Maryland Department of Health and Mental Hygiene

2011 Cancer Data

Cigarette Restitution Fund Program

Cancer Prevention, Education, Screening and Treatment Program

November 2012

Table of Contents

I. Major Findings

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

- In 2008, a total of 27,688 new cases of cancer were diagnosed in Maryland.
- From 1999 to 2008, the overall cancer incidence rate declined in Maryland at a pace comparable to the decline in the U.S. rate.
- From 2004 to 2008, incidence rates for all cancer sites have remained slightly higher among whites than blacks in Maryland, although rates increased for blacks and remained the same for whites.
- Mortality rates for all cancer sites decreased from 1999 to 2008 in Maryland.
- Blacks have higher mortality rates than whites from 2004 to 2008; the annual percent change had a greater decline for whites than for blacks.
- Maryland ranks 20th among all states and the District of Columbia in total cancer mortality for the period 2004-2008, same as the period 2003-2007.

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

- Lung cancer is the leading cause of cancer deaths in both men and women in Maryland; it accounts for 27.7% of all cancer deaths in 2008.
- Lung cancer incidence and mortality rates decreased in Maryland from 2004 to 2008; the 2008 lung cancer incidence rate in Maryland continued to remain higher than the U.S. rate.
- From 2004 to 2008, lung cancer incidence rates in Maryland declined at approximately the same rate for whites and blacks; whereas, mortality rates among blacks had a greater decline than among whites.
- Smoking rates among Maryland youths continue to decline, while smoking rates among adults had a slight increase from 2008 to 2010. In 2010, 15.2% of adults age 18 years and older were current smokers; Maryland had not yet attained the Healthy People 2020 goal of reducing the percentage of adult smokers to 12%.

C. Major findings for **colon and rectum** cancer:

- In 2008, the Maryland incidence rate for colorectal cancer was lower than the U.S. rate.
- Incidence and mortality rates for colorectal cancer declined in Maryland from 2004 to 2008. Incidence rates had a greater decrease among Maryland blacks than whites over the period; while mortality rates for whites had a greater decrease than blacks.
- Maryland continues to surpass the Healthy People 2020 target for up-to-date colorectal cancer screening; in 2010, 70.9% of adults age 50 years and older report having been up-to-date.

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

- Breast cancer is the second leading cause of cancer deaths among women after lung cancer.
- Incidence rates for female breast cancer increased from 2004 to 2008 with the incidence rate for black females surpassing that of white females in 2008.
- From 2004 to 2008, mortality rates for female breast cancer declined for white females and increased for black females.
- Maryland women continue to surpass the Healthy People 2020 target for mammography screening; in 2010, 85.6% of women age 50 to 74 years report having had a mammogram within the past 2 years.

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

- Prostate cancer is the second leading cause of cancer death among men after lung cancer.
- The 2008 mortality rate for prostate cancer in Maryland was statistically significantly higher than the U.S. mortality rate.
- Incidence rates for prostate cancer increased from 2004 to 2008, while mortality rates for prostate cancer decreased.
- 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 2004 to 2008.

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

- From 2004 to 2008, oral cancer incidence increased for blacks and whites, though the increase was greater for whites; whereas, mortality rates decreased during this time period for blacks and whites.
- Marylanders were below the Maryland Comprehensive Cancer Control Plan target of 48.0% for 2015 for oral cancer screening: in 2010, 37.8% of adults age 40 years and older reported having an oral cancer exam in the past year.

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

- Melanoma incidence rates in Maryland increased from 2004 to 2008. The rate of increase was greater among males than females.
- Mortality rates in Maryland decreased from 2004 to 2008, although mortality rates increased for males and decreased for females for the same period.
- In 2010, 68.4% of Marylanders aged 18 years and older used at least one sun protective measure “always” or “nearly always.”

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

- Cervical cancer incidence among Maryland women decreased from 2004 to 2008.
- The decrease in incidence rates for black women was greater than for white women, although the gap widened in 2008.

- Mortality rates for cervical cancer differed by race from 2004 to 2008, with mortality rates among blacks remaining higher than whites.
- In 2010, close to 87% of Maryland women age 18 years and older had a Pap test within the past 3 years, slightly below the Healthy People 2020 target of 93%.

Important note: The 2006 case counts presented in this report for Montgomery and Prince George's counties are underreported for each cancer site due to delay in case reporting. Cancers reported to the MCR after the annual cutoff date are not included in the MCR official Maryland case counts and rates. The case undercounts resulted in lower than actual age-adjusted incidence rates for Montgomery and Prince George's counties, for the National Capital geographic region, and to a lesser degree, for Maryland, for 2006, thereby affecting the 5-year period 2004-2008.

II. All Cancer Sites

Incidence (New Cases)

A total of 27,688 new cases of cancer diagnosed in 2008 in Maryland residents were reported to the Maryland Cancer Registry. The total age-adjusted cancer incidence rate for Maryland was 470.8 per 100,000 population (465.2-476.5, 95% Confidence Interval [C.I.]) in 2008. The 2008 Maryland cancer incidence rate is statistically significantly higher than the 2008 United States (U.S.) Surveillance Epidemiology and End Results (SEER) rate of 456.7 per 100,000 population (455.2-458.2, 95% C.I.).

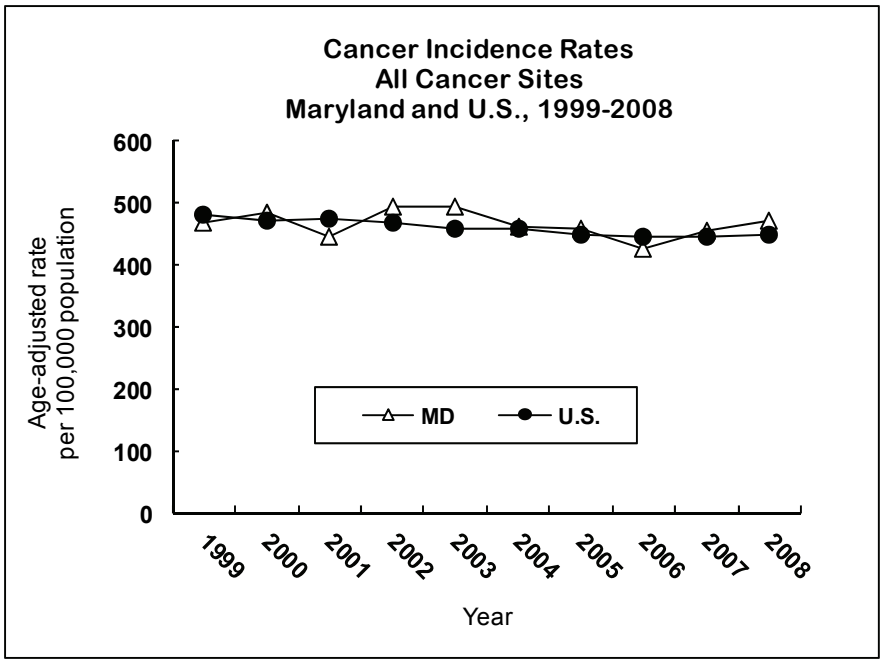
Mortality (Deaths)

Cancer is the second leading cause of death in Maryland, accounting for 23.6% of all deaths in 2008. A total of 10,345 Maryland residents died from cancer in 2008. The Maryland mortality rate for all cancer sites was 180.6 per 100,000 population (177.1-184.2, 95% C.I.) for 2008. This rate is statistically significantly higher than the 2008 U.S. cancer mortality rate of 175.3 per 100,000 population (174.9-175.8, 95% C.I.). Maryland ranks 20th highest among all states and the District of Columbia in total cancer mortality for the period 2004-2008.

Table 1.
All Cancer Sites Incidence and Mortality Rates
by Gender and Race, Maryland and the United States, 2008

Incidence 2008	*Total*	*Males*	*Females*	*Whites*	*Blacks*	*Other*
New Cases (count)	27,688	13,997	13,664	19,644	6,713	1,079
MD Incidence Rate	470.8	542.9	420.5	472.2	467.9	370.3
U.S. SEER Rate	456.7	523.6	410.7	463.5	478.6	383.6
Mortality 2008	*Total*	*Males*	*Females*	*Whites*	*Blacks*	*Other*
Deaths (count)	10,345	5,278	5,067	7,333	2,771	241
MD Mortality Rate	180.6	220.8	153.8	175.0	212.8	94.8
U.S. Mortality Rate	175.3	213.6	148.5	174.7	209.1	110.6

Rates are per 100,000 population and are age-adjusted to 2000 U.S. standard population
Total includes cases reported as transsexual, hermaphrodite, unknown gender, and unknown race
Source: Maryland Cancer Registry
U.S. SEER rates from SEER*Stat software
Maryland Vital Statistics Administration from MATCH
NCHS Compressed Mortality File in CDC WONDER

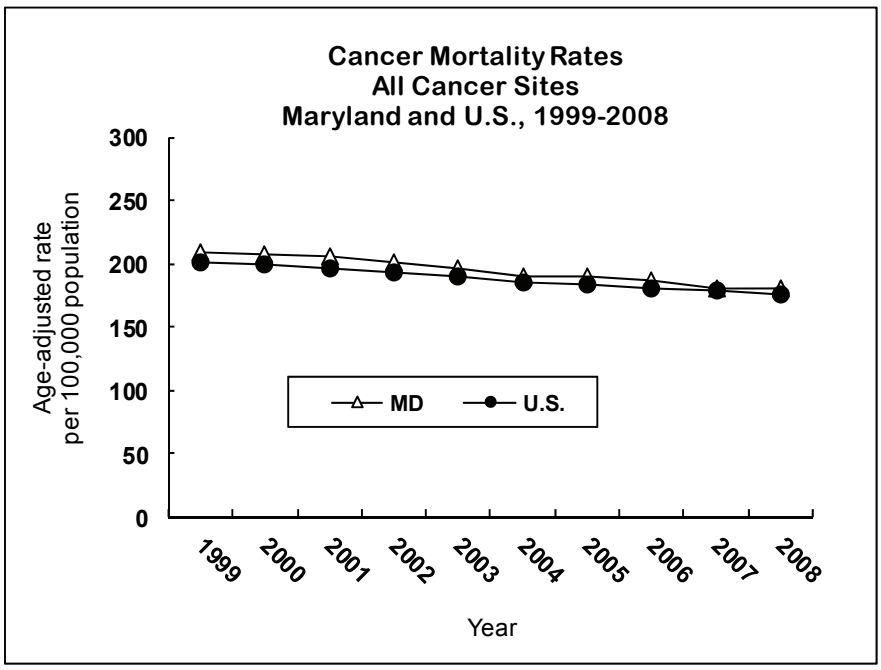


Source: Maryland Cancer Registry
U.S. SEER 13 Registries

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

All cancer sites incidence rates in Maryland declined over the 10-year period from 1999 to 2008, at a pace similar to the U.S. rate. Maryland incidence rates decreased at a rate of 0.8% per year; U.S. incidence rates decreased at a rate of 1.0% per year.

See Appendix I, Table 1.

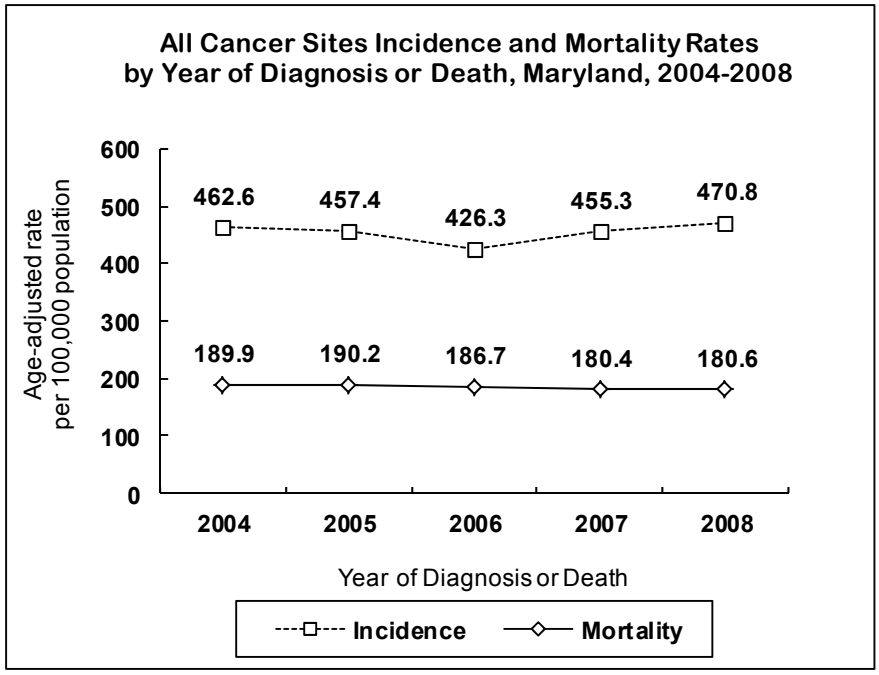


Source: NCHS Compressed Mortality File in CDC WONDER, 1999-2007 (MD and U.S.)
Maryland Vital Statistics Administration from MATCH, 2008 (MD)
NCHS Compressed Mortality File in CDC WONDER, 2008 (U.S.)

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

Maryland cancer mortality rates have declined since 1999. From 1999 to 2008, all cancer sites mortality rates in Maryland decreased at a rate of 1.9% per year, similar to the U.S. mortality rates which decreased at a rate of 1.6% for the same time period.

See Appendix I, Table 2.



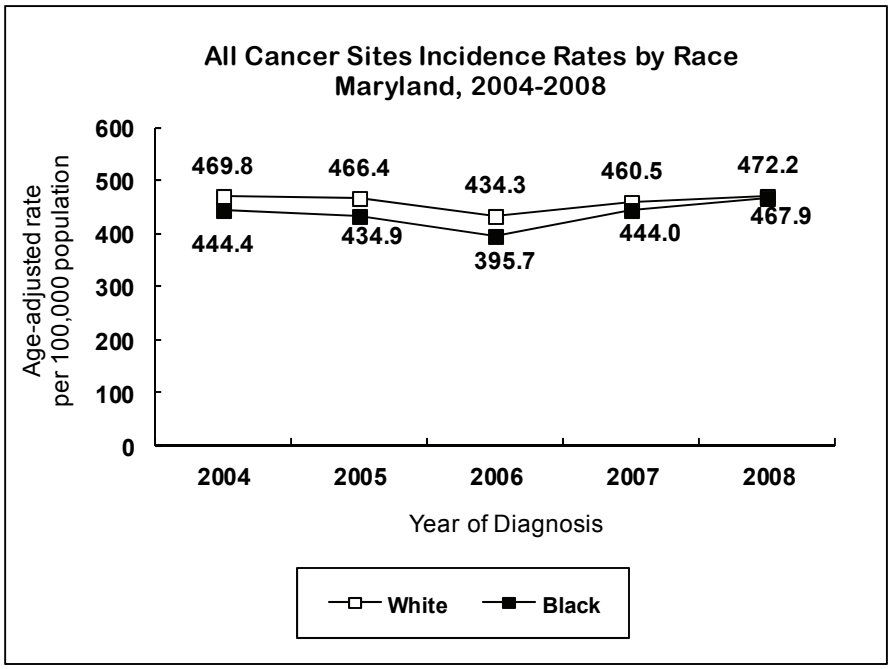
Source: Maryland Cancer Registry
NCHS Compressed Mortality File in CDC WONDER, 2004-2007

Incidence and Mortality Trends

In Maryland, the incidence rate for all cancer sites increased at a rate of 0.3% per year from 2004 to 2008.

Cancer mortality rates decreased at a rate of 1.5% per year from 2004 to 2008.

See Appendix G, Tables 1 and 2.

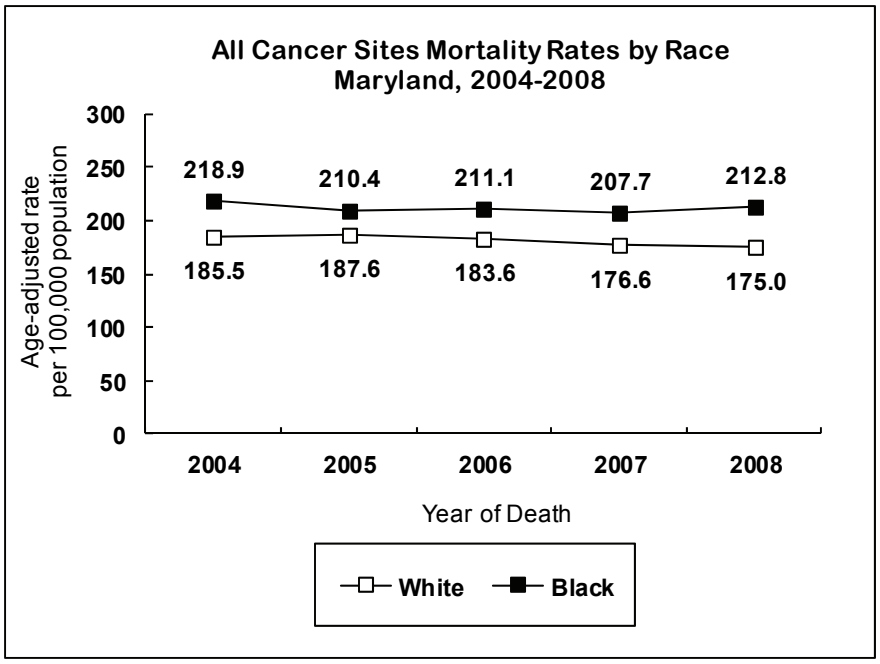


Source: Maryland Cancer Registry

Incidence Trends by Race

Incidence rates for all cancer sites have remained higher among whites than blacks in Maryland, although rates have slightly increased for both races. From 2004 to 2008, incidence rates for all cancer sites remained stable among whites and increased at a rate of 1.2% per year among blacks.

See Appendix G, Table 3.



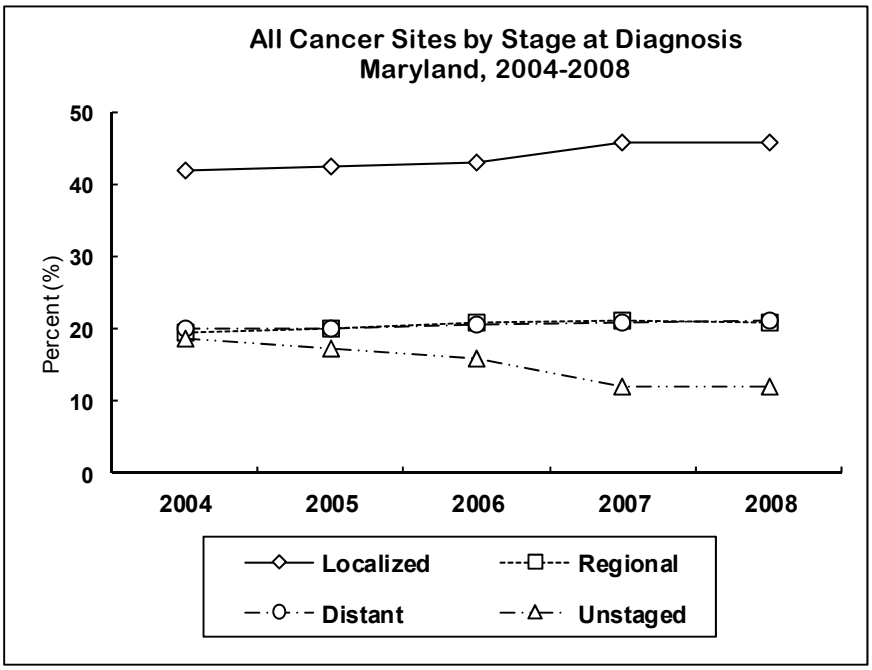
Source: NCHS Compressed Mortality File in CDC WONDER, 2004-2007
Maryland Vital Statistics Administration from MATCH, 2008

Mortality Trends by Race

Both blacks and whites showed declines in cancer mortality from 2004 to 2008, with a decrease of 0.7% per year for blacks and 1.8% per year for whites.

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

See Appendix G, Table 5.

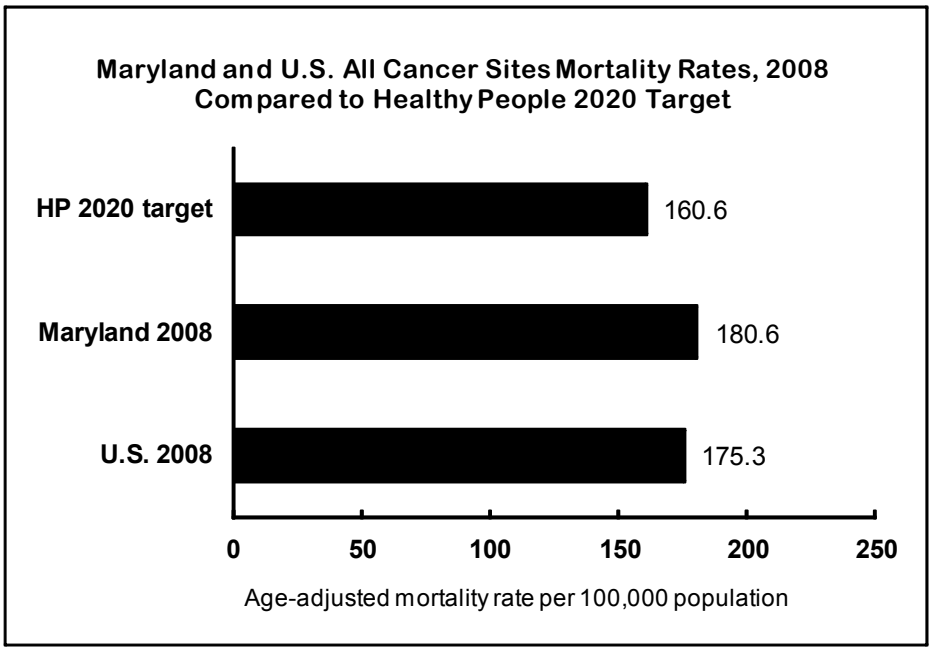


Source: Maryland Cancer Registry

Stage at Diagnosis

Of all cancers diagnosed in Maryland in 2008, 45.8% were found at the localized (early) stage, 21.0% at the regional stage, and 21.1% at the distant (late) stage. The proportion of all cancers reported as unstaged has steadily decreased in recent years.

See Appendix H, Table 1.



Source: Healthy People 2020, U.S. Department of Health and Human Services
Maryland Vital Statistics Administration from MATCH, 2008
NCHS Compressed Mortality File in CDC WONDER, 2008

Mortality Rates Compared to Healthy People 2020 Target

The overall cancer mortality rate in Maryland for 2008 was 180.6 per 100,000 population, which is above the Healthy People 2020 target to reduce cancer mortality to 160.6 per 100,000 population.

Table 2.
Number of Cancer Cases for All Cancer Sites
by Jurisdiction, Gender and Race, Maryland, 2008

Jurisdiction	Total	Gender		Race			
		Males	Females	Whites	Blacks	Other	Unknown
Maryland	27,688	13,997	13,664	19,644	6,713	1,079	252
Allegany	490	268	222	476	11	<6	<6
Anne Arundel	2,750	1,435	1,314	2,364	312	62	12
Baltimore City	3,183	1,559	1,620	1,136	1,990	33	24
Baltimore County	4,473	2,160	2,307	3,567	749	111	46
Calvert	412	198	213	342	62	<6	<6
Caroline	185	100	85	158	24	<6	<6
Carroll	829	464	362	786	27	7	9
Cecil	505	273	232	477	s	<6	<6
Charles	490	266	224	314	151	18	7
Dorchester	199	110	89	150	s	<6	<6
Frederick	976	488	488	887	58	24	7
Garrett	176	95	81	s	0	0	<6
Harford	1,246	640	606	1,108	106	23	9
Howard	1,186	592	593	887	169	114	16
Kent	152	95	57	130	22	0	0
Montgomery	4,190	2,041	2,144	3,057	603	464	66
Prince George's	3,164	1,564	1,597	988	2,000	141	35
Queen Anne's	258	123	135	240	18	0	0
Saint Mary's	475	238	237	403	62	s	<6
Somerset	159	95	64	111	40	s	<6
Talbot	276	157	119	253	20	<6	<6
Washington	729	385	344	690	s	<6	0
Wicomico	603	316	286	476	111	s	<6
Worcester	444	258	185	370	46	s	<6
Unknown	138	77	60	s	24	s	<6

Total includes cases reported as transsexual, hermaphrodite, and unknown gender

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

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

Source: Maryland Cancer Registry

Table 3.
All Cancer Sites Age-Adjusted Incidence Rates*
by Jurisdiction, Gender and Race, Maryland, 2008

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	470.8	542.9	420.5	472.2	467.9	370.3
Allegany	509.5	641.3	423.8	512.1	**	**
Anne Arundel	520.4	593.7	463.7	529.0	485.1	393.7
Baltimore City	498.4	592.9	436.8	500.4	496.1	304.8
Baltimore County	491.4	544.2	456.8	490.7	494.7	341.4
Calvert	485.8	524.8	467.2	477.9	520.0	**
Caroline	506.8	613.6	422.4	512.0	475.2	**
Carroll	457.8	557.5	378.4	455.0	477.5	**
Cecil	485.3	570.0	424.8	489.2	480.8	**
Charles	392.8	485.3	319.5	374.0	418.5	451.3
Dorchester	464.8	597.1	365.8	458.0	454.0	**
Frederick	448.0	504.1	413.1	450.3	395.0	504.9
Garrett	459.1	540.6	397.8	460.3	0.0	0.0
Harford	500.1	576.1	445.6	500.2	484.7	429.3
Howard	450.3	487.9	420.2	449.2	422.5	415.5
Kent	515.6	742.9	349.3	526.1	474.2	0.0
Montgomery	414.7	465.0	381.4	410.9	460.9	339.0
Prince George's	429.1	499.2	385.2	392.1	461.2	386.6
Queen Anne's	461.1	459.9	462.9	477.1	342.1	0.0
Saint Mary's	504.0	537.5	481.5	518.6	440.5	**
Somerset	557.9	704.2	466.0	577.4	489.5	**
Talbot	467.9	590.6	373.7	494.0	271.6	**
Washington	448.2	528.8	394.0	450.6	490.7	**
Wicomico	599.7	742.4	508.4	611.5	527.2	**
Worcester	567.7	697.2	467.1	537.7	474.9	4,817.0

* Rates are per 100,000 population 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 and Procedures

Source: Maryland Cancer Registry

Table 4.
All Cancer Sites Cases and Age-Adjusted Incidence Rates* Among Hispanics§ by Geographical Area in Maryland, 2008

Jurisdiction	Cases	Rate
Maryland	613	308.6
Allegany	<6	**
Anne Arundel	45	425.2
Baltimore City	19	180.2
Baltimore County	63	448.5
Calvert	<6	**
Caroline	0	0.0
Carroll	10	**
Cecil	<6	**
Charles	14	**
Dorchester	<6	**
Frederick	21	376.9
Garrett	0	0.0
Harford	18	498.7
Howard	21	233.0
Kent	0	0.0
Montgomery	236	266.0
Prince George's	124	280.2
Queen Anne's	<6	**
St. Mary's	7	**
Somerset	<6	**
Talbot	<6	**
Washington	8	**
Wicomico	<6	**
Worcester	<6	**
Region	**Cases**	**Rate**
Baltimore Metropolitan Area ^	176	364.7
Eastern Shore Region	17	341.1
National Capital Area	360	271.2
Northwest Region	33	438.8
Southern Region	25	549.8

* 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 II.F.)

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

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

^ Includes Baltimore City

Source: Maryland Cancer Registry

Table 5.
Number of Deaths for All Cancer Sites
by Jurisdiction, Gender and Race, Maryland, 2008

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	10,345	5,278	5,067	7,333	2,771	241
Allegany	178	79	99	s	<5	0
Anne Arundel	949	495	454	836	97	16
Baltimore City	1,391	713	678	465	921	5
Baltimore County	1,774	882	892	1,449	296	29
Calvert	148	73	75	126	22	0
Caroline	69	40	29	58	s	<5
Carroll	329	203	126	318	11	0
Cecil	214	128	86	206	8	0
Charles	217	125	92	144	s	<5
Dorchester	81	48	33	56	25	0
Frederick	333	164	169	309	s	<5
Garrett	68	36	32	68	0	0
Harford	447	232	215	398	s	<5
Howard	399	188	211	291	75	33
Kent	64	37	27	52	12	0
Montgomery	1,352	645	707	1,032	204	116
Prince George's	1,207	583	624	388	793	26
Queen Anne's	95	50	45	87	s	<5
Saint Mary's	160	89	71	129	31	0
Somerset	56	30	26	s	s	0
Talbot	118	61	57	101	17	0
Washington	300	169	131	288	s	<5
Wicomico	239	121	118	188	s	<5
Worcester	157	87	70	129	28	0

<5 = Death counts of 1-4 are suppressed per DHMH/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: Maryland Vital Statistics Administration from MATCH

Table 6.
All Cancer Sites Age-Adjusted Mortality Rates*
by Jurisdiction, Gender and Race, Maryland, 2008

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	180.6	220.8	153.8	175.0	212.8	94.8
Allegany	181.4	194.3	180.3	184.4	**	**
Anne Arundel	193.7	229.0	166.0	199.0	174.7	**
Baltimore City	216.3	283.4	173.9	190.8	237.1	**
Baltimore County	188.8	226.1	164.1	184.5	233.8	101.0
Calvert	182.7	210.8	164.5	183.8	191.9	**
Caroline	199.1	263.4	147.9	195.9	**	**
Carroll	189.0	278.1	128.9	190.1	**	**
Cecil	223.9	315.5	162.8	228.4	**	**
Charles	197.9	283.1	144.9	197.8	212.6	**
Dorchester	186.6	257.6	134.4	166.9	254.2	**
Frederick	165.0	194.6	147.2	168.1	151.9	**
Garrett	172.8	209.8	143.9	174.1	**	**
Harford	189.2	230.3	161.3	188.5	226.3	**
Howard	172.4	190.7	160.8	165.0	231.2	147.8
Kent	199.2	277.1	145.3	188.7	**	**
Montgomery	134.1	156.3	120.4	132.5	169.0	97.2
Prince George's	175.9	209.1	156.6	151.6	202.2	77.0
Queen Anne's	187.2	213.5	166.5	193.0	**	**
Saint Mary's	181.0	233.3	146.4	177.4	230.3	**
Somerset	200.9	241.4	163.0	192.1	**	**
Talbot	187.4	224.8	158.0	184.7	**	**
Washington	184.0	245.0	137.6	185.2	**	**
Wicomico	230.3	282.8	200.7	232.3	232.6	**
Worcester	193.4	243.8	151.0	183.8	275.0	**

* 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 DHMH/CCPC Mortality Data Suppression Policy

Source: Maryland Vital Statistics Administration from MATCH

Table 7.
Number of Cancer Cases for All Cancer Sites
by Jurisdiction, Gender and Race, Maryland, 2004-2008

Jurisdiction	Total	Gender		Race			
		Males	Females	Whites	Blacks	Other	Unknown
Maryland	129,200	64,877	64,172	93,787	29,751	4,602	1,060
Allegany	2,282	1,211	1,071	2,214	59	s	<6
Anne Arundel	11,906	6,149	5,725	10,255	1,319	266	66
Baltimore City	14,703	7,377	7,314	5,775	8,609	219	100
Baltimore County	21,753	10,599	11,141	17,382	3,638	551	182
Calvert	1,922	963	954	1,652	245	10	15
Caroline	842	441	400	710	119	s	<6
Carroll	4,155	2,135	2,016	3,963	118	45	29
Cecil	2,412	1,228	1,184	2,279	114	s	<6
Charles	2,436	1,269	1,160	1,683	661	66	26
Dorchester	949	515	433	732	208	<6	<6
Frederick	5,101	2,480	2,617	4,689	281	96	35
Garrett	742	390	351	735	s	0	<6
Harford	5,790	3,051	2,737	5,174	494	94	28
Howard	5,340	2,593	2,742	4,143	757	386	54
Kent	715	398	317	622	87	<6	<6
Montgomery †	19,652	9,411	10,223	14,859	2,598	1,957	238
Prince George's †	14,502	7,232	7,252	5,024	8,718	621	139
Queen Anne's	1,185	648	534	1,062	107	10	6
Saint Mary's	2,086	1,107	976	1,771	263	34	18
Somerset	669	370	299	466	183	s	<6
Talbot	1,291	675	616	1,120	160	s	<6
Washington	3,665	1,911	1,753	3,479	147	33	6
Wicomico	2,380	1,222	1,157	1,881	449	s	<6
Worcester	1,819	986	831	1,540	193	79	7
Unknown	903	516	369	577	s	s	79

Total includes cases reported as transsexual, hermaphrodite, and unknown gender

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

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

† 2006 case counts for Montgomery and Prince George's counties are underreported. (See Appendix A, Section I.A.1.)

Source: Maryland Cancer Registry

Table 8.
All Cancer Sites Age-Adjusted Incidence Rates*
by Jurisdiction, Gender and Race, Maryland, 2004-2008

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	454.5	524.1	406.4	460.6	437.6	355.0
Allegany	485.4	584.9	418.3	486.5	584.2	**
Anne Arundel	471.9	540.8	420.3	476.1	449.6	376.0
Baltimore City	456.2	558.2	390.4	482.3	435.4	402.3
Baltimore County	484.2	543.3	444.7	476.0	534.9	394.4
Calvert	479.3	542.7	436.8	487.6	436.2	**
Caroline	489.0	568.2	425.4	485.0	497.9	**
Carroll	486.6	560.9	436.4	484.2	454.3	601.4
Cecil	504.6	560.0	465.6	505.8	501.6	508.4
Charles	422.2	512.4	358.2	418.7	421.5	386.7
Dorchester	456.3	569.2	375.5	460.4	430.9	**
Frederick	502.1	566.1	466.0	507.3	427.0	365.7
Garrett	402.2	456.4	359.9	401.3	**	0.0
Harford	489.8	576.6	425.1	490.0	487.6	391.8
Howard	433.4	474.2	407.6	442.4	422.8	326.2
Kent	527.4	640.3	443.7	544.6	415.2	**
Montgomery †	402.3	446.7	373.9	404.8	425.3	323.4
Prince George's †	402.3	473.8	353.7	393.2	408.9	352.7
Queen Anne's	458.8	526.4	397.4	458.4	447.9	**
Saint Mary's	476.6	549.8	421.7	487.6	419.8	333.6
Somerset	486.4	580.5	420.5	477.7	489.5	4,342.2
Talbot	472.1	547.1	412.5	470.4	475.8	**
Washington	471.8	553.7	418.4	473.1	517.4	435.1
Wicomico	489.5	582.2	428.9	496.8	454.4	595.9
Worcester	495.8	569.7	439.8	483.4	420.3	3,753.7

* Rates are per 100,000 population 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 and Procedures

† 2004-2008 incidence rates for Montgomery County and Prince George's County are lower than actual due to case underreporting in 2006. (See Appendix A, Section I.A.1.)

Source: Maryland Cancer Registry

Table 9.
Number of Cancer Deaths for All Cancer Sites
by Jurisdiction, Gender and Race, Maryland, 2004-2008

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	51,318	25,917	25,401	37,098	13,146	1,074
Allegany	935	483	452	920	s	<5
Anne Arundel	4,693	2,398	2,295	4,092	546	55
Baltimore City	7,219	3,666	3,553	2,560	4,627	32
Baltimore County	8,815	4,401	4,414	7,428	1,273	114
Calvert	761	397	364	634	s	<5
Caroline	376	202	174	316	s	<5
Carroll	1,519	805	714	1,468	42	9
Cecil	1,007	542	465	960	s	<5
Charles	1,092	573	519	773	302	17
Dorchester	412	217	195	308	s	<5
Frederick	1,753	909	844	1,622	116	15
Garrett	326	174	152	322	<5	<5
Harford	2,160	1,109	1,051	1,931	209	20
Howard	1,735	841	894	1,339	293	103
Kent	302	159	143	250	52	0
Montgomery	6,629	3,100	3,529	5,216	894	519
Prince George's	6,000	2,963	3,037	2,134	3,708	158
Queen Anne's	513	293	220	456	s	<5
Saint Mary's	839	470	369	703	s	<5
Somerset	299	161	138	222	s	<5
Talbot	532	273	259	459	s	<5
Washington	1,521	797	724	1,451	65	5
Wicomico	1,113	566	547	872	232	9
Worcester	767	418	349	662	105	0

<5 = Death counts of 1-4 are suppressed per DHMH/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: Maryland Vital Statistics Administration from MATCH

Table 10.
All Cancer Sites Age-Adjusted Mortality Rates*
by Jurisdiction, Gender and Race, Maryland, 2004-2008

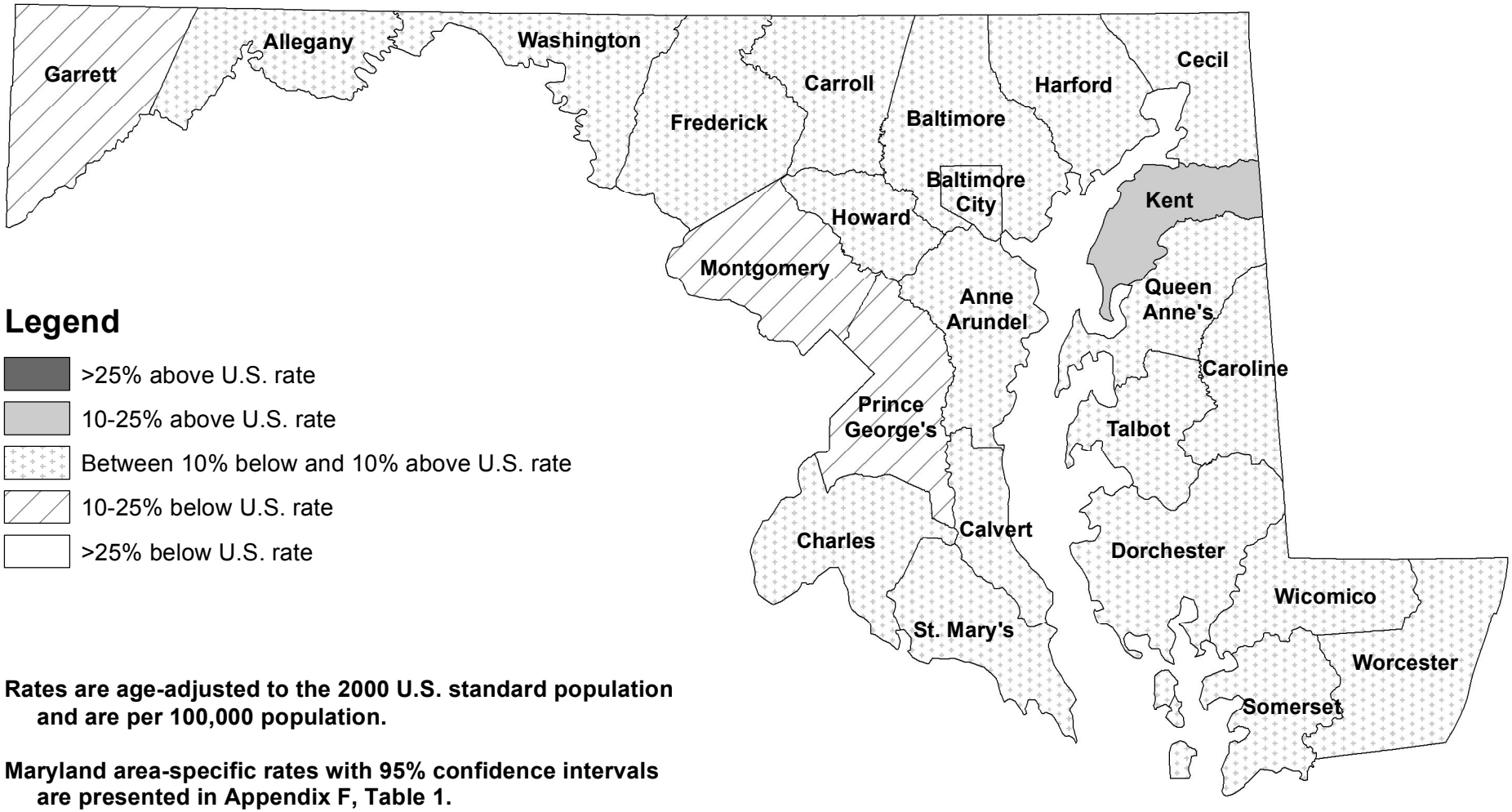
Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	184.5	223.3	158.8	180.8	210.8	93.2
Allegany	187.2	235.4	157.5	189.1	**	**
Anne Arundel	197.7	233.3	172.6	199.8	206.2	84.9
Baltimore City	224.2	290.2	183.4	203.5	240.1	64.2
Baltimore County	189.5	227.7	163.8	189.4	210.5	87.4
Calvert	203.0	245.7	173.6	200.5	234.4	**
Caroline	218.7	270.4	179.0	215.5	239.0	**
Carroll	183.9	229.7	152.9	184.3	191.6	**
Cecil	219.7	269.9	184.4	220.9	226.1	**
Charles	210.7	269.8	173.6	214.1	213.0	**
Dorchester	192.6	241.8	161.0	186.6	214.5	**
Frederick	182.0	225.8	153.1	183.3	199.8	**
Garrett	172.3	206.7	147.1	171.5	**	**
Harford	190.9	225.6	165.9	190.0	221.0	90.0
Howard	159.5	185.5	144.9	160.7	189.3	100.7
Kent	202.9	248.1	175.0	195.4	246.0	**
Montgomery	137.8	157.0	126.3	138.8	164.8	97.0
Prince George's	182.2	221.1	157.9	167.4	200.6	101.5
Queen Anne's	205.5	250.7	166.2	205.1	227.0	**
Saint Mary's	205.0	262.3	165.6	207.0	220.7	**
Somerset	217.1	266.2	178.1	219.3	215.7	**
Talbot	178.2	213.5	150.7	175.4	204.7	**
Washington	191.6	237.2	159.7	191.0	278.8	**
Wicomico	226.8	279.2	192.7	226.1	239.0	**
Worcester	197.7	237.8	165.5	195.9	222.2	**

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

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

Source: Maryland Vital Statistics Administration from MATCH

Maryland All Cancer Sites Incidence Rates by Geographical Area: Comparison to U.S. Rate, 2004-2008



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

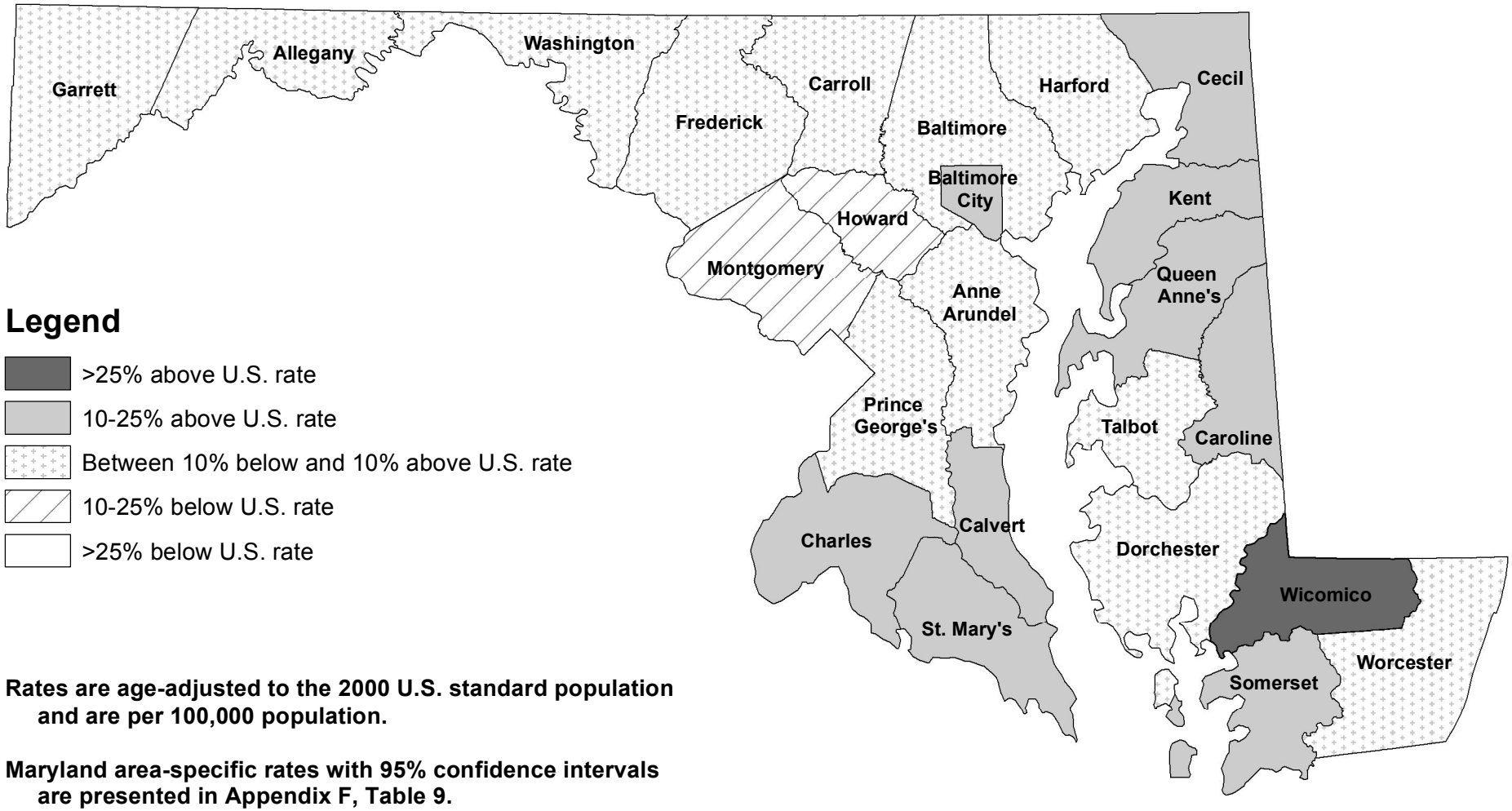
Maryland area-specific rates with 95% confidence intervals are presented in Appendix F, Table 1.

U.S. all cancer sites incidence rate, 2004-2008: 464.4/100,000

Maryland all cancer sites incidence rate, 2004-2008: 454.5/100,000

Source: MD incidence rates from Maryland Cancer Registry, 2004-2008
U.S. (SEER 17) rate from SEER*Stat Software

Maryland All Cancer Sites Mortality Rates by Geographical Area: Comparison to U.S. Rate, 2004-2008



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 F, Table 9.

U.S. all cancer sites mortality rate, 2004-2008: 181.3/100,000

Maryland all cancer sites mortality rate, 2004-2008: 184.5/100,000

Source: MD mortality rates from Maryland Vital Statistics from MATCH, 2004-2008
U.S. mortality rate from NCHS Compressed Mortality File in CDC WONDER, 2004-2008

III. Targeted Cancers

A. Lung and Bronchus Cancer

Incidence (New Cases)

There were 3,717 new cases of lung and bronchus cancer (called lung cancer) reported among Maryland residents in 2008. The 2008 Maryland age-adjusted lung cancer incidence rate was 64.6 per 100,000 population (62.5-66.8, 95% C.I.), which is statistically significantly higher than the 2008 U.S. SEER lung cancer incidence rate of 59.2 per 100,000 population (58.6-59.7, 95% C.I.).

Mortality (Deaths)

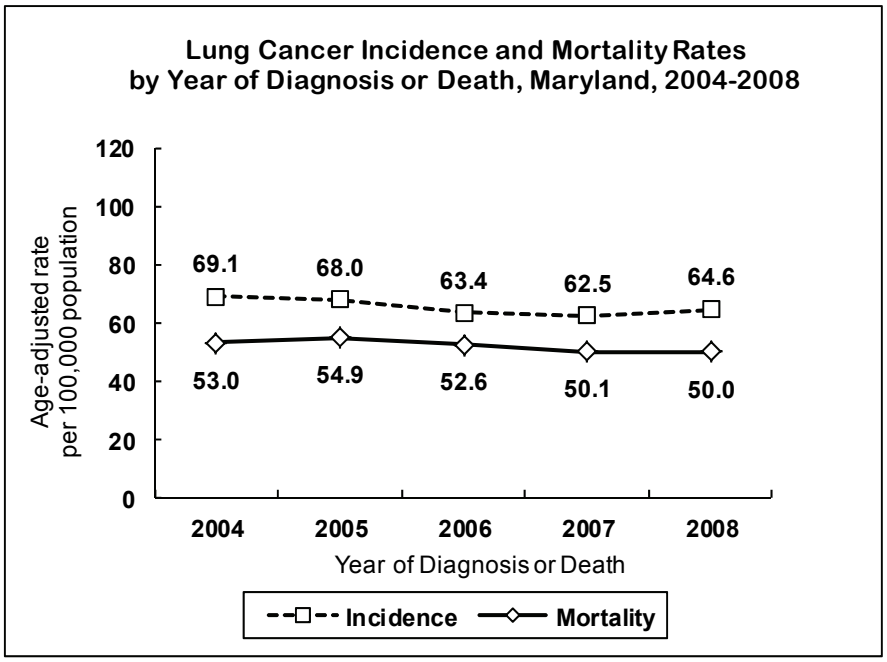
There were 2,862 lung cancer deaths among Maryland residents in 2008. In 2008, lung cancer accounted for 27.7% of all cancer deaths in Maryland and was the leading cause of cancer death in both men and women. The 2008 age-adjusted lung cancer mortality rate was 50.0 per 100,000 population (48.2-51.9, 95% C.I.) in Maryland. This rate is similar to the 2008 U.S. mortality rate for lung and bronchus cancer of 49.5 per 100,000 population (49.3-49.7, 95% C.I.). Maryland had the 25th highest lung cancer mortality rate among the states and the District of Columbia for the period 2004-2008.

Note: Maryland 2008 mortality data includes cancer of the trachea.

Table 11.
Lung Cancer Incidence and Mortality Rates
by Gender and Race, Maryland and United States, 2008

Incidence 2008	*Total*	*Males*	*Females*	*Whites*	*Blacks*	*Other*
New Cases (count)	3,717	1,896	1,820	2,746	856	106
MD Incidence Rate	64.6	76.8	56.1	66.1	63.0	38.8
U.S. SEER Rate	59.2	71.2	50.4	60.5	69.2	39.0
Mortality 2008	*Total*	*Males*	*Females*	*Whites*	*Blacks*	*Other*
Deaths (count)	2,862	1,552	1,310	2,137	679	46
MD Mortality Rate	50.0	63.9	40.1	51.1	51.8	18.7
U.S. Mortality Rate	49.5	63.6	39.0	50.2	53.5	26.3

Rates are per 100,000 population and are age-adjusted to 2000 U.S. standard population
Total includes cases reported as transsexual, hermaphrodite, unknown gender, and unknown race
Source: Maryland Cancer Registry
U.S. SEER rates from SEER*Stat software
Maryland Vital Statistics Administration from MATCH
NCHS Compressed Mortality File in CDC WONDER



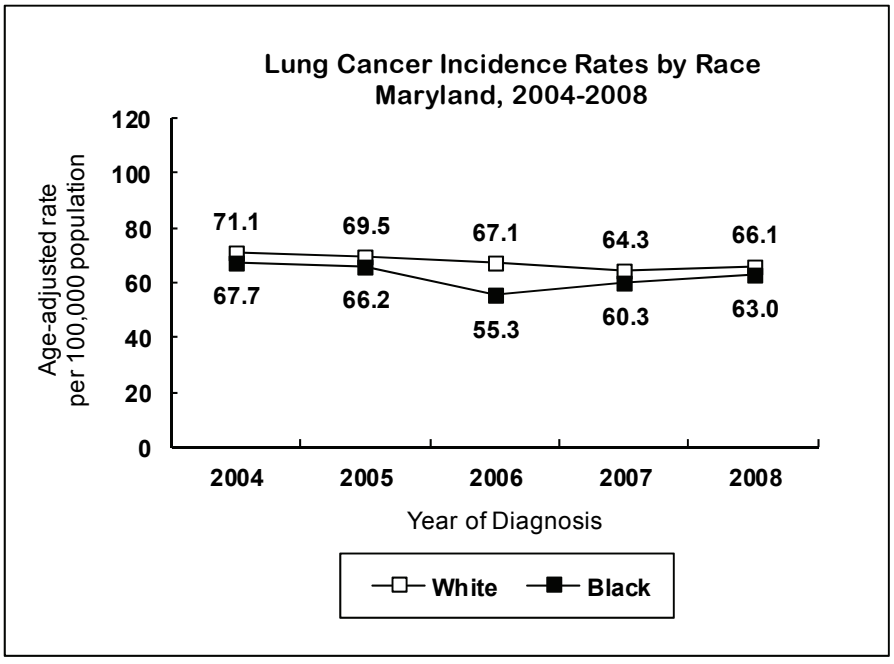
Source: Maryland Cancer Registry
NCHS Compressed Mortality File in CDC WONDER, 2004-2007
Maryland Vital Statistics Administration from MATCH, 2008

Incidence and Mortality Trends

Lung cancer incidence rates in Maryland decreased at a rate of 2.2% per year from 2004 to 2008.

Lung cancer mortality rates decreased at a rate of 2.1% per year from 2004 to 2008.

See Appendix G, Tables 1 and 2.

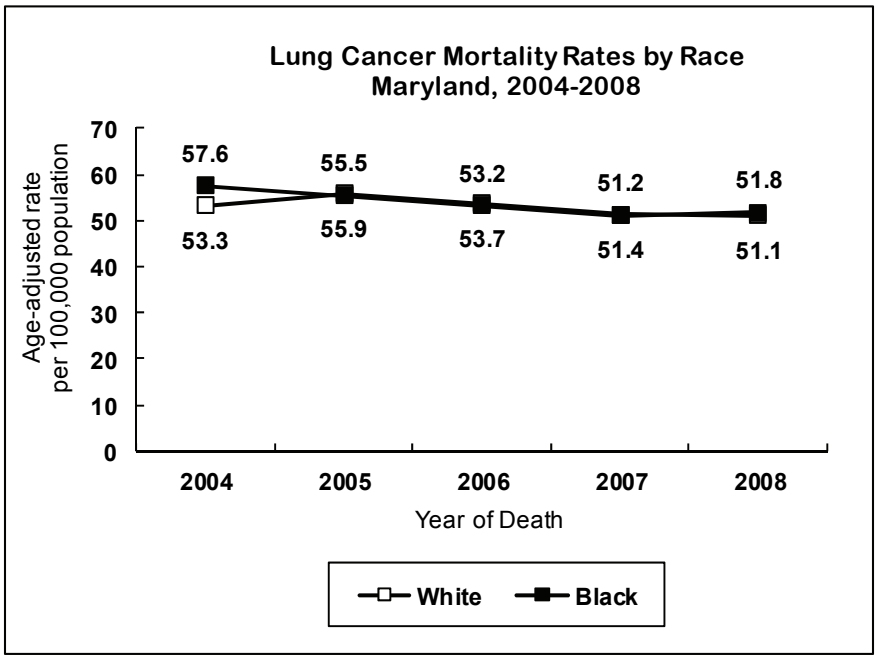


Source: Maryland Cancer Registry

Incidence Trends by Race

In recent years, lung cancer incidence rates in Maryland have been decreasing at a slightly faster pace among blacks than whites, and in 2008, the incidence rate remained lower among blacks. From 2004 to 2008, lung cancer incidence rates for blacks declined at a rate of 2.3% per year, compared to a decline of 2.2% per year among whites.

See Appendix G, Table 3.

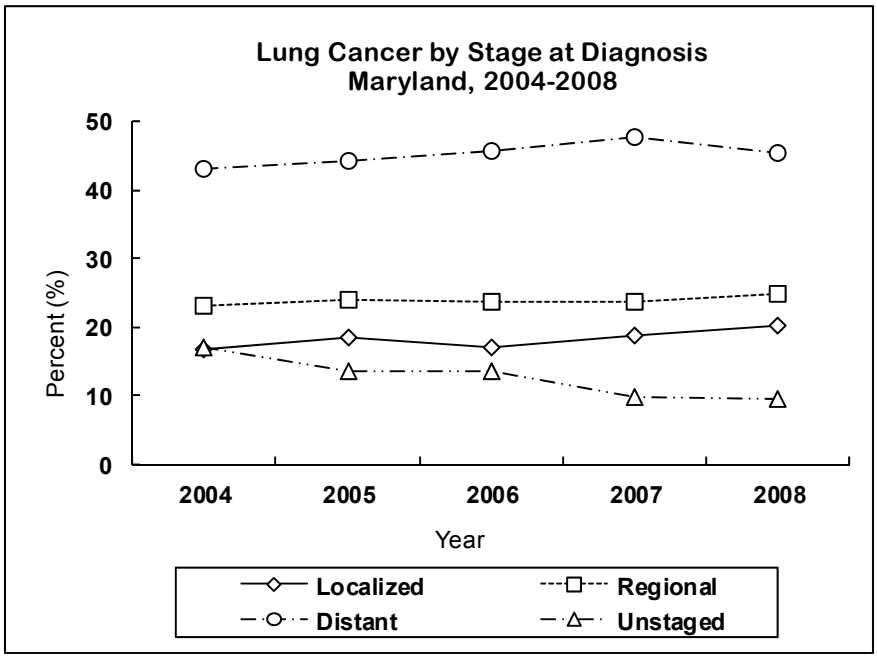


Source: NCHS Compressed Mortality File in CDC WONDER, 2004-2007
Maryland Vital Statistics Administration from MATCH, 2008

Mortality Trends by Race

Lung cancer mortality rates are declining for both blacks and whites. From 2004 to 2008, rates decreased at a rate of 2.9% per year for blacks, and 1.7% per year for whites.

See Appendix G, Table 5.

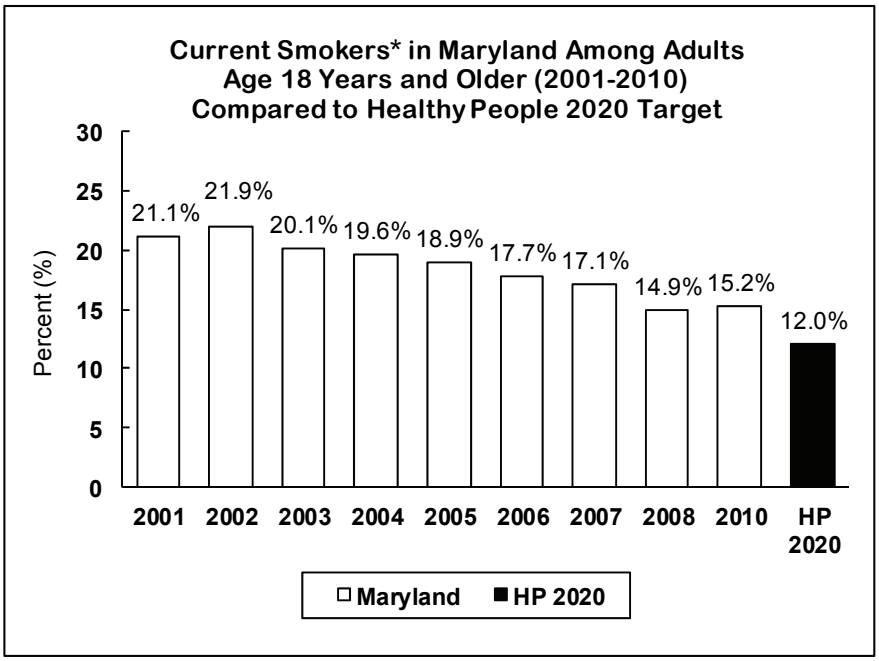


Source: Maryland Cancer Registry

Stage at Diagnosis

A higher proportion of lung cancer cases are diagnosed at the distant stage than at the localized or regional stage of cancer. In 2008, 20.2% of lung cancer cases in Maryland were diagnosed at the localized stage, 24.8% were detected at the regional stage, and 45.6% were found at the distant stage. The proportion of lung cancers reported as unstaged has declined in recent years.

See Appendix H, Table 2.

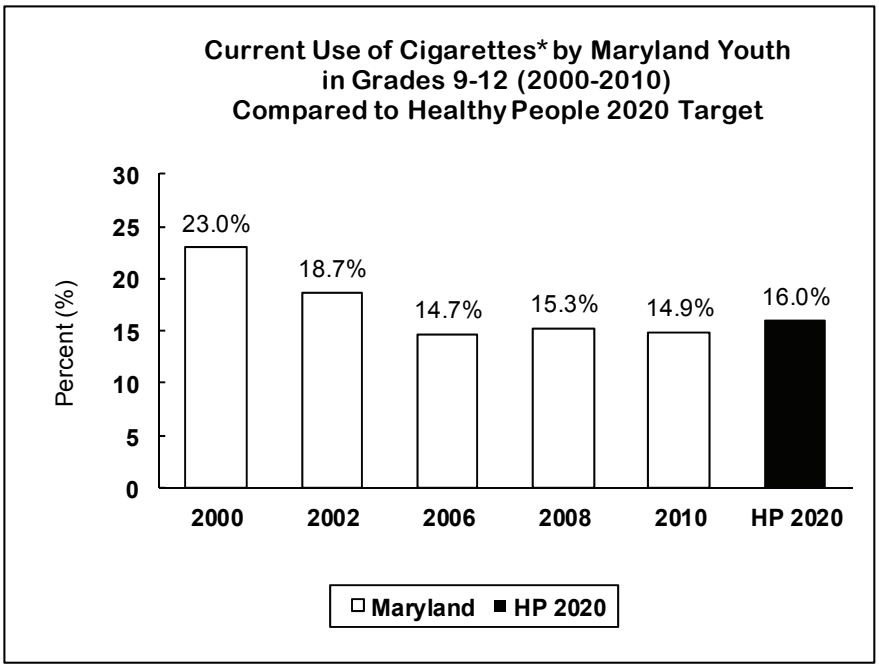


* Current smoker is defined as a person who smokes cigarettes every day or some days

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

Smoking Prevalence Among Maryland Adults

One Healthy People 2020 target is to reduce the percentage of adults who are current smokers to 12%. Although Maryland has not yet attained this goal, the percentage of adult smokers has decreased from 21.1% in 2001 to 15.2% in 2010.



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

Source: MYTS
Healthy People 2020, U.S. Department of Health and Human Services

Cigarette Use by Maryland Youth

Healthy People 2020 has established a target of reducing the percentage of youth in grades 9-12 who have smoked cigarettes in the previous 30 days to 16%.

Based on results of the 2006, 2008 and 2010 Maryland Youth Tobacco Surveys, Maryland has met the Healthy People 2020 target for reducing current cigarette use among high school students.

Table 12.
Number of Lung and Bronchus Cancer Cases by Jurisdiction, Gender and Race, Maryland, 2008

Jurisdiction	Total	Gender		Race			
		Males	Females	Whites	Blacks	Other	Unknown
Maryland	3,717	1,896	1,820	2,746	856	106	9
Allegany	90	48	42	s	<6	0	0
Anne Arundel	396	190	206	356	33	7	0
Baltimore City	529	277	251	205	318	<6	<6
Baltimore County	642	316	326	532	94	s	<6
Calvert	44	18	26	37	7	0	0
Caroline	35	21	14	29	6	0	0
Carroll	135	88	47	129	<6	<6	0
Cecil	76	37	39	s	<6	0	0
Charles	62	39	23	44	s	<6	0
Dorchester	26	18	8	15	s	0	<6
Frederick	116	68	48	104	s	<6	0
Garrett	19	7	12	19	0	0	0
Harford	177	92	85	162	9	6	0
Howard	117	60	57	99	10	s	<6
Kent	25	13	12	18	7	0	0
Montgomery	379	165	214	292	53	s	<6
Prince George's	369	187	182	134	217	s	<6
Queen Anne's	35	22	13	s	<6	0	0
Saint Mary's	68	33	35	58	s	<6	0
Somerset	26	14	12	18	<6	<6	0
Talbot	39	14	25	s	<6	0	0
Washington	128	67	61	s	<6	0	0
Wicomico	99	56	43	80	s	<6	0
Worcester	71	38	33	55	s	<6	0
Unknown	14	8	6	9	<6	<6	0

Total includes cases reported as transsexual, hermaphrodite, and unknown gender

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

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

Source: Maryland Cancer Registry

Table 13.
Lung and Bronchus Cancer Age-Adjusted Incidence Rates* by Jurisdiction, Gender and Race, Maryland, 2008

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	64.6	76.8	56.1	66.1	63.0	38.8
Allegany	90.9	113.9	75.3	92.4	**	0.0
Anne Arundel	78.9	85.2	75.4	82.8	56.7	**
Baltimore City	83.0	107.4	66.1	90.4	79.1	**
Baltimore County	70.1	80.7	62.7	70.6	65.9	**
Calvert	54.0	50.6	58.2	54.6	**	0.0
Caroline	94.1	135.5	**	93.0	**	0.0
Carroll	77.4	117.5	50.1	77.3	**	**
Cecil	75.5	83.2	73.0	77.0	**	0.0
Charles	54.5	80.8	35.8	56.4	46.3	**
Dorchester	55.7	90.5	**	**	**	0.0
Frederick	58.1	78.8	43.4	57.2	**	**
Garrett	47.2	**	**	47.5	0.0	0.0
Harford	71.1	84.3	61.7	72.9	**	**
Howard	48.6	55.2	44.7	53.6	**	**
Kent	78.2	**	**	67.5	**	0.0
Montgomery	38.7	40.3	37.7	39.3	44.8	25.0
Prince George's	54.2	65.5	47.5	53.6	56.4	**
Queen Anne's	63.5	86.0	**	65.5	**	0.0
Saint Mary's	74.8	79.2	73.7	77.6	**	**
Somerset	87.3	**	**	86.7	**	**
Talbot	58.6	**	67.2	58.7	**	0.0
Washington	77.5	92.1	66.0	78.3	**	0.0
Wicomico	98.1	136.8	74.7	102.1	75.2	**
Worcester	87.4	99.6	77.7	78.8	**	**

* Rates are per 100,000 population 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 and Procedures

Source: Maryland Cancer Registry

Table 14.
Number of Lung and Bronchus Cancer Deaths¥ by Jurisdiction, Gender and Race, Maryland, 2008

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	2,862	1,552	1,310	2,137	679	46
Allegany	61	32	29	61	0	0
Anne Arundel	318	166	152	281	31	6
Baltimore City	386	217	169	s	248	<5
Baltimore County	487	265	222	410	70	7
Calvert	51	18	33	45	6	0
Caroline	27	18	9	22	<5	<5
Carroll	88	54	34	s	<5	0
Cecil	48	26	22	s	<5	0
Charles	55	36	19	41	14	0
Dorchester	22	13	9	14	8	0
Frederick	98	53	45	91	s	<5
Garrett	14	7	7	14	0	0
Harford	137	75	62	127	s	<5
Howard	103	56	47	85	s	<5
Kent	18	9	9	s	<5	0
Montgomery	303	161	142	235	47	21
Prince George's	292	152	140	s	174	<5
Queen Anne's	29	18	11	s	<5	0
Saint Mary's	48	27	21	41	7	0
Somerset	15	8	7	s	<5	0
Talbot	39	17	22	33	6	0
Washington	97	56	41	s	<5	0
Wicomico	73	36	37	60	13	0
Worcester	53	32	21	46	7	0

<5 = Death counts of 1-4 are suppressed per DHMH/CCPC Mortality Data Suppression Policy

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

¥ Includes cancer of the trachea (See Appendic A, Section I.B.)

Source: Maryland Vital Statistics Administration from MATCH

Table 15.
Lung and Bronchus Cancer Age-Adjusted Mortality Rates*¥ by Jurisdiction, Gender and Race, Maryland, 2008

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	50.0	63.9	40.1	51.1	51.8	18.7
Allegany	60.4	77.9	49.1	62.0	**	**
Anne Arundel	63.9	74.8	55.7	65.8	54.3	**
Baltimore City	60.3	85.1	43.9	57.9	62.7	**
Baltimore County	52.5	67.6	41.8	53.3	53.8	**
Calvert	62.3	**	72.8	64.1	**	**
Caroline	78.2	**	**	75.1	**	**
Carroll	49.5	71.3	34.9	49.7	**	**
Cecil	48.3	64.8	40.5	47.6	**	**
Charles	50.7	80.1	**	55.6	**	**
Dorchester	50.9	**	**	**	**	**
Frederick	49.9	63.2	40.1	50.8	**	**
Garrett	**	**	**	**	**	**
Harford	57.3	72.3	46.9	59.4	**	**
Howard	45.2	57.3	37.4	48.7	**	**
Kent	**	**	**	**	**	**
Montgomery	30.5	40.0	23.9	30.6	40.4	19.6
Prince George's	43.4	54.7	36.1	44.7	44.6	**
Queen Anne's	55.9	**	**	60.9	**	**
Saint Mary's	53.0	64.5	43.8	54.5	**	**
Somerset	**	**	**	**	**	**
Talbot	59.8	**	56.4	57.9	**	**
Washington	60.5	80.4	43.0	61.9	**	**
Wicomico	70.6	82.7	62.4	74.1	**	**
Worcester	65.5	89.9	44.8	66.1	**	**

* 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 DHMH/CCPC Mortality Data Suppression Policy

¥ Includes cancer of the trachea (See Appendic A, Section I.B.)

Source: Maryland Vital Statistics Administration from MATCH

Table 16.
Number of Lung and Bronchus Cancer Cases
by Jurisdiction, Gender and Race, Maryland, 2004-2008

Jurisdiction	Total	Gender		Race			
		Males	Females	Whites	Blacks	Other	Unknown
Maryland	18,156	9,311	8,822	13,725	3,988	416	27
Allegany	404	234	170	396	s	<6	0
Anne Arundel	1,764	885	871	1,582	153	29	0
Baltimore City	2,552	1,335	1,216	1,034	1,505	s	<6
Baltimore County	3,315	1,628	1,687	2,777	490	s	<6
Calvert	272	126	145	236	s	<6	0
Caroline	152	90	62	130	s	<6	0
Carroll	605	342	263	585	14	<6	<6
Cecil	417	210	207	403	14	0	0
Charles	311	178	133	237	68	6	0
Dorchester	167	93	74	125	s	0	<6
Frederick	688	378	309	641	39	8	0
Garrett	91	48	43	91	0	0	0
Harford	870	465	404	795	62	13	0
Howard	557	271	286	462	67	s	<6
Kent	120	66	54	95	25	0	0
Montgomery †	1,961	889	1,070	1,535	248	170	8
Prince George's †	1,739	901	836	731	946	56	6
Queen Anne's	192	105	86	170	s	<6	0
Saint Mary's	307	165	142	267	s	<6	0
Somerset	128	79	49	88	33	7	0
Talbot	190	72	118	168	22	0	0
Washington	554	322	232	527	s	<6	0
Wicomico	429	239	190	354	67	8	0
Worcester	296	152	144	249	34	13	0
Unknown	75	38	31	47	14	6	8

Total includes cases reported as transsexual, hermaphrodite, and unknown gender

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

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

† 2006 case counts for Montgomery and Prince George's counties are underreported. (See Appendix A, Section I.A.1.)

Source: Maryland Cancer Registry

Table 17.
Lung and Bronchus Cancer Age-Adjusted Incidence Rates* by Jurisdiction, Gender and Race, Maryland, 2004-2008

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	65.4	78.2	56.3	67.5	62.4	35.8
Allegany	82.7	112.1	61.3	83.0	**	**
Anne Arundel	73.1	82.7	65.6	75.9	56.0	49.7
Baltimore City	79.5	103.1	63.8	86.0	76.3	**
Baltimore County	73.1	84.1	65.6	73.4	78.8	32.9
Calvert	71.9	76.1	69.4	74.2	64.6	**
Caroline	88.8	121.0	65.8	89.2	87.6	**
Carroll	73.5	95.3	58.5	73.9	**	**
Cecil	89.9	100.8	82.7	92.1	**	0.0
Charles	59.1	81.4	44.6	63.6	49.0	**
Dorchester	78.0	102.4	61.8	75.5	85.1	0.0
Frederick	72.1	92.1	57.9	73.0	71.0	**
Garrett	48.3	55.0	42.7	48.6	0.0	0.0
Harford	75.0	90.9	63.2	76.3	64.3	**
Howard	50.9	56.6	47.8	54.6	42.7	28.3
Kent	83.8	103.7	71.2	78.6	115.8	0.0
Montgomery †	41.6	44.6	39.6	42.2	46.8	31.6
Prince George's †	52.3	65.1	44.0	57.4	49.6	37.4
Queen Anne's	75.8	88.0	63.9	75.7	89.6	**
Saint Mary's	73.9	85.0	65.0	77.7	61.1	**
Somerset	92.0	124.0	63.6	85.9	91.4	**
Talbot	63.5	54.3	71.2	64.4	60.3	0.0
Washington	71.1	94.8	54.0	70.7	93.1	**
Wicomico	87.8	115.0	69.1	92.4	69.7	**
Worcester	75.6	84.6	68.5	72.6	70.8	**

* Rates are per 100,000 population 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 and Procedures

† 2004-2008 incidence rates for Montgomery County and Prince George's County are lower than actual due to case underreporting in 2006. (See Appendix A, Section I.A.1.)

Source: Maryland Cancer Registry

Table 18.
Number of Lung and Bronchus Cancer Deaths¥
by Jurisdiction, Gender and Race, Maryland, 2004-2008

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	14,393	7,783	6,610	10,805	3,368	220
Allegany	294	179	115	s	<5	<5
Anne Arundel	1,491	781	710	1,331	144	16
Baltimore City	2,172	1,184	988	824	1,342	6
Baltimore County	2,498	1,319	1,179	2,162	314	22
Calvert	227	114	113	197	30	0
Caroline	127	77	50	s	s	<5
Carroll	439	251	188	427	s	<5
Cecil	295	147	148	279	16	0
Charles	320	180	140	240	75	5
Dorchester	130	65	65	103	27	0
Frederick	473	276	197	445	s	<5
Garrett	84	50	34	84	0	0
Harford	658	368	290	592	59	7
Howard	423	226	197	337	69	17
Kent	83	46	37	59	24	0
Montgomery	1,482	718	764	1,193	182	107
Prince George's	1,468	827	641	620	818	30
Queen Anne's	169	98	71	152	17	0
Saint Mary's	251	146	105	217	34	0
Somerset	105	56	49	81	24	0
Talbot	160	76	84	138	22	0
Washington	456	269	187	438	18	0
Wicomico	358	195	163	289	s	<5
Worcester	230	135	95	197	33	0

<5 = Death counts of 1-4 are suppressed per DHMH/CCPC Mortality Data Suppression Policy

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

¥ Includes cancer of the trachea (See Appendic A, Section I.B.)

Source: Maryland Vital Statistics Administration from MATCH

Table 19.
Lung and Bronchus Cancer Age-Adjusted Mortality Rates*¥ by Jurisdiction, Gender and Race, Maryland, 2004-2008

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	52.0	66.1	41.8	52.9	53.8	19.7
Allegany	59.0	86.2	39.6	60.1	**	**
Anne Arundel	62.3	73.9	53.7	64.4	54.5	**
Baltimore City	68.1	93.2	51.6	67.8	69.2	**
Baltimore County	54.2	68.0	44.6	55.8	52.2	15.6
Calvert	60.6	70.4	53.7	62.2	57.0	**
Caroline	74.2	102.9	53.4	74.2	**	**
Carroll	53.0	69.3	41.4	53.4	**	**
Cecil	64.4	73.5	59.5	64.2	**	**
Charles	62.4	85.6	47.8	66.3	54.4	**
Dorchester	60.9	71.9	54.4	62.8	56.2	**
Frederick	49.9	68.3	36.3	51.0	44.6	**
Garrett	43.7	57.8	31.1	43.9	**	**
Harford	57.5	73.0	45.9	57.5	63.9	**
Howard	39.5	48.2	33.3	41.1	43.8	**
Kent	56.9	72.1	47.0	46.1	117.2	**
Montgomery	31.3	36.3	27.8	32.2	34.7	21.1
Prince George's	44.7	60.5	33.8	48.7	43.2	18.4
Queen Anne's	67.1	81.2	53.7	67.2	**	**
Saint Mary's	61.7	79.5	48.4	64.5	56.2	**
Somerset	75.9	88.8	62.9	80.1	68.0	**
Talbot	54.3	59.4	50.1	53.1	62.0	**
Washington	58.4	79.3	42.5	58.6	**	**
Wicomico	73.1	94.7	58.1	75.0	68.5	**
Worcester	58.0	76.0	43.3	56.9	68.6	**

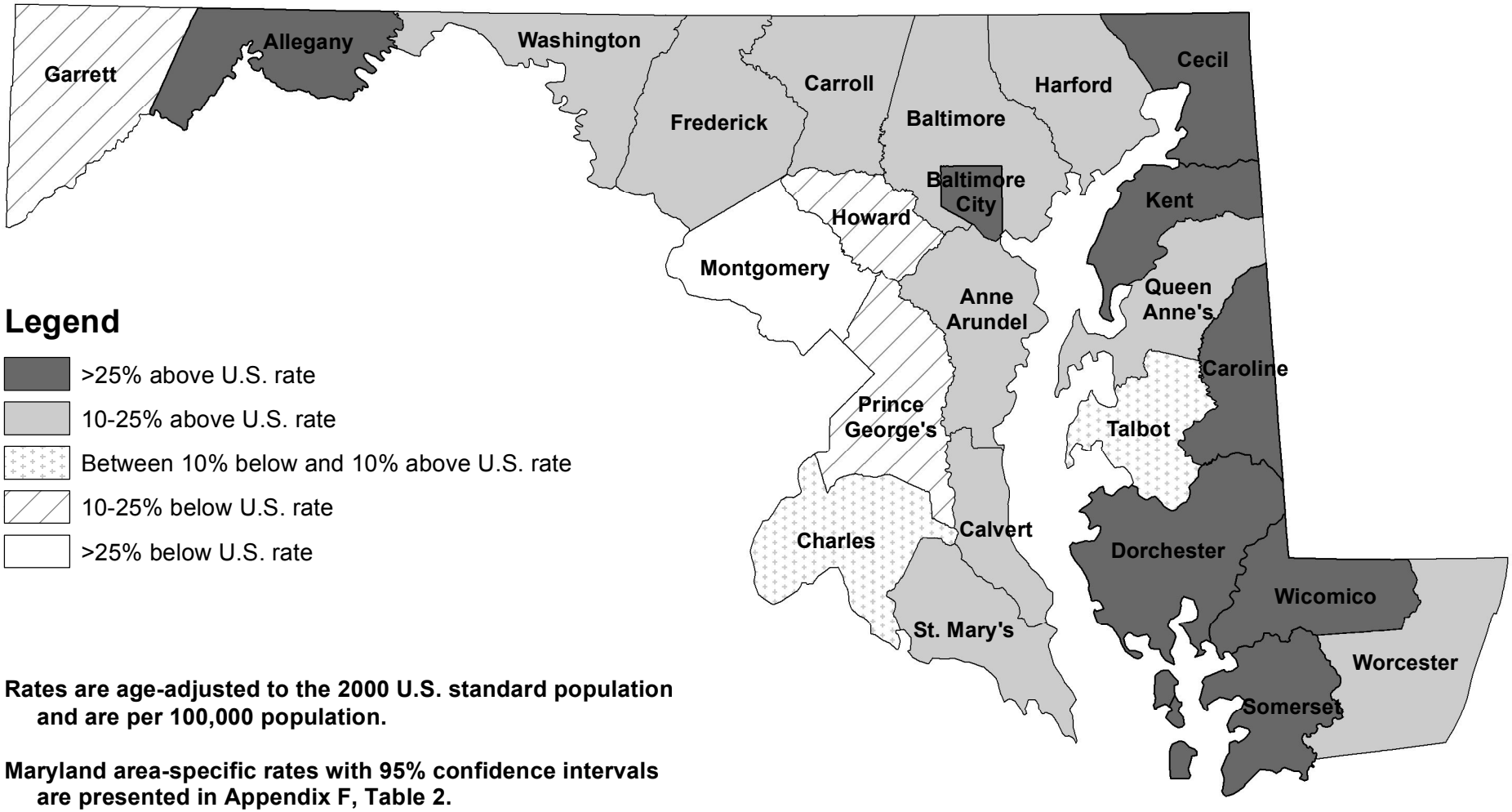
* Rates are per 100,000 population and are age-adjusted to 2000 U.S. standard population

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

¥ 2004-2008 mortality data include deaths due to cancer of the trachea (See Appendic A, Section I.B.)

Source: Maryland Vital Statistics Administration from MATCH

Maryland Lung Cancer Incidence Rates by Geographical Area: Comparison to U.S. Rate, 2004-2008



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

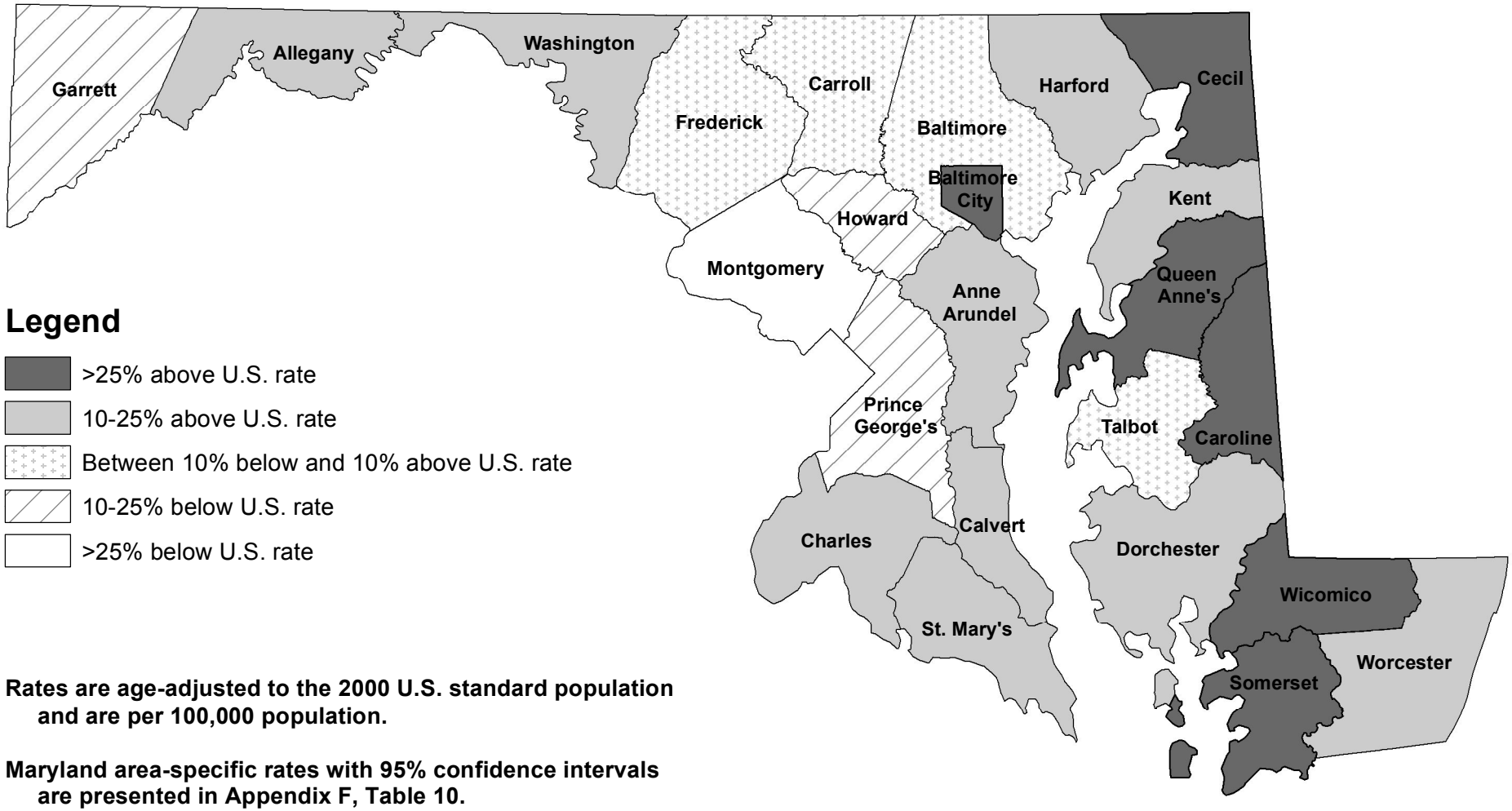
Maryland area-specific rates with 95% confidence intervals are presented in Appendix F, Table 2.

U.S. lung cancer incidence rate, 2004-2008: 62.0/100,000

Maryland lung cancer incidence rate, 2004-2008: 65.4/100,000

Source: MD incidence rates from Maryland Cancer Registry, 2004-2008
U.S. (SEER 17) rate from SEER*Stat Software

Maryland Lung Cancer Mortality Rates by Geographical Area: Comparison to U.S. Rate, 2004-2008



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 F, Table 10.

U.S. lung cancer mortality rate, 2004-2008: 51.5/100,000

Maryland lung cancer mortality rate, 2004-2008: 52.0/100,000

Source: MD mortality rates from Maryland Vital Statistics from MATCH, 2004-2008
U.S. mortality rate from NCHS Compressed Mortality File in CDC WONDER, 2004-2008

B. Colon and Rectum Cancer

Incidence (New Cases)

In 2008, there were 2,460 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 2008 was 42.5 per 100,000 population (40.8-42.2, 95% C.I.), which is statistically significantly lower than the 2008 U.S. SEER age-adjusted colorectal cancer incidence rate of 45.1 per 100,000 population (44.6-45.6, 95% C.I.).

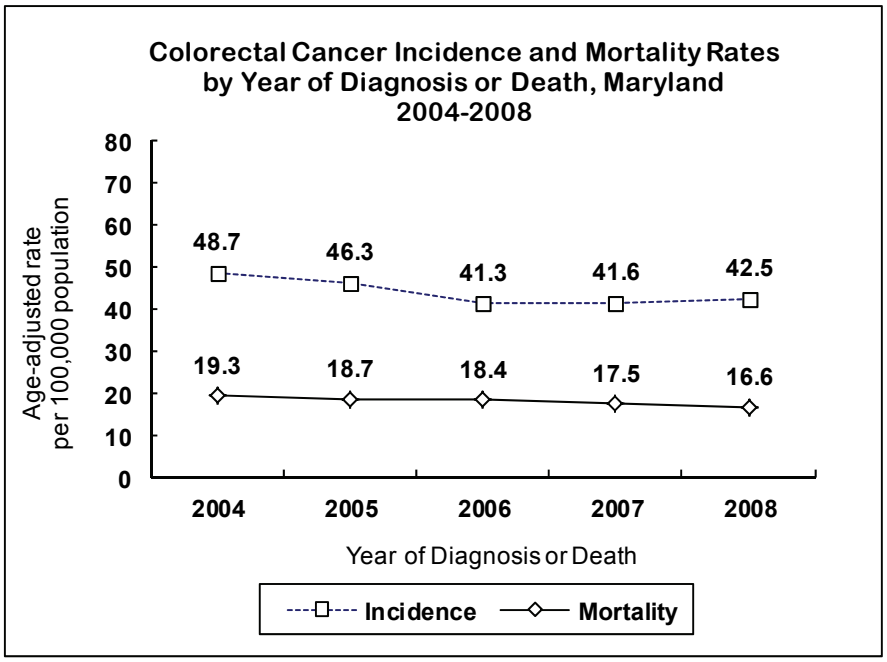
Mortality (Deaths)

A total of 953 persons died of colorectal cancer in 2008 in Maryland. In 2008, colorectal cancer accounted for 9.2% 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 16.6 per 100,000 population (15.6-17.7, 95% C.I.). This rate is similar to the 2008 U.S. colorectal cancer mortality rate of 16.3 per 100,000 population (16.2-16.4, 95% C.I.). Maryland had the 17th highest colorectal cancer mortality rate among the states and the District of Columbia for the period 2004-2008.

Table 20.
Colorectal Cancer Incidence and Mortality Rates
by Gender and Race, Maryland and the United States, 2008

Incidence 2008	*Total*	*Males*	*Females*	*Whites*	*Blacks*	*Other*
New Cases (count)	2,460	1,218	1,240	1,714	638	99
MD Incidence Rate	42.5	48.8	37.8	41.0	47.5	38.3
U.S. SEER Rate	45.1	52.5	39.1	44.4	54.5	41.5
Mortality 2008	*Total*	*Males*	*Females*	*Whites*	*Blacks*	*Other*
Deaths (count)	953	498	455	648	278	27
MD Mortality Rate	16.6	20.6	13.6	15.4	21.8	10.9
U.S. Mortality Rate	16.3	19.5	13.8	15.8	23.0	11.6

Rates are per 100,000 population and are age-adjusted to 2000 U.S. standard population
Total includes cases reported as transsexual, hermaphrodite, unknown gender, and unknown race
Source: Maryland Cancer Registry
U.S. SEER rates from SEER*Stat software
Maryland Vital Statistics Administration
NCHS Compressed Mortality File in CDC WONDER



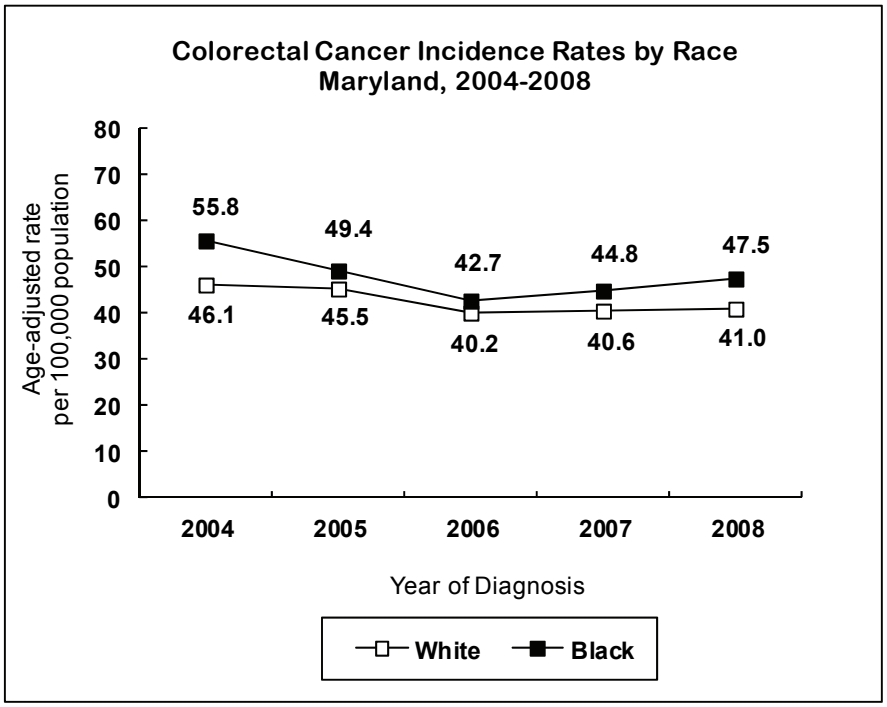
Source: Maryland Cancer Registry
NCHS Compressed Mortality File in CDC WONDER, 2004-2007
Maryland Vital Statistics Administration, 2008

Incidence and Mortality Trends

Incidence rates for colorectal cancer have been declining in Maryland. From 2004 to 2008, incidence rates declined at a rate of 3.7% per year.

Colorectal cancer mortality rates declined at a rate of 3.6% per year from 2004 to 2008.

See Appendix G, Tables 1 and 2.

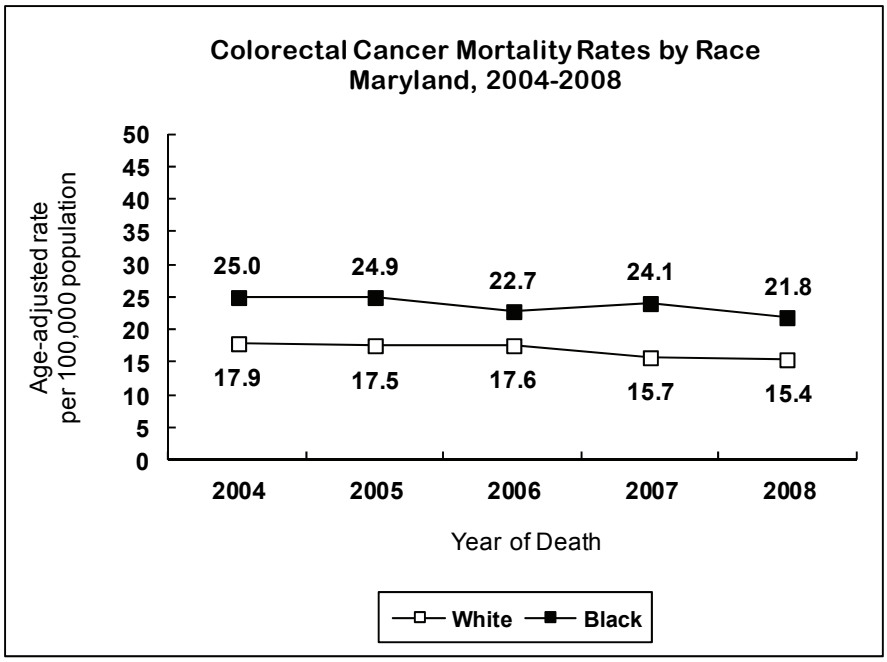


Source: Maryland Cancer Registry

Incidence Trends by Race

From 2004 to 2008, colorectal cancer incidence rates declined at a rate of 4.1% per year for blacks and 3.4% per year among whites. In 2008, the incidence rate for colorectal cancer was 41.0 for whites and 47.5 for blacks in Maryland.

See Appendix G, Table 3.

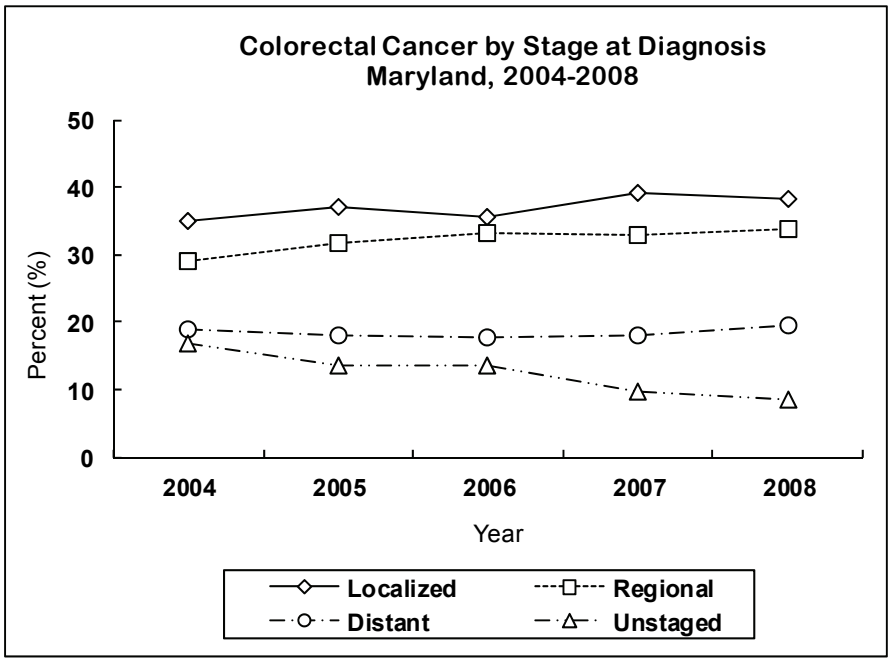


Source: NCHS Compressed Mortality File in CDC WONDER, 2004-2007
Maryland Vital Statistics Administration, 2008

Mortality Trends by Race

From 2004 to 2008, colorectal cancer mortality rates declined for blacks and whites. Mortality rates in blacks decreased at a rate of 3.0% per year; whereas, among whites, the decline was 4.0% per year.

See Appendix G, Table 5.

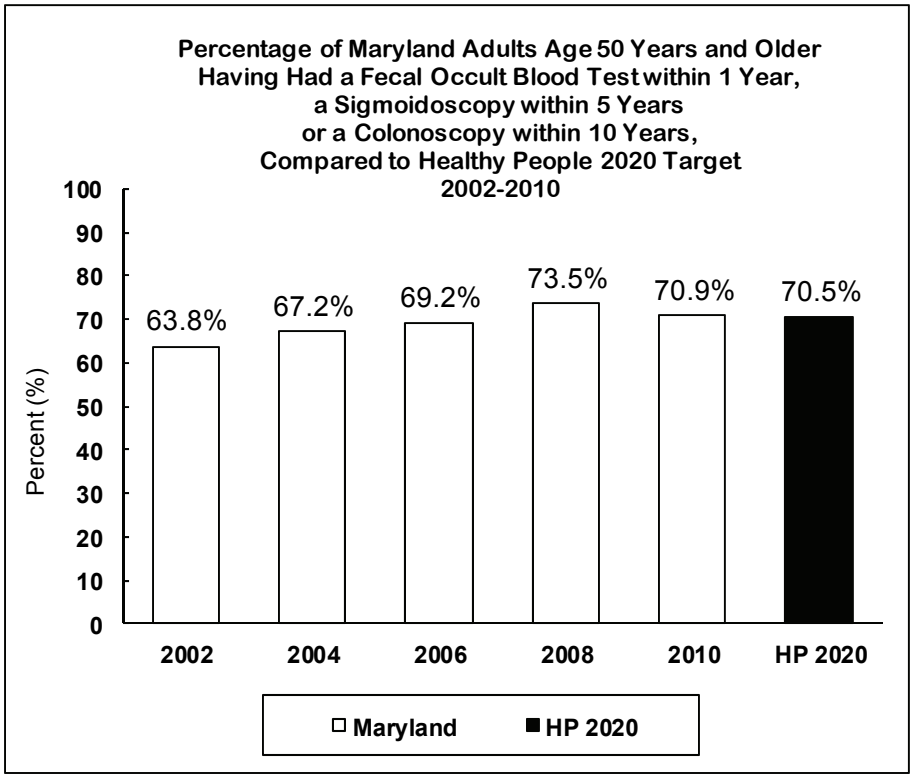


Source: Maryland Cancer Registry

Stage at Diagnosis

In 2008, 38.3% of colorectal cancers diagnosed in Maryland were detected at the localized stage, 33.7% were detected at the regional stage, and 19.5% were found at the distant stage. The proportion of colorectal cancers reported as unstaged has decreased in recent years.

See Appendix H, Table 3.



Note: Graphic includes results from both the Maryland BRFSS and Maryland Cancer Survey. See Appendix A for a cautionary note on comparing these data.

Source: Maryland Cancer Survey 2002, 2004, 2006 and 2008
Maryland BRFSS 2010
Healthy People 2020, U.S. Department of Health and Human Services

Up-to-Date Screening for Colorectal Cancer

The Healthy People 2020 target for colorectal cancer screening is to increase to 70.5% the proportion of adults age 50 years and older who are screened based on recent guidelines. Based on guidelines provided by the American Cancer Society (ACS), up-to-date screening was defined as having a fecal occult blood test (FOBT) within 1 year, a sigmoidoscopy within 5 years and a colonoscopy within 10 years. Up-to-date screening in Maryland increased steadily from 63.8% in 2002 to 73.5% in 2008, but declined in 2010 to 70.9%, while remaining above the Healthy People 2020 target of 70.5%.

Table 21.
Number of Colorectal Cancer Cases
by Jurisdiction, Gender and Race, Maryland, 2008

Jurisdiction	Total	Gender		Race			
		Males	Females	Whites	Blacks	Other	Unknown
Maryland	2,460	1,218	1,240	1,714	638	99	9
Allegany	51	33	18	s	<6	0	0
Anne Arundel	196	98	98	158	31	s	<6
Baltimore City	296	124	171	101	188	<6	<6
Baltimore County	414	211	203	317	84	s	<6
Calvert	39	19	20	32	s	<6	0
Caroline	9	<6	s	s	<6	0	0
Carroll	66	33	32	63	<6	<6	0
Cecil	51	33	18	s	<6	0	0
Charles	50	27	23	29	s	<6	0
Dorchester	20	9	11	s	<6	0	0
Frederick	110	58	52	104	<6	<6	0
Garrett	19	11	8	19	0	0	0
Harford	127	61	66	116	11	0	0
Howard	89	48	41	64	15	10	0
Kent	26	14	12	s	<6	0	0
Montgomery	346	168	178	239	58	s	<6
Prince George's	264	122	142	75	182	s	<6
Queen Anne's	27	11	16	s	<6	0	0
Saint Mary's	49	23	26	43	<6	<6	0
Somerset	16	s	<6	s	<6	0	0
Talbot	23	13	10	s	<6	0	0
Washington	60	36	24	s	<6	0	0
Wicomico	61	25	36	51	s	<6	0
Worcester	40	24	16	29	<6	s	0
Unknown	11	<6	s	s	<6	<6	0

Total includes cases reported as transsexual, hermaphrodite, and unknown gender

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

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

Source: Maryland Cancer Registry

Table 22.
Colorectal Cancer Age-Adjusted Incidence Rates*
by Jurisdiction, Gender and Race, Maryland, 2008

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	42.5	48.8	37.8	41.0	47.5	38.3
Allegany	50.2	79.0	30.8	49.1	**	0.0
Anne Arundel	38.6	43.6	35.2	35.7	53.6	**
Baltimore City	47.0	49.7	45.6	44.6	48.6	**
Baltimore County	44.6	53.2	38.6	41.8	60.6	**
Calvert	50.1	54.5	47.1	49.1	**	**
Caroline	**	**	**	**	**	0.0
Carroll	38.2	43.2	33.2	38.3	**	**
Cecil	48.6	66.0	32.7	47.3	**	0.0
Charles	39.7	48.5	31.5	35.9	47.0	**
Dorchester	44.8	**	**	56.0	**	0.0
Frederick	52.8	62.4	46.0	54.5	**	**
Garrett	47.2	**	**	47.6	0.0	0.0
Harford	54.1	61.1	49.7	55.1	**	0.0
Howard	37.1	42.5	31.4	35.1	**	**
Kent	86.3	**	**	98.4	**	0.0
Montgomery	34.7	39.4	31.4	31.9	45.0	37.8
Prince George's	37.7	40.5	35.2	30.2	48.9	**
Queen Anne's	47.6	**	55.2	46.9	**	0.0
Saint Mary's	51.9	47.7	54.5	54.7	**	**
Somerset	58.4	**	**	**	**	0.0
Talbot	37.7	**	**	37.8	**	0.0
Washington	36.9	50.7	25.5	38.1	**	0.0
Wicomico	60.5	55.4	62.0	64.9	**	**
Worcester	49.2	64.1	37.2	41.4	**	**

* Rates are per 100,000 population 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 and Procedures

Source: Maryland Cancer Registry

Table 23.
Number of Colorectal Cancer Deaths
by Jurisdiction, Gender and Race, Maryland, 2008

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	953	498	455	648	278	27
Allegany	16	8	8	16	0	0
Anne Arundel	81	43	38	72	s	<5
Baltimore City	130	62	68	40	90	0
Baltimore County	157	77	80	118	s	<5
Calvert	14	9	5	s	<5	0
Caroline	9	s	<5	s	<5	0
Carroll	27	17	10	s	<5	0
Cecil	22	14	8	22	0	0
Charles	23	14	9	13	10	0
Dorchester	s	s	<5	s	<5	0
Frederick	31	19	12	s	<5	0
Garrett	10	s	<5	10	0	0
Harford	42	26	16	39	<5	<5
Howard	41	13	28	25	s	<5
Kent	<5	<5	<5	<5	0	0
Montgomery	120	59	61	90	18	12
Prince George's	117	65	52	s	81	<5
Queen Anne's	12	5	7	s	<5	0
Saint Mary's	11	s	<5	s	<5	0
Somerset	9	<5	s	s	<5	0
Talbot	8	s	<5	s	<5	0
Washington	25	13	12	s	<5	<5
Wicomico	22	11	11	s	<5	0
Worcester	15	10	5	s	<5	0

<5 = Death counts of 1-4 are suppressed per DHMH/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: Maryland Vital Statistics Administration

Table 24.
Colorectal Cancer Age-Adjusted Mortality Rates*
by Jurisdiction, Gender and Race, Maryland, 2008

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	16.6	20.6	13.6	15.4	21.8	10.9
Allegany	**	**	**	**	**	**
Anne Arundel	17.2	21.1	14.3	17.5	**	**
Baltimore City	20.4	25.5	17.2	15.9	23.9	**
Baltimore County	16.5	19.5	13.9	14.8	26.0	**
Calvert	**	**	**	**	**	**
Caroline	**	**	**	**	**	**
Carroll	15.8	**	**	15.4	**	**
Cecil	23.5	**	**	24.9	**	**
Charles	19.8	**	**	**	**	**
Dorchester	**	**	**	**	**	**
Frederick	15.0	**	**	15.8	**	**
Garrett	**	**	**	**	**	**
Harford	18.8	25.8	**	19.4	**	**
Howard	18.7	**	22.5	13.6	**	**
Kent	**	**	**	**	**	**
Montgomery	11.7	13.7	10.0	11.3	**	**
Prince George's	16.7	21.3	13.3	12.8	20.1	**
Queen Anne's	**	**	**	**	**	**
Saint Mary's	**	**	**	**	**	**
Somerset	**	**	**	**	**	**
Talbot	**	**	**	**	**	**
Washington	15.3	**	**	15.0	**	**
Wicomico	21.1	**	**	**	**	**
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 DHMH/CCPC Mortality Data Suppression Policy

Source: Maryland Vital Statistics Administration

Table 25.
Number of Colorectal Cancer Cases
by Jurisdiction, Gender and Race, Maryland, 2004-2008

Jurisdiction	Total	Gender		Race			
		Males	Females	Whites	Blacks	Other	Unknown
Maryland	12,348	6,156	6,179	8,737	3,095	445	71
Allegany	269	147	122	256	s	<6	0
Anne Arundel	1,007	537	469	826	147	28	6
Baltimore City	1,473	678	792	553	897	15	8
Baltimore County	2,111	1,021	1,089	1,684	368	44	15
Calvert	184	90	93	151	s	<6	0
Caroline	79	44	35	70	9	0	0
Carroll	392	199	192	377	10	<6	<6
Cecil	249	140	109	231	s	<6	0
Charles	273	141	132	179	88	<6	<6
Dorchester	115	65	50	90	25	0	0
Frederick	503	265	237	470	28	<6	<6
Garrett	90	47	43	s	<6	0	0
Harford	530	259	271	472	49	s	<6
Howard	470	248	222	351	80	s	<6
Kent	76	41	35	67	9	0	0
Montgomery †	1,730	825	903	1,282	237	195	16
Prince George's †	1,429	692	736	466	886	66	11
Queen Anne's	129	68	61	113	s	<6	0
Saint Mary's	217	120	97	177	33	7	0
Somerset	68	41	27	48	20	0	0
Talbot	129	70	59	107	22	0	0
Washington	334	172	162	316	s	<6	0
Wicomico	252	125	127	194	50	8	0
Worcester	169	95	74	133	20	16	0
Unknown	70	26	42	s	25	<6	s

Total includes cases reported as transsexual, hermaphrodite, and unknown gender

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

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

† 2006 case counts for Montgomery and Prince George's counties are underreported. (See Appendix A, Section I.A.1.)

Source: Maryland Cancer Registry

Table 26.
Colorectal Cancer Age-Adjusted Incidence Rates*
by Jurisdiction, Gender and Race, Maryland, 2004-2008

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	44.0	51.2	38.6	42.7	47.9	36.5
Allegany	55.1	71.6	43.3	53.8	**	**
Anne Arundel	41.5	49.8	35.2	39.4	55.6	51.0
Baltimore City	45.6	52.5	41.2	44.7	46.0	**
Baltimore County	46.0	52.5	41.1	44.0	57.0	34.1
Calvert	48.3	53.0	44.5	47.7	56.5	**
Caroline	45.7	58.6	36.4	47.4	**	0.0
Carroll	47.2	55.0	41.3	47.3	**	**
Cecil	53.8	65.4	43.7	53.1	78.1	**
Charles	53.0	66.2	44.1	49.4	63.0	**
Dorchester	54.1	73.0	40.8	54.5	52.0	0.0
Frederick	51.1	63.1	42.6	51.9	48.9	**
Garrett	47.6	56.0	41.6	47.3	**	0.0
Harford	47.3	52.2	43.2	47.1	49.6	**
Howard	40.9	48.1	35.4	40.3	47.0	33.1
Kent	52.8	66.2	40.7	55.5	**	0.0
Montgomery †	35.6	40.1	32.3	34.4	40.5	33.5
Prince George's †	41.7	46.6	37.7	36.7	45.7	37.5
Queen Anne's	51.1	57.2	45.6	49.8	**	**
Saint Mary's	49.8	59.4	42.2	48.7	53.6	**
Somerset	49.6	65.8	37.1	48.2	54.8	0.0
Talbot	46.5	58.3	35.9	43.7	68.2	0.0
Washington	42.3	50.7	35.9	41.9	**	**
Wicomico	51.8	60.8	45.3	50.6	50.1	**
Worcester	44.7	54.3	36.1	40.9	43.1	906.1

* Rates are per 100,000 population 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 and Procedures

† 2004-2008 incidence rates for Montgomery County and Prince George's County are lower than actual due to case underreporting in 2006. (See Appendix A, Section I.A.1.)

Source: Maryland Cancer Registry

Table 27.
Number of Colorectal Cancer Deaths
by Jurisdiction, Gender and Race, Maryland, 2004-2008

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	4,968	2,547	2,421	3,439	1,420	109
Allegany	89	42	47	s	<5	0
Anne Arundel	423	236	187	356	60	7
Baltimore City	709	330	379	s	464	<5
Baltimore County	851	422	429	691	148	12
Calvert	86	47	39	66	20	0
Caroline	36	21	15	s	<5	0
Carroll	167	80	87	156	11	0
Cecil	98	51	47	94	<5	<5
Charles	136	75	61	90	46	0
Dorchester	48	26	22	32	16	0
Frederick	177	88	89	160	s	<5
Garrett	35	18	17	s	<5	0
Harford	180	98	82	159	s	<5
Howard	176	95	81	123	43	10
Kent	25	11	14	s	<5	0
Montgomery	609	314	295	466	88	55
Prince George's	602	303	299	193	394	15
Queen Anne's	54	29	25	45	9	0
Saint Mary's	68	43	25	57	11	0
Somerset	24	16	8	16	8	0
Talbot	44	24	20	34	10	0
Washington	145	82	63	136	s	<5
Wicomico	121	56	65	87	s	<5
Worcester	65	40	25	59	6	0

<5 = Death counts of 1-4 are suppressed per DHMH/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: Maryland Vital Statistics Administration

Table 28.
Colorectal Cancer Age-Adjusted Mortality Rates*
by Jurisdiction, Gender and Race, Maryland, 2004-2008

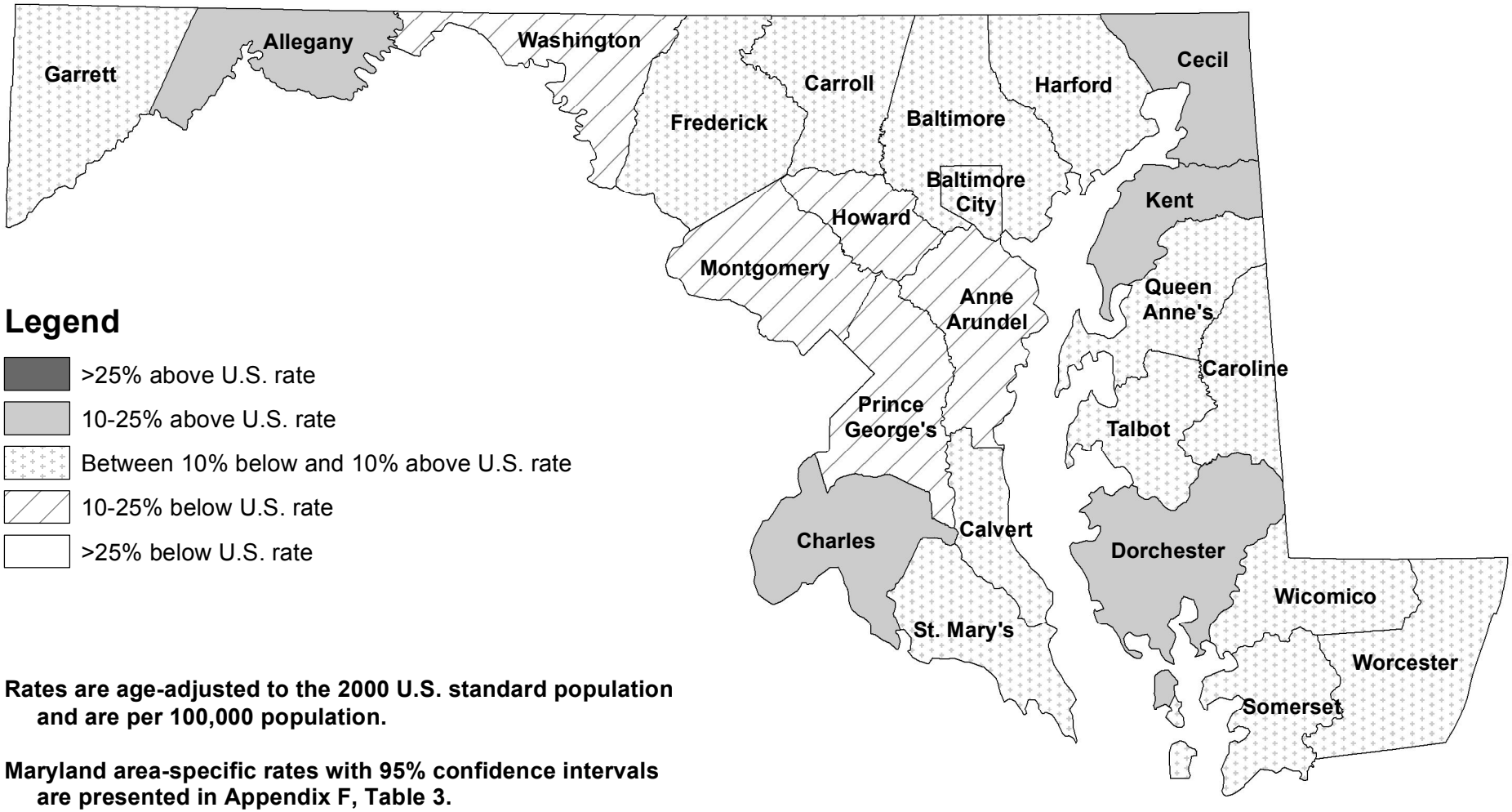
Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	18.0	22.0	15.0	16.8	23.4	9.5
Allegany	17.5	20.3	16.2	17.6	**	**
Anne Arundel	18.4	23.0	14.6	17.9	23.6	**
Baltimore City	21.9	26.8	18.9	18.8	24.4	**
Baltimore County	18.1	21.8	15.3	17.4	24.1	**
Calvert	23.3	29.1	19.0	21.8	36.0	**
Caroline	21.3	27.8	**	23.7	**	**
Carroll	20.4	22.6	18.2	19.8	**	**
Cecil	22.1	25.5	18.9	22.4	**	**
Charles	27.5	38.1	21.2	26.2	34.6	**
Dorchester	22.6	30.6	17.3	19.3	**	**
Frederick	18.7	21.2	16.0	18.5	**	**
Garrett	18.4	**	**	18.0	**	**
Harford	16.5	20.0	13.4	16.3	**	**
Howard	17.0	21.6	13.6	15.4	30.7	**
Kent	18.0	**	**	16.8	**	**
Montgomery	12.7	16.0	10.4	12.3	16.4	10.2
Prince George's	18.8	22.0	16.2	15.3	22.3	**
Queen Anne's	21.5	25.0	18.6	20.1	**	**
Saint Mary's	17.0	23.6	11.5	17.0	**	**
Somerset	17.5	**	**	**	**	**
Talbot	14.5	18.9	10.9	12.7	**	**
Washington	18.1	24.4	13.6	17.8	**	**
Wicomico	24.3	27.6	22.0	22.3	32.1	**
Worcester	16.2	21.4	11.8	16.8	**	**

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

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

Source: Maryland Vital Statistics Administration

Maryland Colorectal Cancer Incidence Rates by Geographical Area: Comparison to U.S. Rate, 2004-2008



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

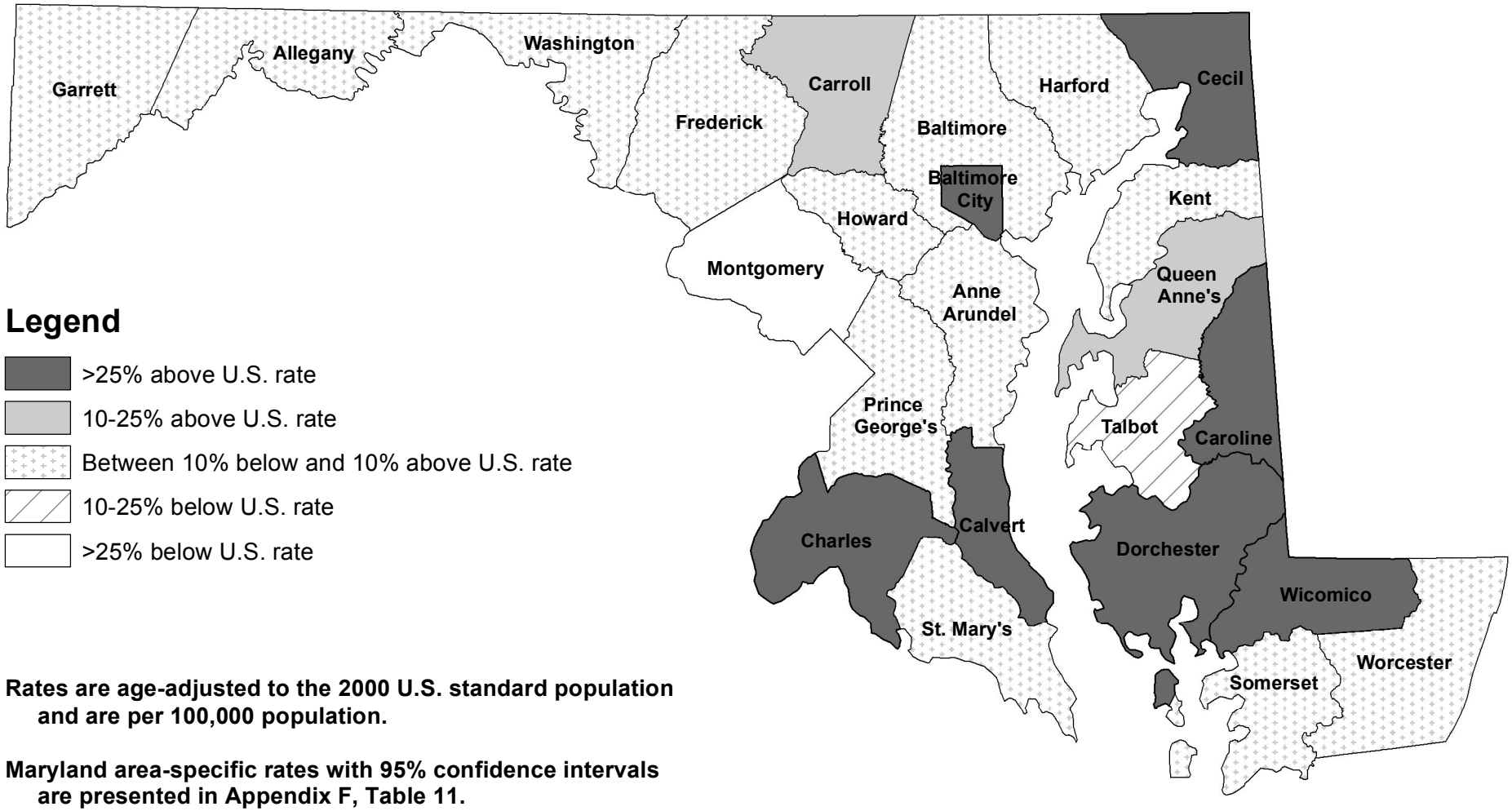
Maryland area-specific rates with 95% confidence intervals are presented in Appendix F, Table 3.

U.S. colorectal cancer incidence rate, 2004-2008: 47.2/100,000

Maryland colorectal cancer incidence rate, 2004-2008: 44.0/100,000

Source: MD incidence rates from Maryland Cancer Registry, 2004-2008
U.S. (SEER 17) rate from SEER*Stat Software

Maryland Colorectal Cancer Mortality Rates by Geographical Area: Comparison to U.S. Rate, 2004-2008



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 F, Table 11.

U.S. colorectal cancer mortality rate, 2004-2008: 17.2/100,000

Maryland colorectal cancer mortality rate, 2004-2008: 18.0/100,000

Source: MD mortality rates from Maryland Vital Statistics from MATCH, 2004-2008
U.S. mortality rate from NCHS Compressed Mortality File in CDC WONDER, 2004-2008

C. Female Breast Cancer

Incidence (New Cases)

In 2008, a total of 4,333 cases of breast cancer were reported among Maryland women. The 2008 age-adjusted incidence rate in Maryland was 132.7 per 100,000 women (128.7-136.7, 95% C.I.); this rate is statistically significantly higher than the 2008 U.S. SEER age-adjusted incidence rate for breast cancer of 125.0 per 100,000 women (124.0-126.1, 95% C.I.).

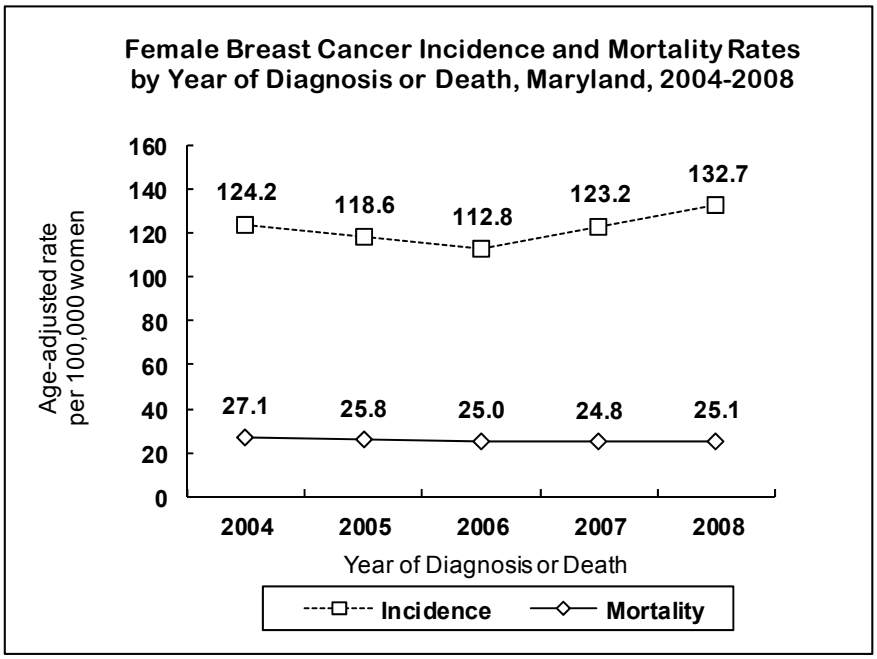
Mortality (Deaths)

In 2008, a total of 825 women died of breast cancer in Maryland. Female breast cancer accounted for 16.3% of cancer deaths among women and 8.1% of all cancer deaths in Maryland in 2008. Breast cancer is the second leading cause of cancer death among women in Maryland after lung cancer. The 2008 age-adjusted mortality rate for breast cancer in Maryland was 25.1 per 100,000 women (23.4-26.9, 95% C.I.). This rate is statistically significantly higher than the 2008 U.S. female breast cancer mortality rate of 22.5 per 100,000 population of women (22.3-22.7, 95% C.I.). Maryland had the 5th highest female breast cancer mortality rate among the states and the District of Columbia for the period 2004-2008.

Table 29.
Female Breast Incidence and Mortality Rates
by Race, Maryland and the United States, 2008

Incidence 2008	*Total*	*Whites*	*Blacks*	*Other*
New Cases (count)	4,333	2,924	1,166	226
MD Incidence Rate	132.7	130.7	132.4	134.3
U.S. SEER Rate	125.0	127.8	121.7	106.5
Mortality 2008	*Total*	*Whites*	*Blacks*	*Other*
Deaths (count)	825	512	294	19
MD Mortality Rate	25.1	22.0	35.3	**
U.S. Mortality Rate	22.5	21.9	31.1	11.8

Rates are per 100,000 women and are age-adjusted to 2000 U.S. standard population
Total includes unknown race
** MD mortality rates based on death counts of 0-19 are suppressed per DHMH/CCPC Mortality Data Suppression Policy
Source: Maryland Cancer Registry
U.S. SEER rates from SEER*Stat software
Maryland Vital Statistics Administration
NCHS Compressed Mortality File in CDC WONDER



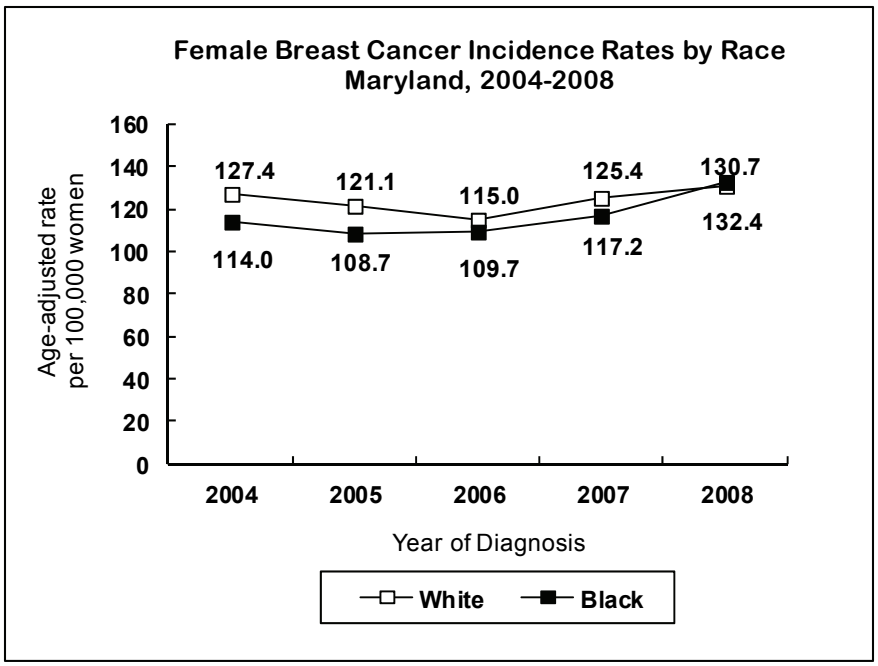
Source: Maryland Cancer Registry
NCHS Compressed Mortality File in CDC WONDER, 2004-2007
Maryland Vital Statistics Administration from MATCH, 2008

Incidence and Mortality Trends

From 2004 to 2008, incidence rates for female breast cancer increased in Maryland at a rate of 1.7% annually.

Breast cancer mortality rates for females decreased at a rate of 1.9% per year.

See Appendix G, Tables 1 and 2.

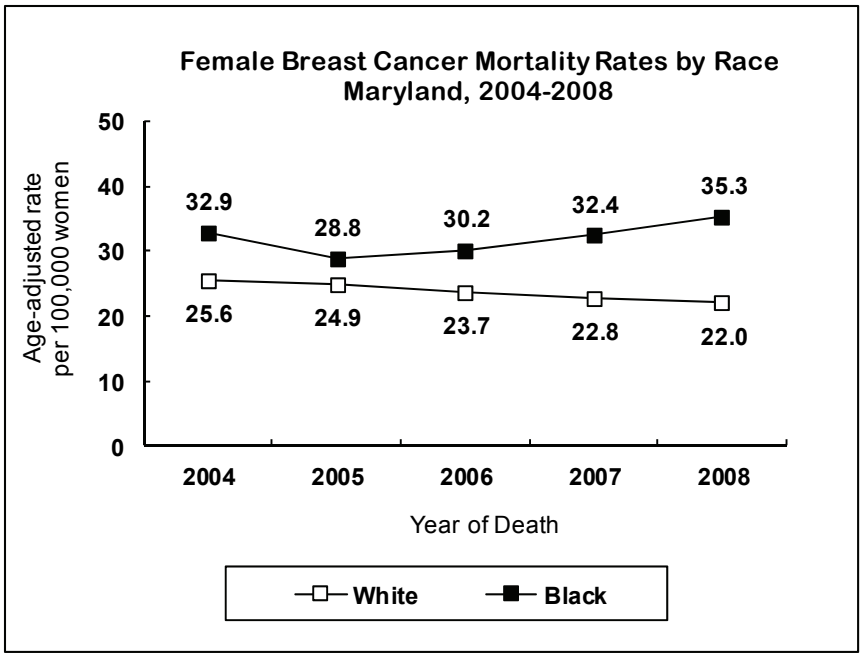


Source: Maryland Cancer Registry

Incidence Trends by Race

The increase in breast cancer incidence rates differed by race in Maryland from 2004 to 2008, narrowing the gap between white and black women. Incidence rates increased at a rate of 0.9% per year among white women and 3.8% among black women. In 2008, the breast cancer incidence rate for white women in Maryland was 130.7 per 100,000 women compared to 132.4 per 100,000 women for black women.

See Appendix G, Table 3.

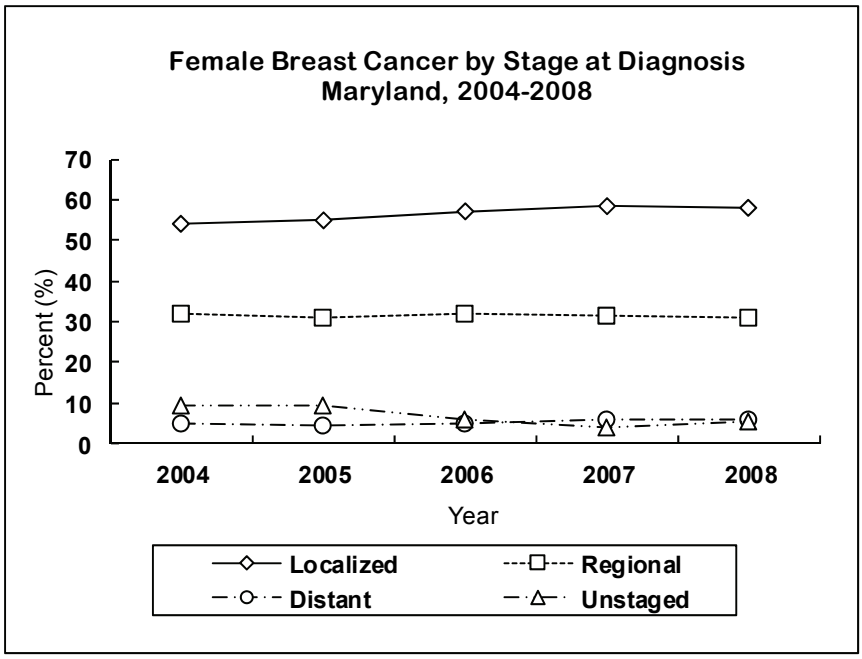


Source: NCHS Compressed Mortality File in CDC WONDER, 2004-2007
Maryland Vital Statistics Administration from MATCH, 2008

Mortality Trends by Race

Female breast cancer mortality trends differed by race from 2004 to 2008. Mortality rates in blacks increased at a rate of 2.6% per year compared to whites who had a decrease of 3.8% per year.

See Appendix G, Table 5.

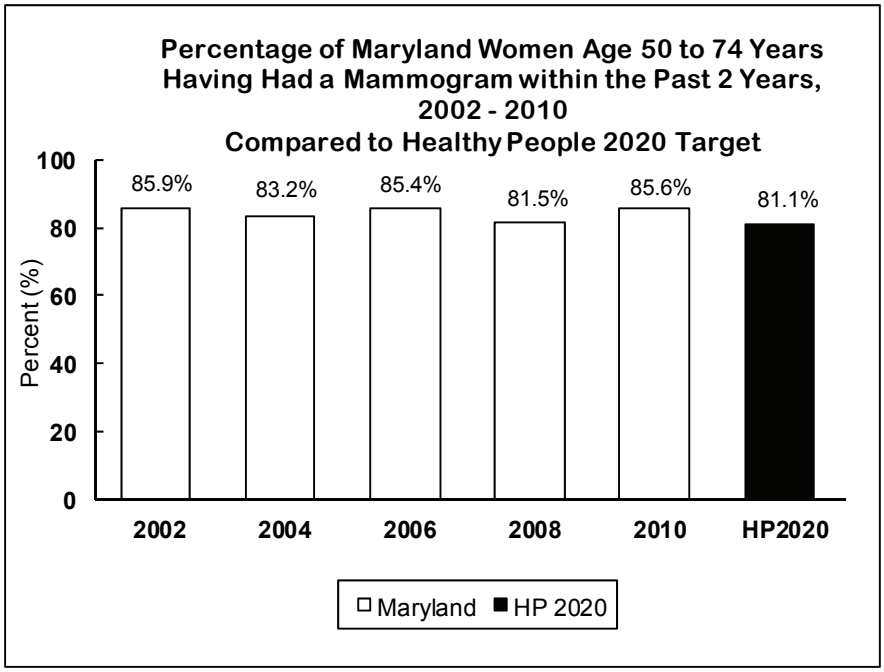


Source: Maryland Cancer Registry

Stage at Diagnosis

In 2008, 58.0% of all female breast cancer cases in Maryland were diagnosed at the local stage, 30.8% were found at the regional stage, and 5.8% were diagnosed at the distant stage. The proportion of female breast cancers reported as unstaged has decreased from 2004 to 2008.

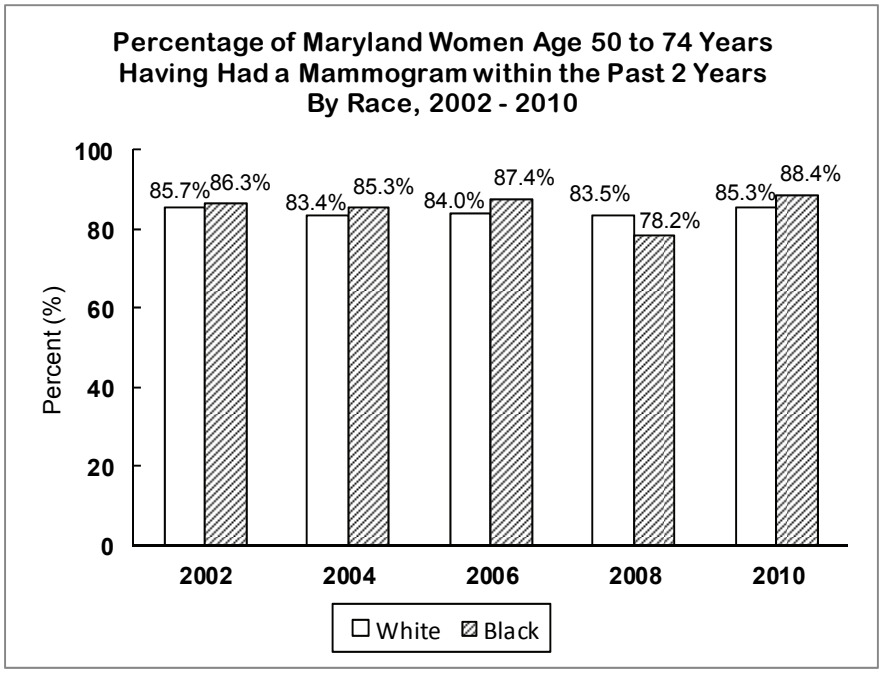
See Appendix H, Table 4.



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

Breast Cancer Screening

The Healthy People 2020 target for breast cancer is to increase to 81.1% the proportion of women who had a breast cancer screening based on most recent guidelines. As of August 2011, the U.S. Preventive Task Force guideline includes biennial mammography for women age 50 to 74 years. Maryland women have consistently surpassed this target. In 2010, 85.6% of Maryland women age 50 to 74 years reported receiving a mammogram within the preceding 2 years.



Source: Maryland BRFSS

Having had a mammogram in the past 2 years differed by race from 2002 to 2010. With the exception of 2008, black women have consistently had a higher proportion of women with a mammogram in the past 2 years compared to white women.

Table 30.
Number of Female Breast Cancer Cases
by Jurisdiction and Race, Maryland, 2008

Jurisdiction	Total	Race			
		Whites	Blacks	Other	Unknown
Maryland	4,333	2,924	1,166	226	17
Allegany	51	s	<6	0	0
Anne Arundel	429	352	55	22	0
Baltimore City	462	148	309	<6	<6
Baltimore County	684	536	128	s	<6
Calvert	66	54	s	<6	0
Caroline	33	28	<6	<6	0
Carroll	113	s	<6	0	0
Cecil	63	s	<6	0	0
Charles	73	39	28	<6	<6
Dorchester	30	20	10	0	0
Frederick	156	138	9	9	0
Garrett	15	15	0	0	0
Harford	193	169	18	6	0
Howard	220	151	42	s	<6
Kent	11	s	<6	0	0
Montgomery	748	544	110	87	7
Prince George's	557	147	374	s	<6
Queen Anne's	42	s	<6	0	0
Saint Mary's	69	54	s	<6	0
Somerset	21	13	s	<6	0
Talbot	35	s	<6	0	0
Washington	107	102	<6	<6	0
Wicomico	85	62	16	7	0
Worcester	51	40	s	<6	0
Unknown	19	13	<6	<6	0

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

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

Source: Maryland Cancer Registry

Table 31.
Female Breast Cancer Age-Adjusted Incidence Rates* by Jurisdiction and Race, Maryland, 2008

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	132.7	130.7	132.4	134.3
Allegany	106.0	106.7	**	0.0
Anne Arundel	146.8	144.2	145.5	207.6
Baltimore City	126.0	119.7	129.3	**
Baltimore County	138.9	139.3	135.7	112.0
Calvert	139.1	137.0	**	**
Caroline	161.6	164.4	**	**
Carroll	114.7	115.1	**	0.0
Cecil	112.0	110.0	**	0.0
Charles	102.8	81.8	140.7	**
Dorchester	134.2	112.0	**	0.0
Frederick	126.7	123.9	**	**
Garrett	**	**	0.0	0.0
Harford	139.4	137.8	140.3	**
Howard	149.8	139.8	169.2	145.4
Kent	**	**	**	0.0
Montgomery	131.3	133.3	128.3	112.4
Prince George's	128.6	114.2	134.1	147.3
Queen Anne's	145.7	158.7	**	0.0
Saint Mary's	140.2	136.6	**	**
Somerset	146.0	**	**	**
Talbot	119.5	133.9	**	0.0
Washington	127.3	129.2	**	**
Wicomico	151.0	141.6	136.1	**
Worcester	137.6	127.9	**	**

* 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 and Procedures

Source: Maryland Cancer Registry

Table 32.
Number of Female Breast Cancer Deaths by Jurisdiction and Race, Maryland, 2008

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	825	512	294	19
Allegany	10	10	0	0
Anne Arundel	66	54	s	<5
Baltimore City	106	30	76	0
Baltimore County	142	101	36	5
Calvert	10	s	<5	0
Caroline	<5	<5	0	0
Carroll	25	s	<5	0
Cecil	13	s	<5	0
Charles	12	6	6	0
Dorchester	<5	<5	<5	0
Frederick	27	s	<5	0
Garrett	6	6	0	0
Harford	47	40	7	0
Howard	39	25	s	<5
Kent	<5	<5	<5	0
Montgomery	118	80	33	5
Prince George's	123	s	97	<5
Queen Anne's	5	5	0	0
Saint Mary's	11	s	<5	0
Somerset	6	<5	<5	0
Talbot	6	s	<5	0
Washington	16	s	0	<5
Wicomico	13	s	<5	0
Worcester	15	s	<5	0

<5 = Death counts of 1-4 are suppressed per DHMH/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: Maryland Vital Statistics Administration from MATCH

Table 33.
Female Breast Cancer Age-Adjusted Mortality Rates*
by Jurisdiction and Race, Maryland, 2008

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	25.1	22.0	35.3	**
Allegany	**	**	**	**
Anne Arundel	23.7	23.2	**	**
Baltimore City	27.4	21.0	31.6	**
Baltimore County	26.9	23.3	45.1	**
Calvert	**	**	**	**
Caroline	**	**	**	**
Carroll	26.1	26.1	**	**
Cecil	**	**	**	**
Charles	**	**	**	**
Dorchester	**	**	**	**
Frederick	23.8	24.4	**	**
Garrett	**	**	**	**
Harford	35.1	33.4	**	**
Howard	29.0	25.3	**	**
Kent	**	**	**	**
Montgomery	20.1	17.8	36.2	**
Prince George's	29.3	17.3	38.3	**
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 DHMH/CCPC Mortality Data Suppression Policy

Source: Maryland Vital Statistics Administration from MATCH

Table 34.
Number of Female Breast Cancer Cases
by Jurisdiction and Race, Maryland, 2004-2008

Jurisdiction	Total	Race			
		Whites	Blacks	Other	Unknown
Maryland	19,451	13,618	4,910	802	121
Allegany	258	252	<6	<6	0
Anne Arundel	1,720	1,428	219	s	<6
Baltimore City	1,944	711	1,183	31	19
Baltimore County	3,206	2,458	638	77	33
Calvert	284	238	43	<6	<6
Caroline	135	117	s	<6	0
Carroll	611	583	21	<6	<6
Cecil	326	309	s	<6	0
Charles	354	216	123	s	<6
Dorchester	122	93	s	<6	0
Frederick	793	715	49	s	<6
Garrett	105	s	<6	0	0
Harford	787	696	77	s	<6
Howard	921	709	133	73	6
Kent	99	89	10	0	0
Montgomery †	3,415	2,576	464	354	21
Prince George's †	2,470	723	1,650	84	13
Queen Anne's	149	137	s	<6	0
Saint Mary's	287	245	33	9	0
Somerset	83	55	s	<6	0
Talbot	186	161	s	<6	0
Washington	486	469	11	6	0
Wicomico	336	257	66	s	<6
Worcester	255	209	33	13	0
Unknown	119	s	36	<6	s

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

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

† 2006 case counts for Montgomery and Prince George's counties are underreported. (See Appendix A, Section I.A.1.)

Source: Maryland Cancer Registry

Table 35.
Female Breast Cancer Age-Adjusted Incidence Rates* by Jurisdiction and Race, Maryland, 2004-2008

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	122.4	123.9	116.6	101.6
Allegany	107.7	107.8	**	**
Anne Arundel	123.2	121.2	126.2	145.4
Baltimore City	105.4	111.7	100.3	97.8
Baltimore County	130.7	126.1	148.4	96.4
Calvert	125.6	126.0	129.7	**
Caroline	145.8	149.3	**	**
Carroll	130.2	129.6	156.2	**
Cecil	126.3	127.4	**	**
Charles	102.9	93.7	119.1	**
Dorchester	110.4	110.1	106.8	**
Frederick	138.0	137.2	122.3	180.5
Garrett	107.9	107.6	**	0.0
Harford	119.5	119.2	128.6	**
Howard	128.7	132.7	116.5	98.5
Kent	150.2	160.3	**	0.0
Montgomery †	123.0	127.2	115.7	97.8
Prince George's †	114.0	109.3	117.7	77.5
Queen Anne's	109.9	113.8	**	**
Saint Mary's	122.0	127.1	94.8	**
Somerset	118.4	107.5	140.1	**
Talbot	132.5	133.9	125.0	**
Washington	117.5	119.0	**	**
Wicomico	126.7	125.7	118.4	**
Worcester	142.2	136.2	131.5	**

* 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 and Procedures

† 2004-2008 incidence rates for Montgomery County and Prince George's County are lower than actual due to case underreporting in 2006. (See Appendix A, Section I.A.1.)

Source: Maryland Cancer Registry

Table 36.
Number of Female Breast Cancer Deaths
by Jurisdiction and Race, Maryland, 2004-2008

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	4,092	2,739	1,279	74
Allegany	67	s	<5	0
Anne Arundel	343	281	57	5
Baltimore City	554	s	381	<5
Baltimore County	672	537	124	11
Calvert	65	54	s	<5
Caroline	23	20	<5	<5
Carroll	116	111	<5	<5
Cecil	61	s	<5	<5
Charles	85	53	s	<5
Dorchester	19	s	<5	0
Frederick	139	127	12	0
Garrett	34	34	0	0
Harford	174	150	s	<5
Howard	147	120	21	6
Kent	16	s	<5	0
Montgomery	582	437	117	28
Prince George's	607	155	439	13
Queen Anne's	40	35	5	0
Saint Mary's	59	50	9	0
Somerset	22	16	s	<5
Talbot	33	s	<5	0
Washington	105	102	<5	<5
Wicomico	73	60	13	0
Worcester	56	45	11	0

<5 = Death counts of 1-4 are suppressed per DHMH/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: Maryland Vital Statistics Administration from MATCH

Table 37.
Female Breast Cancer Age-Adjusted Mortality Rates* by Jurisdiction and Race, Maryland, 2004-2008

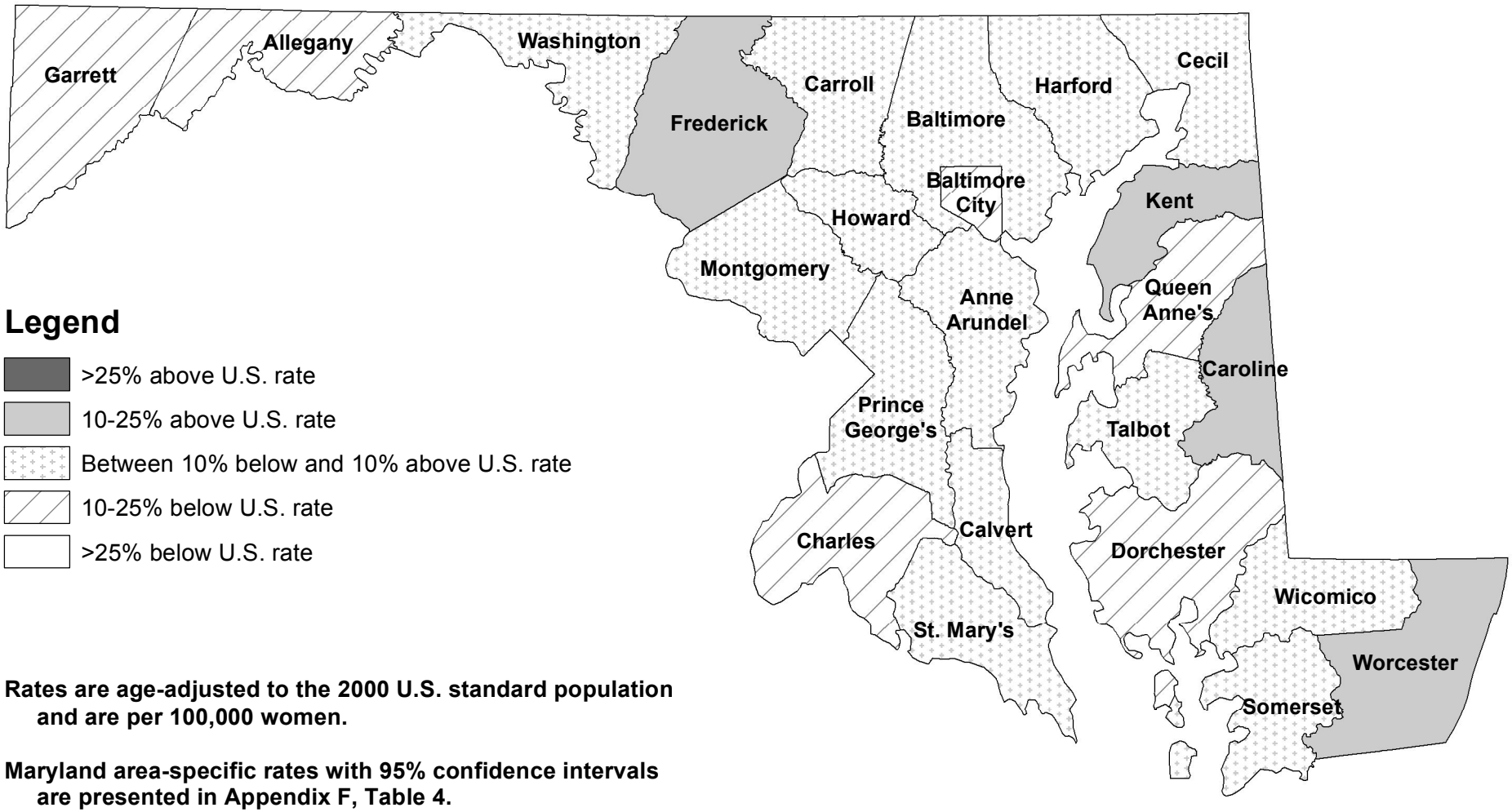
Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	25.4	23.7	31.6	10.1
Allegany	23.5	23.4	**	**
Anne Arundel	25.0	24.1	33.0	**
Baltimore City	29.1	24.0	32.3	**
Baltimore County	25.5	24.6	31.4	**
Calvert	30.0	30.0	**	**
Caroline	23.5	24.0	**	**
Carroll	24.6	24.4	**	**
Cecil	23.7	24.3	**	**
Charles	25.9	24.8	27.3	**
Dorchester	**	**	**	**
Frederick	24.9	24.8	**	**
Garrett	35.8	36.0	**	**
Harford	26.9	25.9	41.9	**
Howard	22.3	24.4	19.5	**
Kent	**	**	**	**
Montgomery	20.6	20.3	29.3	7.7
Prince George's	29.2	21.7	34.0	**
Queen Anne's	29.9	29.9	**	**
Saint Mary's	25.7	26.4	**	**
Somerset	29.9	**	**	**
Talbot	21.6	22.6	**	**
Washington	23.1	23.4	**	**
Wicomico	26.5	28.3	**	**
Worcester	27.7	25.8	**	**

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

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

Source: Maryland Vital Statistics Administration from MATCH

Maryland Female Breast Cancer Incidence Rates by Geographical Area: Comparison to U.S. Rate, 2004-2008



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

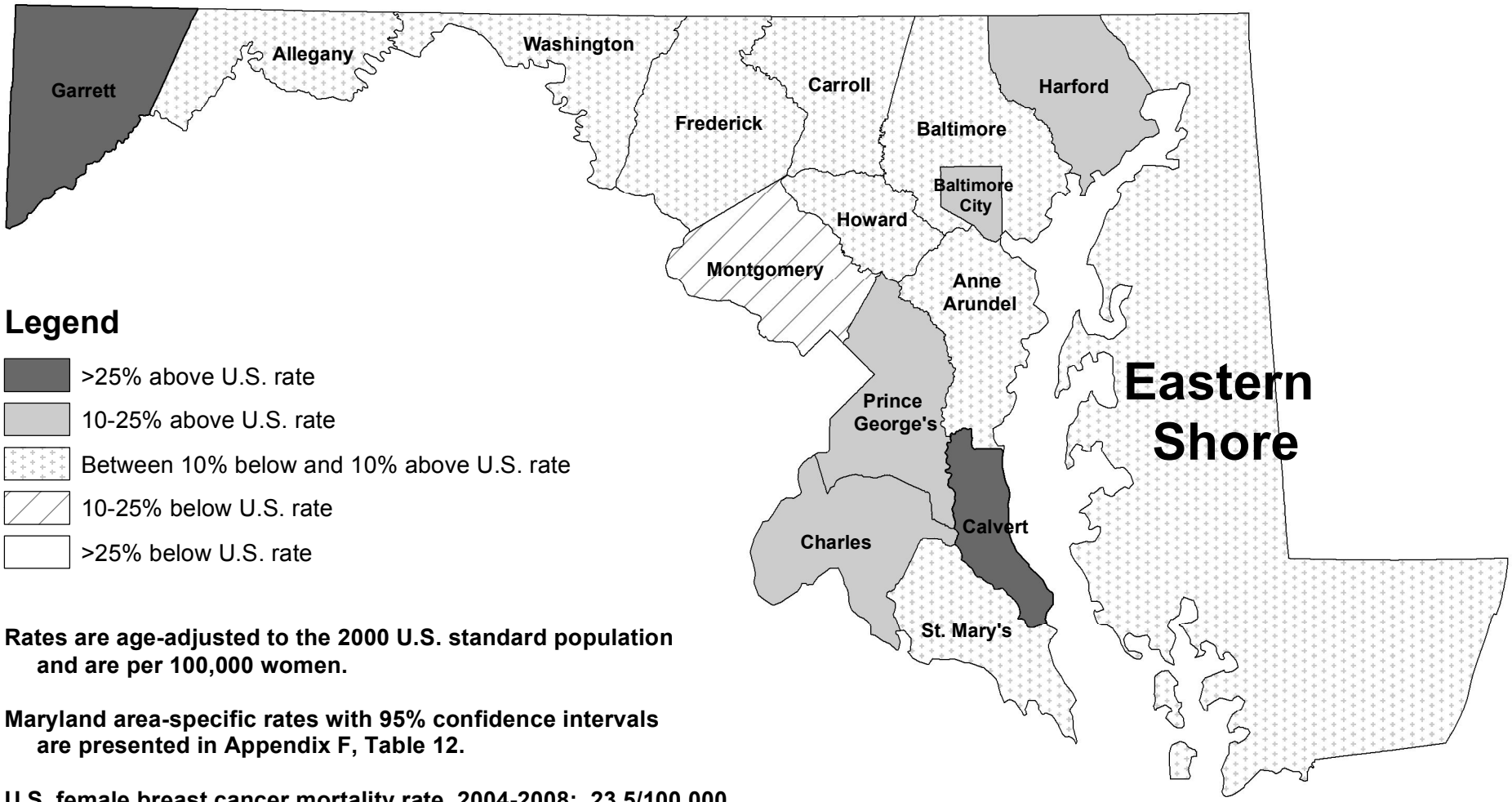
Maryland area-specific rates with 95% confidence intervals are presented in Appendix F, Table 4.

U.S. female breast cancer incidence rate, 2004-2008: 124.0/100,000

Maryland female breast cancer incidence rate, 2004-2008: 122.4/100,000

Source: MD incidence rates from Maryland Cancer Registry, 2004-2008
U.S. (SEER 17) rate from SEER*Stat Software

Maryland Female Breast Cancer Mortality Rates by Geographical Area: Comparison to U.S. Rate, 2004-2008



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 F, Table 12.

U.S. female breast cancer mortality rate, 2004-2008: 23.5/100,000

Maryland female breast cancer mortality rate, 2004-2008: 25.4/100,000

Source: MD mortality rates from Maryland Vital Statistics from MATCH, 2004-2008
U.S. mortality rate from NCHS Compressed Mortality File in CDC WONDER, 2004-2008

Note: Regional rates are presented when one or more counties within the region have a suppressed rate.

D. Prostate Cancer

Incidence (New Cases)

In 2008, a total of 4,425 cases of prostate cancer were reported among men in Maryland. The age-adjusted prostate cancer incidence rate in Maryland for 2008 was 163.0 per 100,000 men (158.1-168.1, 95% C.I.); this rate is statistically significantly higher than the 2008 U.S. SEER age-adjusted incidence rate for prostate cancer of 146.7 per 100,000 men (145.4-148.0, 95% C.I.).

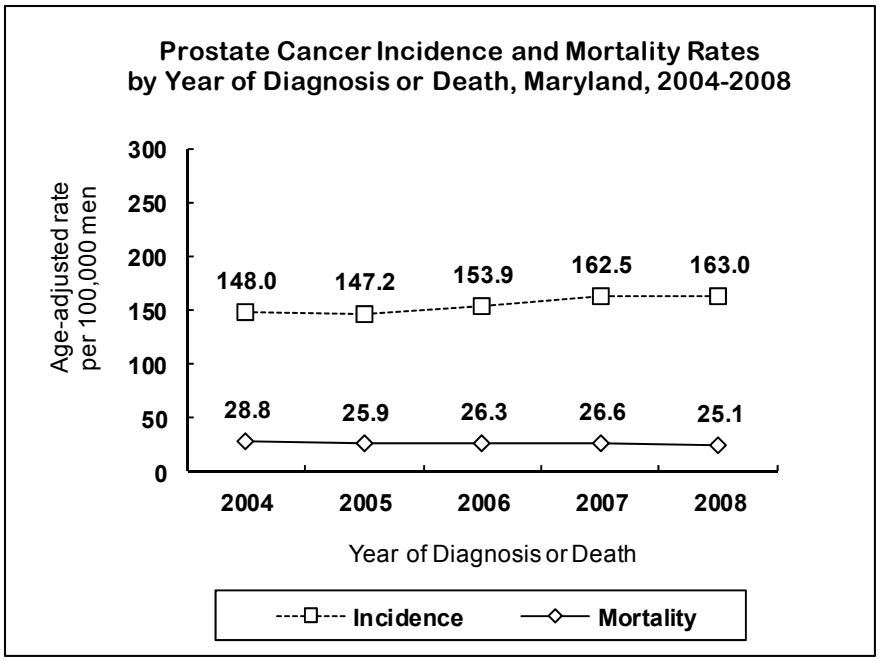
Mortality (Deaths)

Prostate cancer is the second leading cause of cancer death among men in Maryland after lung cancer. In 2008, 535 men died of prostate cancer in Maryland, accounting for 5.2% of all cancer deaths and 10.1% of cancer deaths among men in Maryland. The 2008 age-adjusted mortality rate for prostate cancer in Maryland was 25.1 per 100,000 men (23.0-27.4, 95% C.I.). This rate is statistically significantly higher than the 2008 U.S. prostate cancer mortality rate of 22.3 per 100,000 population of men (22.0-22.6, 95% C.I.). Maryland had the 8th highest prostate cancer mortality rate among the states and the District of Columbia for the period 2004-2008.

Table 38.
Prostate Cancer Incidence and Mortality Rates
by Race, Maryland and the United States, 2008

Incidence 2008	*Total*	*Whites*	*Blacks*	*Other*
New Cases (count)	4,425	2,816	1,351	165
MD Incidence Rate	163.0	142.9	225.5	120.7
U.S. SEER Rate	146.7	139.6	221.7	145.0
Mortality 2008	*Total*	*Whites*	*Blacks*	*Other*
Deaths (count)	535	337	s	<5
MD Mortality Rate	25.1	20.6	48.1	**
U.S. Mortality Rate	22.3	20.8	46.2	10.3

Rates are per 100,000 men and are age-adjusted to 2000 U.S. standard population
Total includes unknown race
s = Counts are suppressed to prevent disclosure of data in other cell(s) based on Table 41
<5 = MD death counts of 1-4 are suppressed per DHMH/CCPC Mortality Data Suppression Policy
** MD mortality rates based on death counts of 0-19 are suppressed per DHMH/CCPC Mortality Data Suppression Policy
Source: Maryland Cancer Registry
U.S. SEER rates from SEER*Stat software
Maryland Vital Statistics Administration from MATCH
NCHS Compressed Mortality File from CDC WONDER



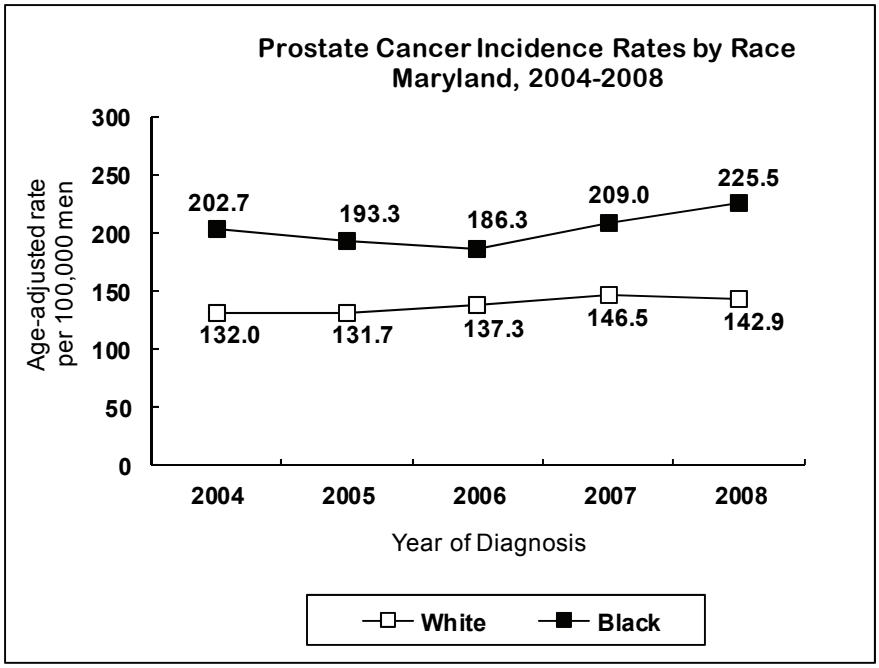
Source: Maryland Cancer Registry
NCHS Compressed Mortality File in CDC WONDER, 2004-2007
Maryland Vital Statistics Administration from MATCH, 2008

Incidence and Mortality Trends

The prostate cancer incidence rate in Maryland increased at a rate of 3.0% per year from 2004 to 2008.

Prostate cancer mortality rates declined from 2004 to 2008, with a yearly decline of 2.5%.

See Appendix G, Tables 1 and 2.



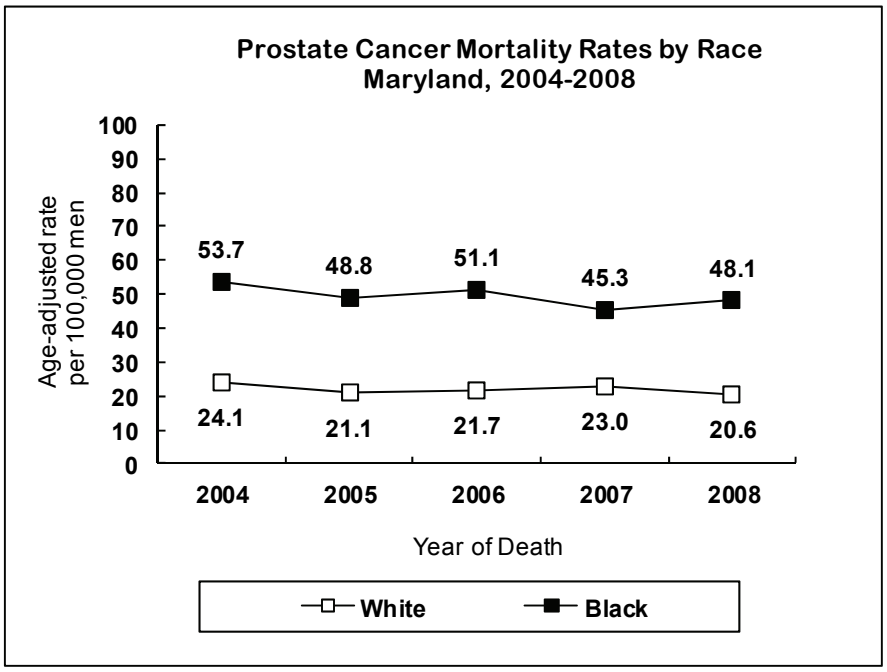
Source: Maryland Cancer Registry

Incidence Trends by Race

From 2004 to 2008, black men had consistently higher prostate cancer incidence rates than white men.

During this 5-year period, incidence rates for black and white men increased at a rate of 3.0% and 2.7% per year, respectively.

See Appendix G, Table 3.



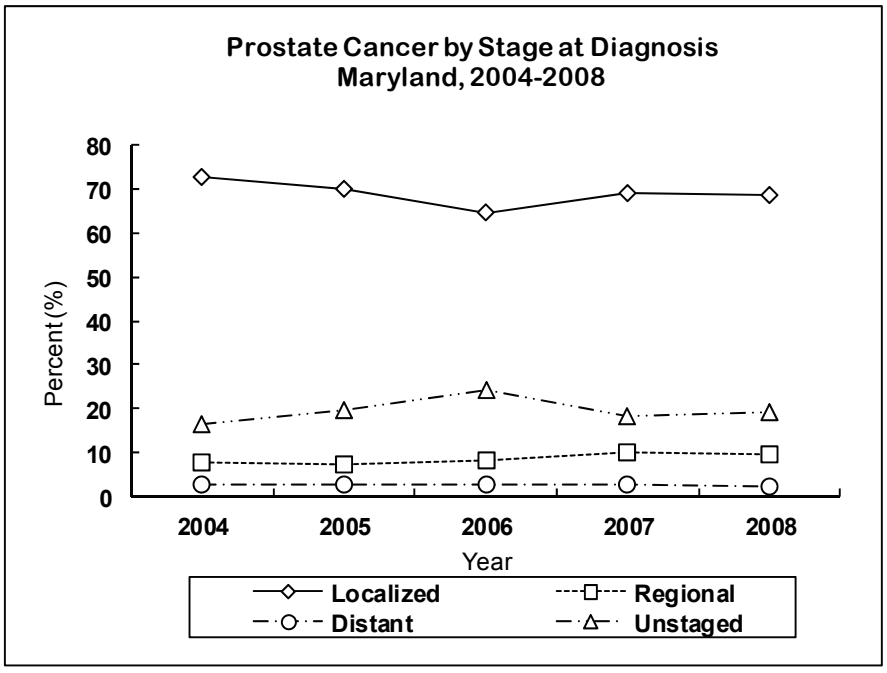
Source: NCHS Compressed Mortality File in CDC WONDER, 2004-2007
Maryland Vital Statistics Administration from MATCH, 2008

Mortality Trends by Race

From 2004 to 2008, black men had consistently higher prostate cancer mortality rates than white men.

During this 5-year period, mortality rates for black and white men declined at a rate of 2.9% and 2.3%, respectively.

See Appendix G, Table 5.

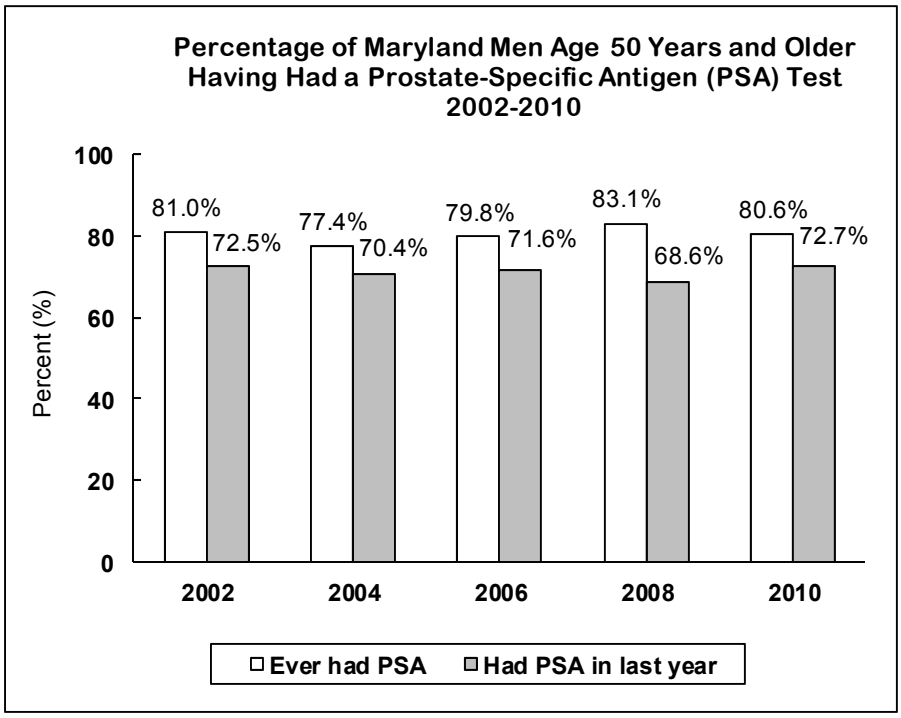


Source: Maryland Cancer Registry

Stage at Diagnosis

Of prostate cancers diagnosed in Maryland in 2008, 68.6% were detected at the localized stage, 9.8% were found at the regional stage, and 2.4% were diagnosed at the distant stage. The proportion of prostate cancer cases reported as unstaged increased from 2004 to 2008.

See Appendix H, Table 5.



Source: Maryland BRFSS

Prostate-Specific Antigen Test

There is no Healthy People 2020 objective for prostate cancer detection.

In 2010, 80.6% of Maryland men age 50 years and older reported that they have ever had a prostate-specific antigen (PSA) test, and 72.7% of men age 50 years and older had a PSA test within the last year.

Table 39.
Number of Prostate Cancer Cases
by Jurisdiction and Race, Maryland, 2008

Jurisdiction	Total	Race			
		Whites	Blacks	Other	Unknown
Maryland	4,425	2,816	1,351	165	93
Allegany	72	67	<6	<6	0
Anne Arundel	456	376	73	<6	<6
Baltimore City	444	121	309	<6	s
Baltimore County	589	415	138	13	23
Calvert	61	48	s	<6	0
Caroline	26	s	<6	<6	0
Carroll	103	94	6	<6	<6
Cecil	72	s	<6	0	0
Charles	94	50	39	<6	<6
Dorchester	28	20	8	0	0
Frederick	138	121	s	<6	0
Garrett	28	s	0	0	<6
Harford	198	160	31	<6	<6
Howard	188	135	32	13	8
Kent	20	s	<6	0	0
Montgomery	781	536	136	85	24
Prince George's	633	140	456	27	10
Queen Anne's	35	s	<6	0	0
Saint Mary's	66	52	s	<6	0
Somerset	30	17	s	<6	<6
Talbot	56	50	<6	0	<6
Washington	109	96	13	0	0
Wicomico	84	61	23	0	0
Worcester	82	66	13	<6	<6
Unknown	32	21	7	<6	<6

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

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

Source: Maryland Cancer Registry

Table 40.
Prostate Cancer Age-Adjusted Incidence Rates*
by Jurisdiction and Race, Maryland, 2008

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	163.0	142.9	225.5	120.7
Allegany	166.2	159.1	**	**
Anne Arundel	173.4	165.0	261.5	**
Baltimore City	165.4	118.7	190.9	**
Baltimore County	142.9	125.7	211.6	**
Calvert	151.5	133.9	**	**
Caroline	148.5	158.7	**	**
Carroll	114.0	109.0	**	**
Cecil	144.9	149.8	**	0.0
Charles	157.1	119.6	239.4	**
Dorchester	148.5	136.9	**	0.0
Frederick	133.8	129.5	**	**
Garrett	145.4	141.6	0.0	0.0
Harford	169.2	153.3	310.0	**
Howard	143.6	133.0	203.4	**
Kent	153.3	146.3	**	0.0
Montgomery	171.7	158.0	273.7	128.7
Prince George's	191.7	118.2	245.2	169.7
Queen Anne's	117.0	121.5	**	0.0
Saint Mary's	142.7	133.6	**	**
Somerset	221.3	173.2	**	**
Talbot	196.2	200.6	**	0.0
Washington	145.7	135.6	**	0.0
Wicomico	186.3	168.6	287.5	0.0
Worcester	213.2	188.5	**	**

* Rates are per 100,000 men 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 and Procedures

Source: Maryland Cancer Registry

Table 41.
Number of Prostate Cancer Deaths
by Jurisdiction and Race, Maryland, 2008

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	535	337	s	<5
Allegany	<5	<5	0	0
Anne Arundel	45	35	10	0
Baltimore City	90	20	70	0
Baltimore County	78	61	17	0
Calvert	6	<5	<5	0
Caroline	<5	<5	0	0
Carroll	17	s	<5	0
Cecil	14	14	0	0
Charles	12	<5	s	0
Dorchester	<5	<5	<5	0
Frederick	13	s	<5	0
Garrett	5	5	0	0
Harford	17	s	<5	0
Howard	16	8	s	<5
Kent	9	s	<5	0
Montgomery	73	60	s	<5
Prince George's	66	24	42	0
Queen Anne's	5	5	0	0
Saint Mary's	10	<5	s	0
Somerset	<5	0	<5	0
Talbot	9	s	<5	0
Washington	18	18	0	0
Wicomico	10	s	<5	0
Worcester	12	s	<5	0

<5 = Death counts of 1-4 are suppressed per DHMH/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: Maryland Vital Statistics Administration from MATCH

Table 42.
Prostate Cancer Age-Adjusted Mortality Rates*
by Jurisdiction and Race, Maryland, 2008

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	25.1	20.6	48.1	**
Allegany	**	**	**	**
Anne Arundel	25.3	22.5	**	**
Baltimore City	40.1	21.7	55.4	**
Baltimore County	20.8	18.5	**	**
Calvert	**	**	**	**
Caroline	**	**	**	**
Carroll	**	**	**	**
Cecil	**	**	**	**
Charles	**	**	**	**
Dorchester	**	**	**	**
Frederick	**	**	**	**
Garrett	**	**	**	**
Harford	**	**	**	**
Howard	**	**	**	**
Kent	**	**	**	**
Montgomery	18.8	19.1	**	**
Prince George's	30.6	23.7	43.2	**
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 DHMH/CCPC Mortality Data Suppression Policy

Source: Maryland Vital Statistics Administration from MATCH

Table 43.
Number of Prostate Cancer Cases
by Jurisdiction and Race, Maryland, 2004-2008

Jurisdiction	Total	Race			
		Whites	Blacks	Other	Unknown
Maryland	19,824	12,982	5,706	802	334
Allegany	307	287	s	<6	0
Anne Arundel	1,780	1,478	257	27	18
Baltimore City	2,103	670	1,325	72	36
Baltimore County	2,937	2,075	639	170	53
Calvert	232	181	46	<6	<6
Caroline	105	87	s	<6	<6
Carroll	531	486	25	s	<6
Cecil	315	289	17	9	0
Charles	416	257	138	11	10
Dorchester	122	84	34	<6	<6
Frederick	691	628	45	s	<6
Garrett	108	105	<6	0	<6
Harford	899	745	118	25	11
Howard	776	557	151	49	19
Kent	119	102	s	0	<6
Montgomery †	3,402	2,448	589	283	82
Prince George's †	2,722	706	1,870	94	52
Queen Anne's	186	161	19	<6	<6
Saint Mary's	315	251	54	<6	s
Somerset	86	50	s	<6	<6
Talbot	230	186	s	0	<6
Washington	552	515	31	6	0
Wicomico	313	219	s	<6	0
Worcester	291	236	46	s	<6
Unknown	286	179	86	6	15

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

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

† 2006 case counts for Montgomery and Prince George's counties are underreported. (See Appendix A, Section I.A.1.)

Source: Maryland Cancer Registry

Table 44.
Prostate Cancer Age-Adjusted Incidence Rates* by Jurisdiction and Race, Maryland, 2004-2008

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	155.1	138.2	203.6	143.3
Allegany	143.6	138.3	361.0	**
Anne Arundel	146.7	139.8	202.6	87.3
Baltimore City	159.4	129.1	170.4	320.9
Baltimore County	147.7	126.8	230.2	279.8
Calvert	127.4	115.8	194.7	**
Caroline	131.1	127.2	155.1	**
Carroll	132.6	126.4	214.9	**
Cecil	135.4	130.3	178.8	**
Charles	159.4	136.9	208.3	**
Dorchester	128.6	113.3	163.5	**
Frederick	156.4	156.4	149.0	**
Garrett	120.0	117.6	**	0.0
Harford	165.4	152.2	277.5	253.1
Howard	130.2	119.0	193.2	95.8
Kent	185.2	186.3	**	0.0
Montgomery †	156.5	148.1	238.8	104.4
Prince George's †	170.1	118.8	208.1	124.7
Queen Anne's	142.9	135.8	198.9	**
Saint Mary's	154.9	146.3	198.9	**
Somerset	134.7	106.5	211.7	**
Talbot	180.4	166.0	265.9	0.0
Washington	158.9	155.2	238.1	**
Wicomico	143.6	126.2	229.0	**
Worcester	162.1	147.9	246.1	**

* Rates are per 100,000 men 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 and Procedures

† 2004-2008 incidence rates for Montgomery County and Prince George's County are lower than actual due to case underreporting in 2006. (See Appendix A, Section I.A.1.)

Source: Maryland Cancer Registry

Table 45.
Number of Prostate Cancer Deaths
by Jurisdiction and Race, Maryland, 2004-2008

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	2,687	1,739	915	33
Allegany	44	s	<5	0
Anne Arundel	209	170	39	0
Baltimore City	418	s	306	<5
Baltimore County	435	344	s	<5
Calvert	48	37	11	0
Caroline	20	s	<5	0
Carroll	69	s	<5	0
Cecil	48	41	7	0
Charles	54	28	26	0
Dorchester	16	9	7	0
Frederick	82	69	s	<5
Garrett	22	s	0	<5
Harford	95	83	s	<5
Howard	81	54	s	<5
Kent	24	s	<5	0
Montgomery	347	280	53	14
Prince George's	362	108	244	10
Queen Anne's	28	s	<5	0
Saint Mary's	53	32	21	0
Somerset	17	11	6	0
Talbot	39	32	s	<5
Washington	76	70	s	<5
Wicomico	52	31	21	0
Worcester	48	36	12	0

<5 = Death counts of 1-4 are suppressed per DHMH/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: Maryland Vital Statistics Administration from MATCH

Table 46.
Prostate Cancer Age-Adjusted Mortality Rates*
by Jurisdiction and Race, Maryland, 2004-2008

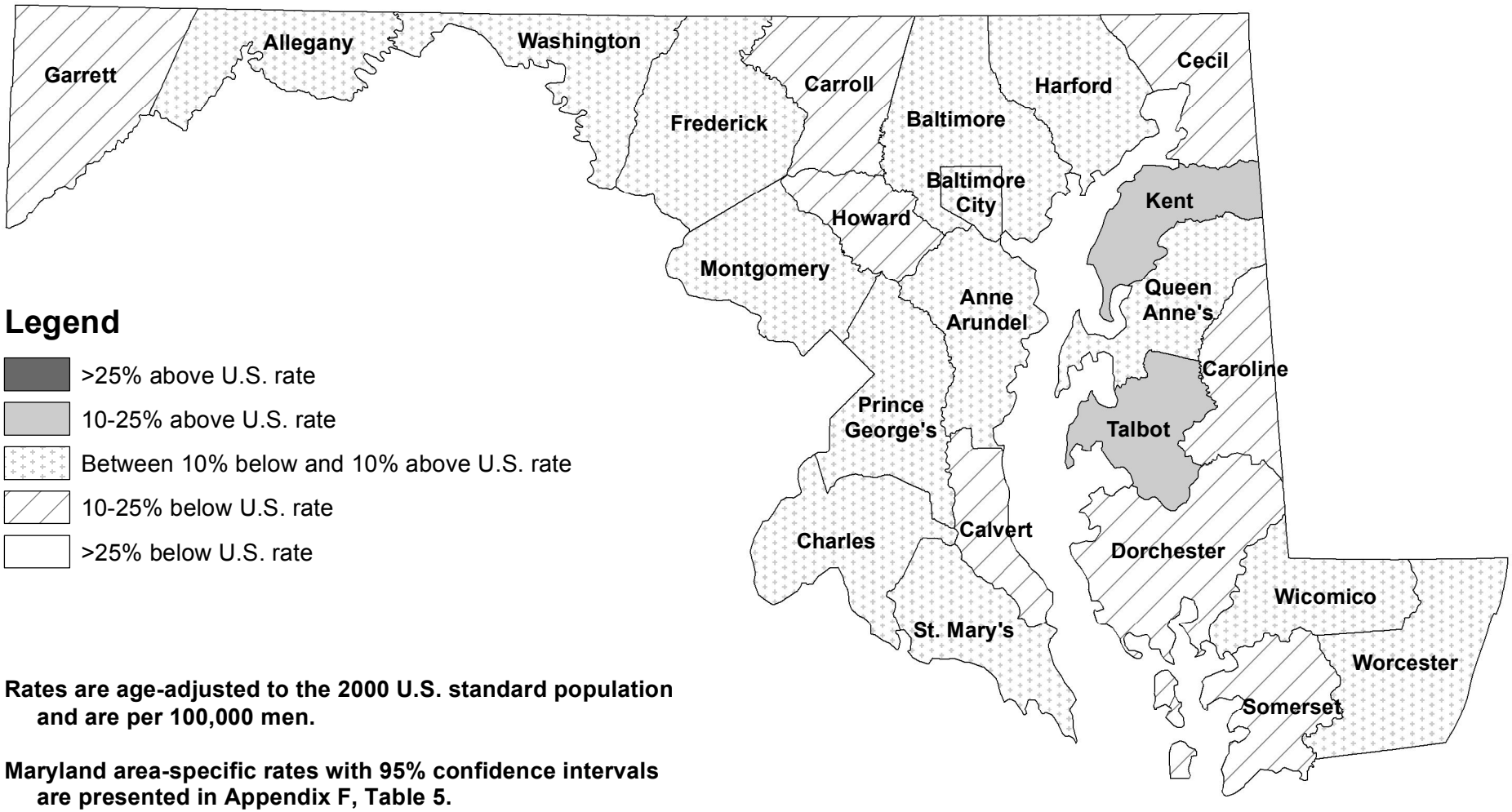
Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	25.9	21.7	47.7	8.5
Allegany	21.8	21.8	**	**
Anne Arundel	24.5	22.7	45.8	**
Baltimore City	36.0	22.1	48.2	**
Baltimore County	23.2	20.7	51.6	**
Calvert	35.6	31.6	**	**
Caroline	28.2	**	**	**
Carroll	23.4	23.2	**	**
Cecil	28.4	25.7	**	**
Charles	31.8	23.8	57.3	**
Dorchester	**	**	**	**
Frederick	24.1	22.0	**	**
Garrett	27.4	26.2	**	**
Harford	23.7	23.0	**	**
Howard	22.8	19.9	55.9	**
Kent	35.9	33.3	**	**
Montgomery	18.9	18.7	34.4	**
Prince George's	33.9	21.8	49.1	**
Queen Anne's	26.8	28.1	**	**
Saint Mary's	36.9	28.1	87.6	**
Somerset	**	**	**	**
Talbot	27.7	25.3	**	**
Washington	24.0	22.9	**	**
Wicomico	27.3	20.8	56.5	**
Worcester	26.4	22.0	**	**

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

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

Source: Maryland Vital Statistics Administration from MATCH

Maryland Prostate Cancer Incidence Rates by Geographical Area: Comparison to U.S. Rate, 2004-2008



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

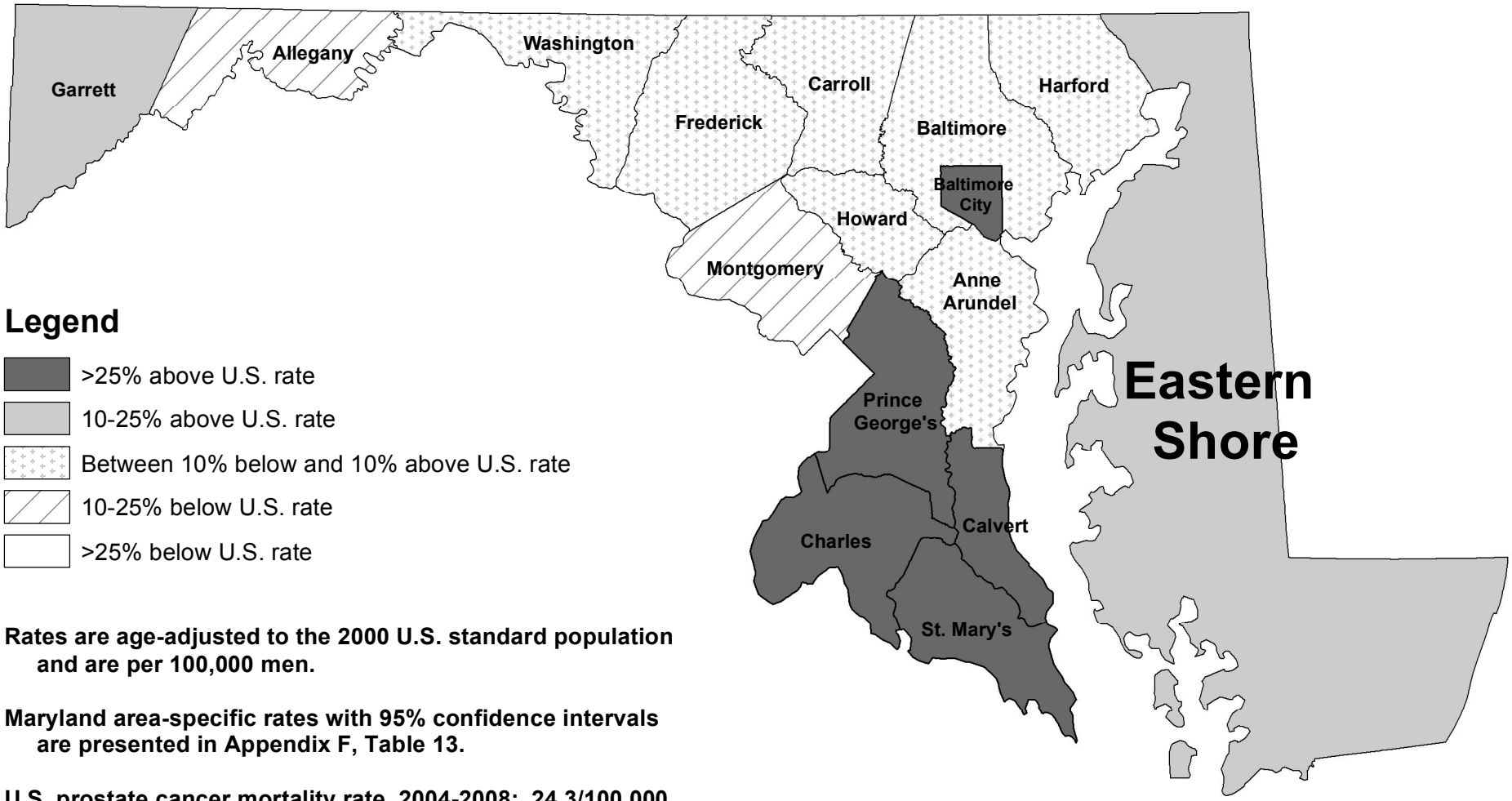
Maryland area-specific rates with 95% confidence intervals are presented in Appendix F, Table 5.

U.S. prostate cancer incidence rate, 2004-2008: 156.0/100,000

Maryland prostate cancer incidence rate, 2004-2008: 155.1/100,000

Source: MD incidence rates from Maryland Cancer Registry, 2004-2008
U.S. (SEER 17) rate from SEER*Stat Software

Maryland Prostate Cancer Mortality Rates by Geographical Area: Comparison to U.S. Rate, 2004-2008



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 F, Table 13.

U.S. prostate cancer mortality rate, 2004-2008: 24.3/100,000

Maryland prostate cancer mortality rate, 2004-2008: 25.9/100,000

Source: MD mortality rates from Maryland Vital Statistics from MATCH, 2004-2008
U.S. mortality rate from NCHS Compressed Mortality File in CDC WONDER, 2004-2008

Note: Regional rates are presented when one or more counties within the region have a suppressed rate.

E. Oral Cancer

Incidence (New Cases)

In 2008, a total of 610 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 2008 was 10.1 per 100,000 population (9.3-10.9, 95% C.I.), which is similar to the 2008 U.S. SEER age-adjusted oral cancer incidence rate of 10.7 per 100,000 population (10.4-10.9, 95% C.I.).

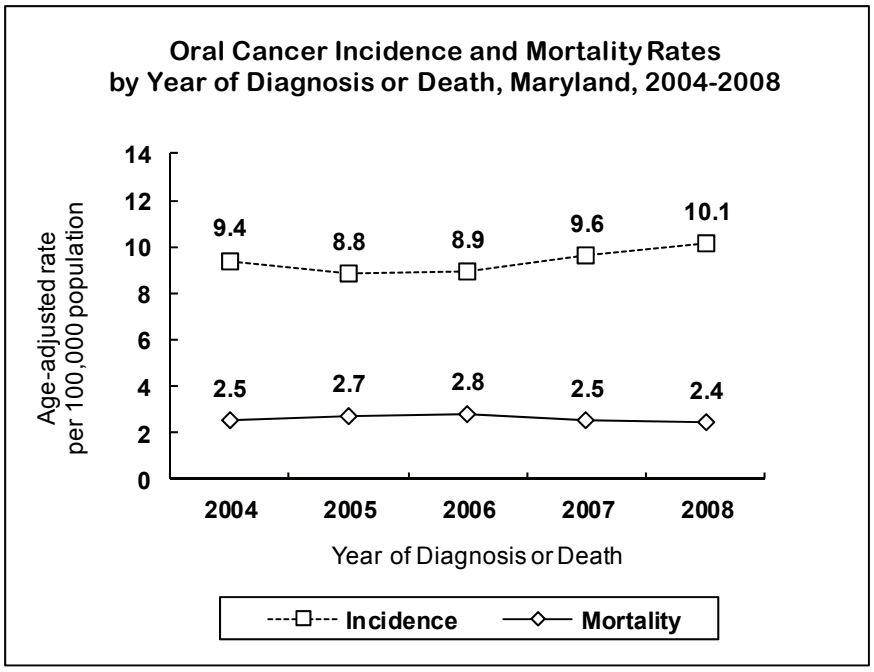
Mortality (Deaths)

In 2008, 142 persons in Maryland died of oral cancer. The 2008 age-adjusted mortality rate for oral cancer in Maryland was 2.4 per 100,000 population (2.0-2.8, 95% C.I.), which accounted for 1.4% of Maryland cancer deaths in 2008. This rate is similar to the 2008 U.S. oral cancer mortality rate of 2.4 per 100,000 population (2.4-2.5, 95% C.I.). Maryland had the 23rd highest oral cancer mortality rate among the states and the District of Columbia for the period 2004-2008.

Table 47.
Oral Cancer Incidence and Mortality Rates
by Gender and Race, Maryland and United States, 2008

Incidence 2008	*Total*	*Males*	*Females*	*Whites*	*Blacks*	*Other*
New Cases (count)	610	414	195	453	133	s
MD Incidence Rate	10.1	15.1	5.9	10.7	8.6	6.7
U.S. SEER Rate	10.7	15.8	6.2	11.0	9.1	9.3
Mortality 2008	*Total*	*Males*	*Females*	*Whites*	*Blacks*	*Other*
Deaths (count)	142	98	44	95	38	9
MD Mortality Rate	2.4	3.8	1.3	2.2	3.0	**
U.S. Mortality Rate	2.4	3.7	1.4	2.4	3.0	2.0

Rates are per 100,000 population and are age-adjusted to 2000 U.S. standard population
Total includes cases reported as transsexual, hermaphrodite, unknown gender, and unknown race
s = Counts are suppressed to prevent disclosure of data in other cell(s) based on Tables 48 and 50
** MD mortality rates based on death counts of 0-19 are suppressed per DHMH/CCPC Mortality Data Suppression Policy
Source: Maryland Cancer Registry
U.S. SEER rates from SEER*Stat software
Maryland Vital Statistics Administration from MATCH
NCHS Compressed Mortality File in CDC WONDER



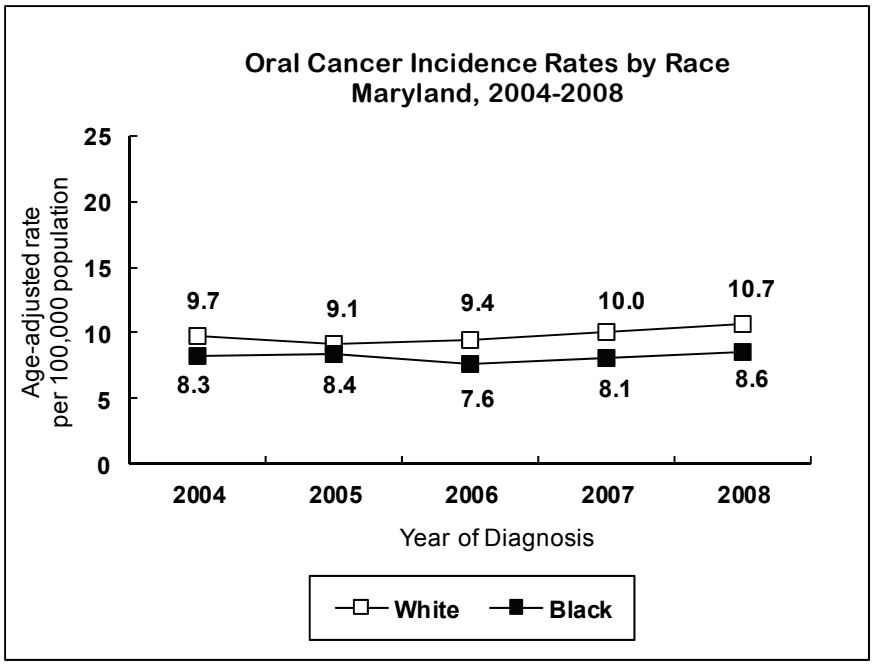
Source: Maryland Cancer Registry
NCHS Compressed Mortality File in CDC WONDER, 2004-2007
Maryland Vital Statistics Administration from MATCH, 2008

Incidence and Mortality Trends

The incidence of oral cancer in Maryland increased at a rate of 2.3% per year from 2004 to 2008.

Oral cancer mortality rates have decreased from 2004 to 2008, with a rate decrease of 1.6% annually.

See Appendix G, Tables 1 and 2.

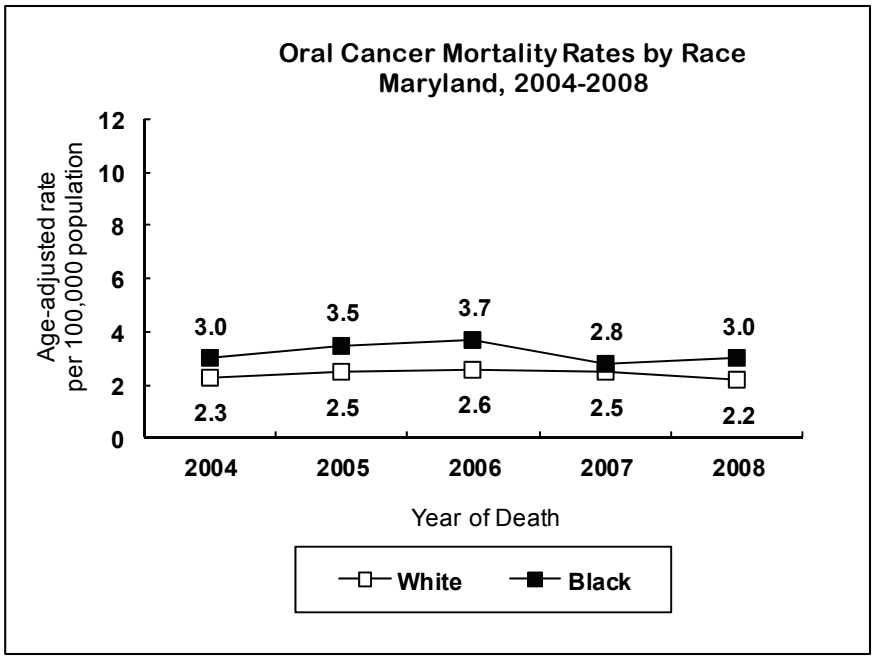


Source: Maryland Cancer Registry

Incidence Trends by Race

Over the 5-year period from 2004 to 2008, oral cancer incidence rates in Maryland increased at a rate of 0.3% per year for blacks, and 2.9% per year for whites.

See Appendix G, Table 3.

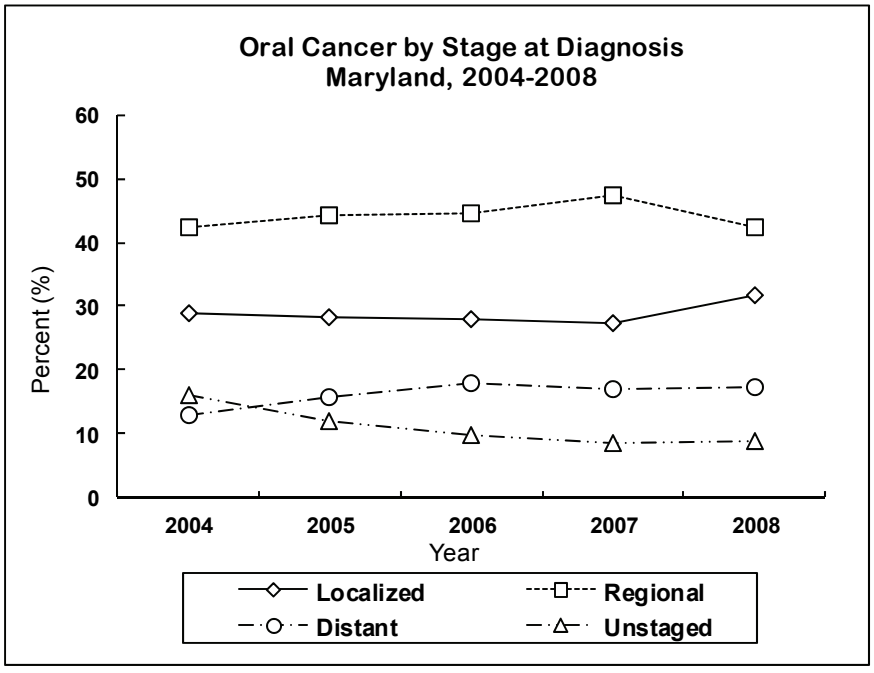


Source: NCHS Compressed Mortality File in CDC WONDER, 2004-2007
Maryland Vital Statistics Administration from MATCH, 2008

Mortality Trends by Race

Over the 5-year period from 2004 to 2008, oral cancer mortality rates decreased at a rate of 2.2% per year for blacks and 0.9% per year for whites.

See Appendix G, Table 5.

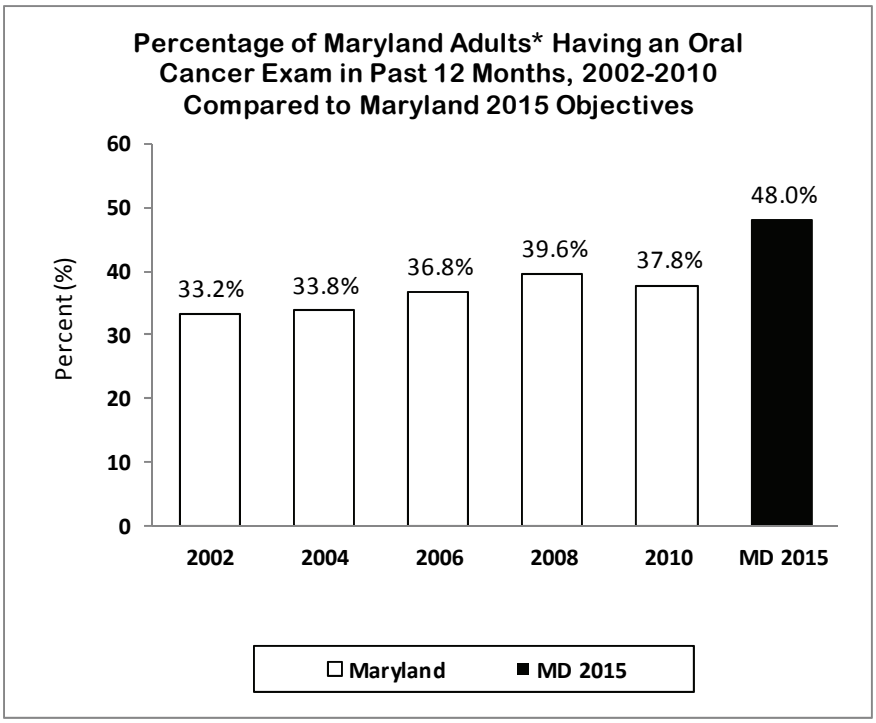


Source: Maryland Cancer Registry

Stage at Diagnosis

In 2008, 31.6% of oral cancers in Maryland were diagnosed at the localized stage, 42.5% were diagnosed at the regional stage, and 17.2% were diagnosed at the distant stage. From 2004 to 2008, the proportion of oral cancers reported as unstaged have decreased.

See Appendix H, Table 6.



* Adults age 40 years and older
Note: Graphic includes results from both the Maryland BRFSS and Maryland Cancer Survey. See Appendix A for a cautionary note on comparing these data.
Source: Maryland Cancer Survey 2002, 2004, 2006 and 2008
Maryland BRFSS 2010
Maryland Comprehensive Cancer Control Plan

Oral Cancer Screening

There is no current Healthy People 2020 target for oral cancer screening. The Maryland 2015 objective from the Comprehensive Cancer Control Plan is to increase to 48% the proportion of adults age 40 years and older who report having had an oral cancer screening examination in the past 12 months to detect oral cancer.

In 2010, only 37.8% of persons in Maryland 40 years of age and older reported they had an oral cancer exam in the past year, therefore not yet attaining the Maryland 2015 target of 48.0%.

Table 48.
Number of Oral Cancer Cases
by Jurisdiction, Gender and Race, Maryland, 2008

Jurisdiction	Total	Gender		Race			
		Males	Females	Whites	Blacks	Other	Unknown
Maryland	610	414	195	453	133	s	<6
Allegany	10	s	<6	10	0	0	0
Anne Arundel	74	55	19	65	9	0	0
Baltimore City	86	59	26	s	56	<6	0
Baltimore County	88	58	30	76	s	<6	0
Calvert	12	s	<6	s	<6	0	0
Caroline	<6	<6	<6	<6	0	0	0
Carroll	20	s	<6	s	<6	0	0
Cecil	12	s	<6	s	<6	0	0
Charles	16	s	<6	12	<6	0	<6
Dorchester	6	6	0	<6	<6	0	0
Frederick	25	17	8	s	<6	0	0
Garrett	<6	0	<6	<6	0	0	0
Harford	22	16	6	s	<6	0	0
Howard	24	17	7	17	<6	<6	<6
Kent	<6	<6	<6	<6	<6	0	0
Montgomery	76	44	32	58	s	9	<6
Prince George's	66	41	25	31	s	<6	0
Queen Anne's	<6	<6	<6	<6	0	0	0
Saint Mary's	9	s	<6	s	<6	0	0
Somerset	<6	<6	0	0	<6	0	0
Talbot	<6	<6	<6	<6	<6	0	0
Washington	13	s	<6	13	0	0	0
Wicomico	14	s	<6	s	<6	0	0
Worcester	12	s	<6	s	0	<6	0
Unknown	7	<6	<6	7	0	0	0

Total includes cases reported as transsexual, hermaphrodite, and unknown gender

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

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

Source: Maryland Cancer Registry

Table 49.
Oral Cancer Age-Adjusted Incidence Rates*
by Jurisdiction, Gender and Race, Maryland, 2008

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	10.1	15.1	5.9	10.7	8.6	6.7
Allegany	**	**	**	**	0.0	0.0
Anne Arundel	13.7	22.6	6.2	14.6	**	0.0
Baltimore City	12.9	20.7	6.8	12.7	13.0	**
Baltimore County	9.7	14.3	5.9	10.6	**	**
Calvert	**	**	**	**	**	0.0
Caroline	**	**	**	**	0.0	0.0
Carroll	10.4	18.9	**	10.1	**	0.0
Cecil	**	**	**	**	**	0.0
Charles	12.8	**	**	**	**	0.0
Dorchester	**	**	0.0	**	**	0.0
Frederick	10.0	14.0	**	10.7	**	0.0
Garrett	**	0.0	**	**	0.0	0.0
Harford	8.2	12.3	**	8.9	**	0.0
Howard	8.5	11.8	**	8.6	**	**
Kent	**	**	**	**	**	0.0
Montgomery	7.4	9.6	5.7	7.5	**	**
Prince George's	8.7	12.1	6.1	12.1	6.8	**
Queen Anne's	**	**	**	**	0.0	0.0
Saint Mary's	**	**	**	**	**	0.0
Somerset	**	**	0.0	0.0	**	0.0
Talbot	**	**	**	**	**	0.0
Washington	**	**	**	**	0.0	0.0
Wicomico	**	**	**	**	**	0.0
Worcester	**	**	**	**	0.0	**

* Rates are per 100,000 population 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 and Procedures

Source: Maryland Cancer Registry

Table 50.
Number of Oral Cancer Deaths
by Jurisdiction, Gender and Race, Maryland, 2008

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	142	98	44	95	38	9
Allegany	5	<5	<5	5	0	0
Anne Arundel	16	s	<5	11	<5	<5
Baltimore City	15	s	<5	7	8	0
Baltimore County	22	11	11	17	5	0
Calvert	<5	<5	0	<5	0	0
Caroline	0	0	0	0	0	0
Carroll	<5	<5	<5	<5	0	0
Cecil	<5	<5	0	<5	0	0
Charles	<5	<5	0	<5	0	0
Dorchester	<5	<5	<5	0	<5	0
Frederick	<5	<5	0	<5	0	0
Garrett	0	0	0	0	0	0
Harford	6	6	0	s	<5	0
Howard	7	s	<5	s	0	<5
Kent	<5	<5	0	<5	0	0
Montgomery	17	10	7	s	<5	<5
Prince George's	21	13	8	s	14	<5
Queen Anne's	<5	<5	<5	<5	0	0
Saint Mary's	<5	<5	<5	<5	0	0
Somerset	<5	<5	0	0	<5	0
Talbot	<5	<5	<5	<5	0	0
Washington	<5	<5	<5	<5	0	0
Wicomico	<5	<5	0	<5	0	0
Worcester	<5	<5	0	<5	0	0

<5 = Death counts of 1-4 are suppressed per DHMH/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: Maryland Vital Statistics Administration from MATCH

Table 51.
Oral Cancer Age-Adjusted Mortality Rates*
by Jurisdiction, Gender and Race, Maryland, 2008

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	2.4	3.8	1.3	2.2	3.0	**
Allegany	**	**	**	**	**	**
Anne Arundel	**	**	**	**	**	**
Baltimore City	**	**	**	**	**	**
Baltimore County	2.2	**	**	**	**	**
Calvert	**	**	**	**	**	**
Caroline	**	**	**	**	**	**
Carroll	**	**	**	**	**	**
Cecil	**	**	**	**	**	**
Charles	**	**	**	**	**	**
Dorchester	**	**	**	**	**	**
Frederick	**	**	**	**	**	**
Garrett	**	**	**	**	**	**
Harford	**	**	**	**	**	**
Howard	**	**	**	**	**	**
Kent	**	**	**	**	**	**
Montgomery	**	**	**	**	**	**
Prince George's	3.0	**	**	**	**	**
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 DHMH/CCPC Mortality Data Suppression Policy

Source: Maryland Vital Statistics Administration from MATCH

Table 52.
Number of Oral Cancer Cases
by Jurisdiction, Gender and Race, Maryland, 2004-2008

Jurisdiction	Total	Gender		Race			
		Males	Females	Whites	Blacks	Other	Unknown
Maryland	2,745	1,858	885	2,036	590	99	20
Allegany	51	37	14	s	<6	0	0
Anne Arundel	295	216	79	262	24	s	<6
Baltimore City	359	253	104	s	228	<6	0
Baltimore County	407	261	146	336	59	s	<6
Calvert	51	34	17	s	<6	0	0
Caroline	14	s	<6	14	0	0	0
Carroll	83	61	22	80	<6	0	<6
Cecil	56	37	19	s	<6	0	0
Charles	66	47	19	52	s	0	<6
Dorchester	20	s	<6	s	<6	0	0
Frederick	94	62	32	89	<6	<6	<6
Garrett	13	s	<6	s	<6	0	0
Harford	122	83	39	114	s	<6	0
Howard	112	73	39	84	s	16	<6
Kent	18	10	8	s	<6	0	0
Montgomery †	380	237	143	297	s	42	<6
Prince George's †	311	207	104	135	165	s	<6
Queen Anne's	23	12	11	s	<6	0	0
Saint Mary's	56	37	19	47	s	0	<6
Somerset	15	s	<6	8	s	<6	0
Talbot	25	13	12	22	<6	<6	0
Washington	67	54	13	64	<6	<6	0
Wicomico	45	38	7	37	8	0	0
Worcester	36	26	10	31	<6	<6	0
Unknown	26	14	12	21	<6	<6	<6

Total includes cases reported as transsexual, hermaphrodite, and unknown gender

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

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

† 2006 case counts for Montgomery and Prince George's counties are underreported. (See Appendix A, Section I.A.1.)

Table 53.
Oral Cancer Age-Adjusted Incidence Rates*
by Jurisdiction, Gender and Race, Maryland, 2004-2008

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	9.4	13.9	5.5	9.8	8.2	7.2
Allegany	11.5	18.0	**	11.7	**	0.0
Anne Arundel	11.0	17.3	5.6	11.4	8.0	**
Baltimore City	10.9	18.1	5.4	10.4	11.1	**
Baltimore County	9.0	13.0	5.8	9.3	8.7	**
Calvert	11.5	16.8	7.4	13.0	**	0.0
Caroline	**	**	**	**	0.0	0.0
Carroll	9.5	14.8	4.6	9.5	**	0.0
Cecil	11.3	15.2	7.4	11.3	**	0.0
Charles	10.7	16.3	6.3	11.6	**	0.0
Dorchester	9.2	18.0	**	9.6	**	0.0
Frederick	8.5	11.9	5.5	8.9	**	**
Garrett	**	**	**	**	**	0.0
Harford	9.8	14.2	6.1	10.3	**	**
Howard	8.4	11.7	5.8	8.5	**	13.0
Kent	12.4	**	**	**	**	0.0
Montgomery †	7.6	10.7	5.1	7.8	6.3	6.7
Prince George's †	8.3	12.3	5.1	10.5	7.2	**
Queen Anne's	8.5	**	**	9.0	**	0.0
Saint Mary's	11.9	17.0	7.3	12.4	**	0.0
Somerset	**	**	**	**	**	**
Talbot	9.7	**	**	9.8	**	**
Washington	8.6	15.0	**	8.7	**	**
Wicomico	9.2	17.3	**	9.8	**	0.0
Worcester	10.2	15.9	**	9.9	**	**

* Rates are per 100,000 population 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 and Procedures

† 2004-2008 incidence rates for Montgomery County and Prince George's County are lower than actual due to case underreporting in 2006. (See Appendix A, Section I.A.1.)

Source: Maryland Cancer Registry

Table 54.
Number of Oral Cancer Deaths
by Jurisdiction, Gender and Race, Maryland, 2004-2008

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	743	522	221	503	220	20
Allegany	14	7	7	14	0	0
Anne Arundel	74	56	18	65	s	<5
Baltimore City	131	100	31	s	89	<5
Baltimore County	118	69	49	102	s	<5
Calvert	12	s	<5	s	<5	0
Caroline	<5	<5	<5	<5	0	0
Carroll	17	s	<5	17	0	0
Cecil	19	s	<5	19	0	0
Charles	16	s	<5	10	6	0
Dorchester	6	<5	<5	<5	<5	0
Frederick	15	10	5	s	<5	0
Garrett	<5	<5	<5	<5	<5	0
Harford	30	21	9	s	<5	0
Howard	23	16	7	16	<5	<5
Kent	7	<5	<5	s	<5	0
Montgomery	83	56	27	61	13	9
Prince George's	95	65	30	s	64	<5
Queen Anne's	10	s	<5	s	<5	0
Saint Mary's	7	<5	<5	s	<5	0
Somerset	6	s	<5	<5	<5	0
Talbot	7	<5	<5	s	<5	0
Washington	22	16	6	s	<5	0
Wicomico	17	s	<5	11	s	<5
Worcester	8	s	<5	8	0	0

<5 = Death counts of 1-4 are suppressed per DHMH/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: Maryland Vital Statistics Administration from MATCH

Table 55.
Oral Cancer Age-Adjusted Mortality Rates*
by Jurisdiction, Gender and Race, Maryland, 2004-2008

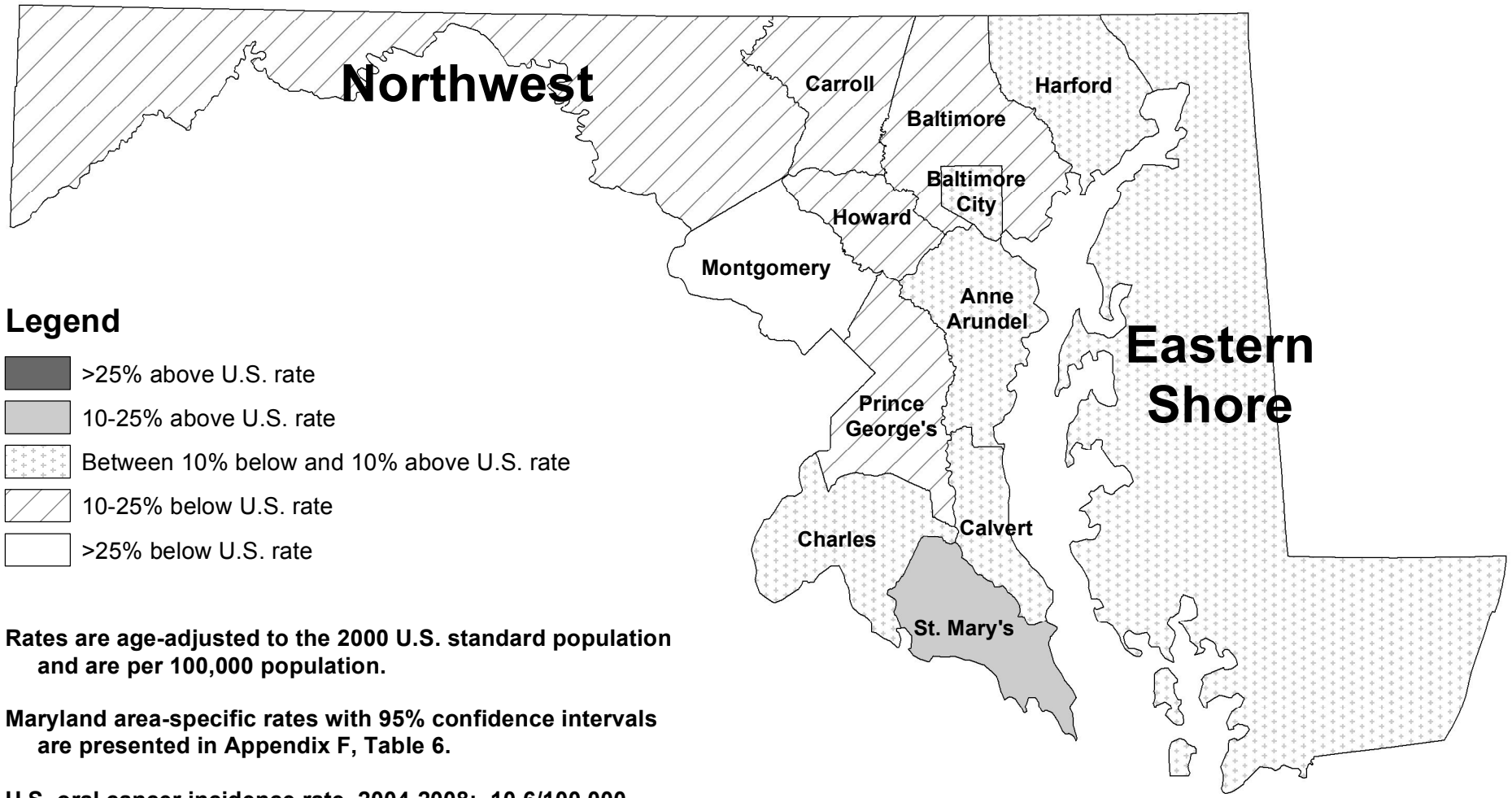
Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	2.6	4.1	1.4	2.4	3.3	1.6
Allegany	**	**	**	**	**	**
Anne Arundel	3.0	5.0	**	3.0	**	**
Baltimore City	3.9	7.2	1.5	3.3	4.4	**
Baltimore County	2.6	3.4	1.9	2.7	**	**
Calvert	**	**	**	**	**	**
Caroline	**	**	**	**	**	**
Carroll	**	**	**	**	**	**
Cecil	**	**	**	**	**	**
Charles	**	**	**	**	**	**
Dorchester	**	**	**	**	**	**
Frederick	**	**	**	**	**	**
Garrett	**	**	**	**	**	**
Harford	2.6	3.7	**	2.7	**	**
Howard	2.0	**	**	**	**	**
Kent	**	**	**	**	**	**
Montgomery	1.7	2.7	1.0	1.6	**	**
Prince George's	2.8	4.5	1.5	2.2	3.4	**
Queen Anne's	**	**	**	**	**	**
Saint Mary's	**	**	**	**	**	**
Somerset	**	**	**	**	**	**
Talbot	**	**	**	**	**	**
Washington	2.8	**	**	2.9	**	**
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 are suppressed per DHMH/CCPC Mortality Data Suppression Policy

Source: Maryland Vital Statistics Administration from MATCH

Maryland Oral Cancer Incidence Rates by Geographical Area: Comparison to U.S. Rate, 2004-2008



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 F, Table 6.

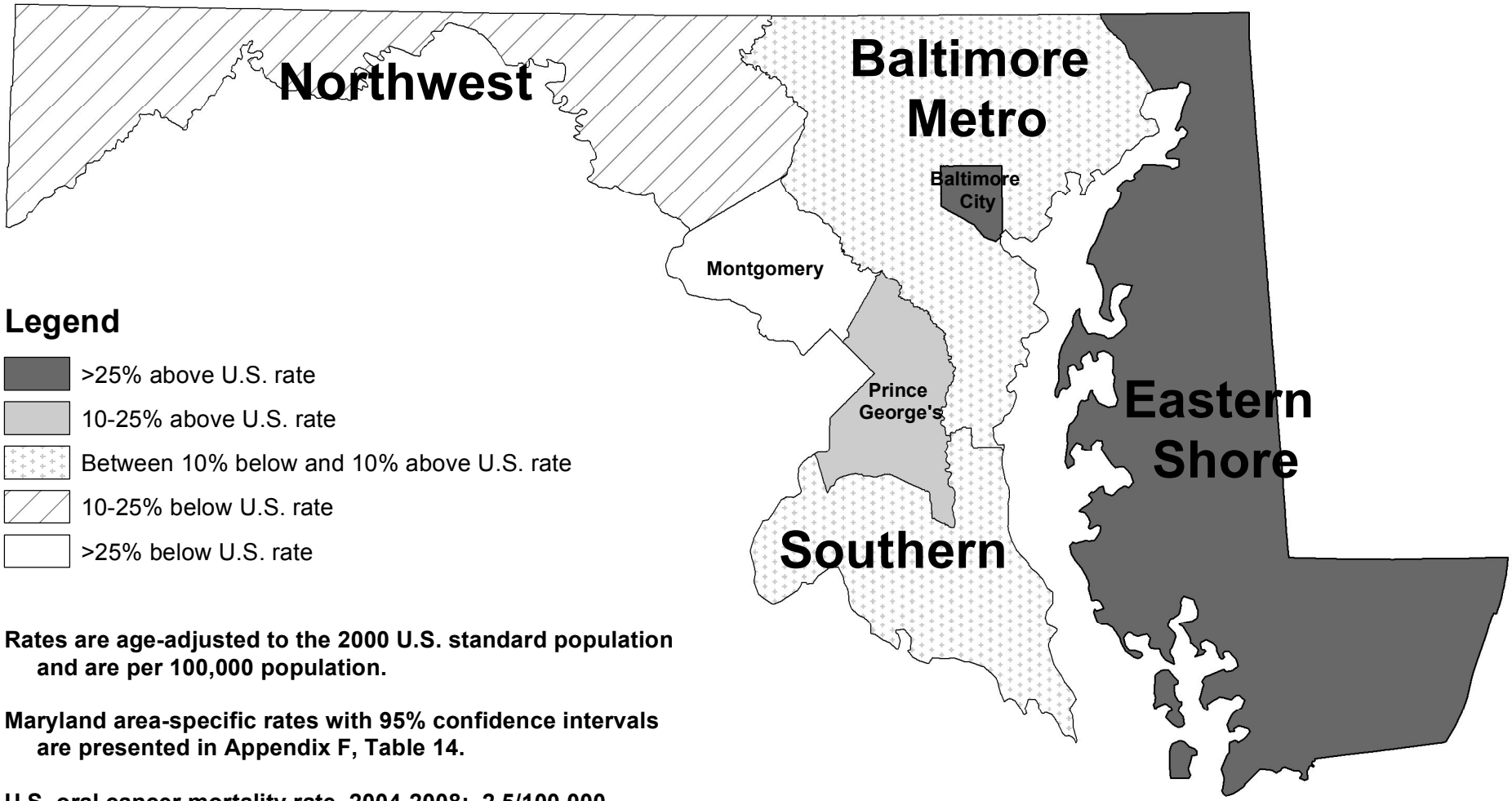
U.S. oral cancer incidence rate, 2004-2008: 10.6/100,000

Maryland oral cancer incidence rate, 2004-2008: 9.4/100,000

Source: MD incidence rates from Maryland Cancer Registry, 2004-2008
U.S. (SEER 17) rate from SEER*Stat Software

Note: Regional rates are presented when one or more counties within the region have a suppressed rate.

Maryland Oral Cancer Mortality Rates by Geographical Area: Comparison to U.S. Rate, 2004-2008



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 F, Table 14.

U.S. oral cancer mortality rate, 2004-2008: 2.5/100,000

Maryland oral cancer mortality rate, 2004-2008: 2.6/100,000

Source: MD mortality rates from Maryland Vital Statistics from MATCH, 2004-2008
U.S. mortality rate from NCHS Compressed Mortality File in CDC WONDER, 2004-2008

Note: Regional rates are presented when one or more counties within the region have a suppressed rate.

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 Maryland Cancer Registry (MCR). Melanoma is the less frequent but the most serious type of skin cancer (NCI PDQ) and is reportable to the MCR.

Incidence (New Cases)

In 2008, a total of 1,270 cases of melanoma of the skin were reported in Maryland. The age-adjusted incidence rate for melanoma for 2008 was 21.7 per 100,000 population (20.5-22.9, 95% C.I.). This Maryland incidence rate is similar to the 2008 U.S. SEER age-adjusted incidence rate for melanoma of 21.0 per 100,000 population (20.7-21.3, 95% C.I.).

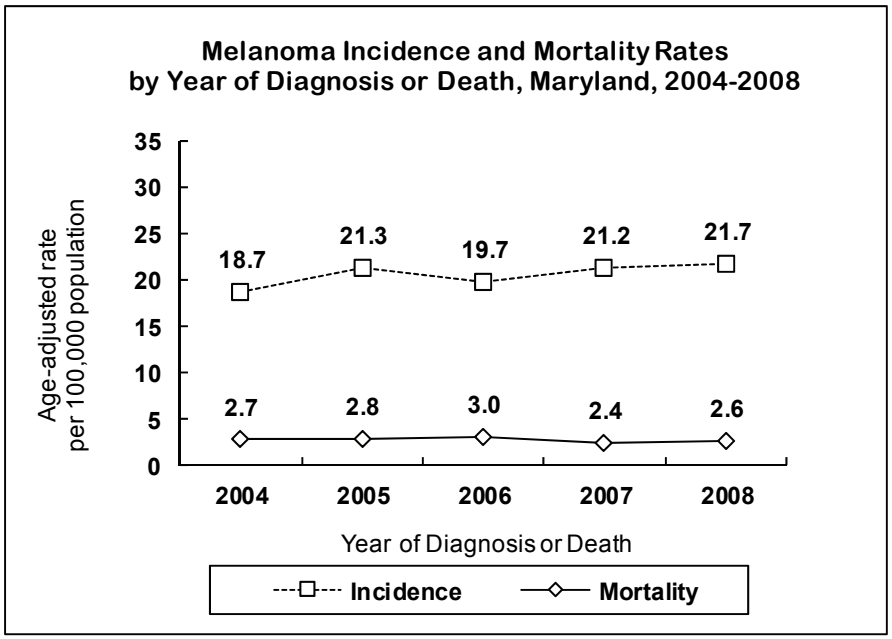
Mortality (Deaths)

In 2008, a total of 153 persons died of melanoma in Maryland. The 2008 age-adjusted mortality rate for melanoma in Maryland was 2.6 per 100,000 population (2.2-3.1, 95% C.I.). This rate is similar to the 2008 U.S. melanoma of the skin cancer mortality rate of 2.7 per 100,000 population (2.6-2.7, 95% C.I.). Maryland had the 30th highest melanoma cancer mortality rate among the states and the District of Columbia for the period 2004-2008.

Table 56.
Melanoma Incidence and Mortality Rates
by Gender and Race, Maryland and United States, 2008

Incidence 2008	*Total*	*Males*	*Females*	*Whites*	*Blacks*	*Other*
New Cases (count)	1,270	738	531	1,207	12	12
MD Incidence Rate	21.7	29.0	16.7	29.6	**	**
U.S. SEER Rate	21.0	27.3	16.6	24.6	0.8	11.4
Mortality 2008	*Total*	*Males*	*Females*	*Whites*	*Blacks*	*Other*
Deaths (count)	153	108	45	145	s	<5
MD Mortality Rate	2.6	4.4	1.3	3.5	**	**
U.S. Mortality Rate	2.7	4.0	1.6	3.1	0.4	0.3

Rates are per 100,000 population and are age-adjusted to 2000 U.S. standard population
Total includes cases reported as transsexual, hermaphrodite, unknown gender, and unknown race
<5 = MD death counts of 1-4 are suppressed per DHMH/CCPC Mortality Data Suppression Policy
s = Counts are suppressed to prevent disclosure of data in other cell(s) based on Tables 48 and 50
** MD incidence rates based on case counts of 1-15 are suppressed per DHMH/MCR Data Use Policy and Procedures; MD mortality rates based on death counts of 0-19 are suppressed per DHMH/CCPC Mortality Data Suppression Policy
Source: Maryland Cancer Registry
U.S. SEER rates from SEER*Stat software
Maryland Vital Statistics Administration from MATCH
NCHS Compressed Mortality File in CDC WONDER



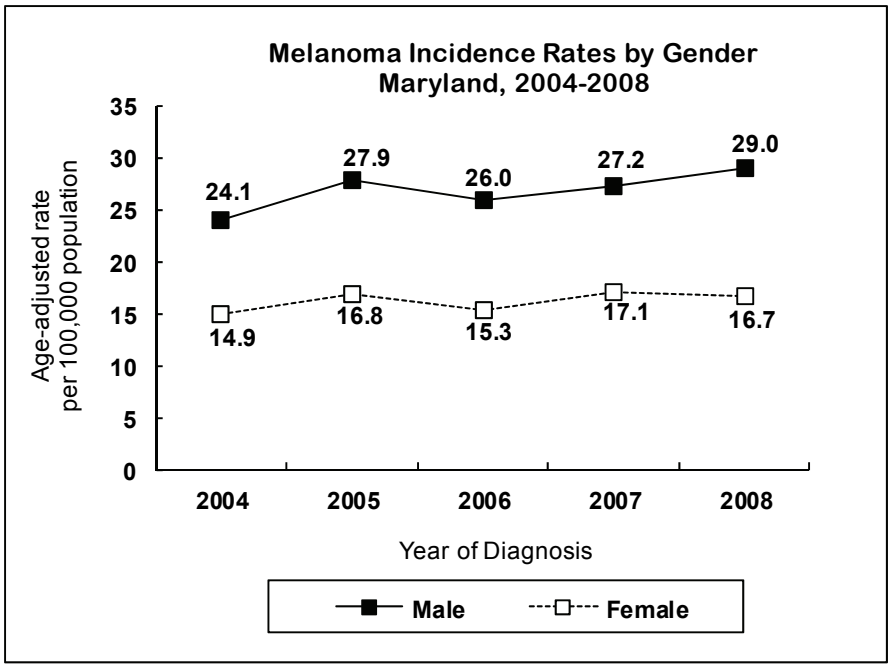
Source: Maryland Cancer Registry
NCHS Compressed Mortality File in CDC WONDER, 2004-2007
Maryland Vital Statistics Administration from MATCH, 2008

Incidence and Mortality Trends

Melanoma incidence rates in Maryland increased at a rate of 3.0% yearly from 2004 to 2008.

Melanoma mortality rates decreased at a rate of 2.3% per year from 2004 to 2008.

See Appendix G, Tables 1 and 2.

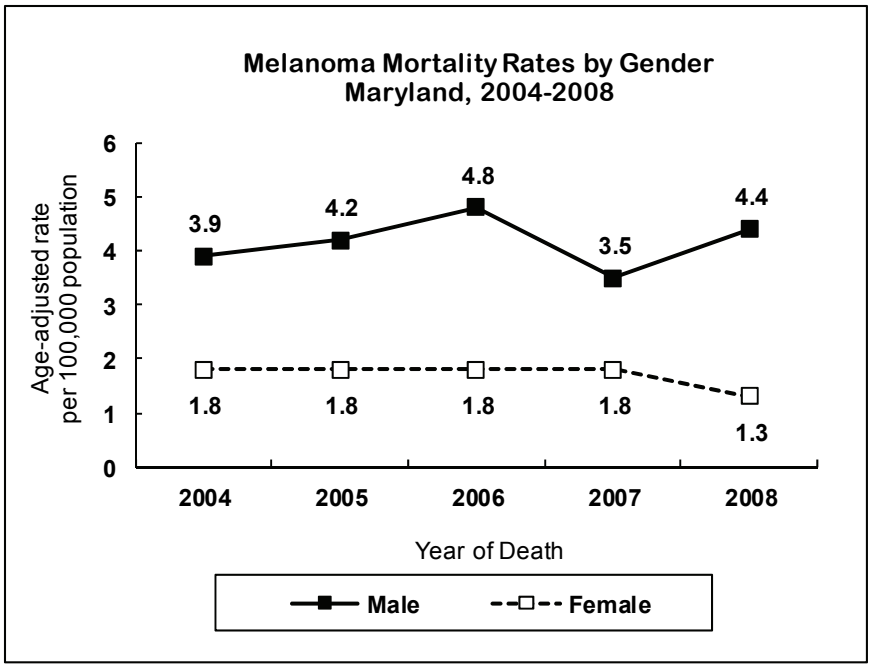


Source: Maryland Cancer Registry

Incidence Trends by Gender

Over the period 2004 to 2008, incidence rates for males increased at a rate of 3.5% per year, and rates among females increased at a rate of 2.5% per year. In 2008, melanoma incidence rates were almost 74% higher among males than females in Maryland.

See Appendix G, Table 4.

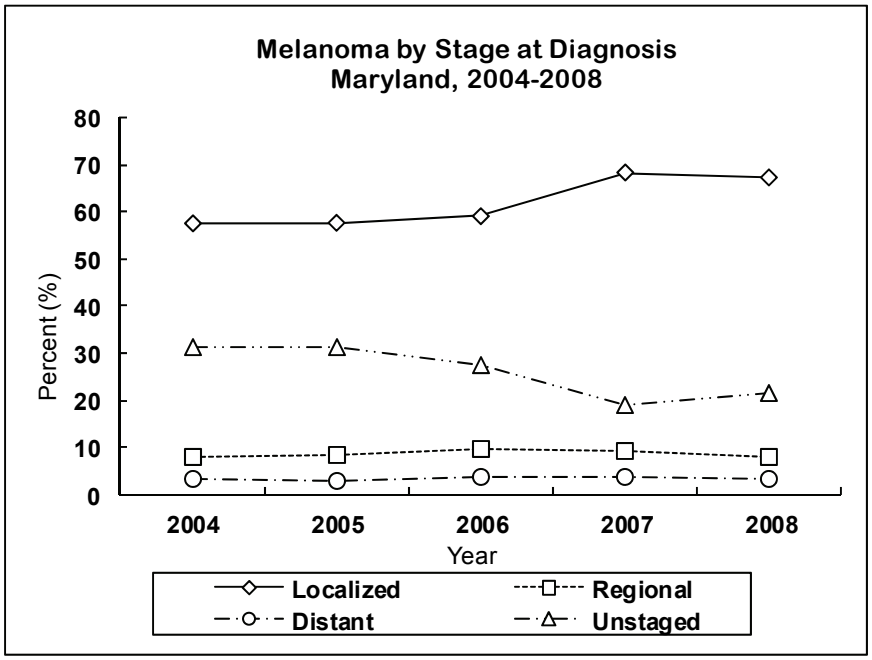


Source: NCHS Compressed Mortality File in CDC WONDER, 2004-2007
Maryland Vital Statistics Administration from MATCH, 2008

Mortality Trends by Gender

Melanoma mortality rates in males increased at a rate of 0.6% per year from 2004 to 2008. Female melanoma mortality rates decreased at a rate of 6.3% per year.

See Appendix G, Table 6.

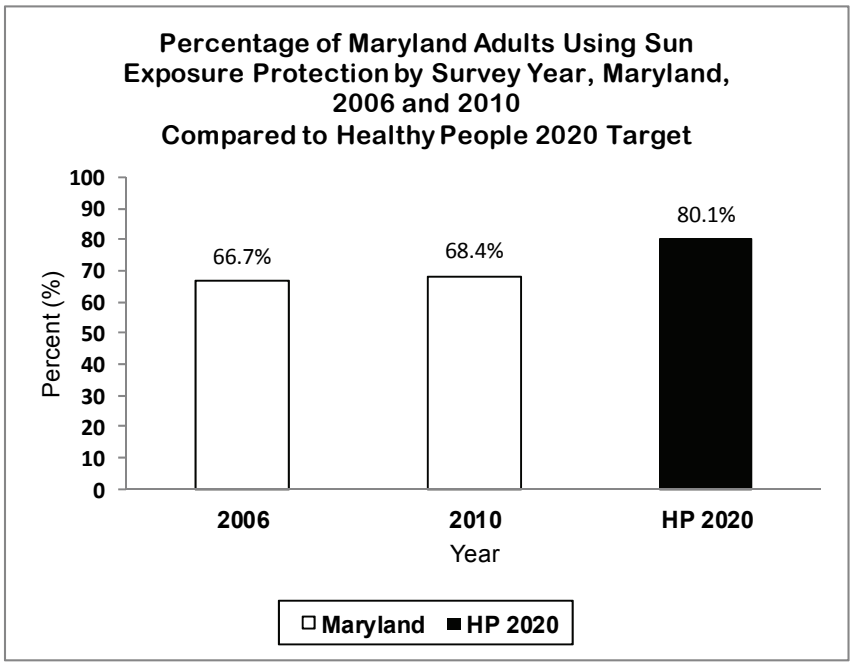


Source: Maryland Cancer Registry

Stage at Diagnosis

In 2008, 67.3% of all melanoma cases were diagnosed at the localized stage, 7.8% were found at the regional stage, and 3.4% were found at the distant stage. The proportion of melanoma reported as unstaged decreased from 2004 to 2008.

See Appendix H, Table 7.



Note: See Appendix A for a cautionary note on comparing these data to Healthy People 2020.
Source: Maryland BRFSS
Healthy People 2020, U.S. Department of Health and Human Services

Sun Exposure Protection

The Healthy People (HP) 2020 target is to increase to 80.1% the percentage of persons age 18 years and older who follow sun exposure protective measures that may reduce the risk of skin cancer.

In 2006, 66.7% of adults age 18 years and older used at least one method of protection against sun exposure. In 2010, the percentage slightly increased to 68.4%.

Table 57.
Number of Melanoma Cases
by Jurisdiction, Gender and Race, Maryland, 2008

Jurisdiction	Total	Gender		Race			
		Males	Females	Whites	Blacks	Other	Unknown
Maryland	1,270	738	531	1,207	12	12	39
Allegany	20	12	8	s	0	0	<6
Anne Arundel	171	107	64	163	0	<6	s
Baltimore City	82	45	37	78	<6	0	<6
Baltimore County	219	119	100	205	<6	<6	8
Calvert	28	17	10	s	0	0	<6
Caroline	14	s	<6	s	<6	0	0
Carroll	55	26	29	s	0	0	<6
Cecil	19	11	8	s	0	0	<6
Charles	10	s	<6	s	0	0	<6
Dorchester	12	s	<6	12	0	0	0
Frederick	51	30	21	s	0	0	<6
Garrett	<6	<6	<6	<6	0	0	0
Harford	69	38	31	s	0	0	<6
Howard	82	50	32	82	0	0	0
Kent	9	s	<6	9	0	0	0
Montgomery	183	108	75	173	<6	<6	7
Prince George's	59	31	28	52	<6	0	<6
Queen Anne's	16	s	<6	16	0	0	0
Saint Mary's	29	11	18	29	0	0	0
Somerset	9	<6	s	9	0	0	0
Talbot	16	s	<6	s	0	<6	0
Washington	30	20	10	30	0	0	0
Wicomico	41	24	17	s	<6	<6	0
Worcester	36	24	12	s	0	<6	0
Unknown	<6	<6	<6	<6	0	0	0

Total includes cases reported as transsexual, hermaphrodite, and unknown gender

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

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

Source: Maryland Cancer Registry

Table 58.
Melanoma Age-Adjusted Incidence Rates*
by Jurisdiction, Gender and Race, Maryland, 2008

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	21.7	29.0	16.7	29.6	**	**
Allegany	21.4	**	**	21.6	0.0	0.0
Anne Arundel	32.1	43.7	23.2	36.6	0.0	**
Baltimore City	12.9	16.9	10.3	34.9	**	0.0
Baltimore County	24.8	30.7	21.0	30.2	**	**
Calvert	31.9	45.5	**	36.9	0.0	0.0
Caroline	**	**	**	**	**	0.0
Carroll	31.4	31.6	32.7	31.7	0.0	0.0
Cecil	17.7	**	**	18.0	0.0	0.0
Charles	**	**	**	**	0.0	0.0
Dorchester	**	**	**	**	0.0	0.0
Frederick	23.4	33.0	17.5	24.8	0.0	0.0
Garrett	**	**	**	**	0.0	0.0
Harford	28.0	34.7	23.7	30.4	0.0	0.0
Howard	29.8	40.9	21.7	40.4	0.0	0.0
Kent	**	**	**	**	0.0	0.0
Montgomery	18.1	24.4	13.8	23.4	**	**
Prince George's	8.6	12.8	6.5	20.7	**	0.0
Queen Anne's	28.0	**	**	31.1	0.0	0.0
Saint Mary's	30.7	**	35.2	37.2	0.0	0.0
Somerset	**	**	**	**	0.0	0.0
Talbot	31.8	**	**	**	0.0	**
Washington	19.1	27.2	**	20.9	0.0	0.0
Wicomico	40.6	54.2	33.2	51.1	**	**
Worcester	47.6	62.4	**	44.9	0.0	**

* Rates are per 100,000 population 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 and Procedures

Source: Maryland Cancer Registry

Table 59.
Number of Melanoma Cancer Deaths
by Jurisdiction, Gender and Race, Maryland, 2008

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	153	108	45	145	s	<5
Allegany	<5	<5	<5	<5	0	0
Anne Arundel	25	19	6	25	0	0
Baltimore City	8	s	<5	s	<5	0
Baltimore County	28	18	10	28	0	0
Calvert	<5	<5	<5	<5	0	0
Caroline	<5	<5	<5	<5	0	0
Carroll	9	s	<5	9	0	0
Cecil	<5	<5	<5	<5	0	0
Charles	<5	<5	<5	<5	<5	0
Dorchester	<5	<5	0	<5	0	0
Frederick	7	s	<5	7	0	0
Garrett	0	0	0	0	0	0
Harford	7	s	<5	s	<5	0
Howard	6	<5	<5	6	0	0
Kent	0	0	0	0	0	0
Montgomery	18	10	8	s	<5	<5
Prince George's	6	s	<5	<5	<5	0
Queen Anne's	<5	<5	<5	<5	0	0
Saint Mary's	<5	<5	0	<5	0	0
Somerset	0	0	0	0	0	0
Talbot	<5	<5	0	<5	0	0
Washington	6	6	0	6	0	0
Wicomico	5	<5	<5	<5	<5	0
Worcester	<5	<5	0	<5	0	0

<5 = Death counts of 1-4 are suppressed per DHMH/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: Maryland Vital Statistics Administration from MATCH

Table 60.
Melanoma Age-Adjusted Mortality Rates*
by Jurisdiction, Gender and Race, Maryland, 2008

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	2.6	4.4	1.3	3.5	**	**
Allegany	**	**	**	**	**	**
Anne Arundel	5.0	**	**	5.9	**	**
Baltimore City	**	**	**	**	**	**
Baltimore County	2.9	**	**	3.6	**	**
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 DHMH/CCPC Mortality Data Suppression Policy

Source: Maryland Vital Statistics Administration from MATCH

Table 61.
Number of Melanoma Cases
by Jurisdiction, Gender and Race, Maryland, 2004-2008

Jurisdiction	Total	Gender		Race			
		Males	Females	Whites	Blacks	Other	Unknown
Maryland	5,891	3,385	2,500	5,618	61	56	156
Allegany	67	40	27	s	0	0	<6
Anne Arundel	781	475	304	748	s	<6	22
Baltimore City	316	173	143	298	9	<6	s
Baltimore County	996	564	432	953	12	8	23
Calvert	170	113	56	164	<6	0	<6
Caroline	45	28	17	42	<6	0	<6
Carroll	257	130	127	249	0	0	8
Cecil	111	61	50	s	0	0	<6
Charles	80	48	32	s	0	0	<6
Dorchester	34	25	9	34	0	0	0
Frederick	268	142	126	255	<6	0	s
Garrett	22	15	7	22	0	0	0
Harford	359	209	150	353	0	0	6
Howard	380	216	162	365	<6	s	7
Kent	45	31	14	s	<6	0	<6
Montgomery †	863	482	381	804	9	18	32
Prince George's †	287	169	118	259	15	6	7
Queen Anne's	91	59	32	s	0	0	<6
Saint Mary's	120	61	59	s	0	0	<6
Somerset	37	19	18	s	0	<6	<6
Talbot	75	44	31	s	<6	<6	<6
Washington	176	95	81	s	0	0	<6
Wicomico	129	78	51	126	<6	<6	0
Worcester	127	83	44	119	0	s	<6
Unknown	55	25	29	45	0	<6	s

Total includes cases reported as transsexual, hermaphrodite, and unknown gender

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

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

† 2006 case counts for Montgomery and Prince George's counties are underreported. (See Appendix A, Section I.A.1.)

Table 62.
Melanoma Age-Adjusted Incidence Rates*
by Jurisdiction, Gender and Race, Maryland, 2004-2008

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	20.6	26.9	16.2	28.2	0.9	4.0
Allegany	14.8	19.6	11.9	15.3	0.0	0.0
Anne Arundel	30.3	40.8	22.4	34.4	**	**
Baltimore City	9.7	12.8	7.8	25.0	**	**
Baltimore County	23.0	29.1	18.9	28.8	**	**
Calvert	41.4	61.7	25.5	47.2	**	0.0
Caroline	27.1	36.2	18.4	29.7	**	0.0
Carroll	29.2	32.0	28.1	29.7	0.0	0.0
Cecil	23.1	28.6	19.2	24.1	0.0	0.0
Charles	12.2	15.9	9.2	17.2	0.0	0.0
Dorchester	16.7	27.9	**	22.5	0.0	0.0
Frederick	24.8	30.4	21.4	26.2	**	0.0
Garrett	13.0	**	**	13.1	0.0	0.0
Harford	30.0	38.6	23.9	33.3	0.0	0.0
Howard	28.2	36.4	22.0	36.3	**	**
Kent	35.9	53.6	**	40.2	**	0.0
Montgomery †	17.6	22.3	14.4	22.5	**	2.9
Prince George's †	8.1	12.5	5.5	20.3	**	**
Queen Anne's	37.0	50.7	25.2	40.7	0.0	0.0
Saint Mary's	26.3	30.1	24.2	31.2	0.0	0.0
Somerset	27.4	28.1	31.0	39.8	0.0	**
Talbot	30.8	39.4	24.0	34.3	**	**
Washington	23.2	26.8	21.6	25.1	0.0	0.0
Wicomico	26.8	37.1	20.5	34.1	**	**
Worcester	36.8	49.1	26.8	39.5	0.0	**

* Rates are per 100,000 population 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 and Procedures

† 2004-2008 incidence rates for Montgomery County and Prince George's County are lower than actual due to case underreporting in 2006. (See Appendix A, Section I.A.1.)

Source: Maryland Cancer Registry

Table 63.
Number of Melanoma Deaths
by Jurisdiction, Gender and Race, Maryland, 2004-2008

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	759	487	272	735	s	<5
Allegany	16	8	8	16	0	0
Anne Arundel	94	61	33	94	0	0
Baltimore City	54	34	20	49	5	0
Baltimore County	140	90	50	140	0	0
Calvert	12	s	<5	s	<5	0
Caroline	7	<5	<5	7	0	0
Carroll	28	18	10	28	0	0
Cecil	13	s	<5	13	0	0
Charles	15	10	5	s	<5	0
Dorchester	5	<5	<5	5	0	0
Frederick	36	24	12	36	0	0
Garrett	<5	<5	0	<5	0	0
Harford	42	30	12	s	<5	0
Howard	35	21	14	s	<5	<5
Kent	9	<5	s	9	0	0
Montgomery	104	62	42	99	<5	<5
Prince George's	41	25	16	34	7	0
Queen Anne's	10	s	<5	10	0	0
Saint Mary's	16	s	<5	16	0	0
Somerset	<5	<5	<5	<5	0	0
Talbot	12	s	<5	s	<5	0
Washington	25	16	9	25	0	0
Wicomico	23	14	9	s	<5	0
Worcester	17	s	<5	17	0	0

<5 = Death counts of 1-4 are suppressed per DHMH/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: Maryland Vital Statistics Administration from MATCH

Table 64.
Melanoma Age-Adjusted Mortality Rates*
by Jurisdiction, Gender and Race, Maryland, 2004-2008

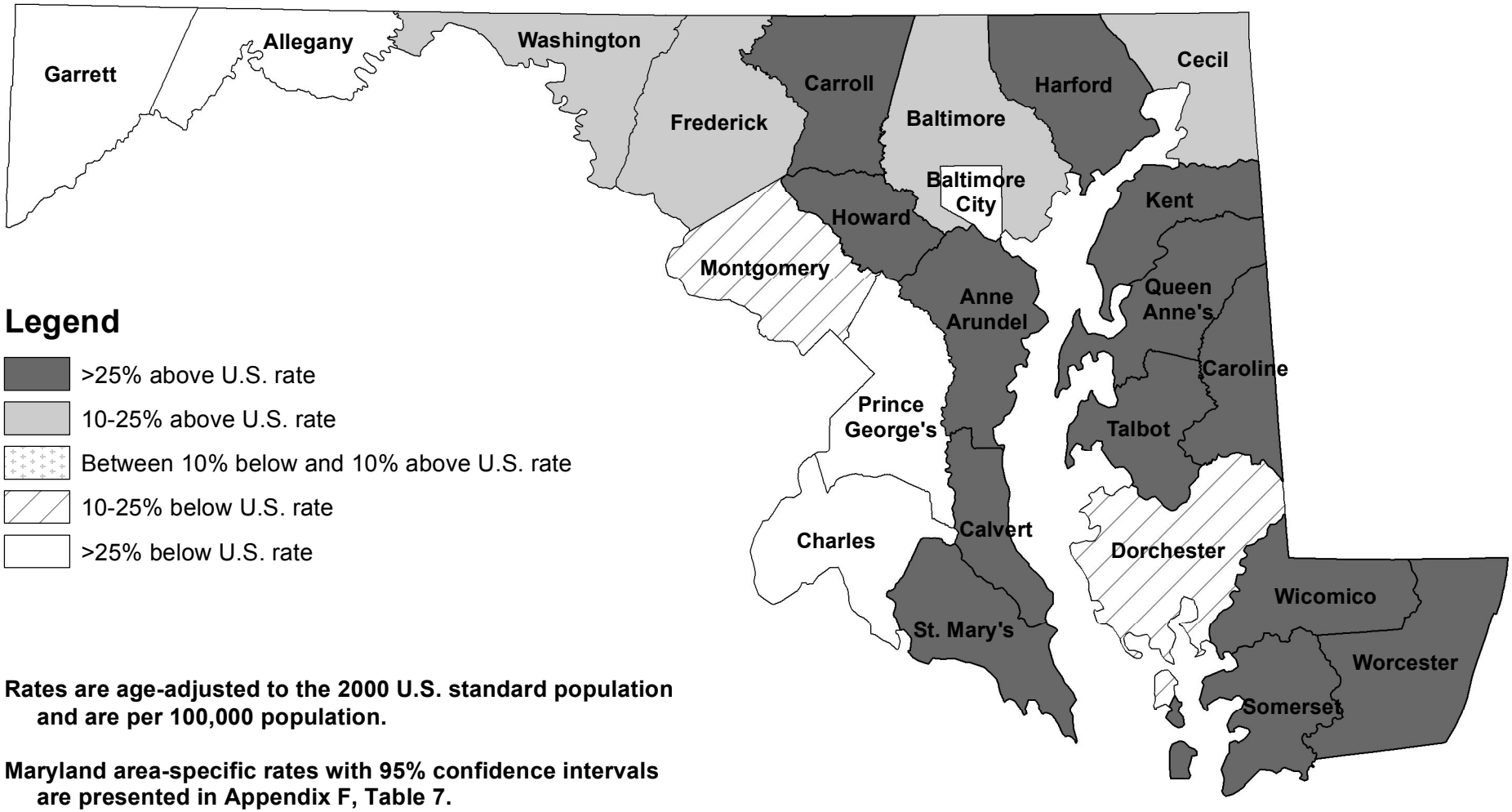
Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	2.7	4.1	1.7	3.6	0.3	**
Allegany	**	**	**	**	**	**
Anne Arundel	4.0	6.2	2.4	4.6	**	**
Baltimore City	1.7	2.8	1.0	3.9	**	**
Baltimore County	3.0	4.5	1.9	3.7	**	**
Calvert	**	**	**	**	**	**
Caroline	**	**	**	**	**	**
Carroll	3.1	**	**	3.2	**	**
Cecil	**	**	**	**	**	**
Charles	**	**	**	**	**	**
Dorchester	**	**	**	**	**	**
Frederick	3.6	5.7	**	3.9	**	**
Garrett	**	**	**	**	**	**
Harford	3.4	5.5	**	3.8	**	**
Howard	2.8	3.9	**	3.4	**	**
Kent	**	**	**	**	**	**
Montgomery	2.1	2.9	1.5	2.6	**	**
Prince George's	1.2	1.8	**	2.7	**	**
Queen Anne's	**	**	**	**	**	**
Saint Mary's	**	**	**	**	**	**
Somerset	**	**	**	**	**	**
Talbot	**	**	**	**	**	**
Washington	3.2	**	**	3.4	**	**
Wicomico	4.7	**	**	5.7	**	**
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 are suppressed per DHMH/CCPC Mortality Data Suppression Policy

Source: Maryland Vital Statistics Administration from MATCH

Maryland Melanoma Incidence Rates by Geographical Area: Comparison to U.S. Rate, 2004-2008



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

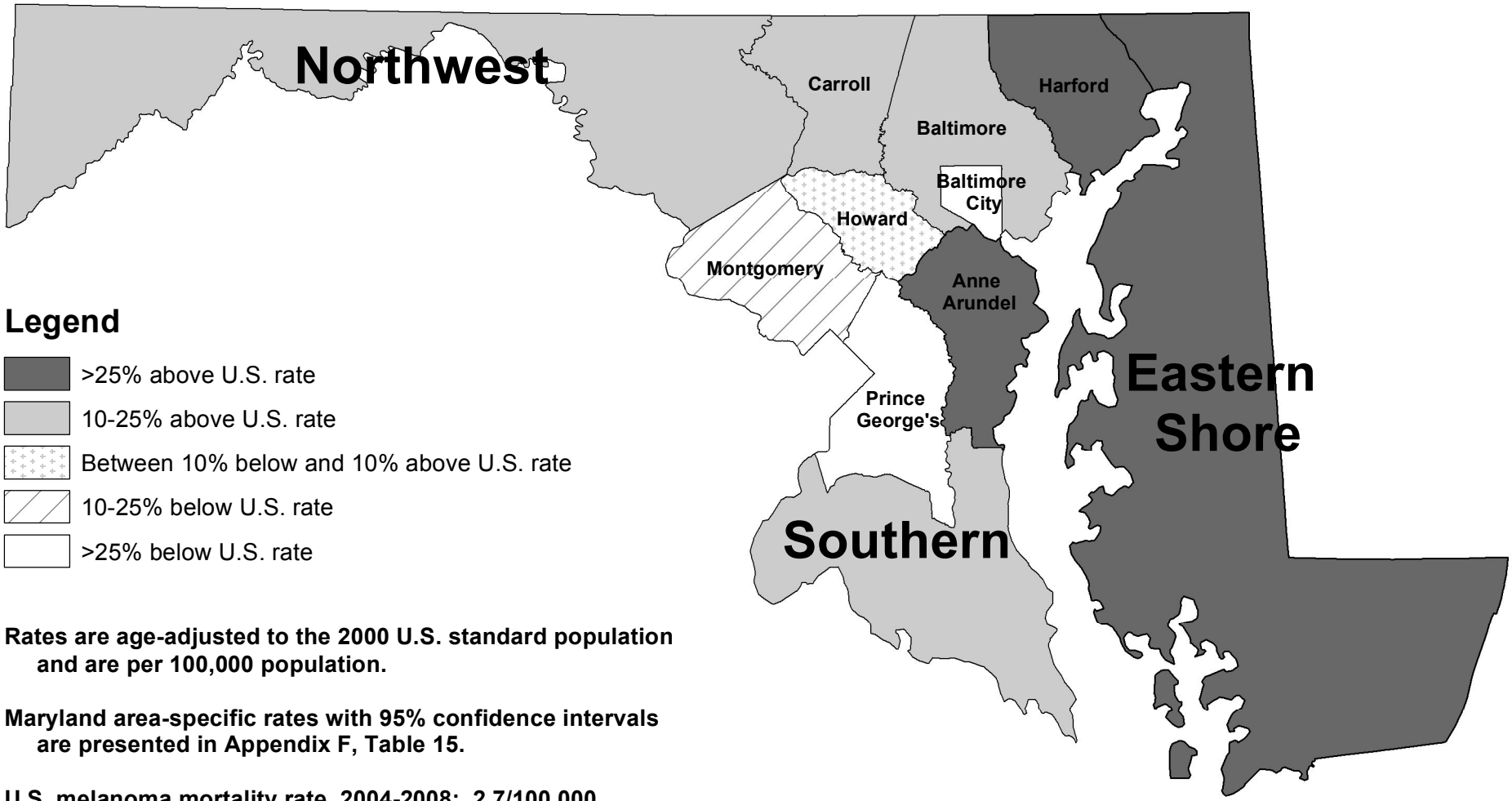
Maryland area-specific rates with 95% confidence intervals are presented in Appendix F, Table 7.

U.S. melanoma incidence rate, 2004-2008: 20.8/100,000

Maryland melanoma incidence rate, 2004-2008: 20.6/100,000

Source: MD incidence rates from Maryland Cancer Registry, 2004-2008
U.S. (SEER 17) rate from SEER*Stat Software

Maryland Melanoma Mortality Rates by Geographical Area: Comparison to U.S. Rate, 2004-2008



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 F, Table 15.

U.S. melanoma mortality rate, 2004-2008: 2.7/100,000

Maryland melanoma mortality rate, 2004-2008: 2.7/100,000

Source: MD mortality rates from Maryland Vital Statistics from MATCH, 2004-2008
U.S. mortality rate from NCHS Compressed Mortality File in CDC WONDER, 2004-2008

Note: Regional rates are presented when one or more counties within the region have a suppressed rate.

G. Cervical Cancer

Incidence (New Cases)

A total of 200 cases of cervical cancer among women in Maryland were reported in 2008. The age-adjusted incidence rate for cervical cancer in Maryland in 2008 was 6.5 per 100,000 population of women (5.6-7.5, 95% C.I.). This rate is statistically significantly lower than the 2008 U.S. SEER age-adjusted cervical cancer incidence rate of 8.0 per 100,000 population of women (7.7-8.3, 95% C.I.).

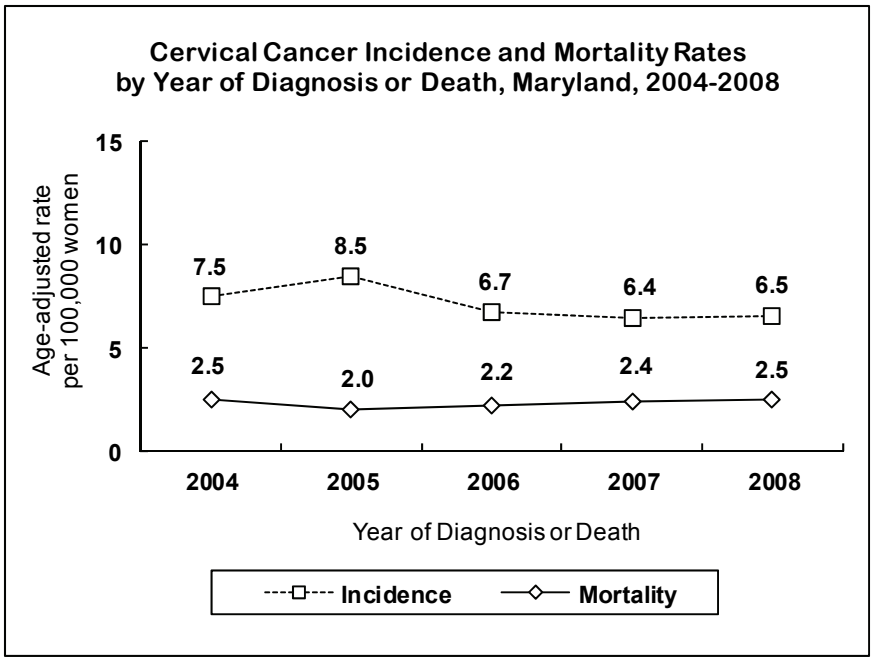
Mortality (Deaths)

In 2008, a total of 79 women died of cervical cancer in Maryland. The age-adjusted cervical cancer mortality rate in Maryland in 2008 was 2.5 per 100,000 women (2.0-3.1, 95% C.I.). This rate is similar to the 2008 U.S. cervical cancer mortality rate of 2.4 per 100,000 population of women (2.3-2.5, 95% C.I.). Maryland had the 24th highest cervical cancer mortality rate among the states and the District of Columbia for the period 2004-2008.

Table 65.
Cervical Cancer Incidence and Mortality Rates
by Race, Maryland and United States, 2008

Incidence 2008	*Total*	*Whites*	*Blacks*	*Other*
New Cases (count)	200	112	72	s
MD Incidence Rate	6.5	5.6	8.2	**
U.S. SEER Rate	8.0	7.9	10.3	7.4
Mortality 2008	*Total*	*Whites*	*Blacks*	*Other*
Deaths (count)	79	44	s	<5
MD Mortality Rate	2.5	2.0	3.6	**
U.S. Mortality Rate	2.4	2.2	4.2	2.1

Rates are per 100,000 women and are age-adjusted to 2000 U.S. standard population
Total includes unknown race
s = Counts are suppressed to prevent disclosure of data in other cell(s) based on Tables 66 and 68
<5 = MD death counts of 1-4 are suppressed per DHMH/CCPC Mortality Data Suppression Policy
** MD incidence rates based on case counts of 1-15 are suppressed per DHMH/MCR Data Use Policy and Procedures; MD mortality rates based on death counts of 0-19 are suppressed per DHMH/CCPC Mortality Data Suppression Policy
Source: Maryland Cancer Registry
U.S. SEER rates from SEER*Stat software
Maryland Vital Statistics Administration from MATCH
NCHS Compressed Mortality File in CDC WONDER



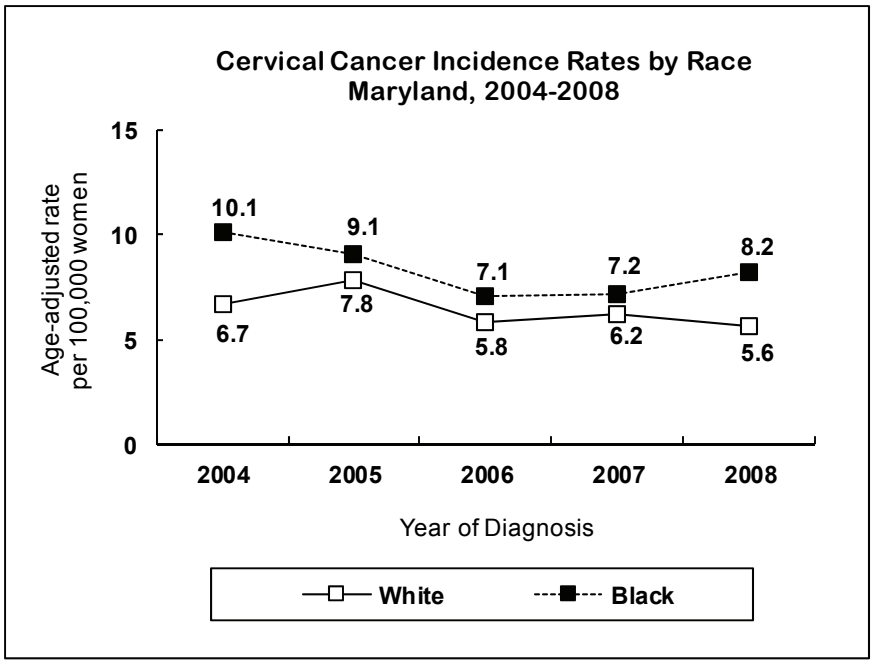
Source: Maryland Cancer Registry
NCHS Compressed Mortality File in CDC WONDER, 2004-2007
Maryland Vital Statistics Administration from MATCH, 2008

Incidence and Mortality Trends

Cervical cancer incidence rates among Maryland women decreased at a rate of 5.5% per year from 2004 to 2008.

Cervical cancer mortality rates increased at a rate of 1.8% per year from 2004 to 2008.

See Appendix G, Tables 1 and 2.

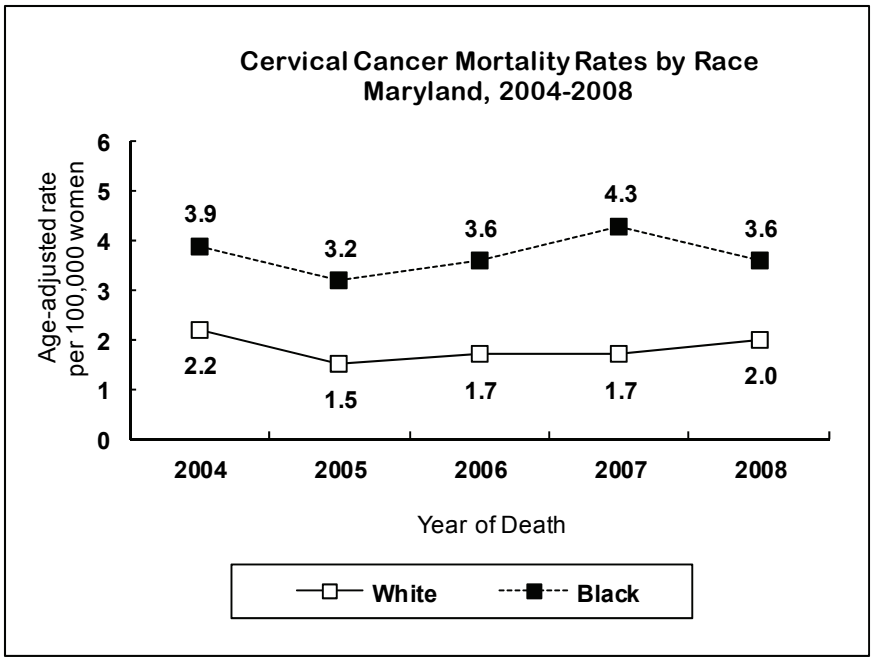


Source: Maryland Cancer Registry

Incidence Trends by Race

From 2004 to 2008, cervical cancer incidence rates among black women decreased at a rate of 6.3% per year, compared to a decrease of 5.7% per year among white women.

See Appendix G, Table 3.

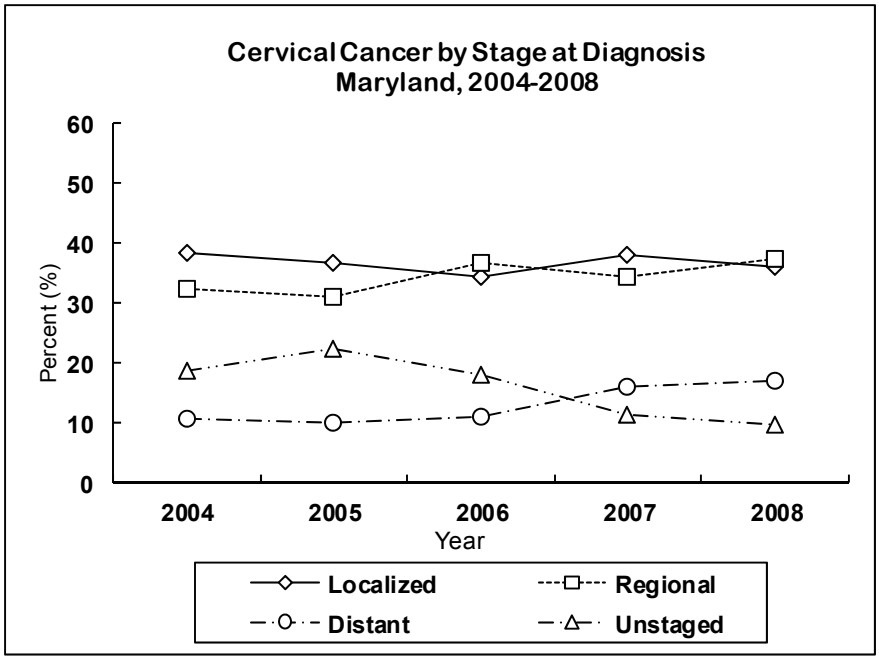


Source: NCHS Compressed Mortality File in CDC WONDER, 2004-2007
Maryland Vital Statistics Administration from MATCH, 2008

Mortality Trends by Race

From 2004 to 2008, mortality rates for black women increased at a rate of 1.4% per year, while mortality rates for white women decreased at a rate of 0.7% per year.

See Appendix G, Table 5.

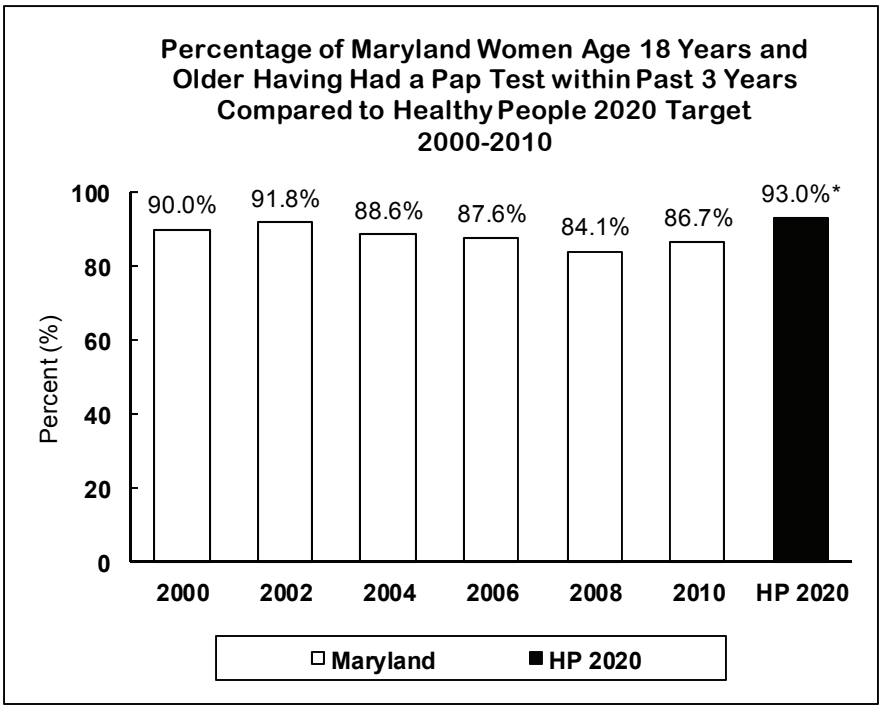


Source: Maryland Cancer Registry

Stage at Diagnosis

In 2008, 36.0% of all cervical cancer cases in Maryland were diagnosed at the localized stage, 37.5% were diagnosed at the regional stage, and 17.0% were found at the distant stage. The proportion of cervical cancer cases reported as unstaged decreased in recent years.

See Appendix H, Table 8.



* Adults age 21-65 years
Note: : See Appendix A for a cautionary note on comparing these data to Healthy People 2020.
Source: Maryland BRFSS
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 to 93% the percentage of women age 21-65 years who have had a cervical cancer screening test based on the most recent guidelines. The U.S. Preventive Task Force guidelines recommend a Pap test every 3 years for women within 3 years of onset of sexual activity or age 21 (whichever comes first) up to 65 years.

In 2010, almost 87% of Maryland women age 18 years and older reported they had a Pap test within the preceding 3 years.

Table 66.
Number of Cervical Cancer Cases
by Jurisdiction and Race, Maryland, 2008

Jurisdiction	Total	Race			
		Whites	Blacks	Other	Unknown
Maryland	200	112	72	s	<6
Allegany	<6	<6	<6	0	0
Anne Arundel	18	13	<6	0	<6
Baltimore City	34	12	22	0	0
Baltimore County	28	15	7	6	0
Calvert	<6	<6	0	0	0
Caroline	0	0	0	0	0
Carroll	8	8	0	0	0
Cecil	<6	<6	0	0	0
Charles	<6	<6	0	0	0
Dorchester	0	0	0	0	0
Frederick	6	6	0	0	0
Garrett	<6	<6	0	0	0
Harford	7	7	0	0	0
Howard	6	<6	0	<6	<6
Kent	<6	<6	0	0	0
Montgomery	20	8	8	<6	<6
Prince George's	39	s	26	<6	0
Queen Anne's	<6	<6	0	0	0
Saint Mary's	<6	<6	0	0	0
Somerset	0	0	0	0	0
Talbot	<6	<6	0	0	0
Washington	8	8	0	0	0
Wicomico	<6	<6	<6	0	0
Worcester	<6	<6	<6	0	0
Unknown	0	0	0	0	0

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

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

Source: Maryland Cancer Registry

Table 67.
Cervical Cancer Age-Adjusted Incidence Rates*
by Jurisdiction and Race, Maryland, 2008

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	6.5	5.6	8.2	**
Allegany	**	**	**	0.0
Anne Arundel	6.7	**	**	0.0
Baltimore City	9.8	**	9.6	0.0
Baltimore County	6.1	**	**	**
Calvert	**	**	0.0	0.0
Caroline	0.0	0.0	0.0	0.0
Carroll	**	**	0.0	0.0
Cecil	**	**	0.0	0.0
Charles	**	**	0.0	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	**	**	0.0	**
Kent	**	**	0.0	0.0
Montgomery	4.0	**	**	**
Prince George's	9.2	**	9.5	**
Queen Anne's	**	**	0.0	0.0
Saint Mary's	**	**	0.0	0.0
Somerset	0.0	0.0	0.0	0.0
Talbot	**	**	0.0	0.0
Washington	**	**	0.0	0.0
Wicomico	**	**	**	0.0
Worcester	**	**	**	0.0

* 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 and Procedures

Source: Maryland Cancer Registry

Table 68.
Number of Cervical Cancer Deaths
by Jurisdiction and Race, Maryland, 2008

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	79	44	s	<5
Allegany	<5	<5	<5	0
Anne Arundel	<5	<5	<5	<5
Baltimore City	10	<5	s	0
Baltimore County	10	s	<5	0
Calvert	<5	<5	<5	0
Caroline	0	0	0	0
Carroll	<5	<5	0	0
Cecil	<5	<5	0	0
Charles	<5	<5	<5	0
Dorchester	<5	<5	0	0
Frederick	5	<5	<5	0
Garrett	0	0	0	0
Harford	<5	<5	0	0
Howard	5	<5	<5	<5
Kent	0	0	0	0
Montgomery	7	<5	<5	<5
Prince George's	15	<5	s	0
Queen Anne's	0	0	0	0
Saint Mary's	0	0	0	0
Somerset	0	0	0	0
Talbot	0	0	0	0
Washington	<5	<5	0	0
Wicomico	8	5	<5	<5
Worcester	0	0	0	0

<5 = Death counts of 1-4 are suppressed per DHMH/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: Maryland Vital Statistics Administration from MATCH

Table 69.
Cervical Cancer Age-Adjusted Mortality Rates*
by Jurisdiction and Race, Maryland, 2008

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	2.5	2.0	3.6	**
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 DHMH/CCPC Mortality Data Suppression Policy

Source: Maryland Vital Statistics Administration from MATCH

Table 70.
Number of Cervical Cancer Cases
by Jurisdiction and Race, Maryland, 2004-2008

Jurisdiction	Total	Race			
		Whites	Blacks	Other	Unknown
Maryland	1,073	632	349	65	27
Allegany	20	s	<6	0	0
Anne Arundel	83	63	14	<6	<6
Baltimore City	171	s	112	0	<6
Baltimore County	166	108	48	s	<6
Calvert	15	s	<6	0	0
Caroline	<6	<6	0	0	0
Carroll	31	s	0	<6	<6
Cecil	27	s	<6	0	0
Charles	18	s	9	<6	<6
Dorchester	<6	<6	0	0	0
Frederick	50	42	s	<6	<6
Garrett	<6	<6	0	0	0
Harford	39	s	<6	0	0
Howard	41	25	s	8	<6
Kent	7	7	0	0	0
Montgomery †	159	84	35	32	8
Prince George's †	137	45	83	<6	<6
Queen Anne's	9	s	<6	0	0
Saint Mary's	16	10	6	0	0
Somerset	<6	<6	<6	0	0
Talbot	<6	<6	0	0	0
Washington	27	23	<6	<6	<6
Wicomico	20	10	s	<6	0
Worcester	10	s	<6	0	0
Unknown	8	<6	<6	0	<6

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

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

† 2006 case counts for Montgomery and Prince George's counties are underreported. (See Appendix A, Section I.A.1.)

Source: Maryland Cancer Registry

Table 71.
Cervical Cancer Age-Adjusted Incidence Rates*
by Jurisdiction and Race, Maryland, 2004-2008

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	7.1	6.4	8.3	7.9
Allegany	10.5	10.0	**	0.0
Anne Arundel	6.2	5.8	**	**
Baltimore City	9.8	10.2	10.0	0.0
Baltimore County	7.6	7.2	10.5	**
Calvert	**	**	**	0.0
Caroline	**	**	0.0	0.0
Carroll	6.9	6.7	0.0	**
Cecil	10.7	9.4	**	0.0
Charles	5.5	**	**	**
Dorchester	**	**	0.0	0.0
Frederick	8.9	8.4	**	**
Garrett	**	**	0.0	0.0
Harford	6.1	6.3	**	0.0
Howard	5.9	4.8	**	**
Kent	**	**	0.0	0.0
Montgomery †	6.1	4.7	8.4	8.5
Prince George's †	6.5	7.6	6.5	**
Queen Anne's	**	**	**	0.0
Saint Mary's	6.4	**	**	0.0
Somerset	**	**	**	0.0
Talbot	**	**	0.0	0.0
Washington	7.2	6.6	**	**
Wicomico	8.3	**	**	**
Worcester	**	**	**	0.0

* 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 and Procedures

† 2004-2008 incidence rates for Montgomery County and Prince George's County are lower than actual due to case underreporting in 2006. (See Appendix A, Section I.A.1.)

Source: Maryland Cancer Registry

Table 72.
Number of Cervical Cancer Deaths
by Jurisdiction and Race, Maryland, 2004-2008

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	360	198	153	9
Allegany	11	s	<5	0
Anne Arundel	23	17	s	<5
Baltimore City	76	22	54	0
Baltimore County	48	30	s	<5
Calvert	<5	<5	<5	0
Caroline	<5	<5	0	0
Carroll	5	5	0	0
Cecil	<5	<5	0	0
Charles	8	5	<5	<5
Dorchester	<5	<5	0	0
Frederick	12	s	<5	0
Garrett	<5	<5	0	0
Harford	18	18	0	0
Howard	10	7	<5	<5
Kent	<5	<5	0	0
Montgomery	43	23	s	<5
Prince George's	56	15	41	0
Queen Anne's	<5	<5	0	0
Saint Mary's	6	<5	<5	0
Somerset	<5	<5	<5	0
Talbot	<5	<5	0	0
Washington	11	s	<5	0
Wicomico	13	8	<5	<5
Worcester	<5	<5	0	0

<5 = Death counts of 1-4 are suppressed per DHMH/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: Maryland Vital Statistics Administration from MATCH

Table 73.
Cervical Cancer Age-Adjusted Mortality Rates* by Jurisdiction and Race, Maryland, 2004-2008

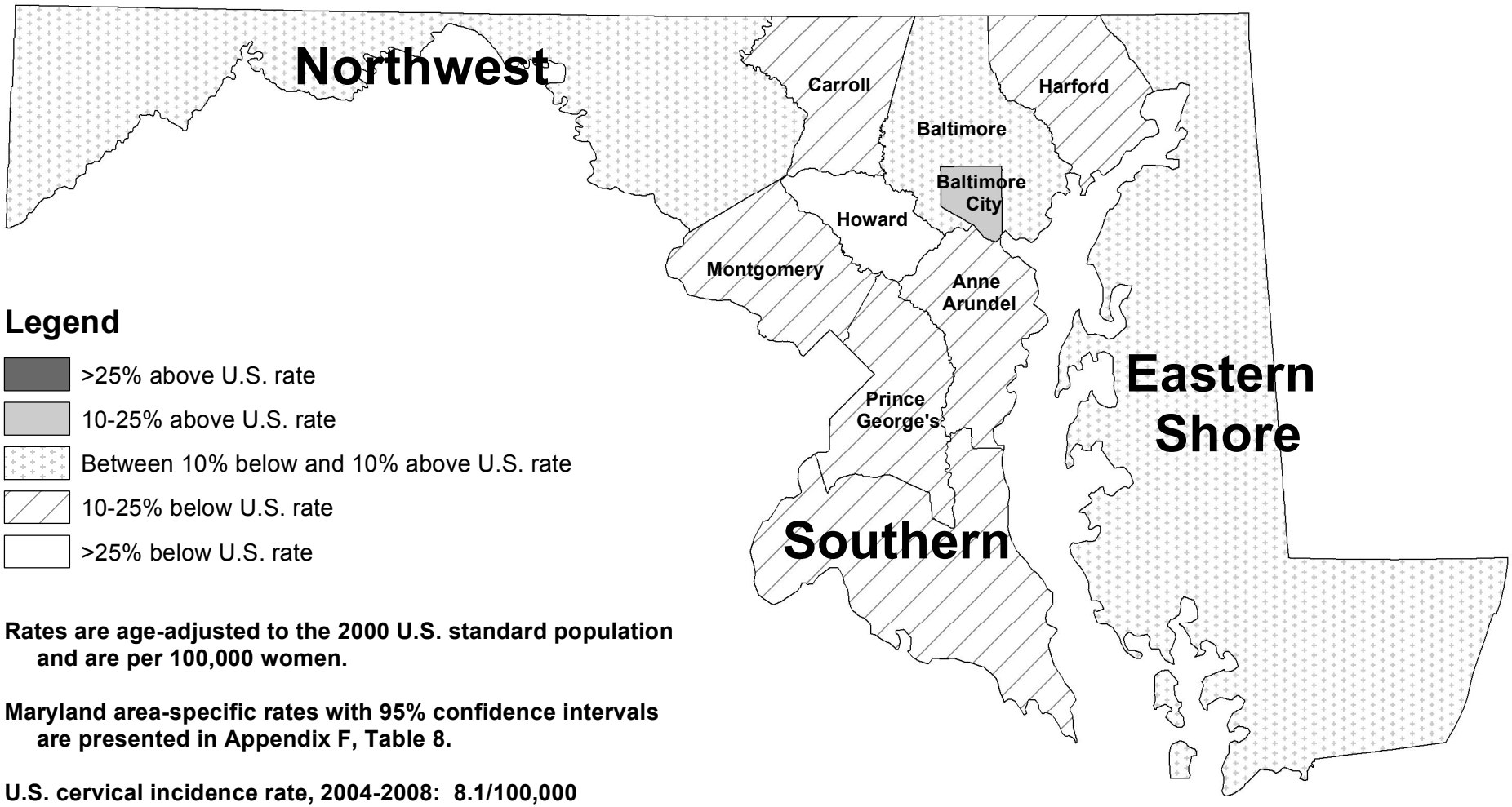
Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	2.3	1.8	3.7	**
Allegany	**	**	**	**
Anne Arundel	1.7	**	**	**
Baltimore City	4.3	3.6	4.7	**
Baltimore County	2.1	1.7	**	**
Calvert	**	**	**	**
Caroline	**	**	**	**
Carroll	**	**	**	**
Cecil	**	**	**	**
Charles	**	**	**	**
Dorchester	**	**	**	**
Frederick	**	**	**	**
Garrett	**	**	**	**
Harford	**	**	**	**
Howard	**	**	**	**
Kent	**	**	**	**
Montgomery	1.6	1.1	**	**
Prince George's	2.7	**	3.3	**
Queen Anne's	**	**	**	**
Saint Mary's	**	**	**	**
Somerset	**	**	**	**
Talbot	**	**	**	**
Washington	**	**	**	**
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 are suppressed per DHMH/CCPC Mortality Data Suppression Policy

Source: Maryland Vital Statistics Administration from MATCH

Maryland Cervical Cancer Incidence Rates by Geographical Area: Comparison to U.S. Rate, 2004-2008



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 F, Table 8.

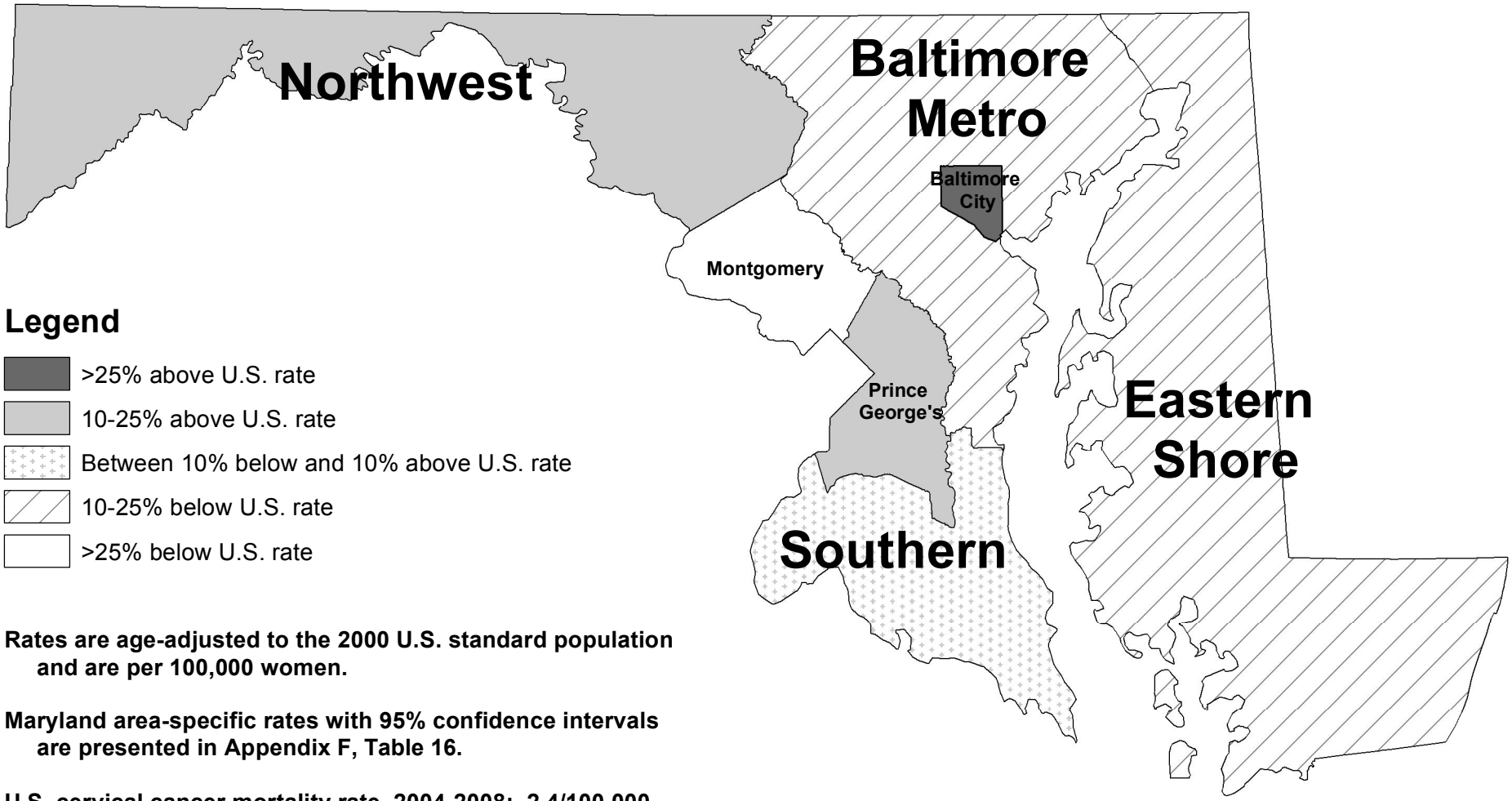
U.S. cervical incidence rate, 2004-2008: 8.1/100,000

Maryland cervical incidence rate, 2004-2008: 7.1/100,000

Source: MD incidence rates from Maryland Cancer Registry, 2004-2008
U.S. (SEER 17) rate from SEER*Stat Software

Note: Regional rates are presented when one or more counties within the region have a suppressed rate.

Maryland Cervical Cancer Mortality Rates by Geographical Area: Comparison to U.S. Rate, 2004-2008



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 F, Table 16.

U.S. cervical cancer mortality rate, 2004-2008: 2.4/100,000

Maryland cervical cancer mortality rate, 2004-2008: 2.3/100,000

Source: MD mortality rates from Maryland Vital Statistics from MATCH, 2004-2008
U.S. mortality rate from NCHS Compressed Mortality File in CDC WONDER, 2004-2008

Note: Regional rates are presented when one or more counties within the region have a suppressed rate.

Appendix A

Cancer Data Sources, References, and Data Considerations

Cancer Data Sources, References, and Data Considerations

I. DATA SOURCES

Data and information presented were obtained from a variety of sources, including:

- Maryland Department of Health and Mental Hygiene (DHMH)
  - Center for Cancer Prevention and Control
  - Center for Chronic Disease Prevention and Control
  - Center of 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); and
- Office of Disease Prevention and Health Promotion at the U.S. Department of Health and Human Services

These sources and the types of information provided are described in the following sections.

A. Cancer Incidence and Stage Data

1. Maryland Cancer Registry

The Maryland Cancer Registry (MCR), Center for Cancer Prevention and Control, DHMH, is the source for all Maryland-specific cancer incidence and cancer stage data used. The MCR is a computerized data system that registers (i.e., collects and consolidates reports) all new cases of reportable cancers (excluding non-genital squamous cell or basal cell skin cancer) that are diagnosed 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 February 8, 2011, for diagnosis year 2008.

The Maryland cancer reporting law and regulations mandate the collection of cancer information from hospitals, radiation therapy centers, diagnostic pathology laboratories licensed in Maryland, freestanding ambulatory care facilities, surgical centers, and physicians whose non-hospitalized cancer patients are not otherwise reported. MCR also participates in data exchange agreements with 13 other states/jurisdictions, including Delaware, Pennsylvania, Virginia, West Virginia, and the District of Columbia. Information on Maryland residents diagnosed or treated for cancer in these jurisdictions is included in this report. Note: The 2006 case counts included in 2004-2008 data for Montgomery and Prince George's counties are underreported by approximately 8% and 6% respectively for all cancer sites combined due to delay in case reporting. Cancers reported to the MCR after the annual cutoff date are not included in the MCR official Maryland case counts and rates. The case undercounts resulted in slightly lower than actual age-adjusted incidence rates for Montgomery and Prince George's counties, for the National Capital geographic region, and to a lesser degree, for Maryland, for 5-year period 2004-2008.

2. Surveillance, Epidemiology, and End Results Program (SEER)

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. SEER incidence rates representative of the U.S. are used for comparisons with Maryland incidence rates.

The SEER Program, which began in 1973, collects, analyzes, and publishes cancer incidence and survival data from population-based cancer registries participating in the program. The SEER Program was expanded in 1992 (creating the SEER 13 registry database) and again in 2001 to increase representation of minority and rural low-income populations including Hispanics, American Indian populations, and rural African Americans. Since 2000, SEER incidence data have been collected from 13 SEER registries and four expansion registries throughout the U.S. (SEER 17 registry database) and are estimated to represent approximately 26% of the U.S. population. The SEER database adequately represents cancer incidence in the U.S. population with regard to race, ethnicity, age, gender, poverty, and education, and by collecting data on epidemiologically significant population subgroups.

SEER 17 incidence data are used in this report for comparisons with the most recent Maryland data (2004-2008) because they provide the broadest population coverage that is currently available. For longer-term comparisons that include Maryland data prior to 2000, SEER 13 registry data are used. All SEER 13 and 17 rates were obtained by the MCR from SEER*Stat (version 7.0.5), a statistical software tool for the analysis of SEER and other cancer-related databases. Additional information about SEER can also be found at www.seer.cancer.gov.

The Maryland population estimates for 2008 presented in Appendix E were obtained from SEER*Stat.

B. Cancer Mortality Data

The Maryland mortality data for 2008 and the 5-year aggregate data (2004-2008) , with the exception of colorectal cancer (CRC), are from MATCH that obtains data from the Maryland Vital Statistics Administration. 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. MATCH is an interactive online database sponsored by the DHMH Cancer and Chronic Disease Bureau, Center for Chronic Disease Prevention and Control, which features statistics for Maryland resident health events. County level births, deaths, population estimates and hospitalizations can be obtained through a query of the MATCH online database. MATCH was developed in partnership with the Maryland Vital Statistics Administration and the Maryland Health Care Commission. It can be accessed at http://www.matchstats.org. The official annual reports from the Maryland Vital Statistics Administration can be obtained online at http://dhmh.maryland.gov/vsa/SitePages/reports.aspx. Note: The definition of lung and bronchus cancer in MATCH includes trachea. Comparisons can still be made between the

different data sources for lung and bronchus cancer due to the small number of deaths due to cancer of the trachea over the period 2004-2008 (0 deaths in 2008 and <5 deaths for 2004-2008).

The Maryland mortality data through 2007 and the U.S. mortality data through 2008 presented were obtained from the National Center for Health Statistics (NCHS) Compressed Mortality Files (CMF) in the Centers for Disease Control and Prevention (CDC) Wide-ranging Online Data for Epidemiologic Research (WONDER) system. 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. It provides access to a wide array of public health information, including resources for Healthy People (HP) 2020 targets (see Section C.4. of this appendix) and cancer mortality data.

The NCHS CMF is a county-level national mortality and population database spanning the years 1979-2008. 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 presented for the individual years 1999 to 2007 for Maryland and 1999 to 2008 for U.S. were obtained from the 1999-2008 CMF using ICD Tenth Revision (ICD-10) codes and may vary slightly from the rates presented for the same years in the previous CRF Cancer Reports as rates were updated. The rates in NCHS CMF change slightly over time due to updates to the number of deaths and population data used to develop the rates.

In the 1999-2008 CMF, race is reported in four categories (American Indian or Alaska Native, Asian or Pacific Islander, Black or African American, and White). 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.

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 (BRFSS)

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. This survey, managed by the Maryland DHMH Prevention and Health Promotion Administration, Center for Chronic Disease Prevention and Control, provided risk behavior and cancer screening information for this report. Maryland data can be accessed online at http://www.marylandbrfss.org. In addition, both Maryland and state-aggregated national data on health risk behavior can 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, managed by the DHMH Cancer and Chronic Disease Bureau, Center of Tobacco Prevention and Control, 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 has been conducted in 2000, 2002, 2006, 2008, and 2010. Published survey reports are available on the DHMH website at http://crf.maryland.gov/tobacco_behaviors.cfm. Additional information can be obtained from the Center of Tobacco Prevention and Control at 410-767-1362.

3. Maryland Cancer Survey

The Maryland Cancer Survey (MCS) is a biennial survey managed by the DHMH Center for Cancer Prevention and Control, Surveillance and Evaluation Unit. The purpose of the MCS is to determine cancer screening rates and to measure cancer risk behaviors among persons age 40 years and older living in Maryland, for selected cancers targeted by DHMH. Completed surveys are available for 2002, 2004, 2006, and 2008. MCS data are used to supplement BRFSS data on prevalence of cancer screening and cancer risk behaviors among adults age 40 years and older in Maryland.

Some charts include both MCS and Maryland BRFSS data, as a basis for comparison with HP 2020 targets. Caution should be used when comparing results from the MCS and BRFSS. Although they are similar, these surveys have certain design and methodological differences, including targeted age groups, scope and timing of the surveys, and weighting. The MCS reports, including detailed information on the survey methods, are available at http://fha.dhmh.maryland.gov/cancer/SitePages/surv_data-reports.aspx.

4. Healthy People (HP) 2020

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. Several of these targets are used as benchmarks by which Maryland progress can be measured. The HP 2020 objectives were released in late 2010. Additional information can be found at http://www.healthypeople.gov.

5. Maryland Comprehensive Cancer Control Plan (MCCCP)

The MCCCP is the coordinated effort of 14 committees consisting of nearly 250 individuals with the aim to develop a resource for individuals, health care providers, and organizations. The MCCCP contains goals and set targets to be met by the year 2015, 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 MCCCP was directed by the Department of Health and Mental Hygiene with broad input from a partnership of public and private stakeholders. Several of the targets were used as benchmarks by which Maryland progress can be measured when HP 2020 objectives were not available or behavior data that applied to HP 2020 were not available. Additional information can be found at http://fha.dhmh.maryland.gov/cancer/cancerplan/.

II. DATA CONSIDERATIONS

A. Data Confidentiality

DHMH regards all 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 were employed. For the number of cancer cases collected by 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 Policy and Procedures* (July 2008; http://fha.dhmh.maryland.gov/cancer/SitePages/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. Incidence rates based on 15 or fewer (non-zero) cases are presented with asterisks (**) because the rates are unstable and do not provide reliable information.

Mortality data for the report were from the Maryland Vital Statistics Administration; either directly from the Maryland Vital Statistics Administration or from the web-based interactive data query database MATCH (see Section I.B above). ICD-10 codes listed in Appendix G of this report were used for identifying type of cancer for extraction. Data obtained from MATCH are subject to Maryland Vital Statistics Administration data use restrictions, which differ slightly from those of the *DHMH/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 the Maryland Vital Statistics Administration, including MATCH, and WONDER, and that reliable mortality rates are presented in this and other CCPC publications, the DHMH Center for Cancer Prevention and Control (CCPC) developed the *Mortality Data Suppression Policy* (September 2011). In accordance with

this policy, the following protocols are applied to mortality data in this report: Death counts of 1-4 are suppressed, and denoted by "<5." 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 less than 20 (i.e., 0-19 deaths) are suppressed (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 *DHMH/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). The totals shown in the count for number of cancer cases may not equal the sum of males and females because of cases in these other gender categories.

C. Rate Analysis

Individual year incidence rates for 2008 presented in were calculated using Maryland resident cancer cases diagnosed from January 1 through December 31 of that year, and reported to the MCR as of February 8, 2011. The individual year mortality data (2008) consist of deaths that occurred between January 1 and December 31 of that year. Multiple year incidence rates presented were calculated for 5-year collapsed rates using MCR 2004-2008 data. Corresponding mortality rates were extracted from MATCH; CRC rates were obtained directly from the Maryland Vital Statistics Administration, as 5-year combined data from 2004-2008.

Age-adjustment, also called age-standardization, is one of the tools used to control for the different and changing age distributions of the population in states, counties, etc., and to enable meaningful comparisons of vital rates over time. Age-adjusted rates do not include cancer cases on which age has not been reported. Federal agencies have adopted the year 2000 U.S. standard population as the standard for age-adjusting incidence and mortality rates. For consistency and ease of comparison, 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 Appendix D, Glossary, for the definition of APC.

D. Confidence Intervals and Statistical Significance

Age-adjusted rates for specific geographic areas (e.g., U.S., states, regions, counties) can be compared to determine whether differences in incidence or mortality exist between those areas. However, 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. The rate from one year may not be typical of the usual rate for a geographic area when compared to other years. For this reason, two rates cannot simply be compared side-by-side to determine whether they are statistically significantly different. Confidence intervals are useful in defining a range within which the typical rate for a geographic area can be expected to lie.

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. Most confidence intervals are, by convention, calculated at the 95% level; at this level, there is a 95% probability that the interval covers the true value. 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 17 incidence rates, provided by the MCR, are developed from the SEER*Stat software. Confidence intervals for mortality rates were generated as part of the query of MATCH. The following formula can also be used to approximate the 95% confidence interval for age-adjusted rates:

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

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

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

When the confidence intervals around two rates (e.g., state and county rates) do not overlap, it can be stated with 95% confidence that the two rates are statistically significantly different. For example, Maryland's 2008 colorectal cancer (CRC) incidence rate was 42.5 per 100,000, with a confidence interval of 40.8-42.2. The 2008 U.S. SEER-reported CRC incidence rate was 45.1 per 100,000 population, with a 95% confidence interval of 44.6-45.6. 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 the rates are not statistically significantly different. 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 the North American Association of Central Cancer Registries (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% limits; and
$x = (R1-R2)/\sqrt{(SE_1^2 + SE_2^2)}$

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

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

E. National Comparison Data

Maryland (statewide) and county incidence and mortality rates are compared to U.S. SEER 17 incidence rates and U.S. mortality rates from NCHS (see Sections I.A and I.B).

Data used for Maryland cancer mortality ranking by site are based on NCHS mortality files extracted from CDC WONDER. 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 (2004-2008) 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 (2004-2008) 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 the 10% and 25%, but less than 10% and more than 25% do not include the endpoints of the range. Where 5-year incidence or mortality rates for any given jurisdiction are suppressed due to a small number of cases or deaths, aggregated regional rates for the affected area are used in lieu of county rates as a basis for comparison in maps.

F. 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, and Other. The "Other" race category includes cases reported as American Indian or Alaska Native, Asian or Pacific Islander, and any other race category except those cases with unknown or missing race. The MCR uses the National Cancer Institute 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 5, "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's surname (last or maiden name) and their place of birth, race, and sex.

Mortality data (death counts and rates) were obtained from the NCHS CMF in CDC WONDER and the Maryland Vital Statistics Administration. Race data in the CMF are based on information collected on death certificates. As described in Section I.B above, CDC WONDER reports race in four categories (White, Black, Asian or Pacific Islander, and Native American or Alaska Native). The category of "other" races includes the American Indian or Alaska Native race category and the Asian or Pacific Islander race category. NCHS, in collaboration with the Census Bureau, developed a race-bridging methodology for assigning multiple-race groups to single-race categories.

G. Healthy People 2020 Targets

In this data, 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 and the MCS. The data from these Maryland surveys are weighted to the age, race, and gender of Maryland population. Unlike the national data that serve as the basis for HP 2020 targets, Maryland BRFSS and MCS data are not age-adjusted to the 2000 U.S. standard population.

Furthermore, 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, should remain cautious due to the different measures used for data gathering.

The HP 2020 uses the U.S. Preventive Services Task Force (USPSTF) guidelines as a means to measure the cervical cancer screening objective. The recommendation at the time of this report was a Pap test every 3 years for women within 3 years of onset of sexual activity or age 21 (whichever comes first) up to 65 years. The Maryland BRFSS provides data on the percentage of Maryland women age 18 years and older who had a Pap test within the past 3 years. Although the age groups presented in the surveyed Maryland population and in the HP 2020 objective differ slightly, the data presented allow a comparison between Maryland and the HP 2020 objective.

H. Appendices

Please refer to additional appendices for:

- Glossary (technical terms and definitions; Appendix B)
- Maryland Population Estimates, 2008 (Appendix C)
- U.S. Standard Population, 2000 (Appendix D)
- Definitions of International Classification of Diseases (ICD) Codes Used for Cancer Incidence and Mortality (Appendix E)
- Maryland Cancer Incidence and Mortality Rates by Geographical Area, 2004-2008 (Appendix F)
- Trends in Cancer Incidence and Mortality Rates in Maryland by Cancer Site, Race or Gender, and Year, 2004-2008 (Appendix G)
- Trends in Cancer Stage of Disease at Diagnosis in Maryland by Cancer Site and Year, 2004-2008 (Appendix H)
- Trends in All Cancer Sites Incidence and Mortality Rates in Maryland and U.S. by Year, 1999-2008 (Appendix I)

Appendix B

Glossary

Glossary

- **Age-adjustment:** Age is the most important risk factor for the incidence of most cancers. Cancer rates derived from populations that differ in underlying age structure are not comparable. Age-adjustment is a statistical technique that allows for the comparison of rates among populations having 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):** APC is a measure of the annual percent increase or decrease in cancer rates over time and 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 http://surveillance.cancer.gov/joinpoint/aapc.html.

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

- **Cancer:** Cancer is 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.

- **Chemoprevention:** Chemoprevention is the use of drugs, vitamins, or other agents to try to reduce the risk of cancer or to delay the development or recurrence of cancer.

- **Confidence Interval (CI):** A confidence interval is the range of values for a calculated estimate that will include the true value a given percentage of the time. A 95% CI for a rate includes the true rate 95% of the time.

- **Incidence:** Incidence is the number of new cases of a given cancer or other event during a defined period, usually one year. For the purpose of this report, cancer incidence refers to the number of new cases diagnosed during individual calendar year 2008. Cancer incidence data are also presented in aggregated form as the average annual incidence for the 5-year period from 2004 through 2008.

- **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:** Invasive cancer is a stage of cancer in which cancer cells have spread to healthy tissue adjacent to the tumor. It may still be considered localized if it has not spread to other parts of the body. Stage data presented in this report involve a diagnosis of invasive cancer: localized, regional, or distant. A diagnosis "in situ" is noninvasive and is not included in the staging data.

- **Mortality:** Mortality refers to the number of deaths during a defined time, usually one year. For the purposes of this report, cancer mortality data are presented for individual calendar year 2008. Data for cancer mortality are also presented in an aggregated form, as the average annual mortality for the 5-year period from 2004 through 2008.

- **Primary prevention:** Primary prevention is preventing cancer before it has developed, such as through avoiding carcinogens (e.g., avoiding tobacco), promoting a healthy lifestyle through exercise and diet, preventing the harmful effects of carcinogens (e.g., using sunscreen), and detecting and removing precancerous lesions (e.g., removing polyps in the colon).

- **Race bridging:** 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 E).

- **Rate:** A rate is 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 regional categories in Maryland.

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

  Note: The Baltimore Metropolitan Area does not include Baltimore City when used in Appendix H and for the incidence and mortality maps.

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

National Capital Area
Montgomery, Prince George's

Northwest Region
Allegany, Frederick, Garrett, Washington

Southern Region
Calvert, Charles, Saint Mary's

- **Screening:** Screening is checking for disease when there are no symptoms, resulting in detection of pre-cancer, or cancer in situ or 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 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. **Localized:** 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.

Appendix C

Maryland Population Estimates, 2008

Maryland Population Estimates by Jurisdiction, 2008

	Total All Genders	Total Males	Total Females	Total Whites	White Males	White Females	Total Blacks	Black Males	Black Females
Maryland	**5,658,655**	**2,743,324**	**2,915,331**	**3,618,647**	**1,782,432**	**1,836,215**	**1,707,596**	**800,345**	**907,251**
Baltimore Metropolitan Area	**2,630,247**	**1,266,845**	**1,363,402**	**1,726,573**	**846,220**	**880,353**	**782,861**	**362,097**	**420,764**
Anne Arundel County	515,328	255,912	259,416	412,644	205,615	207,029	82,460	40,668	41,792
Baltimore City	638,091	297,238	340,853	211,417	103,427	107,990	410,335	185,973	224,362
Baltimore County	788,454	374,825	413,629	547,842	262,818	285,024	201,839	92,855	108,984
Carroll County	169,794	84,063	85,731	159,253	78,817	80,436	7,040	3,613	3,427
Harford County	241,393	118,229	123,164	203,874	100,267	103,607	30,896	14,904	15,992
Howard County	277,187	136,578	140,609	191,543	95,276	96,267	50,291	24,084	26,207
Eastern Shore Region	**438,250**	**214,046**	**224,204**	**357,704**	**175,106**	**182,598**	**73,905**	**35,620**	**38,285**
Caroline County	33,279	16,303	16,976	27,841	13,735	14,106	4,973	2,327	2,646
Cecil County	99,949	49,491	50,458	92,247	45,751	46,496	6,221	3,034	3,187
Dorchester County	32,017	15,171	16,846	22,609	10,852	11,757	9,029	4,139	4,890
Kent County	20,269	9,649	10,620	16,766	8,061	8,705	3,310	1,486	1,824
Queen Anne's County	47,465	23,553	23,912	42,672	21,257	21,415	4,093	1,972	2,121
Somerset County	26,131	13,992	12,139	14,832	7,567	7,265	10,958	6,262	4,696
Talbot County	36,112	17,245	18,867	30,560	14,621	15,939	5,050	2,366	2,684
Wicomico County	93,859	44,826	49,033	69,070	33,191	35,879	22,768	10,586	12,182
Worcester County	49,169	23,816	25,353	41,107	20,071	21,036	7,503	3,448	4,055
National Capital Area	**1,784,199**	**861,928**	**922,271**	**878,452**	**436,769**	**441,683**	**723,634**	**337,249**	**386,385**
Montgomery County	953,685	461,620	492,065	641,589	313,205	328,384	170,394	80,194	90,200
Prince George's County	830,514	400,308	430,206	236,863	123,564	113,299	553,240	257,055	296,185
Northwest Region	**474,291**	**237,318**	**236,973**	**419,853**	**206,746**	**213,107**	**41,500**	**24,272**	**17,228**
Allegany County	72,658	36,842	35,816	67,015	32,665	34,350	4,985	3,856	1,129
Frederick County	226,525	111,940	114,585	195,398	96,638	98,760	21,514	10,641	10,873
Garrett County	29,658	14,654	15,004	29,270	14,441	14,829	280	160	120
Washington County	145,450	73,882	71,568	128,170	63,002	65,168	14,721	9,615	5,106
Southern Region	**331,668**	**163,187**	**168,481**	**236,065**	**117,591**	**118,474**	**85,696**	**41,107**	**44,589**
Calvert County	88,560	43,671	44,889	73,621	36,560	37,061	13,244	6,345	6,899
Charles County	141,444	68,898	72,546	79,531	39,388	40,143	56,668	27,112	29,556
St Mary's County	101,664	50,618	51,046	82,913	41,643	41,270	15,784	7,650	8,134

Source: SeerStat static data as of December 1, 2009 (www.seer.cancer.gov). Data are modified vintage 2008 population estimates produced by U.S. Census Bureau and National Center for Health Statistics. Estimates incorporate 2008 bridged single-race estimates for July 1, 2007. (refer to http://seer.cancer.gov/popdata)

Appendix D

U.S. Standard Population, 2000

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

Appendix E

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

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
Lung and Bronchus	C34.0 - C34.9	Excludes codes 9050-9055, 9140, and 9590-9989	C33-C34 (MATCH)* C34 (WONDER)
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.
* Mortality data from MATCH include C33, which are deaths from cancer of the trachea.

Appendix F

Maryland Cancer Incidence and Mortality Rates by Geographical Area, 2004-2008

Appendix F

Table 1: All Cancer Sites Incidence
Age-Adjusted Incidence Rates
by Geographical Area, Maryland, 2004-2008

Geographical Area	Incidence Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	454.5	452.0	457.0
Northwest Region	479.1	470.5	487.9
Allegany	485.4	465.3	506.2
Frederick	502.1	488.2	516.4
Garrett	402.2	373.5	432.7
Washington	471.8	456.6	487.4
Baltimore Metropolitan Area ^	475.3	471.0	479.5
Anne Arundel	471.9	463.3	480.7
Baltimore City	456.2	448.8	463.7
Baltimore County	484.2	477.7	490.7
Carroll	486.6	471.7	501.8
Harford	489.8	477.0	502.8
Howard	433.4	421.3	445.8
National Capital Area †	403.0	398.6	407.3
Montgomery †	402.3	396.6	408.0
Prince George's †	402.3	395.5	409.2
Southern Region	454.6	443.2	466.2
Calvert	479.3	457.5	501.8
Charles	422.2	404.8	440.1
Saint Mary's	476.6	455.9	497.9
Eastern Shore Region	486.6	478.0	495.4
Caroline	489.0	456.3	523.4
Cecil	504.6	484.5	525.4
Dorchester	456.3	427.3	486.8
Kent	527.4	488.1	569.3
Queen Anne's	458.8	432.7	486.2
Somerset	486.4	450.1	525.0
Talbot	472.1	445.8	499.8
Wicomico	489.5	469.9	509.6
Worcester	495.8	472.6	520.1

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

^ Area rate does not include Baltimore City

† 2004-2008 incidence rates for Montgomery County, Prince George's County, and the National Capital Area are lower than actual due to case underreporting in 2006. (See Appendix A, Section I.A.1.)

Source: Maryland Cancer Registry

Appendix F

Table 2: Lung and Bronchus Cancer Incidence
Age-Adjusted Incidence Rates
by Geographical Area, Maryland, 2004-2008

Geographical Area	Incidence Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	65.4	64.4	66.4
Northwest Region	71.3	68.0	74.8
Allegany	82.7	74.7	91.4
Frederick	72.1	66.7	77.7
Garrett	48.3	38.9	59.6
Washington	71.1	65.3	77.3
Baltimore Metropolitan Area ^	70.3	68.7	72.0
Anne Arundel	73.1	69.6	76.6
Baltimore City	79.5	76.4	82.7
Baltimore County	73.1	70.6	75.6
Carroll	73.5	67.7	79.6
Harford	75.0	70.0	80.3
Howard	50.9	46.6	55.5
National Capital Area †	46.3	44.8	47.8
Montgomery †	41.6	39.7	43.5
Prince George's †	52.3	49.8	55.0
Southern Region	67.3	62.9	72.0
Calvert	71.9	63.4	81.2
Charles	59.1	52.4	66.3
Saint Mary's	73.9	65.7	82.8
Eastern Shore Region	81.4	78.0	85.0
Caroline	88.8	75.2	104.2
Cecil	89.9	81.4	99.1
Dorchester	78.0	66.5	91.0
Kent	83.8	69.2	101.0
Queen Anne's	75.8	65.3	87.5
Somerset	92.0	76.7	109.5
Talbot	63.5	54.7	73.7
Wicomico	87.8	79.6	96.5
Worcester	75.6	67.0	85.0

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

^ Area rate does not include Baltimore City

† 2004-2008 incidence rates for Montgomery County, Prince George's County, and the National Capital Area are lower than actual due to case underreporting in 2006. (See Appendix A, Section I.A.1.)

Source: Maryland Cancer Registry

Appendix F

Table 3: Colorectal Cancer Incidence
Age-Adjusted Incidence Rates
by Geographical Area, Maryland, 2004-2008

Geographical Area	Incidence Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	44.0	43.3	44.8
Northwest Region	48.5	45.7	51.3
Allegany	55.1	48.6	62.4
Frederick	51.1	46.7	55.9
Garrett	47.6	38.2	58.8
Washington	42.3	37.9	47.2
Baltimore Metropolitan Area ^	44.3	43.0	45.7
Anne Arundel	41.5	39.0	44.3
Baltimore City	45.6	43.3	48.0
Baltimore County	46.0	44.1	48.1
Carroll	47.2	42.6	52.2
Harford	47.3	43.3	51.6
Howard	40.9	37.2	45.0
National Capital Area †	38.3	36.9	39.7
Montgomery †	35.6	34.0	37.4
Prince George's †	41.7	39.4	44.0
Southern Region	50.2	46.4	54.3
Calvert	48.3	41.4	56.0
Charles	53.0	46.6	59.9
Saint Mary's	49.8	43.3	57.1
Eastern Shore Region	50.0	47.2	52.8
Caroline	45.7	36.1	57.1
Cecil	53.8	47.3	61.0
Dorchester	54.1	44.6	65.2
Kent	52.8	41.4	66.8
Queen Anne's	51.1	42.6	60.9
Somerset	49.6	38.5	63.0
Talbot	46.5	38.5	55.9
Wicomico	51.8	45.5	58.6
Worcester	44.7	38.0	52.3

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

^ Area rate does not include Baltimore City

† 2004-2008 incidence rates for Montgomery County, Prince George's County, and the National Capital Area are lower than actual due to case underreporting in 2006. (See Appendix A, Section I.A.1.)

Source: Maryland Cancer Registry

Appendix F

Table 4: Female Breast Cancer Incidence
Age-Adjusted Incidence Rates
by Geographical Area, Maryland, 2004-2008

Geographical Area	Incidence Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	122.4	120.6	124.1
Northwest Region	123.6	117.6	129.8
Allegany	107.7	94.4	122.5
Frederick	138.0	128.5	148.1
Garrett	107.9	87.9	131.4
Washington	117.5	107.1	128.6
Baltimore Metropolitan Area ^	127.4	124.5	130.4
Anne Arundel	123.2	117.3	129.2
Baltimore City	105.4	100.7	110.2
Baltimore County	130.7	126.1	135.4
Carroll	130.2	120.0	141.1
Harford	119.5	111.3	128.3
Howard	128.7	120.2	137.5
National Capital Area †	119.3	116.2	122.4
Montgomery †	123.0	118.8	127.2
Prince George's †	114.0	109.4	118.7
Southern Region	115.0	107.6	122.7
Calvert	125.6	111.2	141.4
Charles	102.9	92.2	114.5
Saint Mary's	122.0	108.2	137.1
Eastern Shore Region	128.0	121.9	134.4
Caroline	145.8	121.9	173.1
Cecil	126.3	112.9	140.9
Dorchester	110.4	91.2	132.7
Kent	150.2	120.5	185.4
Queen Anne's	109.9	92.8	129.4
Somerset	118.4	93.7	147.8
Talbot	132.5	113.1	154.6
Wicomico	126.7	113.4	141.2
Worcester	142.2	124.5	162.0

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

^ Area rate does not include Baltimore City

† 2004-2008 incidence rates for Montgomery County, Prince George's County, and the National Capital Area are lower than actual due to case underreporting in 2006. (See Appendix A, Section I.A.1.)

Source: Maryland Cancer Registry

Appendix F

Table 5: Prostate Cancer Incidence
Age-Adjusted Incidence Rates
by Geographical Area, Maryland, 2004-2008

Geographical Area	Incidence Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	155.1	152.9	157.4
Northwest Region	150.6	143.3	158.2
Allegany	143.6	127.9	160.7
Frederick	156.4	144.4	169.1
Garrett	120.0	98.2	145.5
Washington	158.9	145.9	172.9
Baltimore Metropolitan Area ^	146.1	142.6	149.7
Anne Arundel	146.7	139.7	154.0
Baltimore City	159.4	152.6	166.5
Baltimore County	147.7	142.4	153.2
Carroll	132.6	121.2	144.9
Harford	165.4	154.3	177.1
Howard	130.2	120.4	140.4
National Capital Area †	162.3	158.1	166.6
Montgomery †	156.5	151.1	161.9
Prince George's †	170.1	163.3	177.1
Southern Region	148.7	138.8	159.0
Calvert	127.4	110.5	146.0
Charles	159.4	143.1	177.0
Saint Mary's	154.9	137.5	173.7
Eastern Shore Region	148.8	141.9	156.0
Caroline	131.1	107.0	159.1
Cecil	135.4	120.4	151.8
Dorchester	128.6	106.6	154.0
Kent	185.2	153.2	222.6
Queen Anne's	142.9	122.7	165.6
Somerset	134.7	107.4	166.8
Talbot	180.4	157.6	205.9
Wicomico	143.6	128.0	160.7
Worcester	162.1	143.9	182.4

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

^ Area rate does not include Baltimore City

† 2004-2008 incidence rates for Montgomery County, Prince George's County, and the National Capital Area are lower than actual due to case underreporting in 2006. (See Appendix A, Section I.A.1.)

Source: Maryland Cancer Registry

Appendix F

Table 6: Oral Cancer Incidence
Age-Adjusted Incidence Rates
by Geographical Area, Maryland, 2004-2008

Geographical Area	Incidence Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	9.4	9.0	9.7
Northwest Region	8.9	7.8	10.2
Allegany	11.5	8.5	15.3
Frederick	8.5	6.8	10.5
Garrett	**	**	**
Washington	8.6	6.7	11.0
Baltimore Metropolitan Area ^	9.6	9.0	10.2
Anne Arundel	11.0	9.7	12.3
Baltimore City	10.9	9.8	12.1
Baltimore County	9.0	8.2	10.0
Carroll	9.5	7.6	11.8
Harford	9.8	8.1	11.8
Howard	8.4	6.9	10.3
National Capital Area †	7.9	7.3	8.6
Montgomery †	7.6	6.9	8.4
Prince George's †	8.3	7.3	9.3
Southern Region	11.3	9.6	13.2
Calvert	11.5	8.5	15.2
Charles	10.7	8.2	13.8
Saint Mary's	11.9	8.9	15.5
Eastern Shore Region	10.0	8.8	11.3
Caroline	**	**	**
Cecil	11.3	8.5	14.7
Dorchester	9.2	5.6	14.5
Kent	12.4	7.3	20.3
Queen Anne's	8.5	5.3	12.9
Somerset	**	**	**
Talbot	9.7	6.2	14.7
Wicomico	9.2	6.7	12.3
Worcester	10.2	7.1	14.5

* Rates are per 100,000 population 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

† 2004-2008 incidence rates for Montgomery County, Prince George's County, and the National Capital Area are lower than actual due to case underreporting in 2006. (See Appendix A, Section I.A.1.)

Source: Maryland Cancer Registry

Appendix F

Table 7: Melanoma Incidence
Age-Adjusted Incidence Rates
by Geographical Area, Maryland, 2004-2008

Geographical Area	Incidence Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	20.6	20.0	21.1
Northwest Region	21.7	19.9	23.7
Allegany	14.8	11.4	19.0
Frederick	24.8	21.8	28.0
Garrett	13.0	8.1	20.0
Washington	23.2	19.9	26.9
Baltimore Metropolitan Area ^	26.8	25.8	27.9
Anne Arundel	30.3	28.2	32.6
Baltimore City	9.7	8.7	10.8
Baltimore County	23.0	21.6	24.5
Carroll	29.2	25.7	33.0
Harford	30.0	26.9	33.3
Howard	28.2	25.3	31.3
National Capital Area †	13.4	12.6	14.2
Montgomery †	17.6	16.4	18.8
Prince George's †	8.1	7.2	9.2
Southern Region	24.9	22.3	27.6
Calvert	41.4	35.2	48.3
Charles	12.2	9.5	15.3
Saint Mary's	26.3	21.8	31.6
Eastern Shore Region	28.5	26.4	30.8
Caroline	27.1	19.7	36.3
Cecil	23.1	19.0	27.9
Dorchester	16.7	11.5	23.7
Kent	35.9	25.6	49.1
Queen Anne's	37.0	29.7	45.6
Somerset	27.4	19.2	38.0
Talbot	30.8	23.9	39.2
Wicomico	26.8	22.4	31.9
Worcester	36.8	30.4	44.2

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

^ Area rate does not include Baltimore City

† 2004-2008 incidence rates for Montgomery County, Prince George's County, and the National Capital Area are lower than actual due to case underreporting in 2006. (See Appendix A, Section I.A.1.)

Source: Maryland Cancer Registry

Appendix F

Table 8: Cervical Cancer Incidence
Age-Adjusted Incidence Rates
by Geographical Area, Maryland, 2004-2008

Geographical Area	Incidence Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	7.1	6.7	7.5
Northwest Region	8.2	6.7	10.0
Allegany	10.5	6.3	16.6
Frederick	8.9	6.6	11.7
Garrett	**	**	**
Washington	7.2	4.7	10.6
Baltimore Metropolitan Area ^	6.7	6.0	7.5
Anne Arundel	6.2	4.9	7.7
Baltimore City	9.8	8.4	11.5
Baltimore County	7.6	6.5	8.9
Carroll	6.9	4.6	9.8
Harford	6.1	4.3	8.4
Howard	5.9	4.2	8.0
National Capital Area †	6.2	5.5	7.0
Montgomery †	6.1	5.2	7.2
Prince George's †	6.5	5.4	7.7
Southern Region	6.1	4.5	8.1
Calvert	**	**	**
Charles	5.5	3.2	8.8
Saint Mary's	6.4	3.7	10.5
Eastern Shore Region	7.6	6.0	9.4
Caroline	**	**	**
Cecil	10.7	7.1	15.7
Dorchester	**	**	**
Kent	**	**	**
Queen Anne's	**	**	**
Somerset	**	**	**
Talbot	**	**	**
Wicomico	8.3	5.1	12.9
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

† 2004-2008 incidence rates for Montgomery County, Prince George's County, and the National Capital Area are lower than actual due to case underreporting in 2006. (See Appendix A, Section I.A.1.)

Source: Maryland Cancer Registry

Appendix F

Table 9: All Cancer Sites Mortality
Age-Adjusted Mortality Rates
by Geographical Area, Maryland, 2004-2008

Geographical Area	Mortality Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	184.5	182.9	186.1
Northwest Region	183.7	178.4	189.2
Allegany	187.2	175.2	199.8
Frederick	182.0	173.5	190.8
Garrett	172.3	154.0	192.2
Washington	191.6	182.1	201.5
Baltimore Metropolitan Area ^	187.0	184.3	189.7
Anne Arundel	197.7	192.0	203.5
Baltimore City	224.2	219.0	229.5
Baltimore County	189.5	185.5	193.5
Carroll	183.9	174.7	193.5
Harford	190.9	182.8	199.3
Howard	159.5	151.8	167.5
National Capital Area	156.6	153.8	159.4
Montgomery	137.8	134.5	141.2
Prince George's	182.2	177.4	187.1
Southern Region	206.3	198.4	214.5
Calvert	203.0	188.5	218.3
Charles	210.7	197.9	224.1
Saint Mary's	205.0	191.2	219.6
Eastern Shore Region	207.8	202.2	213.5
Caroline	218.7	197.1	242.1
Cecil	219.7	206.2	233.8
Dorchester	192.6	174.3	212.3
Kent	202.9	180.2	227.7
Queen Anne's	205.5	187.9	224.3
Somerset	217.1	193.2	243.2
Talbot	178.2	162.9	194.6
Wicomico	226.8	213.6	240.6
Worcester	197.7	183.6	212.6

* 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 Vital Statistics Administration from MATCH

Appendix F

Table 10: Lung and Bronchus Cancer Mortality¥
Age-Adjusted Mortality Rates
by Geographical Area, Maryland, 2004-2008

Geographical Area	Mortality Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	52.0	51.2	52.9
Northwest Region	53.4	50.5	56.4
Allegany	59.0	52.4	66.3
Frederick	49.9	45.5	54.7
Garrett	43.7	34.9	54.1
Washington	58.4	53.2	64.0
Baltimore Metropolitan Area ^	54.6	53.2	56.1
Anne Arundel	62.3	59.1	65.6
Baltimore City	68.1	65.3	71.0
Baltimore County	54.2	52.1	56.4
Carroll	53.0	48.1	58.3
Harford	57.5	53.1	62.1
Howard	39.5	35.7	43.6
National Capital Area	37.0	35.7	38.4
Montgomery	31.3	29.7	33.0
Prince George's	44.7	42.4	47.1
Southern Region	61.5	57.2	66.0
Calvert	60.6	52.8	69.2
Charles	62.4	55.5	69.9
Saint Mary's	61.7	54.2	69.9
Eastern Shore Region	64.5	61.4	67.7
Caroline	74.2	61.8	88.4
Cecil	64.4	57.2	72.3
Dorchester	60.9	50.8	72.4
Kent	56.9	45.1	70.8
Queen Anne's	67.1	57.3	78.1
Somerset	75.9	62.1	91.9
Talbot	54.3	46.0	63.6
Wicomico	73.1	65.7	81.1
Worcester	58.0	50.6	66.2

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

^ Area rate does not include Baltimore City

¥ Includes cancer of the trachea (See Appendix A, Section I.B.)

Source: Maryland Vital Statistics Administration from MATCH

Appendix F

Table 11: Colorectal Cancer Mortality
Age-Adjusted Mortality Rates
by Geographical Area, Maryland, 2004-2008

Geographical Area	Mortality Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	18.0	16.9	19.1
Northwest Region	18.0	14.3	21.8
Allegany	17.5	9.2	25.7
Frederick	18.7	12.4	24.9
Garrett	18.4	4.7	32.1
Washington	18.1	11.5	24.7
Baltimore Metropolitan Area ^	17.9	16.0	19.7
Anne Arundel	18.4	14.4	22.4
Baltimore City	21.9	18.3	25.5
Baltimore County	18.1	15.4	20.9
Carroll	20.4	13.4	27.4
Harford	16.5	11.0	22.0
Howard	17.0	11.1	22.8
National Capital Area	15.2	13.2	17.1
Montgomery	12.7	10.4	15.0
Prince George's	18.8	15.3	22.3
Southern Region	22.9	16.8	28.9
Calvert	23.3	12.0	34.6
Charles	27.5	16.7	38.2
Saint Mary's	17.0	7.8	26.1
Eastern Shore Region	20.1	16.2	24.0
Caroline	21.3	5.7	36.9
Cecil	22.1	12.2	31.9
Dorchester	22.6	8.1	37.1
Kent	18.0	1.7	34.4
Queen Anne's	21.5	8.5	34.5
Somerset	17.5	1.8	33.2
Talbot	14.5	4.6	24.4
Wicomico	24.3	14.6	34.0
Worcester	16.2	7.2	25.2

* 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 Vital Statistics Administration

Appendix F

Table 12: Female Breast Cancer Mortality
Age-Adjusted Mortality Rates
by Geographical Area, Maryland, 2004-2008

Geographical Area	Mortality Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	25.4	24.6	26.2
Northwest Region	24.5	22.0	27.3
Allegany	23.5	17.9	30.3
Frederick	24.9	20.9	29.5
Garrett	35.8	24.6	50.4
Washington	23.1	18.8	28.1
Baltimore Metropolitan Area ^	25.1	23.8	26.4
Anne Arundel	25.0	22.4	27.8
Baltimore City	29.1	26.7	31.7
Baltimore County	25.5	23.6	27.5
Carroll	24.6	20.3	29.6
Harford	26.9	23.0	31.2
Howard	22.3	18.8	26.3
National Capital Area	24.3	22.9	25.7
Montgomery	20.6	18.9	22.4
Prince George's	29.2	26.9	31.7
Southern Region	27.1	23.5	31.1
Calvert	30.0	23.1	38.4
Charles	25.9	20.6	32.2
Saint Mary's	25.7	19.5	33.2
Eastern Shore Region	24.7	22.1	27.5
Caroline	23.5	14.9	35.4
Cecil	23.7	18.1	30.5
Dorchester	**	**	**
Kent	**	**	**
Queen Anne's	29.9	21.3	40.8
Somerset	29.9	18.6	45.6
Talbot	21.6	14.4	31.1
Wicomico	26.5	20.7	33.4
Worcester	27.7	20.7	36.3

* 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: Maryland Vital Statistics Administration from MATCH

Appendix F

Table 13: Prostate Cancer Mortality
Age-Adjusted Mortality Rates
by Geographical Area, Maryland, 2004-2008

Geographical Area	Mortality Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	25.9	24.9	26.9
Northwest Region	23.8	20.8	27.2
Allegany	21.8	15.8	29.3
Frederick	24.1	19.1	30.0
Garrett	27.4	17.1	41.6
Washington	24.0	18.9	30.1
Baltimore Metropolitan Area ^	23.4	21.9	25.0
Anne Arundel	24.5	21.2	28.2
Baltimore City	36.0	32.6	39.7
Baltimore County	23.2	21.1	25.5
Carroll	23.4	18.1	29.8
Harford	23.7	19.1	29.1
Howard	22.8	17.9	28.7
National Capital Area	24.3	22.5	26.2
Montgomery	18.9	17.0	21.0
Prince George's	33.9	30.3	37.8
Southern Region	34.8	29.3	41.0
Calvert	35.6	25.9	47.7
Charles	31.8	23.4	42.2
Saint Mary's	36.9	27.4	48.6
Eastern Shore Region	27.6	24.5	31.0
Caroline	28.2	17.2	43.7
Cecil	28.4	20.7	38.1
Dorchester	**	**	**
Kent	35.9	23.0	53.4
Queen Anne's	26.8	17.7	39.0
Somerset	**	**	**
Talbot	27.7	19.7	37.9
Wicomico	27.3	20.3	35.9
Worcester	26.4	19.4	35.1

* 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: Maryland Vital Statistics Administration from MATCH

Appendix F

Table 14: Oral Cancer Mortality
Age-Adjusted Mortality Rates
by Geographical Area, Maryland, 2004-2008

Geographical Area	Mortality Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	2.6	2.4	2.8
Northwest Region	2.2	1.7	2.9
Allegany	**	**	**
Frederick	**	**	**
Garrett	**	**	**
Washington	2.8	1.7	4.3
Baltimore Metropolitan Area ^	2.5	2.2	2.8
Anne Arundel	3.0	2.4	3.8
Baltimore City	3.9	3.3	4.6
Baltimore County	2.6	2.2	3.1
Carroll	**	**	**
Harford	2.6	1.8	3.7
Howard	2.0	1.2	3.1
National Capital Area	2.1	1.8	2.5
Montgomery	1.7	1.4	2.1
Prince George's	2.8	2.3	3.4
Southern Region	2.6	1.8	3.6
Calvert	**	**	**
Charles	**	**	**
Saint Mary's	**	**	**
Eastern Shore Region	3.3	2.6	4.1
Caroline	**	**	**
Cecil	**	**	**
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: Maryland Vital Statistics Administration from MATCH

Appendix F

Table 15: Melanoma Mortality
Age-Adjusted Mortality Rates
by Geographical Area, Maryland, 2004-2008

Geographical Area	Mortality Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	2.7	2.5	2.9
Northwest Region	3.2	2.5	4.0
Allegany	**	**	**
Frederick	3.6	2.5	5.0
Garrett	**	**	**
Washington	3.2	2.1	4.7
Baltimore Metropolitan Area ^	3.3	3.0	3.7
Anne Arundel	4.0	3.2	4.9
Baltimore City	1.7	1.3	2.2
Baltimore County	3.0	2.5	3.6
Carroll	3.1	2.0	4.5
Harford	3.4	2.4	4.6
Howard	2.8	1.9	4.0
National Capital Area	1.8	1.5	2.1
Montgomery	2.1	1.7	2.6
Prince George's	1.2	0.8	1.7
Southern Region	3.1	2.2	4.2
Calvert	**	**	**
Charles	**	**	**
Saint Mary's	**	**	**
Eastern Shore Region	3.9	3.2	4.8
Caroline	**	**	**
Cecil	**	**	**
Dorchester	**	**	**
Kent	**	**	**
Queen Anne's	**	**	**
Somerset	**	**	**
Talbot	**	**	**
Wicomico	4.7	3.0	7.1
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: Maryland Vital Statistics Administration from MATCH

Appendix F

Table 16: Cervical Cancer Mortality
Age-Adjusted Mortality Rates
by Geographical Area, Maryland, 2004-2008

Geographical Area	Mortality Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	2.3	2.1	2.6
Northwest Region	2.7	1.9	3.8
Allegany	**	**	**
Frederick	**	**	**
Garrett	**	**	**
Washington	**	**	**
Baltimore Metropolitan Area ^	1.9	1.6	2.3
Anne Arundel	1.7	1.1	2.6
Baltimore City	4.3	3.4	5.4
Baltimore County	2.1	1.6	2.8
Carroll	**	**	**
Harford	**	**	**
Howard	**	**	**
National Capital Area	2.1	1.7	2.6
Montgomery	1.6	1.2	2.2
Prince George's	2.7	2.0	3.5
Southern Region	**	**	**
Calvert	**	**	**
Charles	**	**	**
Saint Mary's	**	**	**
Eastern Shore Region	2.1	1.4	3.1
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: Maryland Vital Statistics Administration from MATCH

Appendix G

Trends in Cancer Incidence and Mortality Rates in Maryland by Cancer Site, Race or Gender, and Year, 2004-2008

Appendix G

Table 1: Cancer Incidence Rates by Cancer Site and Year
Maryland, 2004-2008

Cancer Site	2004	2005	2006 †	2007	2008	APC 2004-2008	MD Trend
All Cancer Sites	462.6	457.4	426.3	455.3	470.8	0.3%	▲
Lung	69.1	68.0	63.4	62.5	64.6	-2.2%	▼
Colorectal	48.7	46.3	41.3	41.6	42.5	-3.7%	▼
Female Breast	124.2	118.6	112.8	123.2	132.7	1.7%	▲
Prostate	148.0	147.2	153.9	162.5	163.0	3.0%	▲
Oral	9.4	8.8	8.9	9.6	10.1	2.3%	▲
Melanoma	18.7	21.3	19.7	21.2	21.7	3.0%	▲
Cervical	7.5	8.5	6.7	6.4	6.5	-5.5%	▼

† 2006 Maryland incidence rates are lower than actual due to case underreporting for Montgomery and Prince George's counties. (See Appendix A, Section I.A.1.)

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, 2004-2008

Cancer Site	2004	2005	2006	2007	2008	APC 2004-2008	MD Trend
All Cancer Sites	189.9	190.2	186.7	180.4	180.6	-1.5%	▼
Lung	53.0	54.9	52.6	50.1	50.0	-2.1%	▼
Colorectal	19.3	18.7	18.4	17.5	16.6	-3.6%	▼
Female Breast	27.1	25.8	25.0	24.8	25.1	-1.9%	▼
Prostate	28.8	25.9	26.3	26.6	25.1	-2.5%	▼
Oral	2.5	2.7	2.8	2.5	2.4	-1.6%	▼
Melanoma	2.7	2.8	3.0	2.4	2.6	-2.3%	▼
Cervical	2.5	2.0	2.2	2.4	2.5	1.8%	▲

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

APC = Annual Percent Change (%)

Source: NCHS Compressed Mortality File in CDC WONDER, 2004-2007
Maryland Vital Statistics Administration from MATCH, 2008
Maryland Vital Statistics Administration, 2008 (Colorectal)

Appendix G

Table 3: Cancer Incidence Rates by Race and Year
Maryland, 2004-2008

Cancer Site	Race	2004	2005	2006 †	2007	2008	APC 2004-2008
All Cancer Sites	White	469.8	466.4	434.3	460.5	472.2	0.0%
	Black	444.4	434.9	395.7	444.0	467.9	1.2%
Lung	White	71.1	69.5	67.1	64.3	66.1	-2.2%
	Black	67.7	66.2	55.3	60.3	63.0	-2.3%
Colorectal	White	46.1	45.5	40.2	40.6	41.0	-3.4%
	Black	55.8	49.4	42.7	44.8	47.5	-4.1%
Female Breast	White	127.4	121.1	115.0	125.4	130.7	0.9%
	Black	114.0	108.7	109.7	117.2	132.4	3.8%
Prostate	White	132.0	131.7	137.3	146.5	142.9	2.7%
	Black	202.7	193.3	186.3	209.0	225.5	3.0%
Oral	White	9.7	9.1	9.4	10.0	10.7	2.9%
	Black	8.3	8.4	7.6	8.1	8.6	0.3%
Cervix	White	6.7	7.8	5.8	6.2	5.6	-5.7%
	Black	10.1	9.1	7.1	7.2	8.2	-6.3%

† 2006 Maryland incidence rates are lower than actual due to case underreporting for Montgomery and Prince George's counties. (See Appendix A, Section I.A.1.)

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, 2004-2008

Cancer Site	Gender	2004	2005	2006 †	2007	2008	APC 2004-2008
Melanoma	Male	24.1	27.9	26.0	27.2	29.0	3.5%
	Female	14.9	16.8	15.3	17.1	16.7	2.5%

† 2006 Maryland incidence rates are lower than actual due to case underreporting for Montgomery and Prince George's counties. (See Appendix A, Section I.A.1.)

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

APC = Annual Percent Change (%)

Source: Maryland Cancer Registry

Appendix G

Table 5: Mortality Rates by Race and Year
Maryland, 2004-2008

Cancer Site	Race	2004	2005	2006	2007	2008	APC 2004-2008
All Cancer Sites	White	185.5	187.6	183.6	176.6	175.0	-1.8%
	Black	218.9	210.4	211.1	207.7	212.8	-0.7%
Lung	White	53.3	55.9	53.7	51.4	51.1	-1.7%
	Black	57.6	55.5	53.2	51.2	51.8	-2.9%
Colorectal	White	17.9	17.5	17.6	15.7	15.4	-4.0%
	Black	25.0	24.9	22.7	24.1	21.8	-3.0%
Female Breast	White	25.6	24.9	23.7	22.8	22.0	-3.8%
	Black	32.9	28.8	30.2	32.4	35.3	2.6%
Prostate	White	24.1	21.1	21.7	23.0	20.6	-2.3%
	Black	53.7	48.8	51.1	45.3	48.1	-2.9%
Oral	White	2.3	2.5	2.6	2.5	2.2	-0.9%
	Black	3.0	3.5	3.7	2.8	3.0	-2.2%
Cervix	White	2.2	1.5	1.7	1.7	2.0	-0.7%
	Black	3.9	3.2	3.6	4.3	3.6	1.4%

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

APC = Annual Percent Change (%)

Source: NCHS Compressed Mortality File in CDC WONDER, 2004-2007
Maryland Vital Statistics Administration from MATCH, 2008
Maryland Vital Statistics Administration, 2008 (Colorectal)

Table 6: Melanoma Mortality Rates by Gender and Year
Maryland, 2004-2008

Cancer Site	Gender	2004	2005	2006	2007	2008	APC 2004-2008
Melanoma	Male	3.9	4.2	4.8	3.5	4.4	0.6%
	Female	1.8	1.8	1.8	1.8	1.3	-6.3%

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

APC = Annual Percent Change (%)

Source: NCHS Compressed Mortality File in CDC WONDER, 2004-2007
Maryland Vital Statistics Administration from MATCH, 2008

Appendix H

Trends in Cancer Stage of Disease at Diagnosis in Maryland by Cancer Site and Year, 2004-2008

Appendix H

Table 1: All Cancer Sites
Distribution of Cancer Stage at Diagnosis by Year
Maryland, 2004-2008

Stage	2004	2005	2006	2007	2008
	%	%	%	%	%
Local	42.0	42.5	42.9	45.9	45.8
Regional	19.5	20.1	20.8	21.1	21.0
Distant	19.9	20.2	20.5	20.9	21.1
Unstaged	18.5	17.3	15.8	12.1	12.1

Source: Maryland Cancer Registry

Table 2: Lung Cancer
Distribution of Cancer Stage at Diagnosis by Year
Maryland, 2004-2008

Stage	2004	2005	2006	2007	2008
	%	%	%	%	%
Local	16.8	18.5	17.1	18.7	20.2
Regional	23.1	23.9	23.8	23.7	24.8
Distant	43.1	44.1	45.6	47.8	45.6
Unstaged	17.1	13.5	13.5	9.8	9.4

Source: Maryland Cancer Registry

Table 3: Colorectal Cancer
Distribution of Cancer Stage at Diagnosis by Year
Maryland, 2004-2008

Stage	2004	2005	2006	2007	2008
	%	%	%	%	%
Local	35.0	37.0	35.7	39.3	38.3
Regional	29.2	31.6	33.1	32.8	33.7
Distant	19.0	17.9	17.7	18.1	19.5
Unstaged	16.8	13.5	13.5	9.8	8.5

Source: Maryland Cancer Registry

Table 4: Breast Cancer
Distribution of Cancer Stage at Diagnosis by Year
Maryland, 2004-2008

Stage	2004	2005	2006	2007	2008
	%	%	%	%	%
Local	54.0	54.9	57.1	58.4	58.0
Regional	31.9	31.2	31.9	31.6	30.8
Distant	4.8	4.7	5.0	5.8	5.8
Unstaged	9.3	9.2	6.0	4.2	5.4

Source: Maryland Cancer Registry

Appendix H

Table 5: Prostate Cancer
Distribution of Cancer Stage at Diagnosis by Year
Maryland, 2004-2008

Stage	2004	2005	2006	2007	2008
	%	%	%	%	%
Local	72.8	70.1	64.7	69.1	68.6
Regional	7.8	7.2	8.3	10.0	9.8
Distant	2.9	2.9	2.9	2.7	2.4
Unstaged	16.5	19.8	24.1	18.1	19.1

Source: Maryland Cancer Registry

Table 6: Oral Cancer
Distribution of Cancer Stage at Diagnosis by Year
Maryland, 2004-2008

Stage	2004	2005	2006	2007	2008
	%	%	%	%	%
Local	28.8	28.3	28.1	27.3	31.6
Regional	42.5	44.2	44.4	47.4	42.5
Distant	12.7	15.7	17.9	17.0	17.2
Unstaged	15.9	11.8	9.6	8.4	8.7

Source: Maryland Cancer Registry

Table 7: Melanoma
Distribution of Cancer Stage at Diagnosis by Year
Maryland, 2004-2008

Stage	2004	2005	2006	2007	2008
	%	%	%	%	%
Local	57.5	57.7	59.1	68.4	67.3
Regional	7.9	8.2	9.7	9.2	7.8
Distant	3.3	2.8	3.7	3.6	3.4
Unstaged	31.4	31.3	27.5	18.8	21.5

Source: Maryland Cancer Registry

Table 8: Cervical Cancer
Distribution of Cancer Stage at Diagnosis by Year
Maryland, 2004-2008

Stage	2004	2005	2006	2007	2008
	%	%	%	%	%
Local	38.5	36.6	34.2	38.1	36.0
Regional	32.3	31.1	36.7	34.5	37.5
Distant	10.6	9.8	11.1	16.0	17.0
Unstaged	18.6	22.4	18.1	11.3	9.5

Source: Maryland Cancer Registry

Appendix I

Trends in All Cancer Sites Incidence and Mortality Rates in Maryland and U.S. by Year, 1999-2008

Appendix I

Table 1: All Cancer Sites Incidence Rates by Year
Maryland and U.S., 1999-2008

	1999	2000	2001	2002	2003	2004	2005	2006 †	2007	2008	APC 1998-2008	Trend
Maryland	467.4	483.6	444.4	495.8	494.5	462.6	457.4	426.3	455.3	470.8	-0.8%	↓
U.S.	480.5	473.8	477.2	472.5	461.1	461.9	455.5	454.5	459.9	449.9	-1.0%	↓

† 2006 Maryland incidence rates are lower than actual due to case underreporting for Montgomery and Prince George's counties. (See Appendix A, Section I.A.1.)

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

APC = Annual Percent Change (%)

Source: Maryland Cancer Registry

Table 2: All Cancer Sites Mortality Rates by Year
Maryland and U.S., 1999-2008

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	APC 1999-2008	Trend
Maryland	209.4	207.7	205.1	201.7	195.7	189.9	190.2	186.7	180.4	180.6	-1.9%	↓
U.S.	200.8	199.6	196.0	193.5	190.1	185.8	183.8	180.7	178.4	175.3	-1.6%	↓

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

APC = Annual Percent Change (%)

Source: NCHS Compressed Mortality File in CDC WONDER, 1999-2007 (MD and U.S.)
Maryland Vital Statistics Administration from MATCH, 2008 (MD)
NCHS Compressed Mortality File in CDC WONDER, 2008 (U.S.)