Maryland Department of Health

2019 Cancer Data

Cigarette Restitution Fund Program

Cancer Prevention, Education, Screening and Treatment Program

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MARYLAND
Department of Health

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Glossary

- **Age-adjustment:** Age is the most important risk factor for the incidence of most cancers. However, cancer rates derived from populations that differ in underlying age distributions are not comparable. Age-adjustment is a statistical technique that allows for the comparison of rates among populations with different age distributions, by weighting the age-specific rates in each population to one standard population. Additional information on age-adjustment can be found on the following web sites:

  http://seer.cancer.gov/seerstat/tutorials/aarates/definition.html
  http://www.cdc.gov/nchs/data/statnt/statnt20.pdf

- **Annual percent change (APC):** A measure of the annual percent increase or decrease in cancer rates over time, which is used for analyzing trends. This measure assumes that cancer rates change at a constant percentage of the rate of the previous year. Rates that change at a constant percentage every year change linearly on a log scale. A more detailed description of the method can be found at:

  https://surveillance.cancer.gov/help/joinpoint/setting-parameters/advanced-tab/average-annual-percent-change-aapc

- **Ascertainment:** Refers to the quality assurance procedures that Maryland Cancer Registry (MCR) staff use to ensure completeness of cancer cases in the MCR database. These activities include: a review of disease indices from all reporting hospitals to identify possible missed cases; an evaluation of random samples of records from reporting facilities; and a review of death certificate data to identify cancer cases not previously reported.

- **Cancer:** A disease characterized by the uncontrolled, abnormal growth of cells in different parts of the body that can spread to other parts of the body.

- **Confidence interval (CI):** Describes the range of uncertainty around a point estimate (e.g., an incidence or mortality rate) and serves as an indicator of the precision or stability of a rate. CIs are useful in defining a range within which the typical rate for a geographic area can be expected to lie. Most CIs are, by convention, calculated at the 95% level, which means that 95% of hypothetically observed CIs generated will contain the true value of interest. The smaller the number of events upon which a rate is based, the wider the confidence interval will be.

- **Incidence:** The number of new cases of a given cancer or other event during a defined time period, usually one year. For the purposes of this report, cancer incidence refers to the number of new cases diagnosed during the individual calendar year 2016. Cancer incidence data are also presented in aggregated form, as the average annual incidence for the 5-year period from 2012 through 2016.

- **International Classification of Diseases (ICD):** The ICD is the international standard diagnostic classification for all general epidemiological, health management, and clinical use. It is used to classify diseases and other health problems recorded on many types of health and vital records, including death certificates and health records.

- **International Classification of Diseases for Oncology (ICD-O):** The ICD-O is the classification system used by tumor or cancer registries to code the site and the histology of the cancer, usually from a pathology report.

- **Invasive cancer:** Cancer that has spread beyond the layer of cells where it first began and has grown into nearby tissues. It may still be considered local stage if it has not spread to other parts of the body. Stage data presented in this report involve a diagnosis of invasive cancer: local, regional, or distant. A diagnosis of *in situ* is non-invasive and is not included in the staging data, except for *in situ* bladder cancer for all sites cancer data.

- **Mortality:** The number of deaths during a defined time period, usually one year. For the purposes of this report, cancer mortality refers to the number of new cancer deaths during the individual calendar year 2016. Cancer mortality data are also presented in an aggregated form, as the average annual mortality for the 5-year period from 2012 through 2016.

- **Race bridging:** Refers to the process of making data collected using one set of race categories consistent with data collected using a different set of race categories. This consistency allows estimation and comparison of race-specific statistics at a given point in time or over a period of time. More specifically, race bridging is a method used to make systems sufficiently comparable to permit estimation and analysis of race-specific statistics. Race-bridging algorithms are generally applied to population data, which are used in this report for calculating rates and for describing race categories of Maryland population estimates (see Appendix B).

- **Rate:** An estimate of the burden of a given disease on a defined population at risk over a specified period of time. A crude rate is calculated by dividing the number of cases or deaths (events) by the population at risk during a given time period. Cancer incidence and mortality rates are usually presented per 100,000 population during a given time period. An incidence rate is the number of new cases during a specific period (usually one year) divided by the population at risk per 100,000 population. A mortality rate is the number of deaths for a given period divided by the population at risk per 100,000 population. All rates presented in this report are age-adjusted to the 2000 U.S. standard population.

- **Region:** The following are the five regional categories in Maryland.

  <u>Baltimore Metropolitan Area</u>
  Anne Arundel, Baltimore City, Baltimore County, Carroll, Harford, and Howard Counties

Note: The Baltimore Metropolitan Area does not include Baltimore City when used in Appendix E.

Eastern Shore Region
Caroline, Cecil, Dorchester, Kent, Queen Anne's, Somerset, Talbot, Wicomico, and Worcester Counties

National Capital Area
Montgomery and Prince George's Counties

Northwest Region
Allegany, Frederick, Garrett, and Washington Counties

Southern Region
Calvert, Charles, and St. Mary's Counties

- **Screening:** Checking for disease when there are no symptoms, resulting in detection of pre-cancer, cancer *in situ*, or cancer at an early stage.

- **Stage at diagnosis:** Cancer stage is the extent to which the cancer has spread from the organ of origin at the time of diagnosis. The stage information used in this report is based on the SEER Summary Stage Guidelines:

  1. ***In situ*:** The cancerous cells have not invaded the tissue basement membrane and there is no stromal invasion. *In situ* cancers are not considered malignant (with the exception of bladder cancers) and are not included in incidence rate calculations.
  2. **Local:** The tumor is confined to the organ of origin.
  3. **Regional:** The tumor has spread to adjacent organs or tissue. Regional lymph nodes may also be involved.
  4. **Distant:** The tumor has spread beyond the adjacent organs or tissues. Distant lymph nodes, organs, and/or tissues may also be involved.
  5. **Unstaged:** The stage of disease at diagnosis was unable to be classified (often due to insufficient information) or was not reported to the cancer registry.

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I. Major Highlights of the Report for the State of Maryland

1. Major findings for **all cancer sites**:

- In 2016, a total of 31,079 new cases of cancer were diagnosed in Maryland.
- From 2007 to 2016, the annual overall cancer incidence rate declined 0.4% per year in Maryland, while the United States (U.S.) rate declined 1.3% per year. In 2016, the Maryland all sites cancer incidence rate was higher than the U.S. rate (443.6 vs. 424.1 per 100,000 population).
- In 2016, the incidence rate for all cancer sites among blacks in Maryland remained below the incidence rate for whites, continuing the trend seen beginning in 2012.
- In 2016, a total of 10,911 Maryland residents died from cancer.
- From 2007 to 2016, the annual overall cancer mortality rates decreased slightly more in Maryland than in the U.S. (-1.8% vs. -1.5% per year). In 2016, the Maryland (all cancer sites) mortality rate was similar to the U.S. rate (156.5 vs. 155.9 per 100,000 population), which is better than the Healthy People 2020 target of 161.4 per 100,000 population.
- Blacks had higher all cancer sites mortality rates than whites from 2012 to 2016; the annual percent change decreased for both races.

2. Major findings for **lung and bronchus** cancer:

- Lung cancer is the leading cause of cancer death in both men and women in Maryland, accounting for 24.2% of all 10,911 cancer deaths in 2016.
- From 2012 to 2016, overall lung cancer incidence and mortality rates decreased in Maryland, and also declined for both whites and blacks after stratification by race.
- Tobacco use is the primary cause of lung cancer; smoking causes an estimated 81% of lung cancer deaths in the U.S.[1]
- Smoking rates among Maryland youth and adults continue to decline. In 2016, 13.7% of adults ages 18 years and older were current smokers. However, Maryland has not yet attained the Healthy People 2020 goal of reducing the percentage of adult smokers to 12.0%.

3. Major findings for **colon and rectum** (colorectal) cancer:

- Overall, incidence and mortality rates for colorectal cancer declined in Maryland from 2012 to 2016. Over this time period, mortality rates had a greater decrease per year among Maryland blacks compared to whites. From 2012 to 2016 incidence rates decreased for blacks but increased for whites.
- Maryland has not yet surpassed the Healthy People 2020 target for up-to-date colorectal cancer screening (70.5%); in 2016, 69.8% of Maryland adults ages 50 years and older reported being up-to-date with colorectal cancer screening.

1. American Cancer Society. Cancer Facts & Figures 2019. Atlanta: American Cancer Society; 2019.

4. Major findings for **female breast** cancer:

- Breast cancer is the second leading cause of cancer death among women in Maryland after lung cancer.
- Incidence rates for female breast cancer increased among black females from 2012 to 2016, while they remained steady for white females.
- From 2012 to 2016, mortality rates for female breast cancer decreased for white females, but increased for black females.
- Maryland continues to meet the Healthy People 2020 target for mammography screening (81.1%); in 2016, 81.1% of Maryland women ages 50 to 74 years old reported having had a mammogram within the past two years.

5. Major findings for **prostate** cancer:

- Prostate cancer is the second leading cause of cancer death among men in Maryland after lung cancer.
- Overall, incidence and mortality rates for prostate cancer increased from 2012 to 2016.
- Racial disparities in prostate cancer incidence and mortality were present, with the rates for black males remaining higher than for white males in the years 2012 to 2016.
- From 2012 to 2016, prostate cancer incidence rates increased for white men while their mortality rates decreased. During this 5-year period, incidence and mortality rates for black men increased.
- An increasing percentage of Maryland men discussed the advantages and disadvantages of prostate-specific antigen (PSA) testing from 2012 (28.5%) to 2016 (32.0%); the 2016 percentage was double the Healthy People 2020 target of 15.9%.

6. Major findings for **oral** cancer:

- From 2012 to 2016, oral cancer incidence rates in Maryland increased overall. Oral cancer incidence rates increased at a greater rate per year for whites compared to blacks (1.4% vs. 0.5%, respectively)
- From 2012 to 2016, oral cancer mortality rates increased among whites at a rate of 7.7% per year and among blacks at a rate of 4.3% per year.
- Marylanders were below the Maryland Comprehensive Cancer Control Plan 2020 target of 26.7% for oral cancer screening; in 2016, 21.6% of Maryland adults reported having an oral cancer exam in the past year.

7. Major findings for **melanoma** skin cancer:

- Melanoma incidence rates in Maryland increased at a rate of 4.5% per year from 2012 to 2016. The annual incidence rate increased among both males and females. In 2016, males had incidence rates of melanoma that were 68.1% higher than females.
- According to the Centers for Disease Control and Prevention (CDC), age-adjusted

melanoma incidence rates in the United States have been increasing steadily among both males and females, with this trend being largely driven by statistically significant increases among non-Hispanic white individuals ages 55 and older.[2]

- From 2012 to 2016, overall melanoma mortality rates decreased among both males and females at a rate of 7.6% and 11.1% per year, respectively.
- In 2016, 66.0% of Maryland adults used at least one sun protective measure "always" or "nearly always," which is below the Healthy People 2020 target of 73.7%; however, this percentage excludes the 7.5% of Maryland adults who reported that they do not go out in the sun.

8. Major findings for **cervical** cancer:

- Cervical cancer incidence rates among Maryland women increased at a rate of 1.9% per year from 2012 to 2016, while mortality rates decreased at a rate of 0.5% per year during this same time period.
- Cervical cancer incidence rates decreased among black females but increased among white females.
- From 2012 to 2016, mortality rates for cervical cancer were continuously higher in black females compared to white females.
- In 2016, 82.2% of Maryland women ages 21 to 65 years old had a Pap test within the past three years, below the Healthy People 2020 target of 93.0%.

C. Major Changes to this Report from the 2016 Cancer Report

- This report presents Maryland and U.S. incidence and mortality data for 2016 and 5-year aggregate data for 2012 to 2016.

[2] *Skin Cancer Prevention Progress Report 2018*. Atlanta, GA: Centers for Disease Control and Prevention, US Department of Health and Human Services; 2018.

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II. All Cancer Sites

Incidence (New Cases)

A total of 31,079 new cases of cancer diagnosed in 2016 in Maryland residents were reported to the Maryland Cancer Registry. The total age-adjusted cancer incidence rate for Maryland was 443.6 per 100,000 population (438.6-448.7, 95% CI) in 2016. The 2016 Maryland cancer incidence rate is statistically significantly higher than the 2016 U.S. Surveillance Epidemiology and End Results (SEER) rate of 424.1 per 100,000 population (422.8-425.4, 95% CI).

Mortality (Deaths)

Cancer is the second leading cause of death in Maryland, accounting for 22.3% of all deaths in 2016. A total of 10,911 Maryland residents died from cancer in 2016. The Maryland mortality rate for all cancer sites was 156.5 per 100,000 population (153.5-159.5, 95% CI) for 2016. This rate is not statistically significantly different than the 2016 U.S. mortality rate for all cancer sites of 155.9 per 100,000 population (155.5-156.3, 95% CI). Maryland ranks 32nd highest among all states and the District of Columbia in total cancer mortality for the period from 2012 to 2016.

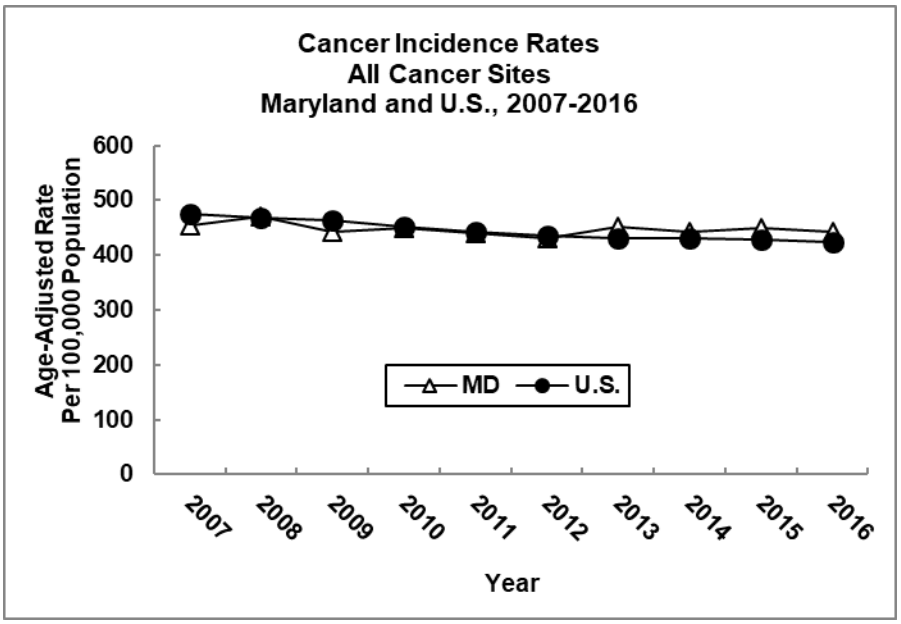
Table 1.
All Cancer Sites Incidence and Mortality Rates
by Gender and Race, Maryland (MD) and the United States, 2016

Incidence 2016	*Total**	*Males*	*Females*	*Whites*	*Blacks*	*Other*
MD New Cases (count)	31,079	15,307	15,765	21,021	8,307	1,295
MD Incidence Rate	443.6	481.6	419.1	453.0	430.4	286.1
U.S. SEER Rate	424.1	458.4	402.1	432.7	434.3	278.4
Mortality 2016	*Total*	*Males*	*Females*	*Whites*	*Blacks*	*Other*
MD Deaths (count)	10,911	5,472	5,439	7,392	3,174	345
MD Mortality Rate	156.5	183.2	138.4	154.7	176.2	83.0
U.S. Mortality Rate	155.9	185.9	134.0	156.7	178.2	N/A

Rates are per 100,000 population and are age-adjusted to 2000 U.S. standard population

* Total also includes cases reported as transsexual, hermaphrodite, unknown gender, unknown race, and unknown county

Source: Maryland Cancer Registry
U.S. SEER, SEER*Stat
NCHS Compressed Mortality File in CDC WONDER, 2016
U.S. SEER, Cancer Statistics Review

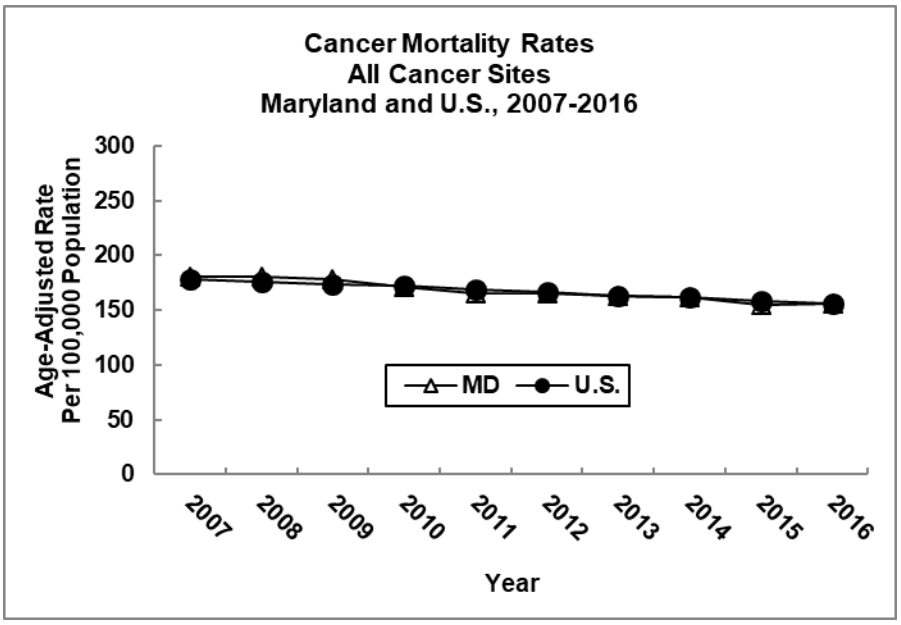


Source: Maryland Cancer Registry
U.S. SEER, SEER*Stat

Maryland vs. U.S., All Cancer Sites Incidence Rates, All Age Groups

All cancer sites incidence rates declined in both the U.S. and Maryland over the 10-year period from 2007 to 2016. Incidence rates for all cancer sites decreased at a rate of 1.3% per year in the U.S. and 0.4% in Maryland.

See Appendix H, Table 1.

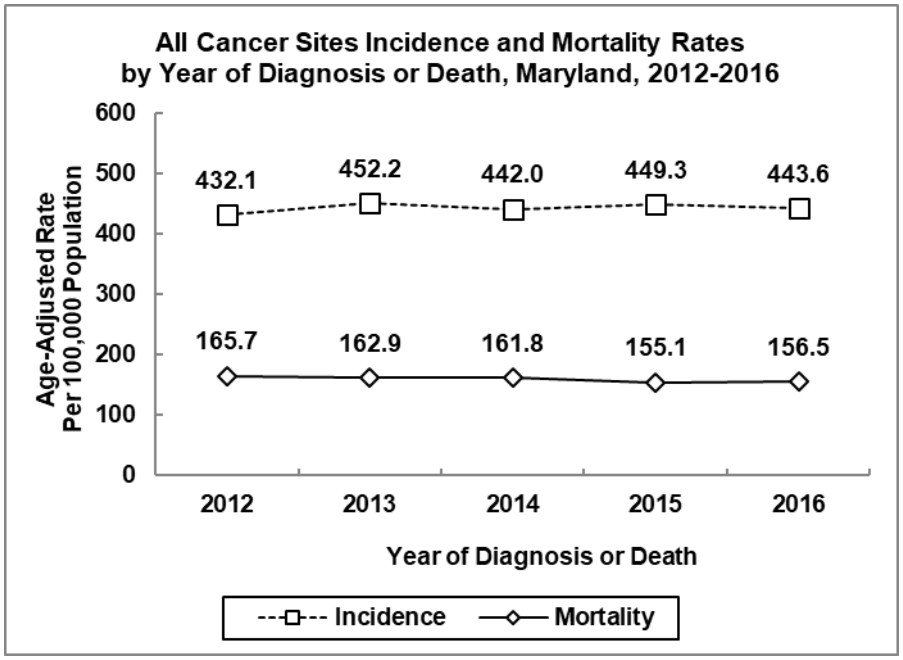


Source: NCHS Compressed Mortality File in CDC WONDER, 2007, 2012-2016 (MD)
Maryland Vital Statistics Administration from MATCH, 2008-2010 (MD)
Maryland Vital Statistics Administration, 2011 (MD)
NCHS Compressed Mortality File in CDC WONDER, 2007-2008 (U.S.)
U.S. SEER, Cancer Statistics Review, 2009-2016 (U.S.)

Maryland vs. U.S., All Cancer Sites Mortality Rates, All Age Groups

Maryland cancer mortality rates have declined since 2007. From 2007 to 2016, all cancer sites mortality rates in Maryland decreased at a rate of 1.8% per year, a greater decrease than the U.S. mortality rates, which decreased at a rate of 1.5% per year during the same time period.

See Appendix H, Table 2.



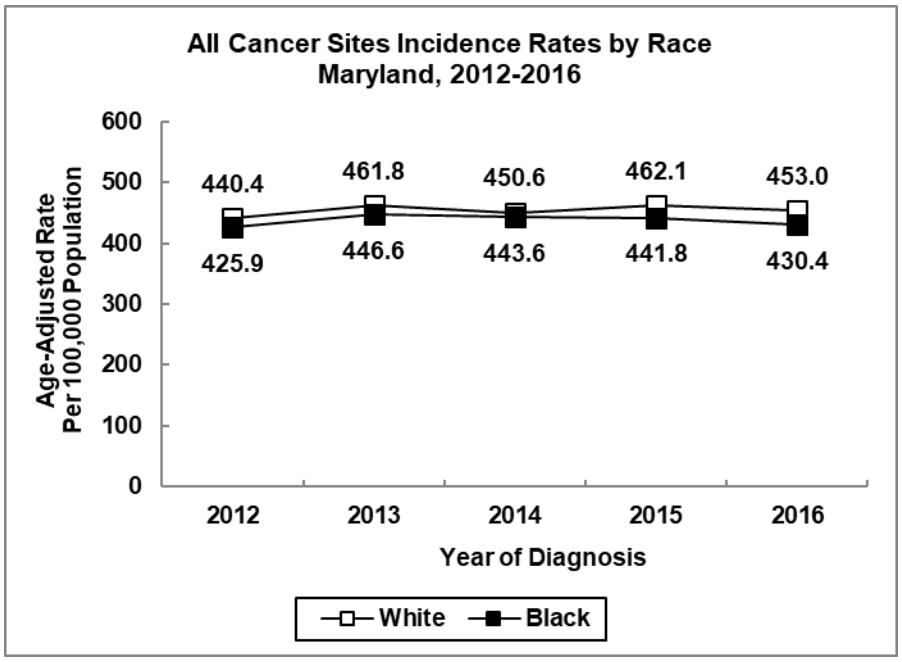
Source: Maryland Cancer Registry
NCHS Compressed Mortality File in CDC WONDER, 2012-2016

Incidence and Mortality Trends

In Maryland, the incidence rate for all cancer sites increased slightly at a rate of 0.5% per year from 2012 to 2016.

During this same timeframe, cancer mortality rates decreased at a rate of 1.6% per year.

See Appendix F, Tables 1 and 2.

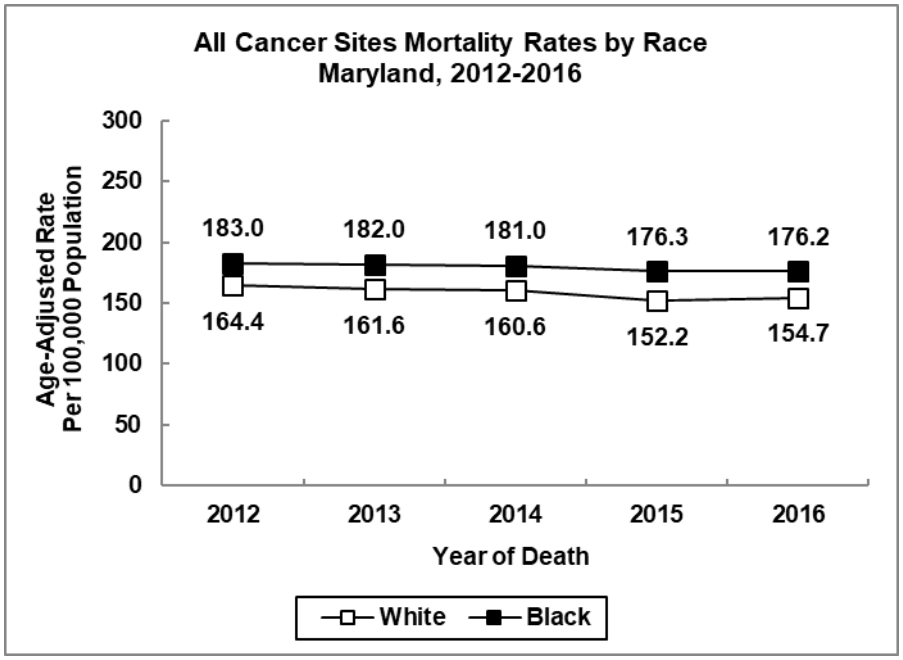


Source: Maryland Cancer Registry

Incidence Trends by Race

From 2012 to 2016, the incidence rate for all cancer sites was lower among blacks compared to whites in Maryland. From 2012 to 2016, incidence rates for all cancer sites increased at a rate of 0.6% per year among whites and increased at a rate of 0.1% per year among blacks.

See Appendix F, Table 3.



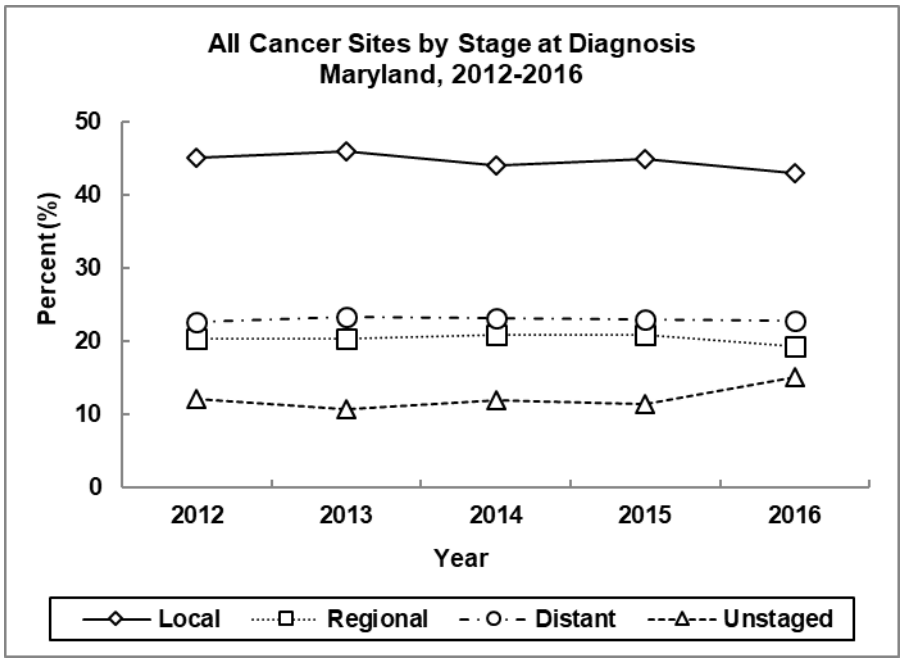
Source: NCHS Compressed Mortality File in CDC WONDER, 2012-2016

Mortality Trends by Race

Both blacks and whites showed declines in cancer mortality from 2012 to 2016, with a decrease of 1.8% per year for whites and 1.1% per year for blacks.

Blacks have higher mortality rates for all cancer sites than whites.

See Appendix F, Table 5.

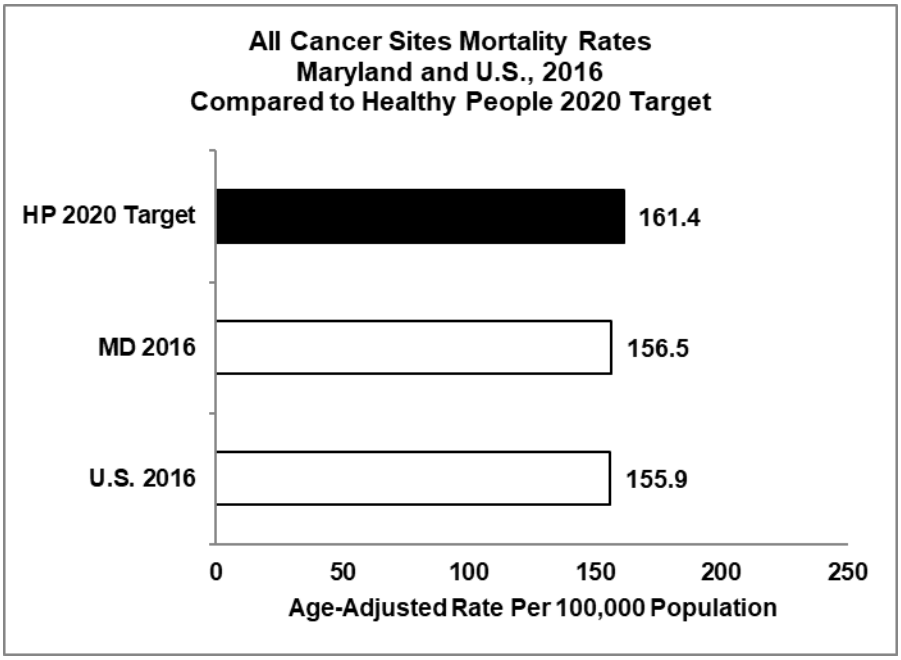


Source: Maryland Cancer Registry
Note: Due to a methodology change, SEER summary stage 2000 was used in 2016, while the derived SEER summary stage 2000 was used from 2012 to 2015

Stage at Diagnosis

Of all cancers diagnosed in Maryland in 2016, 42.9% were found at the local (early) stage, 19.3% at the regional stage, and 22.8% at the distant (late) stage. In 2016, 15.0% of all cancers were reported as unstaged in Maryland. Since 2012, the proportion of all cancers reported as unstaged increased by 4.6% per year.

See Appendix G, Table 1.



Source: Healthy People 2020, U.S. Department of Health and Human Services
NCHS Compressed Mortality File in CDC WONDER
U.S. SEER, Cancer Statistics Review

Mortality Rates Compared to Healthy People 2020 Target

In 2016, the mortality rate for all cancer sites in Maryland was 156.5 per 100,000 population, which was higher than the U.S. rate of 155.9 per 100,000 population but lower than the Healthy People 2020 target of 161.4 per 100,000 population.

Table 2.
Number of Cancer Cases for All Cancer Sites by Jurisdiction, Gender, and Race, Maryland, 2016

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	31,079	15,307	15,765	21,021	8,307	1,295
Allegany	522	279	242	494	26	<6
Anne Arundel	2,977	1,481	1,496	2,472	390	94
Baltimore City	3,275	1,588	1,687	1,082	2,124	41
Baltimore County	4,866	2,349	2,516	3,634	1,020	177
Calvert	467	242	225	397	65	<6
Caroline	184	97	87	158	24	<6
Carroll	1,027	526	501	986	33	7
Cecil	638	328	310	597	34	<6
Charles	756	387	369	454	266	26
Dorchester	228	120	108	172	52	<6
Frederick	1,284	638	646	1,129	102	40
Garrett	186	98	88	184	<6	0
Harford	1,554	786	768	1,348	160	33
Howard	1,288	619	668	897	224	149
Kent	168	90	78	137	30	0
Montgomery	4,447	2,117	2,328	3,037	696	525
Prince George's	3,834	1,859	1,973	953	2,631	153
Queen Anne's	333	176	157	305	23	<6
Saint Mary's	463	231	232	377	75	7
Somerset	165	85	80	130	35	0
Talbot	305	157	148	267	35	<6
Washington	933	440	493	860	55	8
Wicomico	576	280	296	443	122	10
Worcester	407	206	201	359	44	<6

Total includes cases reported as transexual, hermaphrodite, unknown gender, unknown race, and unknown jurisdiction

<6 = Case counts of 1-5 are suppressed per MDH/MCR Data Use Policy

s = Case counts are suppressed to prevent disclosure of data in other cell(s) (See Appendix A for methods)

Source: Maryland Cancer Registry, SEER*Stat Static data as of January 3, 2019

Table 3.
All Cancer Sites Age-Adjusted Incidence Rates* by Jurisdiction, Gender, and Race, Maryland, 2016

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	443.6	481.6	419.1	453.0	430.4	286.1
Allegany	521.8	594.4	477.5	517.5	748.6	**
Anne Arundel	462.0	495.3	440.7	468.9	433.4	352.9
Baltimore City	495.8	551.1	459.0	508.4	490.6	244.0
Baltimore County	468.8	509.3	443.0	479.7	440.2	337.7
Calvert	429.8	471.4	399.7	434.5	439.1	**
Caroline	453.4	518.5	408.4	461.5	411.6	**
Carroll	482.1	532.1	450.3	487.3	471.6	**
Cecil	533.8	577.2	504.3	535.6	553.0	**
Charles	451.5	524.9	401.3	490.5	397.6	325.6
Dorchester	499.9	551.2	465.8	488.9	499.2	**
Frederick	451.3	479.9	431.1	449.6	512.2	330.1
Garrett	415.2	467.4	382.1	410.5	**	0.0
Harford	505.7	565.8	464.6	508.9	513.4	325.8
Howard	367.3	383.6	357.3	376.8	385.5	270.3
Kent	493.0	552.3	450.5	470.8	646.0	0.0
Montgomery	369.5	390.0	358.4	371.5	364.1	270.0
Prince George's	399.7	440.7	375.6	385.0	395.4	288.5
Queen Anne's	518.7	561.2	486.2	518.6	488.9	**
Saint Mary's	378.8	382.7	376.0	370.2	456.8	**
Somerset	523.5	532.5	551.5	595.2	405.9	0.0
Talbot	473.7	526.2	432.6	461.4	501.4	**
Washington	495.6	484.0	517.6	494.1	421.8	**
Wicomico	486.5	523.2	462.6	497.3	472.4	**
Worcester	466.9	486.3	457.3	470.4	465.1	**

* Rates are per 100,000 population and age-adjusted to 2000 U.S. standard population

** Rates based on case counts of 1-15 are suppressed per MDH/MCR Data Use Policy and Procedures

Source: Maryland Cancer Registry, SEER*Stat Static data as of January 3, 2019

Table 4.
All Cancer Sites and Age-Adjusted Incidence Rates*
Among Hispanics§ by Geographical Area in Maryland, 2016

Jurisdiction	Cases	Rate
Maryland	1,025	292.2
Allegany	<6	**
Anne Arundel	70	303.8
Baltimore City	48	311.9
Baltimore County	85	353.9
Calvert	6	**
Caroline	<6	**
Carroll	13	**
Cecil	10	**
Charles	18	385.2
Dorchester	<6	**
Frederick	44	329.8
Garrett	<6	**
Harford	26	346.4
Howard	35	277.4
Kent	<6	**
Montgomery	411	294.3
Prince George's	209	232.8
Queen Anne's	<6	**
Saint Mary's	7	**
Somerset	<6	**
Talbot	<6	**
Washington	11	**
Wicomico	8	**
Worcester	<6	**
Region	**Cases**	**Rate**
Baltimore Metropolitan Area^	277	321.4
Eastern Shore Region	36	365.7
National Capital Area	620	273.1
Northwest Region	57	318.1
Southern Region	31	304.2

* Rates are per 100,000 population and are age-adjusted to 2000 U.S. standard population

§ Case counts were prepared using MCR data and an algorithm to determine Hispanic ethnicity. (See Appendix A, Section F)

<6 = Case counts of 1-5 are suppressed per MDH/MCR Data Use Policy and Procedures

** Rates based on case counts of 1-15 are suppressed per MDH/MCR Data Use Policy and Procedures

^ Area rate includes Baltimore City

Source: Maryland Cancer Registry

Table 5.
Number of Deaths for All Cancer Sites by Jurisdiction, Gender, and Race, Maryland, 2016

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	10,911	5,472	5,439	7,392	3,174	345
Allegany	176	83	93	172	<10	<10
Anne Arundel	992	527	465	814	158	20
Baltimore City	1,363	708	655	405	947	11
Baltimore County	1,862	879	983	1,459	356	47
Calvert	184	99	85	158	25	<10
Caroline	73	35	38	59	s	<10
Carroll	341	171	170	332	<10	<10
Cecil	228	140	88	209	s	<10
Charles	252	126	126	145	s	<10
Dorchester	93	51	42	66	s	<10
Frederick	418	230	188	378	s	<10
Garrett	64	36	28	s	<10	<10
Harford	527	270	257	469	s	<10
Howard	359	180	179	256	64	39
Kent	54	24	30	42	s	<10
Montgomery	1,403	649	754	1,015	232	156
Prince George's	1,408	677	731	395	972	41
Queen Anne's	92	41	51	82	s	<10
Saint Mary's	186	102	84	151	s	<10
Somerset	50	27	23	44	<10	<10
Talbot	79	44	35	71	<10	<10
Washington	314	161	153	301	s	<10
Wicomico	237	128	109	170	s	<10
Worcester	156	84	72	135	s	<10

<10 = Death counts or 0-9 are suppressed per MDH/CCPC Mortality Data Suppression Policy

s = Death counts are suppressed to prevent disclosure of data in other cell(s) (See Appendix A for methods)

Source: CDC Wonder, 2012-2016, as of March 5, 2019

Table 6.
All Cancer Sites Age-Adjusted Mortality Rates* by Jurisdiction, Gender, and Race, Maryland, 2016

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	156.5	183.2	138.4	154.7	176.2	83.0
Allegany	166.0	175.5	159.3	168.5	**	**
Anne Arundel	155.5	189.0	131.8	152.1	195.1	81.8
Baltimore City	209.1	263.4	172.8	189.5	223.9	**
Baltimore County	173.4	197.2	158.4	179.8	165.7	104.7
Calvert	176.9	221.3	149.8	180.1	179.0	**
Caroline	176.4	203.7	159.1	167.2	**	**
Carroll	159.7	183.1	144.5	162.9	**	**
Cecil	189.6	259.0	135.6	183.9	**	**
Charles	158.0	189.3	140.0	156.8	171.3	**
Dorchester	190.8	230.1	162.4	177.9	249.6	**
Frederick	152.5	190.2	125.5	152.6	173.1	**
Garrett	135.6	172.0	110.1	136.7	**	**
Harford	174.2	213.4	148.7	176.0	197.0	**
Howard	107.3	124.7	94.7	109.0	121.6	78.8
Kent	149.9	154.7	145.6	133.9	**	**
Montgomery	114.8	124.7	109.3	117.7	126.6	84.8
Prince George's	155.4	180.9	139.7	159.9	159.1	80.7
Queen Anne's	142.6	133.1	150.0	139.1	**	**
Saint Mary's	160.8	186.5	138.1	157.0	195.0	**
Somerset	159.3	183.4	133.0	194.1	**	**
Talbot	104.0	135.0	77.3	101.5	**	**
Washington	164.1	187.7	147.4	168.3	**	**
Wicomico	197.4	237.9	168.8	184.1	246.2	**
Worcester	165.1	190.1	148.3	159.6	217.9	**

* Rates are per 100,000 population and age-adjusted to 2000 U.S. standard population

** Rates based on death counts of 0-19 are suppressed per MDH/CCPC Mortality Data Suppression Policy

Source: CDC Wonder, 2012-2016, as of March 5, 2019

Table 7.
Number of Cancer Cases for All Cancer Sites by Jurisdiction, Gender, and Race, Maryland, 2012-2016

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	149,839	73,511	76,270	103,029	39,565	5,346
Allegany	2,477	1,264	1,212	2,375	88	11
Anne Arundel	14,320	7,082	7,234	12,143	1,748	323
Baltimore City	15,922	7,789	8,128	5,290	10,334	194
Baltimore County	24,212	11,832	12,368	18,481	4,960	629
Calvert	2,322	1,170	1,148	1,970	323	19
Caroline	933	493	440	785	135	7
Carroll	4,959	2,510	2,448	4,740	162	40
Cecil	3,035	1,569	1,466	2,841	166	23
Charles	3,412	1,773	1,638	2,128	1,164	85
Dorchester	1,111	593	518	819	283	6
Frederick	5,992	2,891	3,099	5,329	464	143
Garrett	860	421	439	853	<6	<6
Harford	7,340	3,762	3,576	6,459	728	114
Howard	6,494	3,043	3,447	4,678	1,113	637
Kent	757	379	378	626	124	<6
Montgomery	21,637	10,171	11,462	15,126	3,422	2,341
Prince George's	18,143	8,568	9,560	4,764	12,357	620
Queen Anne's	1,469	766	703	1,355	103	6
Saint Mary's	2,425	1,241	1,183	2,026	329	42
Somerset	733	397	336	550	180	<6
Talbot	1,444	768	676	1,282	145	<6
Washington	4,296	2,069	2,226	4,002	234	41
Wicomico	2,941	1,498	1,443	2,264	622	36
Worcester	2,040	1,090	950	1,784	240	12

Total includes cases reported as transexual, hermaphrodite, unknown gender, unknown race, and unknown jurisdiction

<6 = Case counts of 1-5 are suppressed per MDH/MCR Data Use Policy

s = Case counts are suppressed to prevent disclosure of data in other cell(s) (See Appendix A for methods)

Source: Maryland Cancer Registry, SEER*Stat Static data as of January 3, 2019

Table 8.
All Cancer Sites Age-Adjusted Incidence Rates* by Jurisdiction, Gender, and Race, Maryland, 2012-2016

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	443.9	483.1	418.4	453.6	437.8	260.4
Allegany	494.5	535.9	479.2	497.9	554.7	**
Anne Arundel	461.0	497.2	438.4	471.7	423.8	271.9
Baltimore City	486.5	553.5	442.9	489.9	486.1	258.3
Baltimore County	479.5	529.3	446.7	492.8	469.6	273.6
Calvert	455.0	490.3	429.8	460.2	454.4	172.1
Caroline	474.5	540.8	424.8	470.2	494.4	**
Carroll	481.4	527.2	448.4	482.6	508.1	232.4
Cecil	521.5	569.7	486.4	521.8	566.1	292.5
Charles	438.5	510.9	385.0	467.1	403.0	239.9
Dorchester	485.7	546.7	440.6	472.7	528.3	**
Frederick	447.9	474.5	434.7	447.5	503.2	283.2
Garrett	402.2	412.2	397.0	401.0	**	**
Harford	495.8	557.4	452.2	500.9	505.6	250.8
Howard	395.0	403.9	392.3	410.5	427.2	266.5
Kent	471.7	495.3	462.2	459.1	554.3	**
Montgomery	372.6	390.5	363.6	376.0	384.8	262.0
Prince George's	399.0	433.8	378.6	390.6	397.4	246.6
Queen Anne's	464.0	498.0	438.0	467.8	451.1	**
Saint Mary's	418.7	438.2	402.2	421.0	410.1	216.7
Somerset	478.3	519.9	458.4	507.9	434.5	**
Talbot	450.3	505.2	408.3	448.5	421.0	**
Washington	469.6	479.5	474.1	472.5	426.1	299.5
Wicomico	517.3	576.2	476.3	525.2	510.1	221.1
Worcester	482.0	531.4	444.9	477.8	537.5	**

* Rates are per 100,000 population and age-adjusted to 2000 U.S. standard population

** Rates based on case counts of 1-15 are suppressed per MDH/MCR Data Use Policy and Procedures

Source: Maryland Cancer Registry, SEER*Stat Static data as of January 3, 2019

Table 9.
Number of Deaths for All Cancer Sites by Jurisdiction, Gender, and Race, Maryland, 2012-2016

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	53,372	27,023	26,349	36,782	15,009	1,581
Allegany	888	465	423	861	s	<10
Anne Arundel	4,993	2,610	2,383	4,183	686	124
Baltimore City	7,111	3,621	3,490	2,386	4,663	62
Baltimore County	8,583	4,225	4,358	6,768	1,639	176
Calvert	816	424	392	684	s	<10
Caroline	364	183	181	316	s	<10
Carroll	1,641	830	811	1,590	s	<10
Cecil	1,065	582	483	996	s	<10
Charles	1,212	617	595	763	414	35
Dorchester	460	247	213	339	s	<10
Frederick	1,968	1,027	941	1,795	143	30
Garrett	314	175	139	311	<10	<10
Harford	2,451	1,296	1,155	2,189	237	25
Howard	1,841	921	920	1,346	332	163
Kent	263	130	133	221	s	<10
Montgomery	6,823	3,219	3,604	5,048	1,081	694
Prince George's	6,787	3,313	3,474	1,997	4,600	190
Queen Anne's	504	285	219	457	s	<10
Saint Mary's	970	549	421	813	143	14
Somerset	279	155	124	210	s	<10
Talbot	494	276	218	434	s	<10
Washington	1,607	823	784	1,534	58	15
Wicomico	1,126	608	518	837	273	16
Worcester	812	442	370	704	s	<10

<10 = Death counts or 0-9 are suppressed per MDH/CCPC Mortality Data Suppression Policy

s = Death counts are suppressed to prevent disclosure of data in other cell(s) (See Appendix A for methods)

Source: CDC Wonder, 2012-2016, as of March 5, 2019

Table 10.
All Cancer Sites Age-Adjusted Mortality Rates* by Jurisdiction, Gender, and Race, Maryland, 2012-2016

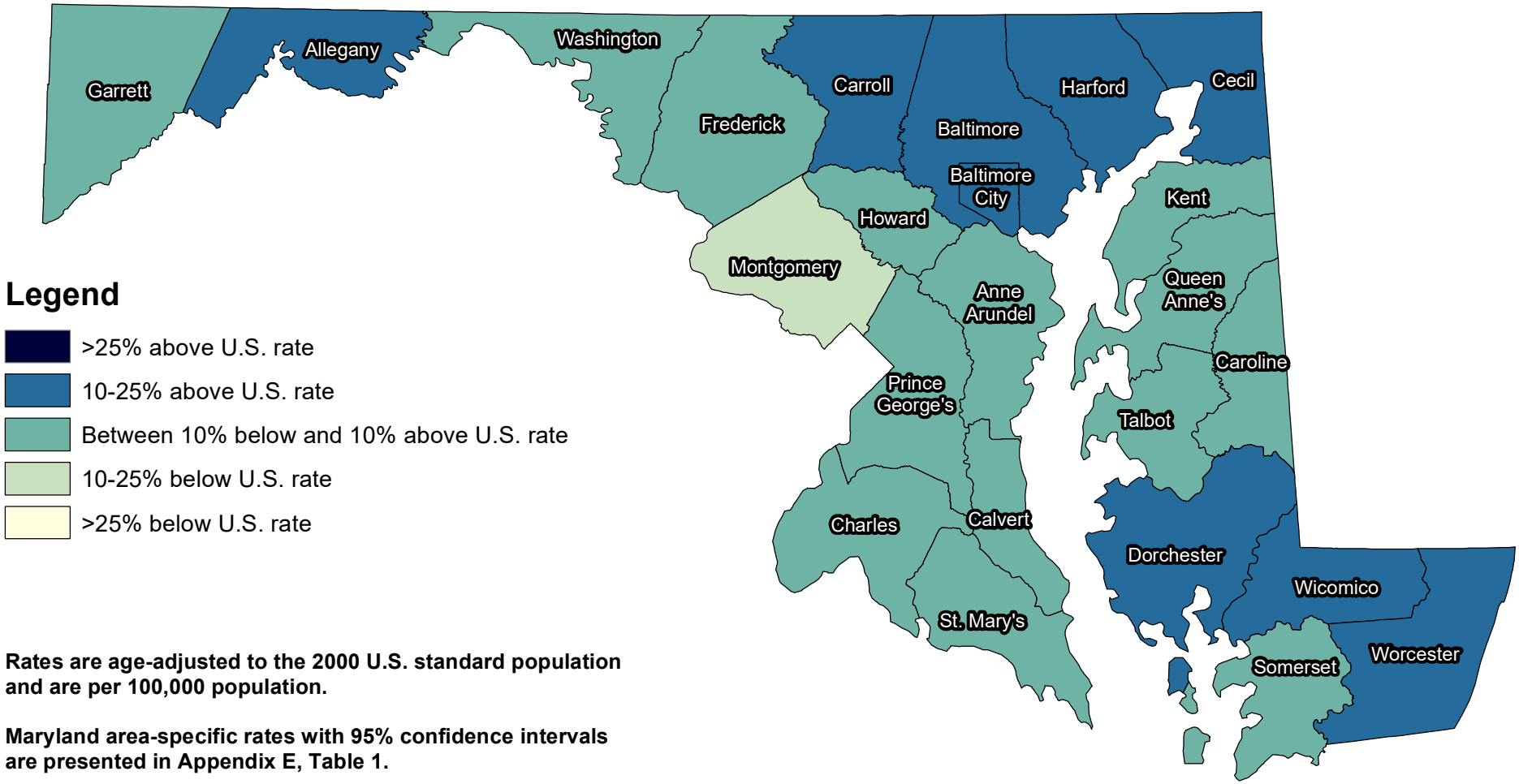
Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	160.3	190.0	140.1	158.6	179.4	85.8
Allegany	168.8	200.2	147.6	170.1	203.2	**
Anne Arundel	165.6	198.1	142.7	164.4	183.5	120.6
Baltimore City	221.7	278.5	185.9	220.1	225.9	89.2
Baltimore County	163.2	192.4	143.8	165.8	168.1	89.1
Calvert	166.3	196.8	146.2	165.2	190.6	**
Caroline	183.0	210.3	164.0	185.6	184.9	**
Carroll	159.9	184.2	142.1	161.8	146.8	**
Cecil	189.2	226.8	159.7	188.1	241.2	**
Charles	167.2	199.3	145.7	170.7	165.9	106.3
Dorchester	195.4	238.0	165.6	186.8	226.6	**
Frederick	152.5	183.0	131.7	153.9	172.1	70.4
Garrett	140.8	175.3	114.1	140.4	**	**
Harford	169.9	211.6	142.6	171.2	185.8	62.2
Howard	121.3	139.5	108.9	123.6	148.6	76.6
Kent	151.2	169.4	138.9	147.4	178.0	**
Montgomery	117.4	131.3	109.0	120.3	132.4	84.3
Prince George's	161.0	190.4	142.5	167.5	162.8	85.7
Queen Anne's	159.3	196.8	128.4	158.5	188.4	**
Saint Mary's	176.8	213.2	145.6	177.5	188.5	**
Somerset	182.5	215.0	159.0	186.5	182.7	**
Talbot	137.4	173.3	109.7	132.2	176.9	**
Washington	172.4	199.9	152.8	175.1	135.4	**
Wicomico	195.7	244.5	161.0	189.0	228.4	**
Worcester	178.6	214.1	150.8	172.8	239.5	**

* Rates are per 100,000 population and age-adjusted to 2000 U.S. standard population

** Rates based on death counts of 0-19 are suppressed per MDH/CCPC Mortality Data Suppression Policy

Source: CDC Wonder, 2012-2016, as of March 5, 2019

Maryland All Sites Cancer Incidence Rates by Geographical Area: Comparison to U.S. Rate, 2012-2016



Rates are age-adjusted to the 2000 U.S. standard population and are per 100,000 population.

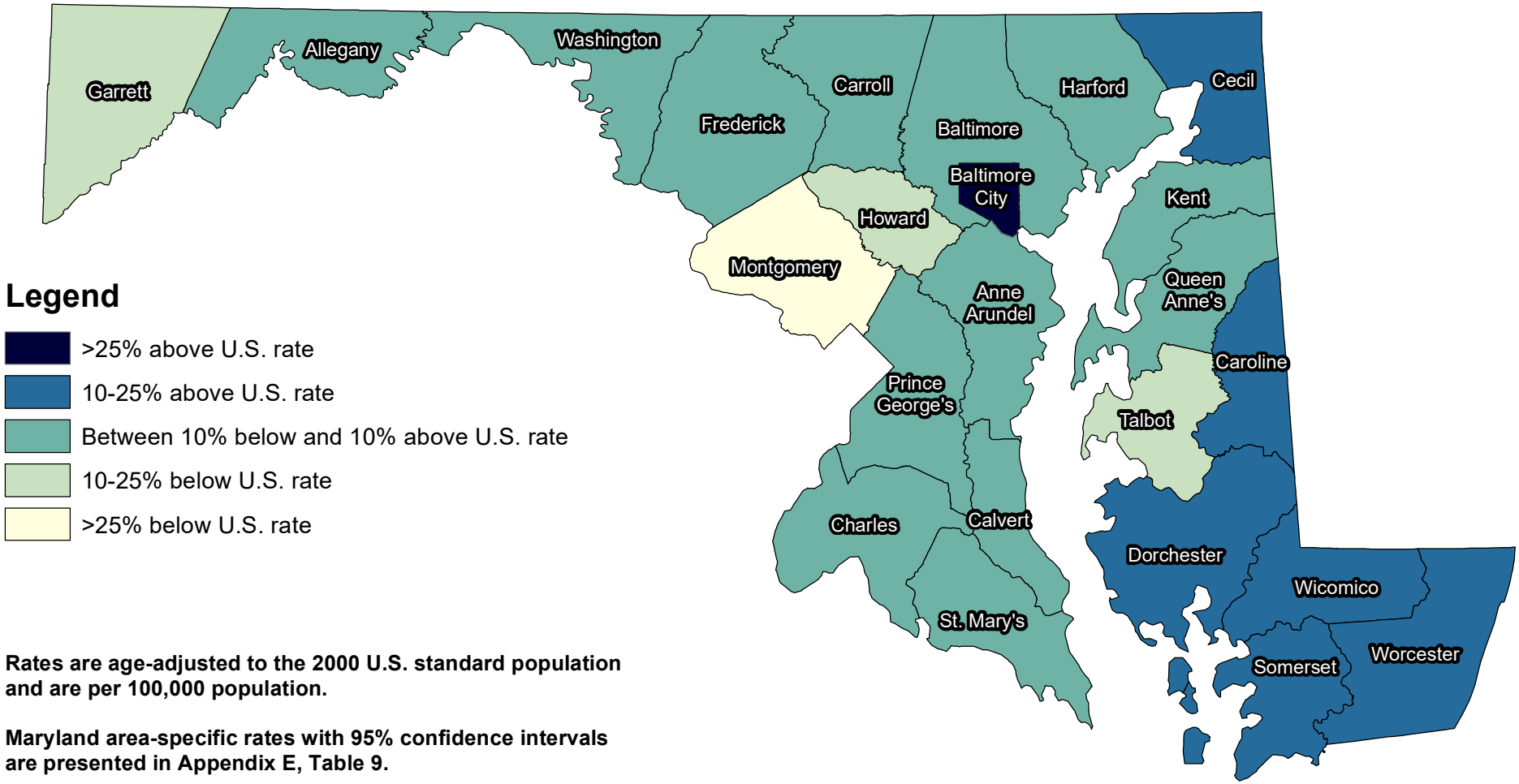
Maryland area-specific rates with 95% confidence intervals are presented in Appendix E, Table 1.

U.S. all sites cancer incidence rate, 2012-2016: 435.1 / 100,000

Maryland all sites cancer incidence rate, 2012-2016: 443.9 / 100,000

Sources: Maryland Cancer Registry
U.S. SEER, SEER*Stat Database

Maryland All Sites Cancer Mortality Rates by Geographical Area: Comparison to U.S. Rate, 2012-2016



Rates are age-adjusted to the 2000 U.S. standard population and are per 100,000 population.

Maryland area-specific rates with 95% confidence intervals are presented in Appendix E, Table 9.

U.S. all sites cancer mortality rate, 2012-2016: 161.0 / 100,000

Maryland all sites cancer mortality rate, 2012-2016: 160.3 / 100,000

Sources: NCHS Compressed Mortality File in CDC WONDER
U.S. SEER, Cancer Statistics Review

III. Targeted Cancers

A. Lung and Bronchus Cancer

Incidence (New Cases)

There were 3,803 new cases of lung and bronchus cancer (collectively called lung cancer) reported among Maryland residents in 2016. The 2016 Maryland age-adjusted lung cancer incidence rate was 54.0 per 100,000 population (52.2-55.7, 95% CI), which is statistically significantly higher than the 2016 U.S. SEER lung cancer incidence rate of 50.1 per 100,000 population (49.7-50.5, 95% CI).

Mortality (Deaths)

There were 2,639 lung cancer deaths among Maryland residents in 2016. In 2016, lung cancer accounted for 24.2% of all cancer deaths in Maryland and was the leading cause of cancer death in both men and women. The 2016 age-adjusted lung cancer mortality rate was 37.5 per 100,000 population (36.1-39.0, 95% CI) in Maryland. This rate is not statistically significantly lower than the 2016 U.S. mortality rate for lung and bronchus cancer of 38.5 per 100,000 population (38.3-38.7, 95% CI). Maryland had the 34th highest lung cancer mortality rate among the states and the District of Columbia for the period from 2012 to 2016.

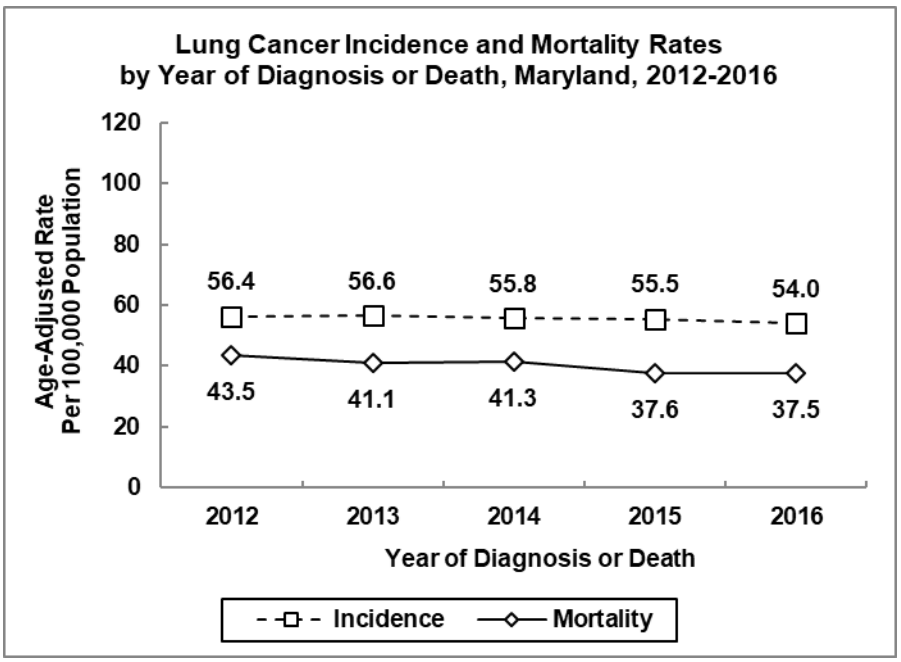
Table 11.
Lung Cancer Incidence and Mortality Rates
by Gender and Race, Maryland (MD) and the United States, 2016

Incidence 2016	*Total**	*Males*	*Females*	*Whites*	*Blacks*	*Other*
MD New Cases (count)	3,803	1,858	1,945	2,728	941	120
MD Incidence Rate	54.0	59.9	49.6	57.0	50.4	28.7
U.S. SEER Rate	50.1	57.2	44.7	51.5	56.1	32.2
Mortality 2016	*Total*	*Males*	*Females*	*Whites*	*Blacks*	*Other*
MD Deaths (count)	2,639	1,375	1,264	1,889	684	66
MD Mortality Rate	37.5	45.3	31.8	39.3	37.7	16.4
U.S. Mortality Rate	38.5	46.9	31.9	39.3	40.2	N/A

Rates are per 100,000 population and are age-adjusted to 2000 U.S. standard population

* Total also includes cases reported as transsexual, hermaphrodite, unknown gender, unknown race, and unknown county

Source: Maryland Cancer Registry
U.S. SEER, SEER*Stat
NCHS Compressed Mortality File in CDC WONDER, 2016
U.S. SEER, Cancer Statistics Review



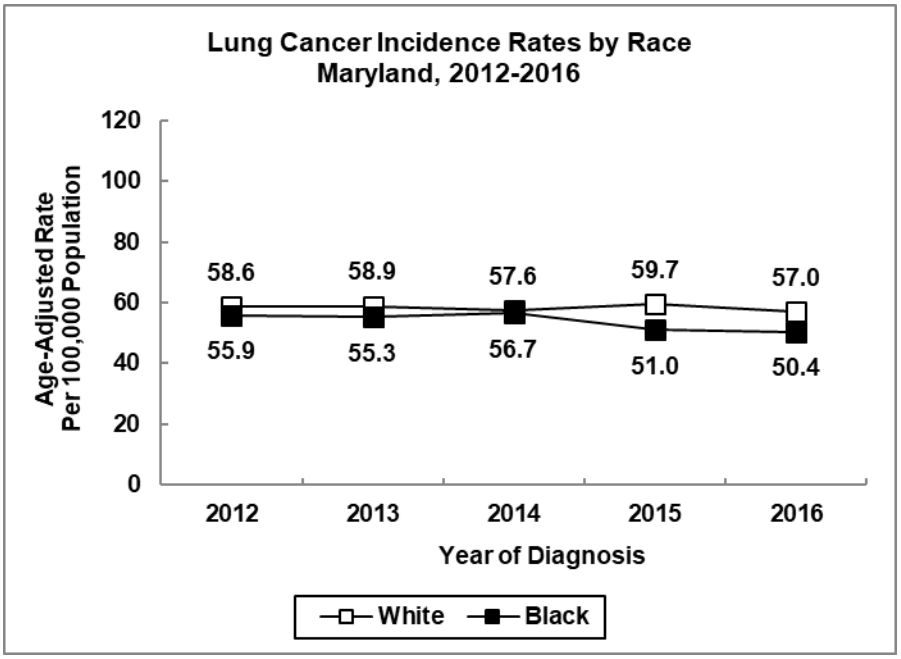
Source: Maryland Cancer Registry
NCHS Compressed Mortality File in CDC WONDER, 2012-2016

Incidence and Mortality Trends

Lung cancer incidence rates in Maryland decreased at a rate of 1.1% per year from 2012 to 2016.

Lung cancer mortality rates decreased at a rate of 3.8% per year from 2012 to 2016.

See Appendix F, Tables 1 and 2.

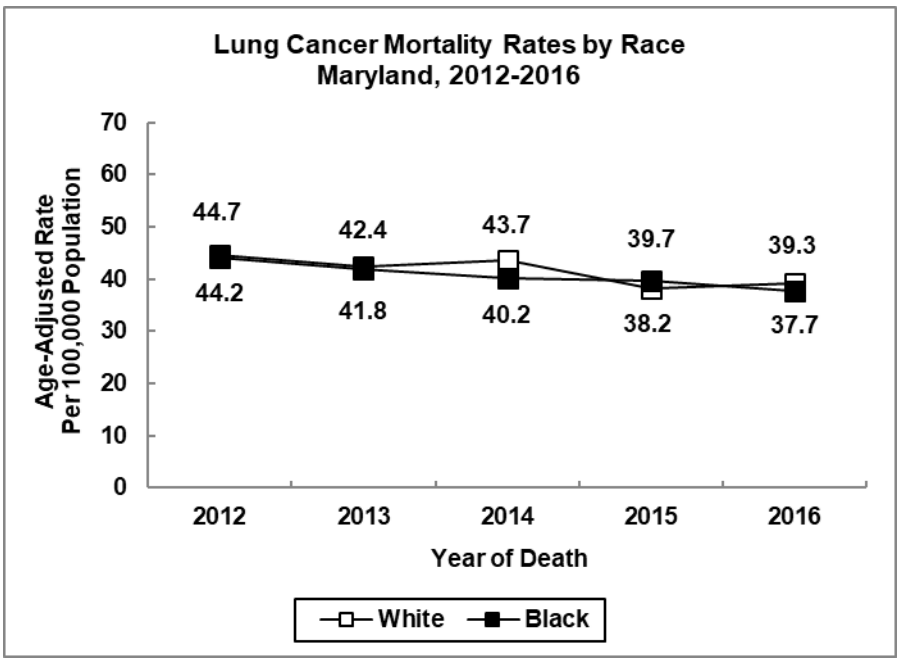


Source: Maryland Cancer Registry

Incidence Trends by Race

From 2012 to 2016, lung cancer incidence rates for blacks decreased at a rate of 2.8% per year, compared to a decline of only 0.4% per year among whites.

See Appendix F, Table 3.

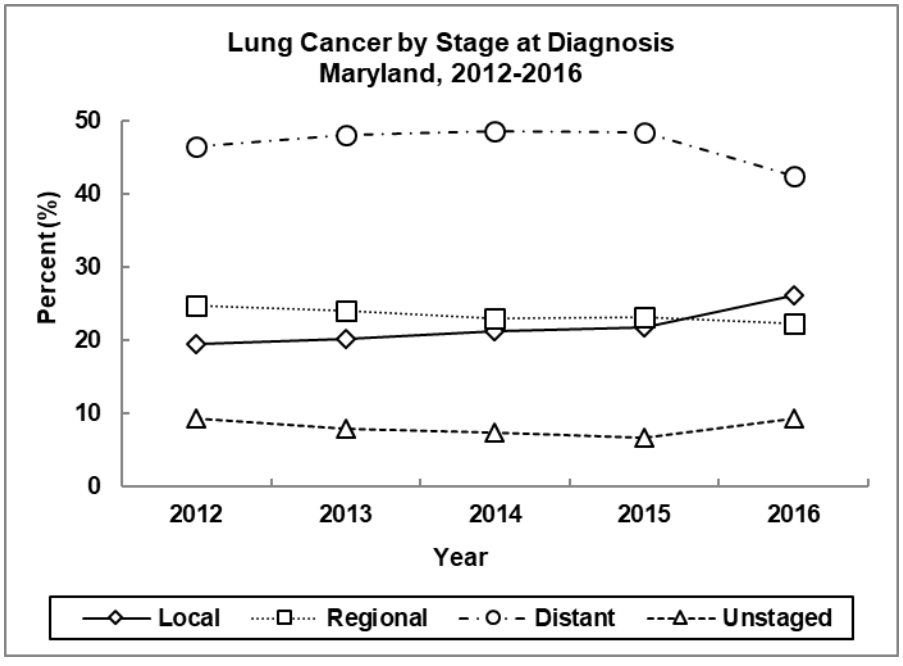


Source: NCHS Compressed Mortality File in CDC WONDER, 2012-2016

Mortality Trends by Race

Lung cancer mortality rates are declining for both blacks and whites. From 2012 to 2016, rates decreased at a rate of 3.6% per year for both blacks and whites.

See Appendix F, Table 5.

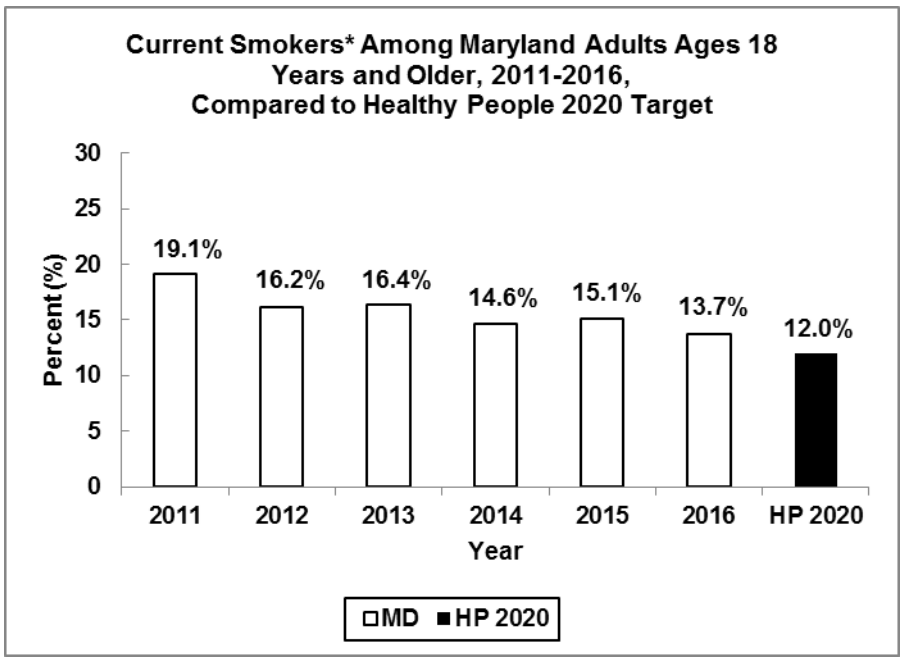


Source: Maryland Cancer Registry
Note: Due to a methodology change, SEER summary stage 2000 was used in 2016, while the derived SEER summary stage 2000 was used from 2012 to 2015

Stage at Diagnosis

A higher proportion of lung cancer cases were diagnosed at the distant stage than at the local or regional stage. In 2016, 26.1% of lung cancer cases in Maryland were diagnosed at the local stage, 22.2% at the regional stage, and 42.4% at the distant stage. The proportion of lung cancers reported as unstaged declined 1.4% per year from 2012 to 2016.

See Appendix G, Table 2.

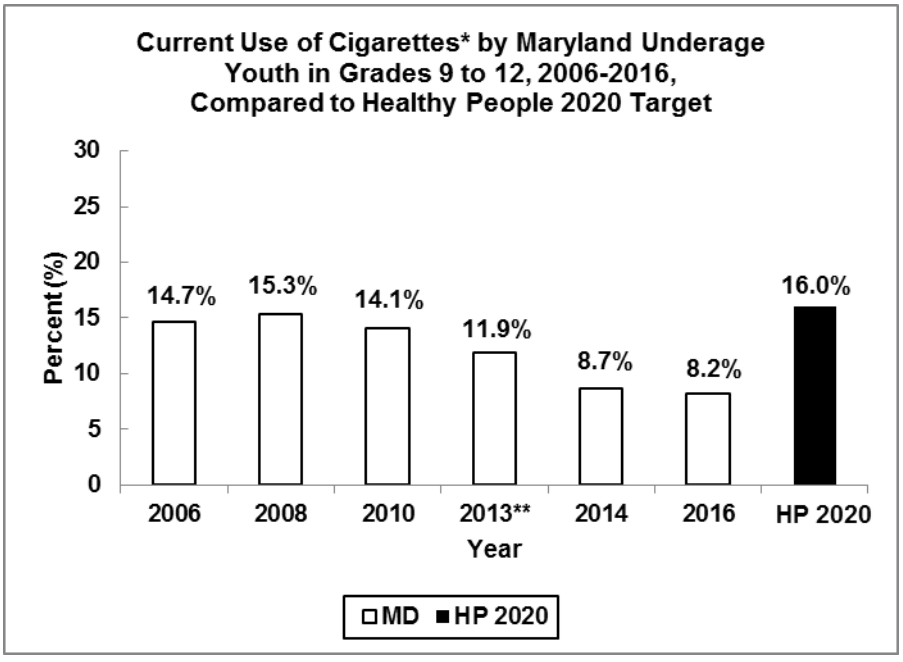


Source: Maryland BRFSS, 2012-2016
Healthy People 2020, U.S. Department of Health and Human Services

*Current smoker is defined as a person who smokes cigarettes every day or some days

Smoking Prevalence Among Maryland Adults

One Healthy People 2020 target is to reduce the percentage of adults who are current smokers to 12.0%. Although Maryland has not yet attained this goal, the percentage of adult smokers has decreased from 19.1% in 2012 to 13.7% in 2016.



Source: Maryland Youth Tobacco Survey, 2006, 2008, 2010
Maryland Youth Tobacco and Risk Behavior Survey, 2013, 2014, 2016
Healthy People 2020, U.S. Department of Health and Human Services

*Current use of cigarettes is defined as smoking cigarettes on 1 or more days in the previous 30 days

**During the 2012-2013 school year, the Youth Tobacco Survey (YTS) merged with the Youth Risk Behavior Survey (YRBS) and data were collected in the fall of 2013

Cigarette Use by Maryland Youth

Another Healthy People 2020 target is to reduce the percentage of youth in grades 9 to 12 who have smoked cigarettes in the previous 30 days to 16.0%.

Since 2006, Maryland has met the Healthy People 2020 target for current cigarette use among high school students. In 2016, only 8.2% of Maryland youth in grades 9 to 12 reported smoking cigarettes in the previous 30 days.

Table 12.
Number of Lung and Bronchus Cancer Cases by Jurisdiction, Gender, and Race, Maryland, 2016

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	3,803	1,858	1,945	2,728	941	120
Allegany	94	54	40	90	<6	0
Anne Arundel	383	190	193	333	40	9
Baltimore City	543	257	286	196	340	6
Baltimore County	649	304	345	533	105	11
Calvert	60	23	37	54	6	0
Caroline	25	11	14	21	<6	0
Carroll	108	52	56	104	<6	0
Cecil	117	62	55	111	6	0
Charles	69	44	25	48	s	<6
Dorchester	28	13	15	22	6	0
Frederick	140	68	72	129	9	<6
Garrett	16	11	<6	16	0	0
Harford	211	100	111	189	17	<6
Howard	98	51	47	68	10	17
Kent	22	12	10	17	<6	0
Montgomery	346	170	176	232	52	57
Prince George's	400	199	201	133	252	12
Queen Anne's	44	22	22	41	<6	0
Saint Mary's	78	34	44	65	13	0
Somerset	28	16	12	24	<6	0
Talbot	28	14	14	26	<6	0
Washington	157	70	87	144	12	0
Wicomico	104	55	49	83	21	0
Worcester	50	23	27	47	<6	0

Total includes cases reported as transexual, hermaphrodite, unknown gender, unknown race, and unknown jurisdiction

<6 = Case counts of 1-5 are suppressed per MDH/MCR Data Use Policy

s = Case counts are suppressed to prevent disclosure of data in other cell(s) (See Appendix A for methods)

Source: Maryland Cancer Registry, SEER*Stat Static data as of January 3, 2019

Table 13.
Lung and Bronchus Cancer Age-Adjusted Incidence Rates* by Jurisdiction, Gender, and Race, Maryland, 2016

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	54.0	59.9	49.6	57.0	50.4	28.7
Allegany	87.9	112.9	66.2	86.9	**	0.0
Anne Arundel	60.1	66.3	55.6	62.4	49.9	**
Baltimore City	80.6	89.3	74.9	90.3	76.2	**
Baltimore County	61.5	67.8	57.3	67.1	49.8	**
Calvert	56.4	48.9	65.3	60.7	**	0.0
Caroline	61.1	**	**	61.2	**	0.0
Carroll	49.2	50.4	48.8	49.8	**	0.0
Cecil	93.8	107.1	82.3	94.4	**	0.0
Charles	40.7	58.3	26.8	48.4	33.3	**
Dorchester	55.6	**	**	56.4	**	0.0
Frederick	48.0	51.7	45.7	48.7	**	**
Garrett	36.8	**	**	37.1	0.0	0.0
Harford	68.4	76.8	63.1	70.1	59.0	**
Howard	29.4	33.3	26.4	29.8	**	37.2
Kent	64.5	**	**	57.5	**	0.0
Montgomery	28.3	31.8	25.8	27.1	29.7	30.3
Prince George's	43.5	50.3	38.4	55.1	39.6	**
Queen Anne's	64.3	73.1	56.8	63.7	**	0.0
Saint Mary's	68.6	60.6	75.0	68.8	**	0.0
Somerset	84.2	94.1	**	103.1	**	0.0
Talbot	39.2	**	**	38.6	**	0.0
Washington	81.4	79.2	82.8	79.6	**	0.0
Wicomico	83.6	98.2	70.7	87.0	78.5	0.0
Worcester	53.9	55.7	53.5	54.6	**	0.0

* Rates are per 100,000 population and age-adjusted to 2000 U.S. standard population

** Rates based on case counts of 1-15 are suppressed per MDH/MCR Data Use Policy and Procedures

Source: Maryland Cancer Registry, SEER*Stat Static data as of January 3, 2019

Table 14.
Number of Deaths for Lung and Bronchus Cancer by Jurisdiction, Gender, and Race, Maryland, 2016

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	2,639	1,375	1,264	1,889	684	66
Allegany	65	34	31	s	<10	<10
Anne Arundel	249	129	120	221	s	<10
Baltimore City	368	193	175	s	237	<10
Baltimore County	460	220	240	372	75	13
Calvert	46	26	20	39	<10	<10
Caroline	16	s	<10	s	<10	<10
Carroll	84	38	46	82	<10	<10
Cecil	84	46	38	76	<10	<10
Charles	54	30	24	33	s	<10
Dorchester	20	s	<10	13	<10	<10
Frederick	97	60	37	88	<10	<10
Garrett	18	s	<10	s	<10	<10
Harford	133	69	64	118	s	<10
Howard	69	33	36	57	<10	<10
Kent	10	<10	<10	<10	<10	<10
Montgomery	246	130	116	195	27	24
Prince George's	305	158	147	93	203	<10
Queen Anne's	27	<10	s	23	<10	<10
Saint Mary's	54	27	27	40	s	<10
Somerset	18	<10	<10	17	<10	<10
Talbot	17	<10	<10	16	<10	<10
Washington	87	50	37	83	<10	<10
Wicomico	67	40	27	54	s	<10
Worcester	45	23	22	39	<10	<10

<10 = Death counts or 0-9 are suppressed per MDH/CCPC Mortality Data Suppression Policy

s = Death counts are suppressed to prevent disclosure of data in other cell(s) (See Appendix A for methods)

Source: CDC Wonder, 2012-2016, as of March 5, 2019

Table 15.
Lung and Bronchus Cancer Age-Adjusted Mortality Rates* by Jurisdiction, Gender, and Race, Maryland, 2016

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	37.5	45.3	31.8	39.3	37.7	16.4
Allegany	61.1	71.2	51.6	63.4	**	**
Anne Arundel	39.2	46.0	34.1	41.5	27.9	**
Baltimore City	55.9	70.7	46.1	58.2	32.9	**
Baltimore County	42.5	49.3	38.1	45.6	55.6	**
Calvert	44.8	53.9	36.2	44.8	**	**
Caroline	**	**	**	**	**	**
Carroll	39.2	38.7	39.9	40.2	**	**
Cecil	69.4	84.8	58.1	66.1	**	**
Charles	34.6	46.1	27.4	35.9	39.0	**
Dorchester	37.7	**	**	**	**	**
Frederick	35.3	49.3	25.3	35.7	**	**
Garrett	**	**	**	**	**	**
Harford	44.0	54.7	37.2	44.3	**	**
Howard	20.7	23.5	18.9	23.8	**	**
Kent	**	**	**	**	**	**
Montgomery	19.9	24.4	16.5	22.6	15.4	13.1
Prince George's	33.2	39.8	28.0	38.0	32.2	**
Queen Anne's	39.8	**	**	36.7	**	**
Saint Mary's	45.9	48.4	43.3	41.6	**	**
Somerset	**	**	**	**	**	**
Talbot	**	**	**	**	**	**
Washington	44.3	56.8	33.8	45.1	**	**
Wicomico	55.5	73.0	41.4	58.5	**	**
Worcester	46.4	49.8	45.1	45.6	**	**

* Rates are per 100,000 population and age-adjusted to 2000 U.S. standard population

** Rates based on death counts of 0-19 are suppressed per MDH/CCPC Mortality Data Suppression Policy

Source: CDC Wonder, 2012-2016, as of March 5, 2019

Table 16.
Number of Lung and Bronchus Cancer Cases by Jurisdiction, Gender, and Race, Maryland, 2012-2016

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	18,653	9,219	9,419	13,490	4,623	482
Allegany	407	215	192	399	8	0
Anne Arundel	1,928	920	1,006	1,702	195	29
Baltimore City	2,616	1,318	1,295	903	1,687	24
Baltimore County	3,256	1,554	1,700	2,631	568	54
Calvert	297	134	161	258	35	<6
Caroline	156	89	67	139	17	0
Carroll	597	301	295	570	25	<6
Cecil	501	250	251	473	s	<6
Charles	383	220	162	280	94	7
Dorchester	157	88	69	118	s	<6
Frederick	620	319	301	570	38	9
Garrett	96	51	45	s	<6	0
Harford	1,028	517	511	914	101	13
Howard	603	288	315	464	78	56
Kent	89	41	48	73	16	0
Montgomery	1,752	839	912	1,267	237	226
Prince George's	1,886	908	975	627	1,202	45
Queen Anne's	208	110	98	191	s	<6
Saint Mary's	362	190	172	315	44	<6
Somerset	129	79	50	98	31	0
Talbot	168	75	93	156	12	0
Washington	646	307	339	603	35	<6
Wicomico	453	235	218	371	79	<6
Worcester	294	161	133	261	31	<6

Total includes cases reported as transexual, hermaphrodite, unknown gender, unknown race, and unknown jurisdiction

<6 = Case counts of 1-5 are suppressed per MDH/MCR Data Use Policy

s = Case counts are suppressed to prevent disclosure of data in other cell(s) (See Appendix A for methods)

Source: Maryland Cancer Registry, SEER*Stat Static data as of January 3, 2019

Table 17.
Lung and Bronchus Cancer Age-Adjusted Incidence Rates* by Jurisdiction, Gender, and Race, Maryland, 2012-2016

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	55.6	62.8	50.4	58.4	53.8	26.0
Allegany	77.2	90.0	66.3	78.3	**	0.0
Anne Arundel	63.4	68.2	60.1	66.2	53.0	31.8
Baltimore City	80.1	96.8	69.1	83.5	79.5	34.6
Baltimore County	63.6	70.8	58.7	67.2	58.1	27.3
Calvert	60.3	60.3	60.2	62.6	50.0	**
Caroline	77.9	101.2	61.0	81.4	62.5	0.0
Carroll	58.1	65.5	51.8	57.9	84.5	**
Cecil	85.5	92.3	80.2	85.6	102.0	**
Charles	50.9	66.5	39.1	60.0	38.0	**
Dorchester	64.4	79.4	53.1	63.3	74.3	**
Frederick	46.9	54.3	41.7	47.6	48.4	**
Garrett	42.2	47.5	38.1	42.1	**	0.0
Harford	70.1	81.4	62.5	70.6	75.3	**
Howard	39.0	41.0	37.7	41.9	34.0	26.4
Kent	53.9	55.3	52.1	50.3	77.2	0.0
Montgomery	30.6	33.4	28.4	30.9	29.7	26.9
Prince George's	43.7	49.3	39.5	52.3	41.1	20.2
Queen Anne's	64.6	73.7	56.3	64.5	71.3	**
Saint Mary's	64.6	69.3	60.2	67.3	56.5	**
Somerset	81.3	102.5	63.7	83.3	78.3	0.0
Talbot	47.3	45.6	49.0	48.9	**	0.0
Washington	69.2	72.6	67.3	69.1	75.0	**
Wicomico	77.5	90.2	67.7	82.2	65.1	**
Worcester	63.6	77.1	52.1	62.4	71.3	**

* Rates are per 100,000 population and age-adjusted to 2000 U.S. standard population

** Rates based on case counts of 1-15 are suppressed per MDH/MCR Data Use Policy and Procedures

Source: Maryland Cancer Registry, SEER*Stat Static data as of January 3, 2019

Table 18.
Number of Deaths for Lung and Bronchus Cancer by Jurisdiction, Gender, and Race, Maryland, 2012-2016

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	13,385	6,964	6,421	9,656	3,408	321
Allegany	253	139	114	251	<10	<10
Anne Arundel	1,364	690	674	1,212	131	21
Baltimore City	1,930	1,020	910	673	1,237	20
Baltimore County	2,220	1,123	1,097	1,805	377	38
Calvert	214	105	109	183	s	<10
Caroline	122	70	52	113	<10	<10
Carroll	432	236	196	420	s	<10
Cecil	355	177	178	336	s	<10
Charles	291	173	118	208	s	<10
Dorchester	130	77	53	99	s	<10
Frederick	454	235	219	417	s	<10
Garrett	81	50	31	80	<10	<10
Harford	663	355	308	593	s	<10
Howard	390	190	200	310	44	36
Kent	60	30	30	49	s	<10
Montgomery	1,327	637	690	1,020	168	139
Prince George's	1,477	762	715	480	957	40
Queen Anne's	135	75	60	121	s	<10
Saint Mary's	277	163	114	230	s	<10
Somerset	98	55	43	74	s	<10
Talbot	118	59	59	106	s	<10
Washington	445	231	214	423	s	<10
Wicomico	309	178	131	244	s	<10
Worcester	240	134	106	209	s	<10

<10 = Death counts or 0-9 are suppressed per MDH/CCPC Mortality Data Suppression Policy

s = Death counts are suppressed to prevent disclosure of data in other cell(s) (See Appendix A for methods)

Source: CDC Wonder, 2012-2016, as of March 5, 2019

Table 19.
Lung and Bronchus Cancer Age-Adjusted Mortality Rates* by Jurisdiction, Gender, and Race, Maryland, 2012-2016

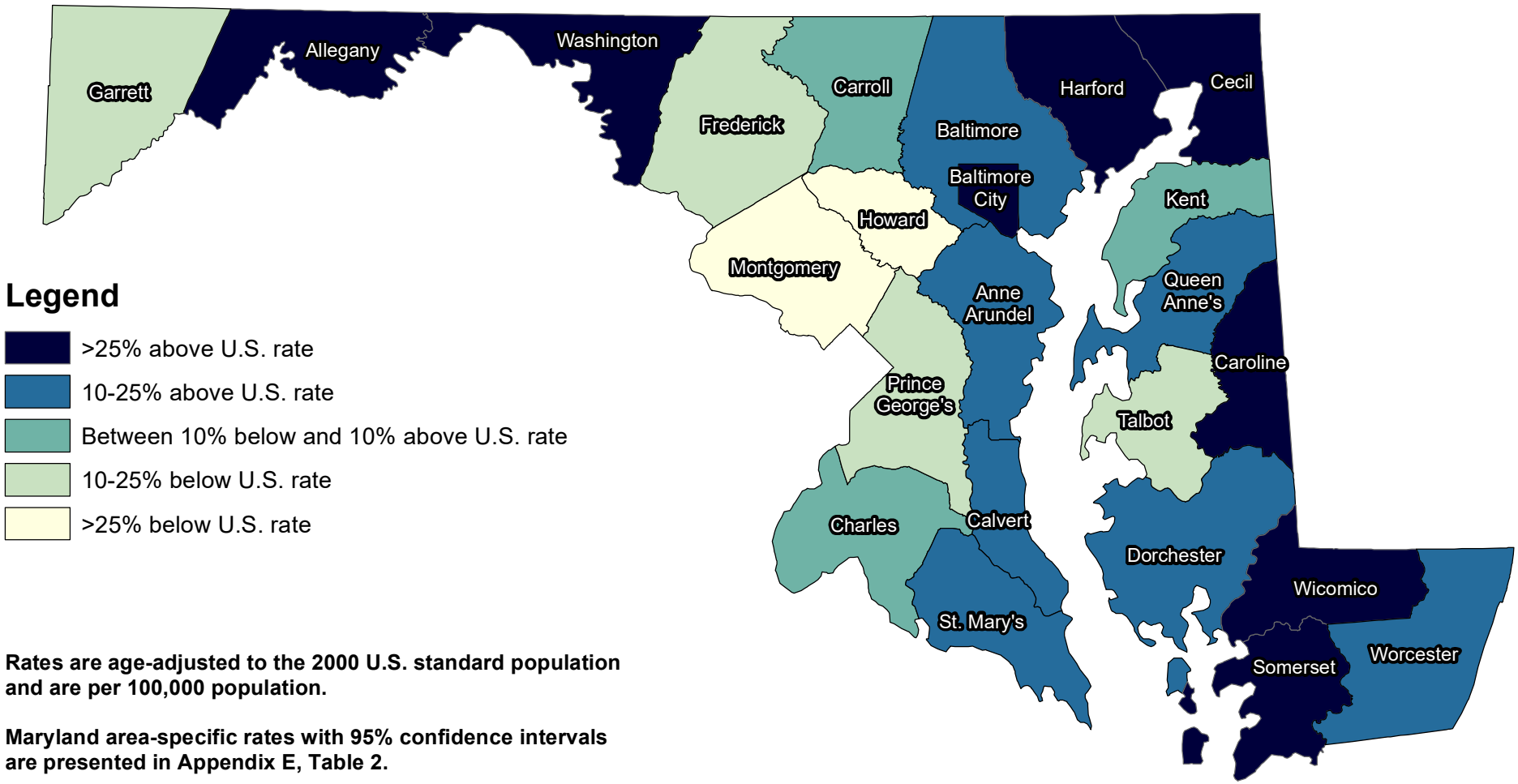
Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	40.1	48.3	34.2	41.6	40.5	17.8
Allegany	47.8	59.2	38.6	49.1	**	**
Anne Arundel	45.0	51.4	40.3	47.1	36.3	23.6
Baltimore City	60.0	77.2	48.7	63.2	59.4	30.2
Baltimore County	42.6	51.1	36.6	45.0	38.3	20.3
Calvert	44.4	46.1	42.3	45.2	44.0	**
Caroline	59.6	78.7	44.5	64.7	**	**
Carroll	41.6	51.3	34.1	42.1	**	**
Cecil	62.6	69.7	57.7	62.9	**	**
Charles	39.8	54.3	28.9	45.8	32.6	**
Dorchester	53.5	72.8	39.7	52.3	61.9	**
Frederick	35.1	40.9	31.0	35.6	41.3	**
Garrett	36.2	50.1	25.6	36.1	**	**
Harford	46.1	58.5	38.0	46.6	48.9	**
Howard	26.0	28.7	24.1	28.7	20.1	17.1
Kent	34.8	38.1	31.6	32.5	**	**
Montgomery	23.0	25.7	21.0	24.6	20.9	16.8
Prince George's	34.9	42.7	29.5	40.0	33.6	18.4
Queen Anne's	41.8	49.9	34.3	41.0	**	**
Saint Mary's	50.0	62.3	39.0	49.6	58.6	**
Somerset	63.2	77.5	52.5	63.9	63.7	**
Talbot	33.9	37.3	31.3	34.1	**	**
Washington	47.6	55.7	42.1	48.2	**	**
Wicomico	52.8	68.7	40.4	54.0	50.1	**
Worcester	51.2	63.5	41.1	49.4	67.2	**

* Rates are per 100,000 population and age-adjusted to 2000 U.S. standard population

** Rates based on death counts of 0-19 are suppressed per MDH/CCPC Mortality Data Suppression Policy

Source: CDC Wonder, 2012-2016, as of March 5, 2019

Maryland Lung Cancer Incidence Rates by Geographical Area: Comparison to U.S. Rate, 2012-2016



Rates are age-adjusted to the 2000 U.S. standard population and are per 100,000 population.

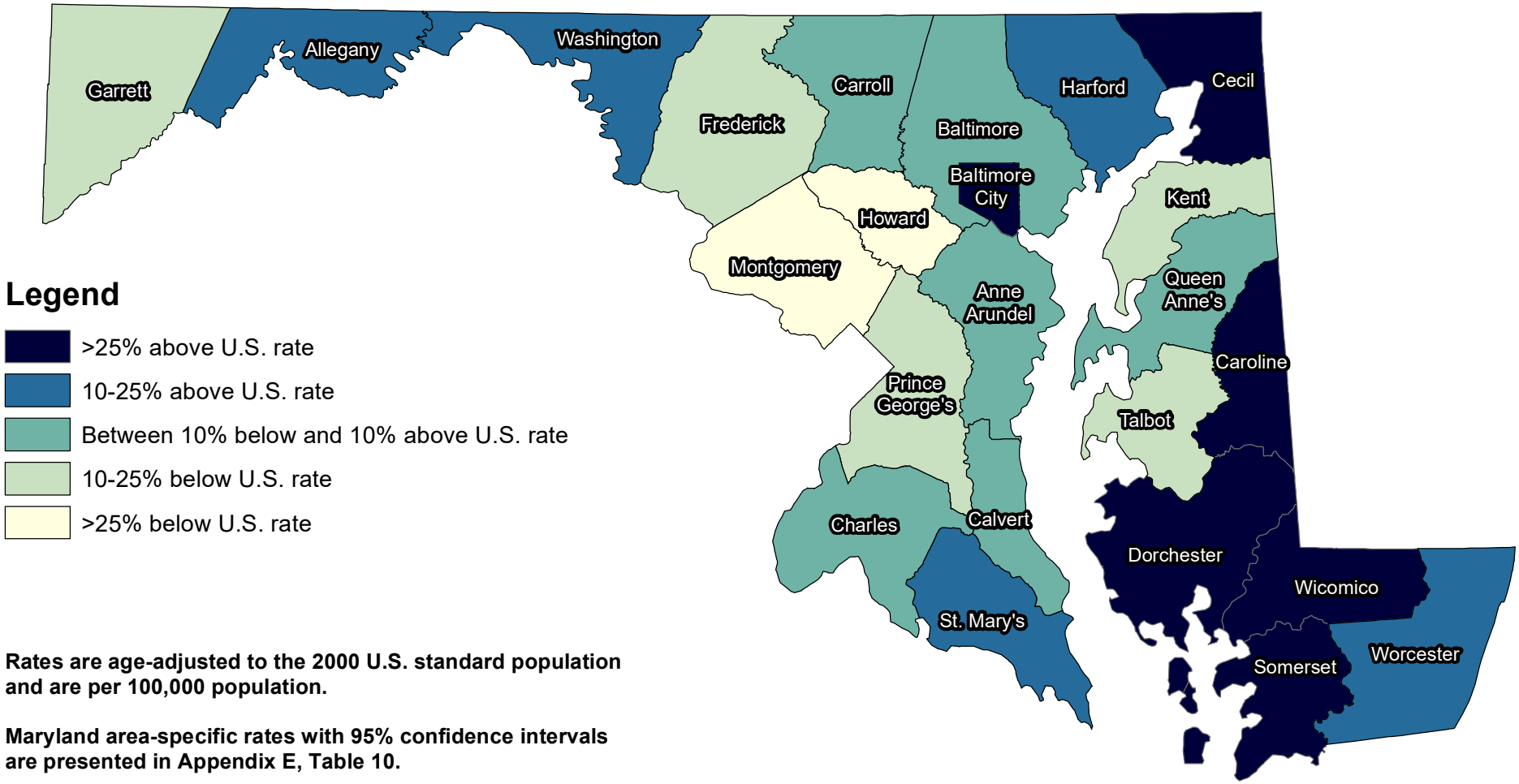
Maryland area-specific rates with 95% confidence intervals are presented in Appendix E, Table 2.

U.S. lung cancer incidence rate, 2012-2016: 53.4 / 100,000

Maryland lung cancer incidence rate, 2012-2016: 55.6 / 100,000

Sources: Maryland Cancer Registry
U.S. SEER, SEER*Stat Database

Maryland Lung Cancer Mortality Rates by Geographical Area: Comparison to U.S. Rate, 2012-2016



Rates are age-adjusted to the 2000 U.S. standard population and are per 100,000 population.

Maryland area-specific rates with 95% confidence intervals are presented in Appendix E, Table 10.

U.S. lung cancer mortality rate, 2012-2016: 41.9 / 100,000

Maryland lung cancer mortality rate, 2012-2016: 40.1 / 100,000

Sources: NCHS Compressed Mortality File in CDC WONDER
U.S. SEER, Cancer Statistics Review

B. Colon and Rectum Cancer

Incidence (New Cases)

In 2016, there were 2,450 new cases of cancer of the colon or rectum (called colorectal cancer) reported among Maryland residents. The age-adjusted colorectal cancer incidence rate in Maryland for 2016 was 35.4 per 100,000 population (34.0-36.9, 95% CI), which is statistically significantly lower than the 2016 U.S. SEER age-adjusted colorectal cancer incidence rate of 37.6 per 100,000 population (37.2-38.0, 95% CI).

Mortality (Deaths)

A total of 949 persons died of colorectal cancer in 2016 in Maryland. In 2016, colorectal cancer accounted for 8.7% of all cancer deaths and was the second leading cause of cancer death in Maryland. The age-adjusted colorectal cancer mortality rate in Maryland was 13.8 per 100,000 population (12.9-14.7, 95% CI). This rate is similar to the 2016 U.S. colorectal cancer mortality rate of 13.7 per 100,000 population (13.6-13.8, 95% CI). Maryland had the 27th highest colorectal cancer mortality rate among the states and the District of Columbia for the period from 2012 to 2016.

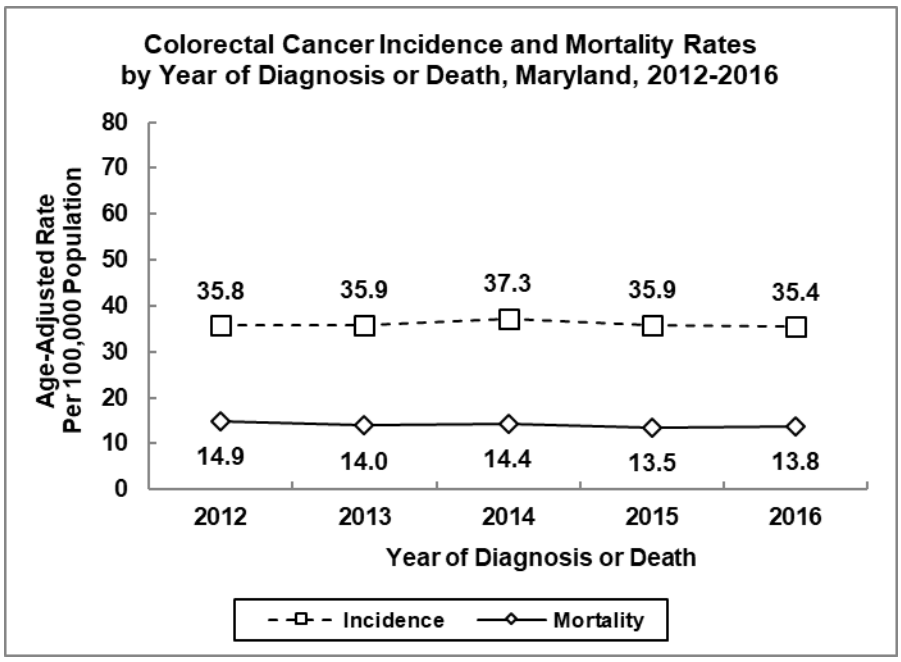
Table 20.
Colorectal Cancer Incidence and Mortality Rates
by Gender and Race, Maryland (MD) and the United States, 2016

Incidence 2016	*Total**	*Males*	*Females*	*Whites*	*Blacks*	*Other*
MD New Cases (count)	2,450	1,205	1,243	1,621	679	112
MD Incidence Rate	35.4	38.4	32.9	35.2	36.3	24.7
U.S. SEER Rate	37.6	42.6	33.4	37.0	44.1	30.6
Mortality 2016	*Total*	*Males*	*Females*	*Whites*	*Blacks*	*Other*
MD Deaths (count)	949	488	461	619	301	29
MD Mortality Rate	13.8	16.2	11.8	13.1	16.4	6.9
U.S. Mortality Rate	13.7	16.3	11.5	13.4	18.3	N/A

Rates are per 100,000 population and are age-adjusted to 2000 U.S. standard population

* Total also includes cases reported as transsexual, hermaphrodite, unknown gender, unknown race, and unknown county

Source: Maryland Cancer Registry
U.S. SEER, SEER*Stat
NCHS Compressed Mortality File in CDC WONDER, 2016
U.S. SEER, Cancer Statistics Review



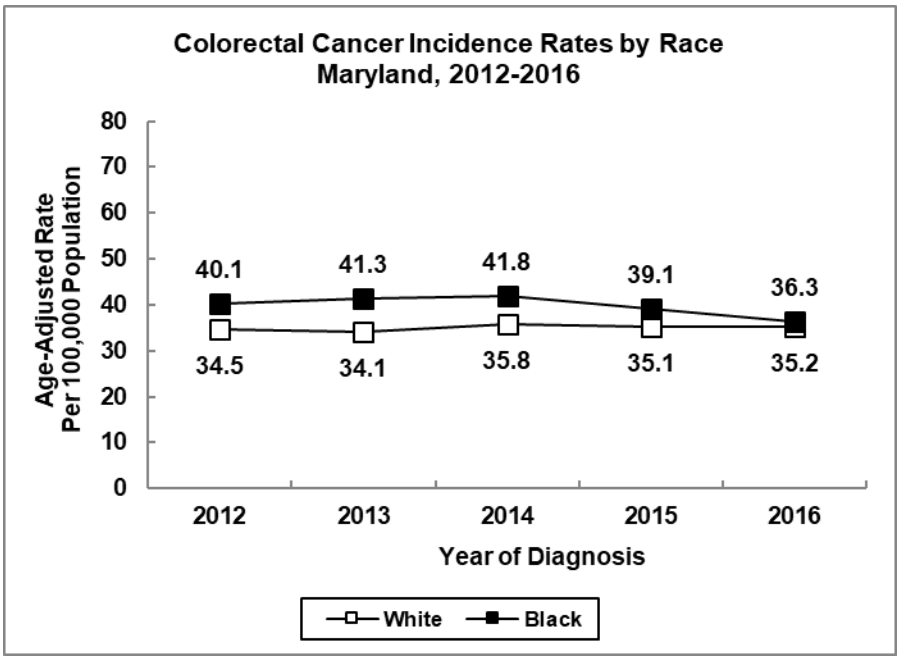
Source: Maryland Cancer Registry
NCHS Compressed Mortality File in CDC WONDER, 2012-2016

Incidence and Mortality Trends

Incidence rates for colorectal cancer have been declining in Maryland. From 2012 to 2016, incidence rates declined at a rate of 0.2% per year.

Colorectal cancer mortality rates declined at a rate of 1.9% per year from 2012 to 2016.

See Appendix F, Tables 1 and 2.

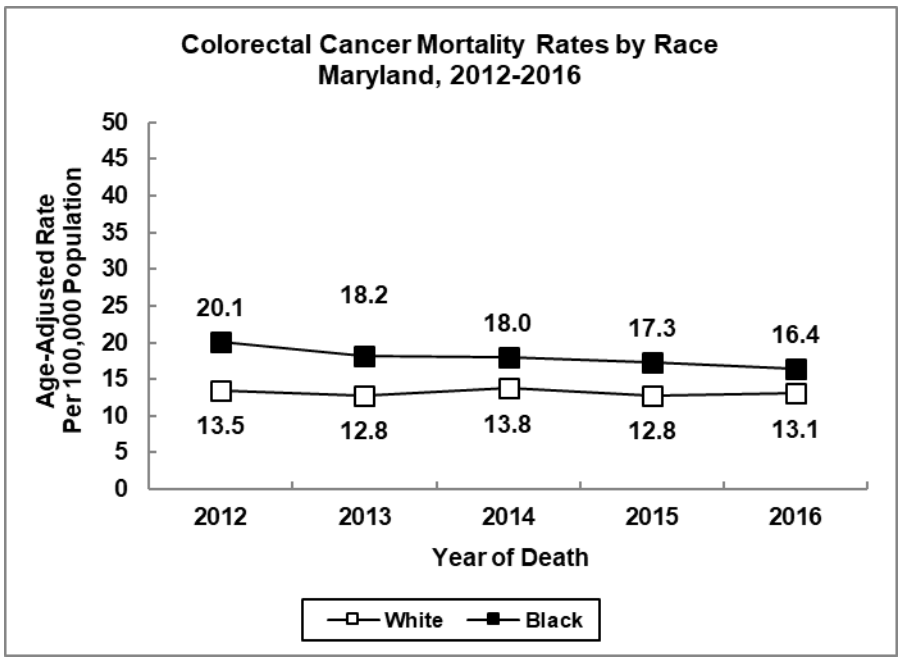


Source: Maryland Cancer Registry

Incidence Trends by Race

From 2012 to 2016 colorectal cancer incidence rates declined for blacks at a rate of 2.5% per year, but increased slightly for whites at a rate of 0.7% per year. In 2016, the incidence rate for colorectal cancer was 35.2 per 100,000 population for whites and 36.3 per 100,000 population for blacks in Maryland.

See Appendix F, Table 3.

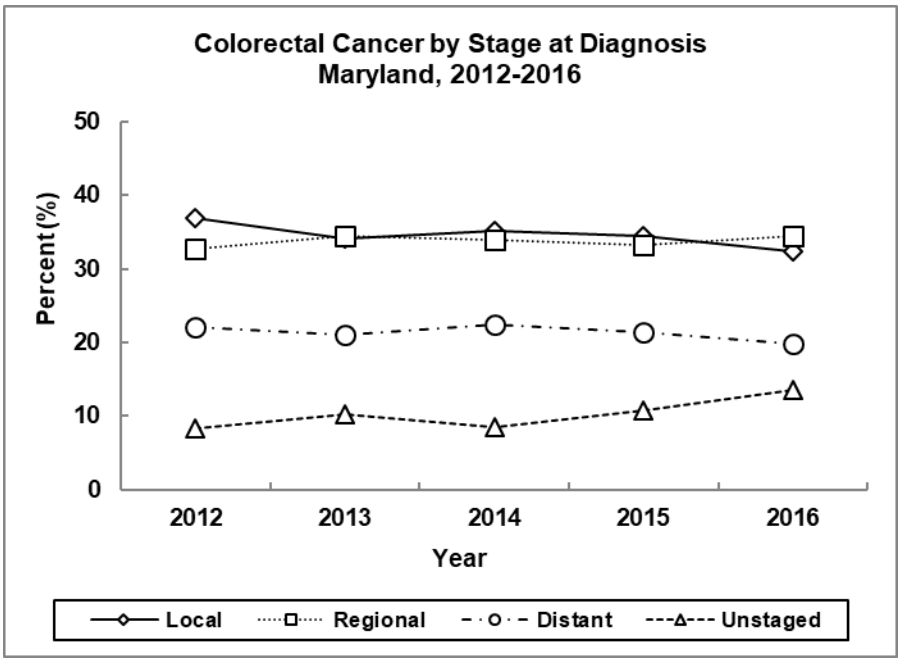


Source: NCHS Compressed Mortality File in CDC WONDER, 2012-2016

Mortality Trends by Race

From 2012 to 2016, colorectal cancer mortality rates declined at a rate of 0.6% per year for whites and a rate of 4.5% per year for blacks. In 2016, the age-adjusted colorectal cancer mortality rate was 16.4 per 100,000 for blacks and 13.1 per 100,000 for whites.

See Appendix F, Table 5.

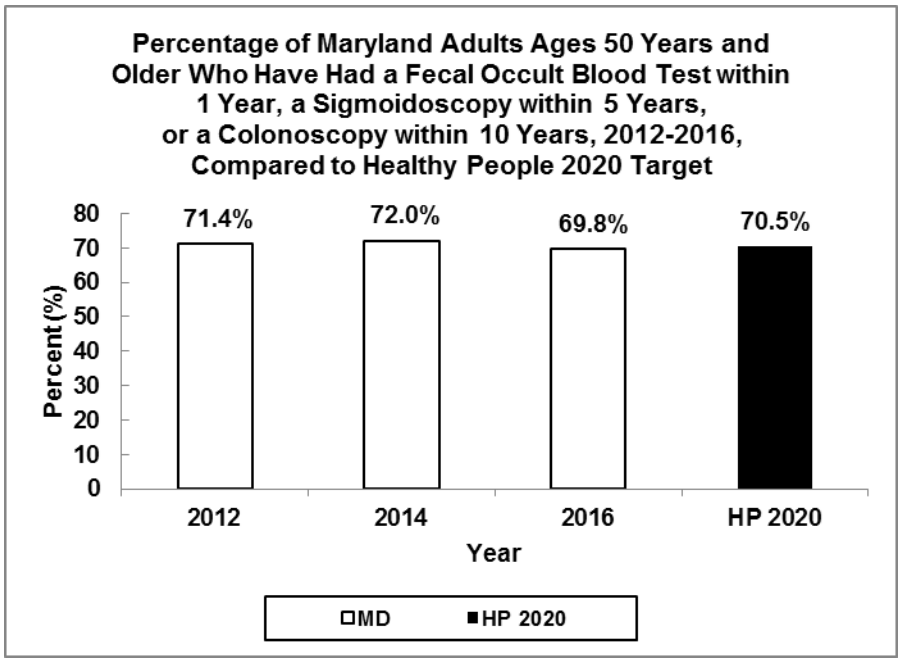


Source: Maryland Cancer Registry
Note: Due to a methodology change, SEER summary stage 2000 was used in 2016, while the derived SEER summary stage 2000 was used from 2012 to 2015

Stage at Diagnosis

In 2016, 32.3% of colorectal cancers diagnosed in Maryland were detected at the local stage, 34.4% at the regional stage, and 19.8% at the distant stage. In 2016, 13.5% of colorectal cancers diagnosed were reported as unstaged. The proportion of colorectal cancers reported as unstaged increased 10.6% per year from 2012 to 2016.

See Appendix G, Table 3.



Source: Maryland BRFSS 2012, 2014, 2016
Healthy People 2020, U.S. Department of Health and Human Services

* The guidelines for up-to-date colorectal cancer screening used for the Healthy People 2020 estimate are: persons aged 50 to 75 years old who have had a blood stool test in the past year, sigmoidoscopy in the past five years and blood stool test in the past three years, or a colonoscopy in the past 10 years

Up-to-Date Screening for Colorectal Cancer

The Healthy People 2020 target for colorectal cancer screening aims to increase the proportion of adults age 50 years and older who are screened based on recent guidelines to 70.5%.* The percent of Maryland adults ages 50 years and older who were up-to-date for colorectal cancer screening in 2016 (69.8%) was slightly below the Healthy People target of 70.5%.

Table 21.
Number of Colon and Rectum Cancer Cases by Jurisdiction, Gender, and Race, Maryland, 2016

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	2,450	1,205	1,243	1,621	679	112
Allegany	42	26	16	s	<6	0
Anne Arundel	235	109	126	186	41	8
Baltimore City	254	115	139	93	154	<6
Baltimore County	350	171	179	243	91	14
Calvert	41	25	16	34	7	0
Caroline	16	11	<6	s	0	<6
Carroll	82	40	42	s	<6	<6
Cecil	48	27	21	s	<6	0
Charles	64	34	30	41	21	<6
Dorchester	23	13	10	20	<6	0
Frederick	98	64	34	81	9	7
Garrett	21	9	12	21	0	0
Harford	122	64	58	105	15	<6
Howard	97	48	49	66	21	9
Kent	14	6	8	11	<6	0
Montgomery	371	157	212	247	57	52
Prince George's	315	162	153	77	219	10
Queen Anne's	26	10	16	24	<6	0
Saint Mary's	31	15	16	23	6	<6
Somerset	19	10	9	13	6	0
Talbot	16	7	9	12	<6	0
Washington	91	50	41	84	<6	<6
Wicomico	42	16	26	30	9	<6
Worcester	21	7	14	19	<6	0

Total includes cases reported as transexual, hermaphrodite, unknown gender, unknown race, and unknown jurisdiction

<6 = Case counts of 1-5 are suppressed per MDH/MCR Data Use Policy

s = Case counts are suppressed to prevent disclosure of data in other cell(s) (See Appendix A for methods)

Source: Maryland Cancer Registry, SEER*Stat Static data as of January 3, 2019

Table 22.
Colon and Rectum Cancer Age-Adjusted Incidence Rates* by Jurisdiction, Gender, and Race, Maryland, 2016

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	35.4	38.4	32.9	35.2	36.3	24.7
Allegany	42.3	55.4	34.4	43.4	**	0.0
Anne Arundel	36.9	36.4	37.2	35.9	44.5	**
Baltimore City	39.3	41.4	37.5	44.3	36.1	**
Baltimore County	34.2	38.9	30.6	31.8	40.2	**
Calvert	37.0	45.9	28.7	36.5	**	0.0
Caroline	39.4	**	**	**	0.0	**
Carroll	37.3	37.2	37.7	38.3	**	**
Cecil	42.3	51.1	35.4	44.3	**	0.0
Charles	39.6	50.9	33.1	43.9	37.4	**
Dorchester	50.0	**	**	59.1	**	0.0
Frederick	34.2	46.6	23.0	32.3	**	**
Garrett	49.1	**	**	49.5	0.0	0.0
Harford	39.9	43.9	35.6	39.4	**	**
Howard	28.8	32.0	26.4	28.5	40.9	**
Kent	**	**	**	**	**	0.0
Montgomery	31.3	28.7	32.9	30.3	29.2	27.4
Prince George's	33.4	39.5	28.7	30.9	34.0	**
Queen Anne's	46.1	**	61.9	47.6	**	0.0
Saint Mary's	24.4	**	24.9	22.4	**	**
Somerset	64.0	**	**	**	**	0.0
Talbot	26.5	**	**	**	**	0.0
Washington	48.0	54.1	42.1	48.4	**	**
Wicomico	36.1	32.4	38.6	33.2	**	**
Worcester	25.4	**	**	26.8	**	0.0

* Rates are per 100,000 population and age-adjusted to 2000 U.S. standard population

** Rates based on case counts of 1-15 are suppressed per MDH/MCR Data Use Policy and Procedures

Source: Maryland Cancer Registry, SEER*Stat Static data as of January 3, 2019

Table 23.
Number of Deaths for Colon and Rectum Cancer by Jurisdiction, Gender, and Race, Maryland, 2016

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	949	488	461	619	301	29
Allegany	20	<10	s	19	<10	<10
Anne Arundel	81	41	40	65	s	<10
Baltimore City	130	70	60	s	90	<10
Baltimore County	149	73	76	106	s	<10
Calvert	15	<10	<10	14	<10	<10
Caroline	<10	<10	<10	<10	<10	<10
Carroll	38	16	22	37	<10	<10
Cecil	18	s	<10	17	<10	<10
Charles	24	s	<10	12	s	<10
Dorchester	11	<10	<10	<10	<10	<10
Frederick	36	19	17	33	<10	<10
Garrett	<10	<10	<10	<10	<10	<10
Harford	46	31	15	39	<10	<10
Howard	35	13	22	17	s	<10
Kent	<10	<10	<10	<10	<10	<10
Montgomery	129	56	73	79	34	16
Prince George's	102	52	50	s	68	<10
Queen Anne's	<10	<10	<10	<10	<10	<10
Saint Mary's	17	s	<10	14	<10	<10
Somerset	<10	<10	<10	<10	<10	<10
Talbot	<10	<10	<10	<10	<10	<10
Washington	35	21	14	34	<10	<10
Wicomico	19	<10	s	12	<10	<10
Worcester	18	<10	<10	14	<10	<10

<10 = Death counts or 0-9 are suppressed per MDH/CCPC Mortality Data Suppression Policy

s = Death counts are suppressed to prevent disclosure of data in other cell(s) (See Appendix A for methods)

Source: CDC Wonder, 2012-2016, as of March 5, 2019

Table 24.
Colon and Rectum Cancer Age-Adjusted Mortality Rates* by Jurisdiction, Gender, and Race, Maryland, 2016

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	13.8	16.2	11.8	13.1	16.4	6.9
Allegany	20.7	**	**	**	**	**
Anne Arundel	12.9	14.8	11.5	12.4	**	**
Baltimore City	20.6	27.1	15.7	19.5	21.6	**
Baltimore County	14.2	16.6	12.2	13.0	18.5	**
Calvert	**	**	**	**	**	**
Caroline	**	**	**	**	**	**
Carroll	18.1	**	18.9	18.4	**	**
Cecil	**	**	**	**	**	**
Charles	14.3	**	**	**	**	**
Dorchester	**	**	**	**	**	**
Frederick	13.4	**	**	13.7	**	**
Garrett	**	**	**	**	**	**
Harford	14.7	22.0	**	14.4	**	**
Howard	9.9	**	11.3	**	**	**
Kent	**	**	**	**	**	**
Montgomery	10.4	10.3	10.5	8.9	19.4	**
Prince George's	11.0	12.2	10.0	14.0	10.5	**
Queen Anne's	**	**	**	**	**	**
Saint Mary's	**	**	**	**	**	**
Somerset	**	**	**	**	**	**
Talbot	**	**	**	**	**	**
Washington	17.9	25.2	**	18.3	**	**
Wicomico	**	**	**	**	**	**
Worcester	**	**	**	**	**	**

* Rates are per 100,000 population and age-adjusted to 2000 U.S. standard population

** Rates based on death counts of 0-19 are suppressed per MDH/CCPC Mortality Data Suppression Policy

Source: CDC Wonder, 2012-2016, as of March 5, 2019

Table 25.
Number of Colon and Rectum Cancer Cases by Jurisdiction, Gender, and Race, Maryland, 2012-2016

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	12,008	5,997	6,000	7,897	3,460	495
Allegany	220	111	109	214	<6	<6
Anne Arundel	1,056	509	546	849	172	33
Baltimore City	1,355	664	691	438	883	21
Baltimore County	1,866	907	955	1,362	441	53
Calvert	196	111	85	160	s	0
Caroline	90	57	33	76	11	<6
Carroll	435	205	230	411	17	6
Cecil	243	123	120	235	8	0
Charles	282	132	150	177	98	<6
Dorchester	105	52	53	74	28	<6
Frederick	473	267	205	409	39	21
Garrett	94	44	50	94	0	0
Harford	568	298	270	488	68	6
Howard	503	253	250	321	119	56
Kent	56	28	28	45	10	0
Montgomery	1,698	831	864	1,119	296	218
Prince George's	1,568	786	780	414	1,068	54
Queen Anne's	98	39	59	88	s	<6
Saint Mary's	183	105	78	156	22	<6
Somerset	75	41	34	58	s	<6
Talbot	88	49	39	77	11	0
Washington	355	181	174	327	22	<6
Wicomico	214	104	110	151	55	7
Worcester	157	81	76	137	s	<6

Total includes cases reported as transexual, hermaphrodite, unknown gender, unknown race, and unknown jurisdiction

<6 = Case counts of 1-5 are suppressed per MDH/MCR Data Use Policy

s = Case counts are suppressed to prevent disclosure of data in other cell(s) (See Appendix A for methods)

Source: Maryland Cancer Registry, SEER*Stat Static data as of January 3, 2019

Table 26.
Colon and Rectum Cancer Age-Adjusted Incidence Rates* by Jurisdiction, Gender, and Race, Maryland, 2012-2016

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	36.1	40.4	32.6	34.9	39.7	24.4
Allegany	44.4	49.1	42.0	45.3	**	**
Anne Arundel	34.7	36.9	33.1	33.8	41.9	27.6
Baltimore City	42.1	49.2	37.5	40.5	42.5	29.9
Baltimore County	36.6	41.6	32.5	35.1	43.0	23.3
Calvert	38.8	47.2	32.1	38.0	50.1	0.0
Caroline	47.9	64.3	32.2	48.2	**	**
Carroll	41.7	42.8	41.5	41.2	56.6	**
Cecil	43.7	47.3	41.3	45.0	**	0.0
Charles	37.1	38.7	35.9	39.1	35.3	**
Dorchester	48.5	51.7	47.1	45.9	50.6	**
Frederick	35.6	43.6	28.8	34.5	40.8	38.5
Garrett	44.2	43.8	44.7	44.5	0.0	0.0
Harford	39.3	45.6	33.8	38.4	54.7	**
Howard	31.5	34.6	29.0	28.9	47.6	23.4
Kent	35.7	39.0	34.3	34.3	**	0.0
Montgomery	29.5	32.2	27.0	27.8	34.5	24.6
Prince George's	35.5	41.1	31.3	34.4	35.6	22.2
Queen Anne's	33.9	26.7	40.6	33.2	**	**
Saint Mary's	31.0	36.1	26.0	32.2	25.6	**
Somerset	49.9	55.7	44.4	54.6	38.9	**
Talbot	27.2	32.9	22.2	26.9	**	0.0
Washington	38.6	42.3	35.6	38.2	44.7	**
Wicomico	38.8	41.9	36.2	35.7	48.1	**
Worcester	38.9	43.5	35.1	38.6	43.4	**

* Rates are per 100,000 population and age-adjusted to 2000 U.S. standard population

** Rates based on case counts of 1-15 are suppressed per MDH/MCR Data Use Policy and Procedures

Source: Maryland Cancer Registry, SEER*Stat Static data as of January 3, 2019

Table 27.
Number of Deaths for Colon and Rectum Cancer by Jurisdiction, Gender, and Race, Maryland, 2012-2016

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	4,681	2,420	2,261	3,069	1,475	137
Allegany	82	47	35	80	<10	<10
Anne Arundel	398	209	189	310	78	10
Baltimore City	658	343	315	s	452	<10
Baltimore County	766	375	391	600	152	14
Calvert	69	36	33	59	s	<10
Caroline	28	s	<10	25	<10	<10
Carroll	152	75	77	150	<10	<10
Cecil	84	43	41	77	<10	<10
Charles	123	63	60	64	s	<10
Dorchester	49	30	19	33	s	<10
Frederick	179	101	78	165	s	<10
Garrett	33	19	14	32	<10	<10
Harford	232	121	111	203	s	<10
Howard	156	77	79	91	44	21
Kent	23	11	12	18	<10	<10
Montgomery	531	247	284	372	101	58
Prince George's	640	344	296	175	453	12
Queen Anne's	33	19	14	30	<10	<10
Saint Mary's	76	50	26	62	s	<10
Somerset	15	<10	<10	12	<10	<10
Talbot	23	12	11	20	<10	<10
Washington	165	87	78	158	<10	<10
Wicomico	102	55	47	71	s	<10
Worcester	64	31	33	58	<10	<10

<10 = Death counts or 0-9 are suppressed per MDH/CCPC Mortality Data Suppression Policy

s = Death counts are suppressed to prevent disclosure of data in other cell(s) (See Appendix A for methods)

Source: CDC Wonder, 2012-2016, as of March 5, 2019

Table 28.
Colon and Rectum Cancer Age-Adjusted Mortality Rates* by Jurisdiction, Gender, and Race, Maryland, 2012-2016

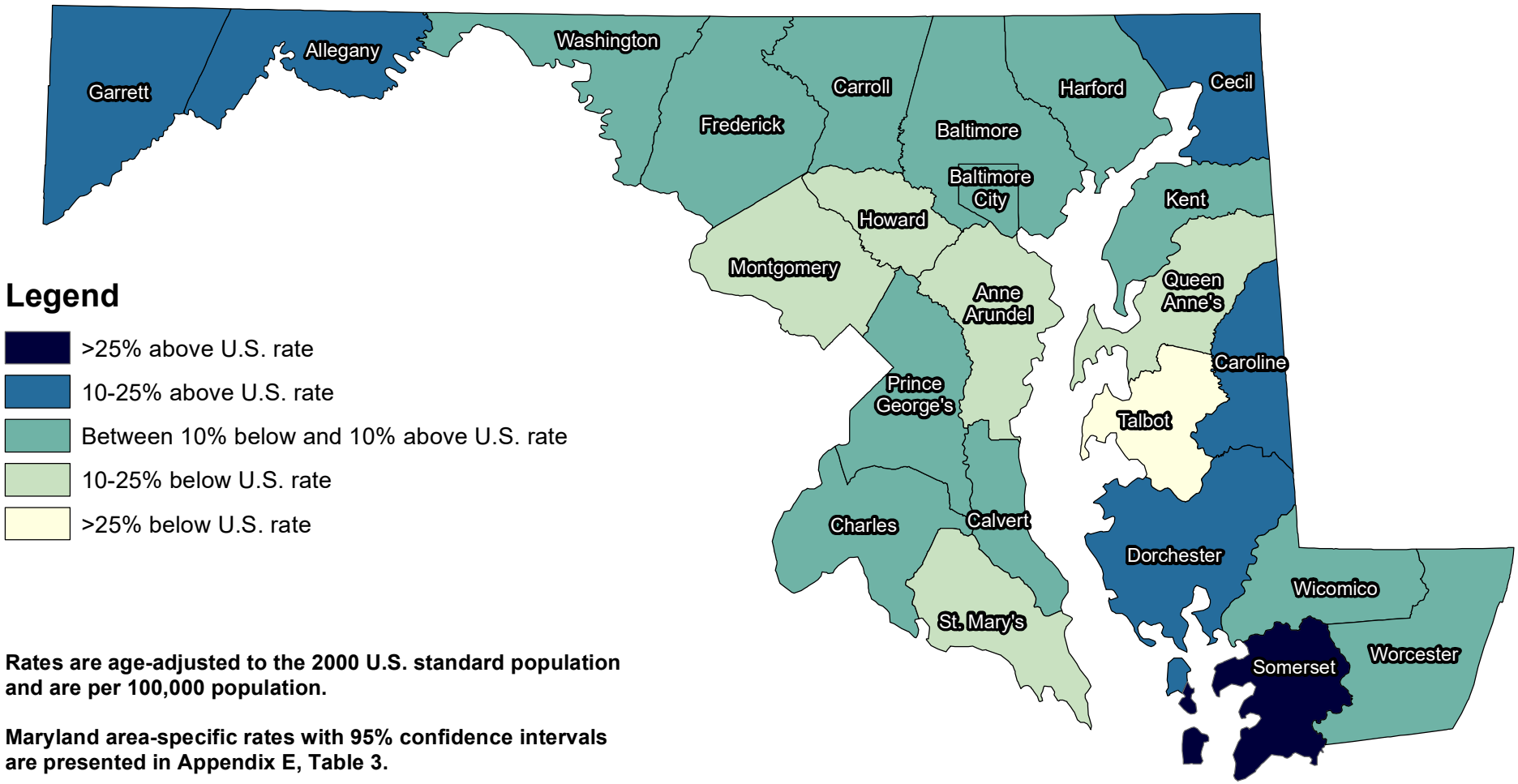
Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	14.1	16.9	11.9	13.2	17.9	7.4
Allegany	16.0	21.0	12.4	16.3	**	**
Anne Arundel	13.3	16.1	11.2	12.4	19.9	**
Baltimore City	20.9	27.4	16.7	18.7	22.5	**
Baltimore County	14.4	17.1	12.2	14.4	15.8	**
Calvert	14.0	16.2	12.3	14.5	**	**
Caroline	14.2	**	**	14.9	**	**
Carroll	14.9	16.6	13.7	15.3	**	**
Cecil	15.2	16.3	14.4	14.8	**	**
Charles	16.4	17.3	15.1	14.5	19.4	**
Dorchester	21.7	30.4	**	18.8	**	**
Frederick	13.9	18.1	10.9	14.1	**	**
Garrett	14.8	**	**	14.5	**	**
Harford	16.4	20.2	13.6	16.2	21.5	**
Howard	10.1	11.2	9.3	7.9	19.8	10.5
Kent	15.5	**	**	**	**	**
Montgomery	9.1	9.9	8.4	8.6	13.1	7.0
Prince George's	15.0	18.6	12.3	14.7	16.0	**
Queen Anne's	11.1	**	**	11.0	**	**
Saint Mary's	13.4	18.3	8.9	13.2	**	**
Somerset	**	**	**	**	**	**
Talbot	6.2	**	**	5.7	**	**
Washington	17.3	20.8	14.4	17.6	**	**
Wicomico	17.7	22.4	14.7	15.8	26.5	**
Worcester	14.4	15.0	13.5	14.6	**	**

* Rates are per 100,000 population and age-adjusted to 2000 U.S. standard population

** Rates based on death counts of 0-19 are suppressed per MDH/CCPC Mortality Data Suppression Policy

Source: CDC Wonder, 2012-2016, as of March 5, 2019

Maryland Colorectal Cancer Incidence Rates by Geographical Area: Comparison to U.S. Rate, 2012-2016



Rates are age-adjusted to the 2000 U.S. standard population and are per 100,000 population.

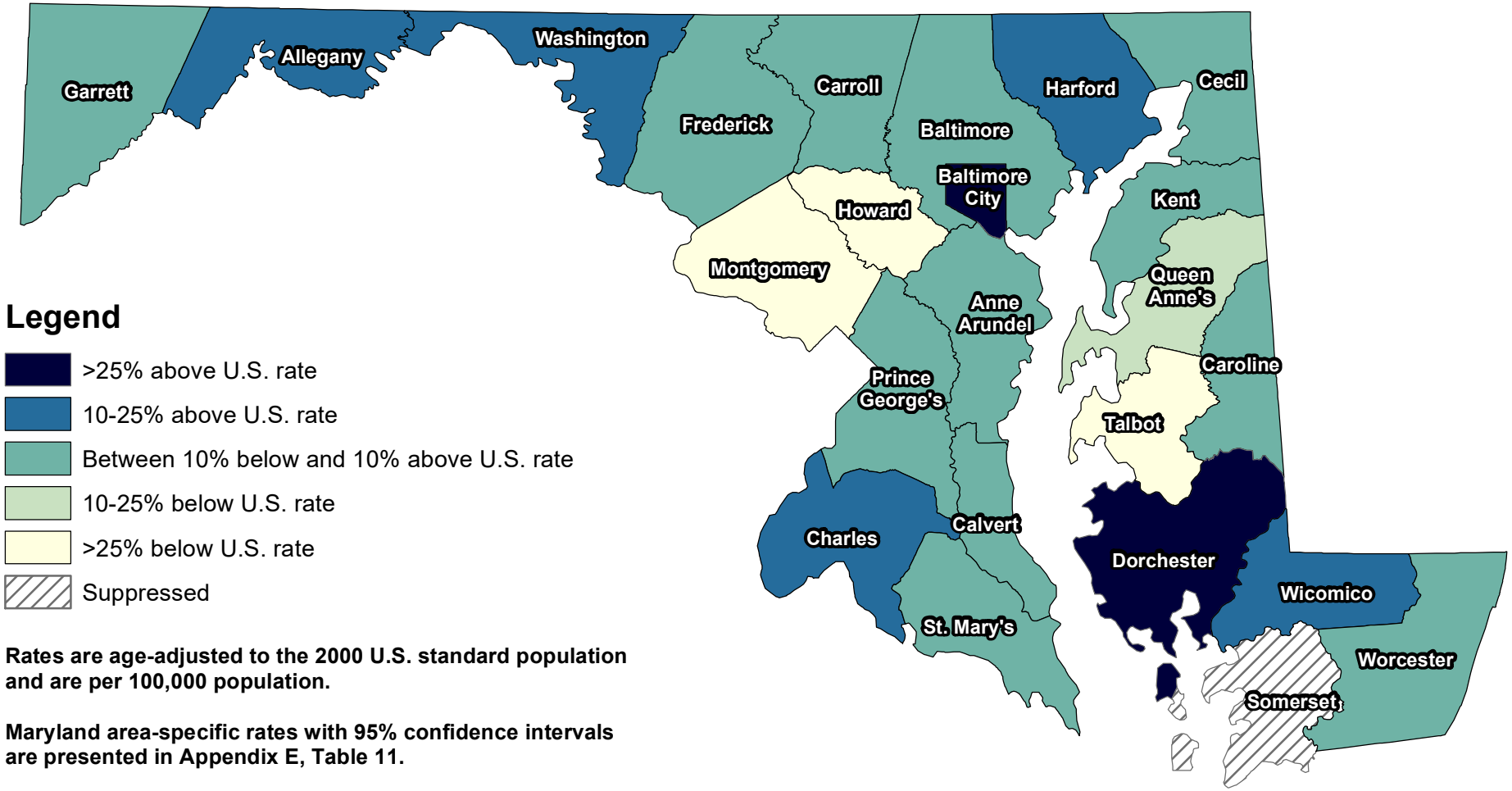
Maryland area-specific rates with 95% confidence intervals are presented in Appendix E, Table 3.

U.S. colorectal cancer incidence rate, 2012-2016: 38.8 / 100,000

Maryland colorectal cancer incidence rate, 2012-2016: 36.1 / 100,000

Sources: Maryland Cancer Registry
U.S. SEER, SEER*Stat Database

Maryland Colorectal Cancer Mortality Rates by Geographical Area: Comparison to U.S. Rate, 2012-2016



Rates are age-adjusted to the 2000 U.S. standard population and are per 100,000 population.

Maryland area-specific rates with 95% confidence intervals are presented in Appendix E, Table 11.

U.S. colorectal cancer mortality rate, 2012-2016: 14.2 / 100,000

Maryland colorectal cancer mortality rate, 2012-2016: 14.1 / 100,000

Sources: Maryland Cancer Registry
U.S. SEER, SEER*Stat Database

Note: Rates based on case counts of 0-19 are suppressed per MDH/CCPC Data Use Policy and Procedures.

C. Female Breast Cancer

Incidence (New Cases)

In 2016, a total of 4,818 cases of breast cancer were reported among Maryland women. The 2016 age-adjusted incidence rate in Maryland was 128.9 per 100,000 women (125.2-132.7, 95% CI), which is statistically similar to the 2016 U.S. SEER age-adjusted female breast cancer incidence rate of 124.6 per 100,000 women (123.7-125.6, 95% CI).

Mortality (Deaths)

In 2016, a total of 829 women died of breast cancer in Maryland. Female breast cancer accounted for 15.2% of cancer deaths among women and 7.6% of all cancer deaths in Maryland in 2016. Breast cancer is the second leading cause of cancer death among women in Maryland after lung cancer. The 2016 age-adjusted mortality rate for female breast cancer in Maryland was 21.3 per 100,000 women (19.8-22.8, 95% CI). This rate is statistically similar to the U.S. female breast cancer mortality rate of 20.0 per 100,000 women (19.8-20.2, 95% CI). Maryland had the sixth highest female breast cancer mortality rate among the states and the District of Columbia for the period from 2012 to 2016.

Table 29.
Female Breast Cancer Incidence and Mortality Rates
by Race, Maryland (MD) and the United States, 2016

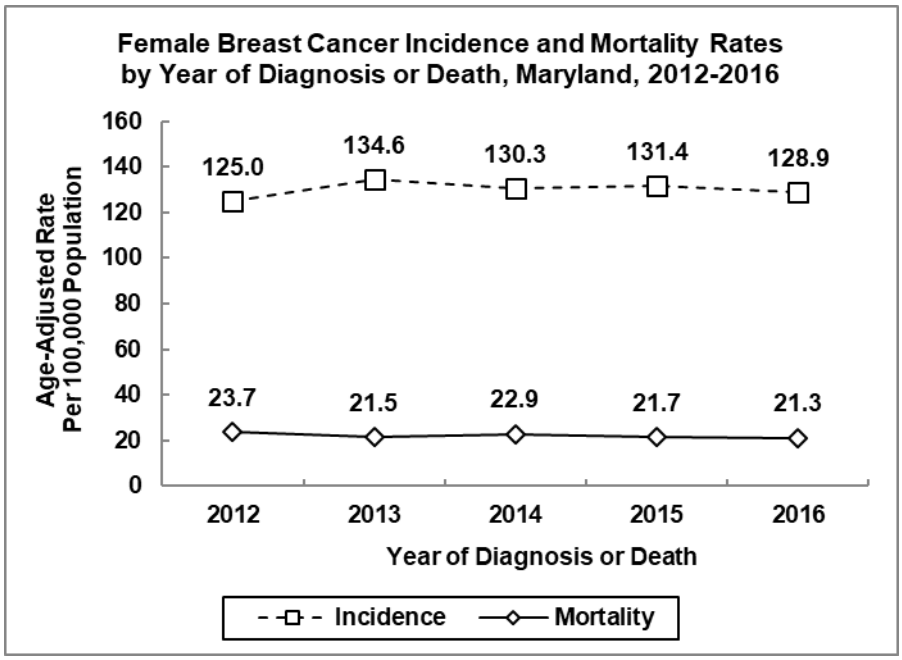
Incidence 2016	*Total**	*Whites*	*Blacks*	*Other*
MD New Cases (count)	4,818	3,053	1,453	237
MD Incidence Rate	128.9	127.4	131.8	92.9
U.S. SEER Rate	124.6	127.0	125.1	96.4
Mortality 2016	*Total*	*Whites*	*Blacks*	*Other*
MD Deaths (count)	829	498	302	29
MD Mortality Rate	21.3	19.0	27.8	12.0
U.S. Mortality Rate	20.0	19.6	27.3	N/A

Rates are per 100,000 women and are age-adjusted to 2000 U.S. standard population

* Total includes unknown race and unknown county

** MD mortality rates based on death counts of 0-19 are suppressed per MDH/CCPC Mortality Data Suppression Policy

Source: Maryland Cancer Registry
U.S. SEER, SEER*Stat
NCHS Compressed Mortality File in CDC WONDER, 2016
U.S. SEER, Cancer Statistics Review



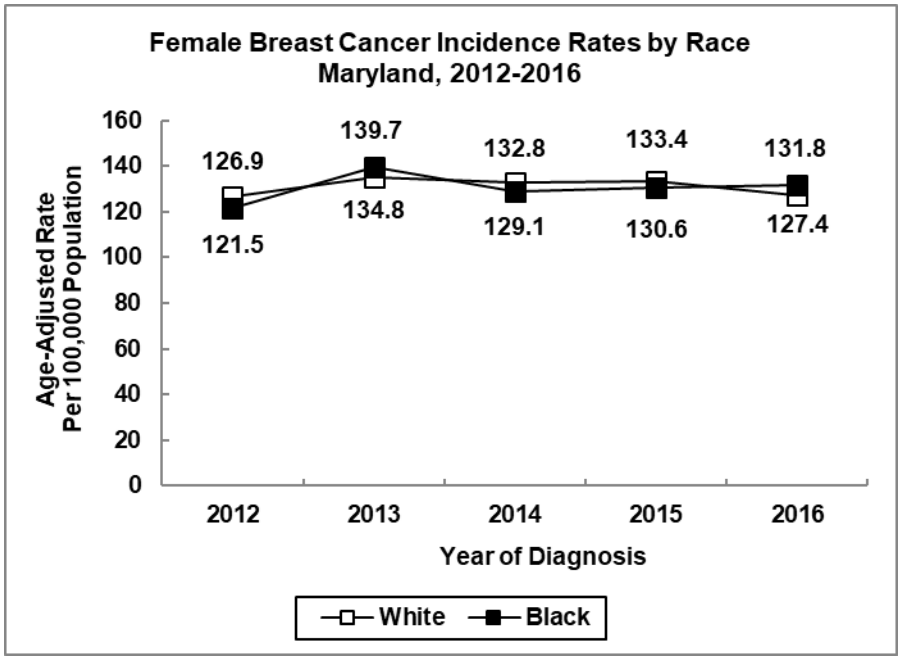
Source: Maryland Cancer Registry
NCHS Compressed Mortality File in CDC WONDER, 2012-2016

Incidence and Mortality Trends

From 2012 to 2016, incidence rates for female breast cancer increased in Maryland at a rate of 0.4% annually.

Breast cancer mortality rates for females decreased at a rate of 2.0% per year.

See Appendix F, Tables 1 and 2.

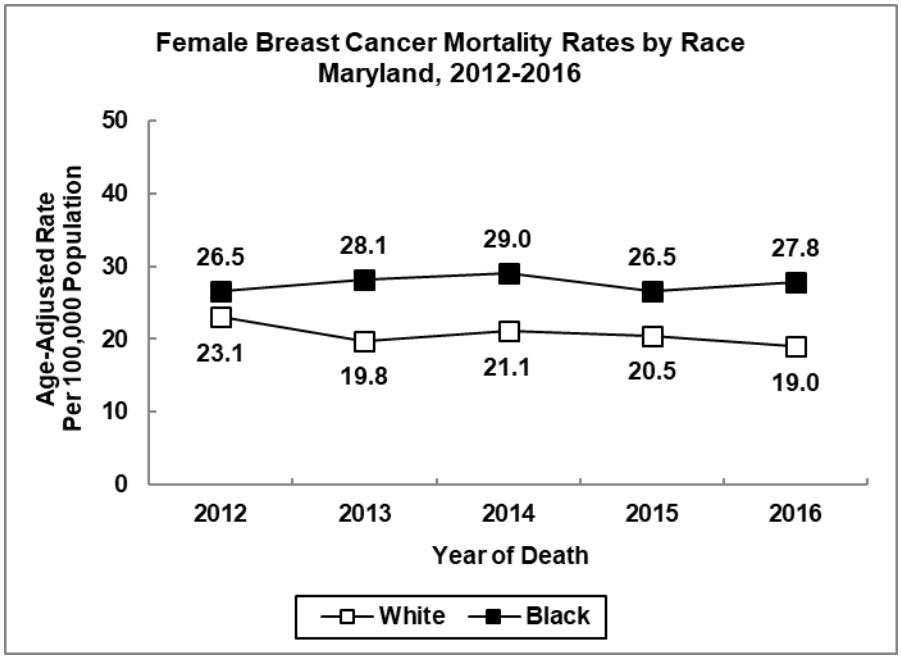


Source: Maryland Cancer Registry

Incidence Trends by Race

Female breast cancer incidence rates increased at a rate of 1.0% per year among black females while rates among white females remained steady in Maryland from 2012 to 2016.

See Appendix F, Table 3.

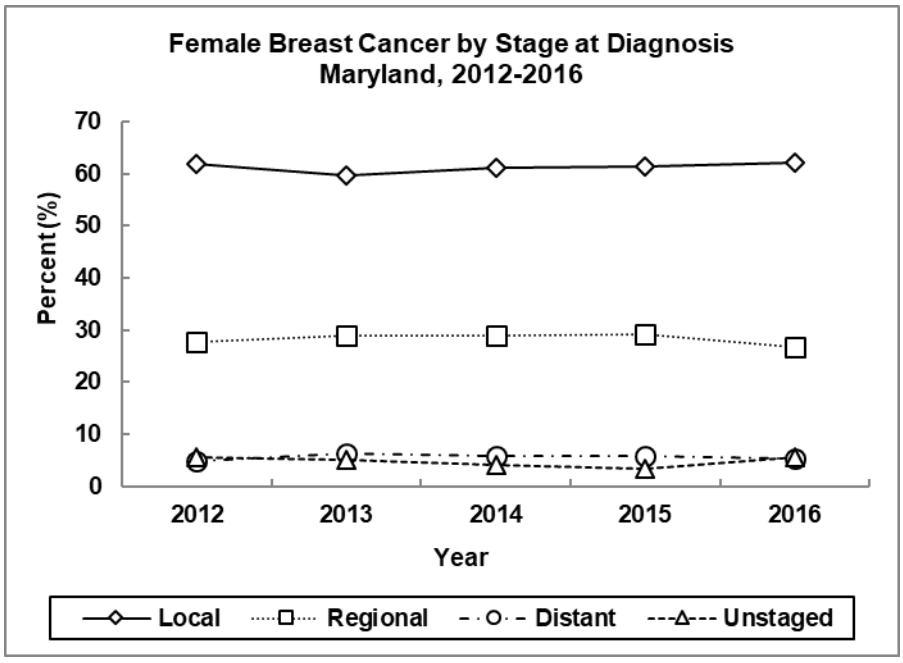


Source: NCHS Compressed Mortality File in CDC WONDER, 2012-2016

Mortality Trends by Race

Female breast cancer mortality rates increased among blacks and decreased among whites from 2012 to 2016. The mortality rate in black females increased at a rate of 0.4% per year between 2012 and 2016 and decreased at a rate of 3.5% per year among white females during the same time period.

See Appendix F, Table 5.

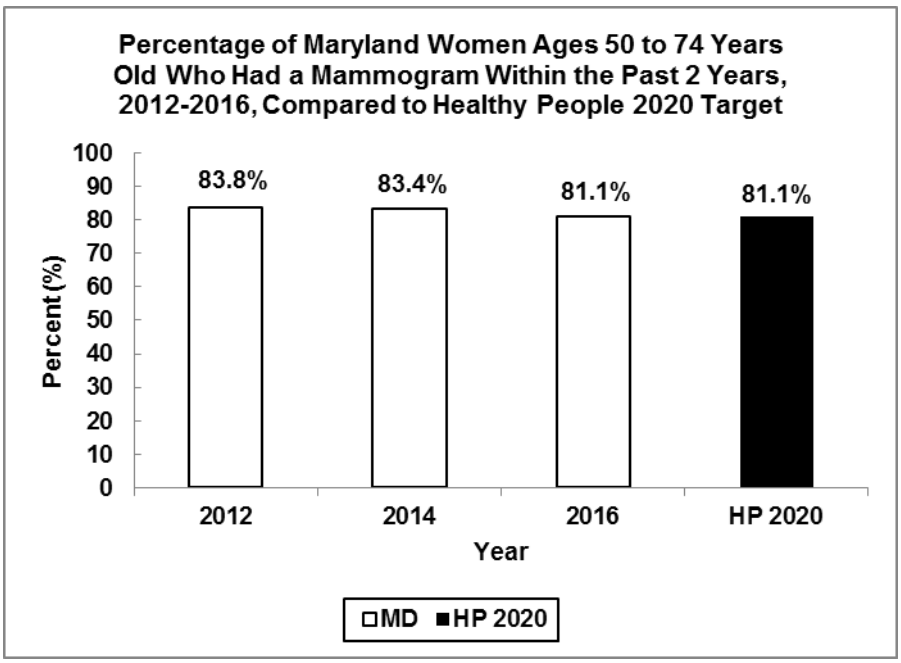


Source: Maryland Cancer Registry
Note: Due to a methodology change, SEER summary stage 2000 was used in 2016, while the derived SEER summary stage 2000 was used from 2012 to 2015

Stage at Diagnosis

In 2016, 62.2% of all female breast cancer cases in Maryland were diagnosed at the local stage, 26.8% were found at the regional stage, and 5.3% were diagnosed at the distant stage. The proportion of female breast cancers reported as unstaged in 2016 was 5.6%. Unstaged breast cancer diagnoses decreased 4.2% per year from 2012 to 2016.

See Appendix G, Table 4.



Source: Maryland BRFSS 2012, 2014, 2016
Healthy People 2020, U.S. Department of Health and Human Services

Breast Cancer Screening

The Healthy People 2020 target for the proportion of women who had a breast cancer screening based on the most recent guidelines is 81.1%. Maryland women have consistently met or surpassed the Healthy People 2020 target. In 2016, 81.1% of Maryland women ages 50 to 74 years reported receiving a mammogram within the past two years.

Table 30.
Number of Female Breast Cancer Cases by Jurisdiction and Race, Maryland, 2016

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	4,818	3,053	1,453	237
Allegany	64	62	<6	0
Anne Arundel	457	368	70	15
Baltimore City	458	149	300	7
Baltimore County	780	541	206	32
Calvert	61	48	10	<6
Caroline	23	17	6	0
Carroll	146	137	7	<6
Cecil	82	77	<6	0
Charles	111	57	48	<6
Dorchester	30	20	10	0
Frederick	203	173	22	8
Garrett	29	s	<6	0
Harford	228	199	20	8
Howard	260	173	48	35
Kent	18	15	<6	0
Montgomery	731	482	133	75
Prince George's	673	117	499	38
Queen Anne's	44	38	<6	<6
Saint Mary's	67	56	11	0
Somerset	26	18	8	0
Talbot	42	37	<6	<6
Washington	131	118	11	<6
Wicomico	84	67	14	<6
Worcester	54	44	7	<6

Total includes cases reported as unknown race and unknown jurisdiction

<6 = Case counts of 1-5 are suppressed per MDH/MCR Data Use Policy

s = Case counts are suppressed to prevent disclosure of data in other cell(s) (See Appendix A for methods)

Source: Maryland Cancer Registry, SEER*Stat Static data as of January 3, 2019

Table 31.
Female Breast Cancer Age-Adjusted Incidence Rates* by Jurisdiction and Race, Maryland, 2016

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	128.9	127.4	131.8	92.9
Allegany	119.2	118.9	**	0.0
Anne Arundel	133.3	133.0	130.7	**
Baltimore City	125.9	136.7	121.5	**
Baltimore County	141.5	139.6	149.5	110.3
Calvert	106.7	98.3	**	**
Caroline	113.6	104.3	**	0.0
Carroll	128.1	127.5	**	**
Cecil	137.1	140.8	**	0.0
Charles	122.2	125.1	120.8	**
Dorchester	134.8	115.3	**	0.0
Frederick	137.8	133.5	192.4	**
Garrett	121.8	115.0	**	0.0
Harford	137.2	139.5	104.7	**
Howard	137.0	137.9	142.1	115.9
Kent	117.0	120.5	**	0.0
Montgomery	112.2	111.4	119.0	68.1
Prince George's	127.7	94.4	131.1	144.0
Queen Anne's	134.1	126.3	**	**
Saint Mary's	106.2	108.7	**	0.0
Somerset	190.9	206.7	**	0.0
Talbot	129.3	123.9	**	**
Washington	141.0	133.2	**	**
Wicomico	131.9	140.0	**	**
Worcester	140.1	131.3	**	**

* Rates are per 100,000 women and age-adjusted to 2000 U.S. standard population

** Rates based on case counts of 1-15 are suppressed per MDH/MCR Data Use Policy and Procedures

Source: Maryland Cancer Registry, SEER*Stat Static data as of January 3, 2019

Table 32.
Number of Deaths for Female Breast Cancer by Jurisdiction and Race, Maryland, 2016

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	829	498	302	29
Allegany	11	10	<10	<10
Anne Arundel	69	47	s	<10
Baltimore City	94	s	66	<10
Baltimore County	140	93	s	<10
Calvert	14	13	<10	<10
Caroline	<10	<10	<10	<10
Carroll	15	14	<10	<10
Cecil	12	11	<10	<10
Charles	29	16	s	<10
Dorchester	<10	<10	<10	<10
Frederick	25	22	<10	<10
Garrett	<10	<10	<10	<10
Harford	37	29	<10	<10
Howard	24	15	<10	<10
Kent	<10	<10	<10	<10
Montgomery	121	80	31	10
Prince George's	138	s	95	<10
Queen Anne's	<10	<10	<10	<10
Saint Mary's	16	13	<10	<10
Somerset	<10	<10	<10	<10
Talbot	<10	<10	<10	<10
Washington	23	21	<10	<10
Wicomico	19	12	<10	<10
Worcester	12	11	<10	<10

<10 = Death counts or 0-9 are suppressed per MDH/CCPC Mortality Data Suppression Policy

s = Death counts are suppressed to prevent disclosure of data in other cell(s) (See Appendix A for methods)

Source: CDC Wonder, 2012-2016, as of March 5, 2019

Table 33.
Female Breast Cancer Age-Adjusted Mortality Rates* by Jurisdiction and Race, Maryland, 2016

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	21.3	19.0	27.8	12.0
Allegany	**	**	**	**
Anne Arundel	19.0	15.4	**	**
Baltimore City	24.3	23.6	25.5	**
Baltimore County	24.2	22.8	30.9	**
Calvert	**	**	**	**
Caroline	**	**	**	**
Carroll	**	**	**	**
Cecil	**	**	**	**
Charles	31.7	**	**	**
Dorchester	**	**	**	**
Frederick	16.8	16.5	**	**
Garrett	**	**	**	**
Harford	21.3	19.1	**	**
Howard	12.4	**	**	**
Kent	**	**	**	**
Montgomery	17.7	16.1	29.1	**
Prince George's	26.2	27.0	25.7	**
Queen Anne's	**	**	**	**
Saint Mary's	**	**	**	**
Somerset	**	**	**	**
Talbot	**	**	**	**
Washington	23.5	22.4	**	**
Wicomico	**	**	**	**
Worcester	**	**	**	**

* Rates are per 100,000 women and age-adjusted to 2000 U.S. standard population

** Rates based on death counts of 0-19 are suppressed per MDH/CCPC Mortality Data Suppression Policy

Source: CDC Wonder, 2012-2016, as of March 5, 2019

Table 34.
Number of Female Breast Cancer Cases by Jurisdiction and Race, Maryland, 2012-2016

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	23,672	15,454	6,888	1,028
Allegany	291	284	s	<6
Anne Arundel	2,223	1,839	315	53
Baltimore City	2,230	700	1,483	30
Baltimore County	3,688	2,664	896	108
Calvert	380	321	55	<6
Caroline	136	112	s	<6
Carroll	733	700	20	10
Cecil	385	353	28	<6
Charles	538	309	207	18
Dorchester	147	111	36	0
Frederick	949	827	86	30
Garrett	122	s	<6	<6
Harford	1,101	960	109	28
Howard	1,226	837	242	138
Kent	113	91	22	0
Montgomery	3,948	2,691	674	431
Prince George's	3,285	651	2,433	142
Queen Anne's	196	186	s	<6
Saint Mary's	334	279	46	7
Somerset	92	67	25	0
Talbot	196	170	23	<6
Washington	641	595	36	9
Wicomico	398	318	72	<6
Worcester	270	235	29	<6

Total includes cases reported as unknown race and unknown jurisdiction

<6 = Case counts of 1-5 are suppressed per MDH/MCR Data Use Policy

s = Case counts are suppressed to prevent disclosure of data in other cell(s) (See Appendix A for methods)

Source: Maryland Cancer Registry, SEER*Stat Static data as of January 3, 2019

Table 35.
Female Breast Cancer Age-Adjusted Incidence Rates* by Jurisdiction and Race, Maryland, 2012-2016

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	130.1	131.1	130.6	85.7
Allegany	117.4	117.7	**	**
Anne Arundel	133.7	136.4	128.8	68.8
Baltimore City	123.4	128.4	121.2	75.5
Baltimore County	137.3	139.0	140.0	81.4
Calvert	137.7	141.4	132.2	**
Caroline	131.7	128.9	153.7	**
Carroll	131.8	131.9	129.6	**
Cecil	127.5	125.6	184.1	**
Charles	123.1	130.7	117.4	75.1
Dorchester	125.6	124.0	131.4	0.0
Frederick	131.7	129.6	158.8	99.7
Garrett	112.0	109.8	**	**
Harford	136.9	138.4	123.4	104.2
Howard	135.5	138.2	153.1	101.6
Kent	143.6	142.1	164.5	0.0
Montgomery	125.4	127.0	126.5	82.6
Prince George's	127.3	104.5	132.7	100.7
Queen Anne's	121.3	126.5	**	**
Saint Mary's	110.4	112.7	108.4	**
Somerset	127.4	130.3	132.5	0.0
Talbot	121.6	119.5	124.6	**
Washington	138.3	135.6	133.3	**
Wicomico	133.0	141.3	110.1	**
Worcester	135.5	133.8	133.7	**

* Rates are per 100,000 women and age-adjusted to 2000 U.S. standard population

** Rates based on case counts of 1-15 are suppressed per MDH/MCR Data Use Policy and Procedures

Source: Maryland Cancer Registry, SEER*Stat Static data as of January 3, 2019

Table 36.
Number of Deaths for Female Breast Cancer by Jurisdiction and Race, Maryland, 2012-2016

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	4,156	2,623	1,416	117
Allegany	51	49	<10	<10
Anne Arundel	351	279	s	<10
Baltimore City	501	s	347	<10
Baltimore County	650	438	197	15
Calvert	75	62	s	<10
Caroline	23	19	<10	<10
Carroll	133	124	<10	<10
Cecil	59	56	<10	<10
Charles	107	59	s	<10
Dorchester	25	18	<10	<10
Frederick	151	131	s	<10
Garrett	24	24	<10	<10
Harford	194	162	s	<10
Howard	150	108	s	<10
Kent	21	18	<10	<10
Montgomery	606	433	129	44
Prince George's	629	138	469	22
Queen Anne's	30	s	<10	<10
Saint Mary's	73	61	s	<10
Somerset	10	<10	<10	<10
Talbot	28	24	<10	<10
Washington	121	117	<10	<10
Wicomico	74	54	s	<10
Worcester	70	63	<10	<10

<10 = Death counts or 0-9 are suppressed per MDH/CCPC Mortality Data Suppression Policy

s = Death counts are suppressed to prevent disclosure of data in other cell(s) (See Appendix A for methods)

Source: CDC Wonder, 2012-2016, as of March 5, 2019

Table 37.
Female Breast Cancer Age-Adjusted Mortality Rates* by Jurisdiction and Race, Maryland, 2012-2016

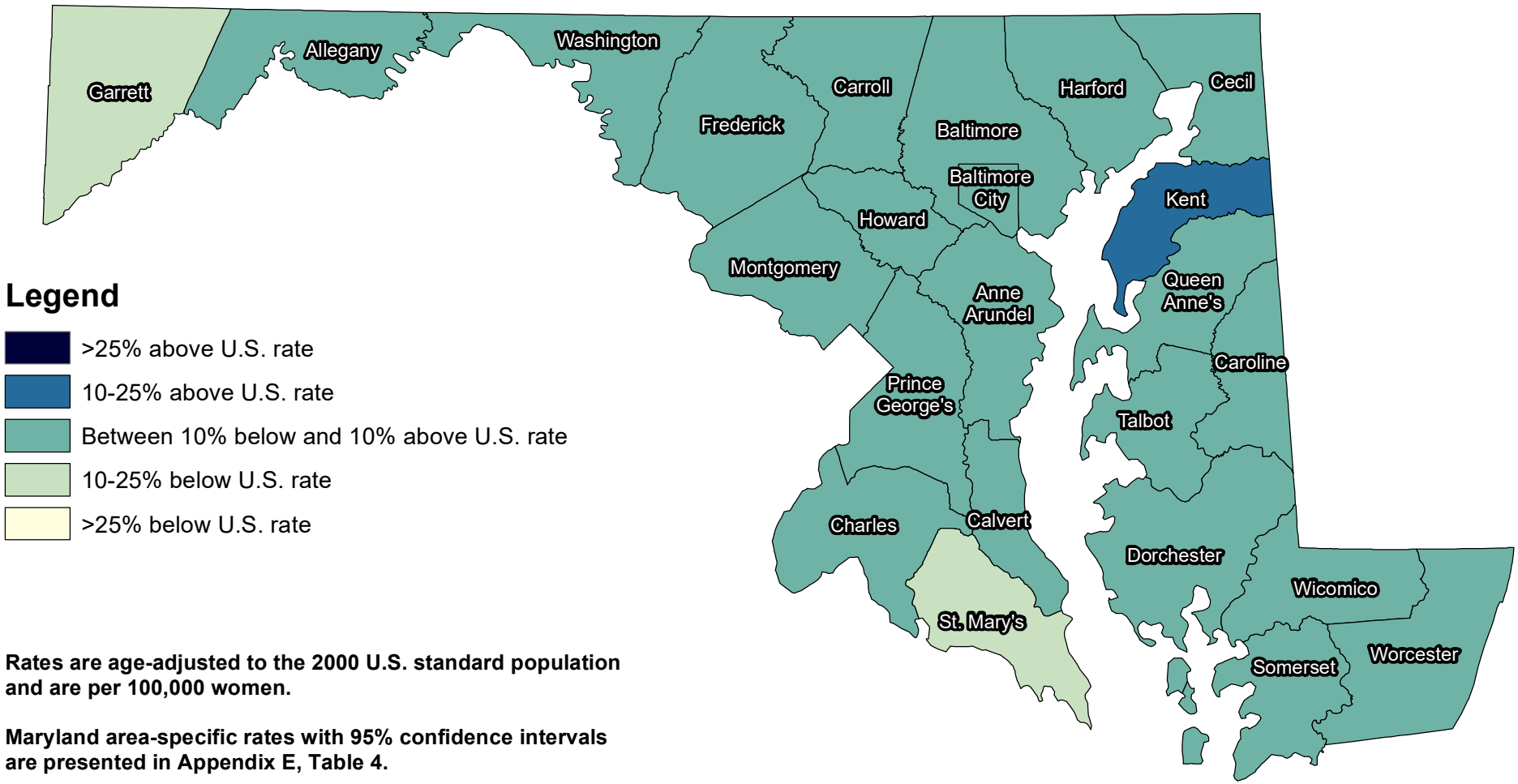
Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	22.2	20.7	27.5	10.1
Allegany	18.4	18.3	**	**
Anne Arundel	20.7	19.7	28.6	**
Baltimore City	27.0	25.2	28.2	**
Baltimore County	22.6	20.3	30.8	**
Calvert	26.3	25.9	**	**
Caroline	22.0	**	**	**
Carroll	23.6	22.9	**	**
Cecil	19.4	19.6	**	**
Charles	25.6	23.5	28.2	**
Dorchester	21.5	**	**	**
Frederick	21.6	21.1	**	**
Garrett	20.3	20.5	**	**
Harford	23.9	22.6	39.5	**
Howard	17.0	17.3	23.3	**
Kent	21.6	**	**	**
Montgomery	18.2	18.5	24.7	8.5
Prince George's	25.1	20.7	26.6	16.9
Queen Anne's	17.5	19.2	**	**
Saint Mary's	25.3	25.3	**	**
Somerset	**	**	**	**
Talbot	15.5	14.0	**	**
Washington	23.6	23.7	**	**
Wicomico	22.9	21.8	27.8	**
Worcester	30.7	32.1	**	**

* Rates are per 100,000 women and age-adjusted to 2000 U.S. standard population

** Rates based on death counts of 0-19 are suppressed per MDH/CCPC Mortality Data Suppression Policy

Source: CDC Wonder, 2012-2016, as of March 5, 2019

Maryland Female Breast Cancer Incidence Rates by Geographical Area: Comparison to U.S. Rate, 2012-2016



Rates are age-adjusted to the 2000 U.S. standard population and are per 100,000 women.

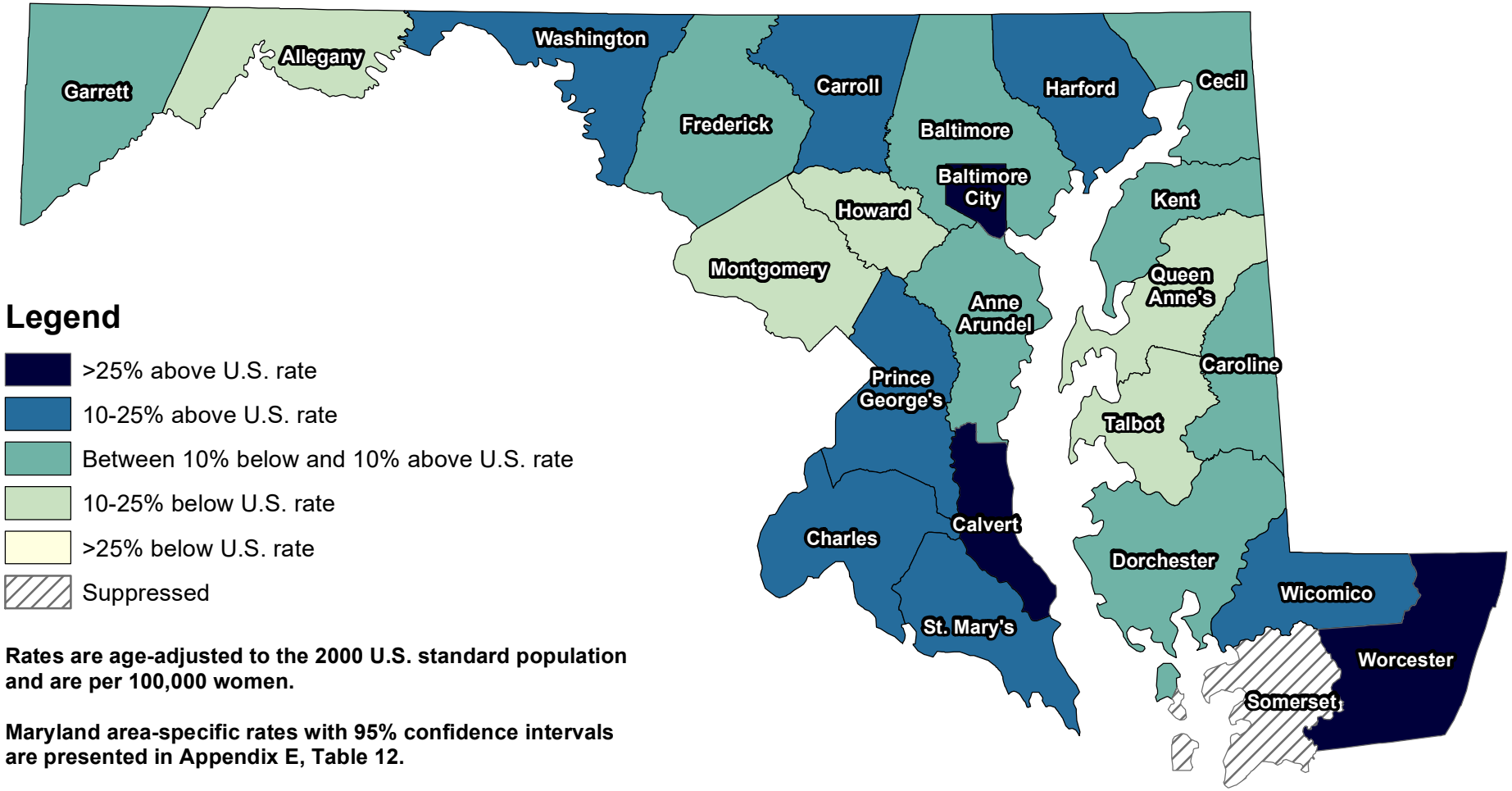
Maryland area-specific rates with 95% confidence intervals are presented in Appendix E, Table 4.

U.S. female breast cancer incidence rate, 2012-2016: 126.0 / 100,000

Maryland female breast cancer incidence rate, 2012-2016: 130.1 / 100,000

Sources: Maryland Cancer Registry
U.S. SEER, SEER*Stat Database

Maryland Female Breast Cancer Mortality Rates by Geographical Area: Comparison to U.S. Rate, 2012-2016



Legend

- >25% above U.S. rate
- 10-25% above U.S. rate
- Between 10% below and 10% above U.S. rate
- 10-25% below U.S. rate
- >25% below U.S. rate
- Suppressed

Rates are age-adjusted to the 2000 U.S. standard population and are per 100,000 women.

Maryland area-specific rates with 95% confidence intervals are presented in Appendix E, Table 12.

U.S. female breast cancer mortality rate, 2012-2016: 20.6 / 100,000

Maryland female breast cancer mortality rate, 2012-2016: 22.2 / 100,000

Sources: Maryland Cancer Registry
U.S. SEER, SEER*Stat Database

Note: Rates based on case counts of 0-19 are suppressed per MDH/CCPC Data Use Policy and Procedures.

D. Prostate Cancer

Incidence (New Cases)

In 2016, a total of 4,259 cases of prostate cancer were reported among men in Maryland. The age-adjusted prostate cancer incidence rate in Maryland for 2016 was 124.6 per 100,000 men (120.7-128.5, 95% CI), which is statistically significantly higher than the 2016 U.S. SEER age-adjusted prostate cancer incidence rate of 104.7 per 100,000 men (103.8-105.7, 95% CI).

Mortality (Deaths)

Prostate cancer is the second leading cause of cancer death among men in Maryland after lung cancer. In 2016, 558 men died of prostate cancer in Maryland, accounting for 5.1% of all cancer deaths and 10.2% of cancer deaths among men in Maryland. The 2016 age-adjusted mortality rate for prostate cancer in Maryland was 20.6 per 100,000 men (18.9-22.3, 95% CI). This rate is statistically similar to the 2016 U.S. prostate cancer mortality rate of 19.4 per 100,000 men (19.2-19.6, 95% CI). Maryland had the 17th highest prostate cancer mortality rate among the states and the District of Columbia for the period from 2012 to 2016.

Table 38.
Prostate Cancer Incidence and Mortality Rates
by Race, Maryland (MD) and the United States, 2016

Incidence 2016	*Total**	*Whites*	*Blacks*	*Other*
MD New Cases (count)	4,259	2,480	1,573	138
MD Incidence Rate	124.6	105.8	181.8	65.5
U.S. SEER Rate	104.7	96.7	165.4	51.6
Mortality 2016	*Total*	*Whites*	*Blacks*	*Other*
MD Deaths (count)	558	315	s	<10
MD Mortality Rate	20.6	16.1	40.6	**
U.S. Mortality Rate	19.4	18.2	38.4	N/A

Rates are per 100,000 men and are age-adjusted to 2000 U.S. standard population

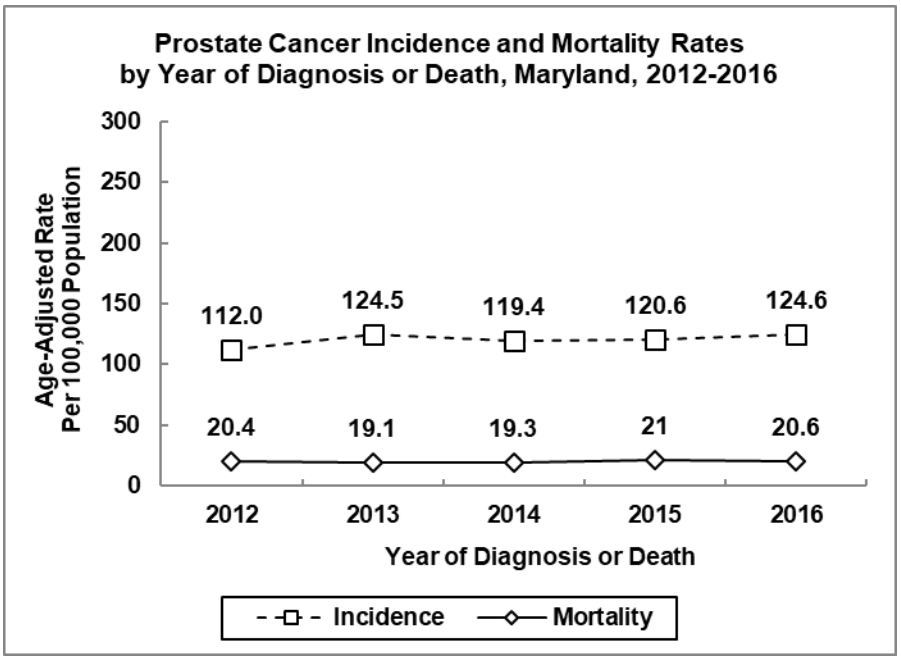
* Total includes unknown race and unknown county

<10 = Death counts of 0-9 are suppressed per MDH/CCPC Mortality Data Suppression Policy

s = Death counts are suppressed to prevent disclosure of data in other cell(s)

** MD mortality rates based on death counts of 0-19 are suppressed per MDH/CCPC Mortality Data Suppression Policy

Source: Maryland Cancer Registry
U.S. SEER, SEER*Stat
NCHS Compressed Mortality File in CDC WONDER, 2016
U.S. SEER, Cancer Statistics Review



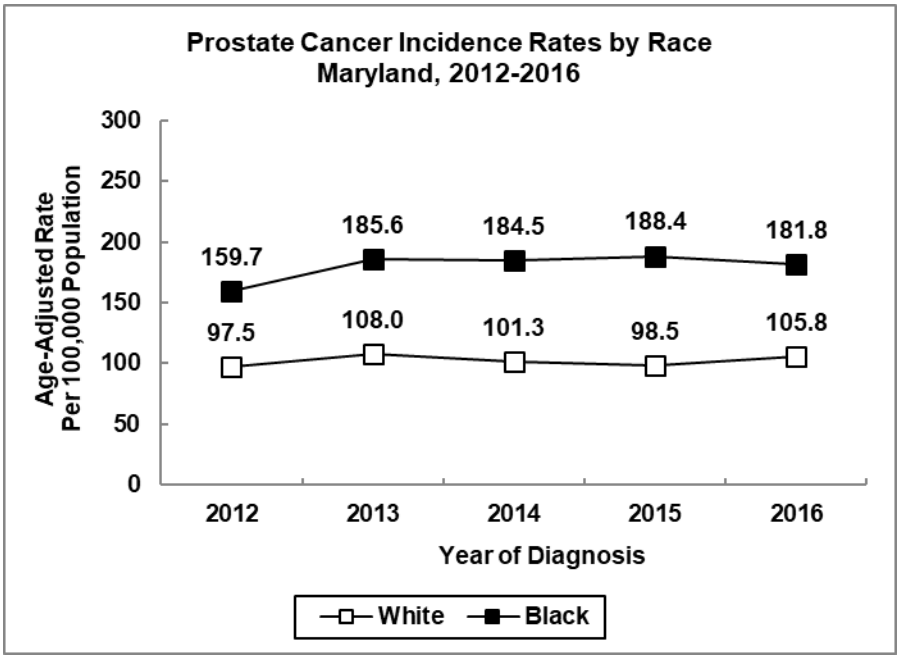
Source: Maryland Cancer Registry
NCHS Compressed Mortality File in CDC WONDER, 2012-2016

Incidence and Mortality Trends

The prostate cancer incidence rate in Maryland increased at a rate of 1.8% per year from 2012 to 2016.

Prostate cancer mortality rates increased from 2012 to 2016, with a yearly increase of 1.2%.

See Appendix F, Tables 1 and 2.



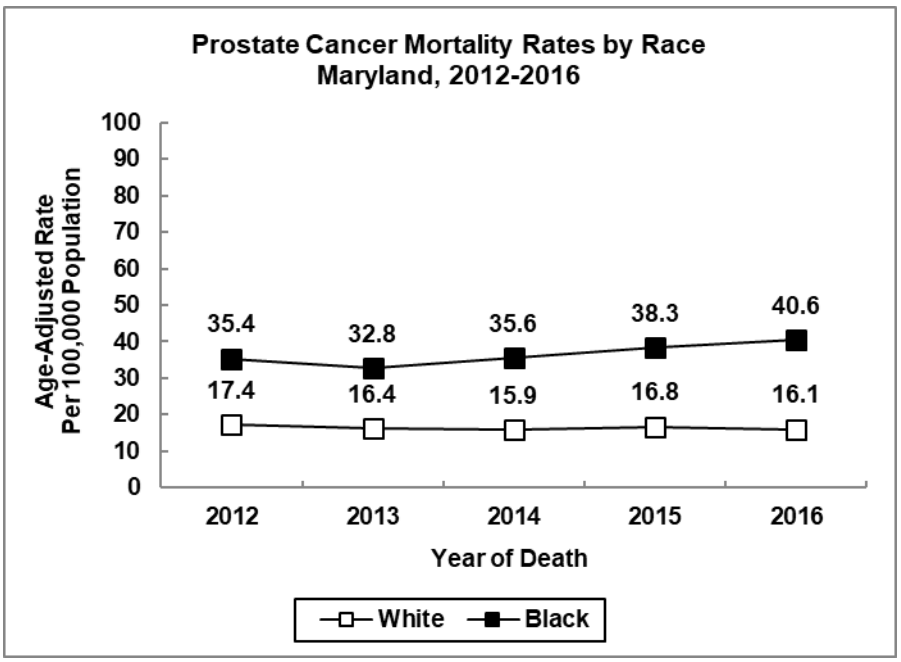
Source: Maryland Cancer Registry

Incidence Trends by Race

From 2012 to 2016, black men consistently had higher prostate cancer incidence rates than white men.

During this 5-year period, incidence rates increased 2.8% per year among black men and 0.7% per year among white men.

See Appendix F, Table 3.



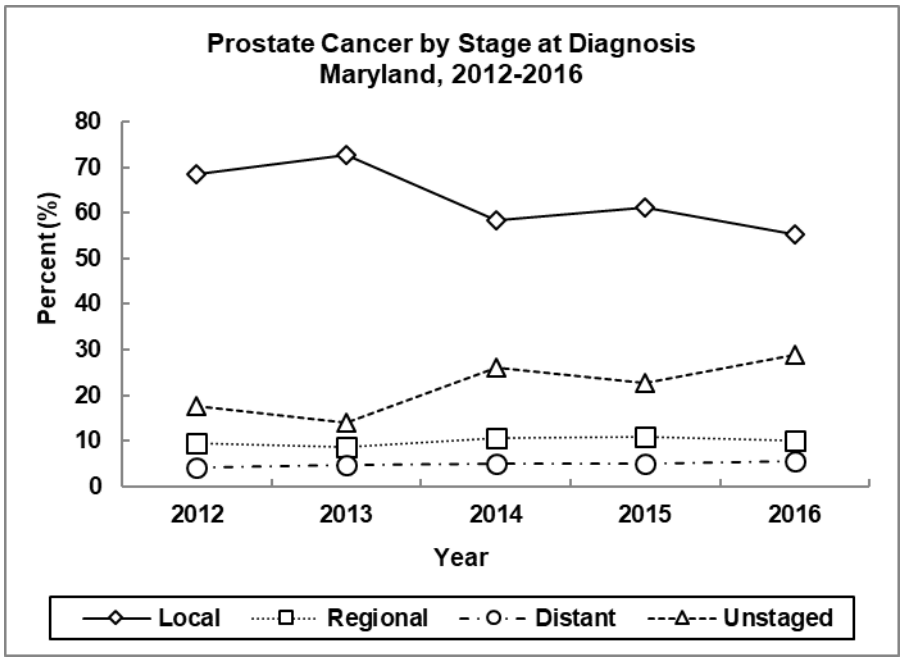
Source: NCHS Compressed Mortality File in CDC WONDER, 2012-2016

Mortality Trends by Race

From 2012 to 2016, black men consistently had higher prostate cancer mortality rates than white men. In 2016, the prostate cancer mortality rate for black men was more than twice the rate for white men.

During this 5-year period, mortality rates increased 4.4% per year among black men and decreased 1.3% per year among white men.

See Appendix F, Table 5.

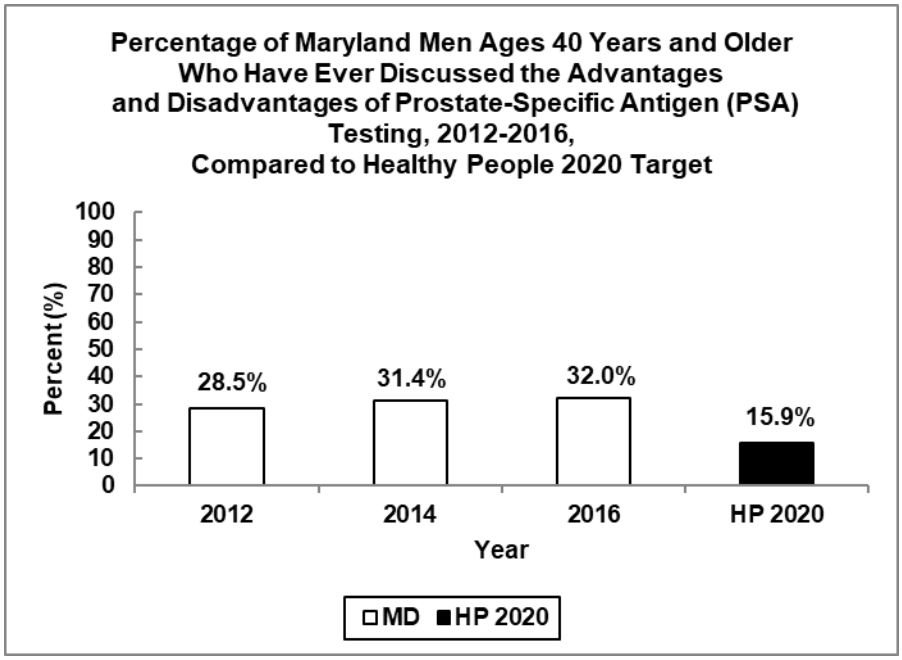


Source: Maryland Cancer Registry
Note: Due to a methodology change, SEER summary stage 2000 was used in 2016, while the derived SEER summary stage 2000 was used from 2012 to 2015

Stage at Diagnosis

Of prostate cancers diagnosed in Maryland in 2016, most (55.2%) were detected at the local stage, 10.2% were found at the regional stage, and 5.6% were diagnosed at the distant stage. In 2016, 29.0% of prostate cancers were reported as unstaged.

See Appendix G, Table 5.



Source: Maryland BRFSS 2012, 2014, 2016
Healthy People 2020, U.S. Department of Health and Human Services

Prostate-Specific Antigen Test

In 2016, almost one in three (32.0%) Maryland men ages 40 years and older reported that they had discussed both the advantages and the disadvantages of a PSA test with a healthcare provider. This surpasses the Healthy People 2020 target of 15.9%.

Table 39.
Number of Prostate Cancer Cases by Jurisdiction and Race, Maryland, 2016

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	4,259	2,480	1,573	138
Allegany	68	61	7	0
Anne Arundel	341	263	67	9
Baltimore City	422	107	303	<6
Baltimore County	652	426	197	24
Calvert	64	49	15	0
Caroline	21	17	<6	0
Carroll	135	126	9	0
Cecil	63	52	9	<6
Charles	130	67	56	<6
Dorchester	32	25	7	0
Frederick	151	121	25	<6
Garrett	24	s	<6	0
Harford	181	141	38	<6
Howard	183	121	43	17
Kent	21	17	<6	0
Montgomery	636	408	138	55
Prince George's	698	124	551	14
Queen Anne's	48	44	<6	0
Saint Mary's	55	41	12	<6
Somerset	19	13	6	0
Talbot	30	23	7	0
Washington	97	89	8	0
Wicomico	71	38	31	<6
Worcester	61	49	12	0

Total includes cases reported as unknown race and unknown jurisdiction

<6 = Case counts of 1-5 are suppressed per MDH/MCR Data Use Policy

s = Case counts are suppressed to prevent disclosure of data in other cell(s) (See Appendix A for methods)

Source: Maryland Cancer Registry, SEER*Stat Static data as of January 3, 2019

Table 40.
Prostate Cancer Age-Adjusted Incidence Rates* by Jurisdiction and Race, Maryland, 2016

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	124.6	105.8	181.8	65.5
Allegany	134.8	125.8	**	0.0
Anne Arundel	104.3	95.1	167.0	**
Baltimore City	141.5	102.1	161.6	**
Baltimore County	130.6	113.0	196.6	98.9
Calvert	113.8	103.8	207.0	0.0
Caroline	108.1	100.7	**	0.0
Carroll	124.8	120.8	**	0.0
Cecil	92.4	81.0	**	**
Charles	161.8	142.3	179.8	**
Dorchester	133.1	134.6	**	0.0
Frederick	107.3	96.3	261.4	**
Garrett	106.6	97.2	**	0.0
Harford	119.0	106.1	281.5	**
Howard	100.2	94.7	158.4	65.4
Kent	139.6	119.0	**	0.0
Montgomery	110.5	101.7	170.0	59.0
Prince George's	153.8	102.6	179.6	**
Queen Anne's	136.5	137.3	**	0.0
Saint Mary's	90.1	80.4	**	**
Somerset	121.1	**	**	0.0
Talbot	93.9	78.4	**	0.0
Washington	104.3	102.9	**	0.0
Wicomico	127.2	90.1	266.3	**
Worcester	127.9	115.2	**	0.0

* Rates are per 100,000 men and age-adjusted to 2000 U.S. standard population

** Rates based on case counts of 1-15 are suppressed per MDH/MCR Data Use Policy and Procedures

Source: Maryland Cancer Registry, SEER*Stat Static data as of January 3, 2019

Table 41.
Number of Deaths for Prostate Cancer by Jurisdiction and Race, Maryland, 2016

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	558	315	s	<10
Allegany	<10	<10	<10	<10
Anne Arundel	37	28	<10	<10
Baltimore City	80	s	68	<10
Baltimore County	82	57	s	<10
Calvert	12	<10	<10	<10
Caroline	<10	<10	<10	<10
Carroll	22	20	<10	<10
Cecil	<10	<10	<10	<10
Charles	12	<10	<10	<10
Dorchester	<10	<10	<10	<10
Frederick	19	15	<10	<10
Garrett	<10	<10	<10	<10
Harford	19	17	<10	<10
Howard	28	19	<10	<10
Kent	<10	<10	<10	<10
Montgomery	72	53	s	<10
Prince George's	94	s	77	<10
Queen Anne's	<10	<10	<10	<10
Saint Mary's	<10	<10	<10	<10
Somerset	<10	<10	<10	<10
Talbot	<10	<10	<10	<10
Washington	<10	<10	<10	<10
Wicomico	15	<10	<10	<10
Worcester	<10	<10	<10	<10

<10 = Death counts or 0-9 are suppressed per MDH/CCPC Mortality Data Suppression Policy

s = Death counts are suppressed to prevent disclosure of data in other cell(s) (See Appendix A for methods)

Source: CDC Wonder, 2012-2016, as of March 5, 2019

Table 42.
Prostate Cancer Age-Adjusted Mortality Rates* by Jurisdiction and Race, Maryland, 2016

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	20.6	16.1	40.6	**
Allegany	**	**	**	**
Anne Arundel	16.1	14.3	**	**
Baltimore City	33.8	**	48.1	**
Baltimore County	18.3	15.8	40.4	**
Calvert	**	**	**	**
Caroline	**	**	**	**
Carroll	27.0	25.7	**	**
Cecil	**	**	**	**
Charles	**	**	**	**
Dorchester	**	**	**	**
Frederick	**	**	**	**
Garrett	**	**	**	**
Harford	**	**	**	**
Howard	22.9	**	**	**
Kent	**	**	**	**
Montgomery	14.9	15.0	**	**
Prince George's	29.5	**	38.7	**
Queen Anne's	**	**	**	**
Saint Mary's	**	**	**	**
Somerset	**	**	**	**
Talbot	**	**	**	**
Washington	**	**	**	**
Wicomico	**	**	**	**
Worcester	**	**	**	**

* Rates are per 100,000 men and age-adjusted to 2000 U.S. standard population

** Rates based on death counts of 0-19 are suppressed per MDH/CCPC Mortality Data Suppression Policy

Source: CDC Wonder, 2012-2016, as of March 5, 2019

Table 43.

Number of Prostate Cancer Cases by Jurisdiction and Race, Maryland, 2012-2016

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	19,785	11,697	7,291	522
Allegany	274	252	18	<6
Anne Arundel	1,749	1,384	321	30
Baltimore City	2,052	484	1,527	22
Baltimore County	3,060	2,016	939	85
Calvert	292	230	58	<6
Caroline	113	84	27	<6
Carroll	618	581	31	<6
Cecil	368	336	28	<6
Charles	540	268	256	11
Dorchester	160	110	50	0
Frederick	641	538	88	10
Garrett	99	97	<6	0
Harford	918	753	156	8
Howard	827	575	189	54
Kent	101	79	21	0
Montgomery	2,916	1,901	695	210
Prince George's	3,040	495	2,435	63
Queen Anne's	182	159	s	<6
Saint Mary's	258	193	57	<6
Somerset	90	50	40	0
Talbot	187	159	28	0
Washington	443	389	48	<6
Wicomico	377	236	133	<6
Worcester	267	209	58	0

Total includes cases reported as unknown race and unknown jurisdiction

<6 = Case counts of 1-5 are suppressed per MDH/MCR Data Use Policy

s = Case counts are suppressed to prevent disclosure of data in other cell(s) (See Appendix A for methods)

Source: Maryland Cancer Registry, SEER*Stat Static data as of January 3, 2019

Table 44.

Prostate Cancer Age-Adjusted Incidence Rates* by Jurisdiction and Race, Maryland, 2012-2016

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	120.3	102.3	180.4	55.4
Allegany	109.8	106.0	172.7	**
Anne Arundel	112.2	104.6	169.0	63.2
Baltimore City	139.0	91.4	167.0	69.4
Baltimore County	127.4	109.9	205.2	81.4
Calvert	109.3	100.2	176.3	**
Caroline	112.6	97.2	207.6	**
Carroll	118.8	117.0	177.5	**
Cecil	121.8	119.2	176.0	**
Charles	143.1	115.5	194.3	**
Dorchester	135.1	120.5	186.9	0.0
Frederick	98.2	91.4	214.5	**
Garrett	90.3	87.9	**	0.0
Harford	121.3	113.2	220.3	**
Howard	97.5	93.3	162.6	48.1
Kent	129.7	114.5	215.7	0.0
Montgomery	104.5	96.1	181.2	50.1
Prince George's	142.5	83.9	171.6	52.4
Queen Anne's	106.1	101.1	187.5	**
Saint Mary's	85.9	76.1	144.9	**
Somerset	111.1	85.4	172.2	0.0
Talbot	114.1	108.7	173.9	0.0
Washington	96.8	91.1	191.0	**
Wicomico	135.6	110.7	232.8	**
Worcester	115.9	100.7	288.0	0.0

* Rates are per 100,000 men and age-adjusted to 2000 U.S. standard population

** Rates based on case counts of 1-15 are suppressed per MDH/MCR Data Use Policy and Procedures

Source: Maryland Cancer Registry, SEER*Stat Static data as of January 3, 2019

Table 45.
Number of Deaths for Prostate Cancer by Jurisdiction and Race, Maryland, 2012-2016

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	2,601	1,570	989	42
Allegany	39	35	<10	<10
Anne Arundel	213	169	s	<10
Baltimore City	373	s	288	<10
Baltimore County	386	279	s	<10
Calvert	51	38	s	<10
Caroline	s	10	<10	<10
Carroll	61	55	<10	<10
Cecil	43	38	<10	<10
Charles	54	29	s	<10
Dorchester	20	13	<10	<10
Frederick	97	86	s	<10
Garrett	18	s	<10	<10
Harford	90	77	s	<10
Howard	105	74	s	<10
Kent	16	15	<10	<10
Montgomery	358	265	65	28
Prince George's	399	s	315	<10
Queen Anne's	24	22	<10	<10
Saint Mary's	46	36	s	<10
Somerset	<10	<10	<10	<10
Talbot	29	21	<10	<10
Washington	60	56	<10	<10
Wicomico	54	33	s	<10
Worcester	46	30	s	<10

<10 = Death counts or 0-9 are suppressed per MDH/CCPC Mortality Data Suppression Policy

s = Death counts are suppressed to prevent disclosure of data in other cell(s) (See Appendix A for methods)

Source: CDC Wonder, 2012-2016, as of March 5, 2019

Table 46.
Prostate Cancer Age-Adjusted Mortality Rates* by Jurisdiction and Race, Maryland, 2012-2016

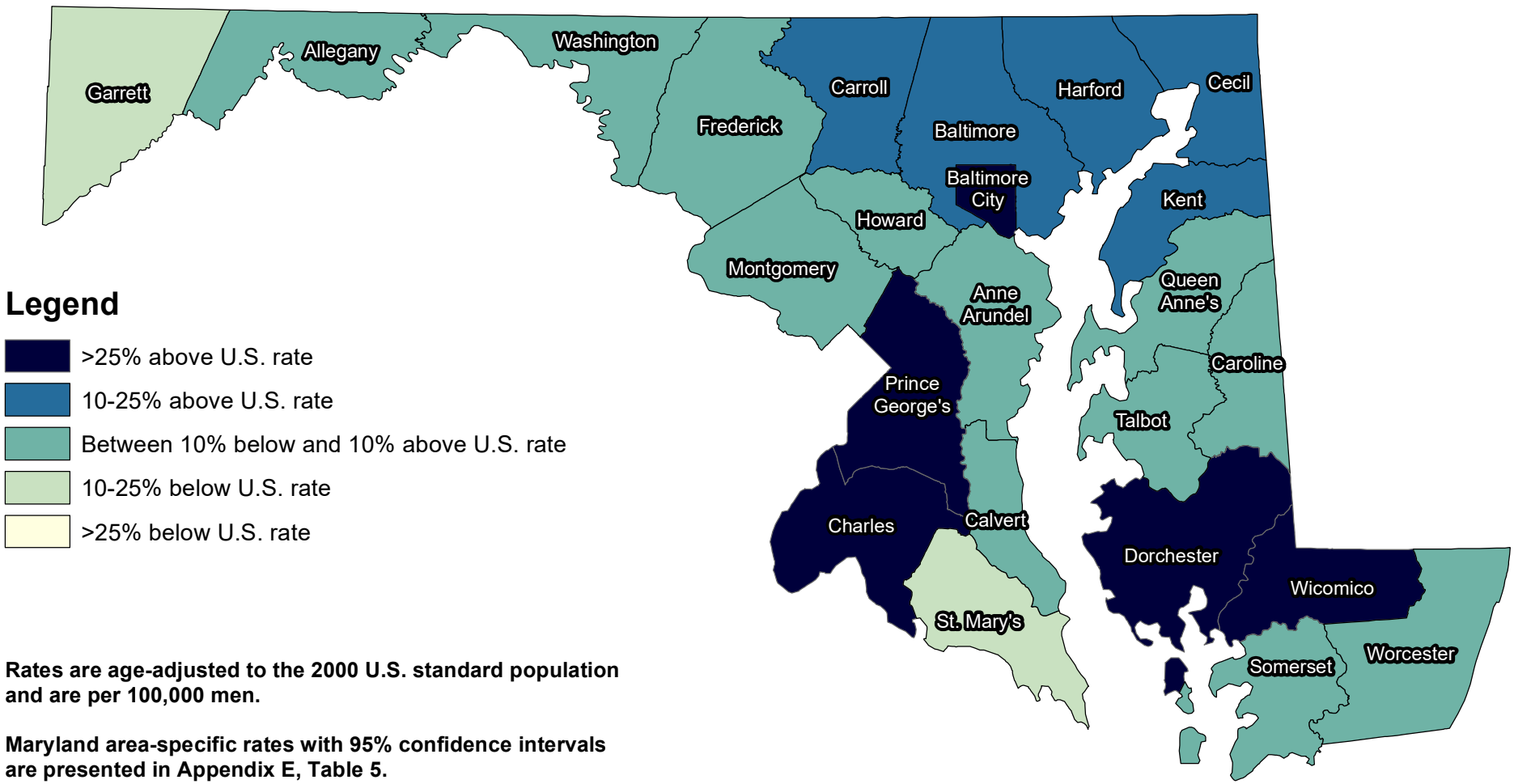
Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	20.1	16.5	36.7	5.9
Allegany	17.2	15.8	**	**
Anne Arundel	18.6	17.3	34.4	**
Baltimore City	32.1	18.4	42.2	**
Baltimore County	17.9	15.6	34.4	**
Calvert	28.4	24.5	**	**
Caroline	**	**	**	**
Carroll	15.3	14.5	**	**
Cecil	18.9	18.6	**	**
Charles	21.7	17.9	34.9	**
Dorchester	20.0	**	**	**
Frederick	19.1	18.7	**	**
Garrett	**	**	**	**
Harford	16.5	15.6	**	**
Howard	18.2	18.5	38.0	**
Kent	**	**	**	**
Montgomery	15.5	15.1	25.9	8.3
Prince George's	27.3	16.9	35.3	**
Queen Anne's	19.8	19.6	**	**
Saint Mary's	20.6	19.5	**	**
Somerset	**	**	**	**
Talbot	17.3	13.8	**	**
Washington	15.6	15.1	**	**
Wicomico	23.7	18.8	47.4	**
Worcester	21.8	15.6	**	**

* Rates are per 100,000 men and age-adjusted to 2000 U.S. standard population

** Rates based on death counts of 0-19 are suppressed per MDH/CCPC Mortality Data Suppression Policy

Source: CDC Wonder, 2012-2016, as of March 5, 2019

Maryland Prostate Cancer Incidence Rates by Geographical Area: Comparison to U.S. Rate, 2012-2016



Rates are age-adjusted to the 2000 U.S. standard population and are per 100,000 men.

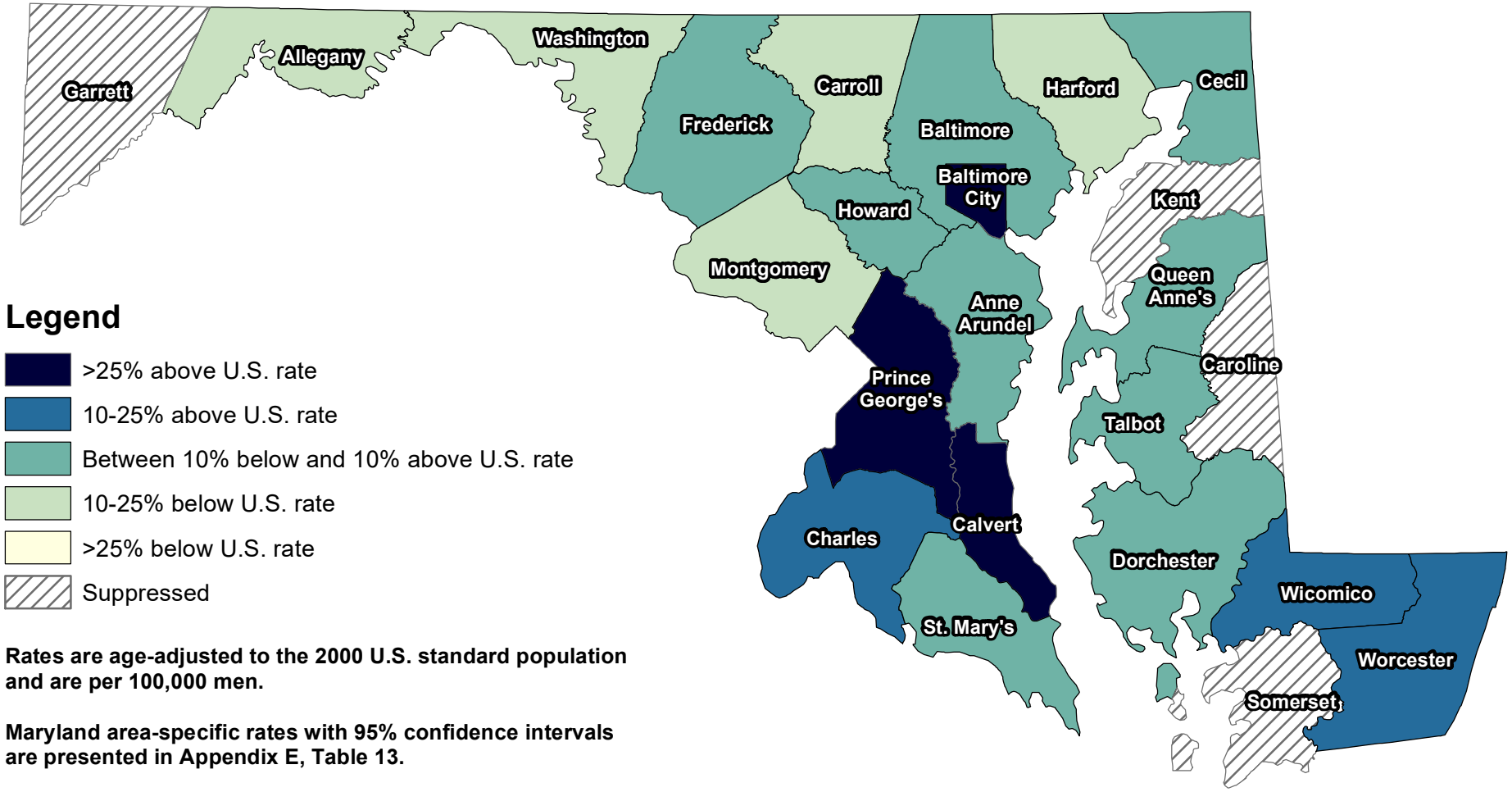
Maryland area-specific rates with 95% confidence intervals are presented in Appendix E, Table 5.

U.S. prostate cancer incidence rate, 2012-2016: 106.8 / 100,000

Maryland prostate cancer incidence rate, 2012-2016: 120.3 / 100,000

Sources: Maryland Cancer Registry
U.S. SEER, SEER*Stat Database

Maryland Prostate Cancer Mortality Rates by Geographical Area: Comparison to U.S. Rate, 2012-2016



Legend

- >25% above U.S. rate
- 10-25% above U.S. rate
- Between 10% below and 10% above U.S. rate
- 10-25% below U.S. rate
- >25% below U.S. rate
- Suppressed

Rates are age-adjusted to the 2000 U.S. standard population and are per 100,000 men.

Maryland area-specific rates with 95% confidence intervals are presented in Appendix E, Table 13.

U.S. prostate cancer mortality rate, 2012-2016: 19.2 / 100,000

Maryland prostate cancer mortality rate, 2012-2016: 20.1 / 100,000

Sources: Maryland Cancer Registry
U.S. SEER, SEER*Stat Database

Note: Rates based on case counts of 0-19 are suppressed per MDH/CCPC Data Use Policy and Procedures.

E. Oral Cancer

Incidence (New Cases)

In 2016, a total of 780 cases of cancer of the oral cavity and pharynx (called oral cancer) were reported in Maryland. The age-adjusted incidence rate for oral cancer in Maryland in 2016 was 10.8 per 100,000 population (10.1-11.6, 95% CI), which is not a statistically significant difference compared to the 2016 U.S. SEER age-adjusted oral cancer incidence rate of 11.3 per 100,000 population (11.1-11.5, 95% CI).

Mortality (Deaths)

In 2016, 216 persons in Maryland died of oral cancer. The 2016 age-adjusted mortality rate for oral cancer in Maryland was 3.0 per 100,000 population (2.6-3.4, 95% CI), accounting for 2.0% of Maryland cancer deaths in 2016. This rate is statistically similar to the 2016 U.S. oral cancer mortality rate of 2.6 per 100,000 population (2.5-2.6, 95% CI). Maryland had the 30th highest oral cancer mortality rate among the states and the District of Columbia for the period from 2012 to 2016.

Table 47.
Oral Cancer Incidence and Mortality Rates
by Gender and Race, Maryland (MD) and the United States, 2016

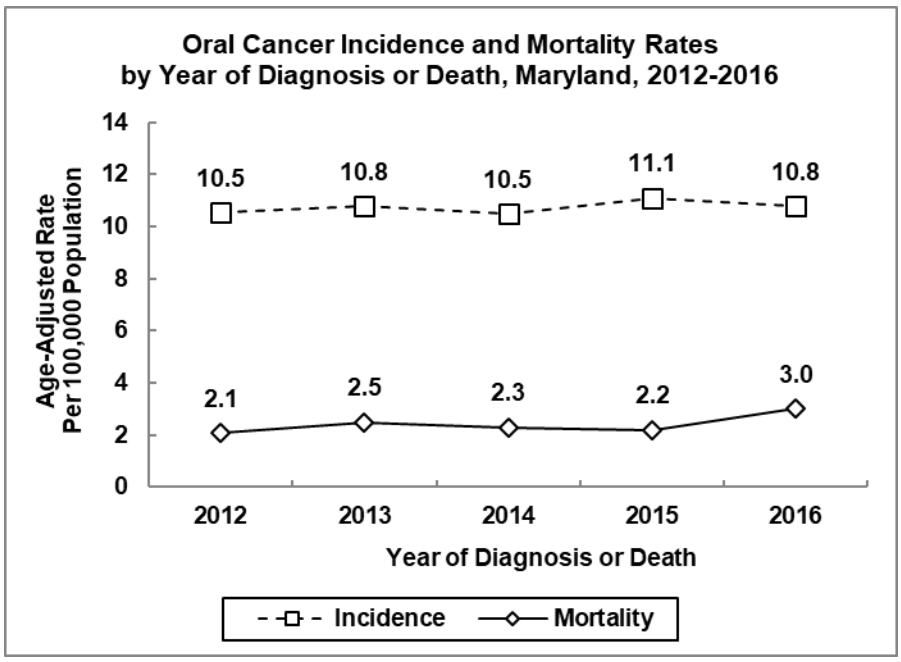
Incidence 2016	*Total**	*Males*	*Females*	*Whites*	*Blacks*	*Other*
MD New Cases (count)	780	564	216	595	153	28
MD Incidence Rate	10.8	17.0	5.7	12.5	7.8	5.9
U.S. SEER Rate	11.3	17.1	6.2	11.8	8.6	7.8
Mortality 2016	*Total*	*Males*	*Females*	*Whites*	*Blacks*	*Other*
MD Deaths (count)	216	146	70	140	66	10
MD Mortality Rate	3.0	4.6	1.7	2.9	3.6	**
U.S. Mortality Rate	2.6	4.0	1.4	2.6	2.6	N/A

Rates are per 100,000 population and are age-adjusted to 2000 U.S. standard population

* Total also includes cases reported as transsexual, hermaphrodite, unknown gender, unknown race, and unknown county

** MD mortality rates based on death counts of 0-19 are suppressed per MDH/CCPC Mortality Data Suppression Policy

Source: Maryland Cancer Registry
U.S. SEER, SEER*Stat
NCHS Compressed Mortality File in CDC WONDER, 2016
U.S. SEER, Cancer Statistics Review



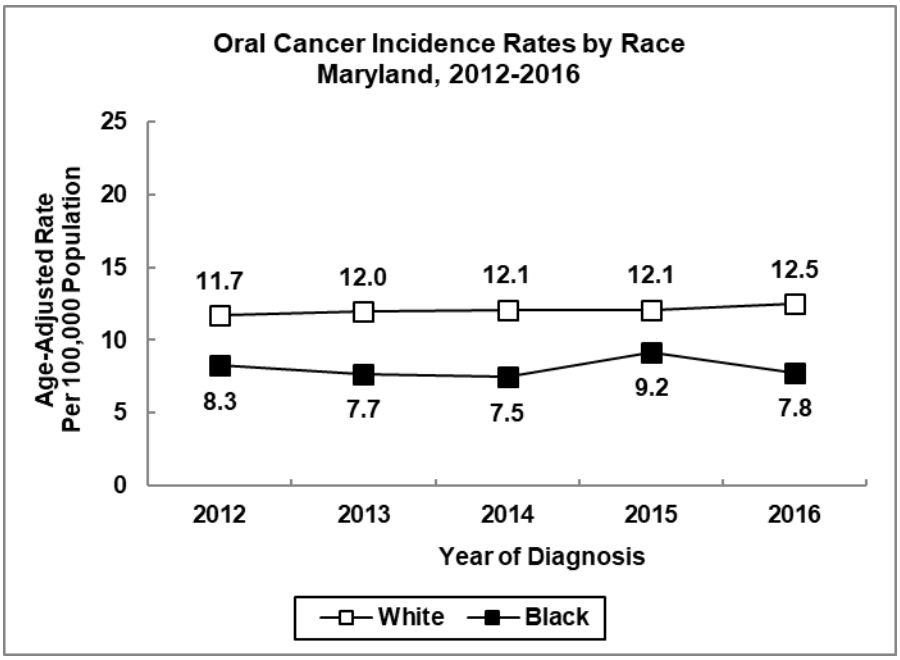
Source: Maryland Cancer Registry
NCHS Compressed Mortality File in CDC WONDER, 2012-2016

Incidence and Mortality Trends

The incidence of oral cancer in Maryland increased at a rate of 0.8% per year from 2012 to 2016.

Oral cancer mortality rates increased from 2012 to 2016 at a rate of 6.0% annually.

See Appendix F, Tables 1 and 2.

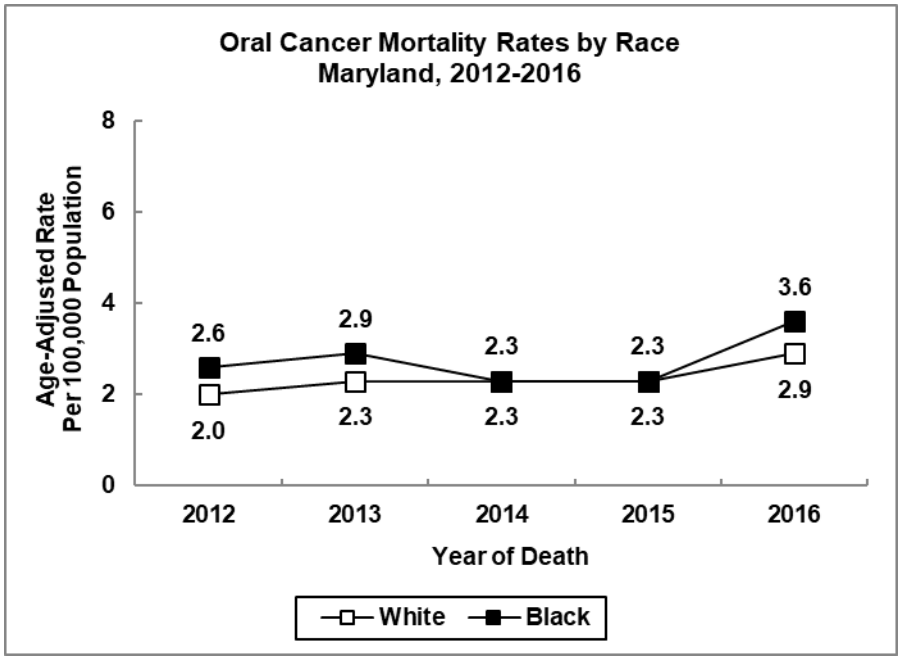


Source: Maryland Cancer Registry

Incidence Trends by Race

Over the 5-year period from 2012 to 2016, oral cancer incidence rates in Maryland increased at a rate of 0.5% per year for blacks and 1.4% per year for whites.

See Appendix F, Table 3.

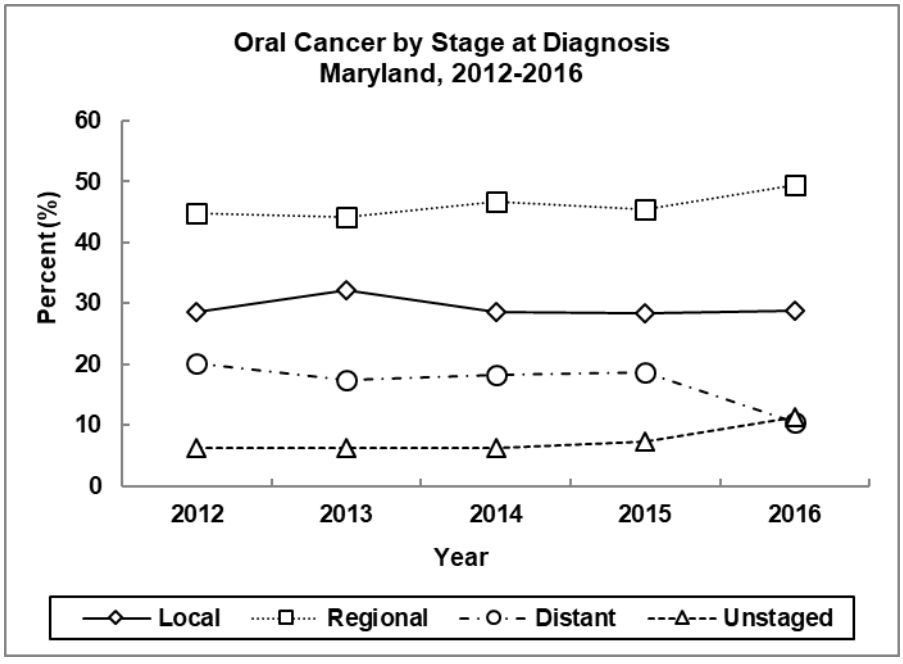


Source: NCHS Compressed Mortality File in CDC WONDER, 2012-2016

Mortality Trends by Race

Over the 5-year period from 2012 to 2016, oral cancer mortality rates increased at a rate of 4.3% per year for blacks and at a rate of 7.7% per year for whites.

See Appendix F, Table 5.

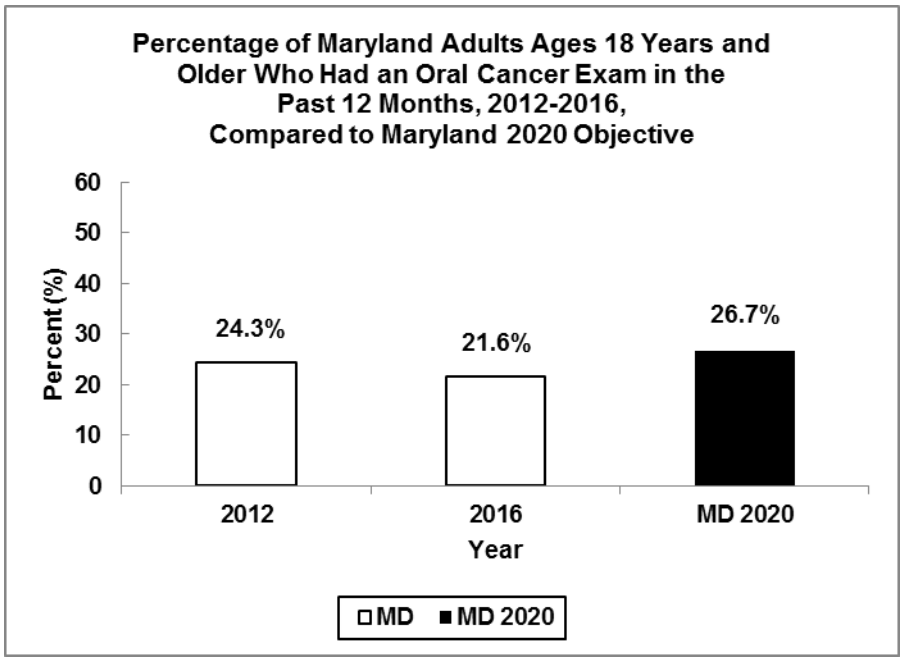


Source: Maryland Cancer Registry
Note: Due to a methodology change, SEER summary stage 2000 was used in 2016, while the derived SEER summary stage 2000 was used from 2012 to 2015

Stage at Diagnosis

In 2016, 28.8% of oral cancers in Maryland were diagnosed at the local stage, 49.5% were diagnosed at the regional stage, and 10.4% were diagnosed at the distant stage. From 2012 to 2016, the proportion of oral cancers reported as unstaged increased at a rate of 14.1% per year.

See Appendix G, Table 6.



Source: Maryland BRFSS, 2012, 2016
Maryland Comprehensive Cancer Control Plan, 2016-2020

Oral Cancer Screening

Although there is no current Healthy People 2020 target for oral cancer screening, the 2020 objective from the Maryland Comprehensive Cancer Control Plan is to increase the proportion of adults ages 18 years and older who report having an oral cancer screening examination in the past 12 months to 26.7%.

In 2012 and 2016, Maryland fell short of this target. In 2016, only 21.6% of Maryland adults reported that they had an oral cancer exam in the past year.

Table 48.
Number of Oral Cancer Cases by Jurisdiction, Gender, and Race, Maryland, 2016

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	780	564	216	595	153	28
Allegany	15	9	6	15	0	0
Anne Arundel	92	64	28	80	6	<6
Baltimore City	77	57	20	31	45	0
Baltimore County	117	82	35	85	25	6
Calvert	14	8	6	s	<6	0
Caroline	<6	<6	0	<6	0	0
Carroll	26	20	6	26	0	0
Cecil	19	14	<6	s	0	<6
Charles	30	23	7	22	6	<6
Dorchester	<6	<6	0	<6	<6	0
Frederick	34	26	8	s	0	<6
Garrett	<6	<6	0	<6	0	0
Harford	39	30	9	s	<6	<6
Howard	24	20	<6	21	<6	<6
Kent	<6	<6	<6	<6	0	0
Montgomery	110	79	31	88	10	12
Prince George's	81	52	29	34	47	0
Queen Anne's	6	6	0	6	0	0
Saint Mary's	23	17	6	21	<6	0
Somerset	<6	<6	<6	<6	<6	0
Talbot	9	7	<6	9	0	0
Washington	22	18	<6	22	0	0
Wicomico	10	<6	<6	6	<6	0
Worcester	8	<6	<6	s	<6	0

Total includes cases reported as transexual, hermaphrodite, unknown gender, unknown race, and unknown jurisdiction

<6 = Case counts of 1-5 are suppressed per MDH/MCR Data Use Policy

s = Case counts are suppressed to prevent disclosure of data in other cell(s) (See Appendix A for methods)

Source: Maryland Cancer Registry, SEER*Stat Static data as of January 3, 2019

Table 49.
Oral Cancer Age-Adjusted Incidence Rates* by Jurisdiction, Gender, and Race, Maryland, 2016

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	10.8	17.0	5.7	12.5	7.8	5.9
Allegany	15.7	**	**	**	0.0	0.0
Anne Arundel	13.5	20.1	7.8	14.2	**	**
Baltimore City	11.8	19.6	5.9	14.8	10.9	0.0
Baltimore County	11.2	17.4	6.3	11.2	10.1	**
Calvert	**	**	**	**	**	0.0
Caroline	**	**	0.0	**	0.0	0.0
Carroll	12.0	17.9	**	12.7	0.0	0.0
Cecil	16.5	**	**	16.7	0.0	**
Charles	18.3	32.4	**	23.9	**	**
Dorchester	**	**	0.0	**	**	0.0
Frederick	11.1	16.8	**	12.2	0.0	**
Garrett	**	**	0.0	**	0.0	0.0
Harford	12.2	19.3	**	13.5	**	**
Howard	6.7	12.1	**	8.1	**	**
Kent	**	**	**	**	0.0	0.0
Montgomery	9.0	14.4	4.6	10.7	**	**
Prince George's	8.2	12.0	5.4	13.4	6.8	0.0
Queen Anne's	**	**	0.0	**	0.0	0.0
Saint Mary's	17.8	26.5	**	19.7	**	0.0
Somerset	**	**	**	**	**	0.0
Talbot	**	**	**	**	0.0	0.0
Washington	11.0	18.4	**	12.2	0.0	0.0
Wicomico	**	**	**	**	**	0.0
Worcester	**	**	**	**	**	0.0

* Rates are per 100,000 population and age-adjusted to 2000 U.S. standard population

** Rates based on case counts of 1-15 are suppressed per MDH/MCR Data Use Policy and Procedures

Source: Maryland Cancer Registry, SEER*Stat Static data as of January 3, 2019

Table 50.
Number of Deaths for Oral Cancer by Jurisdiction, Gender, and Race, Maryland, 2016

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	216	146	70	140	66	10
Allegany	<10	<10	<10	<10	<10	<10
Anne Arundel	24	s	<10	16	<10	<10
Baltimore City	36	22	14	s	23	<10
Baltimore County	35	17	18	29	<10	<10
Calvert	<10	<10	<10	<10	<10	<10
Caroline	<10	<10	<10	<10	<10	<10
Carroll	<10	<10	<10	<10	<10	<10
Cecil	<10	<10	<10	<10	<10	<10
Charles	<10	<10	<10	<10	<10	<10
Dorchester	<10	<10	<10	<10	<10	<10
Frederick	<10	<10	<10	<10	<10	<10
Garrett	<10	<10	<10	<10	<10	<10
Harford	<10	<10	<10	<10	<10	<10
Howard	<10	<10	<10	<10	<10	<10
Kent	<10	<10	<10	<10	<10	<10
Montgomery	19	s	<10	16	<10	<10
Prince George's	30	s	<10	s	16	<10
Queen Anne's	<10	<10	<10	<10	<10	<10
Saint Mary's	<10	<10	<10	<10	<10	<10
Somerset	<10	<10	<10	<10	<10	<10
Talbot	<10	<10	<10	<10	<10	<10
Washington	<10	<10	<10	<10	<10	<10
Wicomico	<10	<10	<10	<10	<10	<10
Worcester	<10	<10	<10	<10	<10	<10

<10 = Death counts or 0-9 are suppressed per MDH/CCPC Mortality Data Suppression Policy

s = Death counts are suppressed to prevent disclosure of data in other cell(s) (See Appendix A for methods)

Source: CDC Wonder, 2012-2016, as of March 5, 2019

Table 51.
Oral Cancer Age-Adjusted Mortality Rates* by Jurisdiction, Gender, and Race, Maryland, 2016

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	3.0	4.6	1.7	2.9	3.6	**
Allegany	**	**	**	**	**	**
Anne Arundel	3.4	**	**	**	**	**
Baltimore City	5.5	8.3	**	**	5.7	**
Baltimore County	3.2	**	**	3.4	**	**
Calvert	**	**	**	**	**	**
Caroline	**	**	**	**	**	**
Carroll	**	**	**	**	**	**
Cecil	**	**	**	**	**	**
Charles	**	**	**	**	**	**
Dorchester	**	**	**	**	**	**
Frederick	**	**	**	**	**	**
Garrett	**	**	**	**	**	**
Harford	**	**	**	**	**	**
Howard	**	**	**	**	**	**
Kent	**	**	**	**	**	**
Montgomery	**	**	**	**	**	**
Prince George's	3.1	5.2	**	**	**	**
Queen Anne's	**	**	**	**	**	**
Saint Mary's	**	**	**	**	**	**
Somerset	**	**	**	**	**	**
Talbot	**	**	**	**	**	**
Washington	**	**	**	**	**	**
Wicomico	**	**	**	**	**	**
Worcester	**	**	**	**	**	**

* Rates are per 100,000 population and age-adjusted to 2000 U.S. standard population

** Rates based on death counts of 0-19 are suppressed per MDH/CCPC Mortality Data Suppression Policy

Source: CDC Wonder, 2012-2016, as of March 5, 2019

Table 52.
Number of Oral Cancer Cases by Jurisdiction, Gender, and Race, Maryland, 2012-2016

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	3,747	2,632	1,115	2,823	759	142
Allegany	62	40	22	s	<6	0
Anne Arundel	416	295	121	373	31	9
Baltimore City	408	288	120	163	241	<6
Baltimore County	574	388	186	464	96	11
Calvert	77	58	19	64	12	0
Caroline	26	s	<6	s	<6	<6
Carroll	136	106	30	s	<6	<6
Cecil	94	71	23	84	6	<6
Charles	96	73	23	70	22	<6
Dorchester	28	25	<6	24	<6	0
Frederick	153	108	45	137	10	<6
Garrett	27	19	8	27	0	0
Harford	154	103	51	144	7	<6
Howard	162	111	51	123	23	14
Kent	26	16	10	24	<6	0
Montgomery	521	337	184	386	59	70
Prince George's	351	242	109	140	194	14
Queen Anne's	37	30	7	s	<6	0
Saint Mary's	94	66	28	79	13	<6
Somerset	22	18	<6	16	6	0
Talbot	41	31	10	39	<6	0
Washington	98	77	21	96	<6	0
Wicomico	78	56	22	58	18	<6
Worcester	55	40	15	48	<6	<6

Total includes cases reported as transexual, hermaphrodite, unknown gender, unknown race, and unknown jurisdiction

<6 = Case counts of 1-5 are suppressed per MDH/MCR Data Use Policy

s = Case counts are suppressed to prevent disclosure of data in other cell(s) (See Appendix A for methods)

Source: Maryland Cancer Registry, SEER*Stat Static data as of January 3, 2019

Table 53.
Oral Cancer Age-Adjusted Incidence Rates* by Jurisdiction, Gender, and Race, Maryland, 2012-2016

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	10.8	16.4	6.0	12.1	8.1	6.7
Allegany	13.1	17.1	8.5	13.6	**	0.0
Anne Arundel	12.9	19.4	7.3	13.9	7.1	**
Baltimore City	12.4	19.8	6.6	15.2	11.2	**
Baltimore County	11.1	16.8	6.5	12.2	9.0	**
Calvert	13.9	21.1	7.1	13.5	**	0.0
Caroline	12.9	27.8	**	14.0	**	**
Carroll	12.8	20.7	5.3	13.3	**	**
Cecil	15.1	22.7	7.7	14.3	**	**
Charles	12.0	19.2	5.7	14.4	7.0	**
Dorchester	13.9	27.3	**	15.8	**	0.0
Frederick	10.8	15.8	6.5	10.9	**	**
Garrett	12.9	20.7	**	13.0	0.0	0.0
Harford	9.8	13.7	6.4	10.7	**	**
Howard	9.3	13.4	5.8	10.2	8.1	**
Kent	14.4	19.4	**	15.8	**	0.0
Montgomery	9.0	12.9	5.9	9.6	6.6	7.7
Prince George's	7.5	11.7	4.2	11.1	6.1	**
Queen Anne's	10.5	17.6	**	11.1	**	0.0
Saint Mary's	15.6	21.9	9.5	15.8	**	**
Somerset	13.6	21.0	**	13.4	**	0.0
Talbot	14.0	22.0	**	15.4	**	0.0
Washington	10.1	16.5	4.4	10.7	**	0.0
Wicomico	13.2	21.0	6.7	13.4	13.4	**
Worcester	12.3	19.6	5.9	12.0	**	**

* Rates are per 100,000 population and age-adjusted to 2000 U.S. standard population

** Rates based on case counts of 1-15 are suppressed per MDH/MCR Data Use Policy and Procedures

Source: Maryland Cancer Registry, SEER*Stat Static data as of January 3, 2019

Table 54.
Number of Deaths for Oral Cancer by Jurisdiction, Gender, and Race, Maryland, 2012-2016

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	827	570	257	559	241	27
Allegany	22	14	<10	s	<10	<10
Anne Arundel	88	68	20	70	s	<10
Baltimore City	133	85	48	s	91	<10
Baltimore County	119	71	48	98	s	<10
Calvert	12	s	<10	<10	<10	<10
Caroline	<10	<10	<10	<10	<10	<10
Carroll	18	s	<10	s	<10	<10
Cecil	17	s	<10	14	<10	<10
Charles	23	s	<10	14	<10	<10
Dorchester	<10	<10	<10	<10	<10	<10
Frederick	23	s	<10	19	<10	<10
Garrett	<10	<10	<10	<10	<10	<10
Harford	24	14	10	21	<10	<10
Howard	24	s	<10	18	<10	<10
Kent	<10	<10	<10	<10	<10	<10
Montgomery	92	59	33	69	<10	s
Prince George's	106	75	31	s	62	<10
Queen Anne's	11	<10	<10	10	<10	<10
Saint Mary's	17	s	<10	16	<10	<10
Somerset	<10	<10	<10	<10	<10	<10
Talbot	10	<10	<10	<10	<10	<10
Washington	21	s	<10	s	<10	<10
Wicomico	27	s	<10	17	s	<10
Worcester	12	<10	<10	<10	<10	<10

<10 = Death counts of 1-9 are suppressed per MDH/CCPC Mortality Data Suppression Policy.

s = Death counts are suppressed to prevent disclosure of data in other cell(s). (See Appendix A for methods.)

Source: CDC Wonder, 2012-2016.

Table 55.
Oral Cancer Age-Adjusted Mortality Rates* by Jurisdiction, Gender, and Race, Maryland, 2012-2016

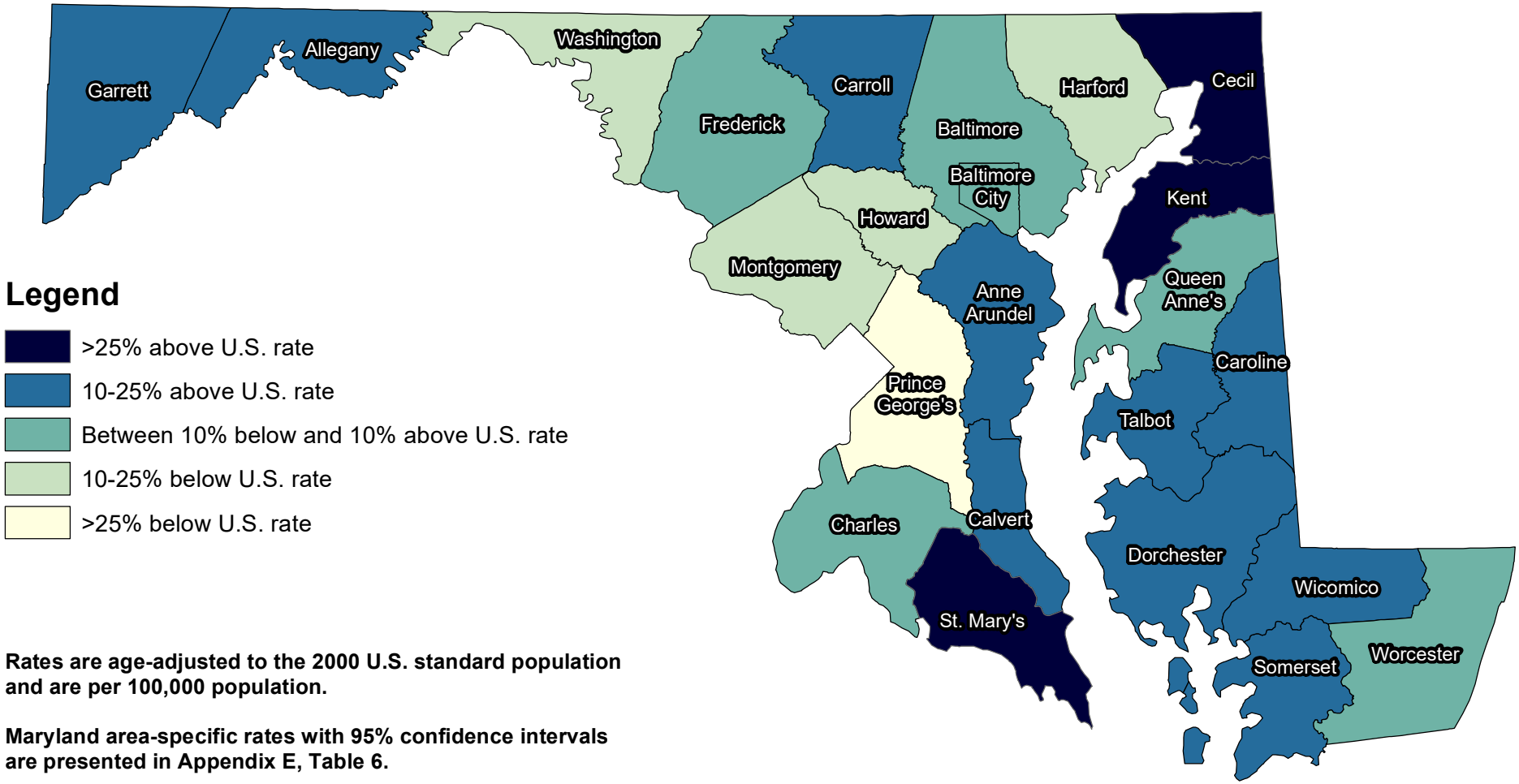
Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	2.4	3.7	1.4	2.4	2.8	1.3
Allegany	4.3	**	**	4.5	**	**
Anne Arundel	2.7	4.6	1.2	2.6	**	**
Baltimore City	4.2	6.4	2.5	3.8	4.4	**
Baltimore County	2.2	3.2	1.4	2.3	2.3	**
Calvert	**	**	**	**	**	**
Caroline	**	**	**	**	**	**
Carroll	**	**	**	**	**	**
Cecil	**	**	**	**	**	**
Charles	3.0	**	**	**	**	**
Dorchester	**	**	**	**	**	**
Frederick	1.8	**	**	**	**	**
Garrett	**	**	**	**	**	**
Harford	1.6	**	**	1.6	**	**
Howard	1.4	**	**	**	**	**
Kent	**	**	**	**	**	**
Montgomery	1.6	2.3	1.0	1.7	**	**
Prince George's	2.5	4.0	1.3	3.4	2.2	**
Queen Anne's	**	**	**	**	**	**
Saint Mary's	**	**	**	**	**	**
Somerset	**	**	**	**	**	**
Talbot	**	**	**	**	**	**
Washington	2.2	**	**	2.4	**	**
Wicomico	4.7	9.0	**	**	**	**
Worcester	**	**	**	**	**	**

* Rates are per 100,000 population and age-adjusted to 2000 U.S. standard population.

** Rates based on death counts of 0-19 are suppressed per MDH/CCPC Mortality Data Suppression Policy.

Source: CDC Wonder, 2012-2016.

Maryland Oral Cancer Incidence Rates by Geographical Area: Comparison to U.S. Rate, 2012-2016



Rates are age-adjusted to the 2000 U.S. standard population and are per 100,000 population.

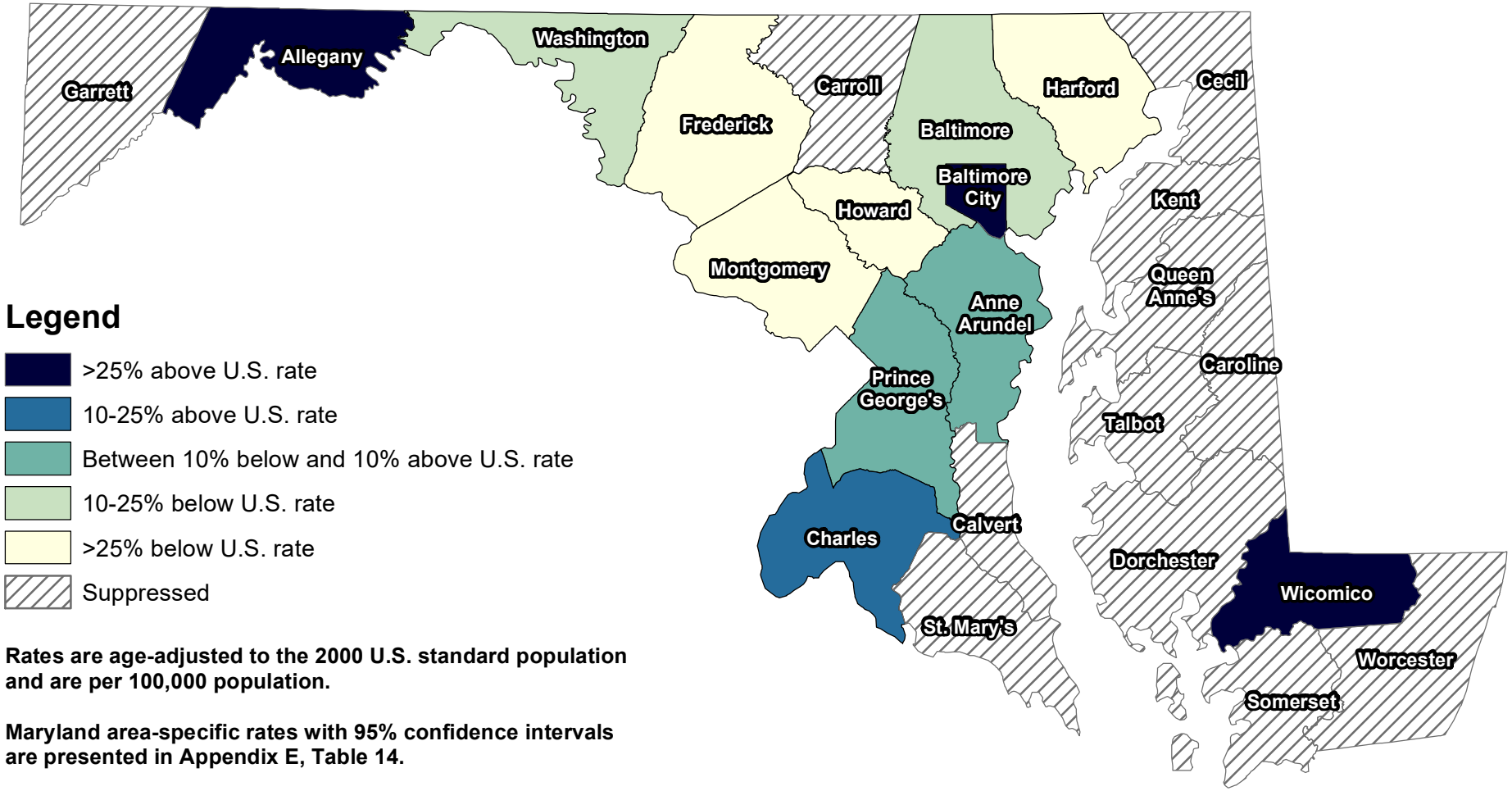
Maryland area-specific rates with 95% confidence intervals are presented in Appendix E, Table 6.

U.S. oral cancer incidence rate, 2012-2016: 11.3 / 100,000

Maryland oral cancer incidence rate, 2012-2016: 10.8 / 100,000

Sources: Maryland Cancer Registry
U.S. SEER, SEER*Stat Database

Maryland Oral Cancer Mortality Rates by Geographical Area: Comparison to U.S. Rate, 2012-2016



Legend

- >25% above U.S. rate
- 10-25% above U.S. rate
- Between 10% below and 10% above U.S. rate
- 10-25% below U.S. rate
- >25% below U.S. rate
- Suppressed

Rates are age-adjusted to the 2000 U.S. standard population and are per 100,000 population.

Maryland area-specific rates with 95% confidence intervals are presented in Appendix E, Table 14.

U.S. oral cancer mortality rate, 2012-2016: 2.5 / 100,000

Maryland oral cancer mortality rate, 2012-2016: 2.4 / 100,000

Sources: Maryland Cancer Registry
U.S. SEER, SEER*Stat Database

Note: Rates based on case counts of 0-19 are suppressed per MDH/CCPC Data Use Policy and Procedures.

F. Melanoma of the Skin

There are three major types of skin cancer: basal cell carcinoma, squamous cell carcinoma, and melanoma. Basal cell and squamous cell carcinoma are the most common forms of skin cancer and are not reportable to the MCR. Melanoma is less frequent but is the most serious type of skin cancer and is reportable to the MCR.

Incidence (New Cases)

In 2016, a total of 1,649 cases of melanoma of the skin were reported in Maryland. The age-adjusted incidence rate for melanoma in 2016 was 24.1 per 100,000 population (23.0-25.4, 95% CI), which is statistically similar to the 2016 U.S. SEER age-adjusted melanoma incidence rate of 23.2 per 100,000 population (22.9-23.5, 95% CI).

Mortality (Deaths)

In 2016, a total of 140 persons died of melanoma in Maryland. The 2016 age-adjusted mortality rate for melanoma in Maryland was 2.1 per 100,000 population (1.7-2.4, 95% CI). This rate is statistically similar to the 2016 U.S. melanoma of the skin mortality rate of 2.2 per 100,000 population (2.1-2.2, 95% CI). Maryland had the 44th highest melanoma cancer mortality rate among the states and the District of Columbia for the period from 2012 to 2016.

Table 56.
Melanoma Incidence and Mortality Rates
by Gender and Race, Maryland (MD) and the United States, 2016

Incidence 2016	*Total**	*Males*	*Females*	*Whites*	*Blacks*	*Other*
MD New Cases (count)	1,649	954	695	1,593	17	7
MD Incidence Rate	24.1	31.6	18.8	35.5	0.8	**
U.S. SEER Rate	23.2	30.1	18.2	27.8	0.8	1.6
Mortality 2016	*Total*	*Males*	*Females*	*Whites*	*Blacks*	*Other*
MD Deaths (count)	140	101	39	136	<10	<10
MD Mortality Rate	2.1	3.5	1.0	3.0	**	**
U.S. Mortality Rate	2.2	3.2	1.3	2.5	0.3	N/A

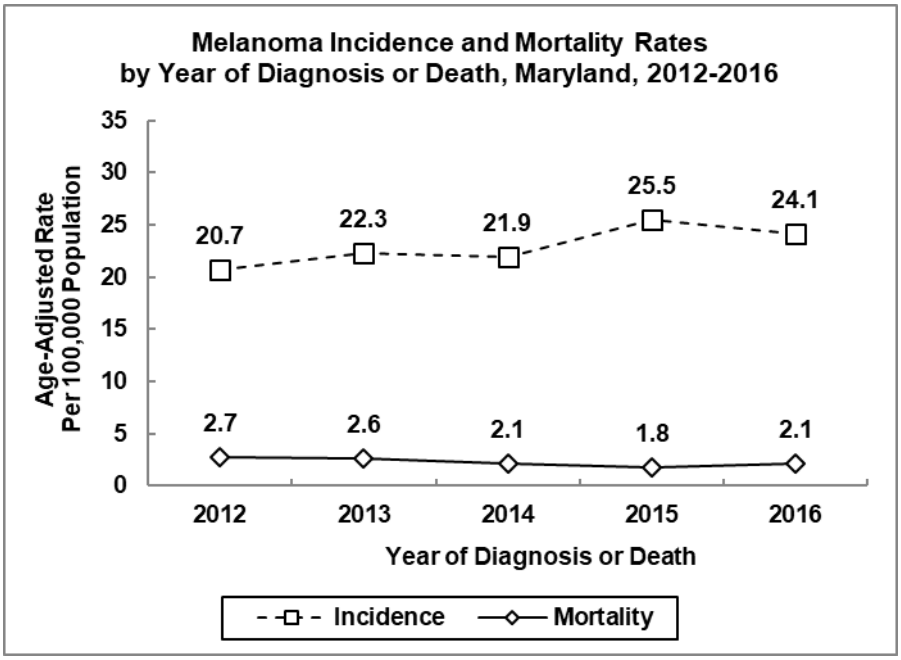
Rates are per 100,000 population and are age-adjusted to 2000 U.S. standard population

* Total also includes cases reported as transsexual, hermaphrodite, unknown gender, unknown race, and unknown county

<10 = Death counts of 0-9 are suppressed per MDH/CCPC Mortality Data Suppression Policy

** MD incidence rates based on case counts of 1-15 are suppressed per MDH/MCR Data Use Policy and Procedures; MD mortality rates based on death counts of 0-19 are suppressed per MDH/CCPC Mortality Data Suppression Policy

Source: Maryland Cancer Registry
U.S. SEER, SEER*Stat
NCHS Compressed Mortality File in CDC WONDER, 2016
U.S. SEER, Cancer Statistics Review



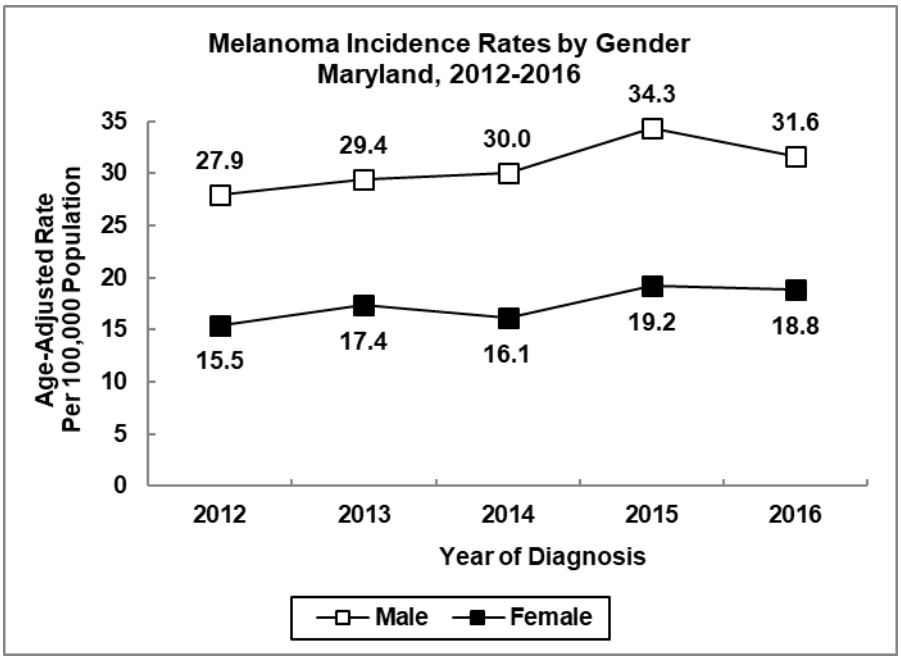
Source: Maryland Cancer Registry
NCHS Compressed Mortality File in CDC WONDER, 2012-2016

Incidence and Mortality Trends

Melanoma incidence rates in Maryland increased at a rate of 4.5% per year from 2012 to 2016.

Melanoma mortality rates decreased at a rate of 8.3% per year from 2012 to 2016.

See Appendix F, Tables 1 and 2.

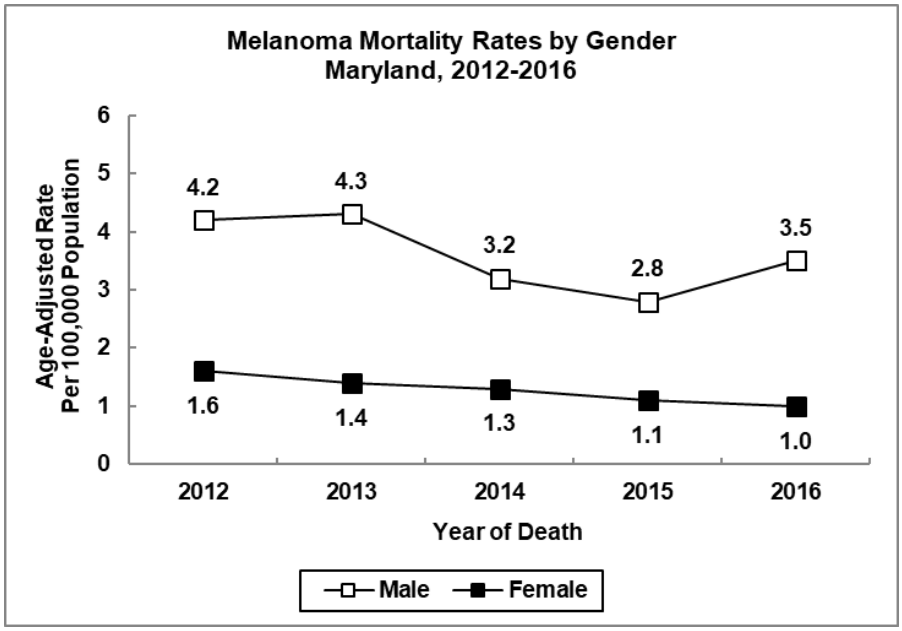


Source: Maryland Cancer Registry

Incidence Trends by Gender

Over the 5-year period from 2012 to 2016, incidence rates increased at a rate of 4.1% per year among males and increased at a rate of 5.0% per year among females. In 2016, melanoma incidence rates were 68.1% higher among males than females in Maryland.

See Appendix F, Table 4.



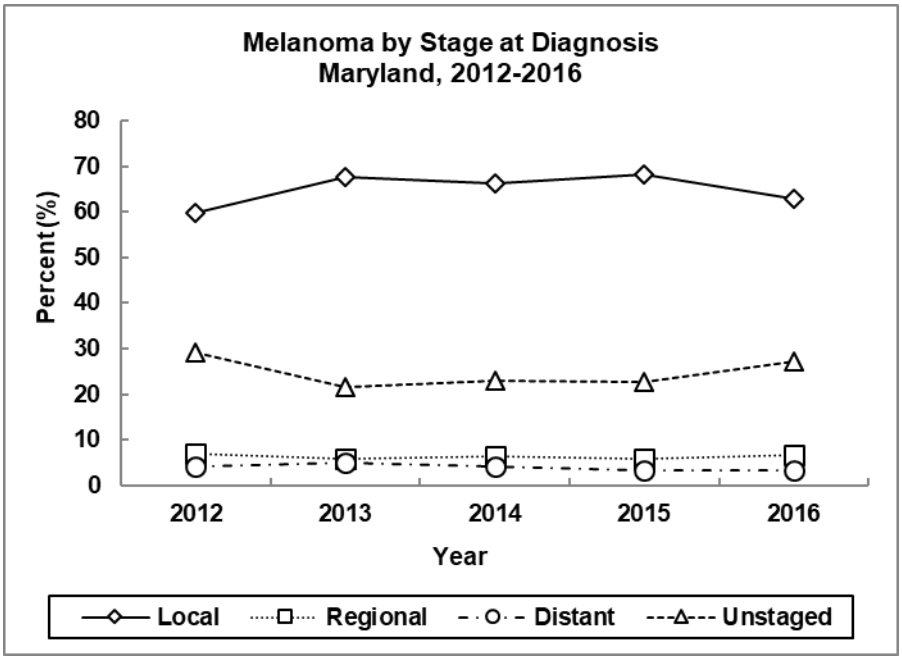
Source: NCHS Compressed Mortality File in CDC WONDER, 2012-2016

Mortality Trends by Gender

Melanoma mortality rates in males decreased at a rate of 7.6% per year from 2012 to 2016. Female melanoma mortality rates also decreased at a rate of 11.1% per year in the same time period.

In 2016, melanoma mortality rates in Maryland were more than two times higher among men, compared to women.

See Appendix F, Table 6.



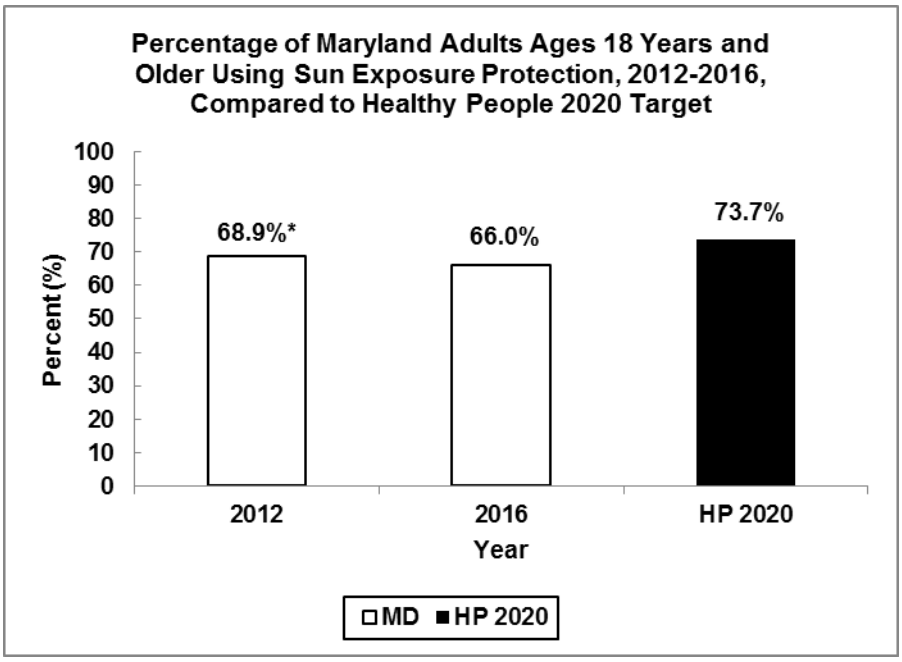
Source: Maryland Cancer Registry
Note: Due to a methodology change, SEER summary stage 2000 was used in 2016, while the derived SEER summary stage 2000 was used from 2012 to 2015

Stage at Diagnosis

During the 5-year period from 2012 to 2016, the percent of new melanoma cases diagnosed at the local stage increased 1.1% per year.

In 2016, 62.8% of all melanoma was diagnosed at the local stage, 6.7% was found at the regional stage, and 3.3% was found at the distant stage. The proportion of melanoma reported as unstaged was 27.1%.

See Appendix G, Table 7.



Source: Maryland BRFSS 2012, 2016
Healthy People 2020, U.S. Department of Health and Human Services

* Due to an error in the data set, the 2012 estimate was incorrectly reported as 67.7% in some previous CRF reports. It has been corrected in this version.

** The Healthy People 2020 estimate is based on adults who reported being very likely to perform the following protective measures: limit sun exposure, use sunscreen, or wear protective clothing.

*** The Maryland BRFSS 2012 and 2016 estimates are based on adults who reported "always" or "almost always" using one or more of the following measures: limiting exposure to the sun between 10 am and 4 pm, using sunscreen lotion with a sun protection factor (SPF) of 15 or higher when outdoors, wearing a hat when outdoors on a sunny day, and/or wearing protective clothing when outdoors on a sunny day. These estimates exclude adults who reported not going out in the sun.

Sun Exposure Protection

The Healthy People 2020 target is to increase the percentage of persons age 18 years and older who follow sun exposure protective measures that may reduce the risk of skin cancer to 73.7%.**

In 2016, 66.0% of Maryland adults used at least one method of protection against sun exposure.*** This number excludes adults who reported that they do not go out in the sun. From 2012 to 2016, there was a statistically significant increase in the percentage of Maryland adults who reported that they do not go out in the sun (2.4% and 7.5%, respectively).

Table 57.
Number of Melanoma Cases by Jurisdiction, Gender, and Race, Maryland, 2016

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	1,649	954	695	1,593	17	7
Allegany	16	13	<6	16	0	0
Anne Arundel	210	115	95	206	0	0
Baltimore City	77	42	35	s	<6	<6
Baltimore County	293	177	116	279	<6	<6
Calvert	32	17	15	32	0	0
Caroline	13	9	<6	13	0	0
Carroll	83	49	34	s	0	<6
Cecil	39	21	18	39	0	0
Charles	29	15	14	26	<6	0
Dorchester	10	<6	<6	10	0	0
Frederick	76	39	37	76	0	0
Garrett	16	11	<6	16	0	0
Harford	108	69	39	101	0	<6
Howard	78	45	33	78	0	0
Kent	16	11	<6	16	0	0
Montgomery	217	130	87	207	<6	<6
Prince George's	47	26	21	42	<6	<6
Queen Anne's	46	26	20	44	<6	0
Saint Mary's	29	18	11	27	<6	0
Somerset	12	<6	7	12	0	0
Talbot	38	24	14	s	<6	0
Washington	45	26	19	44	0	0
Wicomico	32	11	21	s	<6	0
Worcester	39	26	13	39	0	0

Total includes cases reported as transexual, hermaphrodite, unknown gender, unknown race, and unknown jurisdiction

<6 = Case counts of 1-5 are suppressed per MDH/MCR Data Use Policy

s = Case counts are suppressed to prevent disclosure of data in other cell(s) (See Appendix A for methods)

Source: Maryland Cancer Registry, SEER*Stat Static data as of January 3, 2019

Table 58.
Melanoma Age-Adjusted Incidence Rates* by Jurisdiction, Gender, and Race, Maryland, 2016

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	24.1	31.6	18.8	35.5	0.8	**
Allegany	15.7	**	**	16.5	0.0	0.0
Anne Arundel	32.5	38.1	27.7	39.4	0.0	0.0
Baltimore City	12.1	17.3	9.2	36.1	**	**
Baltimore County	28.4	39.4	21.1	37.9	**	**
Calvert	30.8	37.0	**	36.6	0.0	0.0
Caroline	**	**	**	**	0.0	0.0
Carroll	41.5	53.8	33.2	43.5	0.0	**
Cecil	35.7	43.9	30.7	38.5	0.0	0.0
Charles	18.7	**	**	30.7	**	0.0
Dorchester	**	**	**	**	0.0	0.0
Frederick	25.5	28.4	22.7	29.2	0.0	0.0
Garrett	35.0	**	**	35.3	0.0	0.0
Harford	35.7	50.2	24.1	39.0	0.0	**
Howard	23.4	30.2	18.2	35.7	0.0	0.0
Kent	49.7	**	**	59.1	0.0	0.0
Montgomery	18.5	24.9	13.8	26.3	**	**
Prince George's	5.3	7.2	4.0	17.4	**	**
Queen Anne's	70.7	81.6	61.4	74.5	**	0.0
Saint Mary's	24.5	29.9	**	27.2	**	0.0
Somerset	**	**	**	**	0.0	0.0
Talbot	58.8	81.5	**	65.4	**	0.0
Washington	23.8	28.1	20.7	25.7	0.0	0.0
Wicomico	28.3	**	37.4	37.7	**	0.0
Worcester	50.1	67.1	**	58.2	0.0	0.0

* Rates are per 100,000 population and age-adjusted to 2000 U.S. standard population

** Rates based on case counts of 1-15 are suppressed per MDH/MCR Data Use Policy and Procedures

Source: Maryland Cancer Registry, SEER*Stat Static data as of January 3, 2019

Table 59.
Number of Deaths for Melanoma by Jurisdiction, Gender, and Race, Maryland, 2016

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	140	101	39	136	<10	<10
Allegany	<10	<10	<10	<10	<10	<10
Anne Arundel	14	s	<10	s	<10	<10
Baltimore City	<10	<10	<10	<10	<10	<10
Baltimore County	29	s	<10	28	<10	<10
Calvert	<10	<10	<10	<10	<10	<10
Caroline	<10	<10	<10	<10	<10	<10
Carroll	<10	<10	<10	<10	<10	<10
Cecil	<10	<10	<10	<10	<10	<10
Charles	<10	<10	<10	<10	<10	<10
Dorchester	<10	<10	<10	<10	<10	<10
Frederick	<10	<10	<10	<10	<10	<10
Garrett	<10	<10	<10	<10	<10	<10
Harford	<10	<10	<10	<10	<10	<10
Howard	<10	<10	<10	<10	<10	<10
Kent	<10	<10	<10	<10	<10	<10
Montgomery	15	s	<10	14	<10	<10
Prince George's	<10	<10	<10	<10	<10	<10
Queen Anne's	<10	<10	<10	<10	<10	<10
Saint Mary's	<10	<10	<10	<10	<10	<10
Somerset	<10	<10	<10	<10	<10	<10
Talbot	<10	<10	<10	<10	<10	<10
Washington	10	<10	<10	s	<10	<10
Wicomico	<10	<10	<10	<10	<10	<10
Worcester	<10	<10	<10	<10	<10	<10

<10 = Death counts or 0-9 are suppressed per MDH/CCPC Mortality Data Suppression Policy

s = Death counts are suppressed to prevent disclosure of data in other cell(s) (See Appendix A for methods)

Source: CDC Wonder, 2012-2016, as of March 5, 2019

Table 60.
Melanoma Age-Adjusted Mortality Rates* by Jurisdiction, Gender, and Race, Maryland, 2016

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	2.1	3.5	1.0	3.0	**	**
Allegany	**	**	**	**	**	**
Anne Arundel	**	**	**	**	**	**
Baltimore City	**	**	**	**	**	**
Baltimore County	2.6	4.6	**	3.4	**	**
Calvert	**	**	**	**	**	**
Caroline	**	**	**	**	**	**
Carroll	**	**	**	**	**	**
Cecil	**	**	**	**	**	**
Charles	**	**	**	**	**	**
Dorchester	**	**	**	**	**	**
Frederick	**	**	**	**	**	**
Garrett	**	**	**	**	**	**
Harford	**	**	**	**	**	**
Howard	**	**	**	**	**	**
Kent	**	**	**	**	**	**
Montgomery	**	**	**	**	**	**
Prince George's	**	**	**	**	**	**
Queen Anne's	**	**	**	**	**	**
Saint Mary's	**	**	**	**	**	**
Somerset	**	**	**	**	**	**
Talbot	**	**	**	**	**	**
Washington	**	**	**	**	**	**
Wicomico	**	**	**	**	**	**
Worcester	**	**	**	**	**	**

* Rates are per 100,000 population and age-adjusted to 2000 U.S. standard population

** Rates based on death counts of 0-19 are suppressed per MDH/CCPC Mortality Data Suppression Policy

Source: CDC Wonder, 2012-2016, as of March 5, 2019

Table 61.
Number of Melanoma Cases by Jurisdiction, Gender, and Race, Maryland, 2012-2016

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	7,590	4,514	3,073	7,400	80	30
Allegany	93	62	31	93	0	0
Anne Arundel	994	581	413	982	<6	<6
Baltimore City	334	180	154	322	8	<6
Baltimore County	1,463	895	568	1,432	14	<6
Calvert	146	81	65	s	<6	0
Caroline	48	29	19	48	0	0
Carroll	335	203	132	329	<6	<6
Cecil	185	97	88	183	<6	0
Charles	161	105	56	152	8	0
Dorchester	38	21	17	38	0	0
Frederick	354	195	159	352	0	<6
Garrett	49	25	24	s	0	<6
Harford	500	312	187	486	<6	<6
Howard	397	219	177	385	<6	<6
Kent	49	27	22	49	0	0
Montgomery	1,093	688	405	1,052	8	12
Prince George's	258	152	106	236	14	<6
Queen Anne's	153	92	61	151	<6	0
Saint Mary's	166	100	65	160	<6	0
Somerset	39	15	24	39	0	0
Talbot	111	67	44	107	<6	0
Washington	211	130	81	209	<6	0
Wicomico	172	86	86	169	<6	0
Worcester	175	116	59	s	0	<6

Total includes cases reported as transexual, hermaphrodite, unknown gender, unknown race, and unknown jurisdiction

<6 = Case counts of 1-5 are suppressed per MDH/MCR Data Use Policy

s = Case counts are suppressed to prevent disclosure of data in other cell(s) (See Appendix A for methods)

Source: Maryland Cancer Registry, SEER*Stat Static data as of January 3, 2019

Table 62.
Melanoma Age-Adjusted Incidence Rates* by Jurisdiction, Gender, and Race, Maryland, 2012-2016

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	23.0	30.7	17.4	33.6	1.0	1.5
Allegany	19.3	27.3	14.2	20.5	0.0	0.0
Anne Arundel	32.2	40.9	25.7	38.7	**	**
Baltimore City	10.2	13.6	8.2	29.3	**	**
Baltimore County	29.5	41.1	21.5	39.7	**	**
Calvert	30.4	36.6	26.0	35.7	**	0.0
Caroline	25.5	34.1	18.6	30.0	0.0	0.0
Carroll	34.8	45.3	26.6	36.0	**	**
Cecil	32.9	37.4	30.5	35.0	**	0.0
Charles	21.5	32.4	13.4	35.2	**	0.0
Dorchester	17.2	17.8	17.1	23.1	0.0	0.0
Frederick	26.3	30.9	22.7	29.7	0.0	**
Garrett	23.6	26.4	21.9	23.4	0.0	**
Harford	35.0	47.4	25.0	39.3	**	**
Howard	24.0	29.4	19.9	34.0	**	**
Kent	30.9	31.9	29.8	36.3	0.0	0.0
Montgomery	18.8	26.7	13.0	26.4	**	**
Prince George's	6.1	9.0	4.2	19.3	**	**
Queen Anne's	49.0	60.2	39.9	53.0	**	0.0
Saint Mary's	29.6	36.4	23.3	34.1	**	0.0
Somerset	25.4	**	33.1	37.0	0.0	0.0
Talbot	38.6	47.6	31.0	42.5	**	0.0
Washington	23.7	31.1	18.1	25.6	**	0.0
Wicomico	30.9	33.1	30.5	40.8	**	0.0
Worcester	45.6	61.1	32.7	52.4	0.0	**

* Rates are per 100,000 population and age-adjusted to 2000 U.S. standard population

** Rates based on case counts of 1-15 are suppressed per MDH/MCR Data Use Policy and Procedures

Source: Maryland Cancer Registry, SEER*Stat Static data as of January 3, 2019

Table 63.
Number of Deaths for Melanoma by Jurisdiction, Gender, and Race, Maryland, 2012-2016

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	731	493	238	693	s	<10
Allegany	12	<10	<10	s	<10	<10
Anne Arundel	89	65	24	84	<10	<10
Baltimore City	49	34	15	44	<10	<10
Baltimore County	136	92	44	131	<10	<10
Calvert	<10	<10	<10	<10	<10	<10
Caroline	<10	<10	<10	<10	<10	<10
Carroll	37	26	11	36	<10	<10
Cecil	25	s	<10	s	<10	<10
Charles	14	s	<10	s	<10	<10
Dorchester	<10	<10	<10	<10	<10	<10
Frederick	29	18	11	s	<10	<10
Garrett	<10	<10	<10	<10	<10	<10
Harford	39	s	<10	s	<10	<10
Howard	25	13	12	23	<10	<10
Kent	<10	<10	<10	<10	<10	<10
Montgomery	99	60	39	93	<10	<10
Prince George's	58	40	18	44	s	<10
Queen Anne's	<10	<10	<10	<10	<10	<10
Saint Mary's	16	s	<10	s	<10	<10
Somerset	<10	<10	<10	<10	<10	<10
Talbot	10	<10	<10	s	<10	<10
Washington	32	16	16	s	<10	<10
Wicomico	12	s	<10	s	<10	<10
Worcester	14	s	<10	s	<10	<10

<10 = Death counts or 0-9 are suppressed per MDH/CCPC Mortality Data Suppression Policy

s = Death counts are suppressed to prevent disclosure of data in other cell(s) (See Appendix A for methods)

Source: CDC Wonder, 2012-2016, as of March 5, 2019

Table 64.
Melanoma Age-Adjusted Mortality Rates* by Jurisdiction, Gender, and Race, Maryland, 2012-2016

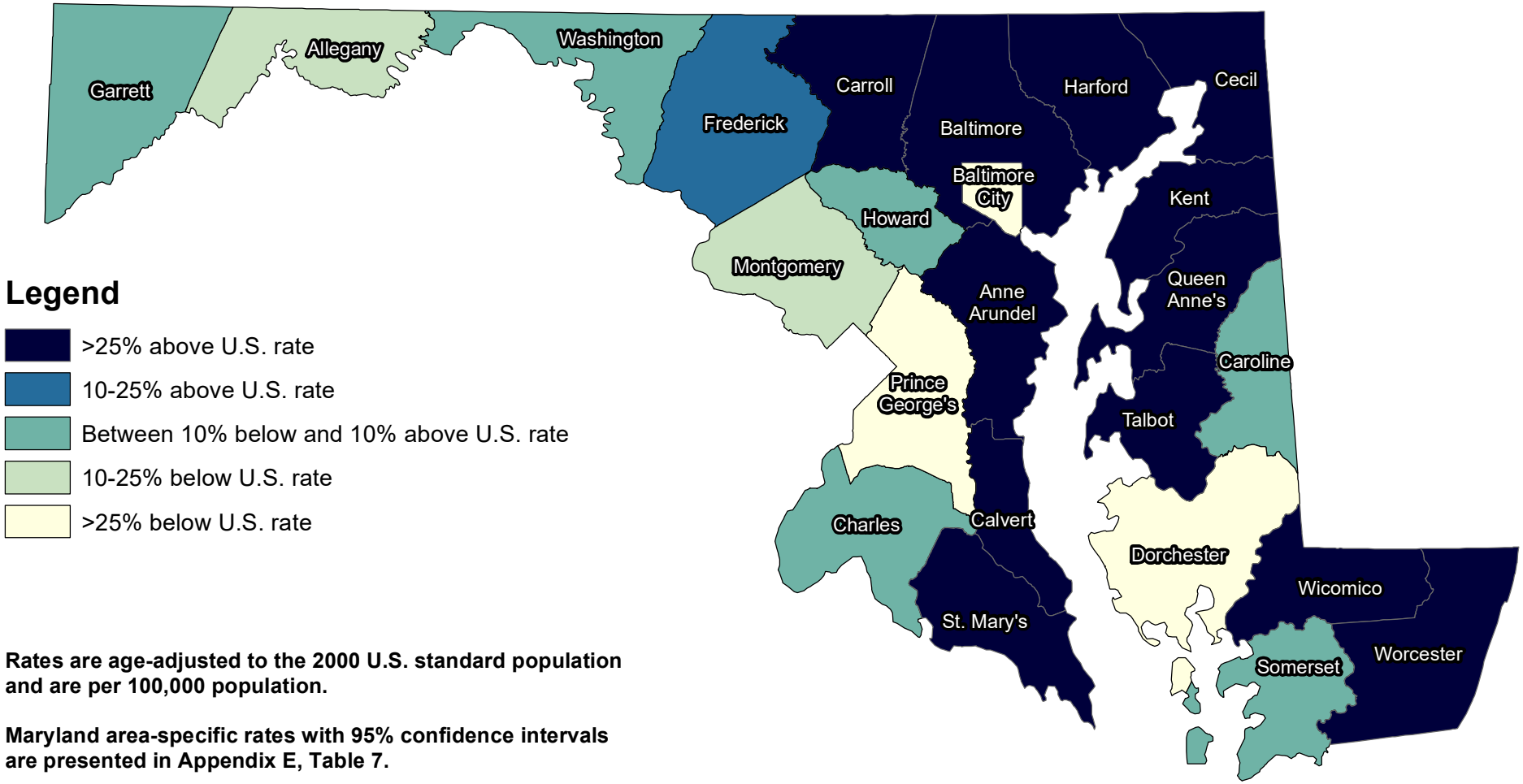
Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	2.2	3.6	1.3	3.1	0.4	**
Allegany	**	**	**	**	**	**
Anne Arundel	2.9	4.8	1.4	3.3	**	**
Baltimore City	1.5	2.6	**	4.0	**	**
Baltimore County	2.7	4.3	1.5	3.4	**	**
Calvert	**	**	**	**	**	**
Caroline	**	**	**	**	**	**
Carroll	3.9	6.0	**	4.0	**	**
Cecil	5.2	**	**	5.5	**	**
Charles	**	**	**	**	**	**
Dorchester	**	**	**	**	**	**
Frederick	2.3	**	**	2.6	**	**
Garrett	**	**	**	**	**	**
Harford	2.7	5.1	**	3.1	**	**
Howard	1.5	**	**	1.9	**	**
Kent	**	**	**	**	**	**
Montgomery	1.6	2.4	1.1	2.1	**	**
Prince George's	1.5	2.6	**	3.8	**	**
Queen Anne's	**	**	**	**	**	**
Saint Mary's	**	**	**	**	**	**
Somerset	**	**	**	**	**	**
Talbot	**	**	**	**	**	**
Washington	3.5	**	**	3.8	**	**
Wicomico	**	**	**	**	**	**
Worcester	**	**	**	**	**	**

* Rates are per 100,000 population and age-adjusted to 2000 U.S. standard population

** Rates based on death counts of 0-19 are suppressed per MDH/CCPC Mortality Data Suppression Policy

Source: CDC Wonder, 2012-2016, as of March 5, 2019

Maryland Melanoma Cancer Incidence Rates by Geographical Area: Comparison to U.S. Rate, 2012-2016



Rates are age-adjusted to the 2000 U.S. standard population and are per 100,000 population.

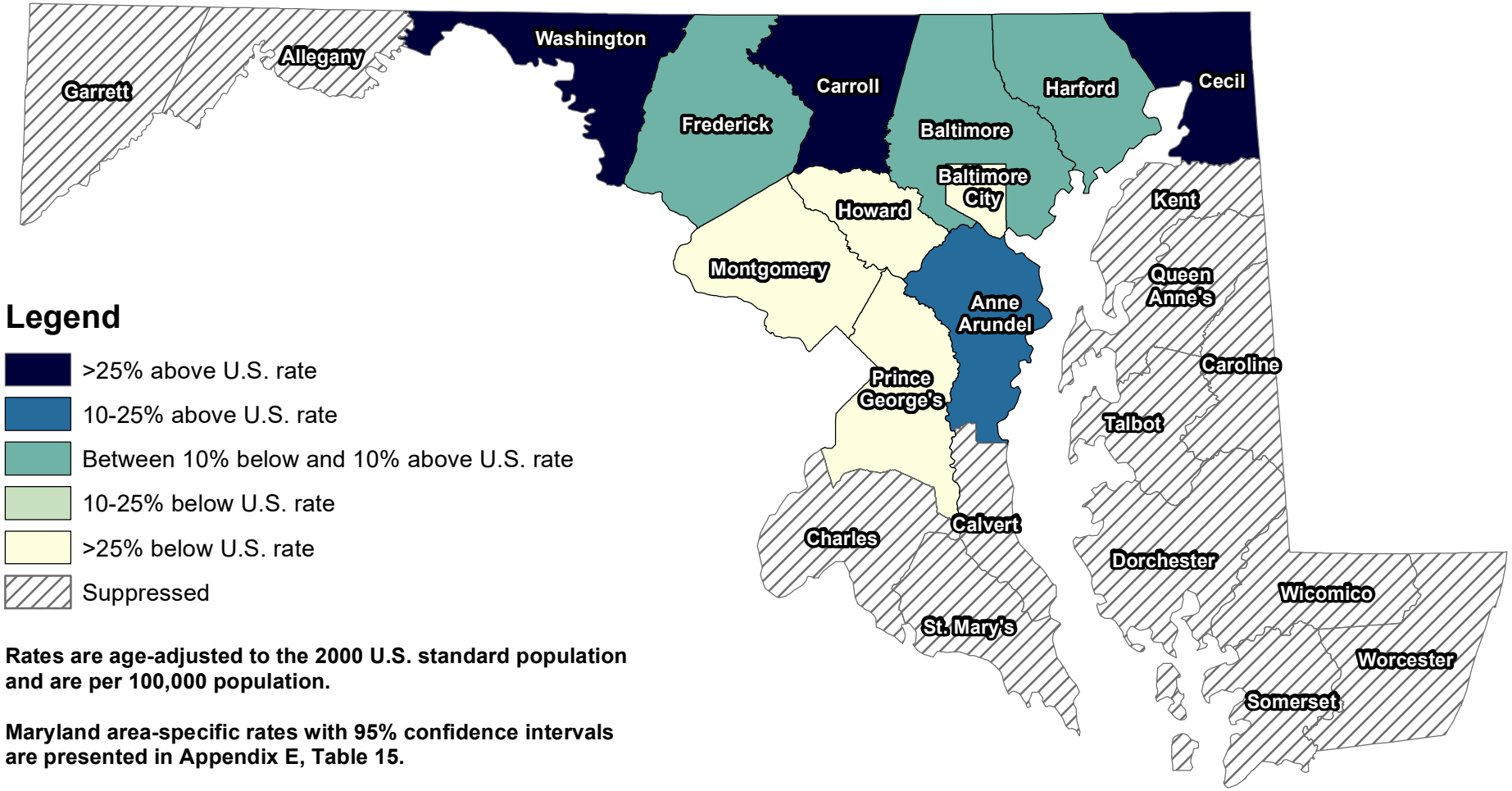
Maryland area-specific rates with 95% confidence intervals are presented in Appendix E, Table 7.

U.S. melanoma cancer incidence rate, 2012-2016: 23.2 / 100,000

Maryland melanoma cancer incidence rate, 2012-2016: 23.0 / 100,000

Sources: Maryland Cancer Registry
U.S. SEER, SEER*Stat Database

Maryland Melanoma Cancer Mortality Rates by Geographical Area: Comparison to U.S. Rate, 2012-2016



Legend

- >25% above U.S. rate
- 10-25% above U.S. rate
- Between 10% below and 10% above U.S. rate
- 10-25% below U.S. rate
- >25% below U.S. rate
- Suppressed

Rates are age-adjusted to the 2000 U.S. standard population and are per 100,000 population.

Maryland area-specific rates with 95% confidence intervals are presented in Appendix E, Table 15.

U.S. melanoma cancer mortality rate, 2012-2016: 2.5 / 100,000

Maryland melanoma cancer mortality rate, 2012-2016: 2.2 / 100,000

Sources: Maryland Cancer Registry
U.S. SEER, SEER*Stat Database

Note: Rates based on case counts of 0-19 are suppressed per MDH/CCPC Data Use Policy and Procedures.

G. Cervical Cancer

Incidence (New Cases)

A total of 215 cases of cervical cancer among women in Maryland were reported in 2016. The age-adjusted incidence rate for cervical cancer in Maryland in 2016 was 6.5 per 100,000 women (5.6-7.4, 95% CI), which is not statistically significantly different than the 2016 U.S. SEER age-adjusted cervical cancer incidence rate of 7.4 per 100,000 women (7.2-7.7, 95% CI).

Mortality (Deaths)

In 2016, a total of 76 women died of cervical cancer in Maryland. The age-adjusted cervical cancer mortality rate in Maryland in 2016 was 2.0 per 100,000 women (1.6-2.6, 95% CI). This rate is statistically similar to the 2016 U.S. cervical cancer mortality rate of 2.2 per 100,000 women (2.2-2.3, 95% CI). Maryland had the 31st highest cervical cancer mortality rate among the states and the District of Columbia for the period from 2012 to 2016.

Table 65.
Cervical Cancer Incidence and Mortality Rates
by Race, Maryland (MD) and the United States, 2016

Incidence 2016	*Total**	*Whites*	*Blacks*	*Other*
MD New Cases (count)	215	125	71	12
MD Incidence Rate	6.5	6.3	6.7	**
U.S. SEER Rate	7.4	7.5	7.8	5.8
Mortality 2016	*Total*	*Whites*	*Blacks*	*Other*
MD Deaths (count)	76	40	s	<10
MD Mortality Rate	2.0	1.7	2.8	**
U.S. Mortality Rate	2.2	2.2	3.1	N/A

Rates are per 100,000 women and are age-adjusted to 2000 U.S. standard population

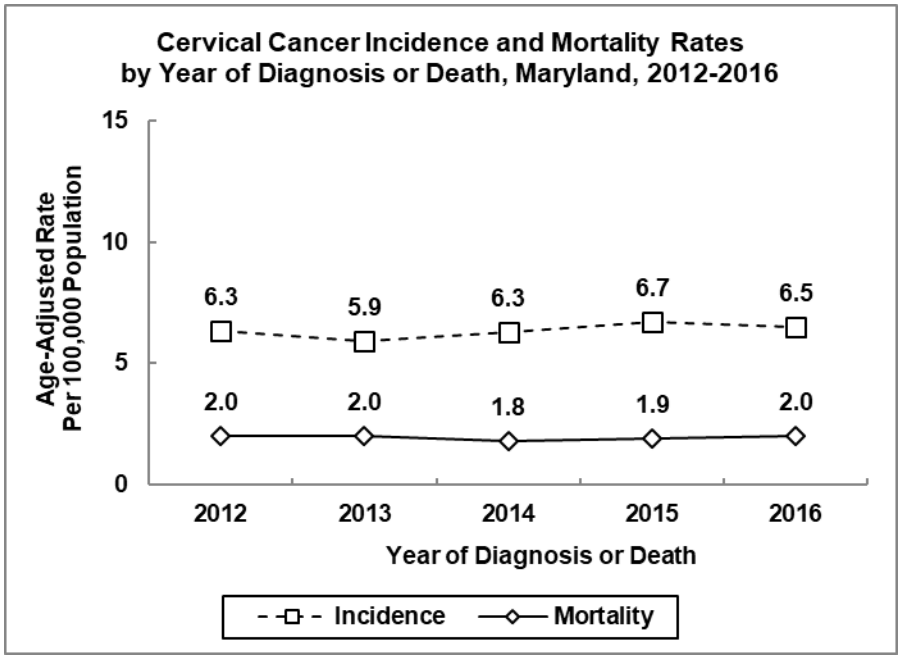
* Total includes unknown race and unknown county

<10 = Death counts of 0-9 are suppressed per MDH/CCPC Mortality Data Suppression Policy

s = Counts are suppressed to prevent disclosure of data in other cell(s) based on Table 68

** MD incidence rates based on case counts of 1-15 are suppressed per MDH/MCR Data Use Policy and Procedures; MD mortality rates based on death counts of 0-19 are suppressed per MDH/CCPC Mortality Data Suppression Policy

Source: Maryland Cancer Registry
U.S. SEER, SEER*Stat
NCHS Compressed Mortality File in CDC WONDER, 2016
U.S. SEER, Cancer Statistics Review



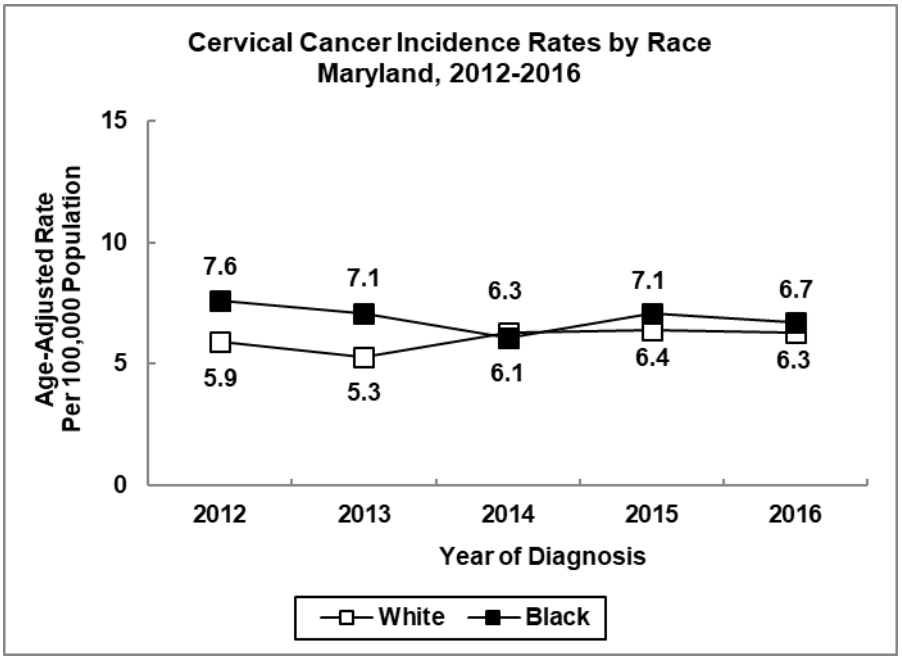
Source: Maryland Cancer Registry
NCHS Compressed Mortality File in CDC WONDER, 2012-2016

Incidence and Mortality Trends

Cervical cancer incidence rates among Maryland women increased at a rate of 1.9% per year from 2012 to 2016.

Cervical cancer mortality rates decreased at a rate of 0.5% per year from 2012 to 2016.

See Appendix F, Tables 1 and 2.

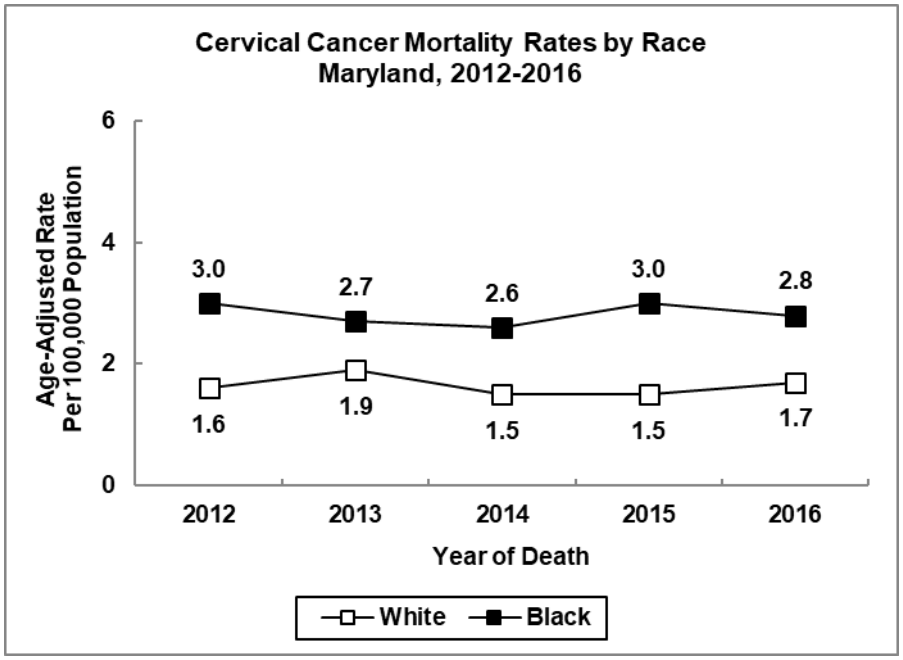


Source: Maryland Cancer Registry

Incidence Trends by Race

From 2012 to 2016, cervical cancer incidence rates among black females decreased at a rate of 2.5% per year and increased at a rate of 3.2% per year among white females.

See Appendix F, Table 3.

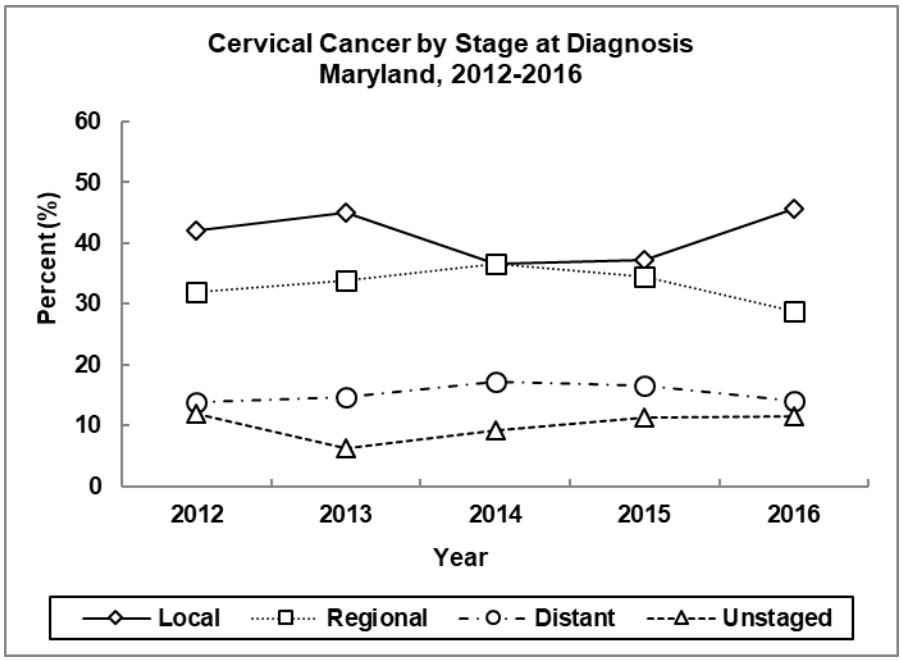


Source: NCHS Compressed Mortality File in CDC WONDER, 2012-2016

Mortality Trends by Race

From 2012 to 2016, mortality rates decreased at a rate of 0.3% per year for black females and decreased at a rate of 1.1% per year for white females.

See Appendix F, Table 5.

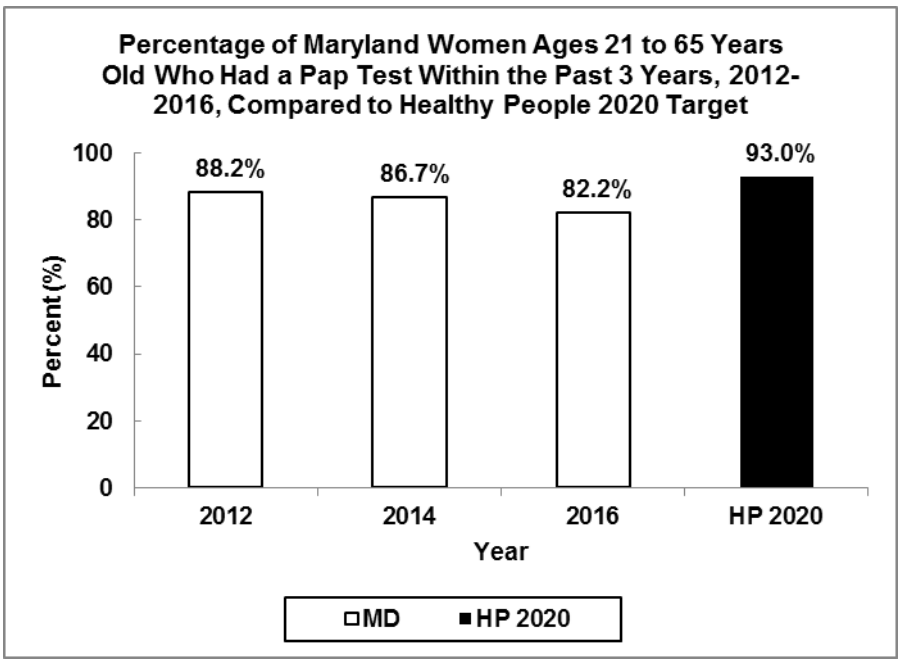


Source: Maryland Cancer Registry
Note: Due to a methodology change, SEER summary stage 2000 was used in 2016, while the derived SEER summary stage 2000 was used from 2012 to 2015

Stage at Diagnosis

In 2016, 45.6% of all cervical cancer cases in Maryland were diagnosed at the local stage, 28.8% were diagnosed at the regional stage, and 14.0% were found at the distant stage. The proportion of cervical cancer cases reported as unstaged increased in 2016 to 11.6%.

See Appendix G, Table 8.



Source: Maryland BRFSS 2012, 2014, 2016
Healthy People 2020, U.S. Department of Health and Human Services

Cervical Cancer Screening

One Healthy People 2020 target for cervical cancer is to increase the percentage of women who have had a cervical cancer screening test based on the most recent guidelines to 93.0%.

In 2016, 82.2% of Maryland women ages 21 to 65 years, old reported they had a Pap test within the past three years.

Table 66.
Number of Cervical Cancer Cases by Jurisdiction and Race, Maryland, 2016

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	215	125	71	12
Allegany	<6	<6	0	0
Anne Arundel	26	21	<6	0
Baltimore City	31	12	19	0
Baltimore County	31	21	8	<6
Calvert	<6	<6	0	0
Caroline	0	0	0	0
Carroll	6	<6	<6	0
Cecil	<6	<6	<6	0
Charles	<6	<6	<6	0
Dorchester	0	0	0	0
Frederick	7	7	0	0
Garrett	<6	<6	0	0
Harford	<6	<6	0	0
Howard	10	<6	<6	<6
Kent	<6	<6	0	0
Montgomery	31	15	7	6
Prince George's	31	6	22	0
Queen Anne's	0	0	0	0
Saint Mary's	<6	<6	<6	0
Somerset	<6	<6	0	0
Talbot	<6	<6	0	0
Washington	<6	<6	<6	0
Wicomico	<6	<6	0	0
Worcester	<6	<6	<6	0

Total includes cases reported as unknown race and unknown jurisdiction

<6 = Case counts of 1-5 are suppressed per MDH/MCR Data Use Policy

s = Case counts are suppressed to prevent disclosure of data in other cell(s) (See Appendix A for methods)

Source: Maryland Cancer Registry, SEER*Stat Static data as of January 3, 2019

Table 67.
Cervical Cancer Age-Adjusted Incidence Rates* by Jurisdiction and Race, Maryland, 2016

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	6.5	6.3	6.7	**
Allegany	**	**	0.0	0.0
Anne Arundel	8.9	9.7	**	0.0
Baltimore City	9.4	**	9.3	0.0
Baltimore County	6.6	7.3	**	**
Calvert	**	**	0.0	0.0
Caroline	0.0	0.0	0.0	0.0
Carroll	**	**	**	0.0
Cecil	**	**	**	0.0
Charles	**	**	**	0.0
Dorchester	0.0	0.0	0.0	0.0
Frederick	**	**	0.0	0.0
Garrett	**	**	0.0	0.0
Harford	**	**	0.0	0.0
Howard	**	**	**	**
Kent	**	**	0.0	0.0
Montgomery	5.4	**	**	**
Prince George's	6.0	**	5.8	0.0
Queen Anne's	0.0	0.0	0.0	0.0
Saint Mary's	**	**	**	0.0
Somerset	**	**	0.0	0.0
Talbot	**	**	0.0	0.0
Washington	**	**	**	0.0
Wicomico	**	**	0.0	0.0
Worcester	**	**	**	0.0

* Rates are per 100,000 women and age-adjusted to 2000 U.S. standard population

** Rates based on case counts of 1-15 are suppressed per MDH/MCR Data Use Policy and Procedures

Source: Maryland Cancer Registry, SEER*Stat Static data as of January 3, 2019

Table 68.
Number of Deaths for Cervical Cancer by Jurisdiction and Race, Maryland, 2016

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	76	40	s	<10
Allegany	<10	<10	<10	<10
Anne Arundel	<10	<10	<10	<10
Baltimore City	16	<10	12	<10
Baltimore County	14	11	<10	<10
Calvert	<10	<10	<10	<10
Caroline	<10	<10	<10	<10
Carroll	<10	<10	<10	<10
Cecil	<10	<10	<10	<10
Charles	<10	<10	<10	<10
Dorchester	<10	<10	<10	<10
Frederick	<10	<10	<10	<10
Garrett	<10	<10	<10	<10
Harford	<10	<10	<10	<10
Howard	<10	<10	<10	<10
Kent	<10	<10	<10	<10
Montgomery	<10	<10	<10	<10
Prince George's	13	<10	11	<10
Queen Anne's	<10	<10	<10	<10
Saint Mary's	<10	<10	<10	<10
Somerset	<10	<10	<10	<10
Talbot	<10	<10	<10	<10
Washington	<10	<10	<10	<10
Wicomico	<10	<10	<10	<10
Worcester	<10	<10	<10	<10

<10 = Death counts or 0-9 are suppressed per MDH/CCPC Mortality Data Suppression Policy

s = Death counts are suppressed to prevent disclosure of data in other cell(s) (See Appendix A for methods)

Source: CDC Wonder, 2012-2016, as of March 5, 2019

Table 69.
Cervical Cancer Age-Adjusted Mortality Rates* by Jurisdiction and Race, Maryland, 2016

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	2.0	1.7	2.8	**
Allegany	**	**	**	**
Anne Arundel	**	**	**	**
Baltimore City	**	**	**	**
Baltimore County	**	**	**	**
Calvert	**	**	**	**
Caroline	**	**	**	**
Carroll	**	**	**	**
Cecil	**	**	**	**
Charles	**	**	**	**
Dorchester	**	**	**	**
Frederick	**	**	**	**
Garrett	**	**	**	**
Harford	**	**	**	**
Howard	**	**	**	**
Kent	**	**	**	**
Montgomery	**	**	**	**
Prince George's	**	**	**	**
Queen Anne's	**	**	**	**
Saint Mary's	**	**	**	**
Somerset	**	**	**	**
Talbot	**	**	**	**
Washington	**	**	**	**
Wicomico	**	**	**	**
Worcester	**	**	**	**

* Rates are per 100,000 women and age-adjusted to 2000 U.S. standard population

** Rates based on death counts of 0-19 are suppressed per MDH/CCPC Mortality Data Suppression Policy

Source: CDC Wonder, 2012-2016, as of March 5, 2019

Table 70.
Number of Cervical Cancer Cases by Jurisdiction and Race, Maryland, 2012-2016

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	1,056	606	357	57
Allegany	18	17	0	0
Anne Arundel	99	82	14	0
Baltimore City	182	52	122	<6
Baltimore County	150	101	42	6
Calvert	13	s	<6	0
Caroline	<6	<6	0	0
Carroll	21	19	<6	0
Cecil	18	s	<6	0
Charles	23	12	8	<6
Dorchester	7	<6	<6	0
Frederick	30	26	<6	<6
Garrett	<6	<6	0	0
Harford	30	26	<6	<6
Howard	41	23	6	10
Kent	<6	<6	<6	0
Montgomery	158	82	37	27
Prince George's	152	38	98	<6
Queen Anne's	6	6	0	0
Saint Mary's	19	11	s	<6
Somerset	<6	<6	<6	0
Talbot	<6	<6	0	0
Washington	34	31	<6	0
Wicomico	18	16	<6	0
Worcester	14	12	<6	0

Total includes cases reported as unknown race and unknown jurisdiction

<6 = Case counts of 1-5 are suppressed per MDH/MCR Data Use Policy

s = Case counts are suppressed to prevent disclosure of data in other cell(s) (See Appendix A for methods)

Source: Maryland Cancer Registry, SEER*Stat Static data as of January 3, 2019

Table 71.
Cervical Cancer Age-Adjusted Incidence Rates* by Jurisdiction and Race, Maryland, 2012-2016

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	6.3	6.0	6.9	4.9
Allegany	9.3	8.8	0.0	0.0
Anne Arundel	6.9	7.4	**	0.0
Baltimore City	10.6	10.2	10.5	**
Baltimore County	6.1	6.4	6.6	**
Calvert	**	**	**	0.0
Caroline	**	**	0.0	0.0
Carroll	4.4	4.3	**	0.0
Cecil	6.6	6.7	**	0.0
Charles	5.4	**	**	**
Dorchester	**	**	**	0.0
Frederick	4.5	4.7	**	**
Garrett	**	**	0.0	0.0
Harford	4.4	4.7	**	**
Howard	5.0	4.7	**	**
Kent	**	**	**	0.0
Montgomery	5.3	4.3	6.7	5.3
Prince George's	6.3	6.7	5.8	**
Queen Anne's	**	**	0.0	0.0
Saint Mary's	6.3	**	**	**
Somerset	**	**	**	0.0
Talbot	**	**	0.0	0.0
Washington	9.4	9.5	**	0.0
Wicomico	6.6	8.6	**	0.0
Worcester	**	**	**	0.0

* Rates are per 100,000 women and age-adjusted to 2000 U.S. standard population

** Rates based on case counts of 1-15 are suppressed per MDH/MCR Data Use Policy and Procedures

Source: Maryland Cancer Registry, SEER*Stat Static data as of January 3, 2019

Table 72.
Number of Deaths for Cervical Cancer by Jurisdiction and Race, Maryland, 2012-2016

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	351	187	148	16
Allegany	<10	<10	<10	<10
Anne Arundel	28	22	<10	<10
Baltimore City	75	s	53	<10
Baltimore County	56	37	s	<10
Calvert	<10	<10	<10	<10
Caroline	<10	<10	<10	<10
Carroll	<10	<10	<10	<10
Cecil	<10	<10	<10	<10
Charles	<10	<10	<10	<10
Dorchester	<10	<10	<10	<10
Frederick	<10	<10	<10	<10
Garrett	<10	<10	<10	<10
Harford	12	<10	<10	<10
Howard	<10	<10	<10	<10
Kent	<10	<10	<10	<10
Montgomery	38	22	<10	<10
Prince George's	64	s	49	<10
Queen Anne's	<10	<10	<10	<10
Saint Mary's	<10	<10	<10	<10
Somerset	<10	<10	<10	<10
Talbot	<10	<10	<10	<10
Washington	15	s	<10	<10
Wicomico	<10	<10	<10	<10
Worcester	<10	<10	<10	<10

<10 = Death counts or 0-9 are suppressed per MDH/CCPC Mortality Data Suppression Policy

s = Death counts are suppressed to prevent disclosure of data in other cell(s) (See Appendix A for methods)

Source: CDC Wonder, 2012-2016, as of March 5, 2019

Table 73.
Cervical Cancer Age-Adjusted Mortality Rates* by Jurisdiction and Race, Maryland, 2012-2016

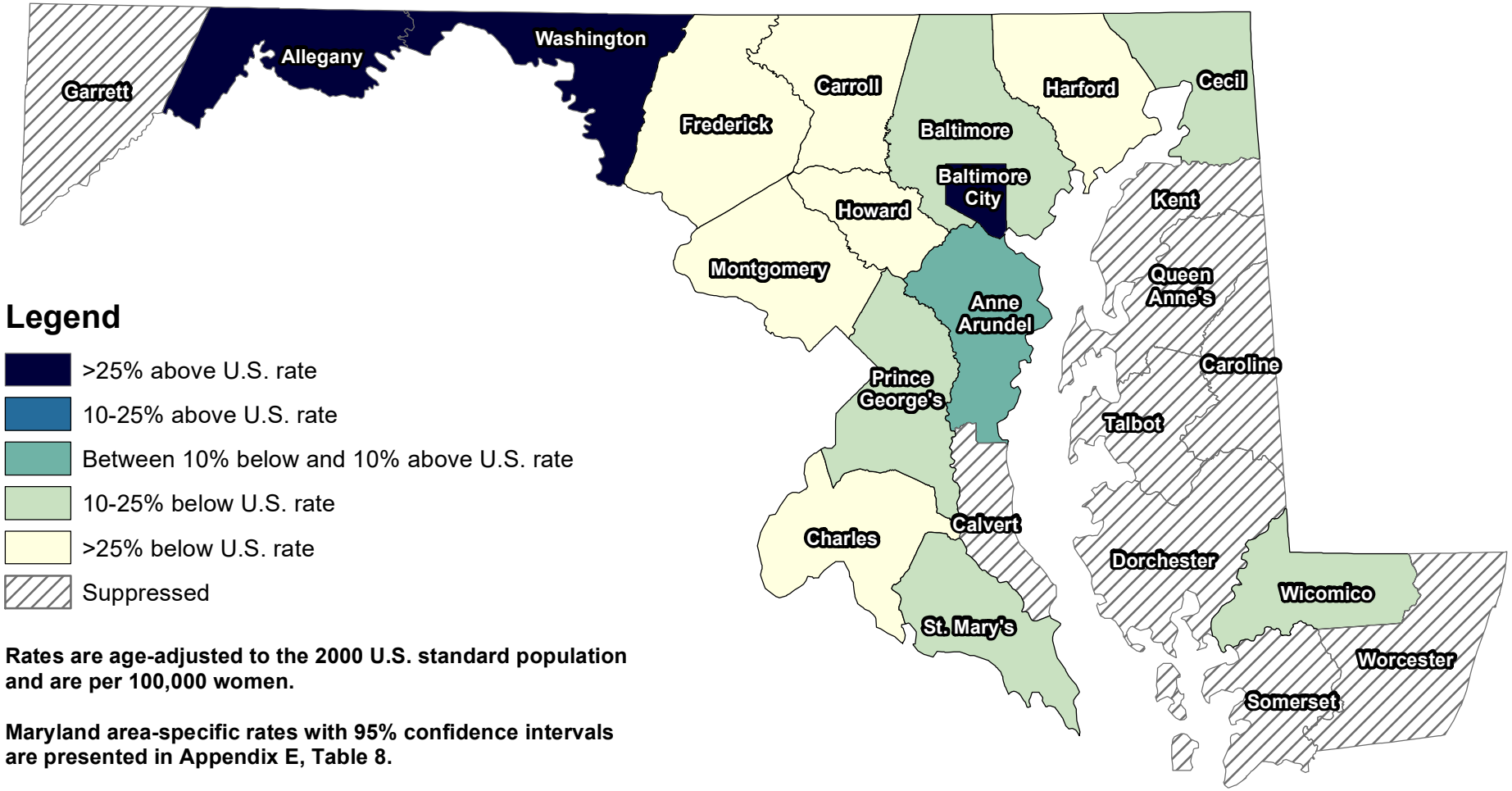
Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	1.9	1.6	2.8	**
Allegany	**	**	**	**
Anne Arundel	1.8	1.8	**	**
Baltimore City	4.2	3.5	4.4	**
Baltimore County	2.1	2.1	**	**
Calvert	**	**	**	**
Caroline	**	**	**	**
Carroll	**	**	**	**
Cecil	**	**	**	**
Charles	**	**	**	**
Dorchester	**	**	**	**
Frederick	**	**	**	**
Garrett	**	**	**	**
Harford	**	**	**	**
Howard	**	**	**	**
Kent	**	**	**	**
Montgomery	1.2	1.0	**	**
Prince George's	2.6	**	2.9	**
Queen Anne's	**	**	**	**
Saint Mary's	**	**	**	**
Somerset	**	**	**	**
Talbot	**	**	**	**
Washington	**	**	**	**
Wicomico	**	**	**	**
Worcester	**	**	**	**

* Rates are per 100,000 women and age-adjusted to 2000 U.S. standard population

** Rates based on death counts of 0-19 are suppressed per MDH/CCPC Mortality Data Suppression Policy

Source: CDC Wonder, 2012-2016, as of March 5, 2019

Maryland Cervical Cancer Incidence Rates by Geographical Area: Comparison to U.S. Rate, 2012-2016



Legend

- >25% above U.S. rate
- 10-25% above U.S. rate
- Between 10% below and 10% above U.S. rate
- 10-25% below U.S. rate
- >25% below U.S. rate
- Suppressed

Rates are age-adjusted to the 2000 U.S. standard population and are per 100,000 women.

Maryland area-specific rates with 95% confidence intervals are presented in Appendix E, Table 8.

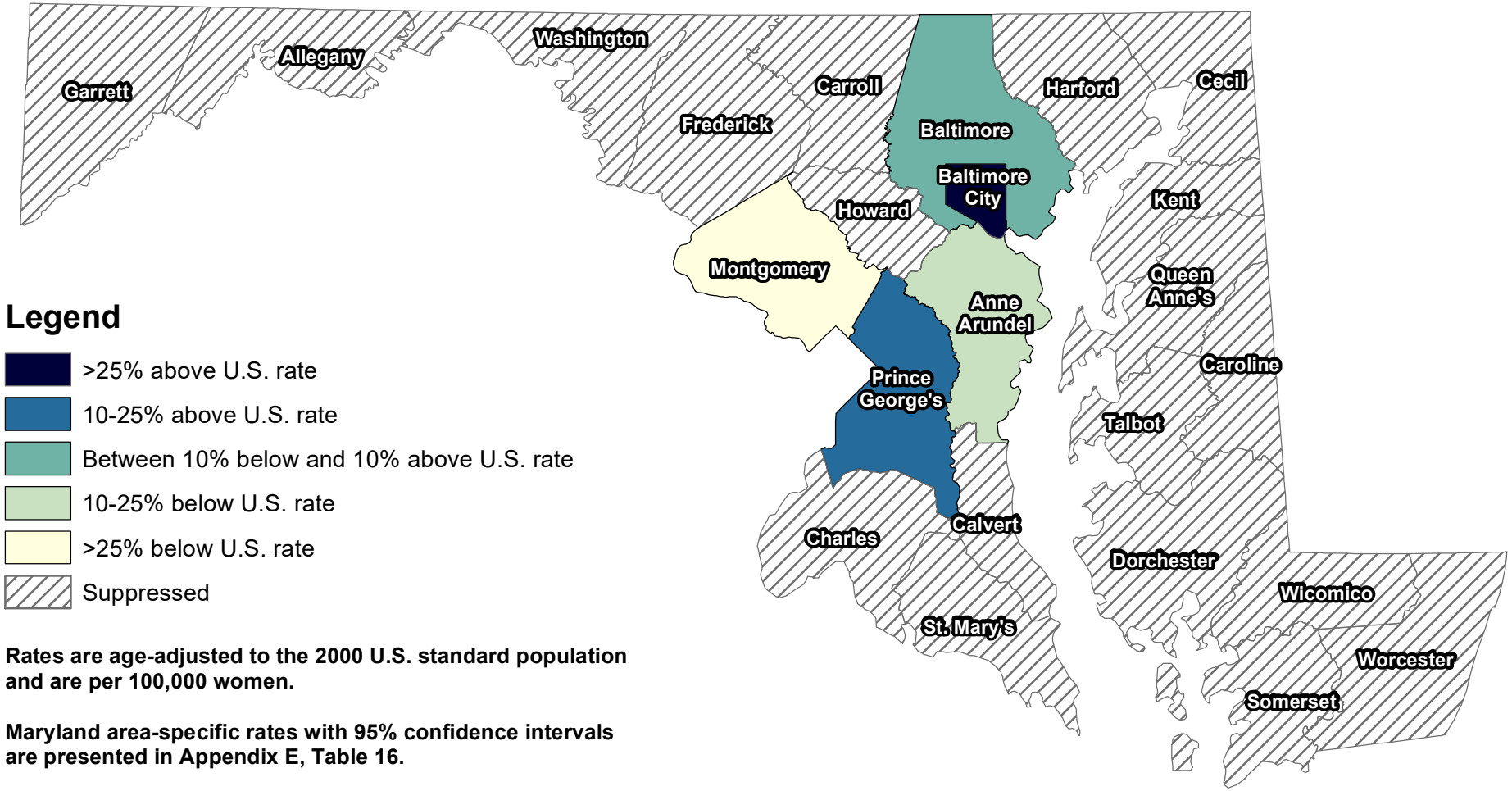
U.S. cervical cancer incidence rate, 2012-2016: 7.4 / 100,000

Maryland cervical cancer incidence rate, 2012-2016: 6.3 / 100,000

Sources: Maryland Cancer Registry
U.S. SEER, SEER*Stat Database

Note: Rates based on case counts of 1-15 are suppressed per MDH/MCR Data Use Policy and Procedures.

Maryland Cervical Cancer Mortality Rates by Geographical Area: Comparison to U.S. Rate, 2012-2016



Legend

- >25% above U.S. rate
- 10-25% above U.S. rate
- Between 10% below and 10% above U.S. rate
- 10-25% below U.S. rate
- >25% below U.S. rate
- Suppressed

Rates are age-adjusted to the 2000 U.S. standard population and are per 100,000 women.

Maryland area-specific rates with 95% confidence intervals are presented in Appendix E, Table 16.

U.S. cervical cancer mortality rate, 2012-2016: 2.3 / 100,000

Maryland cervical cancer mortality rate, 2012-2016: 1.9 / 100,000

Sources: Maryland Cancer Registry
U.S. SEER, SEER*Stat Database

Note: Rates based on case counts of 1-19 are suppressed per MDH/CCPC Data Use Policy and Procedures.

Appendix A

Cancer Data Sources, References, and Data Considerations

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2019 Cigarette Restitution Fund (CRF) Cancer Report
Sources, References, and Data Considerations

I. DATA SOURCES

Data and information presented in the 2019 Cigarette Restitution Fund (CRF) Cancer Report were obtained from a variety of sources, including:

- Maryland Department of Health (MDH)
  - Center for Cancer Prevention and Control (CCPC)
  - Center for Chronic Disease Prevention and Control
  - Center for Tobacco Prevention and Control
  - Vital Statistics Administration
  - Maryland Assessment Tool for Community Health (MATCH)
- National Cancer Institute (NCI, part of the National Institutes of Health)
- Centers for Disease Control and Prevention (CDC)

These sources and the types of information provided for the 2019 CRF Cancer Report are described in the following sections.

A. Cancer Incidence and Stage Data

1. Maryland Cancer Registry

The Maryland Cancer Registry (MCR), CCPC, MDH, is the source for all Maryland-specific cancer incidence and cancer stage data used in this report. The MCR is a computerized data system that collects and consolidates reports of all new cases of reportable cancers (excluding non-genital squamous cell or basal cell skin cancer) that are diagnosed and/or treated in Maryland and reported to the MCR. Incidence rates used in this report were calculated using cases reported to the MCR as of January 3, 2019, for the diagnosis year 2016.

The Maryland cancer reporting law and regulations mandate the collection of cancer information from Maryland-licensed hospitals, radiation therapy centers, diagnostic pathology laboratories, freestanding ambulatory care facilities, surgical centers, and physicians whose non-hospitalized cancer patients are not otherwise reported. The MCR has also signed the North American Association of Central Cancer Registries' (NAACCR) National Interstate Data Exchange Agreement and at the point of reporting receives abstracts from 31 other states/ jurisdictions, including Alabama, Alaska, Arkansas, California, Colorado, Delaware, Florida, Georgia, Idaho, Louisiana, Massachusetts, Michigan, Mississippi, Montana, Nebraska, New Jersey, New York, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, Tennessee, Texas, Vermont, Virginia, West Virginia, Wisconsin, and the District of Columbia. Information on Maryland residents diagnosed and/or treated for cancer in these jurisdictions is included in this report.

2. Surveillance, Epidemiology, and End Results Program

The Surveillance, Epidemiology, and End Results (SEER) Program, managed by the NCI, is an authoritative source of information on cancer incidence, stage, and survival in the U.S.

The SEER Program, which began in 1973 and provides incidence rates representative of the U.S., collects, analyzes, and publishes cancer incidence and survival data from population-based cancer registries participating in the program. Since 2000, SEER incidence data has been collected from 18 SEER registries throughout the U.S. (SEER 18 registry database) and covers approximately 28% of the U.S. population. The SEER Program includes select geographic areas based on their ability to operate and maintain a high quality population-based cancer reporting system and for their epidemiologically significant population subgroups. The population covered by SEER is comparable to the general U.S. population with regards to measures of poverty and education; however, it is also selectively more urban and has a higher proportion of foreign-born persons than the general U.S. population.

SEER 18 incidence data are used in this report to compare national data with the most recent Maryland incidence data (2012-2016), as they provide the broadest population coverage currently available. All SEER incidence rates were obtained by the MCR from SEER*Stat (version 8.3.4), a statistical software tool for the analysis of SEER and other cancer-related databases. Additional information about SEER can be found at http://www.seer.cancer.gov.

The Maryland population estimates for 2016 presented in Appendix B were also obtained from SEER*Stat.

B. Cancer Mortality Data

Maryland mortality data for 2016 and the 5-year aggregate data (2012 to 2016) were acquired from CDC Wide-ranging Online Data for Epidemiologic Research (CDC WONDER), an interactive online public health database developed by the CDC, which features statistics for U.S. and Maryland resident health events. CDC WONDER is an easy-to-use, web-based system that makes information from CDC available to public health professionals and the public at large. Public-use data sets about mortality (deaths), cancer incidence, HIV and AIDS, tuberculosis, natality (births), census data, and many other topics are available for query, and the requested data are readily summarized and analyzed. CDC WONDER can be accessed at https://wonder.cdc.gov/.

Maryland mortality single year data for 2007 and 2012 to 2016, and the 5-year aggregate data (2012 to 2016), presented in this report were obtained from the National Center for Health Statistics (NCHS) Compressed Mortality Files (CMF) accessed using CDC WONDER. The NCHS CMF is a county-level national mortality and population database spanning the years 1979 to 2016. The number of deaths, crude death rates, and age-adjusted death rates can be obtained by place of residence (total U.S., state, and

county), age group, race, gender, year of death, and underlying cause of death (based on International Classification of Diseases [ICD] code or group of codes). Mortality data for the individual years 2007 and 2012 to 2016 for Maryland and 2007 to 2008 for the U.S. were obtained from the 1999-2016 CMF using ICD Tenth Revision (ICD-10) codes. The U.S. mortality rates for single year 2016 and 5-year aggregate data (2012 to 2016) were obtained from SEER, Cancer Statistics Review (CSR), which are provided by NCHS.

Maryland mortality data for 2011 were obtained from the Maryland Vital Statistics Administration. Maryland mortality single year data for 2008 through 2010, with the exception of colorectal cancer (CRC), are from MATCH; whereas, CRC mortality data were obtained directly from the Maryland Vital Statistics Administration due to the different definition of CRC in MATCH, which includes anal cancer. No longer accessible or in use, MATCH was an interactive online database sponsored by the MDH Cancer and Chronic Disease Bureau, Center for Chronic Disease Prevention and Control, which featured statistics for Maryland resident health events. County level births, deaths, population estimates, and hospitalizations could be obtained through a query of the MATCH online database. The official annual reports from the Maryland Vital Statistics Administration can be obtained online at https://health.maryland.gov/vsa/Pages/reports.aspx. Note: The definition of lung and bronchus cancer in MATCH included the trachea. Comparisons can still be made between the different data sources for lung and bronchus cancer mortality due to the small number of deaths due to cancer of the trachea.

C. Behavioral and Risk Factor Data

The data on the prevalence of cancer screening and prevalence of various risk factors for cancer (e.g., smoking) in Maryland are obtained from several different sources, as described below.

1. Maryland Behavioral Risk Factor Surveillance System

The Maryland Behavioral Risk Factor Surveillance System (BRFSS) is used as a source of data on the prevalence of cancer screening (e.g., mammograms) and cancer risk behaviors (e.g., tobacco use) in Maryland. The BRFSS is an annual telephone survey conducted on a random sample of Maryland adult residents and is managed by the Center for Chronic Disease Prevention and Control, Cancer and Chronic Disease Bureau at MDH. This survey provided risk behavior and cancer screening information for this report. Maryland data results can be accessed at http://www.marylandbrfss.org or https://ibis.health.maryland.gov, and Maryland and state-aggregated national data on health risk behavior can also be obtained from the CDC BRFSS website at http://www.cdc.gov/brfss.

2. Maryland Youth Tobacco Survey

Data from the Maryland Youth Tobacco Survey (MYTS) are used to monitor trends in tobacco use (as a risk factor for lung cancer) by Maryland youth. The MYTS is

administered to gather information regarding attitudes, usage, and exposure to tobacco products among public middle and high school students statewide and within each of Maryland's 23 counties and Baltimore City. Survey results are also used in apportioning Local Tobacco Use Prevention and Cessation grants among Maryland's 24 major political subdivisions. To date, the MYTS was conducted in 2000, 2002, 2006, 2008, and 2010.

3. Maryland Youth Risk Behavior Survey

The Maryland Youth Risk Behavior Survey (YRBS) is part of the CDC's Youth Risk Behavior Surveillance System (YRBSS) developed in 1990 to monitor behaviors affecting morbidity (disease) and mortality (death) among high school youth. The YRBSS tracks several priority health risk behaviors among youth, as well as behaviors that support health. The 2013, 2014, and 2016 Maryland YRBS were administered in the spring of 2013, the fall of 2014, and the fall of 2016, respectively, to students in a representative sample of Maryland public high school classrooms. In 2013, a total of 53,785 students in 184 public high schools in Maryland completed the survey. In 2014, a total of 56,717 students in 183 public high schools in Maryland completed the survey. In 2016, a total of 52,408 students in 184 public high schools in Maryland completed the survey. The results are representative of all students in grades 9 to 12. To date, the Maryland YRBS was conducted in 2007, 2009, 2011, 2013, 2014, and 2016. Maryland data results for 2013, 2014, and 2016 can be accessed at https://phpa.health.maryland.gov/ccdpc/Reports/Pages/YRBS-Main.aspx.

4. Healthy People 2020

Healthy People (HP) 2020 is a collaboration of local and national governmental agencies and private organizations that have developed prevention-oriented national objectives to improve the health of Americans. The HP initiative is under the Office of Disease Prevention and Health Promotion at the U.S. Department of Health and Human Services (DHHS). The overarching HP 2020 goal for cancer prevention is to "reduce the number of new cases as well as the illness, disability, and death caused by cancer." To achieve this goal, measurable objectives related to cancer screening and cancer risk behaviors were established, each with a specific quantitative target, and several of these targets are used as benchmarks by which Maryland's progress can be measured. The HP 2020 objectives were released in late 2010 and additional information can be found at http://www.healthypeople.gov.

5. Maryland Comprehensive Cancer Control Plan (MCCCP), 2016-2020

The MCCCP contains goals and set targets to be met by the State by the end of a 5-year period (2016 to 2020), which serve as a guide for health professionals who are involved in planning, directing, implementing, evaluating, or performing research on cancer control in Maryland.

The 2016-2020 MCCCP was the coordinated effort of 83 stakeholders and several MDH offices and centers, with the aim to develop a cancer resource for individuals, healthcare providers, and organizations.

The MCCCP is directed by CCPC, MDH, with broad input from a partnership of public and private stakeholders. Additional information can be found at https://phpa.health.maryland.gov/cancer/cancerplan/Pages/publications.aspx.

DATA CONSIDERATIONS

A. Data Confidentiality

MDH regards all individual data reported to, and received and processed by, the MCR as confidential. Data are secured from unauthorized access and disclosure. The MCR manages and releases cancer information in accordance with the laws and regulations established by the State of Maryland, as set forth in the Annotated Code of Maryland, Health-General Article, §§18-203 – 204 and §4-101 et seq., and Code of Maryland Regulations, COMAR 10.14.01 Cancer Registry.

Because incidence data and mortality data come from different sources, separate suppression procedures are employed for release of non-confidential data. For the number of cancer cases collected by the MCR and for incidence rates calculated using case and population data, the following protocols apply: To ensure patient confidentiality and to comply with the *MCR Data Use Manual and Procedures* (July 2016; https://phpa.health.maryland.gov/cancer/Pages/mcr_data.aspx), cells with counts of 1-5 cases are suppressed and presented as "<6." Complementary suppression of case counts in additional cell(s) is used, denoted by "s," to prevent back-calculation of numbers in those cells with primary suppression. Age-adjusted incidence rates based on counts of 15 or fewer (non-zero) are presented with asterisks (**) because the rates are unstable and do not provide reliable information.

Mortality data for this report are from CDC WONDER. ICD-10 codes listed in Appendix F of this report were used for identifying the type of cancer for extraction. Data obtained from CDC WONDER are subject to CDC data use restrictions, which differ slightly from those of the *MDH/MCR Data Use Policy* used for incidence data. To ensure that individual identity is protected in the use and re-release of mortality data from CDC WONDER, and that reliable mortality rates are presented in this and other CCPC publications, the CCPC developed the *Mortality Data Suppression Policy* (October 2012). In accordance with this policy, the following protocols are applied to mortality data in this report: Death counts of 0-9 are suppressed and denoted by "<10." Complementary suppression of death counts in additional cell(s) is used, as denoted by the letter "s," to prevent back-calculation of numbers in cells with primary suppression. Age-adjusted mortality rates based on counts of less than 20 (i.e., 0-19 deaths) are presented with asterisks (denoted by ** symbol) because the rates are unstable and do not provide reliable information. This threshold is more stringent than the criteria used in the *MDH/MCR Data Use Policy* for incidence rate suppression.

B. Gender

Gender is reported to the MCR as: a) male; b) female; c) hermaphrodite; d) transsexual; and e) unknown (not stated), but numbers and rates for only males and females are provided in this report. As a result, the totals shown in the count for number of cancer cases may not equal the sum of males and females because of cases in the other gender categories.

C. County

County is reported to the MCR as the jurisdiction of residence for each cancer case (i.e., one of the 24 jurisdictions in Maryland) or is categorized as unknown. As a result, the totals shown in the count for number of cancer cases may not equal the sum of the cancer cases across all 24 jurisdictions because of cases with unknown county.

D. Rate Analysis

Individual year incidence rates for 2016 were calculated using Maryland resident cancer cases diagnosed from January 1 through December 31 of that year, and reported to the MCR as of January 3, 2019. The individual year mortality data (2016) consist of deaths that occurred between January 1 and December 31 of that year. Multiple year incidence rates presented were calculated for 5-year rates using MCR 2012-2016 data. Corresponding mortality rates were extracted from CDC WONDER, as 5-year combined data from 2012 to 2016.

Age-adjustment, also called age-standardization, is a tool used to control for different and changing age distributions of populations in the U.S., states, regions, and counties, and to enable meaningful comparisons of rates over time and across these populations. Age-adjusted rates do not include cancer cases for which age has not been reported. Incidence and mortality rates in this report were calculated and age-adjusted using the 2000 U.S. standard population. Additional information on age-adjustment can be found at http://www.cdc.gov/nchs/data/statnt/statnt20.pdf.

The annual percent change (APC) is calculated for incidence and mortality trends and for tracking incidence and mortality rates by race and gender over time. See the Glossary for the definition of APC.

E. Confidence Intervals and Statistical Significance

Age-adjusted rates for specific geographic areas (e.g., U.S., states, regions, and counties) can be compared to determine whether differences in incidence or mortality exist between these areas. It is important to note however, that incidence and mortality rates, particularly those based on small numbers of events (cases or deaths) or small population sizes, can be highly variable from year to year. In these instances, two unadjusted rates cannot be compared side-by-side to determine whether they are statistically significantly different.

A confidence interval is used to describe the range of uncertainty around a point estimate (e.g., an incidence or mortality rate) and serves as an indicator of the precision or stability of a rate. Confidence intervals are useful in defining a range within which the typical rate for a geographic area can be expected to lie. Most confidence intervals are, by convention, calculated at the 95% level, which means that 95% of hypothetically observed confidence intervals generated will contain the true value of interest. The

smaller the number of events upon which a rate is based, the wider the confidence interval will be.

Confidence intervals for incidence and mortality rates are included in this report to facilitate comparisons between rates, such as the comparison of Maryland rates to U.S. rates. Confidence intervals for Maryland and SEER 18 incidence rates, provided by the MCR, are calculated from the SEER*Stat software. Confidence intervals for Maryland mortality rates were generated using CDC WONDER, and confidence intervals for U.S. mortality rates were queried using SEER's Cancer Query System. The following formula can be used to approximate the 95% confidence interval for age-adjusted rates:

$$\text{Lower limit} = R - [1.96 (R / \sqrt{n})]$$

$$\text{Upper limit} = R + [1.96 (R / \sqrt{n})]$$

where R = age-adjusted cancer incidence or mortality rate and n = number of events (cancer cases or deaths).

When the confidence intervals around two rates (e.g., state and U.S. rates) do not overlap, it can be stated that there is a statistically significant difference between the rates. For example, Maryland's 2016 lung cancer incidence rate was 54.0 per 100,000, with a 95% confidence interval of 52.2-55.7. The 2016 U.S. SEER age-adjusted lung cancer incidence rate was 50.1 per 100,000 population, with a 95% confidence interval of 49.7-50.5. Since these confidence intervals do not overlap, the two rates are considered to be statistically significantly different (i.e., the difference between these rates is more than that expected by chance).

If the two confidence intervals overlap and if the rate for one area is included in the confidence interval of the other rate, then there is not a statistically significant difference between the rates. However, when there is overlap in the confidence intervals for two rates, and the rate for the comparison area is not included in the interval for the rate of interest, the two rates may or may not be statistically significantly different. In this situation, statistical testing methods described by NAACCR, Cancer in North America (May 2010) are used in this report to determine whether the differences between the two rates are statistically significant. An approximate confidence interval for the rate ratio of two age-adjusted rates can be calculated using the following formula:

$$(R_1 / R_2)^{1 \pm z / x}$$

where R_1 and R_2 are the age-adjusted rates being compared;
SE_1 and SE_2 are the standard errors for the respective rates;
z = 1.96 for 95% confidence intervals; and
$x = (R_1 - R_2) / \sqrt{(SE_1^2 + SE_2^2)}$

If the confidence interval for the rate ratio includes the value of one, then the two rates are not statistically significantly different (i.e., p-value greater than 0.05).

In this report, when two rates are not statistically significantly different, they are described as being "similar."

F. National Comparison Data

Maryland (Statewide) and county incidence and mortality rates are compared to U.S. SEER 18 incidence rates and U.S. mortality rates from NCHS (see Sections I.A and I.B).

Data used for Maryland cancer mortality ranking by cancer site are from SEER Cancer Statistics Review (CSR), which are based on NCHS mortality data. Maryland's mortality ranking among the 50 states and the District of Columbia for all cancer sites combined and for specific targeted cancers is based on a 5-year average (2012-2016) of age-adjusted rates. Because mortality rates describe the cancer burden better than incidence rates, only Maryland rankings for mortality are presented for each targeted cancer.

Maps included with this data display comparisons of Maryland incidence and mortality rates by geographical area to U.S. rates. For both incidence and mortality rate maps, the 5-year (2012-2016) U.S. rate was used as a basis for comparison with rates for Maryland jurisdictions (counties and regions). A ramp is used for grouping Maryland data into categories in reference to U.S. rates. The ramp groups data into five divisions: >25% above U.S. rate; 10-25% above U.S. rate; between 10% below and 10% above U.S. rate; 10-25% below U.S. rate; and >25% below U.S. rate. Note that 10-25% includes 10% and 25%, but less than 10% and more than 25% do not include the endpoints of the range.

G. Race and Hispanic Ethnicity

The MCR began requiring submission of more detailed data on race and ethnicity in August 1998. Incidence data provided by the MCR include the following race categories: white, black, other, and unknown (not stated), regardless of Hispanic ethnicity. The "Other" race category includes cases reported as American Indian or Alaskan Native, Asian or Pacific Islander, and any other race category, except those cases with unknown or missing race. However, only white, black, and other races are included in the Cancer Report, with the "Other" race category only including American Indian or Alaska Native and Asian or Pacific Islander cases. This change is to match how CDC WONDER reports race for mortality data (see below). The MCR uses the NCI's SEER*Stat software to compile incidence data.

Hispanic ethnicity is captured in a separate data field. Data presented in Table 4 are derived using the NAACCR Hispanic Identification Algorithm. This algorithm uses a combination of NAACCR variables to classify cases as Hispanic. In Table 4, "Hispanic" includes people reported to the MCR as Spanish/Hispanic origin plus those with "derived" Hispanic origin. The derivation is an algorithm based on the person having a Hispanic surname (last or maiden name) and their country of birth, race, and sex.

Mortality data (death counts and rates) in this report were obtained from the NCHS CMF in CDC WONDER, SEER CSR, and the Maryland Vital Statistics Administration. Race

data in the CMF are based on information collected on death certificates. CDC WONDER reports race in four categories (white, black, Asian or Pacific Islander, and Native American or Alaska Native). NCHS, in collaboration with the Census Bureau, developed a race-bridging methodology for assigning multiple-race groups to single-race categories. The category of "Other" races in this report includes the American Indian or Alaska Native race category and the Asian or Pacific Islander race category. The Maryland Vital Statistics Administration reports race in the same four categories as CDC WONDER, along with an additional category "All Other Races." To keep rates comparable between incidence and mortality, death counts and mortality rates are only shown for white, black, and "Other" (i.e., Asian or Pacific Islander and Native American or Alaskan Native). "All Other Races" are not shown due to the small number of deaths in these categories, but they are included in the total death counts and mortality rates. U.S. mortality data from SEER CSR are reported with only two race categories (white and black). As a result, single year 2016 and 5-year aggregate data (2012 to 2016) obtained from SEER CSR only report U.S. mortality for whites and blacks.

H. Healthy People 2020 Targets

In the CRF Cancer Report, quantitative HP 2020 targets are compared to Maryland data related to cancer risk behaviors and adherence to cancer screening recommendations (see Section I.C.4). Specifically, HP 2020 targets are compared to data from the Maryland BRFSS. The data from these Maryland surveys are weighted to the age, race, and gender of the Maryland population and, unlike the national data that serve as the basis for HP 2020 targets, Maryland BRFSS data are not age-adjusted to the 2000 U.S. standard population.

The target-setting method used for the HP 2020 objective for sun exposure protection was a 10% improvement from the national baseline in 2008 using data from the National Health Interview Survey (NHIS). The questions used to define sun exposure protective measures used by NHIS slightly differed from the questions used by the Maryland BRFSS, although the information gathered by both surveys are similar. Therefore, one could use the sun exposure protection data from the Maryland BRFSS as a form of comparison to the HP 2020, however, interpretations should remain cautious due to the different measures used for data gathering.

I. Appendices

Please refer to additional appendices for:

- Maryland Population Estimates, 2016 (Appendix B)
- U.S. Standard Population, 2000 (Appendix C)
- Definitions of International Classification of Diseases (ICD) Codes Used for Cancer Incidence and Mortality (Appendix D)
- Maryland Cancer Incidence and Mortality Rates by Geographical Area, 2012-2016 (Appendix E)
- Trends in Cancer Incidence and Mortality Rates in Maryland by Cancer Site, Race or Gender, and Year, 2012-2016 (Appendix F)

- Trends in Cancer Stage of Disease at Diagnosis in Maryland by Cancer Site and Year, 2012-2016 (Appendix G)
- Trends in All Cancer Sites Incidence and Mortality Rates in Maryland and U.S. by Year, 2007-2016 (Appendix H)

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Appendix B

Maryland Population Estimates, 2016

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Maryland Population Estimates by Jurisdiction, 2016

Jurisdiction	Total All Genders	Total Males	Total Females	Total Whites	White Males	White Females	Total Blacks	Black Males	Black Females
Maryland	**6,016,447**	**2,914,466**	**3,101,981**	**3,639,880**	**1,797,457**	**1,842,423**	**1,907,689**	**892,263**	**1,015,426**
Baltimore Metropolitan Area	**2,749,957**	**1,324,707**	**1,425,250**	**1,711,111**	**840,880**	**870,231**	**851,888**	**393,374**	**458,514**
Anne Arundel County	568,346	281,308	287,038	436,587	217,488	219,099	102,615	50,206	52,409
Baltimore City	614,664	288,660	326,004	196,132	97,211	98,921	396,216	180,533	215,683
Baltimore County	831,026	394,049	436,977	525,741	253,210	272,531	246,028	111,717	134,311
Carroll County	167,656	82,827	84,829	156,944	77,380	79,564	6,598	3,587	3,011
Harford County	251,032	122,653	128,379	204,733	100,596	104,137	36,488	17,469	19,019
Howard County	317,233	155,210	162,023	190,974	94,995	95,979	63,943	29,862	34,081
Eastern Shore Region	**453,597**	**221,459**	**232,138**	**361,607**	**176,641**	**184,966**	**80,869**	**39,531**	**41,338**
Caroline County	32,850	16,128	16,722	27,119	13,366	13,753	4,935	2,333	2,602
Cecil County	102,603	50,997	51,606	92,633	46,017	46,616	7,863	4,004	3,859
Dorchester County	32,258	15,330	16,928	22,066	10,611	11,455	9,599	4,457	5,142
Kent County	19,730	9,418	10,312	16,240	7,797	8,443	3,167	1,475	1,692
Queen Anne's County	48,929	24,276	24,653	44,465	22,040	22,425	3,453	1,756	1,697
Somerset County	25,928	13,913	12,015	14,210	7,283	6,927	11,312	6,412	4,900
Talbot County	37,278	17,612	19,666	31,411	14,884	16,527	5,075	2,373	2,702
Wicomico County	102,577	48,748	53,829	70,236	33,540	36,696	28,272	13,286	14,986
Worcester County	51,444	25,037	26,407	43,227	21,103	22,124	7,193	3,435	3,758
National Capital Area	**1,951,912**	**940,223**	**1,011,689**	**897,708**	**447,981**	**449,727**	**817,509**	**379,070**	**438,439**
Montgomery County	1,043,863	503,489	540,374	652,289	319,690	332,599	212,019	98,806	113,213
Prince George's County	908,049	436,734	471,315	245,419	128,291	117,128	605,490	280,264	325,226
Northwest Region	**499,438**	**250,708**	**248,730**	**428,553**	**211,646**	**216,907**	**51,351**	**29,776**	**21,575**
Allegany County	72,130	37,565	34,565	64,739	32,254	32,485	6,332	4,821	1,511
Frederick County	247,591	122,165	125,426	207,040	102,085	104,955	26,042	13,176	12,866
Garrett County	29,425	14,554	14,871	28,851	14,244	14,607	385	248	137
Washington County	150,292	76,424	73,868	127,923	63,063	64,860	18,592	11,531	7,061
Southern Region	**361,543**	**177,369**	**184,174**	**240,901**	**120,309**	**120,592**	**106,072**	**50,512**	**55,560**
Calvert County	91,251	45,113	46,138	76,043	37,818	38,225	12,607	6,124	6,483
Charles County	157,705	76,067	81,638	73,983	36,703	37,280	75,973	35,856	40,117
Saint Mary's County	112,587	56,189	56,398	90,875	45,788	45,087	17,492	8,532	8,960

Source: SEER*Stat static data as of December 21, 2018

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Appendix C

U.S. Standard Population, 2000

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2000 U.S. Standard Population

Age Group	2000 Population
Less than 01 years	3,794,901
01-04 years	15,191,619
05-09 years	19,919,840
10-14 years	20,056,779
15-19 years	19,819,518
20-24 years	18,257,225
25-29 years	17,722,067
30-34 years	19,511,370
35-39 years	22,179,956
40-44 years	22,479,229
45-49 years	19,805,793
50-54 years	17,224,359
55-59 years	13,307,234
60-64 years	10,654,272
65-69 years	9,409,940
70-74 years	8,725,574
75-79 years	7,414,559
80-84 years	4,900,234
85+ years	4,259,173
Total	**274,633,642**

Source: National Cancer Institute, SEER, 2000

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Appendix D

Definitions of International Classification of Diseases (ICD) Codes Used for Cancer Incidence and Mortality

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International Classification of Diseases for Oncology, 3rd Edition (ICD-O-3) Codes Used for Cancer Incidence and International Classification of Diseases, 10th Revision (ICD-10) Codes Used for Cancer Mortality

Cancer Site	Incidence (ICD-O-3)		Mortality (ICD-10)
	Topography (Site)	Histology	
All Cancer Sites	C00.0-C80.9	Includes all invasive cancers of all sites, except basal and squamous cell skin cancers, and includes *in situ* cancer of the urinary bladder	C00-C97, D09.0
Lung and Bronchus	C34.0-C34.9	Excludes codes 9050-9055, 9140, and 9590-9989	C34
Colon and Rectum	C18.0-C20.9, C26.0	Excludes codes 9050-9055, 9140, and 9590-9989	C18-C20, C26.0
Female Breast	C50.0-C50.9 (female only)	Excludes codes 9050-9055, 9140, and 9590-9989	C50 (female only)
Prostate	C61.9	Excludes codes 9050-9055, 9140, and 9590-9990	C61
Oral Cavity and Pharynx	C00.0-C14.8	Excludes codes 9050-9055, 9140, and 9590-9989	C00-C14
Melanoma of the Skin	C44.0-C44.9	Includes only codes 8720-8790	C43
Cervix	C53.0-C53.9	Excludes codes 9050-9055, 9140, and 9590-9989	C53

Note: Most cancer mortality (ICD-10) codes are similar to cancer incidence (ICD-O-3) topography (site) codes

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Appendix E

Maryland Cancer Incidence and Mortality Rates by Geographical Area, 2012-2016

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Appendix E

Table 1: All Cancer Sites Incidence
Age-Adjusted Incidence Rates
by Geographical Area, Maryland, 2012-2016

Geographical Area	Incidence Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	443.9	441.6	446.2
Northwest Region	459.3	451.4	467.2
Allegany	494.5	474.7	515.0
Frederick	447.9	436.3	459.7
Garrett	402.2	374.6	431.4
Washington	469.6	455.4	484.1
Baltimore Metropolitan Area ^	465.4	461.5	469.3
Anne Arundel	461.0	453.3	468.8
Baltimore City	486.5	478.8	494.3
Baltimore County	479.5	473.3	485.8
Carroll	481.4	467.7	495.4
Harford	495.8	484.2	507.6
Howard	395.0	385.2	405.1
National Capital Area	384.0	380.1	387.9
Montgomery	372.6	367.6	377.7
Prince George's	399.0	393.0	405.1
Southern Region	436.4	426.7	446.3
Calvert	455.0	436.0	474.7
Charles	438.5	423.4	454.1
Saint Mary's	418.7	401.8	436.1
Eastern Shore Region	488.3	480.1	496.6
Caroline	474.5	443.8	506.8
Cecil	521.5	502.5	541.1
Dorchester	485.7	456.3	516.7
Kent	471.7	435.8	510.3
Queen Anne's	464.0	439.7	489.3
Somerset	478.3	443.5	515.2
Talbot	450.3	425.3	476.7
Wicomico	517.3	498.3	536.9
Worcester	482.0	459.5	505.5

* Rates are per 100,000 population and are age-adjusted to 2000 U.S. standard population

^ Area rate does not include Baltimore City

Source: Maryland Cancer Registry

Appendix E

Table 2: Lung and Bronchus Cancer Incidence
Age-Adjusted Incidence Rates
by Geographical Area, Maryland, 2012-2016

Geographical Area	Incidence Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	55.6	54.8	56.5
Northwest Region	58.8	56.0	61.6
Allegany	77.2	69.8	85.2
Frederick	46.9	43.1	50.8
Garrett	42.2	34.0	52.1
Washington	69.2	63.9	74.9
Baltimore Metropolitan Area ^	60.5	59.1	61.9
Anne Arundel	63.4	60.5	66.4
Baltimore City	80.1	76.9	83.3
Baltimore County	63.6	61.4	65.8
Carroll	58.1	53.4	63.1
Harford	70.1	65.7	74.6
Howard	39.0	35.8	42.4
National Capital Area	36.3	35.1	37.5
Montgomery	30.6	29.1	32.1
Prince George's	43.7	41.7	45.8
Southern Region	57.7	54.2	61.5
Calvert	60.3	53.4	67.8
Charles	50.9	45.8	56.5
Saint Mary's	64.6	58.0	71.8
Eastern Shore Region	69.8	66.8	72.9
Caroline	77.9	66.0	91.5
Cecil	85.5	78.0	93.6
Dorchester	64.4	54.6	75.8
Kent	53.9	42.7	67.6
Queen Anne's	64.6	55.9	74.4
Somerset	81.3	67.7	97.2
Talbot	47.3	40.3	55.6
Wicomico	77.5	70.4	85.2
Worcester	63.6	56.2	72.0

* Rates are per 100,000 population and are age-adjusted to 2000 U.S. standard population

^ Area rate does not include Baltimore City

Source: Maryland Cancer Registry

Appendix E

Table 3: Colorectal Cancer Incidence
Age-Adjusted Incidence Rates
by Geographical Area, Maryland, 2012-2016

Geographical Area	Incidence Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	36.1	35.4	36.7
Northwest Region	38.6	36.3	40.9
Allegany	44.4	38.5	50.9
Frederick	35.6	32.3	39.0
Garrett	44.2	35.4	54.7
Washington	38.6	34.6	42.9
Baltimore Metropolitan Area ^	36.2	35.1	37.3
Anne Arundel	34.7	32.6	36.9
Baltimore City	42.1	39.8	44.5
Baltimore County	36.6	34.9	38.3
Carroll	41.7	37.8	46.0
Harford	39.3	36.0	42.7
Howard	31.5	28.8	34.5
National Capital Area	32.1	31.0	33.2
Montgomery	29.5	28.0	30.9
Prince George's	35.5	33.7	37.4
Southern Region	35.6	32.8	38.5
Calvert	38.8	33.4	44.9
Charles	37.1	32.7	41.9
Saint Mary's	31.0	26.6	36.0
Eastern Shore Region	39.3	36.9	41.7
Caroline	47.9	38.2	59.2
Cecil	43.7	38.2	49.7
Dorchester	48.5	39.3	59.4
Kent	35.7	26.4	47.7
Queen Anne's	33.9	27.3	41.8
Somerset	49.9	39.0	63.0
Talbot	27.2	21.5	34.2
Wicomico	38.8	33.6	44.5
Worcester	38.9	32.5	46.4

* Rates are per 100,000 population and are age-adjusted to 2000 U.S. standard population

^ Area rate does not include Baltimore City

Source: Maryland Cancer Registry

Appendix E

Table 4: Female Breast Cancer Incidence
Age-Adjusted Incidence Rates
by Geographical Area, Maryland, 2012-2016

Geographical Area	Incidence Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	130.1	128.4	131.8
Northwest Region	130.5	124.7	136.6
Allegany	117.4	103.4	133.0
Frederick	131.7	123.2	140.6
Garrett	112.0	92.0	135.5
Washington	138.3	127.4	149.8
Baltimore Metropolitan Area ^	135.8	132.9	138.7
Anne Arundel	133.7	128.0	139.5
Baltimore City	123.4	118.1	128.7
Baltimore County	137.3	132.8	142.0
Carroll	131.8	122.2	142.1
Harford	136.9	128.7	145.5
Howard	135.5	127.9	143.5
National Capital Area	126.1	123.2	129.1
Montgomery	125.4	121.4	129.4
Prince George's	127.3	122.8	131.8
Southern Region	123.1	116.2	130.3
Calvert	137.7	123.7	152.9
Charles	123.1	112.7	134.3
Saint Mary's	110.4	98.7	123.2
Eastern Shore Region	129.3	123.3	135.5
Caroline	131.7	109.8	156.8
Cecil	127.5	114.8	141.4
Dorchester	125.6	104.7	149.6
Kent	143.6	115.0	177.9
Queen Anne's	121.3	104.3	140.5
Somerset	127.4	101.2	158.8
Talbot	121.6	103.4	142.6
Wicomico	133.0	119.8	147.3
Worcester	135.5	117.8	155.2

* Rates are per 100,000 women and are age-adjusted to 2000 U.S. standard population

^ Area rate does not include Baltimore City

Source: Maryland Cancer Registry

Appendix E

Table 5: Prostate Cancer Incidence
Age-Adjusted Incidence Rates
by Geographical Area, Maryland, 2012-2016

Geographical Area	Incidence Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	120.3	118.6	122.1
Northwest Region	98.9	93.8	104.3
Allegany	109.8	97.1	123.9
Frederick	98.2	90.4	106.4
Garrett	90.3	72.9	111.2
Washington	96.8	87.9	106.5
Baltimore Metropolitan Area ^	117.8	115.0	120.6
Anne Arundel	112.2	106.8	117.8
Baltimore City	139.0	132.8	145.4
Baltimore County	127.4	122.8	132.1
Carroll	118.8	109.3	128.9
Harford	121.3	113.3	129.7
Howard	97.5	90.6	104.7
National Capital Area	120.7	117.6	123.9
Montgomery	104.5	100.6	108.5
Prince George's	142.5	137.2	147.9
Southern Region	115.4	108.4	122.8
Calvert	109.3	96.4	123.4
Charles	143.1	130.6	156.5
Saint Mary's	85.9	75.5	97.4
Eastern Shore Region	120.5	115.0	126.3
Caroline	112.6	92.2	136.3
Cecil	121.8	109.1	135.7
Dorchester	135.1	114.6	158.7
Kent	129.7	105.1	159.4
Queen Anne's	106.1	90.9	123.4
Somerset	111.1	88.9	137.5
Talbot	114.1	97.8	133.0
Wicomico	135.6	122.0	150.5
Worcester	115.9	102.3	131.4

* Rates are per 100,000 men and are age-adjusted to 2000 U.S. standard population

^ Area rate does not include Baltimore City

Source: Maryland Cancer Registry

Appendix E

Table 6: Oral Cancer Incidence
Age-Adjusted Incidence Rates
by Geographical Area, Maryland, 2012-2016

Geographical Area	Incidence Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	10.8	10.4	11.1
Northwest Region	10.9	9.8	12.2
Allegany	13.1	9.9	17.0
Frederick	10.8	9.1	12.7
Garrett	12.9	8.4	19.4
Washington	10.1	8.2	12.4
Baltimore Metropolitan Area ^	11.3	10.7	11.9
Anne Arundel	12.9	11.6	14.2
Baltimore City	12.4	11.2	13.7
Baltimore County	11.1	10.2	12.1
Carroll	12.8	10.7	15.2
Harford	9.8	8.3	11.5
Howard	9.3	7.9	10.9
National Capital Area	8.3	7.7	8.9
Montgomery	9.0	8.2	9.8
Prince George's	7.5	6.7	8.3
Southern Region	13.6	12.0	15.4
Calvert	13.9	10.9	17.6
Charles	12.0	9.7	14.8
Saint Mary's	15.6	12.6	19.2
Eastern Shore Region	13.3	12.0	14.8
Caroline	12.9	8.3	19.3
Cecil	15.1	12.1	18.6
Dorchester	13.9	8.9	20.8
Kent	14.4	9.4	22.2
Queen Anne's	10.5	7.3	14.8
Somerset	13.6	8.4	21.1
Talbot	14.0	9.7	19.9
Wicomico	13.2	10.4	16.6
Worcester	12.3	9.2	16.5

* Rates are per 100,000 population and are age-adjusted to 2000 U.S. standard population

^ Area rate does not include Baltimore City

Source: Maryland Cancer Registry

Appendix E

Table 7: Melanoma Incidence
Age-Adjusted Incidence Rates
by Geographical Area, Maryland, 2012-2016

Geographical Area	Incidence Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	23.0	22.4	23.5
Northwest Region	24.4	22.6	26.4
Allegany	19.3	15.5	23.8
Frederick	26.3	23.6	29.3
Garrett	23.6	17.3	31.7
Washington	23.7	20.6	27.2
Baltimore Metropolitan Area ^	30.6	29.6	31.6
Anne Arundel	32.2	30.1	34.3
Baltimore City	10.2	9.1	11.4
Baltimore County	29.5	27.9	31.1
Carroll	34.8	31.0	38.9
Harford	35.0	31.9	38.3
Howard	24.0	21.6	26.5
National Capital Area	13.2	12.5	14.0
Montgomery	18.8	17.7	20.0
Prince George's	6.1	5.3	6.9
Southern Region	26.4	24.0	29.0
Calvert	30.4	25.5	36.0
Charles	21.5	18.2	25.2
Saint Mary's	29.6	25.2	34.6
Eastern Shore Region	34.5	32.2	36.8
Caroline	25.5	18.7	34.1
Cecil	32.9	28.2	38.2
Dorchester	17.2	12.0	24.1
Kent	30.9	21.9	42.9
Queen Anne's	49.0	41.2	57.8
Somerset	25.4	17.9	35.2
Talbot	38.6	30.8	47.9
Wicomico	30.9	26.3	36.0
Worcester	45.6	38.3	53.9

* Rates are per 100,000 population and are age-adjusted to 2000 U.S. standard population

^ Area rate does not include Baltimore City

Source: Maryland Cancer Registry

Appendix E

Table 8: Cervical Cancer Incidence
Age-Adjusted Incidence Rates
by Geographical Area, Maryland, 2012-2016

Geographical Area	Incidence Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	6.3	6.0	6.7
Northwest Region	6.6	5.2	8.2
Allegany	9.3	5.3	15.3
Frederick	4.5	3.0	6.5
Garrett	**	**	**
Washington	9.4	6.4	13.2
Baltimore Metropolitan Area ^	5.8	5.2	6.4
Anne Arundel	6.9	5.5	8.4
Baltimore City	10.6	9.0	12.3
Baltimore County	6.1	5.1	7.2
Carroll	4.4	2.6	6.8
Harford	4.4	2.9	6.4
Howard	5.0	3.5	6.8
National Capital Area	5.7	5.1	6.4
Montgomery	5.3	4.5	6.2
Prince George's	6.3	5.3	7.4
Southern Region	5.6	4.2	7.4
Calvert	**	**	**
Charles	5.4	3.4	8.2
Saint Mary's	6.3	3.7	9.9
Eastern Shore Region	6.5	5.1	8.2
Caroline	**	**	**
Cecil	6.6	3.9	10.7
Dorchester	**	**	**
Kent	**	**	**
Queen Anne's	**	**	**
Somerset	**	**	**
Talbot	**	**	**
Wicomico	6.6	3.8	10.6
Worcester	**	**	**

* Rates are per 100,000 women and are age-adjusted to 2000 U.S. standard population

** Rates based on case counts of 1-15 are suppressed per DHMH/MCR Data Use Policy

^ Area rate does not include Baltimore City

Source: Maryland Cancer Registry

Appendix E

Table 9: All Cancer Sites Mortality
Age-Adjusted Mortality Rates
by Geographical Area, Maryland, 2012-2016

Geographical Area	Mortality Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	160.3	158.9	161.7
Northwest Region	160.2	155.6	164.8
Allegany	168.8	157.5	180.1
Frederick	152.5	145.6	159.4
Garrett	140.8	124.9	156.7
Washington	172.4	163.9	180.9
Baltimore Metropolitan Area ^	158.5	156.3	160.8
Anne Arundel	165.6	160.9	170.3
Baltimore City	221.7	216.5	227.0
Baltimore County	163.2	159.7	166.8
Carroll	159.9	152.0	167.7
Harford	169.9	163.0	176.7
Howard	121.3	115.6	127.0
National Capital Area	136.4	134.0	138.7
Montgomery	117.4	114.6	120.3
Prince George's	161.0	157.0	164.9
Southern Region	169.9	163.7	176.2
Calvert	166.3	154.5	178.0
Charles	167.2	157.4	176.9
St. Mary's	176.8	165.4	188.2
Eastern Shore Region	177.2	172.3	182.0
Caroline	183.0	163.8	202.1
Cecil	189.2	177.5	200.9
Dorchester	195.4	177.0	213.8
Kent	151.2	132.0	170.3
Queen Anne's	159.3	145.1	173.6
Somerset	182.5	160.8	204.2
Talbot	137.4	124.7	150.0
Wicomico	195.7	184.1	207.4
Worcester	178.6	165.7	191.5

* Rates are per 100,000 population and are age-adjusted to 2000 U.S. standard population

^ Area rate does not include Baltimore City

Source: CDC Wonder, 2012-2016

Appendix E

Table 10: Lung and Bronchus Cancer Mortality
Age-Adjusted Mortality Rates
by Geographical Area, Maryland, 2012-2016

Geographical Area	Mortality Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	40.1	39.4	40.8
Northwest Region	41.2	38.9	43.5
Allegany	47.8	41.9	53.8
Frederick	35.1	31.8	38.4
Garrett	36.2	28.7	45.1
Washington	47.6	43.1	52.0
Baltimore Metropolitan Area ^	41.3	40.1	42.4
Anne Arundel	45.0	42.5	47.4
Baltimore City	60.0	57.3	62.8
Baltimore County	42.6	40.8	44.4
Carroll	41.6	37.6	45.6
Harford	46.1	42.5	49.7
Howard	26.0	23.3	28.7
National Capital Area	28.1	27.1	29.2
Montgomery	23.0	21.8	24.3
Prince George's	34.9	33.0	36.7
Southern Region	44.3	41.1	47.4
Calvert	44.4	38.3	50.6
Charles	39.8	35.0	44.5
St. Mary's	50.0	44.0	56.0
Eastern Shore Region	51.0	48.4	53.5
Caroline	59.6	48.9	70.4
Cecil	62.6	55.9	69.3
Dorchester	53.5	44.2	62.8
Kent	34.8	26.3	45.2
Queen Anne's	41.8	34.6	49.0
Somerset	63.2	51.1	77.3
Talbot	33.9	27.6	40.2
Wicomico	52.8	46.8	58.8
Worcester	51.2	44.5	58.0

* Rates are per 100,000 population and are age-adjusted to 2000 U.S. standard population

^ Area rate does not include Baltimore City

Source: CDC Wonder, 2012-2016

Appendix E

Table 11: Colorectal Cancer Mortality
Age-Adjusted Mortality Rates
by Geographical Area, Maryland, 2012-2016

Geographical Area	Mortality Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	14.1	13.7	14.5
Northwest Region	15.3	13.9	16.8
Allegany	16.0	12.7	20.0
Frederick	13.9	11.8	16.0
Garrett	14.8	10.1	20.9
Washington	17.3	14.6	20.0
Baltimore Metropolitan Area ^	13.8	13.2	14.5
Anne Arundel	13.3	12.0	14.6
Baltimore City	20.9	19.3	22.6
Baltimore County	14.4	13.3	15.4
Carroll	14.9	12.4	17.3
Harford	16.4	14.3	18.6
Howard	10.1	8.5	11.8
National Capital Area	11.7	11.0	12.4
Montgomery	9.1	8.3	9.9
Prince George's	15.0	13.8	16.3
Southern Region	14.8	13.0	16.6
Calvert	14.0	10.8	17.8
Charles	16.4	13.4	19.4
St. Mary's	13.4	10.5	16.9
Eastern Shore Region	14.2	12.8	15.5
Caroline	14.2	9.4	20.7
Cecil	15.2	12.1	19.0
Dorchester	21.7	15.8	29.0
Kent	15.5	9.3	24.1
Queen Anne's	11.1	7.6	15.6
Somerset	**	**	**
Talbot	6.2	3.9	9.3
Wicomico	17.7	14.2	21.1
Worcester	14.4	10.9	18.6

* Rates are per 100,000 population and are age-adjusted to 2000 U.S. standard population

** Rates based on death counts of 0-19 deaths are suppressed per DHMH/CCPC Mortality Data Suppression Policy

^ Area rate does not include Baltimore City

Source: CDC Wonder, 2012-2016

Appendix E

Table 12: Female Breast Cancer Mortality
Age-Adjusted Mortality Rates
by Geographical Area, Maryland, 2012-2016

Geographical Area	Mortality Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	22.2	21.5	22.9
Northwest Region	21.7	19.3	24.0
Allegany	18.4	13.4	24.6
Frederick	21.6	18.1	25.1
Garrett	20.3	12.9	30.5
Washington	23.6	19.3	28.0
Baltimore Metropolitan Area ^	21.6	20.5	22.7
Anne Arundel	20.7	18.5	22.9
Baltimore City	27.0	24.6	29.4
Baltimore County	22.6	20.8	24.4
Carroll	23.6	19.5	27.7
Harford	23.9	20.5	27.4
Howard	17.0	14.2	19.8
National Capital Area	21.3	20.1	22.5
Montgomery	18.2	16.8	19.7
Prince George's	25.1	23.1	27.1
Southern Region	25.7	22.4	28.9
Calvert	26.3	20.6	33.1
Charles	25.6	20.6	30.6
St. Mary's	25.3	19.7	31.9
Eastern Shore Region	21.2	18.9	23.6
Caroline	22.0	13.6	33.6
Cecil	19.4	14.7	25.2
Dorchester	21.5	13.5	32.6
Kent	21.6	13.0	33.7
Queen Anne's	17.5	11.7	25.2
Somerset	**	**	**
Talbot	15.5	9.9	23.0
Wicomico	22.9	17.9	29.0
Worcester	30.7	23.3	39.6

* Rates are per 100,000 women and are age-adjusted to 2000 U.S. standard population

** Rates based on death counts of 0-19 deaths are suppressed per DHMH/CCPC Mortality Data Suppression Policy

^ Area rate does not include Baltimore City

Source: CDC Wonder, 2012-2016

Appendix E

Table 13: Prostate Cancer Mortality
Age-Adjusted Mortality Rates
by Geographical Area, Maryland, 2012-2016

Geographical Area	Mortality Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	20.1	19.3	20.9
Northwest Region	17.7	15.3	20.1
Allegany	17.2	12.2	23.5
Frederick	19.1	15.3	23.4
Garrett	**	**	**
Washington	15.6	11.9	20.1
Baltimore Metropolitan Area ^	17.6	16.4	18.8
Anne Arundel	18.6	16.1	21.2
Baltimore City	32.1	28.8	35.5
Baltimore County	17.9	16.1	19.7
Carroll	15.3	11.6	19.7
Harford	16.5	13.2	20.5
Howard	18.2	14.6	21.8
National Capital Area	20.1	18.7	21.6
Montgomery	15.5	13.9	17.1
Prince George's	27.3	24.5	30.1
Southern Region	23.2	19.3	27.0
Calvert	28.4	20.9	37.7
Charles	21.7	15.9	28.8
St. Mary's	20.6	14.9	27.6
Eastern Shore Region	19.9	17.4	22.4
Caroline	**	**	**
Cecil	18.9	13.5	25.9
Dorchester	20.0	12.1	31.3
Kent	**	**	**
Queen Anne's	19.8	12.6	29.7
Somerset	**	**	**
Talbot	17.3	11.6	24.9
Wicomico	23.7	17.7	31.1
Worcester	21.8	15.9	29.2

* Rates are per 100,000 men and are age-adjusted to 2000 U.S. standard population

** Rates based on death counts of 0-19 deaths are suppressed per DHMH/CCPC Mortality Data Suppression Policy

^ Area rate does not include Baltimore City

Source: CDC Wonder, 2012-2016

Appendix E

Table 14: Oral Cancer Mortality
Age-Adjusted Mortality Rates
by Geographical Area, Maryland, 2012-2016

Geographical Area	Mortality Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	2.4	2.3	2.6
Northwest Region	2.3	1.8	2.9
Allegany	4.3	2.6	6.5
Frederick	1.8	1.1	2.7
Garrett	**	**	**
Washington	2.2	1.4	3.4
Baltimore Metropolitan Area ^	2.2	1.9	2.4
Anne Arundel	2.7	2.2	3.4
Baltimore City	4.2	3.4	4.9
Baltimore County	2.2	1.8	2.6
Carroll	**	**	**
Harford	1.6	1.0	2.4
Howard	1.4	0.9	2.2
National Capital Area	2.0	1.7	2.2
Montgomery	1.6	1.3	2.0
Prince George's	2.5	2.0	2.9
Southern Region	2.7	2.0	3.6
Calvert	**	**	**
Charles	3.0	1.9	4.7
St. Mary's	**	**	**
Eastern Shore Region	3.2	2.6	3.9
Caroline	**	**	**
Cecil	**	**	**
Dorchester	**	**	**
Kent	**	**	**
Queen Anne's	**	**	**
Somerset	**	**	**
Talbot	**	**	**
Wicomico	4.7	3.0	6.8
Worcester	**	**	**

* Rates are per 100,000 population and are age-adjusted to 2000 U.S. standard population

** Rates based on death counts of 0-19 deaths are suppressed per DHMH/CCPC Mortality Data Suppression Policy

^ Area rate does not include Baltimore City

Source: CDC Wonder, 2012-2016

Appendix E

Table 15: Melanoma Mortality
Age-Adjusted Mortality Rates
by Geographical Area, Maryland, 2012-2016

Geographical Area	Mortality Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	2.2	2.1	2.4
Northwest Region	2.6	2.0	3.3
Allegany	**	**	**
Frederick	2.3	1.5	3.4
Garrett	**	**	**
Washington	3.5	2.4	5.0
Baltimore Metropolitan Area ^	2.7	2.4	3.0
Anne Arundel	2.9	2.3	3.6
Baltimore City	1.5	1.1	2.0
Baltimore County	2.7	2.2	3.2
Carroll	3.9	2.7	5.4
Harford	2.7	1.9	3.8
Howard	1.5	1.0	2.2
National Capital Area	1.6	1.3	1.8
Montgomery	1.6	1.3	2.0
Prince George's	1.5	1.1	2.0
Southern Region	2.3	1.6	3.2
Calvert	**	**	**
Charles	**	**	**
St. Mary's	**	**	**
Eastern Shore Region	3.1	2.4	3.8
Caroline	**	**	**
Cecil	5.2	3.3	7.7
Dorchester	**	**	**
Kent	**	**	**
Queen Anne's	**	**	**
Somerset	**	**	**
Talbot	**	**	**
Wicomico	**	**	**
Worcester	**	**	**

* Rates are per 100,000 population and are age-adjusted to 2000 U.S. standard population

** Rates based on death counts of 0-19 deaths are suppressed per DHMH/CCPC Mortality Data Suppression Policy

^ Area rate does not include Baltimore City

Source: CDC Wonder, 2012-2016

Appendix E

Table 16: Cervical Cancer Mortality
Age-Adjusted Mortality Rates
by Geographical Area, Maryland, 2012-2016

Geographical Area	Mortality Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	1.9	1.7	2.2
Northwest Region	1.9	1.3	2.8
Allegany	**	**	**
Frederick	**	**	**
Garrett	**	**	**
Washington	**	**	**
Baltimore Metropolitan Area ^	1.7	1.4	2.0
Anne Arundel	1.8	1.2	2.6
Baltimore City	4.2	3.3	5.3
Baltimore County	2.1	1.6	2.8
Carroll	**	**	**
Harford	**	**	**
Howard	**	**	**
National Capital Area	1.8	1.4	2.1
Montgomery	1.2	0.8	1.6
Prince George's	2.6	2.0	3.3
Southern Region	**	**	**
Calvert	**	**	**
Charles	**	**	**
St. Mary's	**	**	**
Eastern Shore Region	1.6	1.0	2.5
Caroline	**	**	**
Cecil	**	**	**
Dorchester	**	**	**
Kent	**	**	**
Queen Anne's	**	**	**
Somerset	**	**	**
Talbot	**	**	**
Wicomico	**	**	**
Worcester	**	**	**

* Rates are per 100,000 women and are age-adjusted to 2000 U.S. standard population

** Rates based on death counts of 0-19 deaths are suppressed per DHMH/CCPC Mortality Data Suppression Policy

^ Area rate does not include Baltimore City

Source: CDC Wonder, 2012-2016

Appendix F

Trends in Cancer Incidence and Mortality Rates in Maryland by Cancer Site, Race or Gender, and Year, 2012-2016

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Appendix F. Trends in Cancer Incidence and Mortality Rates in Maryland by Cancer Site, Race or Gender, and Year, 2012-2016

Table 1: Cancer Incidence Rates by Cancer Site and Year Maryland, 2012-2016

Cancer Site	2012	2013	2014	2015	2016	APC 2012-2016	MD Trend
All Cancer Sites	432.1	452.2	442.0	449.3	443.6	0.5%	↑
Lung	56.4	56.6	55.8	55.5	54.0	-1.1%	↓
Colorectal	35.8	35.9	37.3	35.9	35.4	-0.2%	↓
Female Breast	125.0	134.6	130.3	131.4	128.9	0.4%	↑
Prostate	112.0	124.5	119.4	120.6	124.6	1.8%	↑
Oral	10.5	10.8	10.5	11.1	10.8	0.8%	↑
Melanoma	20.7	22.3	21.9	25.5	24.1	4.5%	↑
Cervical	6.3	5.9	6.3	6.7	6.5	1.9%	↑

Rates are age-adjusted to 2000 U.S. standard population

APC = Annual Percent Change (%)

Source: Maryland Cancer Registry

Table 2: Cancer Mortality Rates by Cancer Site and Year Maryland, 2012-2016

Cancer Site	2012	2013	2014	2015	2016	APC 2012-2016	MD Trend
All Cancer Sites	165.7	162.9	161.8	155.1	156.5	-1.6%	↓
Lung	43.5	41.1	41.3	37.6	37.5	-3.8%	↓
Colorectal	14.9	14.0	14.4	13.5	13.8	-1.9%	↓
Female Breast	23.7	21.5	22.9	21.7	21.3	-2.0%	↓
Prostate	20.4	19.1	19.3	21.0	20.6	1.2%	↑
Oral	2.1	2.5	2.3	2.2	3.0	6.0%	↑
Melanoma	2.7	2.6	2.1	1.8	2.1	-8.3%	↓
Cervical	2.0	2.0	1.8	1.9	2.0	-0.5%	↓

Rates are age-adjusted to 2000 U.S. standard population

APC = Annual Percent Change (%)

Source: NCHS Compressed Mortality File in CDC WONDER, 2012-2016

Appendix F. Trends in Cancer Incidence and Mortality Rates in Maryland by Cancer Site, Race or Gender, and Year, 2012-2016

Table 3: Cancer Incidence Rates by Race and Year Maryland, 2012-2016

Cancer Site	Race	2012	2013	2014	2015	2016	APC 2012-2016
All Cancer Sites	White	440.4	461.8	450.6	462.1	453.0	0.6%
	Black	425.9	446.6	443.6	441.8	430.4	0.1%
Lung	White	58.5	58.9	57.6	59.7	57.0	-0.4%
	Black	55.9	55.3	56.7	51.0	50.4	-2.8%
Colorectal	White	34.5	34.1	35.8	35.1	35.2	0.7%
	Black	40.1	41.3	41.8	39.1	36.3	-2.5%
Female Breast	White	126.9	134.8	132.8	133.4	127.4	0.0%
	Black	121.5	139.7	129.1	130.6	131.8	1.0%
Prostate	White	97.5	108.0	101.3	98.5	105.8	0.7%
	Black	159.7	185.6	184.5	188.4	181.8	2.8%
Oral	White	11.7	12.0	12.1	12.1	12.5	1.4%
	Black	8.3	7.7	7.5	9.2	7.8	0.5%
Cervix	White	5.9	5.3	6.3	6.4	6.3	3.2%
	Black	7.6	7.1	6.1	7.1	6.7	-2.5%

Rates are age-adjusted to 2000 U.S. standard population

APC = Annual Percent Change (%)

Source: Maryland Cancer Registry

Table 4: Melanoma Incidence Rates by Gender and Year Maryland, 2012-2016

Cancer Site	Gender	2012	2013	2014	2015	2016	APC 2012-2016
Melanoma	Male	27.9	29.4	30.0	34.3	31.6	4.1%
	Female	15.5	17.4	16.1	19.2	18.8	5.0%

Rates are age-adjusted to 2000 U.S. standard population

APC = Annual Percent Change (%)

Source: Maryland Cancer Registry

Appendix F. Trends in Cancer Incidence and Mortality Rates in Maryland by Cancer Site, Race or Gender, and Year, 2012-2016

Table 5: Mortality Rates by Race and Year Maryland, 2012-2016

Cancer Site	Race	2012	2013	2014	2015	2016	APC 2012-2016
All Cancer Sites	White	164.4	161.6	160.6	152.2	154.7	-1.8%
	Black	183.0	182.0	181.0	176.3	176.2	-1.1%
Lung	White	44.7	42.4	43.7	38.2	39.3	-3.6%
	Black	44.2	41.8	40.2	39.7	37.7	-3.6%
Colorectal	White	13.5	12.8	13.8	12.8	13.1	-0.6%
	Black	20.1	18.2	18.0	17.3	16.4	-4.5%
Female Breast	White	23.1	19.8	21.1	20.5	19.0	-3.5%
	Black	26.5	28.1	29.0	26.5	27.8	0.4%
Prostate	White	17.4	16.4	15.9	16.8	16.1	-1.3%
	Black	35.4	32.8	35.6	38.3	40.6	4.4%
Oral	White	2.0	2.3	2.3	2.3	2.9	7.7%
	Black	2.6	2.9	2.3	2.3	3.6	4.3%
Cervix	White	1.6	1.9	1.5	1.5	1.7	-1.1%
	Black	3.0	2.7	2.6	3.0	2.8	-0.3%

Rates are age-adjusted to 2000 U.S. standard population

APC = Annual Percent Change (%)

Source: NCHS Compressed Mortality File in CDC WONDER, 2012-2016

Table 6: Melanoma Mortality Rates by Gender and Year Maryland, 2012-2016

Cancer Site	Gender	2012	2013	2014	2015	2016	APC 2012-2016
Melanoma	Male	4.2	4.3	3.2	2.8	3.5	-7.6%
	Female	1.6	1.4	1.3	1.1	1.0	-11.1%

Rates are age-adjusted to 2000 U.S. standard population

APC = Annual Percent Change (%)

Source: NCHS Compressed Mortality File in CDC WONDER, 2012-2016

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Appendix G

Trends in Cancer Stage of Disease at Diagnosis in Maryland by Cancer Site and Year, 2012-2016

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Appendix G

Table 1: All Cancer Sites
Distribution of Cancer Stage at Diagnosis by Year
Maryland, 2012-2016

Stage	2012	2013	2014	2015	2016
	%	%	%	%	%
Local	45.1%	45.9%	44.0%	44.9%	42.9%
Regional	20.3%	20.3%	20.8%	20.8%	19.3%
Distant	22.6%	23.3%	23.1%	23.0%	22.8%
Unstaged	12.0%	10.6%	12.0%	11.4%	15.0%

Source: Maryland Cancer Registry

Note: Due to a methodology change, SEER summary stage 2000 was used in 2016, while the derived SEER summary stage 2000 was used from 2012 to 2015

Table 2: Lung Cancer
Distribution of Cancer Stage at Diagnosis by Year
Maryland, 2012-2016

Stage	2012	2013	2014	2015	2016
	%	%	%	%	%
Local	19.5%	20.1%	21.2%	21.7%	26.1%
Regional	24.8%	24.0%	22.9%	23.2%	22.2%
Distant	46.5%	48.1%	48.6%	48.5%	42.4%
Unstaged	9.3%	7.8%	7.3%	6.7%	9.3%

Source: Maryland Cancer Registry

Note: Due to a methodology change, SEER summary stage 2000 was used in 2016, while the derived SEER summary stage 2000 was used from 2012 to 2015

Table 3: Colorectal Cancer
Distribution of Cancer Stage at Diagnosis by Year
Maryland, 2012-2016

Stage	2012	2013	2014	2015	2016
	%	%	%	%	%
Local	36.9%	34.1%	35.2%	34.4%	32.3%
Regional	32.7%	34.5%	34.0%	33.3%	34.4%
Distant	22.1%	21.1%	22.4%	21.4%	19.8%
Unstaged	8.3%	10.3%	8.4%	10.8%	13.5%

Source: Maryland Cancer Registry

Note: Due to a methodology change, SEER summary stage 2000 was used in 2016, while the derived SEER summary stage 2000 was used from 2012 to 2015

Table 4: Female Breast Cancer
Distribution of Cancer Stage at Diagnosis by Year
Maryland, 2012-2016

Stage	2012	2013	2014	2015	2016
	%	%	%	%	%
Local	61.8%	59.6%	61.1%	61.4%	62.2%
Regional	27.8%	29.0%	29.0%	29.3%	26.8%
Distant	4.9%	6.3%	5.8%	5.9%	5.3%
Unstaged	5.6%	5.2%	4.1%	3.4%	5.6%

Source: Maryland Cancer Registry

Note: Due to a methodology change, SEER summary stage 2000 was used in 2016, while the derived SEER summary stage 2000 was used from 2012 to 2015

Appendix G

Table 5: Prostate Cancer
Distribution of Cancer Stage at Diagnosis by Year
Maryland, 2012-2016

Stage	2012	2013	2014	2015	2016
	%	%	%	%	%
Local	68.5%	72.8%	58.3%	61.3%	55.2%
Regional	9.5%	8.6%	10.7%	11.0%	10.2%
Distant	4.3%	4.7%	5.0%	5.0%	5.6%
Unstaged	17.7%	14.0%	26.0%	22.7%	29.0%

Source: Maryland Cancer Registry

Note: Due to a methodology change, SEER summary stage 2000 was used in 2016, while the derived SEER summary stage 2000 was used from 2012 to 2015

Table 6: Oral Cancer
Distribution of Cancer Stage at Diagnosis by Year
Maryland, 2012-2016

Stage	2012	2013	2014	2015	2016
	%	%	%	%	%
Local	28.6%	32.1%	28.6%	28.5%	28.8%
Regional	44.8%	44.2%	46.8%	45.5%	49.5%
Distant	20.3%	17.5%	18.3%	18.7%	10.4%
Unstaged	6.3%	6.2%	6.3%	7.3%	11.3%

Source: Maryland Cancer Registry

Note: Due to a methodology change, SEER summary stage 2000 was used in 2016, while the derived SEER summary stage 2000 was used from 2012 to 2015

Table 7: Melanoma
Distribution of Cancer Stage at Diagnosis by Year
Maryland, 2012-2016

Stage	2012	2013	2014	2015	2016
	%	%	%	%	%
Local	59.8%	67.7%	66.3%	68.1%	62.8%
Regional	6.9%	5.8%	6.5%	6.0%	6.7%
Distant	4.1%	5.1%	4.3%	3.3%	3.3%
Unstaged	29.2%	21.5%	22.9%	22.6%	27.1%

Source: Maryland Cancer Registry

Note: Due to a methodology change, SEER summary stage 2000 was used in 2016, while the derived SEER summary stage 2000 was used from 2012 to 2015

Table 8: Cervical Cancer
Distribution of Cancer Stage at Diagnosis by Year
Maryland, 2012-2016

Stage	2012	2013	2014	2015	2016
	%	%	%	%	%
Local	42.1%	45.0%	36.7%	37.3%	45.6%
Regional	32.1%	33.9%	36.7%	34.6%	28.8%
Distant	13.9%	14.8%	17.2%	16.7%	14.0%
Unstaged	12.0%	6.3%	9.3%	11.4%	11.6%

Source: Maryland Cancer Registry

Note: Due to a methodology change, SEER summary stage 2000 was used in 2016, while the derived SEER summary stage 2000 was used from 2012 to 2015

Appendix H

Trends in All Cancer Sites Incidence and Mortality Rates in Maryland and U.S. by Year, 2007-2016

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Appendix H. Trends in All Cancer Sites Incidence and Mortality Rates in Maryland and U.S. by Year, 2007-2016

Table 1: All Cancer Sites Incidence Rates by Year
Maryland and U.S., 2007-2016

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	APC 2007-2016	Trend
Maryland	455.3	470.8	443.7	449.8	440.7	432.1	452.2	442.0	449.3	443.6	-0.4%	↓
U.S.	474.6	468.5	464.8	451.9	443.7	436.7	431.0	428.6	429.5	424.1	-1.3%	↓

Rates are age-adjusted to 2000 U.S. standard population

APC = Annual Percent Change (%)

Sources: Maryland Cancer Registry

U.S. SEER, SEER*Stat Database

Table 2: All Cancer Sites Mortality Rates by Year
Maryland and U.S., 2007-2016

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	APC 2007-2016	Trend
Maryland	180.4	180.6	177.7	170.9	165.7	165.7	162.9	161.8	155.1	156.5	-1.8%	↓
U.S.	178.4	175.3	173.1	171.8	168.7	166.4	163.0	161.3	158.7	155.9	-1.5%	↓

Rates are age-adjusted to 2000 U.S. standard population

APC = Annual Percent Change (%)

Sources: NCHS Compressed Mortality File in CDC WONDER, 2007, 2012-2015 (MD)

Maryland Vital Statistics Administration from MATCH, 2008-2010 (MD)

Maryland Vital Statistics Administration, 2011 (MD)

NCHS Compressed Mortality File in CDC WONDER, 2007-2008 (U.S.)

U.S. SEER, Cancer Statistics Review, 2009-2016 (U.S.)

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