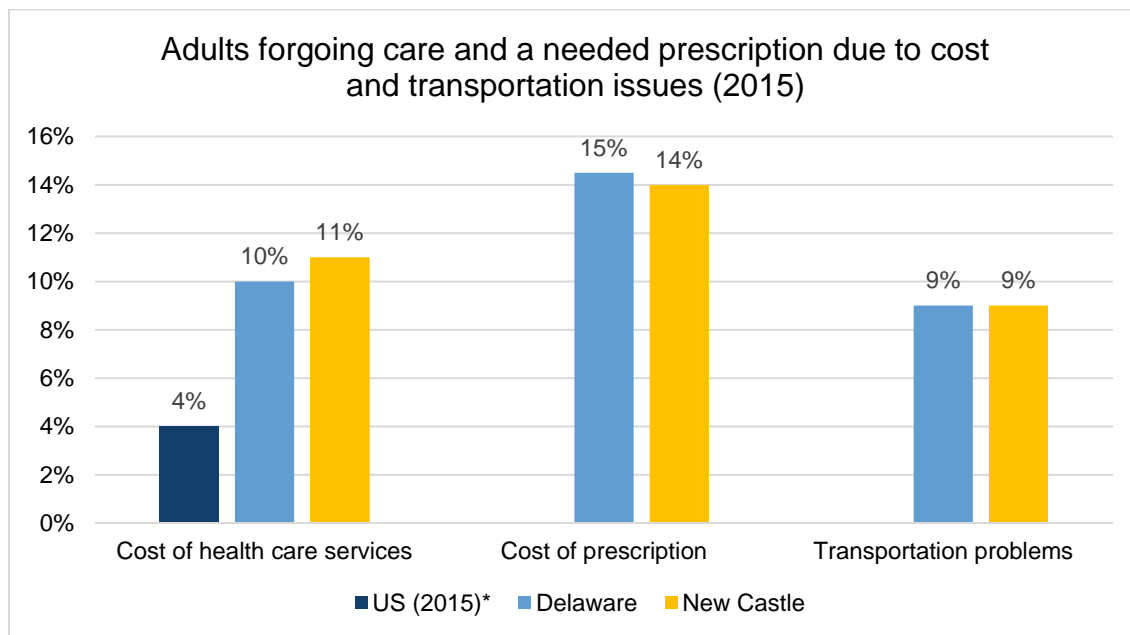
Figure 95 - Percentage of adults in Delaware and New Castle County forgoing care and a needed prescription due to cost and transportation issues (2015)
Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware State Health Needs Assessment, 2017.
*US data from different source: https://www.cdc.gov/nchs/nhis/releases/released201905.htm#2

6.2.2. Health insurance coverage

Health insurance coverage enables patients to access the health care system. Uninsured individuals are more likely to avoid primary care due to not receiving the timely medical care they need. Therefore resulting in poor health status, late diagnosis, worse health outcomes, and large medical bills.[33]

In 2017, the estimated rate of people without health insurance by county was 3.4% to 8.7%. Atlantic and New Castle Counties estimated the highest rate of Americans without health insurance. The lowest rates were seen in Montgomery, Bucks, Delaware and Gloucester Counties, all close to 4%. In relation to race/ethnicity, Hispanics had the highest risk of being uninsured in all counties and states.

Table 70 - Estimated percentage of people without insurance (all ages) – 2017, by race/ethnicity					
	Total	**White (alone)**	**Black (alone)**	**Asian (alone)**	**Hispanic**
US	8.7%	7.8%	10.0%	6.6%	17.8%
Pennsylvania	5.5%	5.0%	7.0%	6.0%	12.6%
Philadelphia	7.1%	5.9%	7.1%	8.0%	13.5%
Bucks	4.0%	3.5%	8.8%	5.0%	9.6%
Chester	5.5%	5.1%	9.1%	3.4%	22.8%
Delaware	4.0%	2.6%	6.4%	5.9%	14.9%
Montgomery	3.4%	2.8%	4.5%	5.9%	19.1%
New Jersey	7.7%	6.4%	9.1%	6.4%	18.5%
Atlantic	8.7%	6.5%	8.3%	12.7%	21.1%
Burlington	4.6%	3.6%	7.0%	6.2%	10.8%
Camden	6.2%	4.8%	5.5%	8.6%	15.2%
Gloucester	4.3%	2.9%	10.0%	10.1%	11.9%
Mercer	8.3%	7.6%	11.5%	2.6%	23.6%
Ocean	5.8%	4.9%	8.1%	9.1%	19.2%
Delaware	5.4%	5.3%	4.7%	7.1%	18.3%
New Castle	8.7%	7.8%	10.0%	6.6%	17.8%

Source: US Census (*https://www.census.gov/acs/www/data/data-tables-and-tools/*), downloaded on 6/11
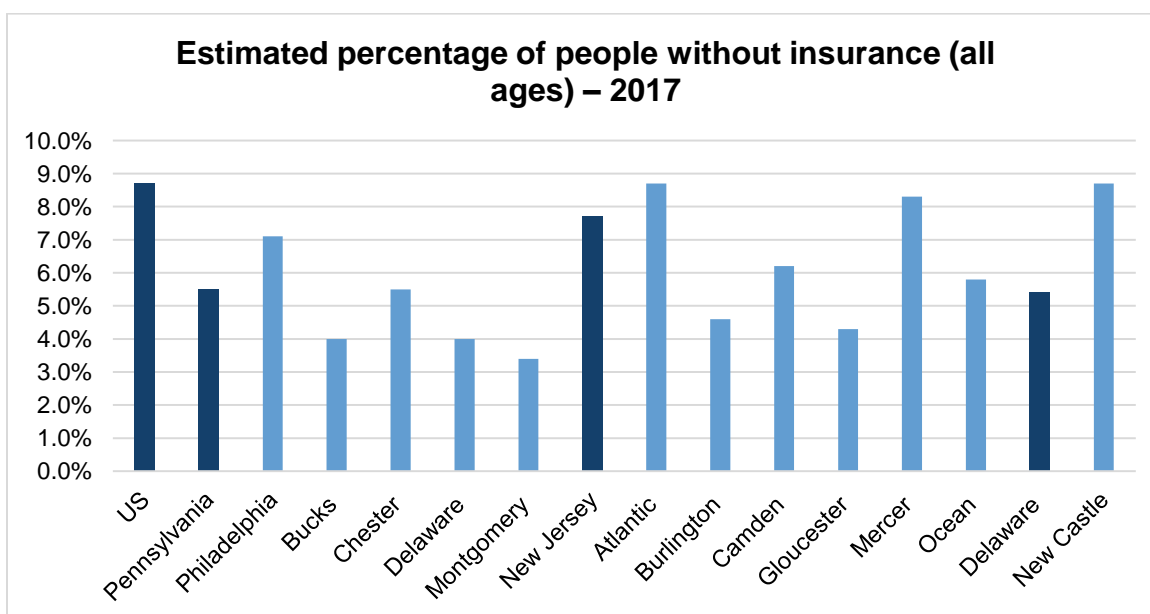
Figure 96 - Estimated percentage of people without insurance (all ages) – 2017
Source: US Census (*https://www.census.gov/acs/www/data/data-tables-and-tools/*), downloaded on 6/11

Philadelphia

Insurance coverage among adults (aged 18 to 64 years of age) has improved significantly from 2000 to 2012, where it started to drop. In 2014/15, 12.4% of Philadelphians lacked insurance coverage. These rates are higher in Hispanic (24.6%) and in West Philadelphia (19.1%), and lower in White, non-Hispanic (7.3%) and Upper Far Northeast (2.3%).

Lack of health insurance coverage among adults is similar to the national average and lower than other large cities that have larger populations of new and undocumented immigrants. Recent improvements among adults are a result of coverage expansions implemented under the 2010 Patient Protection and Affordable Care Act (ACA).[34]
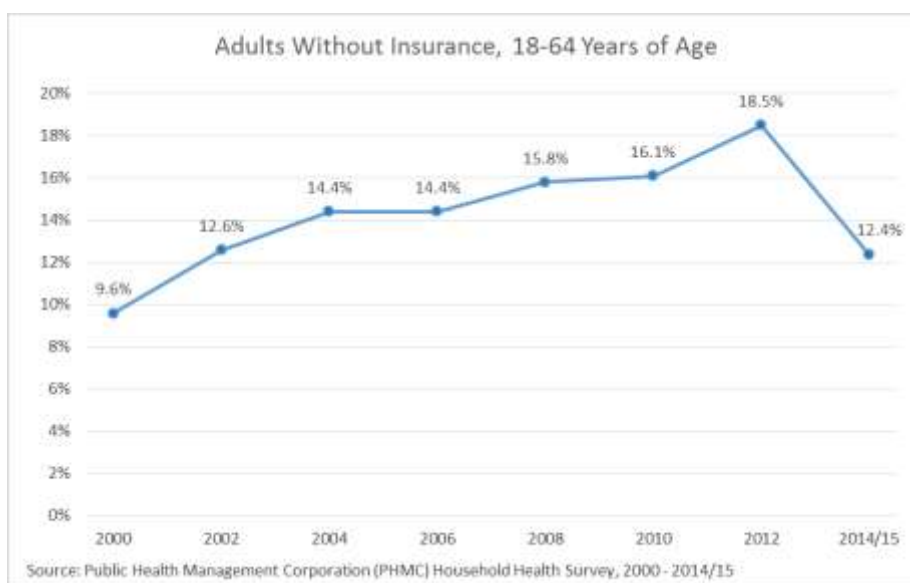
Figure 97 - Percentage of adults, age 18-64 years, reporting no source of insurance, (2000-2014/15)
Source - Philadelphia Department of Public Health, 2017
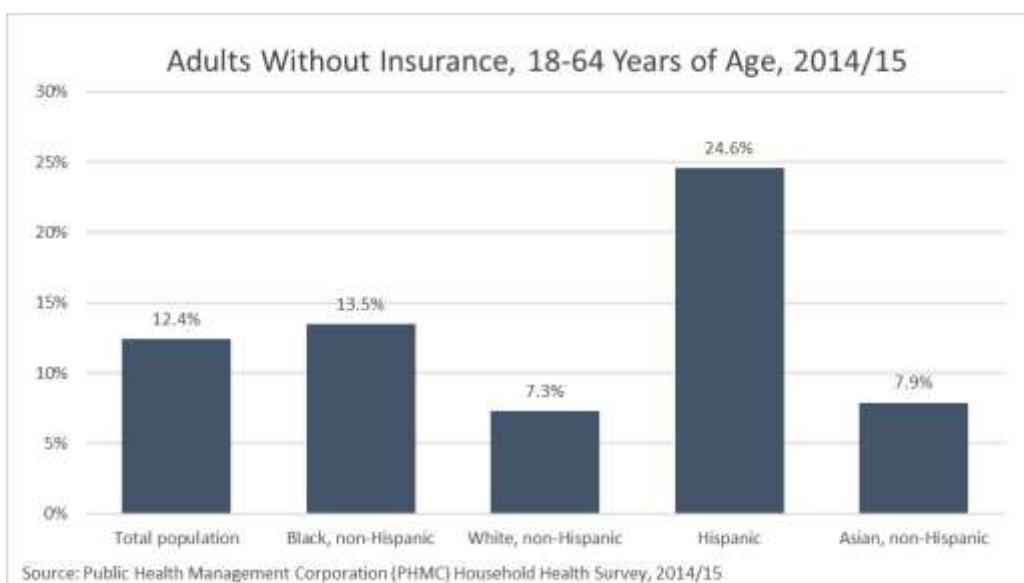
Figure 98 - Percentage of adults, age 18-64 years, reporting no source of insurance, by race/ethnicity (2014/15)
Source - Philadelphia Department of Public Health, 2017
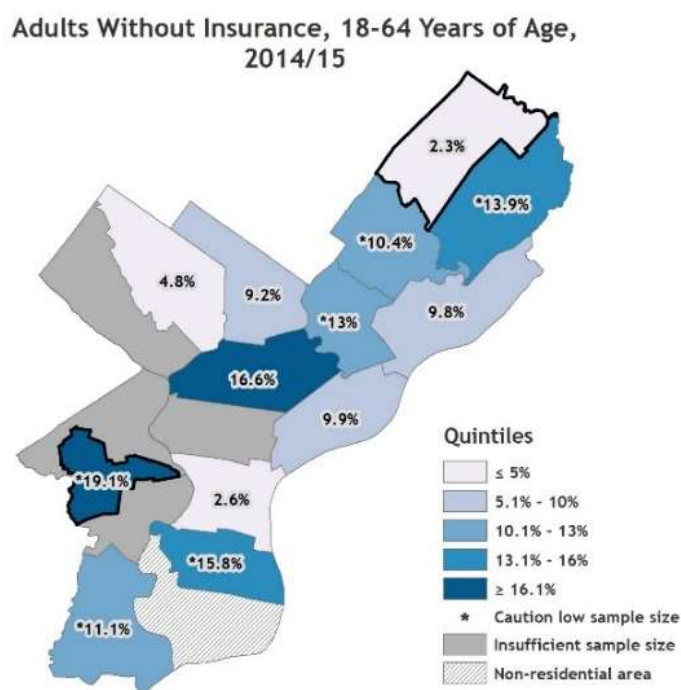
Figure 99 - Percentage of adults, age 18-64 years old, reporting no source of insurance, nationwide and county comparison (2015)
Source - Philadelphia Department of Public Health, 2017
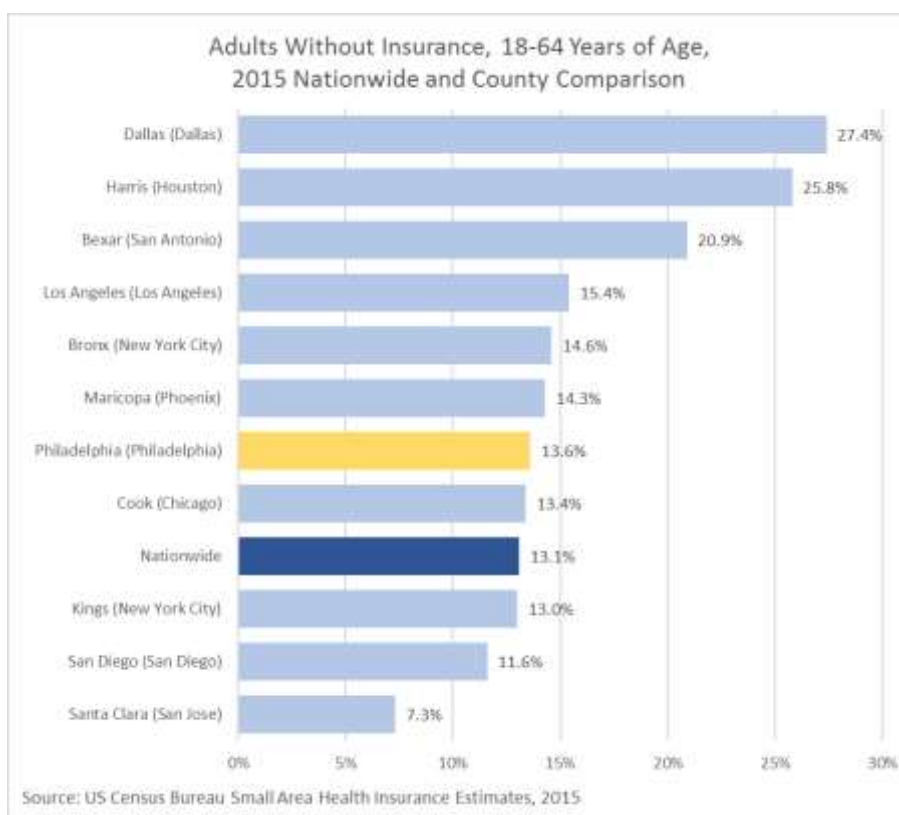
Figure 100 - Percentage of adults, age 18-64 years old, reporting no source of insurance, by Planning District (2014/15)
Source - Philadelphia Department of Public Health, 2017

6.2.3. Supply and availability of primary care providers

An important measure of primary care access is the supply of primary care providers (PCP). Acquiring a PCP is especially important for the patient to receive appropriate care, to maintain a healthy lifestyle, manage chronic conditions, and avoid costly complications and hospitalizations. A personal PCP is also linked to early disease diagnosis and lower mortality rates from all causes.[33]

The Federal Health Services and Resources Administration (HRSA) recognizes the importance of having an adequate number of primary care physicians, and designates geographic areas with more than 3,500 residents for every primary care provider as a primary care health professional shortage area (HPSA). In general, an underserved area will have a ratio of 3,500:1 (in special cases 3,000:1) or higher to qualify.[35]

The following table shows the ratio of population to primary care physicians in the catchment area in 2016. None of the counties is classified as an underserved area.

Table 71 - Ratio of population to primary care physicians, 2016	
Counties	**Total**
Pennsylvania	1,230:1
Philadelphia	1,480:1
Bucks	1,160:1
Chester	1,160:1
Delaware	920:1
Montgomery	710:1
New Jersey	1,190:1
Atlantic	1,230:1
Burlington	1,200:1
Camden	990:1
Gloucester	1,850:1
Mercer	980:1
Ocean	2,260:1
Delaware	1,400:1
New Castle	1,200:1

Source: Robert Wood Johnson Foundation - 2019 County Health Rankings
https://www.countyhealthrankings.org/explore-health-rankings

Philadelphia

Philadelphia has 37 hospitals and 45 community health centers (although some are closing within the year). The hospitals provide acute and long-term acute care, and many of these are part of health systems that provide primary care in co-located outpatient practices. Community health centers are an essential component of the health care safety net in Philadelphia. They provide health care service to the most vulnerable populations, particularly individuals without insurance or US citizenship. These centers are clustered in the central parts of Philadelphia, in areas of the city with high proportions of at-risk populations and lack of access to other affordable options. However, areas in the Northeast have low access and only one community health center.[34] The figure below shows the location of the hospitals and the health centers, as well as primary care supply.

Philadelphia has a large supply of primary care providers (PCP) - approximately one PCP for every 1,243 residents – slightly higher than the national average of one primary care provider for every 1,320 people. However, there is significant variation across the city and some areas meet the criteria as primary care HPSAs, particularly Northwest and Northeast Philadelphia.[34]

Areas with lower supply of PCPs did not differ by age or percent of adults without insurance from areas with higher supply. However, areas with lower access to primary care had higher concentrations of non-Hispanic blacks (55.3%) and a lower median household income, compared to areas of higher access to primary care.[34]
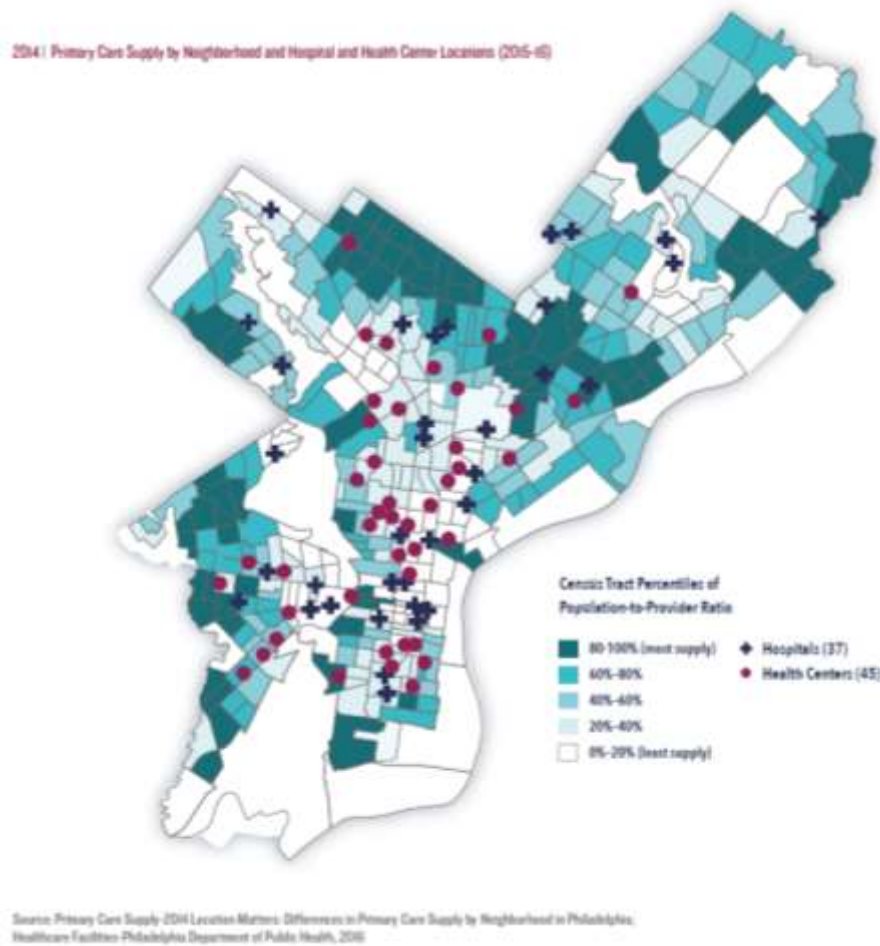
Figure 101 - Primary care provider supply by neighborhood, hospital and health center locations (2015-16)
Source: Philadelphia health of the city report 2017

Race/Ethnicity of Lower Access Areas

WHITE Non-Hispanic · BLACK Non-Hispanic · HISPANIC · ASIAN

Lower Access
- 26.0%
- 55.3%
- 12.0%
- 5.9%

Moderate Access
- 37.3%
- 37.2%
- 17.5%
- 6.8%

Higher Access
- 43.0%
- 35.4%
- 11.4%
- 8.4%

Source: Race/Ethnicity– American Community Survey,
U.S. Census Bureau
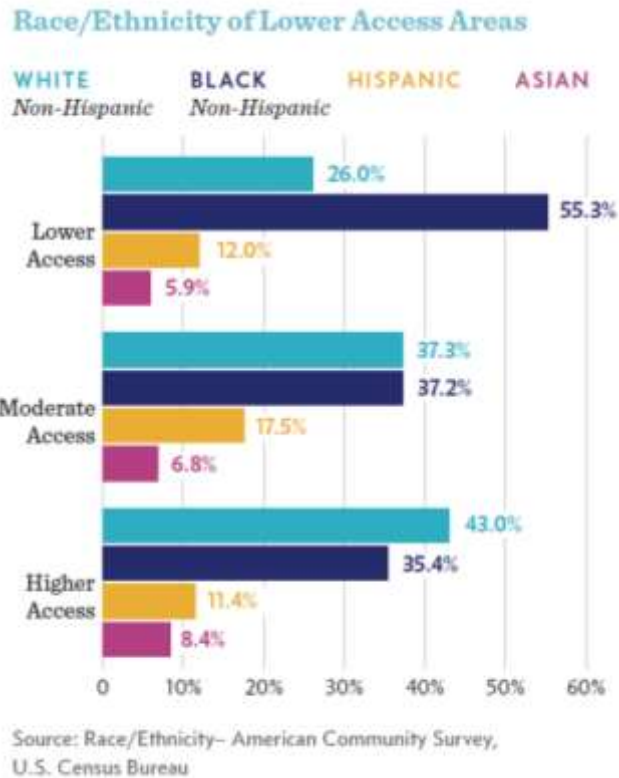
Figure 102 - Race/ethnicity and low access to primary care (2016)
Source: Primary Care Report 2019

Relationship between median income and supply of PCPs

- Lower Access: $23,535
- Moderate Access: $23,865
- Higher Access: $25,225

Source: Average Median Income – American Community Survey,
U.S. Census Bureau
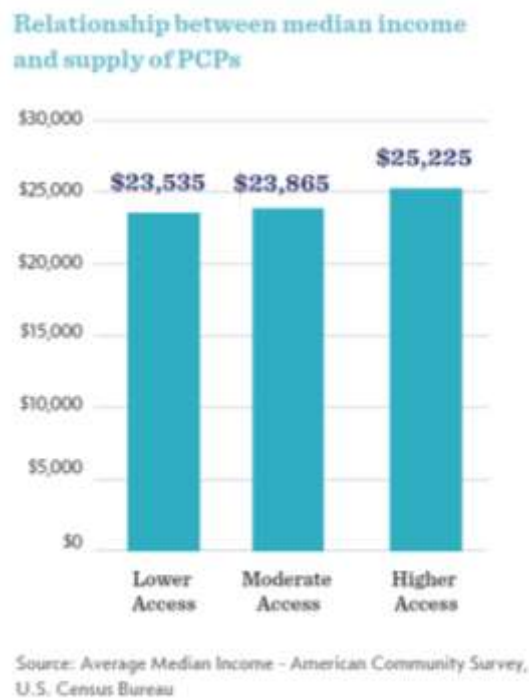
Figure 103 - Income and supply of PCPs
Source: Primary Care Report 2019

6.2.4. Cancer Prevention and Early Detection Services

Preventive healthcare services include check-ups, patient counseling, immunizations, and screenings, which are critical to prevent illness and other health-related problems.[1]

Screening can help prevent some cancers, such as colorectal and cervical, by detecting precancerous lesions that can be removed. It can also detect cancer at an early stage, when treatment is usually more successful. Screening helps reduce mortality for cancers of the breast, colon, rectum, cervix, prostate, and lung. In addition, a heightened awareness of symptoms and changes in certain parts of the body may also result in the early detection of cancer.[1]

6.2.4.1. Colorectal Cancer Screening

Colorectal cancer (CRC) is relatively common, usually has no symptoms in its early stages, and risk increases with age. Screening for colorectal cancer (CRC) can help reduce mortality rates both by decreasing incidence of disease and by increasing the likelihood of survival.[4]

There are several recommended methods for CRC screening that include both visual examinations and stool-based tests. All tests have a comparable ability to reduce CRC death when performed at the appropriate time intervals and with the recommended follow-up. Positive results from any test (other than colonoscopy) should be followed-up with a colonoscopy for complete diagnostic evaluation.[4]

Colonoscopy is now the most common screening test for CRC in the US. Studies suggest that this exam can help reduce CRC incidence by about 40% and mortality by about 50%. The American Cancer Society recommend that men and women at average risk for colorectal cancer begin screening at 45 years of age, and if the results are normal, the exam does not need to be repeated for 10 years in these patients.[4]

6.2.4.1.1. Pennsylvania Counties

Rates or CRC screening in Pennsylvania, by county, are only available from earlier years. In 2008-2010, 73% to 49% of Pennsylvania's five county residents (age 50 and over), had performed a sigmoidoscopy or colonoscopy. Philadelphia had the lowest rate of all counties (48.7%). Data from the 2017 ACC Population Health Supplement Survey show that from the 1005 adults (age 50 and over) surveyed, almost 85% had ever been received endoscopic screening for CRC (sigmoidoscopy or colonoscopy) and 73% had been screened within 5 years.

Table 72 - Model-Based Percent* of adults age 50 and over with a sigmoidoscopy or colonoscopy (2008-2010)	
	Total
US (2010)*	65.4%
Philadelphia	48.7%
Bucks	70.3%
Chester	72.5%
Delaware	67.2%
Montgomery	69.9%

Source:
https://statecancerprofiles.cancer.gov/risk/index.php?topic=colorec&risk=v09&race=00&sex=0&datatype=1&stateFIPS=42&type=risk&sortVariableName=default&sortOrder=desc#results
*Estimates are based on a statistical model which combines information from the Behavioral Risk Factor Surveillance System and the National Health Interview Survey to correct for nonresponse and undercoverage bias and are enhanced in small areas by borrowing information from similar areas across the nation.
*US data:
- From different date (2010) and source: https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6026a4.htm
- Percentage of persons aged 50-75 years who were adequately screened for colorectal cancer.

Table 73 – Adults age 50 and over with sigmoidoscopy or colonoscopy (2017)					
		Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Valid	**Within the past year**	112	11.1	16.7	16.7
	Within the past 2 years	100	10.0	14.9	31.7
	Within the past 3 years	85	8.5	12.7	44.4
	Within the past 5 years (OR)	98	9.8	14.6	59.0
	5 or more years ago	120	11.9	17.9	77.0
	Never	154	15.3	23.0	100.0
	Total	669	66.6	100.0	
Missing	**System**	336	33.4		
Total		1005	100.0		

Source: Assessing Population Health in the ACC Catchment Area (2017 Survey Descriptive Results – ACC Population Health Supplement)
Note: Data for Philadelphia, Bucks, Chester, Delaware, and Montgomery.
*Survey Question: About how long has it been since you last had: a colonoscopy or sigmoidoscopy (Asked of all respondents age 50+).

Philadelphia

Screening rates for CRC increased from 2004 to 2012. In 2014/2015, the percentage of adults aged 50-74 that had performed a colonoscopy or a sigmoidoscopy in a lifetime was 72.6%. Hispanic and White non-Hispanic presented the lowest rates. When compared to national level, Philadelphia presents favorable CRC screening rates.
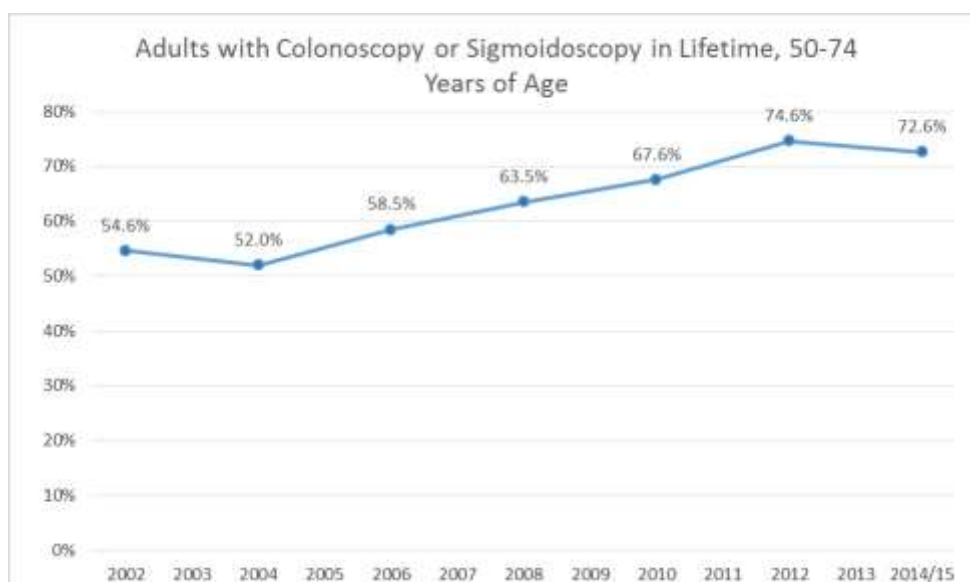
Figure 104 - Adults with Colonoscopy or Sigmoidoscopy in lifetime, 50-74 years of age (2002-2015)
Source - Philadelphia Department of Public Health, 2017
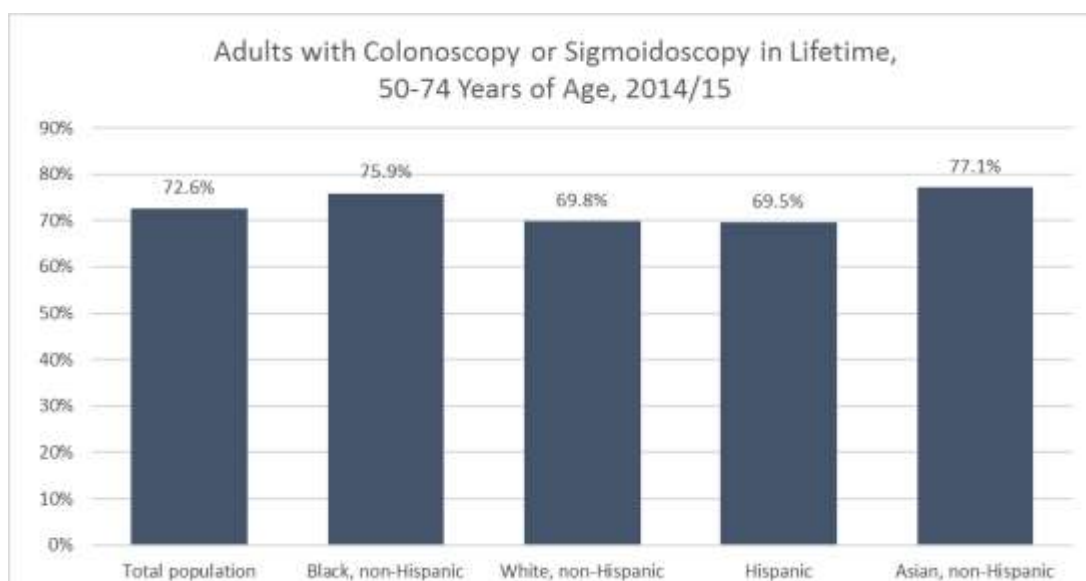
Figure 105 - Adults with Colonoscopy or Sigmoidoscopy in lifetime, 50-74 years of age by race/ethnic group (2002-2015)
Source - Philadelphia Department of Public Health, 2017
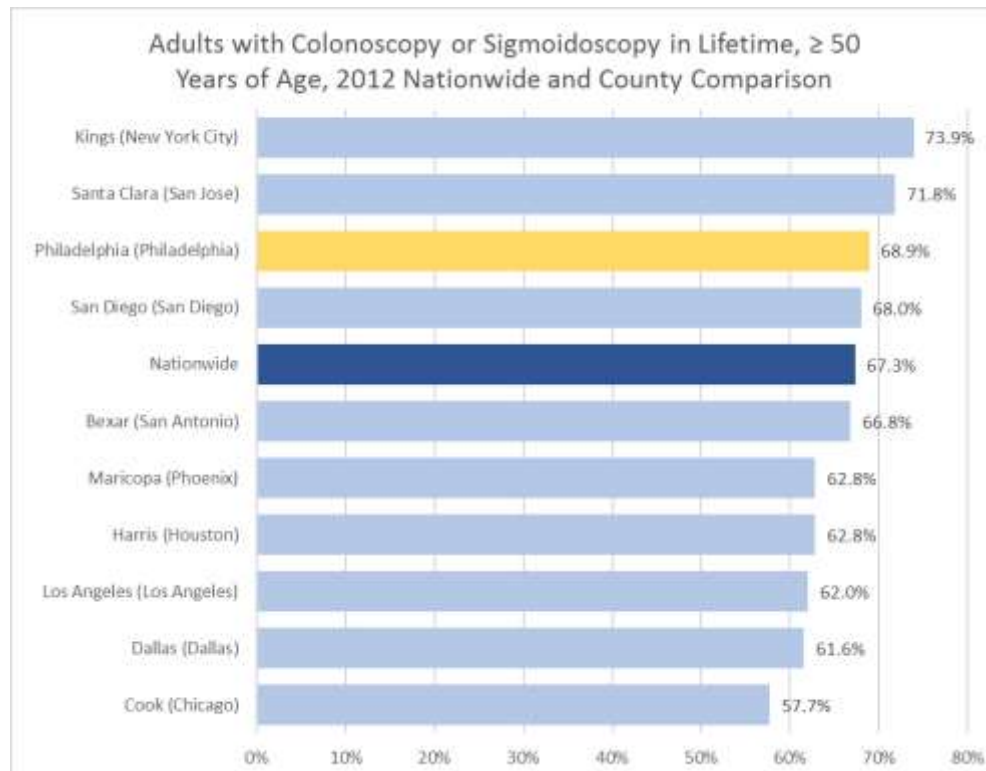
Figure 106 - Adults with Colonoscopy or Sigmoidoscopy in lifetime, ≥50 years of age – Nationwide and County Comparison (2012)
Source - Philadelphia Department of Public Health, 2017

6.2.4.1.2. New Jersey Counties

In 2012-2016, 65.6% of New Jersey residents, aged 50-75, were current with colorectal cancer screening recommendations. The highest rates were recorded in Burlington (70.7%) and the lowest rates in Ocean County (64%).

Observing the rates by race/ethnicity, Black non-Hispanic people are more likely to be current with CRC recommended screening guidelines, and Hispanic are not.
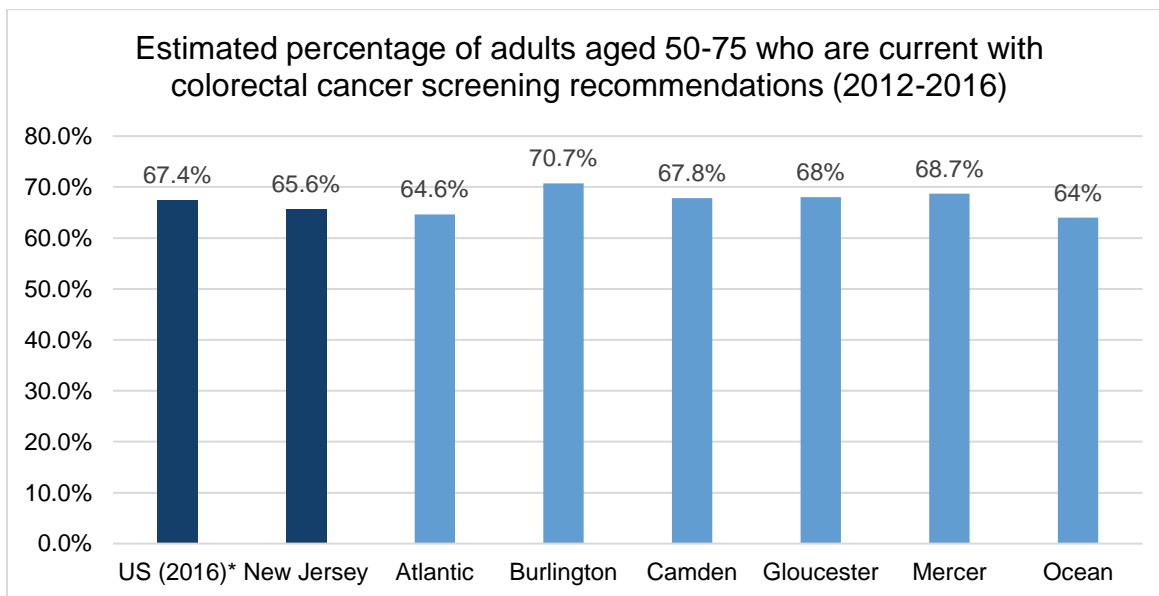
Figure 107 - Estimated percentage of adults aged 50-75 who are current with colorectal cancer screening recommendations (age-adjusted), 2012-2016.
Source: New Jersey State Health Assessment Data https://www-doh.state.nj.us/doh-shad/ (downloaded on 6/18)
*US data from:
- Different date (2016) and source: https://www.cdc.gov/cancer/colorectal/statistics/use-screening-tests-BRFSS.htm
- Percentage of adults aged 50 to 75 years who were up-to-date with colorectal cancer screening

Adults aged 50-75 without up-to-date colorectal cancer screening, 2015-2017
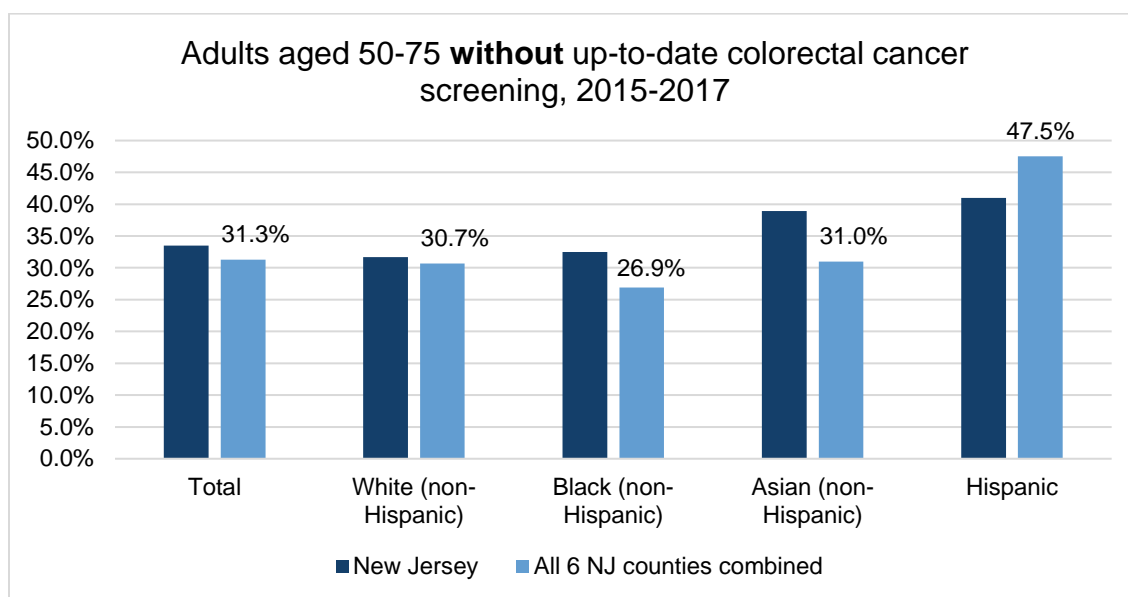
Figure 108 - Percentage of adults aged 50-75 without up-to-date colorectal cancer screening (age-adjusted), by race and ethnicity, for New Jersey state and for all 6 NJ counties combined (2015-2017).

*Data was not presented by county due to small sample size ("The value has been suppressed because it does not meet standards of reliability or precision or because it could be used to calculate the number in a cell that has been suppressed"). Source: New Jersey State Health Assessment Data https://www-doh.state.nj.us/doh-shad/ (downloaded on 6/18)

6.2.4.1.3. Delaware – New Castle County

In 2015, 75% of all adults age 50 and over in Delaware had a colonoscopy in the past 10 years. This number is slightly lower in New Castle County (73%).
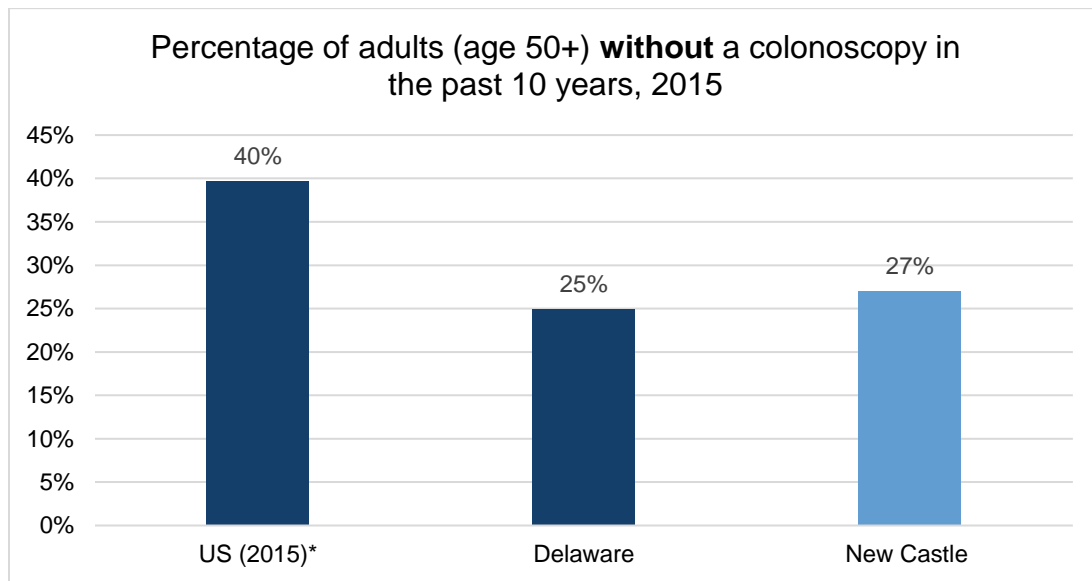
Figure 109 - Percentage of adults age 50 and over with no colonoscopy in the past 10 years (age-adjusted), 2015.
Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware State Health Needs Assessment, 2017.
*US data (2015):
- From different source: Colorectal Cancer Facts and Figures 2017-2019
- Percentage of adults, aged 50 years and older without a sigmoidoscopy within the past five years or a colonoscopy within the past 10 years.

6.2.4.1.4. FQHC Data: CRC Screening in Federally Qualified Health Centers

The following table presents the percentage of patients screened for colorectal cancer in 2014 and 2018 in various health centers in the catchment area. Data shows that overall, there has been an increase of screening percentages in almost every health center, except for 7 of them (3 located in Philadelphia and 4 in NJ Counties), where a decrease was observed.

State	County	City	Health Center	Total Number of Patients	Percentage of Patients Screened for Colorectal Cancer		
				2018	2014	2018	Percent Change
PA	**Philadelphia**	Philadelphia	Convenant House, Inc.	12,565	91.43%	95.71%	4.68%
			Delaware Valley Community Health, Inc	48,873	37.68%	43.78%	16.19%
			Esperanza Health Center	14,024	45.68%	58.46%	27.98%
			Greater Philadelphia Health Action, Inc	86,230	35.71%	28.61%	-19.88%
			Philadelphia Fight	5,799	51.13%	35.45%	-30.67%
			Philadelphia, City of	16,112	-	61.43%	-
			Project H.O.M.E	4,292	10.00%	24.37%	143.70%
			Public Health Management Corporation	28,222	25.78%	30.56%	18.54%
			Quality Community Health Care, Inc.	11,722	78.57%	88.57%	12.73%
			Resources For Human Development, Inc.	21,987	25.67%	43.19%	68.25%
			Spectrum Health Services	11,756	13.85%	19.91%	43.75%
			The Sayre Health Center	2,836	49.15%	16.58%	-66.27%
NJ	**Chester**	Chester	ChesPenn Health Services	17,073	15.91%	33.02%	107.54%
		Kennett Square	La Communidad Hispana	7,024	25.37%	23.06%	-9.11%
	Montgomery	Pottstown	Community Health and Dental Care	9,393	19.55%	22.99%	17.60%
	Atlantic	Egg Harbor TWP	Atlanticare Health Services	7,853	0.28%	28.53%	10089.29%
		Hammonton	Southern Jersey Family	51,187	22.86%	18.78%	-17.85%
	Camden	Camden	Camcare Health Corporation	35,933	38.57%	55.90%	44.93%
		Camden	Project H.O.P.E., Incorporated	5,249	14.26%	24.75%	73.56%
	Mercer	Trenton	Henry J Austin Health Center Inc	14,566	38.57%	32.95%	-14.57%
	Ocean	Lakewood	Lakewood Resource and Referral Center, Inc	44,009	21.43%	14.29%	-33.32%
		Lakewood	Ocean Health Initiatives, Inc	31,378	6.94%	36.61%	427.52%
DE	**New Castle**	Wilmington	Southbridge Med. Advisory Council, Inc.	5,941	38.57%	70.43%	82.60%
		Wilmington	Westside Family Healthcare, Inc.	28,316	54.29%	65.37%	20.41%

Table 74 – FQHC Data (2014 and 2018)

Sources: https://bphc.hrsa.gov/uds/datacenter.aspx?q=d&year=2018 and https://bphc.hrsa.gov/uds2016/datacenter.aspx?q=d&year=2016

6.2.4.2. Breast Cancer Screening

Mammography is a low-dose x-ray used to examine the human breast and detects breast cancer. Studies show that mammography reduces the risk of dying from breast cancer by about 40% and leads to more favorable treatment options, including less-extensive surgery and the use of chemotherapy with fewer serious side effects, or sometimes, the option to forgo chemotherapy entirely.[2]

For women at average-risk of breast cancer, the American Cancer Society recommends that those 40 to 44 years of age have the option to begin annual mammography; those 45 to 54 years should undergo annual mammography; and those 55 years of age or older may transition to biennial mammography or continue with annual mammograms. Women should continue screening as long as their overall health is good and they have a life expectancy of 10 years or more.[2]

According to data from 2016 from the Robert Wood Johnson Foundation - 2019 County Health Rankings, 39% to 47% of women aged 65--74 (who were Medicare enrollees) in the catchment area reported having received an annual mammogram. The lowest percentage was recorded in Camden County and among Hispanics, followed by African Americans.[18]

Table 75 – Percentage of female Medicare enrollees ages 65-74 that received an annual mammography screening (2016)				
		Race		Ethnicity
Counties	**Total**	**White**	**Black**	**Hispanic**
Pennsylvania	44%	-	-	-
Philadelphia	40%	43%	38%	40%
Bucks	46%	46%	38%	43%
Chester	44%	44%	38%	37%
Delaware	41%	41%	39%	43%
Montgomery	47%	48%	45%	38%
New Jersey	41%	-	-	-
Atlantic	42%	43%	38%	37%
Burlington	43%	43%	44%	37%
Camden	39%	40%	37%	40%
Gloucester	40%	40%	41%	37%
Mercer	43%	44%	43%	39%
Ocean	44%	44%	42%	37%
Delaware	48%	-	-	-
New Castle	47%	47%	46%	39%

Source: Robert Wood Johnson Foundation - 2019 County Health Rankings
https://www.countyhealthrankings.org/explore-health-rankings

6.2.4.2.1. Pennsylvania Counties

Data from 2008-2010 demonstrate 74% to 80% of women age 40 and over, had a mammogram in the past two years. Although all county rates were within 10% of each other, the lowest rate was in Philadelphia (73.5%) and the highest rate in Delaware County (80.3%).
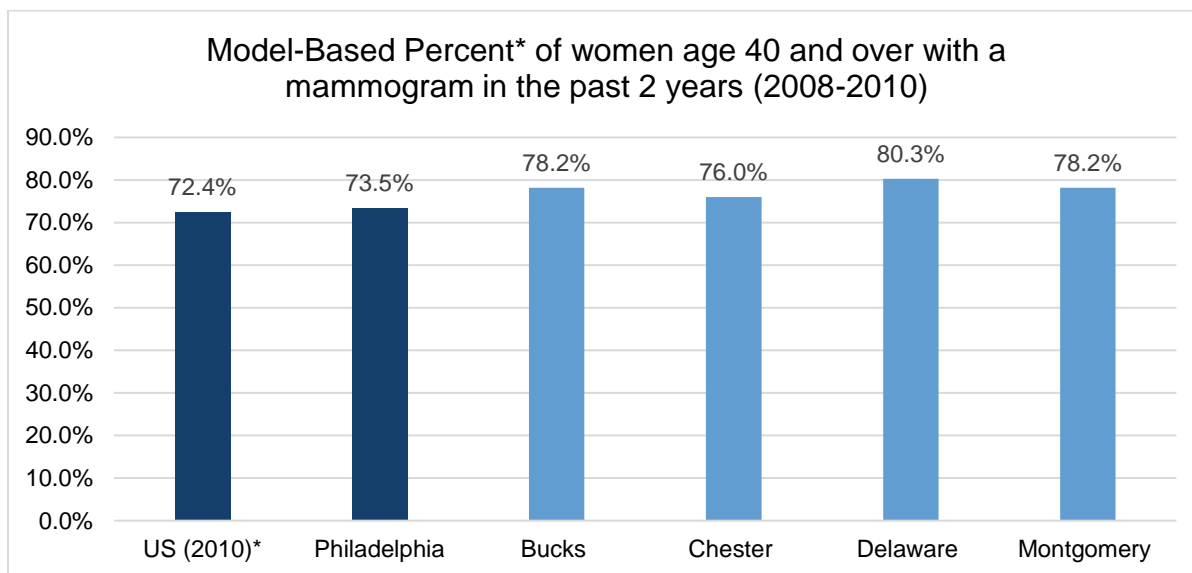
Figure 110 - Model-Based Percent* of women age 40 and over with a mammogram in the past 2 years (2008-2010).

*Estimates are based on a statistical model which combines information from the Behavioral Risk Factor Surveillance System and the National Health Interview Survey to correct for nonresponse and undercoverage bias and are enhanced in small areas by borrowing information from similar areas across the nation.

Source:https://statecancerprofiles.cancer.gov/risk/index.php?topic=women&risk=v06&race=00&datatype=1&stateFIPS=42&type=risk&sortVariableName=default&sortOrder=default#results

*US data:

- From different year (2010) and source: https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6103a1.htm

- Percentage of women (age 50-74 years) who reported having a mammogram in the past two years

Philadelphia

Mammography rates in Philadelphia have remained relatively stable over time and are higher than national level rates. In 2014/2015, the percentage of women aged 50-74 that underwent a mammography in the past 2 years was 82.5%. These rates are lower among non-Hispanic White women (76.2%) and higher among non-Hispanic Asian (89.8%).
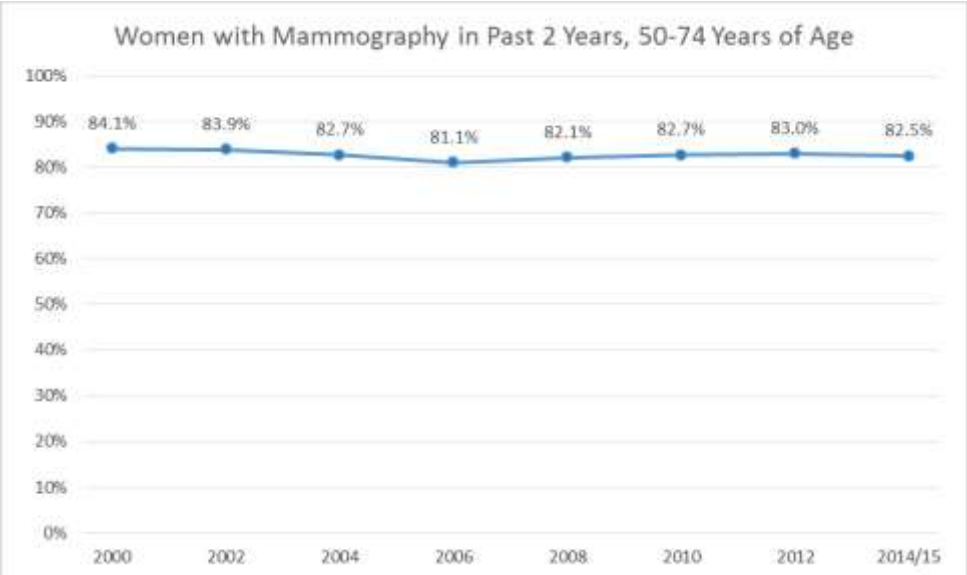
Figure 111 - Women with Mammography in past 2 years, 50-74 years of age (2000-2015)
Source - Philadelphia Department of Public Health, 2017
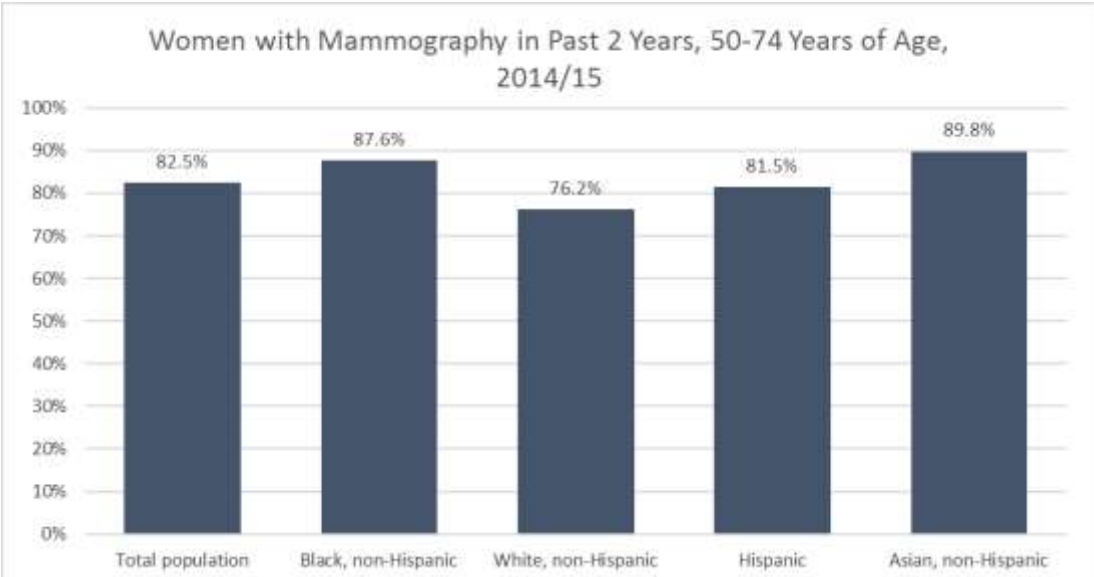
Figure 112 - Women with Mammography in past 2 years, 50-74 years of age, by race/ethnic group (2000-2015)
Source - Philadelphia Department of Public Health, 2017
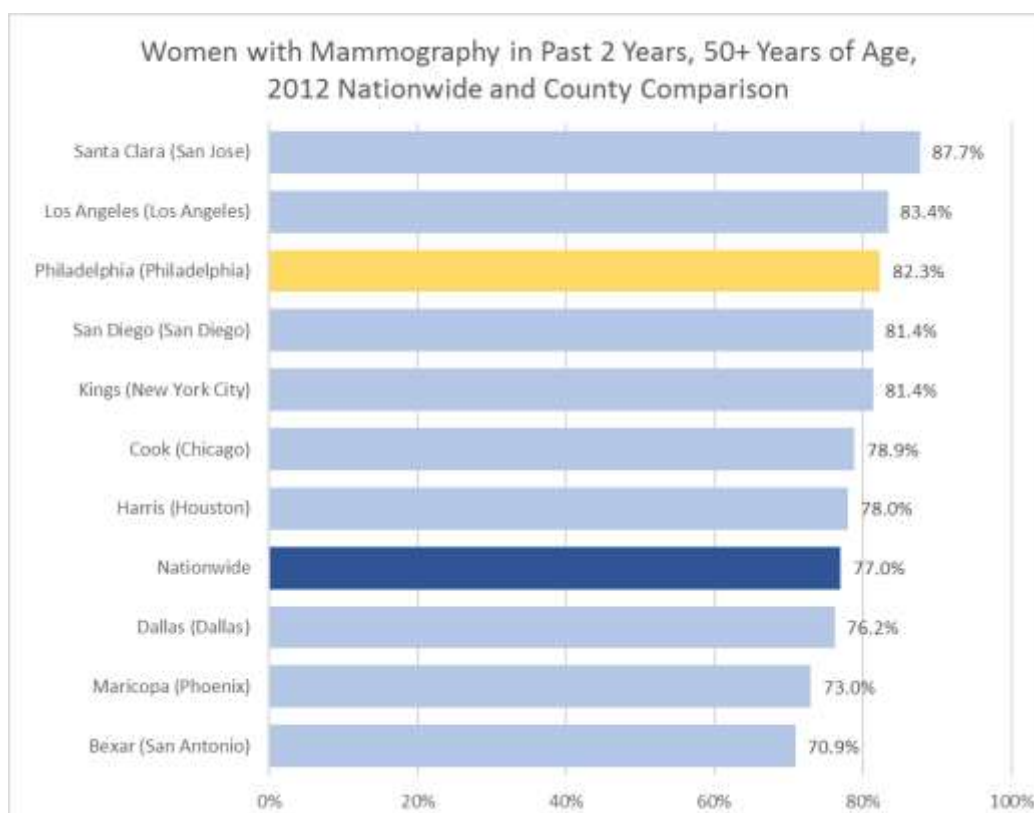
Figure 113 - Women with Mammography in past 2 years, ≥50 years of age, Nationwide and County Comparison (2012)
Source - Philadelphia Department of Public Health, 2017

6.2.4.2.2.   New Jersey Counties

In 2014-2016, the percentage of women aged 50-74 in New Jersey that reported having a mammogram in the past two years was 79.5%. Relatively to race/ethnicity, White non-Hispanic present the highest rates of women having a mammogram in the past two years (22.1% for both state and 6 counties combined). The lowest rates were observed in Black non-Hispanic for all 6 counties combined (8.8%) and in Hispanics in New Jersey (12.3%).
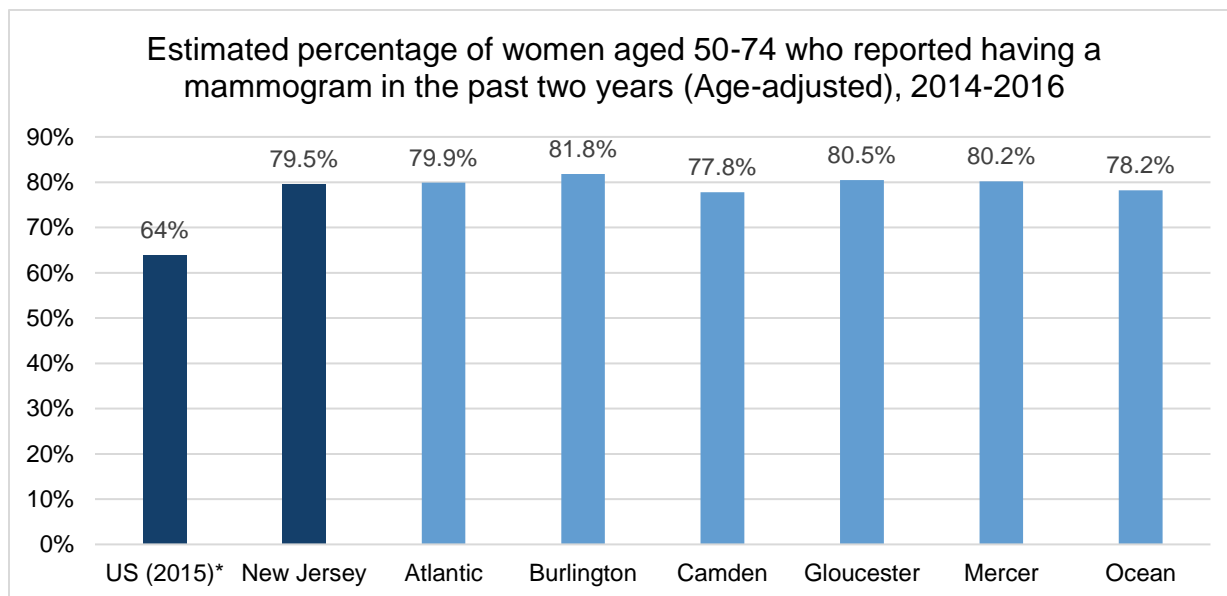
Figure 114 - Estimated percentage of women aged 50-74 who reported having a mammogram in the past two years (age-adjusted), 2014-2016.
Source: New Jersey State Health Assessment Data https://www-doh.state.nj.us/doh-shad/ (downloaded on 6/18)
*US data:
- From different year (2015) and source: Breast Cancer Facts and Figures 2017-2018
- Percentage of women (age 40 and older) who reported having a mammogram in the past two years
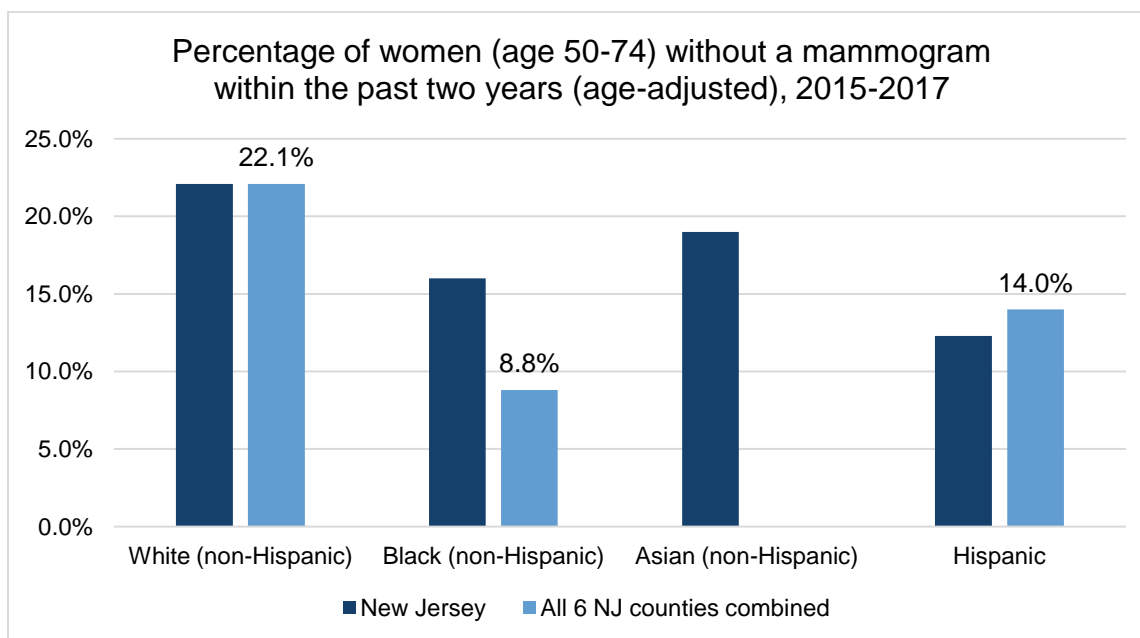
Figure 115 - Percentage of women (age 50-74) without a mammogram within the past two years (age-adjusted), by race and ethnicity, for New Jersey state and for all 6 NJ counties combined (2015-2017).
*Data not available for "Asian - all 6 NJ counties combined" - *The value has been suppressed because it does not meet standards of reliability or precision or because it could be used to calculate the number in a cell that has been suppressed.*
Source: New Jersey State Health Assessment Data https://www-doh.state.nj.us/doh-shad/ (downloaded on 6/18)

6.2.4.2.3. Delaware – New Castle County

In Delaware, 82% of women age 50-74 have had a mammogram in the past two years. In New Castle County this number is 81%. In addition, 32% and 31% of women in Delaware and New Castle County respectively, reported <u>not</u> having a clinical breast exam in the past year.

Percentage of women (age 50-74) without an up-to-date breast cancer screening exam, 2015

Category	No mammogram in past two years	No clinical breast exam in the past year
US (2015)*	36%	
Delaware	18%	32%
New Castle	19%	31%

■ No mammogram in past two years   ■ No clinical breast exam in the past year
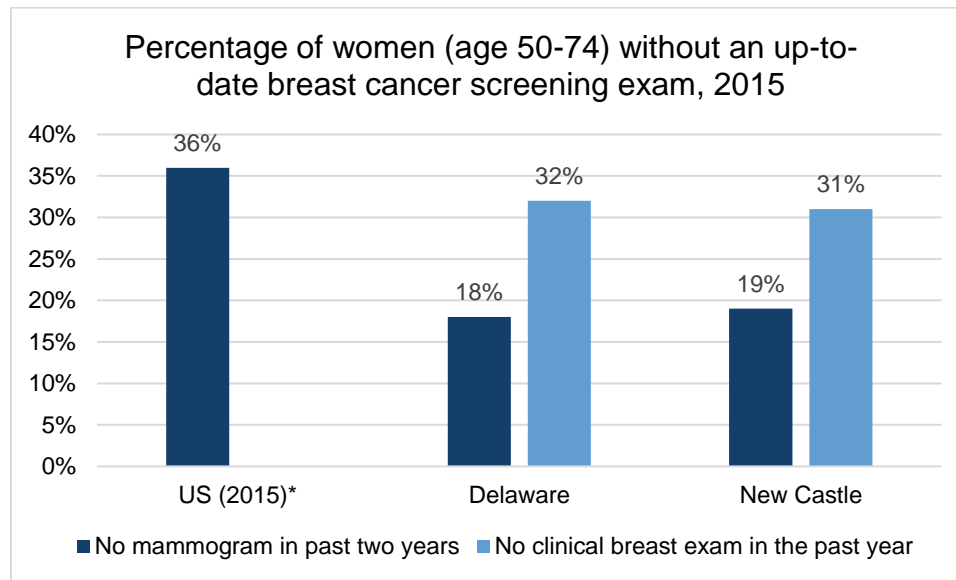
Figure 116 - Percentage of women (age 50-74) without a mammogram within the past two years and without a clinical breast exam within the past year (age-adjusted), 2015
Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware State Health Needs Assessment, 2017.
*US data:
- From different source: Breast Cancer Facts and Figures 2017-2018
- Percentage of women (age 40 and older) without an up-to-date breast cancer screening exam.

6.2.4.3. Cervical Cancer Screening and HPV vaccination

A Pap test or a Pap smear is a simple procedure to screen for cervical cancer in women, in which a small sample of cells are collected from the cervix and examined under a microscope.[1]

Human papillomavirus (HPV) is a virus that can lead to the development of genital warts, abnormal cervical cells or cervical cancer. The HPV test detects the presence of this virus and it can predict cervical cancer risk many years into the future. It can also identify women at risk for adenocarcinoma, a type of cervical cancer that is often missed by Pap tests and accounts for 29% of cases.[36]

According to the United States Preventive Services Task Force guidelines, a Pap test should be performed every 3 years in women ages 21 through 29; and women ages 30 through 65 should be screened with any of three tests:[36]
- every 5 years with high-risk HPV testing alone
- every 5 years with Pap and high-risk HPV cotesting
- every 3 years with a Pap test alone

Almost all cases of cervical cancer (90%) are caused by infection with high-risk types of the human papillomavirus (HPV). The HPV vaccine protects against the HPV types that most often cause cervical cancer. The American Cancer Society recommends HPV vaccination for:[37]
- Girls and boys at age 11 or 12.
- Females 13 to 26 years old and for males 13 to 21 years old who have not started the vaccines, or who have started but not completed the series.
- For men who have sex with men and for people with weakened immune systems (including people with HIV infection), if they have not previously been vaccinated - through age 26.

The immunization rate, however, remains relatively low in the US. Only 44% of girls and 35% of boys (13-17 years of age) were up to date with the HPV vaccination series in 2017.[38]

6.2.4.3.1. Pennsylvania Counties

In the Catchment's five Pennsylvania counties, data from 2008-2010 show that 76% to 84% of women, age 18 and over, reported having a Pap test within the past three years. Philadelphia presented the lowest Pap test rates (76.2%) and Delaware the highest (83.5%).

Regarding HPV vaccination rates, data from the 2017 National Immunization Survey indicates that 45% of adolescents, aged 13-17 years (49% of females and 41% of males) received 3 doses or more of the HPV Vaccine in Pennsylvania—higher than national rates.
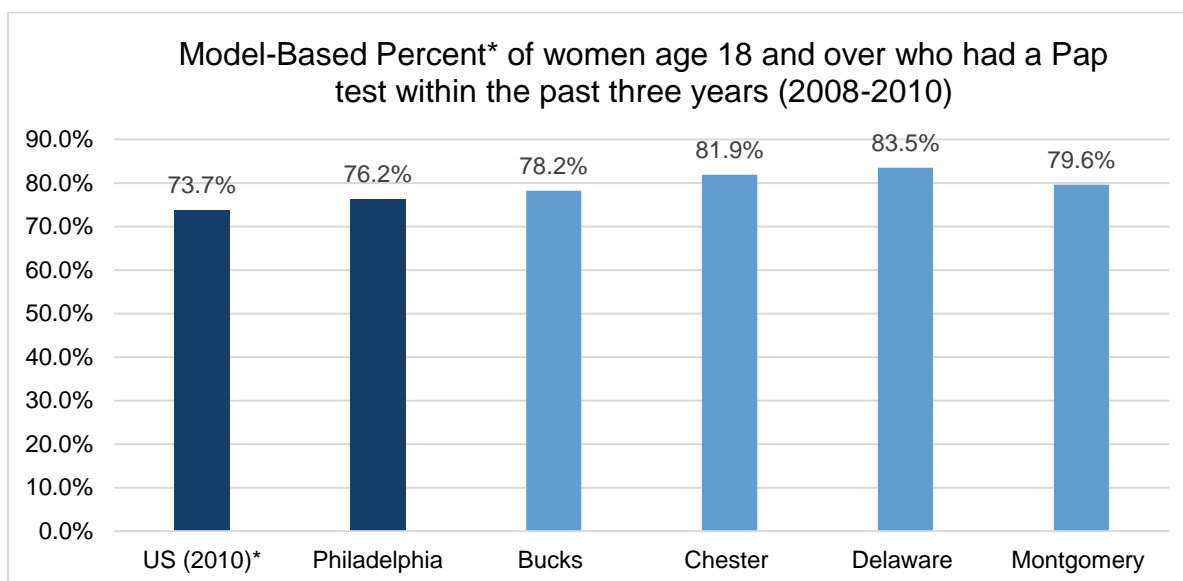
Figure 117 - Model-Based Percent* of women age 18 and over who had a Pap test within the past three years (2008-2010)
*Estimates are based on a statistical model which combines information from the Behavioral Risk Factor Surveillance System and the National Health Interview Survey to correct for nonresponse and undercoverage bias and are enhanced in small areas by borrowing information from similar areas across the nation.
Source:https://statecancerprofiles.cancer.gov/risk/index.php?topic=women&risk=v11&race=00&datatype=1&stateFIPS=42&type=risk&sortVariableName=default&sortOrder=default#results
*US data from different date (2010) and source: https://www.cdc.gov/nchs/data/hus/2018/034.pdf

Percentage of adolescents (aged 13-17 years) in the US and in the state of Pennsylvania who received 3+ doses of HPV Vaccine (2017)
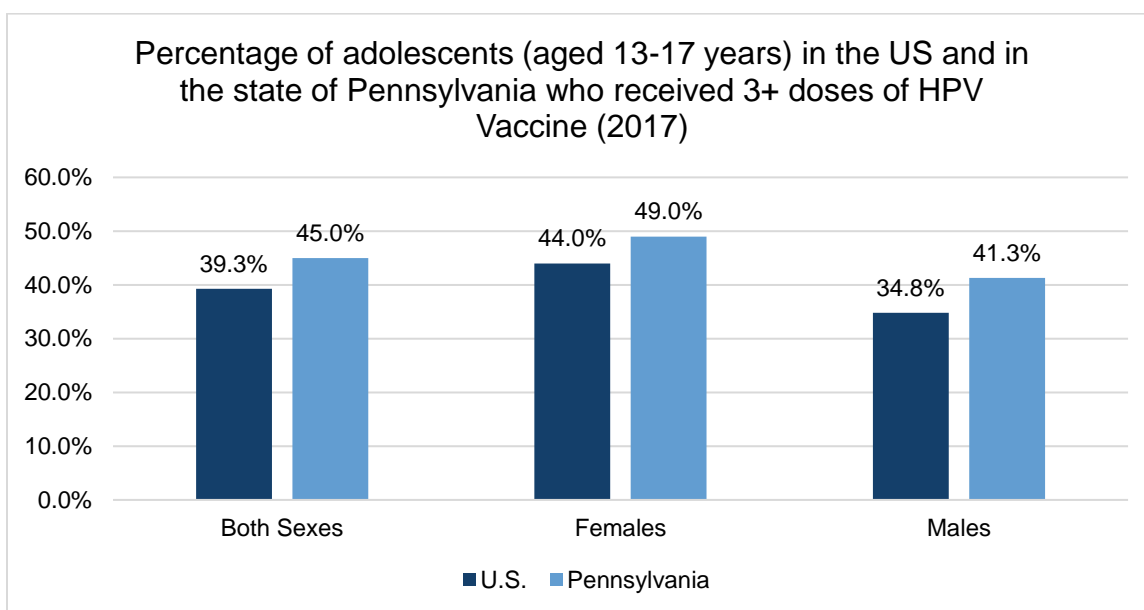
Figure 118 - Percentage of adolescents (aged 13-17 years) in the US and in the state of Pennsylvania who received 3+ doses of HPV Vaccine - All Races (includes Hispanic)
Sources: CDC State Cancer Profiles and 2017 National Immunization Survey
https://statecancerprofiles.cancer.gov/risk/index.php?topic=vaccine&risk=v71&sex=0&type=risk&sortVariableName=default&sortOrder=default#results
Note: No data on HPV vaccination available by county

Philadelphia

In 2016, 70% of adult women had a Pap test within the past three years and 51% had a HPV test in their lifetime. There was not a great difference in these values between age groups but when looking at this data by race/ethnicity, more White non-Hispanic women had received these tests compared to other races and Hispanic ethnicity.

Table 76 - Percentage of adult women in Philadelphia who had a Pap test within the past three years and who had a HPV test in their lifetime, by age group and race/ethnicity (2016)		Pap test within the past three years	HPV test in lifetime
Total		70%	51%
Age Group	**18-29**	71%	50%
	30-44	77%	67%
	45-64	77%	50%
Race / Ethnicity	**White, non-Hispanic**	72%	58%
	Other (including Hispanic)	69%	46%

Source: 2016 Pennsylvania Behavioral Risk Factor Surveillance System – Pennsylvania Department of Health

The percentage of girls aged 13-17 completing 3-doses of HPV vaccine has increased since 2000 and was 54% in 2016, ranking higher than nationwide. White non-Hispanic had the lowest vaccination rate (48.7%), while Hispanics had the highest rate (63.7%). Rates appear to be rising; according to the 2018 National Immunization Survey, 89.9% of Philadelphia girls had received the HPV vaccine (data not shown in graphs).
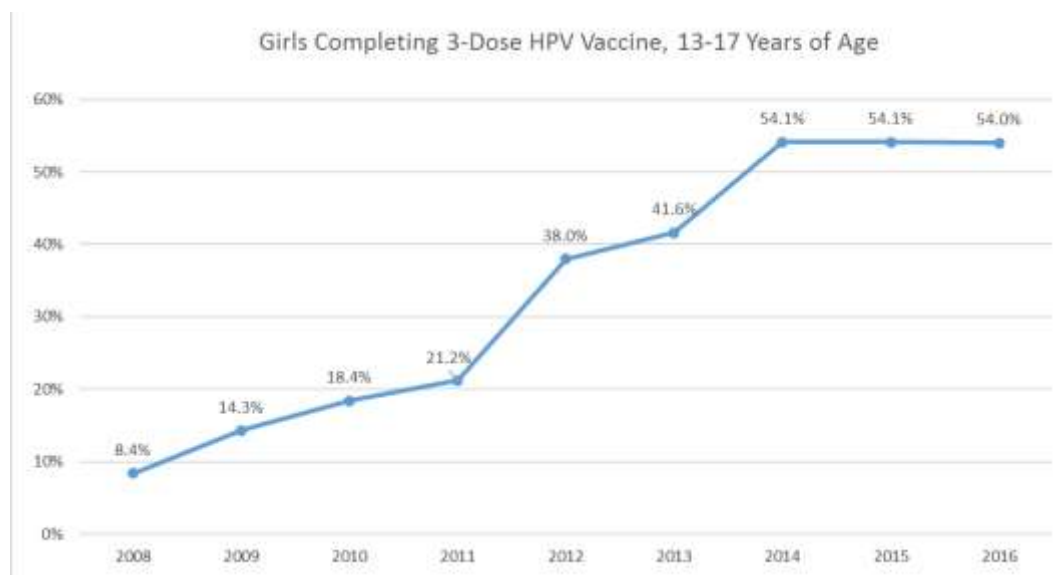
Figure 119 - 3-Dose HPV vaccination in girls, 13-17 years of age (2008-2016)
Source - Philadelphia Department of Public Health, 2017
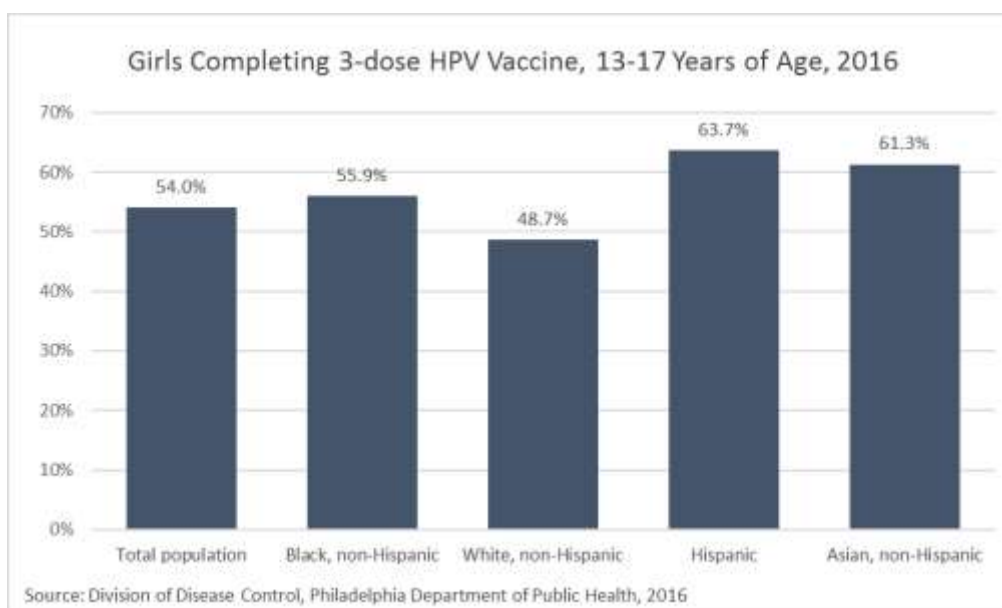
Figure 120 - 3-Dose HPV vaccination in girls, 13-17 years of age, by race/ethnic group (2016)
Source - Philadelphia Department of Public Health, 2017
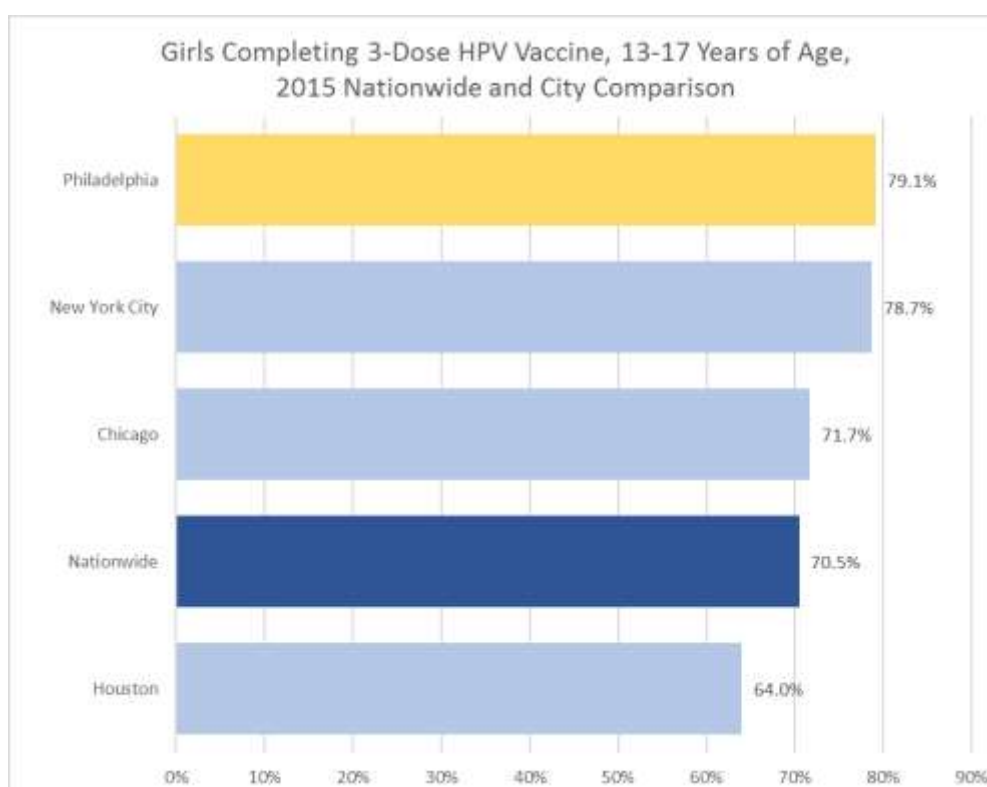
Figure 121 - 3-Dose HPV vaccination in girls, 13-17 years of age, Nationwide and City comparison (2015)
Source - Philadelphia Department of Public Health, 2017

6.2.4.3.2. New Jersey Counties

In 2014-2016, the percentage of adult women that reported having a Pap test in the past three years was 83% in New Jersey, 93.3% in Gloucester County (the highest rate among New Jersey catchment counties), and 82.1% in Mercer County (the lowest rate).

When looking at the data by race/ethnicity, the highest percentage of women without a Pap test were Asian non-Hispanic (27.8% for NJ and 31.8% for the six counties combined). Only 10% of African American women for all six counties combined did not have a pap test within the past three years.

HPV vaccination rates are higher in New Jersey State than in the US. Data from the 2017 National Immunization Survey shows that 43% of adolescents in New Jersey, aged 13-17 years (45% of females and 41% of males) received 3 doses or more of the HPV Vaccine.
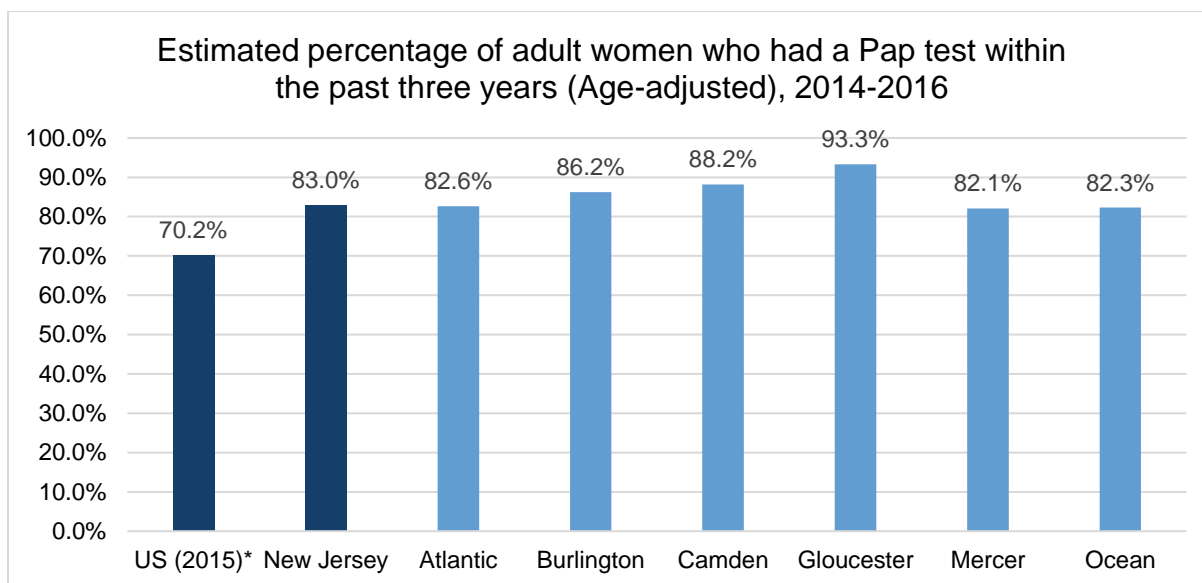
Figure 122 - Estimated percentage of adult women who had a Pap test within the past three years (age-adjusted), 2014-2016.
Source: New Jersey State Health Assessment Data https://www-doh.state.nj.us/doh-shad/ (downloaded on 6/18)
*US data from different date (2015) and source: https://www.cdc.gov/nchs/data/hus/2018/034.pdf
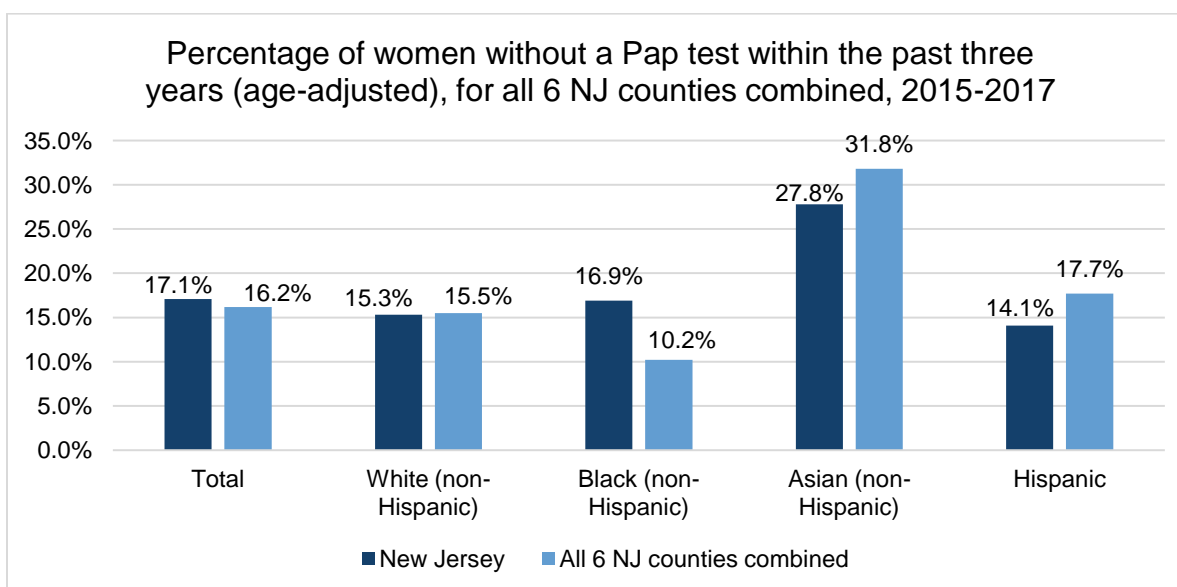
Figure 123 - Percentage of women without a Pap test within the past three years (age-adjusted), by race and ethnicity, for New Jersey State and for all 6 NJ counties combined (2015-2017).
*Data was not presented by county due to small sample size ("The value has been suppressed because it does not meet standards of reliability or precision or because it could be used to calculate the number in a cell that has been suppressed").
Source: New Jersey State Health Assessment Data https://www-doh.state.nj.us/doh-shad/ (downloaded on 6/18)
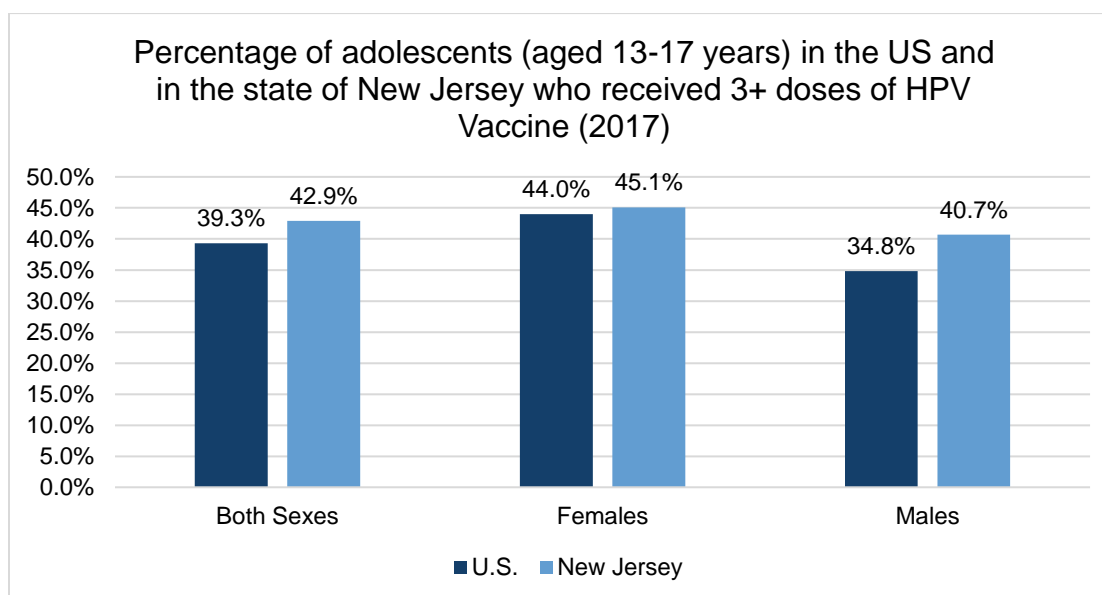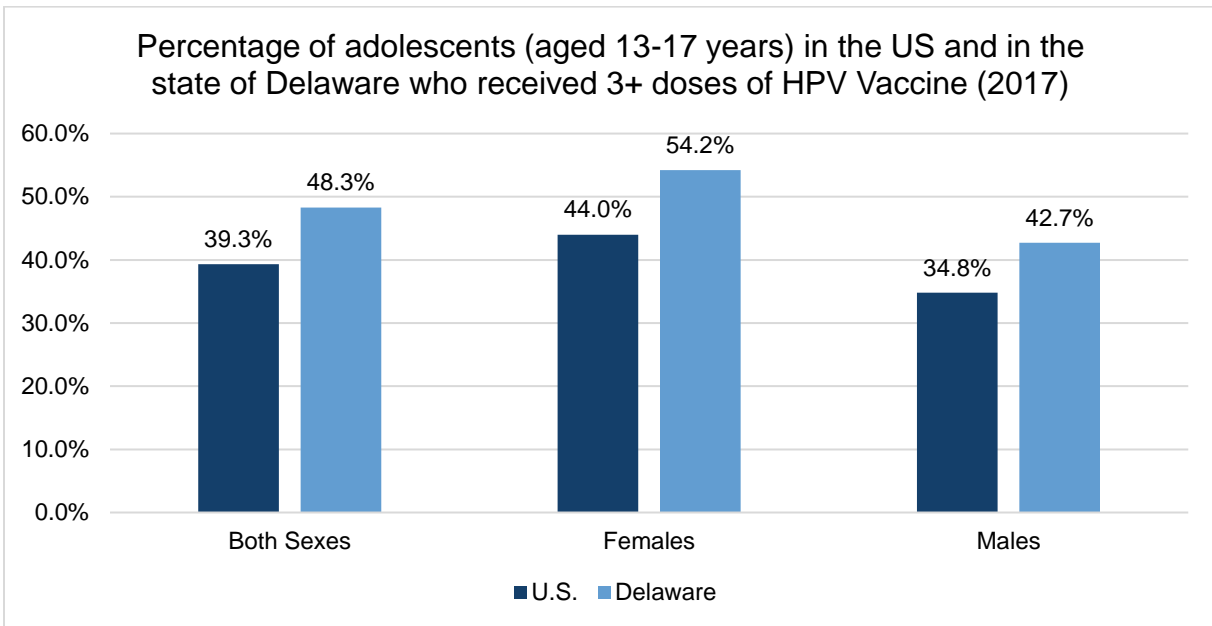

Figure 124 - Percentage of adolescents (aged 13-17 years) in the US and in the state of New Jersey who received 3+ doses of HPV Vaccine - All Races (includes Hispanic)
Sources: CDC State Cancer Profiles and 2017 National Immunization Survey
https://statecancerprofiles.cancer.gov/risk/index.php?topic=vaccine&risk=v71&sex=0&type=risk&sortVariableName=default&sortOrder=default#results
Note: No data on HPV vaccination available by county

6.2.4.3.3.   Delaware – New Castle County

Data from 2015 shows that 12% of women aged 21 to 65 years in Delaware, and 11% of women in New Castle County, had not received a Pap test in the past three years, as shown in figure 113.

In 2017, 48% of adolescents in Delaware, aged 13 to 17 years (54% of females and 43% of males) received 3 or more doses of the HPV Vaccine, as shown in figure 120. The HPV vaccination rates were higher in Delaware than in the US, in 2017.
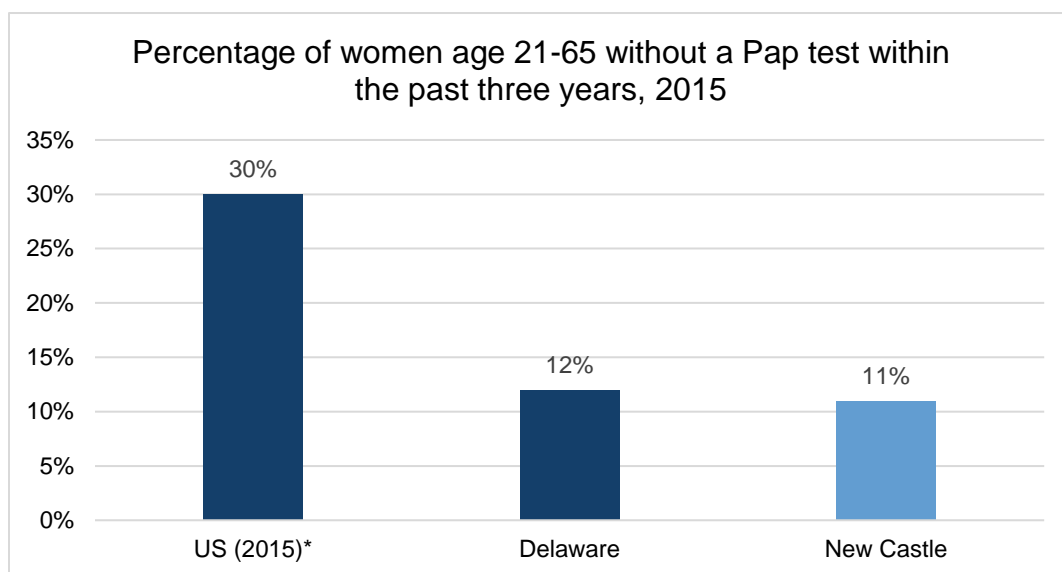
Figure 125 - Percentage of women, age 21-65 (age-adjusted) without a Pap test within the past three years (2015)
Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware State Health Needs Assessment, 2017.
*US data from different source: https://www.cdc.gov/nchs/data/hus/2018/034.pdf

Figure 126 - Percentage of adolescents (aged 13-17 years) in the US and in the state of Delaware who received 3+ doses of HPV Vaccine - All Races (includes Hispanic)
Sources: CDC State Cancer Profiles and 2017 National Immunization Survey
https://statecancerprofiles.cancer.gov/risk/index.php?topic=vaccine&risk=v71&sex=0&type=risk&sortVariableName=default&sortOrder=default#results
Note: No data on HPV vaccination available by county

6.2.4.3.4. FQHC Data

The following table presents the percentage of patients screened for cervical cancer in 2014 and 2018 in various health centers in the catchment area. Data shows that only 11 of the 23 health centers, experienced an increase of screening percentages. In 2018, 6 health centers in Philadelphia and 6 in NJ Counties presented lower cervical cancer screening percentages than in 2014.

				Total Number of Patients	Percentage of Patients Screened for Cervical Cancer		
State	County	City	Health Center	2018	2014	2018	Percent Change
PA	Philadelphia	Philadelphia	Convenant House, Inc.	12,565	95.71%	84.29%	-11.93%
			Delaware Valley Community Health, Inc	48,873	54.29%	59.57%	9.73%
			Esperanza Health Center	14,024	59.99%	72.03%	20.07%
			Greater Philadelphia Health Action, Inc	86,230	48.57%	53.68%	10.52%
			Philadelphia Fight	5,799	88.61%	42.37%	-52.18%
			Philadelphia, City of	16,112	-	70.00%	-
			Project H.O.M.E	4,292	15.71%	45.73%	191.09%
			Public Health Management Corporation	28,222	49.94%	40.80%	-18.30%
			Quality Community Health Care, Inc.	11,722	91.43%	85.71%	-6.26%
			Resources For Human Development, Inc.	21,987	55.82%	46.39%	-16.89%
			Spectrum Health Services	11,756	42.57%	48.39%	13.67%
			The Sayre Health Center	2,836	38.47%	34.02%	-11.57%
NJ	Chester	Chester	ChesPenn Health Services	17,073	34.58%	50.19%	45.14%
		Kennett Square	La Communidad Hispana	7,024	77.58%	56.66%	-26.97%
	Montgomery	Pottstown	Community Health and Dental Care	9,393	33.08%	46.96%	41.96%
	Atlantic	Egg Harbor TWP	Atlanticare Health Services	7,853	23.74%	37.70%	58.80%
		Hammonton	Southern Jersey Family	51,187	64.29%	55.66%	-13.42%
	Camden	Camden	Camcare Health Corporation	35,933	68.57%	62.95%	-8.20%
		Camden	Project H.O.P.E., Incorporated	5,249	9.58%	13.49%	40.81%
	Mercer	Trenton	Henry J Austin Health Center Inc	14,566	48.57%	43.56%	-10.32%
	Ocean	Lakewood	Lakewood Resource and Referral Center, Inc	44,009	38.57%	37.14%	-3.71%
		Lakewood	Ocean Health Initiatives, Inc	31,378	71.33%	65.33%	-8.41%
DE	New Castle	Wilmington	Southbridge Med. Advisory Council, Inc.	5,941	51.21%	72.64%	41.85%
		Wilmington	Westside Family Healthcare, Inc.	28,316	70.07%	72.07%	2.85%

Table 77 – FQHC Data (2014 and 2018)

Sources: https://bphc.hrsa.gov/uds/datacenter.aspx?q=d&year=2018 and https://bphc.hrsa.gov/uds2016/datacenter.aspx?q=d&year=2016

6.2.4.4. Prostate Cancer Screening

Prostate cancer is the most commonly occurring form of cancer (excluding skin cancer) among men and is the second leading cause of cancer death for men in the US.[1] All men over 40 should visit their doctor for a routine health visit, which may include a discussion on prostate health. There are no specific evidence-based guidelines for PSA tests for men at average risk.

The American Cancer Society recommends that beginning at age 50, men who are at average risk of prostate cancer and have a life expectancy of at least 10 years should have a conversation with their health care provider about the benefits and limitations of PSA (prostate specific antigen) testing and make an informed decision about whether to be tested based on their personal values and preferences[1]. Men at high risk of developing prostate cancer (black men and those with a close relative diagnosed with prostate cancer before the age of 65) should have this discussion beginning at age 45, and men at even higher risk (those with several close relatives diagnosed at an early age) should have this discussion beginning at 40.[1]

6.2.4.4.1.   Pennsylvania Counties

In 2016, a total of 64% of Pennsylvania men, age 50 and above, were recommended to have a PSA test by their health professional, and 67% reported having a PSA test in their lifetime. Men age 65 and above were more likely to receive the recommendation and perform the test. Regarding race/ethnicity, Black non-Hispanic presented higher recommendation and test rates when compared to White non-Hispanic.

Table 78 - Percentage of men (age 50+) in Pennsylvania who were recommended doing a PSA test by their health care provider and percentage of men who performed a PSA test in their lifetime (2016)			
		Health professional ever recommended a PSA test	Ever had a PSA test
US (2015)*		-	37%
Pennsylvania (2016)		64%	67%
Age Group	50-64	58%	58%
	65-74	73%	80%
	75+	68%	79%
Race/Ethnicity	White, non-Hispanic	64%	68%
	Black, non-Hispanic	67%	71%
	Hispanic	**	**

Note: Data not available by county

Source:

https://www.health.pa.gov/topics/HealthStatistics/BehavioralStatistics/BehavioralRiskPAAdults/Documents/State%20Report/2016/2016trends.aspx

*US data:

- Prevalence of having a PSA test among men aged 50 and older.

- From different date (2015) and source: https://www.cdc.gov/pcd/issues/2018/17_0465a.htm

** The total response is less than 50 and/or the percentage prevalence is considered "not statistically reliable"

Philadelphia

In 2016, 58% of adult men in Philadelphia were recommended to have a PSA test by their doctor, nurse, or other health professional, and 75% (out of those who received the recommendation) performed the test. Men age 65 and over were more likely to receive the recommendation and to have the test.

Table 79 - Percentage of adult men in Philadelphia who were recommended doing a PSA test by their health care provider and percentage of men who performed a PSA test (2016)		Health professional ever recommended a PSA test	Ever had a PSA test ¥
US (2015)*		-	37%
Pennsylvania (2016)		58%	75%
Age Group	40-44	**	**
	45-64	59%	**
	65+	83%	90%
Race / Ethnicity	White, non-Hispanic	55%	**
	Other (including Hispanic)	**	**

Source: 2016 Pennsylvania Behavioral Risk Factor Surveillance System – Pennsylvania Department of Health
*US data:

- Prevalence of having a PSA test among men aged 50 and older.

- From different date (2015) and source: https://www.cdc.gov/pcd/issues/2018/17_0465a.htm

¥ Out of those who ever had a doctor, nurse or other health professional recommend a PSA test

** The total response is less than 50 and/or the percentage prevalence is considered "not statistically reliable"

6.2.4.4.2. New Jersey Counties

In 2014-2015, 24% of New Jersey men aged 40 and over reported that a doctor, nurse, or other health professional discussed the advantages and disadvantages of the PSA test. Gloucester County had the highest percentage of men who had previously been informed about this test (30%) and Ocean County had the lowest percentage (21%).
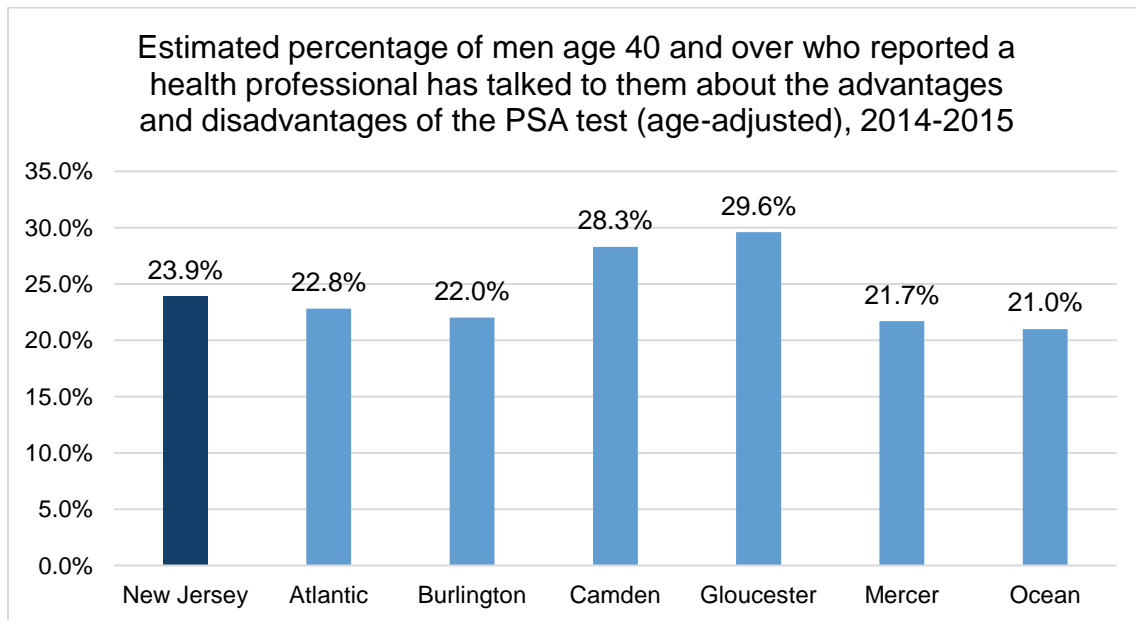
Figure 127 - Estimated percentage of men aged 40 and over who reported a health professional has talked to them about the advantages and disadvantages of the PSA test (age-adjusted), 2014-2015.
Source: New Jersey State Health Assessment Data https://www-doh.state.nj.us/doh-shad/ (downloaded on 6/18)

6.2.4.4.3.   Delaware – New Castle County

In Delaware, nearly one-half of men age 40 and over (47%) did not have a PSA test for prostate cancer in the past year. New Castle has a similar number (48%).
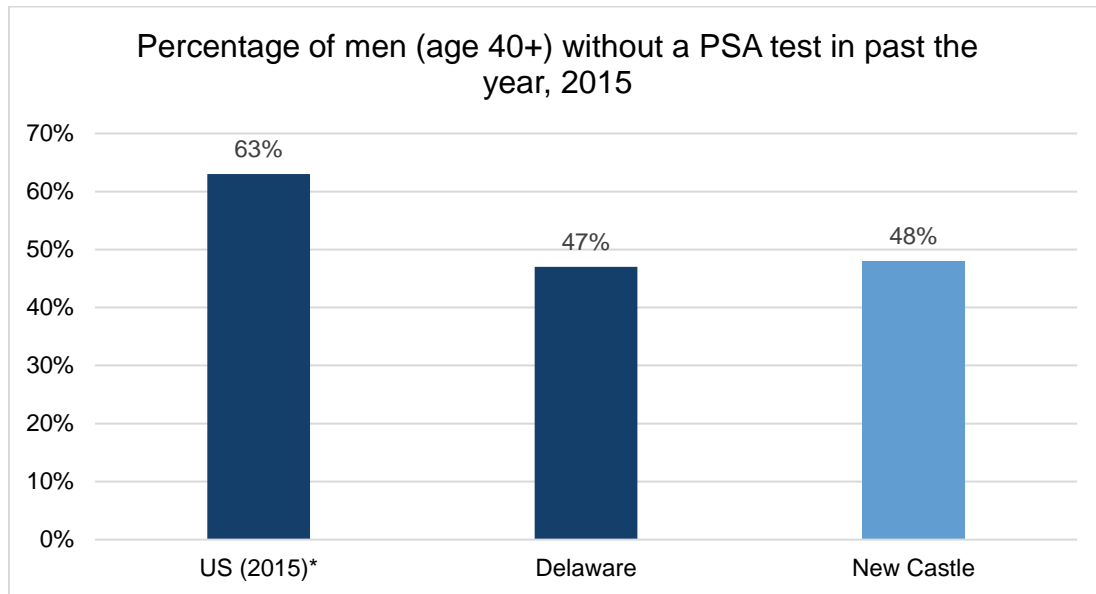
Figure 128 - Percentage of men age 40 and over without a PSA test in past the year, 2015
Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware State Health Needs Assessment, 2017.
*US data:
- No PSA test among men aged 50 and older.
- From different source: https://www.cdc.gov/pcd/issues/2018/17_0465a.htm

6.2.5. Cancer-related survivorship programs

The National Coalition for Cancer Survivorship (NCCS), defined cancer survivorship as "the experience of living with, through, and beyond a diagnosis of cancer". The number of cancer survivors continues to increase, mainly due to two major factors, the advances in treatment and the increased use of effective cancer screening.[39]

In 2019, there were 16.9 million (5%) cancer survivors in the United States and by 2029, this number is expected to increase by 29.1%, to 21.7 million people.[40]

Cancer survivors are at risk for recurrences, as well as for late and long-term side effects of treatment, such as secondary malignancies, and physical and psychosocial limitations. This points out the need for a tailored and integrated delivery of chronic health care and rehabilitation services for these patients.[39]

The Abramson Cancer Center developed the first adult cancer survivorship program in the US in 2001. The program provides specialized care, addressing the wide array of physical and mental health issues experienced by cancer survivors and their families. This program works with cancer survivors completing a questionnaire, in order to identify potential late effects of cancer treatment. Then, and based on this evaluation, a personalized care plan is developed and the patient may be referred to other specialties and oncology support services.
Some useful sources are:
https://www.pennmedicine.org/cancer/navigating-cancer-care/programs-and-centers/survivorship
https://www.oncolink.org/
https://www.pennmedicine.org/cancer/navigating-cancer-care/support-services

7. Special Populations

Special populations

Special populations include vulnerable groups who are at increased risk of experiencing a disparity in medical care, based on financial circumstances or social characteristics such as age, race, gender, ethnicity, sexual orientation, disability, and socioeconomic or insurance status.[41]

Within the catchment area, there are special groups that require attention and that are at high risk of developing cancer, and/or have unique behavioral or other risk factors. Nine groups were identified as special populations: the elderly, the homeless, members of the *LGBT* communuity, people with disabilities and with serious mental ilnesses, the incarcerated, veterans, people with HIV/AIDS, and the Ashkenazi Jews. These populations are economically disadvantaged, engage less with healthcare, under-utilize cancer screening technologies, engage in cancer risk behaviors, and have higher rates of cancer susceptibility gene mutations.

7.1. Elderly

With life expectancy increasing, so are aging populations. In 2017, 15.6% of the US population aged 65 or older; it is estimated that this population will reach 23.5% by 2060.[42]

Older adults are considered a vulnerable group, due to their increased risk for several chronic conditions such as cancer, heart and respiratory diseases, diabetes, Alzheimer's disease, and more.[43] The elderly may also become vulnerable and live at risk because of other factors such as impaired mobility, mental illness, cognitive deficits, poor diet, less physical activity, tobacco and alcohol use, poverty, inadequate housing, living alone, and social isolation.[43]

In the catchment area, Ocean County has the highest number of aging adults with 22.4% of people aged 65 years or older. Philadelphia has the highest number of elderly with a disability (44.1%), unemployed elderly (1.3%), and elderly with an income in the past 12 months below 100% of the poverty level (17.5%).

Table 80 - Estimated percentage of people, 65 years and older (2017)				
	Total	With a disability*	Unemployed	With an income in the past 12 months below 100% of the poverty level
US	15.6%	34.6%	0.6%	9.3%
Pennsylvania	17.7%	34.2%	0.6%	8.5%
Philadelphia	13.4%	44.1%	1.3%	17.5%
Bucks	18.2%	28.8%	0.7%	6.4%
Chester	15.7%	30.6%	0.9%	5.9%
Delaware	16.0%	31.9%	1.1%	8.6%
Montgomery	17.3%	29.3%	1.3%	5.4%
New Jersey	15.7%	30.1%	0.9%	8.4%
Atlantic	§	§	§	§
Burlington	§	§	§	§
Camden	15.3%	32.9%	0.9%	9.6%
Gloucester	§	§	§	§
Mercer	§	§	§	§
Ocean	22.4%	32.0%	0.9%	6.9%
Delaware	18%	28.8%	0.7%	8.5%
New Castle	15.1%	27.5%	0.5%	10%

*Disabilities include: visual, hearing, cognitive, and ambulatory disabilities. As well as self-care and independent living difficulties
§: Data not available
Source: US Census Bureau, 2017 American Community Survey (*https://www.census.gov/acs/www/data/data-tables-and-tools/*), downloaded on 6/12)
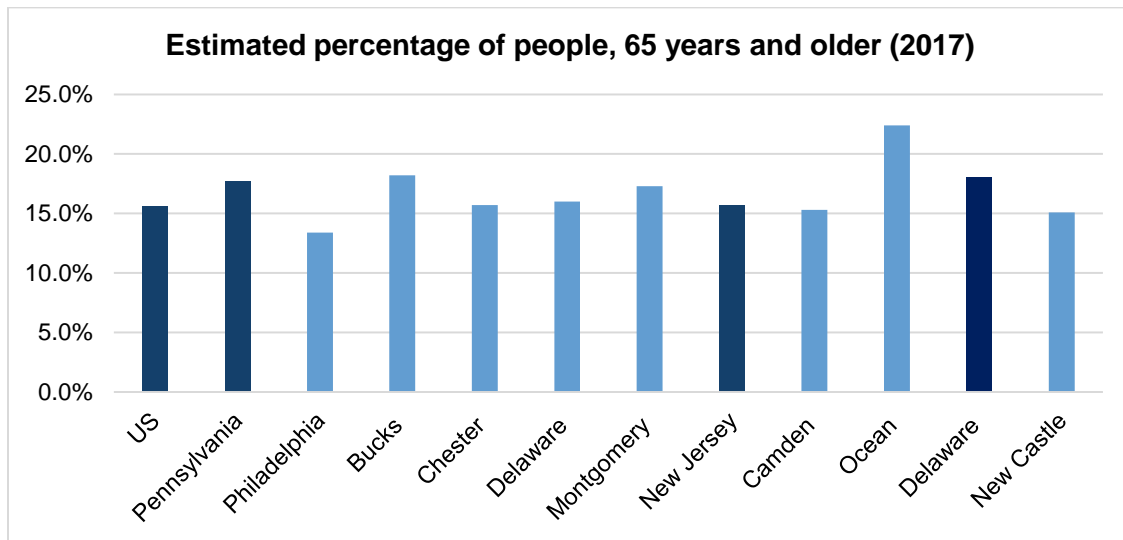
Figure 129 - Estimated percentage of people, 65 years and older (2017)
*Data not available for Atlantic, Burlington, Gloucester and Mercer Counties

7.2. Homeless

Homeless individuals face increased risk of significantly poor physical and mental health, because basic needs are not met due to their ongoing exposure to adverse environmental conditions.[44] Physical or behavioral health conditions often include acute physical needs and chronic conditions, which often go undiagnosed and untreated, due to lack of access to care and medication. The challenges associated with homelessness are further exacerbated by the opioid epidemic.[44]

Based on the most recent Point in Time Count–a one-night count of the people experiencing homelessness, there were 1139 unsheltered homeless in Philadelphia County (PA) in 2019, and 840 in Burlington County (NJ) and 717 in New Castle County (DE) in 2018.
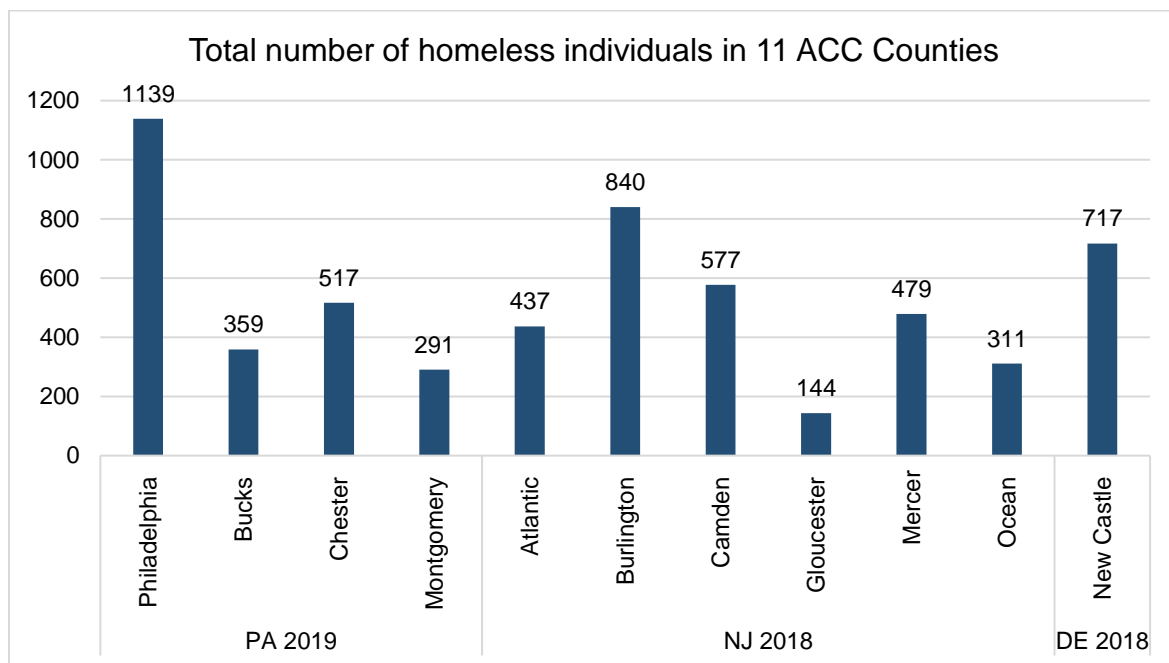
Figure 130 - Point in time count of homeless individuals in 11 ACC Counties (data missing for Delaware County - PA)
Sources:
PA: 2019 SEPA Collaborative CHNA
NJ: New Jersey 2018 Point-In-Time Count of the Homeless (2018)
DE: Housing Alliance Delaware, The State of Housing & Homelessness in The First State (2018)

7.3. LGBT

Sexual orientation and gender identity questions are not asked on most national or state surveys, making it difficult to estimate the number of LGBT individuals and their health needs. According to the Gallup Daily tracking survey, there are approximately 11 million adults in the US identifying as lesbian, gay, bisexual or transgender (LGBT).[45] The percentage of LGBT adults has been increasing over the years, especially in younger generations, having increased from 3.5% in 2012 to 4.5% in 2017.[45] LGBT identification is more common among women, Hispanics and among those with lower incomes.[45]

These individuals are normally at greater risk for depression, suicide, substance use, and sexual behaviors that can place them at increased risk for HIV and other sexually transmitted diseases (STDs).[46]

According to The Williams Institute, there was 5.5 American same-sex couples per 1,000 households in 2010. In the catchment area, this adjusted rate varies from 4 same-sex couples per 1,000 households in Chester County and 8 same-sex couples in Philadelphia County.
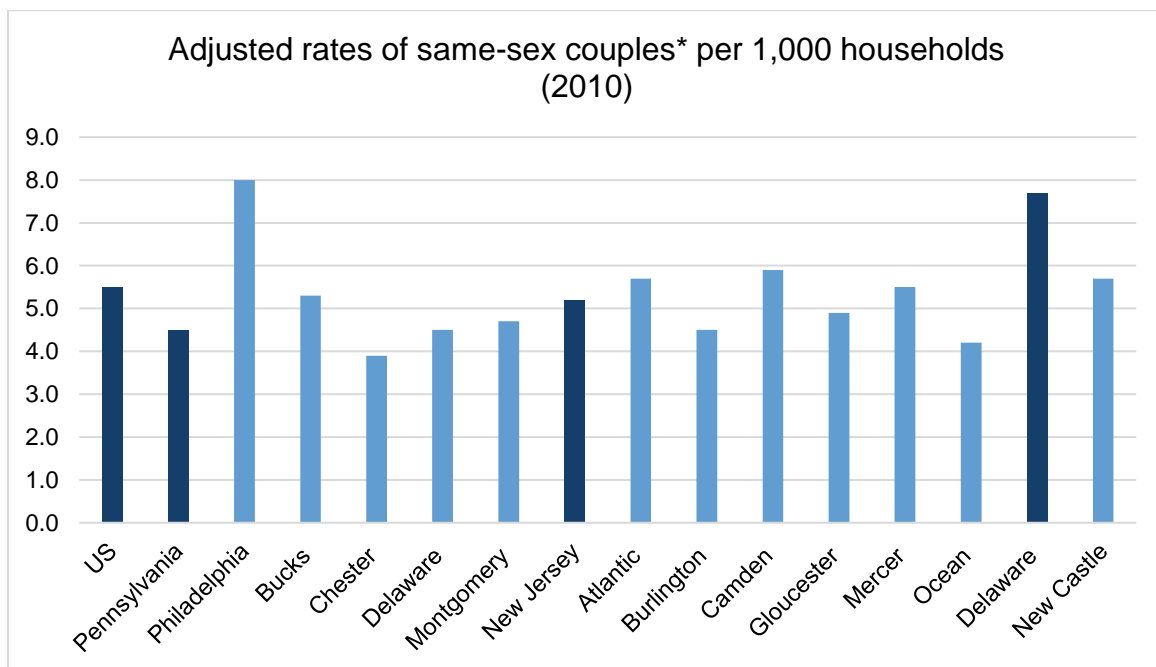
Figure 131 – Adjusted rates of same-sex couples per 1,000 households (2010)
*Same-sex couples are identified in households where Person 1 describes his or her relationship with another adult of the same sex as either a "husband/wife" or "unmarried partner".
Sources: https://williamsinstitute.law.ucla.edu/uncategorized/pennsylvania/
https://williamsinstitute.law.ucla.edu/uncategorized/new-jersey/
https://williamsinstitute.law.ucla.edu/uncategorized/delaware/

7.4.   People with disabilities

People with disabilities experience health disparities in many areas, including access to health care, health behaviors, health status, and social factors that impact health.[47] Research suggests that adults with a disability are more likely to be unemployed, have a cardiovascular disease, be obese, and smoke.[47] They are also less likely to engage in physical activity, have current cancer screening exams, and receive timely and needed medical care (due to cost).[47]

In 2017, 12.7% of Americans had a disability. This included people with visual, hearing, cognitive, and ambulatory disabilities, as well as people with self-care and independent living difficulties. Philadelphia (15.7%) and Atlantic (15.2%) Counties presented the highest number of people with a disability in 2017. Higher numbers of people with disabilities were observed among African Americans for the US as a whole, for PA and NJ states, and for seven counties.

Table 81 - Estimated percentage of people with a disability* (all ages) – 2017, by race/ethnicity					
	Total	**White (alone)**	**Black (alone)**	**Asian (alone)**	**Hispanic**
US	12.7%	13.3%	14.0%	7.1%	9.0%
Pennsylvania	14.1%	14.1%	16.6%	7.0%	12.7%
Philadelphia	15.7%	14.2%	18.5%	9.4%	14.1%
Bucks	10.9%	11.2%	10.4%	8.1%	6.0%
Chester	9.5%	9.7%	14.3%	4.1%	5.3%
Delaware	11.7%	12.0%	11.1%	9.5%	10.6%
Montgomery	10.1%	10.5%	11.3%	4.6%	7.2%
New Jersey	10.3%	10.8%	12.3%	5.4%	8.4%
Atlantic	15.2%	15.1%	18.0%	11.5%	13.0%
Burlington	12.5%	13.1%	12.8%	6.0%	10.0%
Camden	12.8%	12.4%	16.4%	9.5%	12.5%
Gloucester	12.2%	11.8%	17.0%	5.4%	7.3%
Mercer	11.6%	11.2%	15.7%	6.5%	9.4%
Ocean	12.7%	13.1%	12.3%	5.8%	8.3%
Delaware	11.4%	12.8%	8.8%	3.7%	5.2%
New Castle	9.4%	10.7%	8.1%	3.4%	4.5%

*Disabilities include: visual, hearing, cognitive, and ambulatory disabilities. As well as self-care and independent living difficulties
Source: US Census Bureau, 2017 American Community Survey (*https://www.census.gov/acs/www/data/data-tables-and-tools/*), downloaded on 6/12)

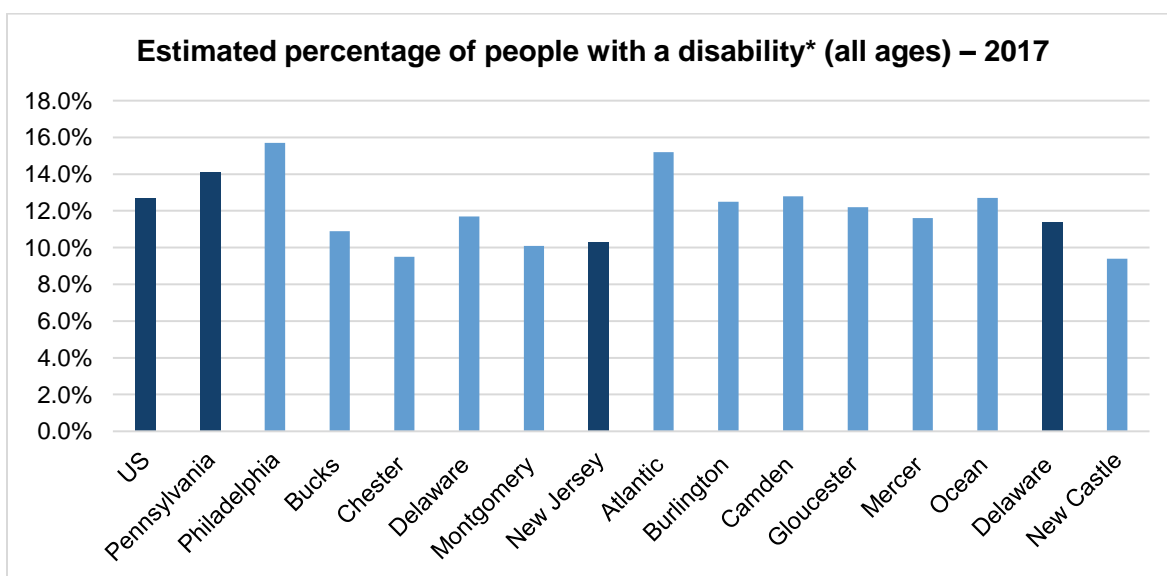**Estimated percentage of people with a disability* (all ages) – 2017**

Figure 132 - Estimated percentage of people with a disability* (all ages) – 2017
*Disabilities include: visual, hearing, cognitive, and ambulatory disabilities. As well as self-care and independent living difficulties
Source: US Census Bureau, 2017 American Community Survey (*https://www.census.gov/acs/www/data/data-tables-and-tools/*), downloaded on 6/12)

7.5. People with serious mental illness

Mental illnesses are among the most common causes of disability and death in the United States.[48] In 2017, almost 1 in 5 (46.6 million) American adults lived with a mental illness. These illnesses include many different conditions that vary in degree of severity, and can be divided into two categories: Any Mental Illness (AMI) and Serious Mental Illness (SMI).[48]

Any Mental Illness (AMI) includes all mental illnesses, and is defined as a mental, behavioral, or emotional disorder. Serious Mental Illness (SMI) is a smaller and more severe subset of AMI that includes conditions that result in serious functional impairment.[48]

In 2017, 18.9% of all US adults had AMI and 4.5% had SMI. The prevalence of both AMI and SMI was higher among women; younger adults aged 18 to 25 years of age; and among adults reporting two or more races, followed by White.[48]

Data from the Substance Abuse and Mental Health Services Administration, indicates that during 2014–2016, 3.2% to 4.3% of adults (18 years of age or older), living in the catchment area, had a SMI in the past year, similar to national rates (4.1%).

Table 82 - Serious Mental Illness in the Past Year among Adults Aged 18 or Older, by State and Substate Region: Percentages, Annual Averages Based on 2014, 2015, and 2016 NSDUHs	
US	4.1%
Pennsylvania	4.1%
Philadelphia	4.0%
Bucks, Chester, Delaware, Montgomery	3.2%
New Jersey	3.7%
Hunterdon*, Mercer, Monmouth*, Ocean, Somerset*	3.8%
Atlantic, Burlington, Camden, Cape May*, Cumberland*, Gloucester, Salem*	4.1%
Delaware	4.1%
New Castle (excluding Wilmington City)	4.3%
New Castle (Wilmington City)	3.9%

*Counties not included in the Catchment Area. Percentages only available for these substate regions.
Source: https://www.samhsa.gov/data/report/2014-2016-nsduh-substate-region-estimates-%E2%80%93-excel-tables-and-csv-files

7.5.0. Pennsylvania Counties

In 2016-2018, Philadelphia had higher rates of adults with a depressive disorder (21%) than other catchment area counties - including depression, major depression, minor depression or dysthymia. The lowest percentages were observed in Bucks County with 12%.
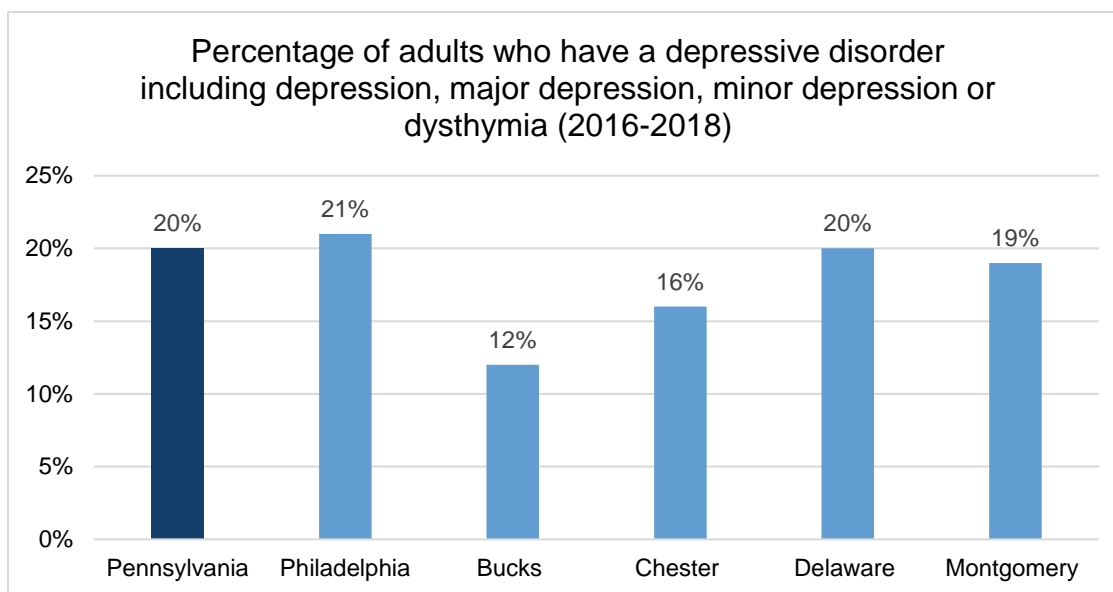

Figure 133 - Percentage of adults who have a depressive disorder including depression, major depression, minor depression or dysthymia (2016-2018)
Source: https://www.phaim1.health.pa.gov/EDD/WebForms/BRFSSregChrt.aspx

Philadelphia

The number of adults with a mental health condition in Philadelphia continues to rise, although some of this increase could be related to greater awareness and screening. In 2014/2015, one of five adults had a diagnosed mental health condition, which nearly doubled the amount in 2000. Rates were highest among Hispanics (29.6%) and lowest among non-Hispanic Asians (0.7%). In terms of geographical distribution, rates are higher in the River Wards (36.7%), Lower North (28.9%) and North (26.4%) Planning Districts.

While the percentage of adults with a mental health condition continues to climb, suicide rates in Philadelphia decreased from 11.4 (per 100,000) in 2012 to 9.4 (per 100,000) in 2016. The highest age-adjusted death rate due to intentional self-harm was recorded in non-Hispanic Whites (14.7 per 100,000) and in the Lower Far Northeast Planning District (25.8).
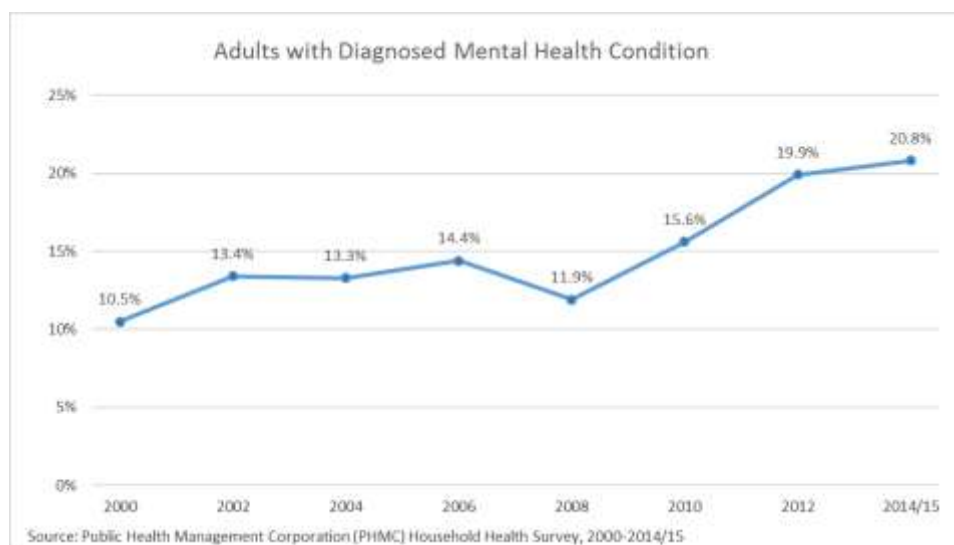
Figure 134 - Percentage of adults answering "yes" to the question, "Have you ever been diagnosed with any mental health condition, including clinical depression, anxiety disorder or bipolar disorder (2000-2014/15)
Source - Philadelphia Department of Public Health, 2017
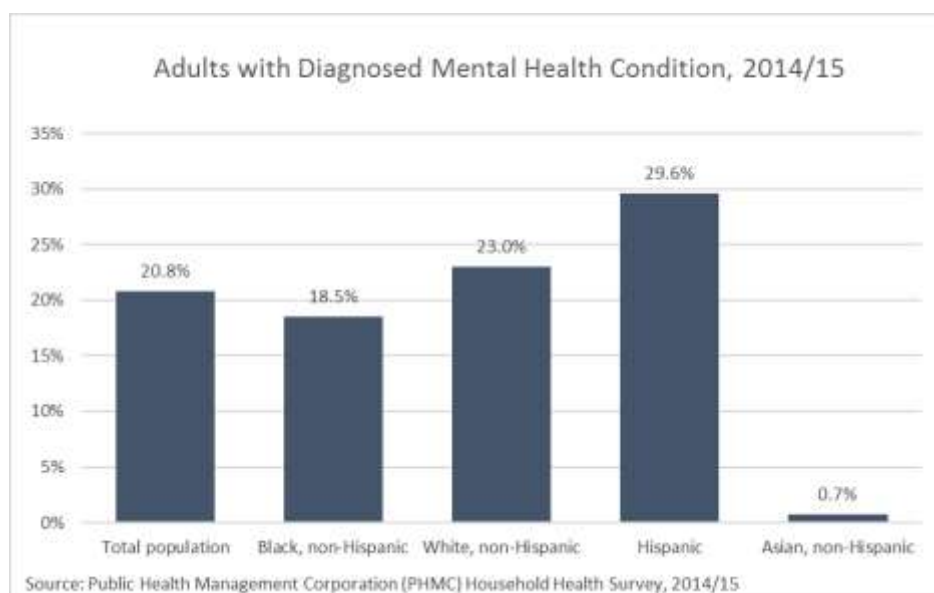
Figure 135 - Percentage of adults answering "yes" to the question, "Have you ever been diagnosed with any mental health condition, including clinical depression, anxiety disorder or bipolar disorder (2014/15), by race and ethnicity Source - Philadelphia Department of Public Health, 2017
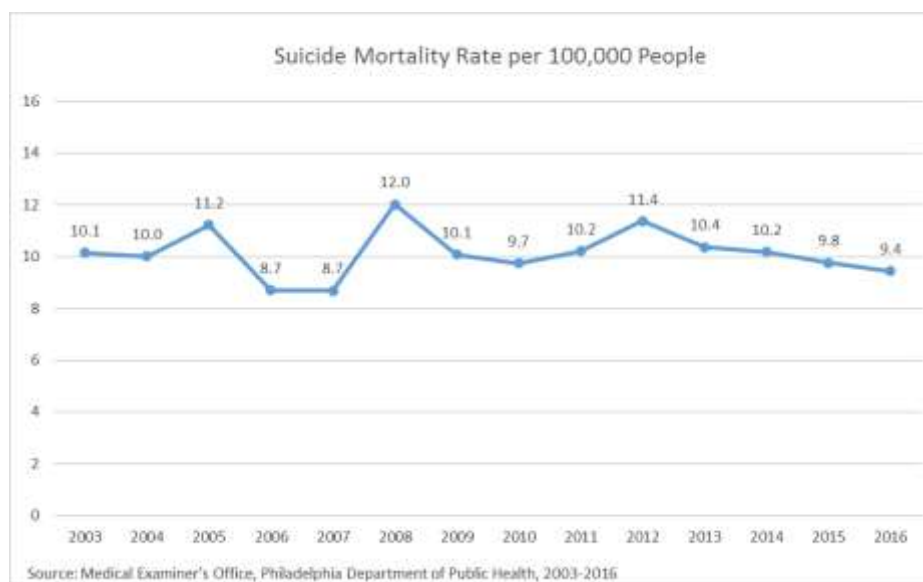

Figure 136 - Rate of deaths by intentional self-harm per 100,000 people (2003-2016)
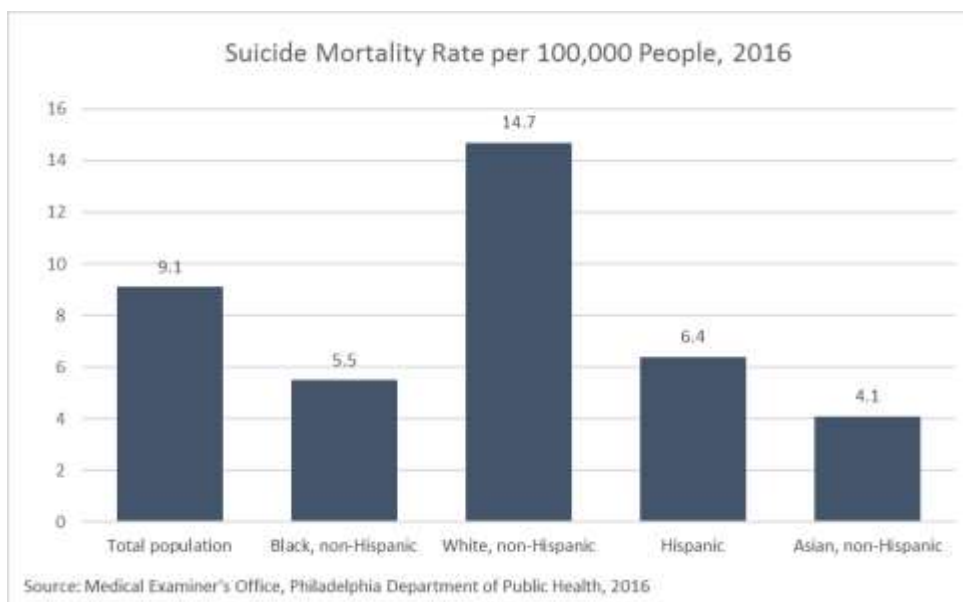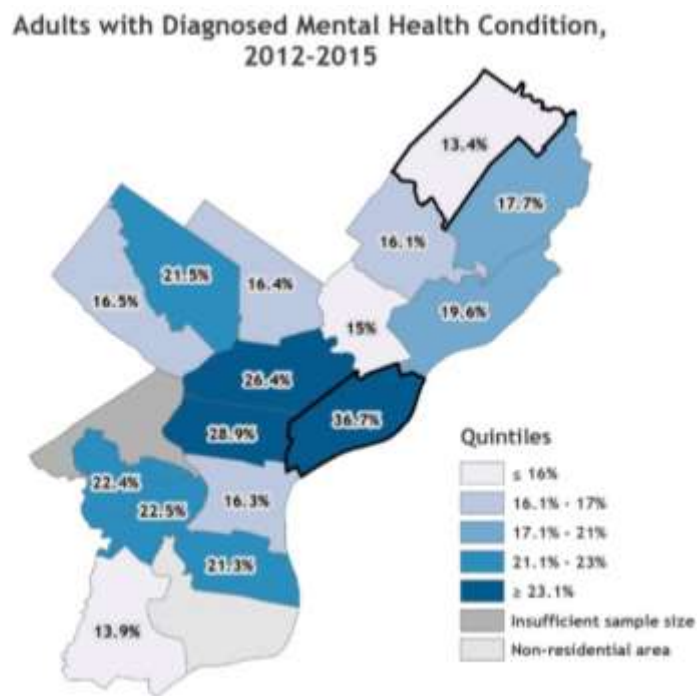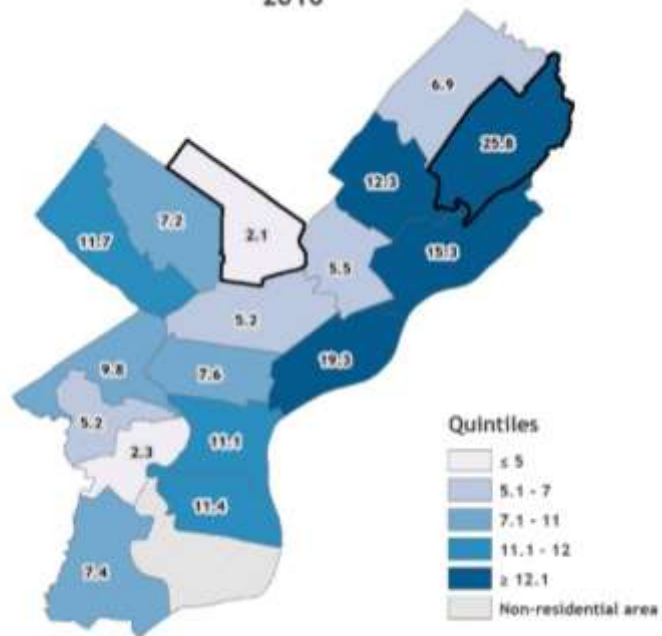Source - Philadelphia Department of Public Health, 2017

Figure 137 - Age-adjusted rate of deaths by intentional self-harm per 100,000 people (2016), by race and ethnicity
Source - Philadelphia Department of Public Health, 2017

Figure 138 - Adults with diagnosed mental health condition (2012-2015), by Planning District
Source - Philadelphia Department of Public Health, 2017

Suicide Mortality Rate per 100,000 People, 2016

Source: Medical Examiner's Office, Philadelphia Department of Public Health, 2016

Figure 139 - Age-adjusted rate of deaths by intentional self-harm per 100,000 people (2016), by Planning District
Source - Philadelphia Department of Public Health, 2017

7.5.1. New Jersey Counties

In 2014, 9.8% of New Jersey residents were receiving mental health treatment. Camden (13.5%) and Mercer (13.2%) Counties had the highest rates of people receiving treatment for a mental condition and Burlington the lowest with 8.6%.
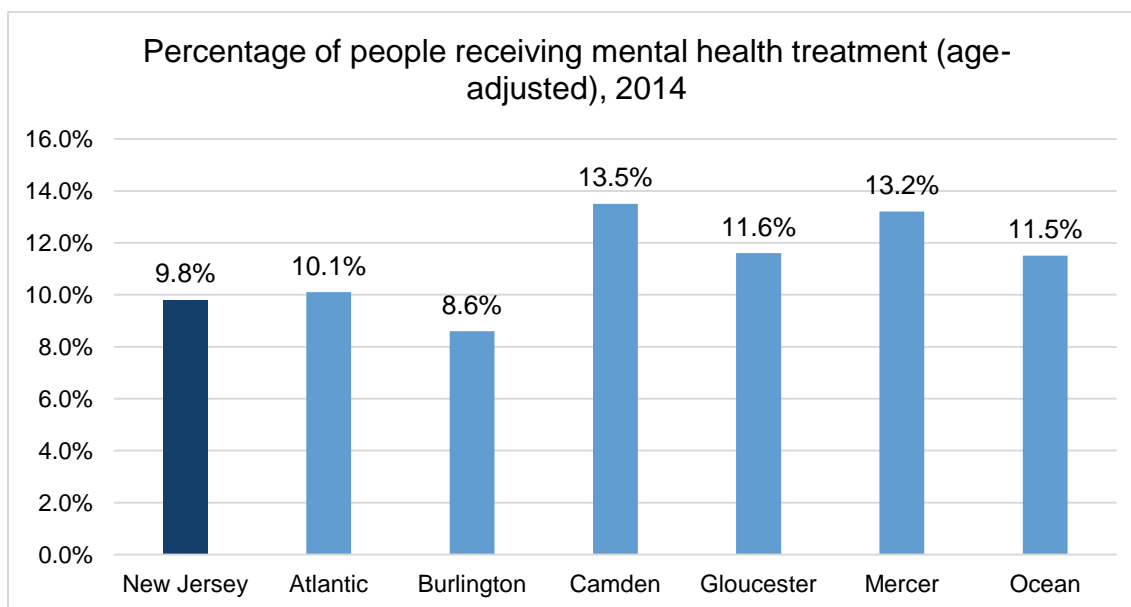
Figure 140 - Percentage of people receiving mental health treatment (age-adjusted), 2014
Source: New Jersey State Health Assessment Data https://www-doh.state.nj.us/doh-shad/ (downloaded on 6/19)

7.5.2. Delaware – New Castle County

Data from the 2015 Delaware Household Health Survey shows that overall, 17% of both Delaware and New Castle County adults have been diagnosed with a mental health condition. Of this number, 37% of Delaware residents and 36% of New Castle County residents are not currently receiving treatment for their condition.

Five percent of both Delawareans and New Castle County's residents reported having suicidal or self-harm thoughts in the past year. In addition, the five-year (2009-2013) age-adjusted mortality rates due to suicide in Delaware are 12 per 100,000 population and 11 per 100,000 population in New Castle County.
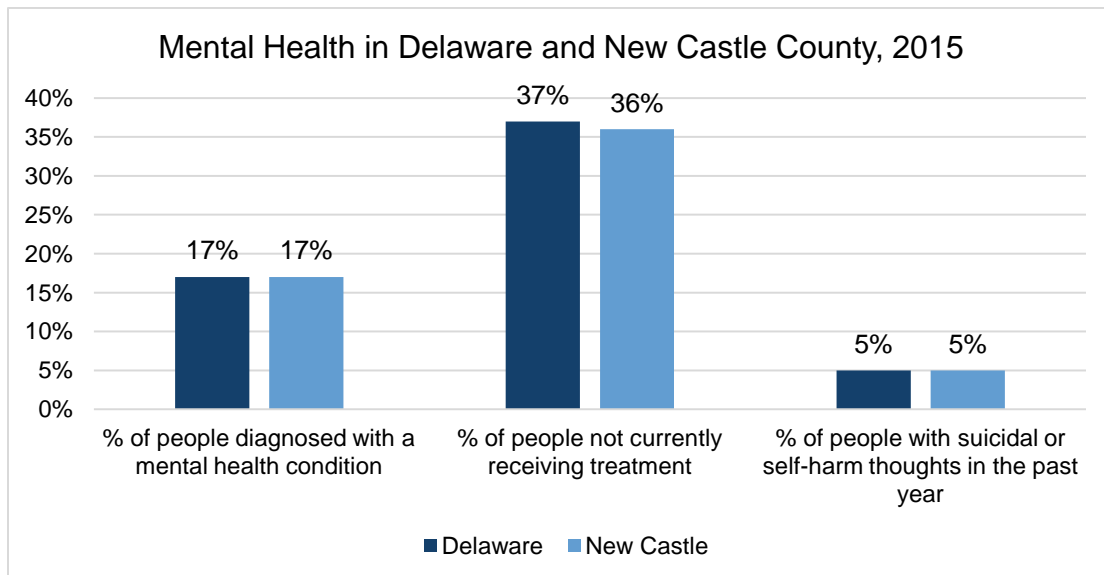

Figure 141 - Percentage of people in Delaware and New Castle diagnosed with a mental condition, not currently receiving treatment for that condition, and with suicidal/self-harm thoughts (2015).
Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware State Health Needs Assessment, 2017.

7.6. Incarcerated Populations

Incarcerated populations have increased significantly in the last decades, specifically 220% between 1980 and 2014.[49] The United States presents the highest incarceration rate in the world, with approximately 870 of every 100,000 US citizens in jail or prison.[50] Higher rates of incarceration are often observed among males; racial and ethnic minorities (African American and Hispanic); people with lower levels of education (without high school diplomas or GEDs); and people of low socioeconomic status (especially who live in communities with high rates of poverty, unemployment and crime).[49]

When it comes to health, studies show that, when compared to the general population, incarcerated populations normally experience higher rates of psychiatric disorders; communicable diseases (such as tuberculosis, hepatitis C, HIV/AIDS, and HPV); chronic diseases (such as cancer, high blood pressure, asthma, etc.); and substance use disorders.[49] The leading causes of death among incarcerated population are heart disease; cancer; liver diseases; AIDS; suicide; followed by homicide, alcohol/drug overdose, and accidental injury (with lower mortality rates).[51]

Relatively to the catchment area, data from 2015 show that Philadelphia County presents the highest jail incarceration rate per 100,000 residents (740), while Burlington presents the lowest rate (172). The highest incarceration rates are observed among African Americans in all counties, followed by Hispanics.

Table 83 - Jail incarceration rate per 100,000 residents (age 15-64) – 2015, by race/ethnicity					
	Total	**White**	**Black**	**Asian**	**Hispanic**
Pennsylvania	414	249	1386	83	683
Philadelphia	740	257	1086	4	837
Bucks	265	193	1275	183	357
Chester	247	153	1754	6	93
Delaware	484	287	1104	447	50
Montgomery	435	225	1701	62	346
New Jersey	223	116	769	29	274
Atlantic	350	194	1240	61	301
Burlington	172	132	515	32	156
Camden	426	148	1183	24	466
Gloucester	183	72	620	32	171
Mercer	316	74	1058	7	272
Ocean	176	136	995	25	249
Delaware	403	*	*	*	*
New Castle*	*	*	*	*	*

*No data available

Source: http://trends.vera.org/incarceration-rates

7.7. Veterans

Veterans are more likely than the civilian population to develop specific mental health problems, like post-traumatic stress disorder, depression, and traumatic brain injury.[52] Many veterans develop associated substance use disorders and a large number ultimately commit suicide. They are also at a higher risk of unemployment and homelessness.[52]

In 2017, 7.3% of the US's population were Veterans. Populations in both Pennsylvania and Delaware (states) and Burlington, Gloucester, Ocean, and New Castle Counties were more than 7% veteran. Mercer (16.3%) and Camden (15.3%) had the highest percentage of unemployed veterans; Philadelphia had the highest percentage (12.3%) of veterans living with an income in the past 12 months below poverty level; and the highest percentage of veterans with a disability were found in Philadelphia (36.7%), Gloucester (36.4%), and Atlantic (35.1%) Counties.

Table 84 - Estimated percentage of Veterans, 18 years and older (2017)				
	Total	Unemployed	With an income in the past 12 months below poverty level	With a disability*
US	7.3%	4.4%	6.9%	29.5%
Pennsylvania	7.3%	4.9%	6.4%	30.7%
Philadelphia	4.2%	5.8%	12.3%	36.7%
Bucks	6.5%	2.5%	2.9%	25.1%
Chester	6.3%	2.0%	5.2%	30.3%
Delaware	6.1%	8.3%	7.8%	30.1%
Montgomery	5.8%	4.3%	4.4%	31.9%
New Jersey	4.6%	6.2%	5.2%	28.9%
Atlantic	5.2%	7.6%	6.7%	35.1%
Burlington	8.0%	3.3%	3.7%	27.1%
Camden	5.7%	15.3%	9.4%	31.1%
Gloucester	7.2%	2.7%	3.7%	36.4%
Mercer	5.0%	16.3%	7.6%	32.9%
Ocean	7.8%	2.4%	5.0%	34.8%
Delaware	8.5%	4.7%	8.1%	21.5%
New Castle	7.0%	2.4%	9.9%	20.2%

*Disabilities include: visual, hearing, cognitive, and ambulatory disabilities. As well as self-care and independent living difficulties
Source: US Census Bureau, 2017 American Community Survey (*https://www.census.gov/acs/www/data/data-tables-and-tools/*), downloaded on 6/12)
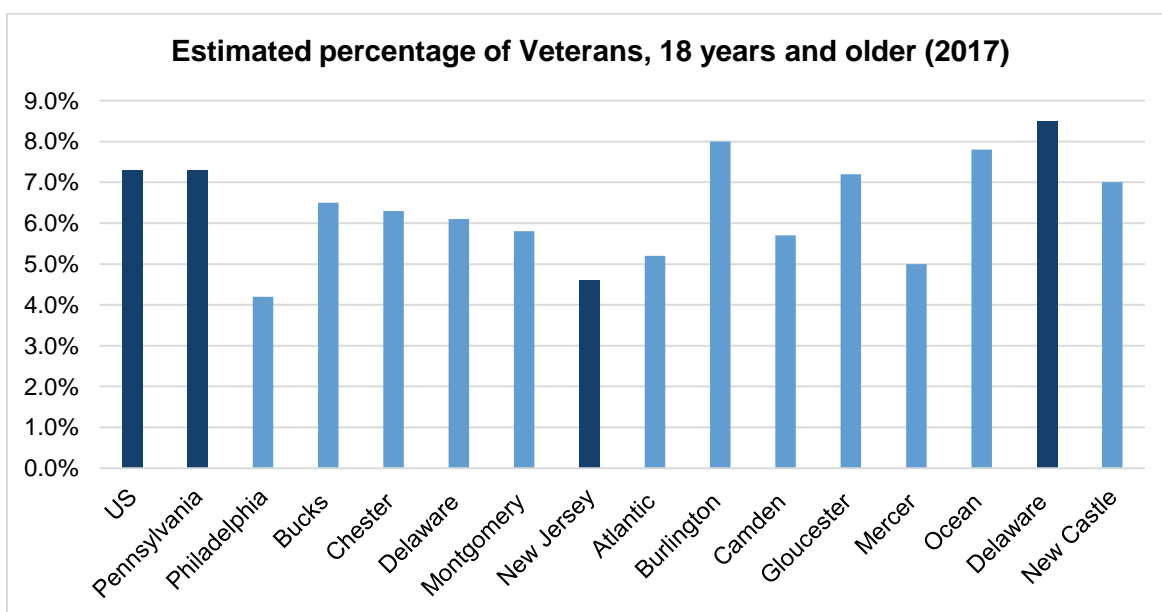
Figure 142 - Estimated percentage of Veterans, 18 years and older (2017)
Source: US Census Bureau, 2017 American Community Survey
(*https://www.census.gov/acs/www/data/data-tables-and-tools/*), downloaded on 6/12)

7.8. People with HIV/AIDS

An estimated 1.1 million people are living with HIV in the United States.[53] Thanks to better treatments, people with HIV are now living longer and with a better quality of life than ever before. Despite these advances in treatments, due to their weakened immune systems, people with HIV/AIDS are at a higher risk of developing opportunistic infections and certain types of cancer.[53] They are also prone to developing mental illnesses such as depression and anxiety because of stigma and discrimination they face.[53]

7.8.0. Pennsylvania Counties

Data from 2012-2014 show that Philadelphia has a significant higher incidence rate for HIV (42 new cases per 100,000) than other catchment area counties in Pennsylvania. Bucks has the lowest HIV incidence rate with 4.6 per 100,000.
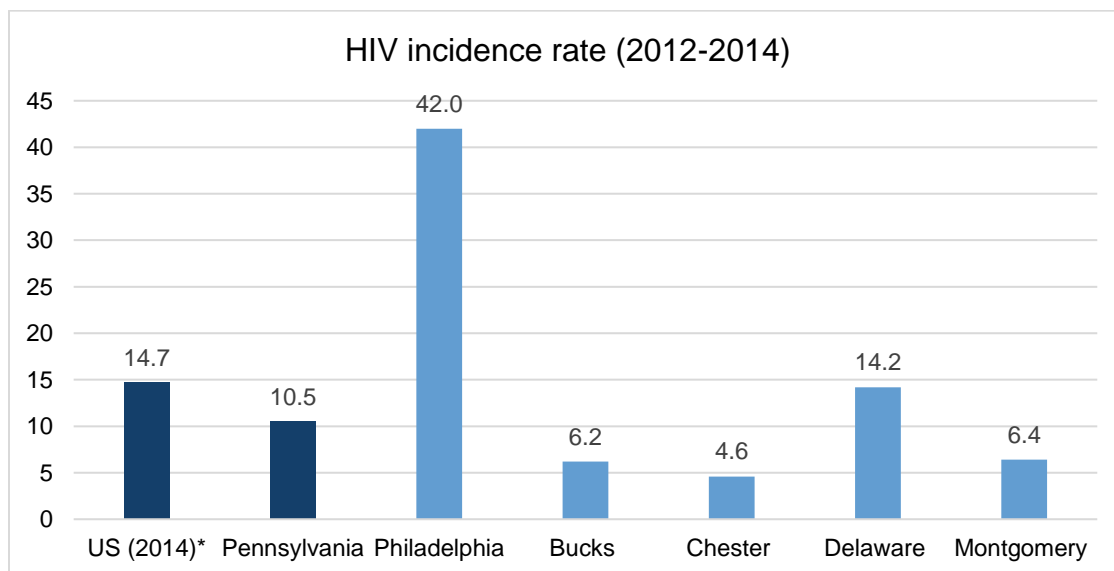

Figure 143 - Age adjusted incidence annual rate (per 100,000) for HIV (2012-2014)
Source: https://www.health.pa.gov/Pages/default.aspx
*US data:
- From different source: https://www.cdc.gov/hiv/pdf/library/reports/surveillance/cdc-hiv-surveillance-supplemental-report-vol-24-1.pdf
- HIV incidence rate among persons aged ≥ 13 years

Philadelphia

Although Philadelphia's HIV incidence rate (in 2015) was higher than most other large cities and the US as a whole, the number of new HIV diagnoses has declined by nearly half over the last decade, with an estimated 31.5 new cases per 100,000 people in 2016. There was a significant decline in transmission from heterosexual contact (162 cases in 2016), and injection drug use (27 cases in 2016), while the rate of male-to-male sexual contact transmission remained stable (270 cases in 2016). Rates were nearly five times higher in Hispanics (49 per 100,000) and in African Americans (48 per 100,000) than non-Hispanic Whites (11.4) and Asians (10.5). The Planning Districts with the highest incidence rates in 2016 were Lower North (49.1 per 100,000), University Southwest (44.4), North (40.6), and Lower Southwest (40.4).
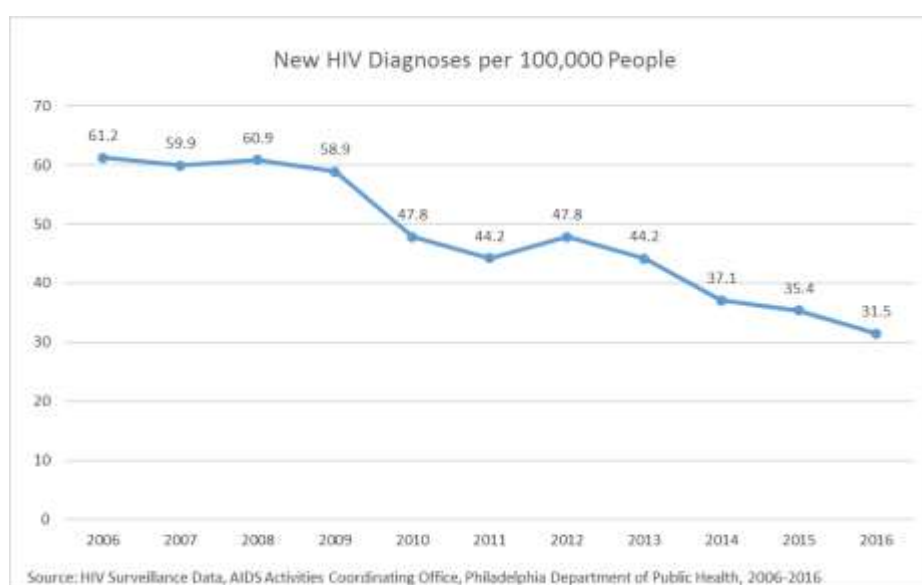

Figure 144 - Rate of new HIV diagnoses per 100,000 people (2006-2016)
Source - Philadelphia Department of Public Health, 2017

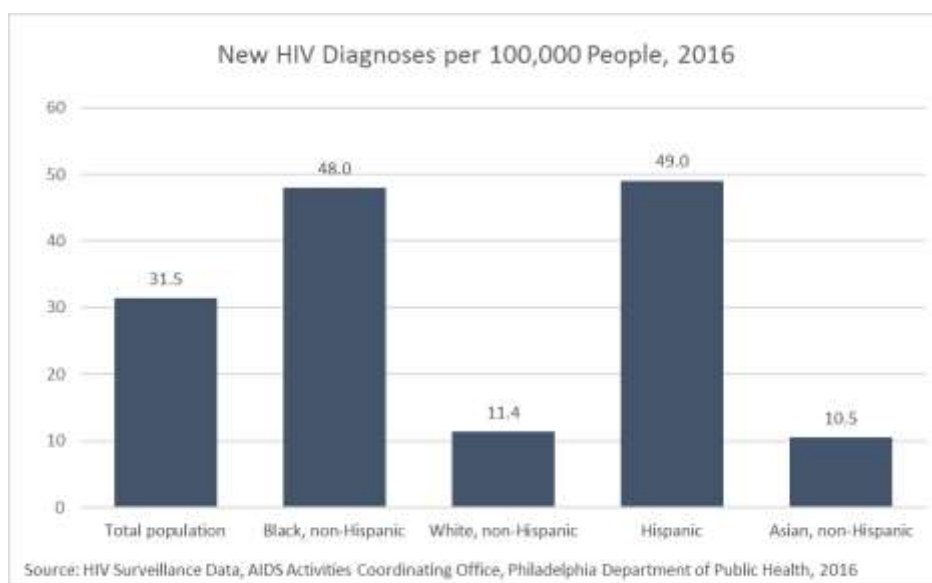New HIV Diagnoses per 100,000 People, 2016

Figure 145 - Rate of new HIV diagnoses per 100,000 people (2016), by race and ethnicity
Source - Philadelphia Department of Public Health, 2017
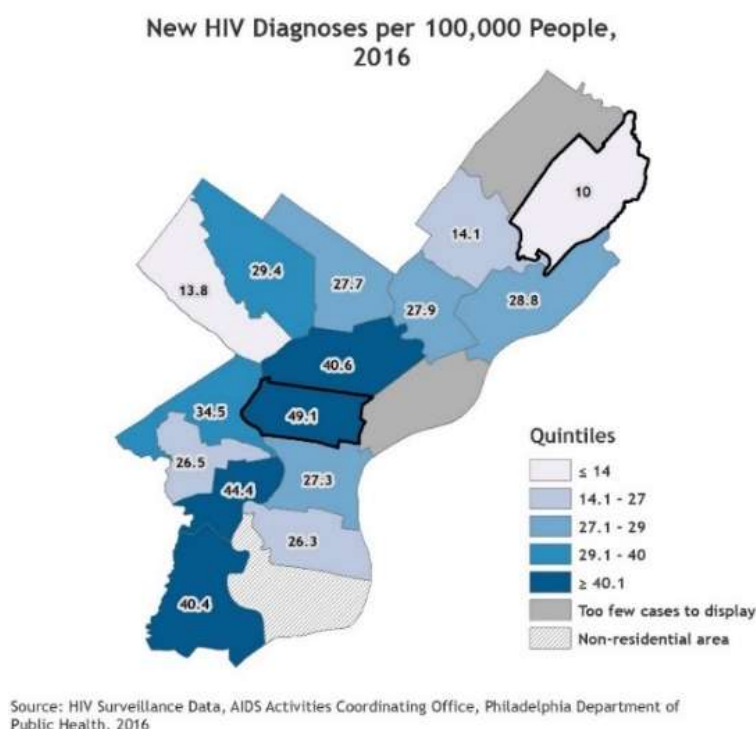

Figure 146 - Rate of new HIV diagnoses per 100,000 people (2016),
by Planning Districts.
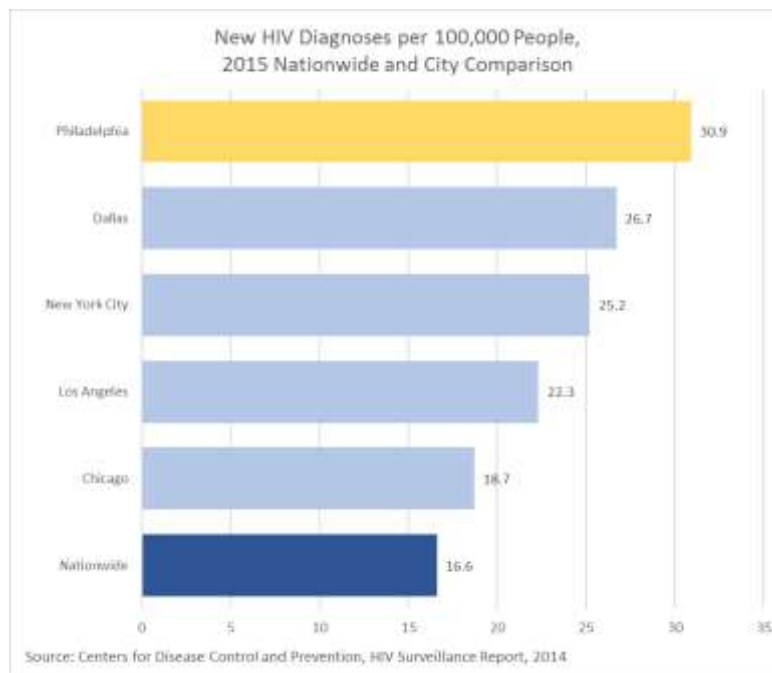Source - Philadelphia Department of Public Health, 2017

Figure 147 - Rate of new HIV diagnoses per 100,000 people
(2015), Nationwide and City comparison.
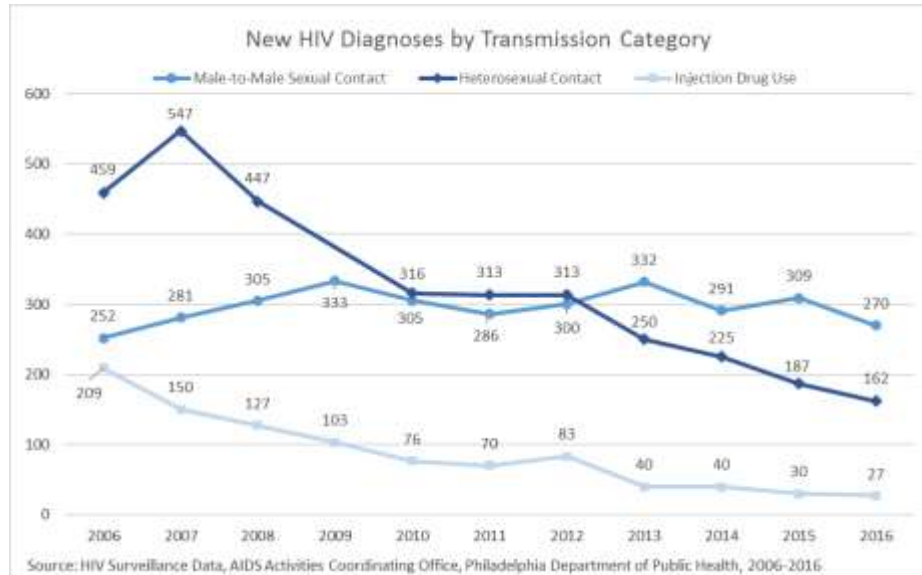Source - Philadelphia Department of Public Health, 2017

Figure 148 - Count of new HIV diagnoses from male-to-male sexual
contact, heterosexual contact, and injection drug use (2006-2016).
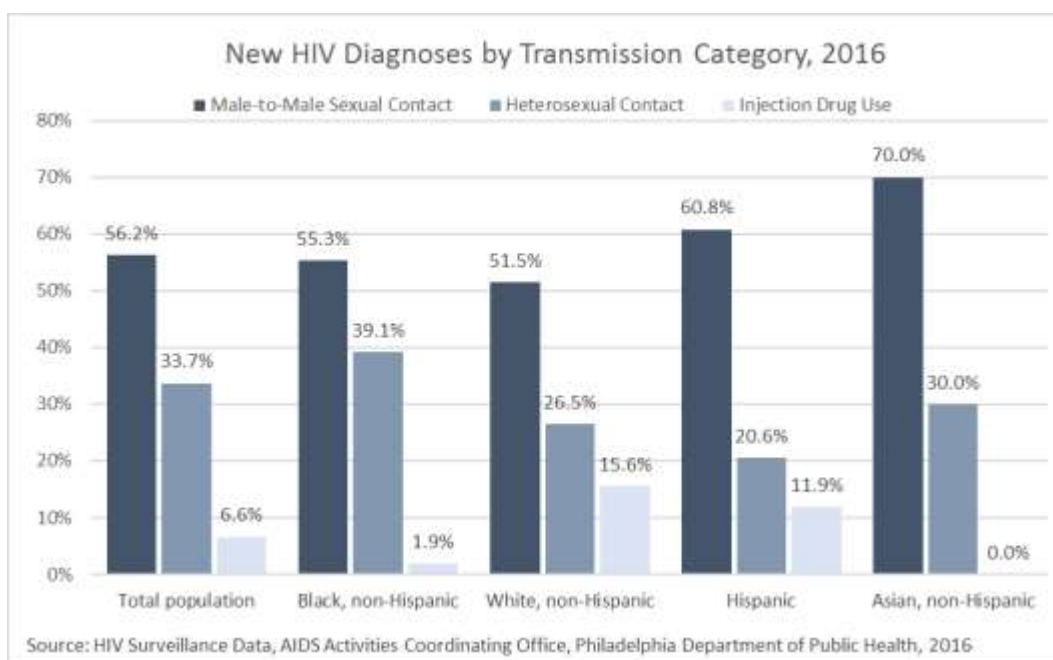Source - Philadelphia Department of Public Health, 2017

Figure 149 - Percentage of new HIV diagnoses from male-to-male sexual contact, heterosexual contact, and injection drug use (2016), by race and ethnicity.
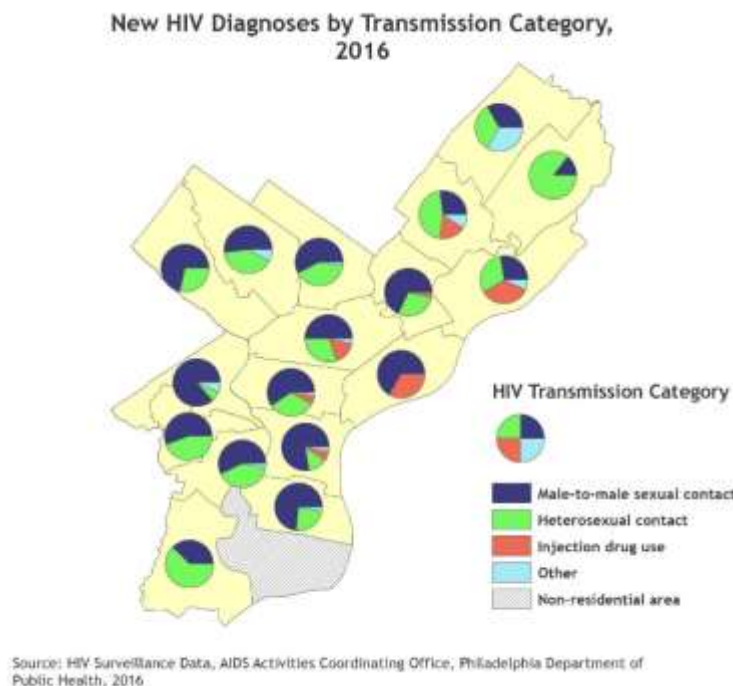Source - Philadelphia Department of Public Health, 2017

Figure 150 - Percentage of new HIV diagnoses from male-to-male sexual contact, heterosexual contact, and injection drug use (2016), by Planning District.
Source - Philadelphia Department of Public Health, 2017

7.8.1. New Jersey Counties

According to the New Jersey Department of Health, there were 418.3 per 100,000 New Jersey residents living with HIV/AIDS in 2017. Atlantic County had the highest prevalence rate among all counties, with 505.9 per 100,000, and Ocean County the lowest rate with 138.1 per 100,000. The rate among Blacks non-Hispanic is significantly above the rate among other racial/ethnic groups for all counties, except for Gloucester and Ocean Counties, where rates are higher in Whites non-Hispanic.

The age-adjusted death rate due to HIV disease has been steadily declining in New Jersey, however it still remains higher than the US. Atlantic County has the highest age-adjusted death rate among all counties (3.5 per 100,000) and Ocean County the lowest (0.8 per 100,000).

Table 85 - People living with HIV/AIDS - 2017				
	Prevalence Rate of people living with HIV/AIDS, per 100.000 population (2017)	Percentage of people living with HIV/AIDS, by race/ethnicity (2017)		
	Total	White (non-Hispanic)	Black (non-Hispanic)	Hispanic
US (2016)*	421.4	-	-	-
New Jersey	418,3	-	-	-
Atlantic	505,9	27%	52%	19%
Burlington	197,6	39%	48%	12%
Camden	374,2	28%	45%	27%
Gloucester	160,8	57%	30%	11%
Mercer	414,8	18%	66%	15%
Ocean	138,1	63%	21%	15%

Source: New Jersey Department of Health: https://www.nj.gov/health/hivstdtb/hiv-aids/statmap.shtml (downloaded on 6/19)
*US data:
- From different year (2016) and source: https://www.cdc.gov/hiv/pdf/library/reports/surveillance/cdc-hiv-surveillance-supplemental-report-vol-24-1.pdf
- HIV prevalence rate among persons aged ≥ 13 years

Figure 151 - Prevalence Rate of people living with HIV/AIDS, per 100.000 population (2017)
Source: New Jersey Department of Health: https://www.nj.gov/health/hivstdtb/hiv-aids/statmap.shtml
(downloaded on 6/19)
*US data:
- From different year (2016) and source: https://www.cdc.gov/hiv/pdf/library/reports/surveillance/cdc-hiv-surveillance-supplemental-report-vol-24-1.pdf
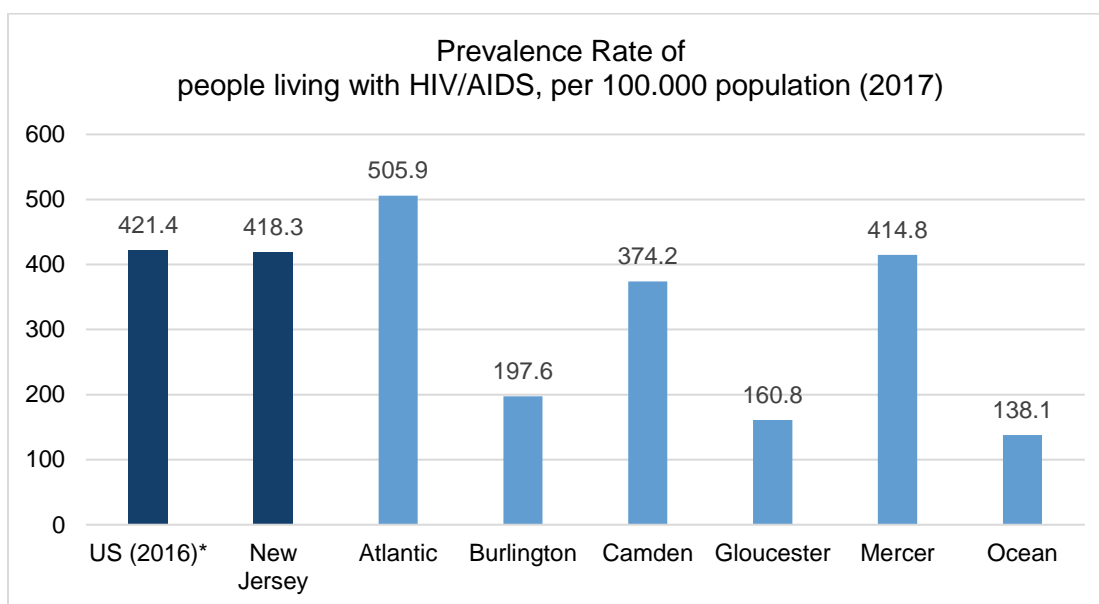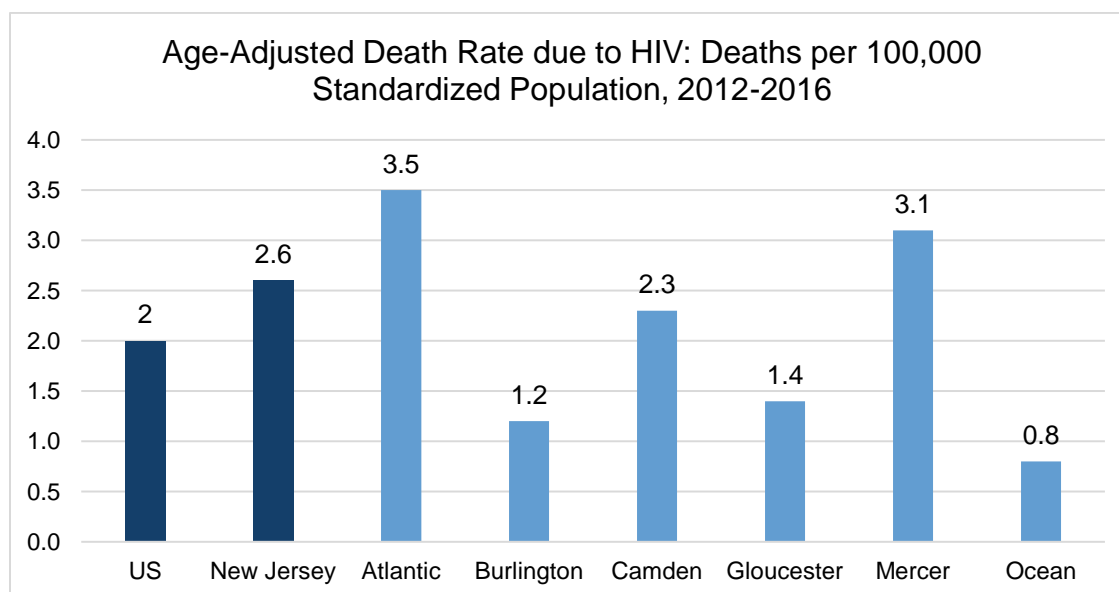- HIV prevalence rate among persons aged ≥ 13 years

Figure 152 - Age-Adjusted Death Rate due to HIV: Deaths per 100,000 Standardized Population, 2012-2016
Source: New Jersey State Health Assessment Data https://www-doh.state.nj.us/doh-shad/ (downloaded on 6/19)

7.8.2. Delaware – New Castle County

In 2014, there were 73 newly reported cases of AIDS reported in Delaware (7.8 per 100,000) and 53 new cases reported in New Castle County (9.6 per 100,000).

There were 117 new cases (12.5 per 100,000) of HIV infections in Delaware and 79 new cases in New Castle County (14.3 per 100,000).

The five-year (2009-2013) age-adjusted mortality rates for HIV/AIDS in Delaware was 4 (per 100,000 population) and 5 (per 100,000 population) for New Castle County.
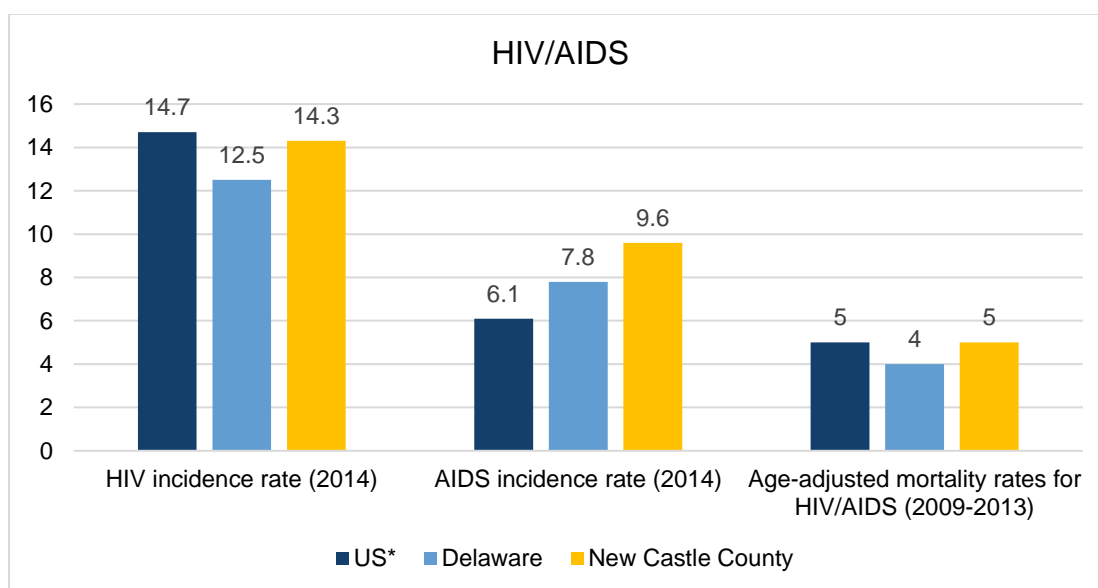

Figure 153 – Incidence rate of people living with HIV and AIDS, per 100,000 population (2014) and age-adjusted mortality rate due to HIV, per 100,000 population (2009-2013).
Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware State Health Needs Assessment, 2017.
*US data from different dates and sources:
- HIV incidence rate among persons aged ≥ 13 years (2014):
https://www.cdc.gov/hiv/pdf/library/reports/surveillance/cdc-hiv-surveillance-supplemental-report-vol-24-1.pdf
- AIDS incidence rate among persons aged ≥ 13 years (2014) and HIV/AIDS age-adjusted mortality rates among persons aged ≥ 13 years (2013):
https://www.cdc.gov/hiv/pdf/library/reports/surveillance/cdc-hiv-surveillance-report-2017-vol-29.pdf

7.9. Ashkenazi Jewish Population

In 2018, the Jewish population in the US was estimated to be 6,925,475 (2.1%). The majority (95%) are Ashkenazi Jews. New Jersey is home to the highest number of Jews (6.1%) in the catchment area, more than Pennsylvania (2.3%) and Delaware (1.6%).[54]

In 2009, a total of 214,600 Jews lived in the five Pennsylvania's ACC Catchment Area Counties. The highest number of Jews were found in Philadelphia with 66,800 Jews, and Montgomery County with 64,500 Jews.[55]

The Ashkenazi Jews represent a special population with a high prevalence of high cancer susceptibility genes within the catchment area. One in 40 Ashkenazi Jews carry genetic mutations, including BRCA 1 and 2, Hereditary Nonpolyposis Colorectal Cancer or Lynch Syndrome (HNPCC) and Adenomatous Polyposis Coli (APC), and consequently are at increased risk of developing cancers and other genetic diseases.[56]

Ashkenazi men and women who inherit BRCA 1 or 2 mutations have a higher risk of developing breast, ovarian, pancreatic, prostate, and skin cancers.[56,57]

APC mutation increases the risk of colon cancer.[56] HNPCC mutation increases the risk of colon cancer at a younger age (<40), as well as the risk of developing other cancers, including endometrial, gastric, ovarian, small intestine, bile duct, pancreas, brain, and ureters.[56]

Table 86 - Jewish Population in the US and by state (2018)		
	Number	**Percentage**
US	6,925,475	2.1%
Pennsylvania	298,240	2.3%
New Jersey	545,450	6.1%
Delaware	15,100	1.6%

Source: https://www.jewishvirtuallibrary.org/jewish-population-in-the-united-states-by-state
Note: Data by county not available for New Jersey and Delaware.

Table 87 - Jewish Population in Pennsylvania's ACC Counties (2009)	
Pennsylvania's Counties	**Number**
Philadelphia	66,800
Bucks	41,400
Chester	20,900
Delaware	21,000
Montgomery	64,500
Total	214,600

Source: https://www.jewishdatabank.org/content/upload/bjdb/556/C-PA-Philadelphia-2009-Summary_Report_Slides.pdf

8. Health Disparities in the Catchment Area

Health Disparities

Health disparities are health differences between populations, linked with racial/ethnic, social, economic, and/or environmental disadvantage.[58] Health disparities adversely affect groups of people who have systematically experienced greater obstacles to health based on their racial or ethnic group; gender; age; socioeconomic status (education, income, insurance); geographic location; mental health; physical disability; sexual orientation; or other characteristics linked to discrimination or exclusion.[58]

Race and Ethnicity

In the catchment area, African Americans and Hispanics were more likely to be poor, unemployed and medically underserved when compared to Whites. They also have lower educational attainment rates and lower insurance coverage rates – all factors that may contribute to their limited access to quality health care.

This limited access to health care reflects the low cancer screening rates for breast and colorectal cancer, observed in both African Americans and Hispanics. Therefore, these groups are more likely to be diagnosed with late-stage cancer, which can explain the high cancer mortality rates observed among African Americans for all cancer sites, breast, colorectal, lung, pancreatic, prostate, and stomach cancers. They also present the highest cancer incidence rates for colorectal, pancreatic, and prostate cancers.
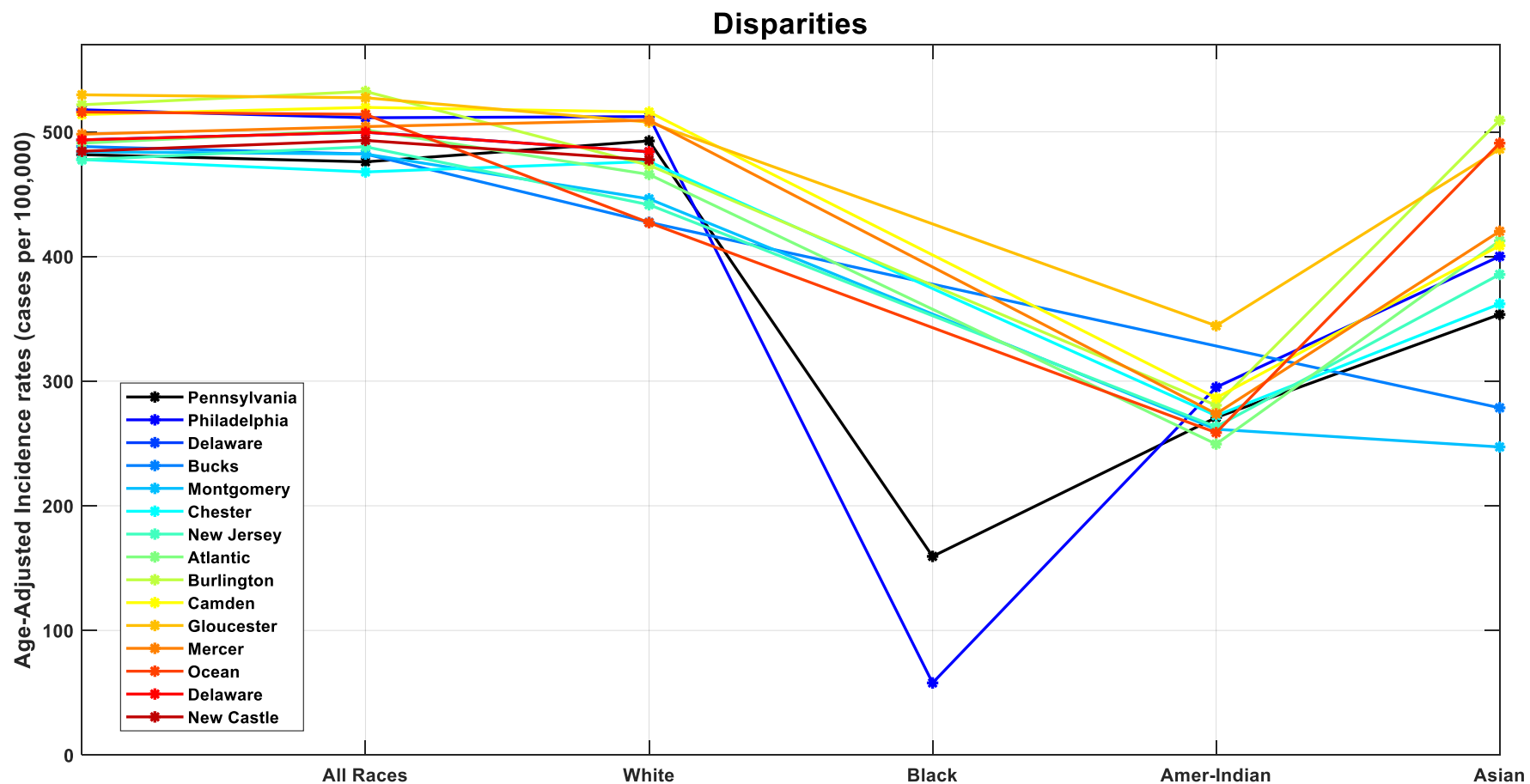
Figure 154 - Five-year (2011-2015) age-adjusted Incidence Rates for 12 ACC counties, for different races. Unit: cases per 100,000 per year, age-adjusted to the 2000 US standard population (19 age groups)
Source: https://statecancerprofiles.cancer.gov/incidencerates/

Gender

Cancer incidence and mortality rates are higher in men than in women, in all counties and for all cancers. In the United States, men are less healthy than women across all social classes, this can be due to the fact that women are more likely to engage in a broad range of preventive and health-promoting behaviors than men and to seek health care when needed.[59] In addition, men are overrepresented in dangerous work occupations and in a broad range of stigmatizing social conditions, such as incarceration, homelessness, unemployment, substance use - all associated with elevated rates of stress, illness, disability, and mortality.[59]
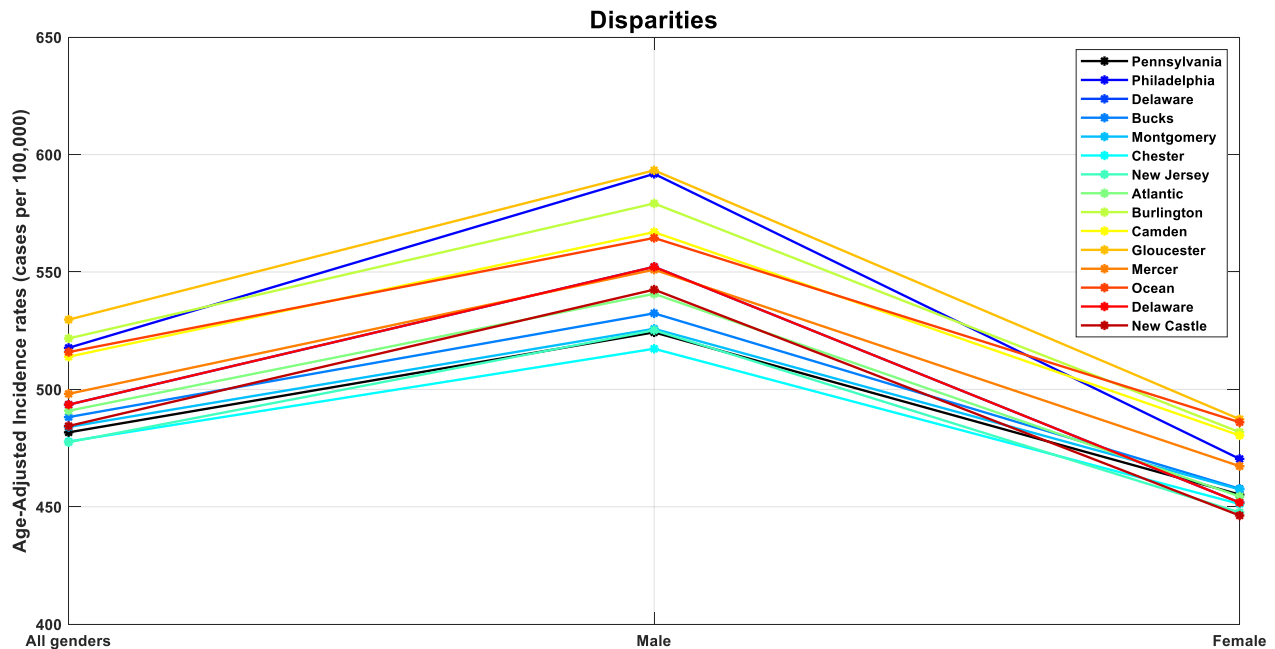

Figure 155 - 5-year (2011-2015) age-adjusted Incidence Rates for 12 ACC counties, for different genders. Unit: cases per 100,000 per year, age-adjusted to the 2000 US standard population (19 age groups)
Source: https://statecancerprofiles.cancer.gov/incidencerates/

Geographic Location

Disparities among counties in the catchment area are also visible. Residents of Philadelphia experience higher cancer mortality rates for all cancer sites, breast, colorectal, lung, pancreatic, prostate, and stomach cancers, as well as higher incidence rates for colorectal and lung cancers. These findings may be in part due to the size of Philadelphia's population, but also due to the fact that many Philadelphians have limited access to healthy foods and present unhealthy behaviors, such as smoking, binge drinking, and high rates of obesity. Philadelphia also presents low educational attainment rates, as well as high numbers (in fact the highest numbers among all counties) of people living below poverty level; unemployed; overall mortality rates; people with disabilities, mental illness, and HIV; homeless; and LGBT.

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9. Appendix

Table 1 shows cancer incidence and mortality age-adjusted rates per 100,000 population in the ACC catchment area, Philadelphia County, non-Philadelphia Catchment Area, and in the U.S.

Table 1. Cancer Incidence and Mortality in the ACC catchment area and U.S. age-adjusted rates per 100,000								
	Entire ACC catchment area		Philadelphia County		non-Philadelphia catchment area (11 counties)		United States	
	Incidence	Mortality	Incidence	Mortality	Incidence	Mortality	Incidence	Mortality
All cancers	499.5	171.0	510.7	201.5	497.3	164.0	441.2	161.0
Breast (F)	135.5	22.6	125.0	26.6	138.1	21.7	124.7	20.9
Prostate (M)	130.6	20.5	140.8	30.3	128.5	18.5	109.0	19.2
Lung	66.3	44.4	78.4	55.2	63.6	41.9	60.2	43.4
Colorectal	42.5	15.1	47.0	17.7	41.4	14.5	39.2	14.5
Melanoma	25.2	2.4	11.4	1.8	28.5	2.5	21.3	2.6
NH Lymphoma	21.1	5.5	20.5	5.8	21.2	5.4	18.9	5.7
Pediatric*	16.8	1.7	15.9	1.8	17.0	1.6	16.7	2.1
Pancreas	14.5	12.1	15.1	13.1	14.3	11.9	12.6	10.9
Leukemia	13.4	6.0	11.4	5.9	13.8	6.0	13.6	6.7
Ovary (F)	12.4	7.2	10.6	7.1	12.7	7.2	11.6	7.0
Oral/Pharynx	11.4	1.9	11.6	2.3	11.3	1.9	11.6	2.5
Liver/Bile Duct	9.2	6.5	16.0	10.8	7.5	5.5	8.1	6.4
Cervix (F)	7.0	1.9	11.0	3.6	6.0	1.5	7.7	2.3

Sources: PA, NJ and DE state cancer registries, SEER; 2011-2015.*ages 0-14; red shade > US; green < US

Table 2 shows cancer incidence and mortality age-adjusted rates per 100,000 population in the ACC catchment area, Philadelphia County, non-Philadelphia Catchment Area, and in the U.S., by race.

Table 2. Age-adjusted rates per 100,000 for Cancer Incidence and Mortality by Race and Geography																
	Entire ACC Catchment Area				Philadelphia County				non-Philadelphia catchment area (11 counties)				United States*			
	Incidence		Mortality		Incidence		Mortality		Incidence		Mortality		Incidence		Mortality	
	W †	B	W	B	W	B	W	B	W	B	W	B	W	B	W	B
All cancers	498.3	494.5	165.7	204.7	505.3	509.2	181.5	223.4	497.8	481.1	163.6	186.6	442.8	447.9	161.5	185.7
Breast (F)	139.5	127.6	21.4	29.8	128.4	128.3	22.5	30.9	141.1	121.9	21.2	28.7	125.6	123.8	20.1	28.1
Prostate (M)	115.0	182.7	17.1	44.9	97.0	167.0	18.1	51.7	117.4	196.7	17.0	38.2	100.1	175.2	18.0	38.9
Lung	66.0	72.5	43.6	51.2	78.2	81.3	52.8	58.9	64.4	64.1	42.4	43.7	61.1	62.3	44.1	46.2
Colorectal	41.8	45.0	14.4	17.5	46.8	47.1	15.1	20.4	41.1	43.2	14.3	14.7	38.4	45.7	14.1	19.4
Melanoma	28.5	0.8	2.9	0.3	19.4	0.6	2.9	0.5	29.8	1.0	2.9	0.1	24.2	1.0	3	0.4
NH Lymphoma	22.1	14.5	5.8	3.0	23.2	16.1	6.6	4.3	22.0	12.9	5.7	1.8	19.4	14.0	6.0	4.2
Pediatric*	16.1	12.2	1.5	1.0	14.5	13.1	1.5	1.5	16.3	11.4	1.5	0.6	17.4	12.7	2.2	2.1
Pancreas	14.1	15.8	11.7	13.4	14.1	16.8	11.4	15.2	14.2	14.7	11.9	12.0	12.4	15.6	10.8	13.3
Leukemia	13.7	9.7	6.2	3.6	12.3	9.6	6.7	4.7	13.9	9.8	6.2	2.5	14.1	10.5	6.9	5.6
Ovary (F)	13.1	9.3	7.4	5.8	12.5	8.8	7.1	7.4	13.2	9.6	7.4	4.3	12.0	9.4	7.3	6.1
Oral/Pharynx	11.9	9.1	1.8	1.8	12.6	11.0	1.9	2.7	11.8	7.2	1.8	0.9	12.0	9.0	2.5	2.8
Liver/Bile Duct	7.7	14.3	5.6	8.8	13.3	17.8	8.9	11.3	6.9	10.8	5.2	6.3	7.4	10.6	6	8.3
Cervix (F)	6.4	9.3	1.4	2.8	10.2	11.7	2.5	4.6	5.9	7.1	1.3	1.1	7.5	9.2	2.2	3.5

Sources: PA, NJ and DE state cancer registries, SEER; 2011-2015.*ages 0-14; †W - White; B - Black; red shade > US, green shade < US (non-overlapping 95% CIs and > 10% difference)

Table 3 shows data on some behavioral cancer risk factors for the U.S., the ACC catchment area, for Philadelphia County, and for non-Philadelphia Catchment Area.

Table 3. Behavioral Cancer Risk Factors for Philadelphia, the ACC Catchment Area, and the U.S.									
	Current Smoker	e-Cigarettes	Obesity	Physical Activity*	Alcohol Use†	Fruits/ Veg‡	CRC Screening⁰	Mammography¶	HPV Vaccine¥
Philadelphia County	19.2%	3.7%	32.0%	42.0%	7.0%	84.4%	73.0%	81%	89.8%
non-Philadelphia Catchment Area	12.3%	5.0%	27.8%	42.5%	6.3%	84.0%	70.9%	80.5%	65.4%-89.9%
Entire Catchment Area	15.0%	4.5%	29.4%	42.3%	6.6%	84.1%	72.7%	80.7%	65.4%-73.9%
United States	14.2%	4.0%	28.8%	43.4%	5.7%	84.4%	69.7%	78.3%	68.1%

BRFFS 2017, 2018; *does not meet aerobic recommendations; †heavy drinking; ‡< 5 per day; ⁰≥1 recommended CRC screening tests in recommended time interval (ages 50-74); ¶mammogram in past two years (ages 50-74); ¥2018 National Immunization Survey data; red shade > US, green < US (non-overlapping 95% CIs and > 10% difference)

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Many sources were used to prepare this report. When attributing sources of the information contained in this report, please note the footnotes to tables and the cited references.