

Maryland Department of Health & Mental Hygiene

# Annual Cancer Report

## Cigarette Restitution Fund Program

*Cancer Prevention, Education, Screening and Treatment Program*

Robert L. Ehrlich, Jr.  
Governor  
State of Maryland

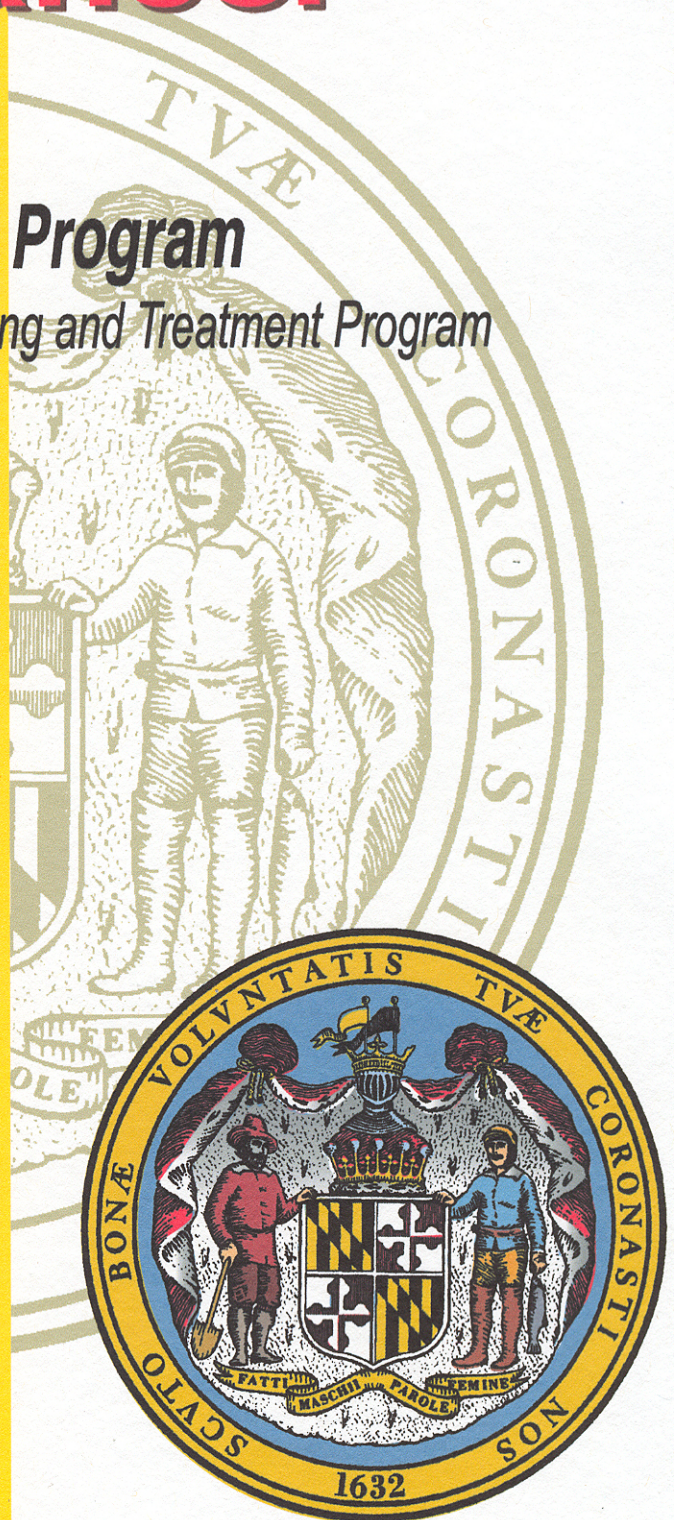
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September, 2003







STATE OF MARYLAND

# DHMH

Maryland Department of Health and Mental Hygiene

201 W. Preston Street • Baltimore, Maryland 21201

Robert L. Ehrlich, Jr., Governor - Michael S. Steele, Lt. Governor - Nelson J. Sabatini, Secretary

Dear Fellow Marylanders:

The Cigarette Restitution Fund (CRF) Program has become a vital resource and is one of my highest priorities for the Maryland Department of Health and Mental Hygiene. The program includes the Cancer Prevention, Education, Screening and Treatment Program whose mission involves actions to reduce the morbidity and mortality associated with cancer. Through the efforts and resulting actions of these components, we are making progress toward solutions, eliminating the burden, and reducing disparities of cancer.

An aging population challenges Maryland to recognize risk, define exposures, document and track affected populations, and integrate cooperating groups to provide the highest level of communication and information. Cancer is currently the second leading cause of death in Maryland and in the nation. Over 24,000 Marylanders were diagnosed with cancer in the year 2000, and more than 10,000 died from this disease. Maryland ranks eleventh in the nation in cancer mortality.

The enclosed 2003 Annual Cancer Report of the Cigarette Restitution Fund Program focuses on all cancer sites combined as well as the seven specific cancer sites targeted by the Cancer Prevention, Education, Screening and Treatment Program: lung and bronchus, colon and rectum, female breast, prostate, oral, melanoma of the skin, and cervix. These cancers were selected based on the capacity for prevention (e.g., lung and bronchus, melanoma of the skin), early detection and treatment (e.g., colon and rectum, female breast, cervix, oral cavity), or on the impact on incidence and mortality (e.g., prostate).

I hope that you find this publication to be informative and useful as you join us in preventing and reducing cancer incidence and mortality. The Maryland community greatly appreciates your effort.

Sincerely,

Nelson J. Sabatini  
Secretary



Maryland Department of Health & Mental Hygiene

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# Annual Cancer Report

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*Cigarette Restitution Fund Program*  
*Cancer Prevention, Education, Screening and Treatment Program*

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## Acknowledgements

The Maryland Department of Health and Mental Hygiene (DHMH), Center for Cancer Surveillance and Control, is pleased to present the Cigarette Restitution Fund Program's Annual Cancer Report for 2003. Our hope is that individuals, groups, and agencies, such as local health departments, community health coalitions, community-based organizations, policy makers, and the citizens of Maryland, will benefit from the information in this report and will find this report useful.

We thank the following agencies and individuals for their contributions to and assistance with this document:

- Maryland Cancer Registry, DHMH, for providing data for the tables and graphs. Stacey Neloms provided coordination, and Ryan Colvin contributed special assistance by developing tables and resolving technical data issues.
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- ORC Macro International, Inc., for providing 2000 cancer incidence data. Lynn Khoo, M.D., M.P.H., and staff developed the data.
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- Information Resources Management Administration, DHMH, for developing regional and county maps. Rashid Malik provided special assistance.
- Surveillance and Evaluation Unit, Center for Cancer Surveillance and Control, DHMH, for coordinating and developing the report. Lorraine Underwood provided administrative assistance.

We thank all the individuals who contributed to the development and careful review of this document.



## **Dedication**

We dedicate this report to all cancer patients and their families in Maryland. We hope that by the efforts of the Cigarette Restitution Fund Program, the burdens and challenges of cancer will be lightened for the individuals and families that we serve and are a part.

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# **I. Executive Summary**

## **A. Introduction**

This publication is the Cigarette Restitution Fund Program (CRFP) Annual Cancer Report for 2003. The purpose of the Annual Cancer Report is to assist local health departments and local community health coalitions under the CRFP in planning and implementing comprehensive cancer prevention, education, screening, and treatment programs. The data and the “Public Health Intervention” recommendations are intended to provide guidance to local health departments, statewide academic health centers, community health coalitions, and other community organizations as they decide how to allocate limited resources (e.g., staff time, funding) to the maximum benefit, with the goal of reducing cancer mortality.

The CRFP was established to provide for the distribution of funds as a result of multi-state litigation against the tobacco industry. This program provides \$30 million annually to combat cancer. The CRFP law established the Cancer Prevention, Education, Screening and Treatment (CPEST) Program within the Maryland Department of Health and Mental Hygiene (DHMH). The primary goal of this program is to reduce cancer mortality in the State of Maryland.

The CRFP law requires DHMH to identify the types of cancers that may be targeted under the CPEST Program. In addition to overall cancers presented in this report, DHMH has selected seven targeted cancers that are examined individually in this report. The seven targeted cancers are: lung and bronchus, colon and rectum, female breast, prostate, oral, melanoma of the skin, and cervix. These cancers were selected because they can be prevented (e.g., lung and bronchus, melanoma) or detected, and treated early (e.g., colon and rectum, female breast, cervix, oral cavity), or because of their impact on incidence and mortality (e.g., prostate).

Additionally, the CRFP law requires counties to develop plans to: 1) eliminate the greater incidence of and higher morbidity rates for cancer in minority populations (as defined in the CRFP law as women or individuals of African American, Hispanic, Native American, and Asian descent) and in rural areas, and 2) increase availability of and access to health care services for uninsured individuals and medically underserved populations.

The Annual Cancer Report provides information on cancer incidence, mortality, stage of disease at diagnosis, public health evidence, recommended areas for public health intervention, and Maryland screening behaviors as compared to the Healthy People 2010 screening behaviors objectives.



## **B. Major Highlights of the Report**

### 1. Major findings for **overall** cancers:

- 24,551 cases of cancer were reported in Maryland in 2000 (excluding non-melanoma skin cancer).
- Cancer is the second leading cause of death in Maryland, responsible for 24% of all deaths.
- 10,241 cancer deaths occurred in 2000.
- Maryland is ranked 11<sup>th</sup> among states and the District of Columbia in total cancer mortality in 2000, dropping from 9<sup>th</sup> in 1999.
- Lung and bronchus, colon and rectum, female breast, and prostate cancers account for 52.8% of cancer deaths among all cancers.
- The 2000 mortality rate for Maryland (209.1 per 100,000 population) is statistically significantly higher than the U.S. rate (199.6 per 100,000 population). The Healthy People 2010 goal is to reduce cancer mortality to 159.9 per 100,000 population.
- In 2000, blacks had a statistically significantly higher mortality rate than whites (246.0 vs. 201.8 per 100,000 population) for all combined cancer sites.
- In 2000, males had a statistically significantly higher mortality rate than females (260.5 vs. 176.9 per 100,000 population) for all combined cancer sites.
- In 2000, there were 371 new cancer cases among individuals of Hispanic ethnicity for all sites combined with a corresponding incidence rate of 373.9 per 100,000 population.

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

- Lung cancer accounts for approximately 29% of all cancer deaths in Maryland and is the leading cause of cancer deaths in both men and women in Maryland.
- Tobacco use is the primary cause of lung cancer; tobacco smoking causes 90% of lung cancer in males and 78% of lung cancer in females.

### 3. Major findings for **colon and rectum** cancer:

- Colorectal cancer is the second leading cause of cancer death in Maryland.
- The recommended public health intervention for colorectal cancer is early detection through screening colonoscopy, preferred among screening methods, or fecal occult blood testing with flexible sigmoidoscopy.

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

- Breast cancer is the most common reportable cancer among women and is the second leading cause of cancer death among women after lung cancer.
- The recommended public health intervention for breast cancer is early detection using mammography and clinical breast examination by a health care professional.

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

- Prostate cancer is the most common reportable cancer among men and the third leading cause of cancer death among men after lung cancer and colorectal cancer.
- Prostate cancer incidence and mortality rates are significantly higher among black men than white men.

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

- There is extensive evidence that tobacco use causes oral cancer.
- The recommended public health interventions for oral cancer are avoidance and cessation of tobacco use, avoidance and reduction of alcohol consumption, avoidance of sun and use of ultraviolet (UV) blocking lip balm, and screening for oral cancer targeted to individuals 40 years of age and older.

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

- Incidence and mortality rates of melanoma are statistically significantly higher among males than females and among whites than blacks.
- The recommended public health intervention for skin cancer is reduction of exposure to UV light by: 1) avoiding the sun between 10 a.m. and 4 p.m., 2) wearing sun protective clothing when exposed to sunlight, 3) using sunscreens with a SPF of 15 or higher, and 4) avoiding artificial sources of UV light (e.g., tanning booths).

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

- The cervical cancer incidence rate is statistically significantly higher among black women than white women.
- The recommended public health intervention for cervical cancer is early detection using the Pap test for women beginning at the onset of sexual activity or by age 21 if not sexually active.



## II. All Cancer Sites Combined

### Incidence (New Cases)

A total of 24,551 new cancer cases diagnosed in 2000 were reported to the Maryland Cancer Registry. The total age-adjusted cancer incidence rate for Maryland in 2000 was 486.0 per 100,000 population [479.9-492.1, 95% Confidence Interval (C.I.)]. The 2000 Maryland cancer incidence rate is statistically significantly higher than the 2000 U.S. rate of 472.9 per 100,000 population published by the National Cancer Institute, Surveillance Epidemiological End Results (SEER) Program.

### Mortality (Deaths)

A total of 10,241 Maryland residents died from cancer in 2000. The overall Maryland cancer mortality rate for 2000 is 209.1 per 100,00 population (205.0-213.2, 95% C.I.). This rate is statistically significantly higher than the 2000 U.S. cancer mortality rate of 199.6 per 100,000 population. Currently, Maryland is ranked 11<sup>th</sup> highest among all states and the District of Columbia in total cancer mortality.

**Table 1.**  
**Overall Cancer Incidence and Mortality Rates**  
**by Gender and Race, Maryland and the United States, 2000**

<i>Incidence 2000</i>	<i>Total</i>	<i>Males</i>	<i>Females</i>	<i>Whites</i>	<i>Blacks</i>	<i>Other</i>
New Cases (#)	24,551	12,699	11,846	17,894	5,358	717
Incidence Rate*	486.0	585.5	417.7	474.3	488.5	420.2
U.S. SEER Rate*	472.9	560.2	413.8	478.9	512.4	NA
<i>Mortality 2000</i>	<i>Total</i>	<i>Males</i>	<i>Females</i>	<i>Whites</i>	<i>Blacks</i>	<i>Other</i>
MD Deaths (#)	10,241	5,192	5,049	7,601	2,451	189
MD Mortality Rate*	209.1	260.5	176.9	201.8	246.0	123.7
U.S. Mortality Rate*	199.6	249.8	167.3	197.1	249.6	NA

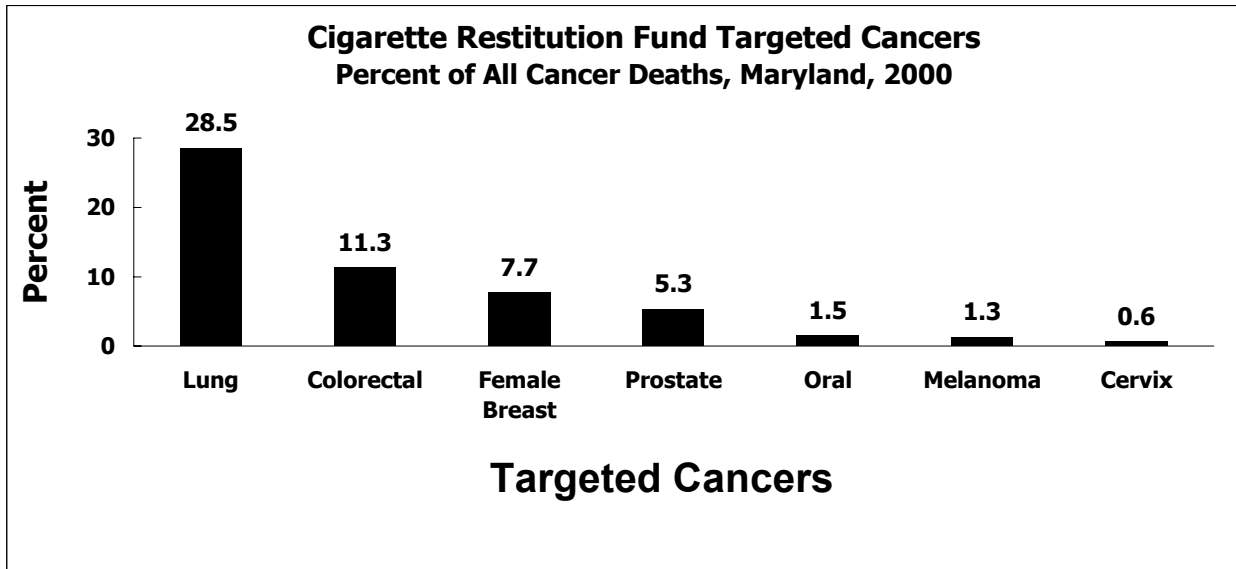
Total includes cases with transexual, hermaphrodite, unknown gender, and unknown race (see page 158)

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

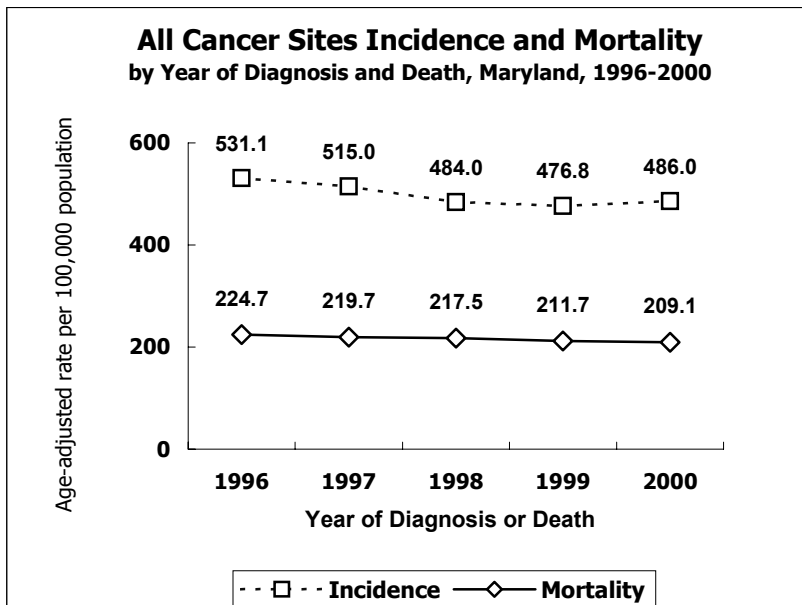
NA: Data were not available

Source: Maryland Cancer Registry, 2000  
Maryland Division of Health Statistics, 2000  
SEER, National Cancer Institute, 2000

Cancer is the second leading cause of death in Maryland, accounting for 24% of all deaths. In 2000, the seven targeted cancers represented 56.2% of the 10,241 cancer deaths that occurred in Maryland. Lung and bronchus, colon and rectum, female breast, and prostate account for 52.8% of all cancer deaths.



Maryland Division of Health Statistics, 2000



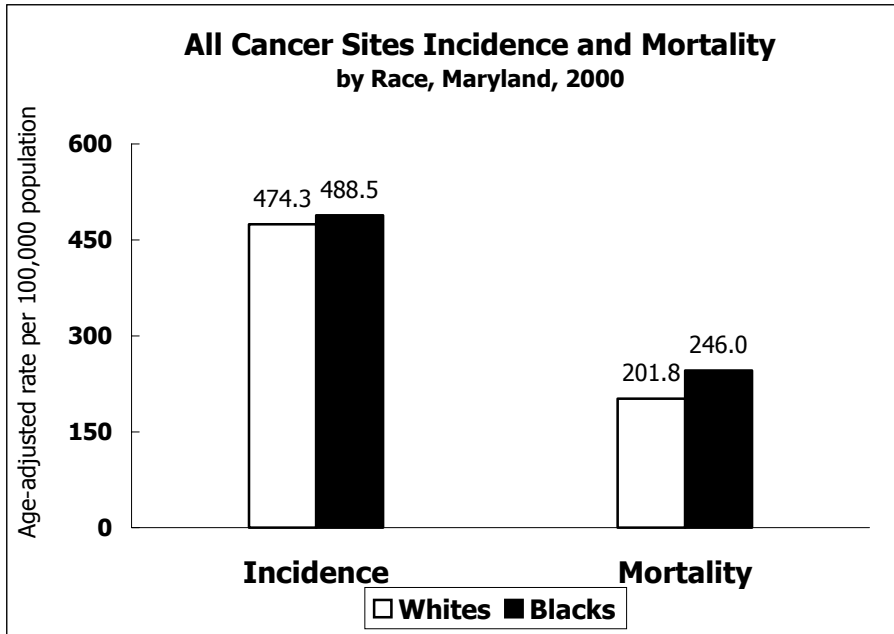
**Trend**

Total cancer incidence (new cases) rates in Maryland decreased an average of 2.5% per year from 1996 to 2000.

Total cancer mortality (death) rates decreased an average of 1.8% per year from 1996 to 2000.

Rates are age-adjusted to 2000 U.S. standard population  
Maryland Cancer Registry, 1996-2000  
Maryland Division of Health Statistics, 1996-2000



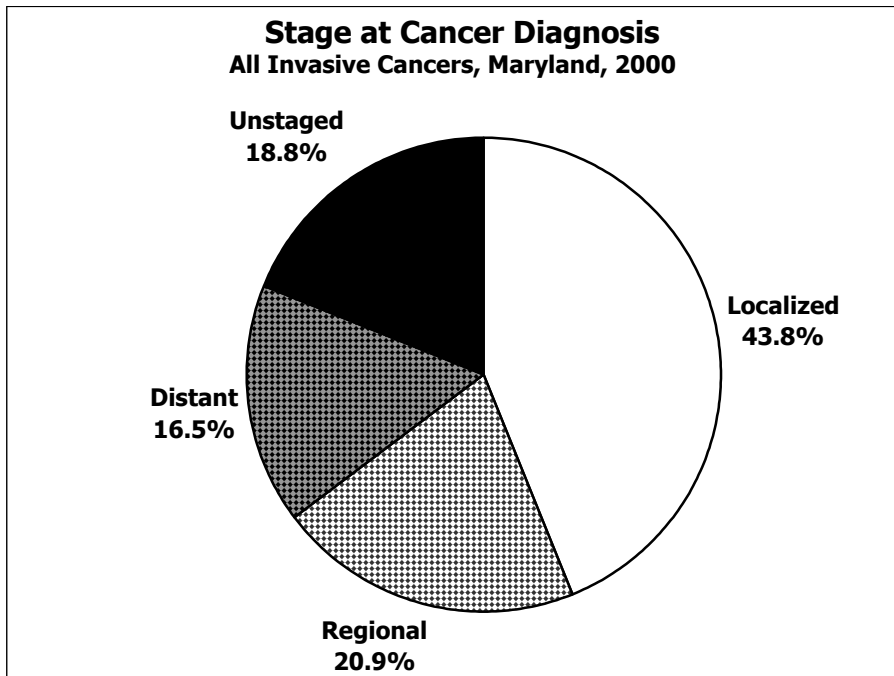


**Race-Specific Rates**

For all cancer sites combined, whites and blacks had similar incidence rates.

Blacks in Maryland experienced a statistically significantly higher mortality rate than whites in 2000.

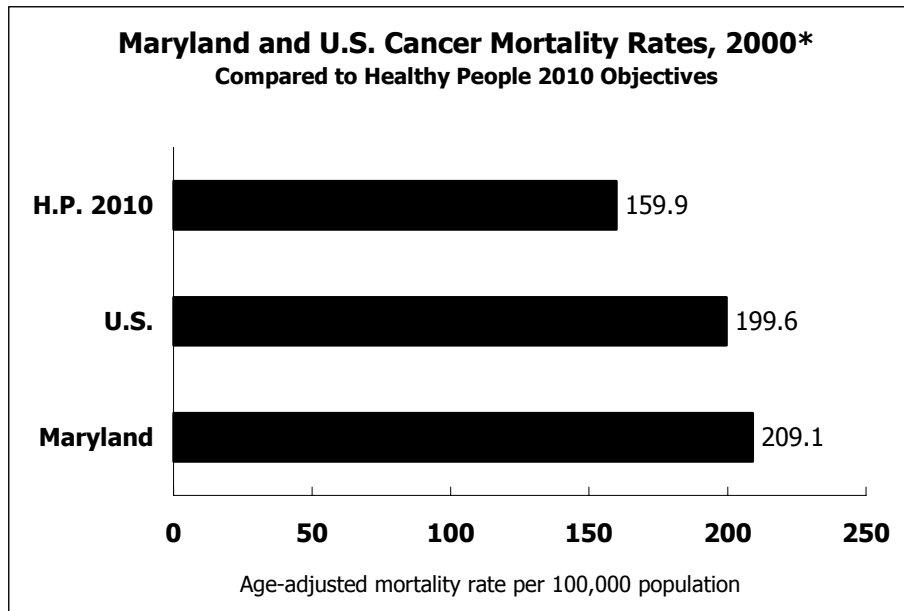
Rates are age-adjusted to 2000 U.S. standard population  
Maryland Cancer Registry, 2000  
Maryland Division of Health Statistics, 2000



**Stage at Diagnosis**

The stage of disease at diagnosis is an important predictor of cancer survival. Less than half (43.8%) of the new cancers diagnosed in 2000 were localized (early stage). This is the stage when most cancers are treatable.

Maryland Cancer Registry, 2000



**Healthy People 2010 Objectives**

The overall cancer mortality rate in 2000 for Maryland is 209.1 per 100,000 population. The Healthy People 2010 goal is to reduce cancer mortality to 159.9 per 100,000 population.

\*Maryland and U.S. rates are age-adjusted to 2000 U.S. standard population  
Maryland Division of Health Statistics, 2000  
SEER, National Cancer Institute, 2000  
Healthy People 2010, U.S. Department of Health and Human Services, 2000

**Summary – Identification of Targeted Cancers**

The cancers targeted under the Cigarette Restitution Fund in 2004 will remain: lung and bronchus, colon and rectum, prostate, breast, cervical, oral, and melanoma of the skin. These cancers were chosen due to the ability to prevent, detect early, and treat these cancers, and due to their impact on incidence and mortality. The remaining sections of this report address these targeted cancers. The public health interventions to reduce the impact of these cancers among Marylanders are listed in the chart below.

<b>The public health interventions to reduce the impact of the targeted cancers are:</b>		
➤ Prevention and cessation of tobacco use		
➤ Early detection and treatment of:		
• colon/rectum cancer	• cervical cancer	• oral cancer
• breast cancer	• prostate cancer	
➤ Protection of the skin from excessive sun exposure or exposure to ultraviolet light		

**Table 2.**  
**Number of Cancer Cases for All Cancer Sites**  
**by Jurisdiction, Gender and Race, Maryland, 2000**

Jurisdiction	Total	Gender		Race			
		Males	Females	Whites	Blacks	Other	Unknown
Maryland	24,551	12,699	11,846	17,894	5,358	717	582
Allegany	437	246	191	427	s	<6	0
Anne Arundel	2,245	1,188	1,056	1,877	271	35	62
Baltimore City	3,321	1,732	1,589	1,347	1,892	26	56
Baltimore County	4,307	2,205	2,101	3,626	516	85	80
Calvert	298	156	142	241	43	<6	s
Caroline	153	82	71	128	s	0	<6
Carroll	711	368	343	679	s	<6	15
Cecil	396	212	184	370	12	<6	s
Charles	467	238	229	355	91	11	10
Dorchester	206	109	97	161	45	0	0
Frederick	785	416	369	710	35	6	34
Garrett	156	85	71	156	0	0	0
Harford	995	532	463	904	65	7	19
Howard	880	423	457	696	128	40	16
Kent	99	52	47	91	8	0	0
Montgomery	3,742	1,860	1,880	2,868	418	334	122
Prince George's	2,985	1,575	1,409	1,256	1,513	123	93
Queen Anne's	179	98	81	149	s	0	<6
Saint Mary's	363	193	170	311	45	<6	<6
Somerset	118	62	56	80	s	<6	0
Talbot	229	123	106	198	s	<6	0
Washington	724	369	355	689	22	s	<6
Wicomico	395	191	203	305	75	9	6
Worcester	321	159	162	266	38	7	10
Unknown	39	25	14	<6	<6	<6	27

s=Number was suppressed to ensure confidentiality of cell in other column

Cells with 5 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 2000

**Table 3.**  
**All Cancer Sites Age-Adjusted Incidence Rates\***  
**by Jurisdiction, Gender and Race, Maryland, 2000**

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	486.0	585.5	417.7	474.3	488.5	420.2
Allegany	461.7	597.3	367.0	463.7	**	**
Anne Arundel	504.9	605.4	434.5	483.0	596.4	366.3
Baltimore City	505.8	645.5	415.4	496.9	501.3	287.9
Baltimore County	514.0	616.1	445.9	502.3	534.8	506.6
Calvert	484.3	575.2	419.6	453.6	531.4	**
Caroline	487.2	569.4	415.8	478.6	**	0.0
Carroll	505.3	609.1	436.8	498.6	**	**
Cecil	505.5	605.0	437.3	494.9	**	**
Charles	501.3	618.6	433.1	498.2	450.8	**
Dorchester	520.2	625.4	447.7	523.4	524.0	0.0
Frederick	467.8	587.0	393.8	451.1	419.2	**
Garrett	453.3	528.0	386.5	455.9	0.0	0.0
Harford	510.0	630.4	427.4	505.1	508.1	**
Howard	454.6	510.2	417.0	450.4	498.7	287.6
Kent	376.3	436.0	330.2	410.7	**	0.0
Montgomery	445.4	520.6	394.6	432.2	462.8	426.8
Prince George's	482.6	607.4	395.1	477.1	459.3	459.9
Queen Anne's	415.9	476.1	364.9	391.4	595.2	0.0
Saint Mary's	497.9	557.5	446.9	504.1	472.7	**
Somerset	444.9	507.0	423.9	420.2	505.3	**
Talbot	468.3	549.7	403.0	470.9	474.6	**
Washington	506.4	585.6	463.8	502.1	**	**
Wicomico	463.2	507.2	423.0	451.1	464.6	**
Worcester	490.1	507.4	482.3	471.8	447.3	**

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

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 2000

**Table 4.**  
**All Sites Cancer Cases and Age-Adjusted Incidence**  
**Rates\* Among Hispanics**  
**Maryland and Jurisdictions, 2000**

Jurisdiction	Number	Rate
<b>Maryland</b>	371	373.9
Allegany	0	0.0
Anne Arundel	24	**
Baltimore City	26	474.7
Baltimore County	33	497.7
Calvert	<6	**
Caroline	<6	**
Carroll	<6	**
Cecil	0	0.0
Charles	<6	**
Dorchester	0	0.0
Frederick	<6	**
Garrett	<6	**
Harford	14	**
Howard	10	**
Kent	<6	**
Montgomery	154	309.2
Prince George's	74	421.6
Queen Anne's	<6	**
St. Mary's	<6	**
Somerset	0	0.0
Talbot	<6	**
Washington	6	**
Wicomico	<6	**
Worcester	6	**
<b>Region</b>	<b>Number</b>	<b>Rate</b>
BALTIMORE METRO REGION	108	482.4
EASTERN SHORE REGION	14	**
NATIONAL CAPITAL REGION	228	336.5
NORTHWEST REGION	12	**
SOUTHERN REGION	8	**

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

Cells with 5 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Case numbers were prepared using MCR data and an algorithm to determine Hispanic ethnicity (see page 159)

Source: Maryland Cancer Registry, 2000



**Table 5.**  
**Number of Cancer Deaths for All Cancer Sites**  
**by Jurisdiction, Gender and Race, Maryland, 2000**

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	10,241	5,192	5,049	7,601	2,451	189
Allegany	210	123	87	s	<6	0
Anne Arundel	897	454	443	769	118	10
Baltimore City	1,716	885	831	704	1,000	12
Baltimore County	1,852	920	932	1,610	218	24
Calvert	131	75	56	105	s	<6
Caroline	83	41	42	64	19	0
Carroll	257	141	116	248	s	<6
Cecil	176	90	86	169	7	0
Charles	205	109	96	156	s	<6
Dorchester	83	50	33	70	13	0
Frederick	317	172	145	289	s	<6
Garrett	59	33	26	59	0	0
Harford	358	192	166	327	s	<6
Howard	318	152	166	257	49	12
Kent	43	23	20	36	7	0
Montgomery	1,297	598	699	1,062	146	89
Prince George's	1,174	584	590	547	599	28
Queen Anne's	101	50	51	85	16	0
Saint Mary's	134	78	56	116	18	0
Somerset	71	41	30	53	s	<6
Talbot	90	53	37	76	14	0
Washington	321	152	169	316	<6	<6
Wicomico	196	96	100	149	s	<6
Worcester	152	80	72	127	25	0

s=Number was suppressed to ensure confidentiality of cell in other column

Cells with 5 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Division of Health Statistics, 2000

**Table 6.**  
**All Cancer Sites Age-Adjusted Mortality Rates\***  
**by Jurisdiction, Gender and Race, Maryland, 2000**

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	209.1	260.5	176.9	201.8	246.0	123.7
Allegany	211.1	299.8	145.4	212.3	**	0.0
Anne Arundel	217.2	263.5	189.4	211.2	290.7	**
Baltimore City	259.3	343.0	208.1	240.4	274.2	**
Baltimore County	216.9	267.2	185.7	213.2	267.1	**
Calvert	229.6	311.2	175.3	214.9	**	**
Caroline	260.7	300.2	230.8	235.6	**	0.0
Carroll	188.2	265.2	146.0	186.6	**	**
Cecil	238.9	290.6	211.4	240.1	**	0.0
Charles	235.2	287.2	195.8	229.8	269.0	**
Dorchester	202.5	287.8	136.7	219.2	**	0.0
Frederick	198.3	261.6	158.1	191.5	**	**
Garrett	172.2	230.1	139.2	173.0	0.0	0.0
Harford	195.9	256.0	158.8	194.2	244.4	**
Howard	186.0	224.2	165.1	184.6	234.3	**
Kent	150.0	**	**	142.5	**	0.0
Montgomery	157.9	179.6	144.7	157.6	177.5	129.7
Prince George's	211.0	263.6	180.0	210.0	219.4	112.4
Queen Anne's	240.9	252.3	226.9	229.4	**	0.0
Saint Mary's	205.4	272.0	157.2	209.5	**	0.0
Somerset	270.8	381.8	211.6	270.7	**	**
Talbot	173.7	242.7	127.1	167.1	**	0.0
Washington	221.9	262.8	200.7	225.0	**	**
Wicomico	231.1	272.6	204.5	219.4	282.0	**
Worcester	220.3	262.9	186.2	209.7	**	0.0

\* Rates are per 100,000 and age-adjusted to 2000 U.S. Standard Population

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Division of Health Statistics, 2000

**Table 7.**  
**Number of Cancer Cases for All Cancer Sites**  
**by Jurisdiction, Gender and Race, Maryland, 1996-2000**

Jurisdiction	Total	Gender		Race			
		Males	Females	Whites	Blacks	Others	Unknown
Maryland	120,021	61,309	58,697	88,659	25,174	3,070	3,118
Allegany	2,432	1,271	1,161	2,374	37	14	7
Anne Arundel	10,847	5,540	5,303	9,073	1,245	163	366
Baltimore City	17,885	9,189	8,696	8,088	9,336	156	305
Baltimore County	20,739	10,463	10,275	17,637	2,397	301	404
Calvert	1,437	773	664	1,169	203	18	47
Caroline	808	447	361	678	122	<6	<6
Carroll	3,387	1,809	1,578	3,191	74	27	95
Cecil	1,859	983	876	1,734	57	20	48
Charles	2,133	1,138	995	1,603	422	55	53
Dorchester	1,022	538	484	777	235	<6	s
Frederick	3,833	2,006	1,827	3,391	216	37	189
Garrett	712	381	331	699	6	<6	s
Harford	4,708	2,514	2,194	4,238	327	40	103
Howard	3,884	1,878	2,006	3,069	513	181	121
Kent	614	322	292	515	84	<6	s
Montgomery	17,762	8,672	9,083	13,978	1,801	1,338	645
Prince George's	14,000	7,189	6,809	6,317	6,717	525	441
Queen Anne's	966	516	450	819	125	<6	s
Saint Mary's	1,671	872	799	1,391	220	31	29
Somerset	703	401	302	515	172	s	<6
Talbot	1,188	644	544	1,016	151	12	9
Washington	3,342	1,647	1,695	3,201	90	23	28
Wicomico	2,067	1,006	1,060	1,639	380	31	17
Worcester	1,621	872	749	1,349	208	34	30
Unknown	401	238	163	198	36	37	130

s=Number was suppressed to ensure confidentiality of cell in other column

Cells with 5 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 1996-2000

**Table 8.**  
**All Cancer Sites Age-Adjusted Incidence Rates\***  
**by Jurisdiction, Gender and Race, Maryland, 1996-2000**

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Others
Maryland	498.1	594.0	434.3	483.8	507.5	406.0
Allegany	509.0	628.1	429.6	506.9	508.2	**
Anne Arundel	520.9	604.1	465.4	510.2	484.4	349.5
Baltimore City	549.0	695.9	456.2	577.3	520.5	415.4
Baltimore County	502.1	588.1	447.5	481.0	663.9	362.1
Calvert	494.0	600.9	419.1	505.0	369.0	**
Caroline	522.3	634.2	431.3	543.1	420.3	**
Carroll	508.7	635.6	422.9	497.0	408.1	706.1
Cecil	506.9	585.1	447.8	501.4	320.9	**
Charles	508.8	630.0	425.8	509.3	449.7	655.9
Dorchester	544.2	643.0	469.7	571.3	475.0	**
Frederick	495.5	601.6	425.0	471.9	462.5	456.0
Garrett	435.2	513.8	379.1	430.0	**	**
Harford	517.2	636.1	437.0	517.7	432.0	268.3
Howard	452.5	517.7	412.6	440.9	442.9	391.0
Kent	493.2	554.4	441.3	534.6	302.5	**
Montgomery	445.6	515.0	402.3	431.8	469.6	387.2
Prince George's	486.8	596.3	412.0	426.9	546.7	394.3
Queen Anne's	465.3	531.2	414.8	473.0	377.9	**
Saint Mary's	493.1	551.6	446.0	505.1	383.1	705.8
Somerset	539.7	660.1	453.5	594.5	399.9	**
Talbot	501.7	606.7	423.6	531.5	344.1	**
Washington	478.9	538.9	446.5	476.2	492.3	**
Wicomico	512.9	590.6	466.3	535.6	408.0	887.7
Worcester	558.8	652.5	487.0	588.2	360.4	6,019.2

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

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 1996-2000

**Table 9.**  
**Number of Cancer Deaths for All Cancer Sites**  
**by Jurisdiction, Gender and Race, Maryland, 1996-2000**

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	50,777	26,087	24,690	37,944	12,111	722
Allegany	1,043	548	495	1,025	s	<6
Anne Arundel	4,378	2,283	2,095	3,813	521	44
Baltimore City	9,327	4,810	4,517	3,974	5,313	40
Baltimore County	8,904	4,462	4,442	7,958	876	70
Calvert	596	337	259	472	s	<6
Caroline	343	183	160	276	67	0
Carroll	1,300	689	611	1,263	s	<6
Cecil	849	470	379	806	s	<6
Charles	965	502	463	748	206	11
Dorchester	457	267	190	338	s	<6
Frederick	1,500	832	668	1,384	104	12
Garrett	298	166	132	298	0	0
Harford	1,830	955	875	1,685	139	6
Howard	1,521	768	753	1,255	215	51
Kent	259	142	117	214	45	0
Montgomery	6,323	3,045	3,278	5,285	706	332
Prince George's	5,894	2,996	2,898	2,896	2,873	125
Queen Anne's	423	220	203	356	s	<6
Saint Mary's	672	374	298	546	s	<6
Somerset	353	210	143	243	s	<6
Talbot	474	261	213	385	s	<6
Washington	1,471	734	737	1,442	s	<6
Wicomico	920	458	462	723	s	<6
Worcester	677	375	302	559	118	0

s=Number was suppressed to ensure confidentiality of cell in other column

Cells with 5 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Division of Health Statistics, 1996-2000



**Table 10.**  
**All Cancer Sites Age-Adjusted Mortality Rates\***  
**by Jurisdiction, Gender and Race, Maryland, 1996-2000**

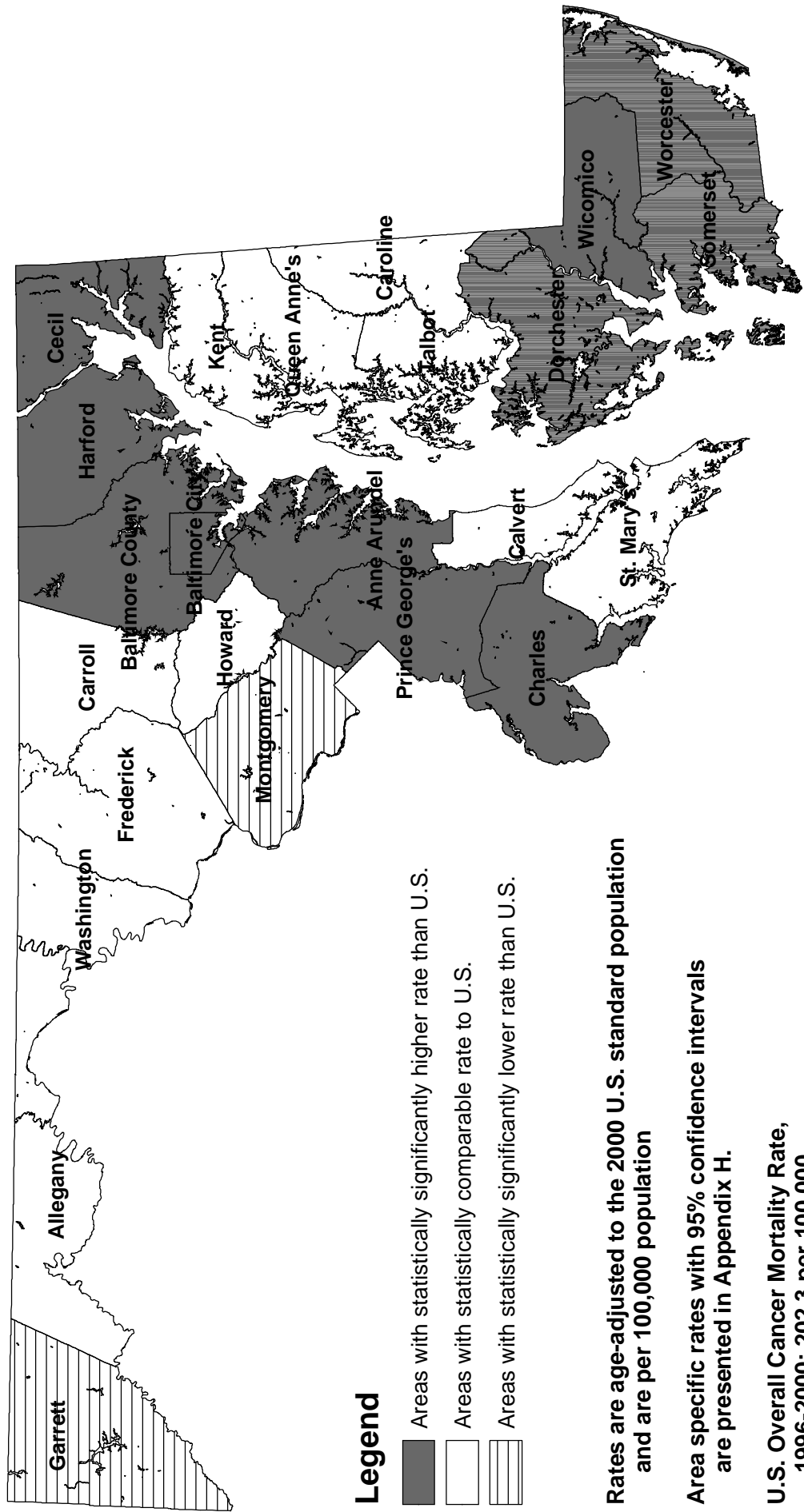
Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	216.3	272.0	181.3	207.2	266.9	109.1
Allegany	206.3	273.4	163.2	206.7	**	**
Anne Arundel	225.4	280.4	190.2	228.5	220.8	105.1
Baltimore City	285.1	378.4	228.5	262.8	308.8	115.3
Baltimore County	212.6	263.2	182.2	209.6	276.0	98.4
Calvert	218.7	286.7	171.2	218.4	222.1	**
Caroline	219.0	266.2	178.7	217.7	233.8	0.0
Carroll	200.0	259.6	161.6	200.9	184.3	**
Cecil	243.0	310.1	198.0	244.2	232.8	**
Charles	250.0	306.3	213.7	257.1	235.7	**
Dorchester	236.4	324.6	171.9	238.8	243.4	**
Frederick	203.5	266.3	158.6	201.4	242.9	**
Garrett	178.9	231.5	144.5	180.1	0.0	0.0
Harford	213.8	269.6	179.6	218.4	190.2	**
Howard	199.5	251.6	169.9	199.8	222.0	123.3
Kent	197.9	246.8	163.5	209.9	163.6	0.0
Montgomery	162.7	196.4	143.7	162.4	206.8	111.3
Prince George's	222.9	278.9	188.2	198.1	275.9	103.9
Queen Anne's	209.5	244.4	185.4	213.0	197.9	**
Saint Mary's	210.7	260.1	172.6	210.3	224.3	**
Somerset	266.6	359.2	200.7	269.6	264.1	**
Talbot	188.8	249.4	149.1	188.1	191.8	**
Washington	207.3	249.6	179.1	209.3	155.1	**
Wicomico	227.8	280.6	195.6	233.3	213.2	**
Worcester	226.7	286.2	182.7	233.6	203.2	0.0

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




\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Division of Health Statistics, 1996-2000

# Maryland Overall Cancer Mortality Rates by Geographical Area: Comparison to U.S. Rates, 1996-2000



## Legend

-  Areas with statistically significantly higher rate than U.S.
-  Areas with statistically comparable rate to U.S.
-  Areas with statistically significantly lower rate than U.S.

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

Area specific rates with 95% confidence intervals are presented in Appendix H.

U.S. Overall Cancer Mortality Rate, 1996-2000: 202.3 per 100,000

Source: Maryland Division of Health Statistics, 1996-2000

### III. Targeted Cancers

#### A. Lung and Bronchus Cancer

##### Incidence (New Cases)

There were 3,538 new lung and bronchus cancer cases (called lung cancer) among Maryland residents in 2000. Lung cancer represents 14.4% of new cancers diagnosed in Maryland in 2000. The 2000 Maryland age-adjusted lung cancer incidence rate is 71.1 per 100,000 population (68.8-73.5, 95% C.I.) which is statistically significantly higher than the 2000 U.S. SEER lung cancer incidence rate of 62.3 per 100,000 population.

##### Mortality (Deaths)

There were 2,922 lung cancer deaths among Maryland residents in 2000. Lung cancer accounts for 28.5% of all cancer deaths in Maryland and is the leading cause of cancer deaths in both men and women. The 2000 age-adjusted lung cancer mortality rate is 59.5 per 100,000 population (57.3-61.7, 95% C.I.) in Maryland. This rate is statistically significantly higher than the 2000 U.S. mortality rate for lung and bronchus cancer of 56.1 per 100,000 population. Maryland has the 18<sup>th</sup> highest lung cancer mortality rate among the states and the District of Columbia.

**Table 11.**  
**Lung Cancer Incidence and Mortality Rates**  
**by Gender and Race, Maryland and the United States, 2000**

<i>Incidence 2000</i>	<i>Total</i>	<i>Males</i>	<i>Females</i>	<i>Whites</i>	<i>Blacks</i>	<i>Other</i>
New Cases (#)	3,538	1,956	1,581	2,686	797	51
Incidence Rate*	71.1	91.4	56.2	71.0	75.6	36.6
U.S. SEER Rate*	62.3	79.8	49.8	62.6	78.5	NA
<i>Mortality 2000</i>	<i>Total</i>	<i>Males</i>	<i>Females</i>	<i>Whites</i>	<i>Blacks</i>	<i>Other</i>
MD Deaths (#)	2,922	1,620	1,302	2,222	662	38
MD Mortality Rate*	59.5	79.0	46.1	58.8	65.2	27.5
U.S. Mortality Rate*	56.1	76.9	41.2	56.2	64.2	NA

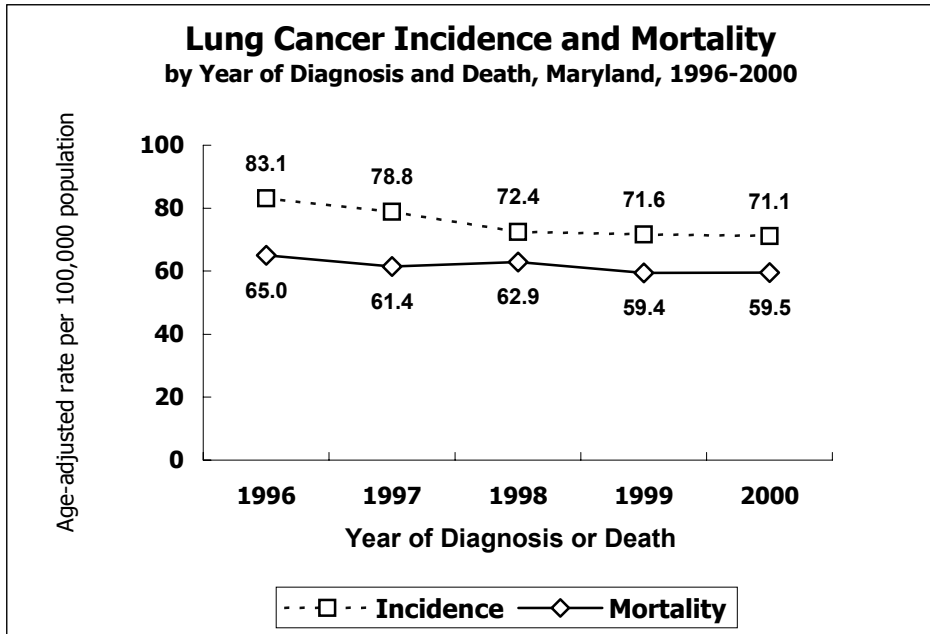
\* Rates are per 100,000 and are age-adjusted to 2000 U.S. standard population

NA: Data were not available

Source: Maryland Cancer Registry, 2000

Maryland Division of Health Statistics, 2000

SEER, National Cancer Institute, 2000

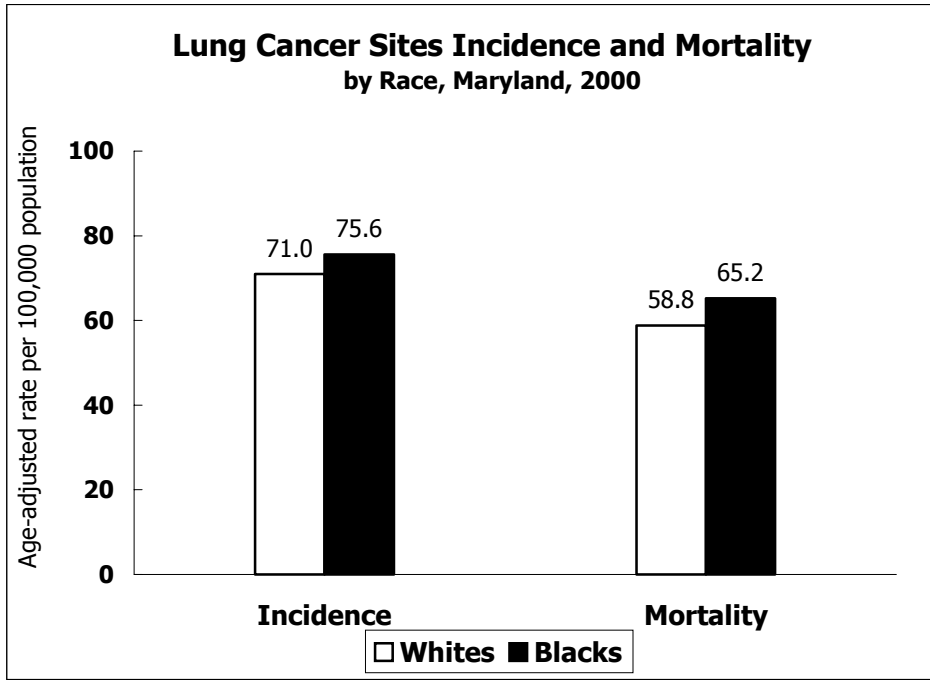


**Trends**

Lung cancer incidence rates have decreased an average of 4.0% per year from 1996 to 2000 in Maryland.

Lung cancer mortality began to decline in the 1990's. In Maryland, lung cancer death rates have decreased an average of 2.1% per year from 1996 to 2000.

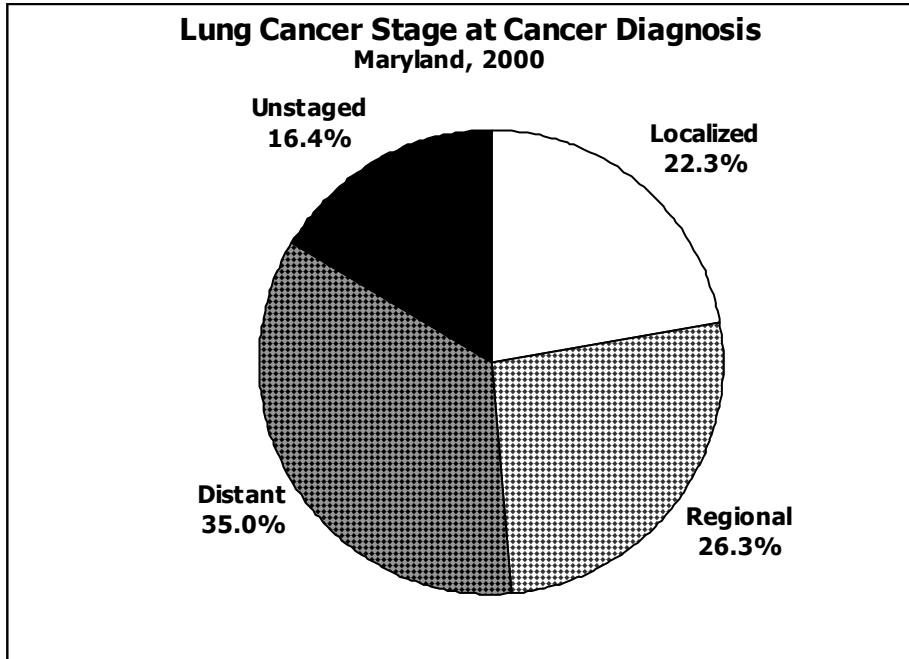
Rates are age-adjusted to 2000 U.S. standard population  
Maryland Cancer Registry, 1996-2000  
Maryland Division of Health Statistics, 1996-2000



**Race-Specific Rates**

Both incidence and mortality rates were similar for whites and blacks in 2000 in Maryland.

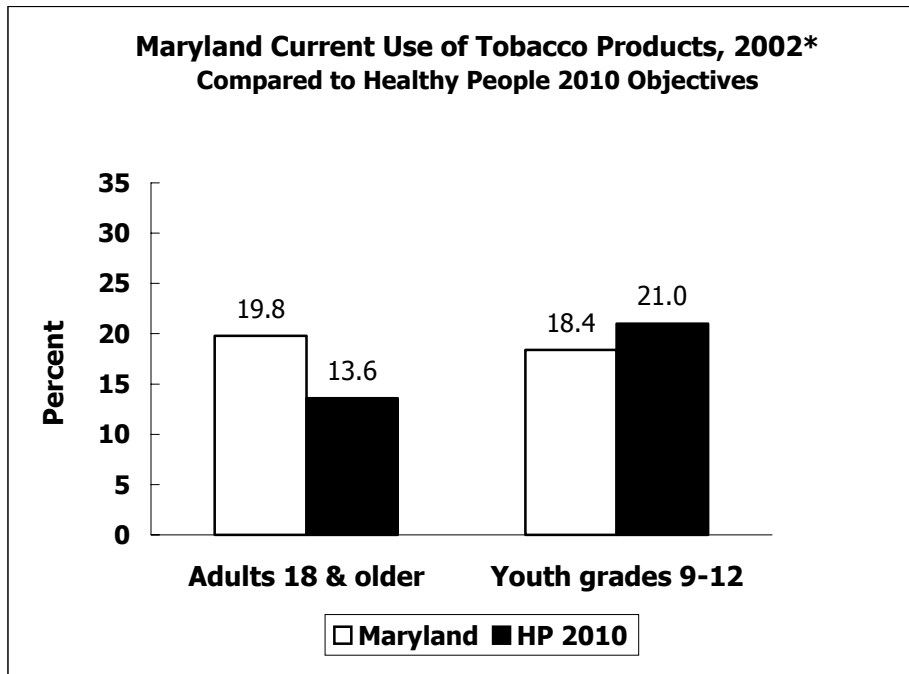
Rates are age-adjusted to 2000 U.S. standard population  
Maryland Cancer Registry, 2000  
Maryland Division of Health Statistics, 2000



Maryland Cancer Registry, 2000

**Stage at Diagnosis**

In 2000, 22.3% of lung cancer cases were diagnosed at the localized (early) stage in Maryland.



**Healthy People 2010 Objectives**

The Healthy People 2010 objectives are to reduce the percentage of adults ( $\geq 18$  years) who use any tobacco product to 13.6%, and to reduce tobacco use by youth in grades 9-12 to 21%.

Based on DHMH surveys in 2002, the goal to reduce tobacco use by youths in Maryland was achieved when compared against the Healthy People 2010 objective for youth.

\* Current use of cigarettes, smokeless or spit tobacco, and other tobacco products MATS and MYTS, DHMH Center for Health Promotion, Education, and Tobacco Use Prevention, 2002  
Healthy People 2010, U.S. Department of Health and Human Services, 2000



**Public Health Evidence (from National Cancer Institute [NCI], Physician Data Query [PDQ], 6/2003)**

**Primary Prevention**

Cigarette smoking causes lung cancer, and smoking is estimated to cause 90% of lung cancer in males and 78% of lung cancer in females. Cigar and pipe smoking have also been associated with increased lung cancer risk. Smoking avoidance and cessation would result in decreased mortality from primary lung cancers. A 30-50% reduction of lung cancer mortality has been noted after 10 years of smoking cessation. Long-term smoking avoidance results in decreased incidence of second primary lung tumors.

Environmental, or second-hand, tobacco smoke contains the same components as inhaled mainstream smoke, in lower concentrations. Environmental smoke is associated with increased lung cancer risk. Other risk factors for lung cancer include asbestos and radon exposure; asbestos exposure combined with smoking increases the risk of lung cancer more than either exposure alone. Epidemiological data show that high dietary intake of beta carotene-rich foods such as vegetables and fruits are associated with reduced lung cancer risk.

**Chemoprevention**

Two randomized controlled clinical trials have studied beta-carotene supplements for chemoprevention of lung cancer. They have shown that pharmacological doses ( $\geq 20$  mg/day) of beta-carotene supplementation may, in fact, *increase* lung cancer incidence and mortality among high-intensity smokers (one or more packs per day).

**Screening**

Current evidence does not support lung cancer screening. Screening for lung cancer with chest X-ray and/or sputum cytology in randomized, controlled trials has not demonstrated a reduction in cancer mortality. There are intensive efforts to improve lung cancer screening with newer technologies including low-dose helical computerized tomography (spiral CT) and molecular techniques. The harms of false positive test results and overdiagnosis must be weighed against any potential benefit. Before spiral CT is accepted into medical practice it is critical to determine whether it does more good than harm in a randomized controlled trial with lung cancer mortality as the endpoint. NCI is now conducting the Lung Screening Study comparing chest X-ray to spiral CT before such a randomized controlled trial is conducted.

**Public Health Intervention for Lung Cancer (CDC Best Practice Guidelines)**

- **Prevention of initiation of tobacco use among youth**
- **Cessation of tobacco use among adults and youth**
- **Reduction of exposure to environmental tobacco smoke**
- **Elimination of tobacco-related health disparities through:**
  - **Community-based and statewide programs:**
    - ✓ Adoption of smoke-free laws and policies (e.g., raising the costs of tobacco products, reducing minors access to tobacco products and reducing exposure to environmental smoke)
    - ✓ Individually-focused identification of tobacco use and cessation counseling by medical and dental providers (NCI, PDQ, 6/03)
    - ✓ Effective smoking cessation programs for current tobacco users (individual/group counseling)
    - ✓ Nicotine replacement and other pharmacotherapy
    - ✓ Effective community-based tobacco use prevention activities encompassing all sectors of the community (e.g., homes, work sites, places of worship and entertainment, and civic organizations)
  - **School-based programs:**
    - ✓ Evidence-based tobacco prevention curricula in schools
    - ✓ Evidence-based tobacco cessation programs for youth in schools
  - **Enforcement programs:**
    - ✓ Enforcement of laws and policies to reduce minors' access to tobacco products
    - ✓ Enforcement of laws and policies to reduce exposure to environmental tobacco smoke
  - **Counter-marketing programs:**
    - ✓ Counter tobacco advertisements
    - ✓ Raise awareness of the dangers of environmental tobacco smoke
    - ✓ Discourage the use of tobacco products and promote smoke-free behavior as the norm
    - ✓ Promote cessation of tobacco use

**Table 12.**  
**Number of Lung and Bronchus Cancer Cases**  
**by Jurisdiction, Gender and Race, Maryland, 2000**

Jurisdiction	Total	Gender		Race			
		Males	Females	Whites	Blacks	Other	Unknown
Maryland	3,538	1,956	1,581	2,686	797	s	<6
Allegany	68	46	22	s	<6	0	0
Anne Arundel	342	190	152	298	s	<6	0
Baltimore City	589	333	256	s	337	<6	0
Baltimore County	658	347	310	581	68	9	0
Calvert	47	26	21	37	10	0	0
Caroline	32	20	12	26	6	0	0
Carroll	103	56	47	s	<6	0	0
Cecil	58	32	26	s	<6	0	0
Charles	79	45	34	68	11	0	0
Dorchester	34	19	15	s	<6	0	0
Frederick	102	54	48	92	s	<6	<6
Garrett	22	12	10	22	0	0	0
Harford	132	74	58	123	s	<6	0
Howard	107	57	50	91	s	<6	0
Kent	16	7	9	s	<6	0	0
Montgomery	398	216	182	329	45	s	<6
Prince George's	375	225	150	183	185	7	0
Queen Anne's	31	18	13	24	7	0	0
St Mary's	52	27	25	46	6	0	0
Somerset	23	13	10	13	10	0	0
Talbot	37	22	15	s	<6	0	0
Washington	109	52	57	s	<6	0	0
Wicomico	61	32	29	50	11	0	0
Worcester	62	33	29	53	s	0	<6
Unknown	<6	0	<6	0	0	0	<6

s=Number was suppressed to ensure confidentiality of cell in other column

Cells with 5 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 2000

**Table 13.**  
**Lung and Bronchus Cancer Age-Adjusted Incidence Rates\***  
**by Jurisdiction, Gender and Race, Maryland, 2000**

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	71.1	91.4	56.2	71.0	75.6	36.6
Allegany	68.4	110.1	**	68.9	**	0.0
Anne Arundel	80.0	100.9	64.2	79.3	97.6	**
Baltimore City	89.3	124.4	65.7	89.6	89.8	**
Baltimore County	77.2	96.0	63.6	77.5	77.7	**
Calvert	80.6	98.4	**	74.7	**	0.0
Caroline	101.7	**	**	96.7	**	0.0
Carroll	75.3	95.6	61.5	74.5	**	0.0
Cecil	76.7	94.2	63.8	75.8	**	0.0
Charles	84.4	107.2	64.6	94.4	**	0.0
Dorchester	82.0	**	**	89.6	**	0.0
Frederick	63.2	78.1	53.4	60.9	**	**
Garrett	**	**	**	**	0.0	0.0
Harford	69.9	90.9	54.8	70.3	**	**
Howard	64.2	76.2	54.3	67.1	**	**
Kent	**	**	**	**	**	0.0
Montgomery	48.9	62.0	39.0	49.9	53.3	**
Prince George's	62.1	88.6	44.1	69.1	57.9	**
Queen Anne's	69.3	**	**	**	**	0.0
Saint Mary's	75.1	80.0	**	78.8	**	0.0
Somerset	**	**	**	**	**	0.0
Talbot	70.4	**	**	72.0	**	0.0
Washington	75.5	82.7	69.3	74.2	**	0.0
Wicomico	70.7	83.6	59.5	72.5	**	0.0
Worcester	89.7	109.6	76.9	87.9	**	0.0

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

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 2000

**Table 14.**  
**Number of Lung and Bronchus Cancer Deaths**  
**by Jurisdiction, Gender and Race, Maryland, 2000**

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	2,922	1,620	1,302	2,222	662	38
Allegany	55	34	21	s	<6	0
Anne Arundel	276	142	134	244	s	<6
Baltimore City	526	303	223	238	s	<6
Baltimore County	538	286	252	489	s	<6
Calvert	46	25	21	36	10	0
Caroline	31	19	12	23	8	0
Carroll	79	42	37	s	<6	0
Cecil	46	27	19	s	<6	0
Charles	55	31	24	47	s	<6
Dorchester	24	13	11	s	<6	0
Frederick	87	56	31	78	9	0
Garrett	16	10	6	16	0	0
Harford	108	60	48	97	s	<6
Howard	100	54	46	77	s	<6
Kent	11	s	<6	s	<6	0
Montgomery	312	164	148	258	40	14
Prince George's	318	181	137	162	148	8
Queen Anne's	24	13	11	18	6	0
Saint Mary's	37	22	15	31	6	0
Somerset	24	12	12	16	8	0
Talbot	19	s	<6	s	<6	0
Washington	91	49	42	s	<6	0
Wicomico	53	27	26	41	12	0
Worcester	46	25	21	39	7	0

s=Number was suppressed to ensure confidentiality of cell in other column

Cells with 5 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Division of Health Statistics, 2000

**Table 15.  
Lung and Bronchus Cancer Age-Adjusted Mortality Rates\*  
by Jurisdiction, Gender and Race, Maryland, 2000**

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	59.5	79.0	46.1	58.8	65.2	27.5
Allegany	55.3	81.3	**	54.9	**	0.0
Anne Arundel	66.6	81.4	57.4	66.3	81.1	**
Baltimore City	79.2	115.4	55.8	82.1	76.0	**
Baltimore County	62.8	81.0	50.5	64.5	55.7	**
Calvert	78.0	**	**	71.7	**	0.0
Caroline	97.7	**	**	**	**	0.0
Carroll	58.3	72.7	47.8	58.5	**	0.0
Cecil	59.5	69.7	**	61.1	**	0.0
Charles	59.9	75.6	**	67.2	**	**
Dorchester	**	**	**	**	**	0.0
Frederick	54.0	79.3	34.1	51.2	**	0.0
Garrett	**	**	**	**	0.0	0.0
Harford	59.0	81.1	45.6	57.0	**	**
Howard	59.5	78.3	48.0	57.1	**	**
Kent	**	**	**	**	**	0.0
Montgomery	38.6	49.5	31.3	38.8	49.2	**
Prince George's	56.8	79.6	42.3	61.1	53.0	**
Queen Anne's	**	**	**	**	**	0.0
Saint Mary's	55.5	**	**	55.7	**	0.0
Somerset	**	**	**	**	**	0.0
Talbot	**	**	**	**	**	0.0
Washington	62.6	83.3	49.2	62.9	**	0.0
Wicomico	61.4	75.4	53.5	58.9	**	0.0
Worcester	63.7	**	**	61.8	**	0.0

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

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Division of Health Statistics, 2000

**Table 16.**  
**Number of Lung and Bronchus Cancer Cases**  
**by Jurisdiction, Gender and Race, Maryland, 1996-2000**

Jurisdiction	Total	Gender		Race			
		Males	Females	Whites	Blacks	Others	Unknown
Maryland	17,923	10,023	7,897	13,853	3,781	256	33
Allegany	399	234	165	390	6	<6	<6
Anne Arundel	1,784	959	824	1,575	192	s	<6
Baltimore City	3,256	1,857	1,399	1,546	1,686	s	<6
Baltimore County	3,203	1,731	1,471	2,857	316	s	<6
Calvert	230	136	94	191	s	<6	0
Caroline	141	87	54	116	s	<6	0
Carroll	444	264	180	423	s	<6	0
Cecil	328	189	139	316	s	<6	0
Charles	333	198	135	266	s	<6	0
Dorchester	183	116	67	141	42	0	0
Frederick	486	314	172	447	34	<6	<6
Garrett	106	68	38	s	<6	0	0
Harford	710	400	310	668	s	<6	0
Howard	490	258	232	413	64	s	<6
Kent	112	64	48	97	s	<6	0
Montgomery	1,925	983	941	1,612	200	106	7
Prince George's	1,869	1,076	793	1,010	802	s	<6
Queen Anne's	163	90	73	143	s	<6	0
Saint Mary's	271	158	113	240	s	<6	0
Somerset	141	94	47	105	s	<6	0
Talbot	155	81	74	135	s	<6	0
Washington	515	280	235	499	16	0	0
Wicomico	355	191	164	290	65	0	0
Worcester	296	177	119	246	46	<6	<6
Unknown	28	18	10	s	<6	0	<6

s=Number was suppressed to ensure confidentiality of cell in other column

Cells with 5 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 1996-2000

**Table 17.**  
**Lung and Bronchus Cancer Age-Adjusted Incidence Rates\***  
**by Jurisdiction, Gender and Race, Maryland, 1996-2000**

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Others
Maryland	75.3	98.5	58.7	75.2	79.3	39.9
Allegany	79.4	111.5	55.3	79.2	**	**
Anne Arundel	88.7	108.3	74.3	91.3	78.0	**
Baltimore City	99.5	141.4	72.4	108.2	94.2	**
Baltimore County	75.6	96.5	61.2	74.5	93.3	32.7
Calvert	82.8	110.3	62.2	87.0	68.5	**
Caroline	90.5	124.0	63.6	92.2	**	**
Carroll	68.8	95.1	49.9	67.8	**	**
Cecil	90.1	112.6	71.9	92.1	**	**
Charles	82.8	114.2	60.7	88.3	67.7	**
Dorchester	94.2	135.7	64.0	100.6	81.9	0.0
Frederick	65.3	96.9	41.6	64.7	77.4	**
Garrett	63.4	92.7	41.6	63.2	**	0.0
Harford	80.5	105.7	63.6	84.0	53.2	**
Howard	64.6	80.4	54.7	66.2	62.0	**
Kent	84.3	106.9	64.6	93.1	**	**
Montgomery	49.5	59.9	42.0	49.8	57.0	36.8
Prince George's	68.0	91.7	51.2	67.6	70.7	45.4
Queen Anne's	77.4	90.8	66.0	82.0	**	**
Saint Mary's	83.0	103.6	66.1	91.1	49.7	**
Somerset	107.8	154.0	66.8	118.7	82.6	**
Talbot	62.6	75.2	53.1	66.9	**	**
Washington	72.8	91.5	59.3	72.7	**	0.0
Wicomico	87.6	113.3	70.6	93.7	70.6	0.0
Worcester	97.7	129.6	70.6	102.2	76.6	**

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

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 1996-2000



**Table 18.**  
**Number of Lung and Bronchus Cancer Deaths**  
**by Jurisdiction, Gender and Race, Maryland, 1996-2000**

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	14,546	8,343	6,203	11,148	3,261	137
Allegany	317	191	126	310	7	0
Anne Arundel	1,389	778	611	1,235	144	10
Baltimore City	2,829	1,676	1,153	1,272	1,547	10
Baltimore County	2,615	1,447	1,168	2,393	212	10
Calvert	186	102	84	156	s	<6
Caroline	113	69	44	91	22	0
Carroll	359	210	149	350	9	0
Cecil	267	169	98	256	s	<6
Charles	306	164	142	255	s	<6
Dorchester	137	92	45	101	36	0
Frederick	429	288	141	395	s	<6
Garrett	86	58	28	86	0	0
Harford	543	305	238	507	s	<6
Howard	402	219	183	335	59	8
Kent	77	48	29	68	9	0
Montgomery	1,431	744	687	1,211	165	55
Prince George's	1,575	904	671	840	705	30
Queen Anne's	136	75	61	112	s	<6
Saint Mary's	167	105	62	144	s	<6
Somerset	119	82	37	84	35	0
Talbot	113	69	44	94	19	0
Washington	429	247	182	422	7	0
Wicomico	313	175	138	255	58	0
Worcester	208	126	82	176	32	0

s=Number was suppressed to ensure confidentiality of cell in other column

Cells with 5 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Division of Health Statistics, 1996-2000

**Table 19.**  
**Lung and Bronchus Cancer Age-Adjusted Mortality Rates\***  
**by Jurisdiction, Gender and Race, Maryland, 1996-2000**

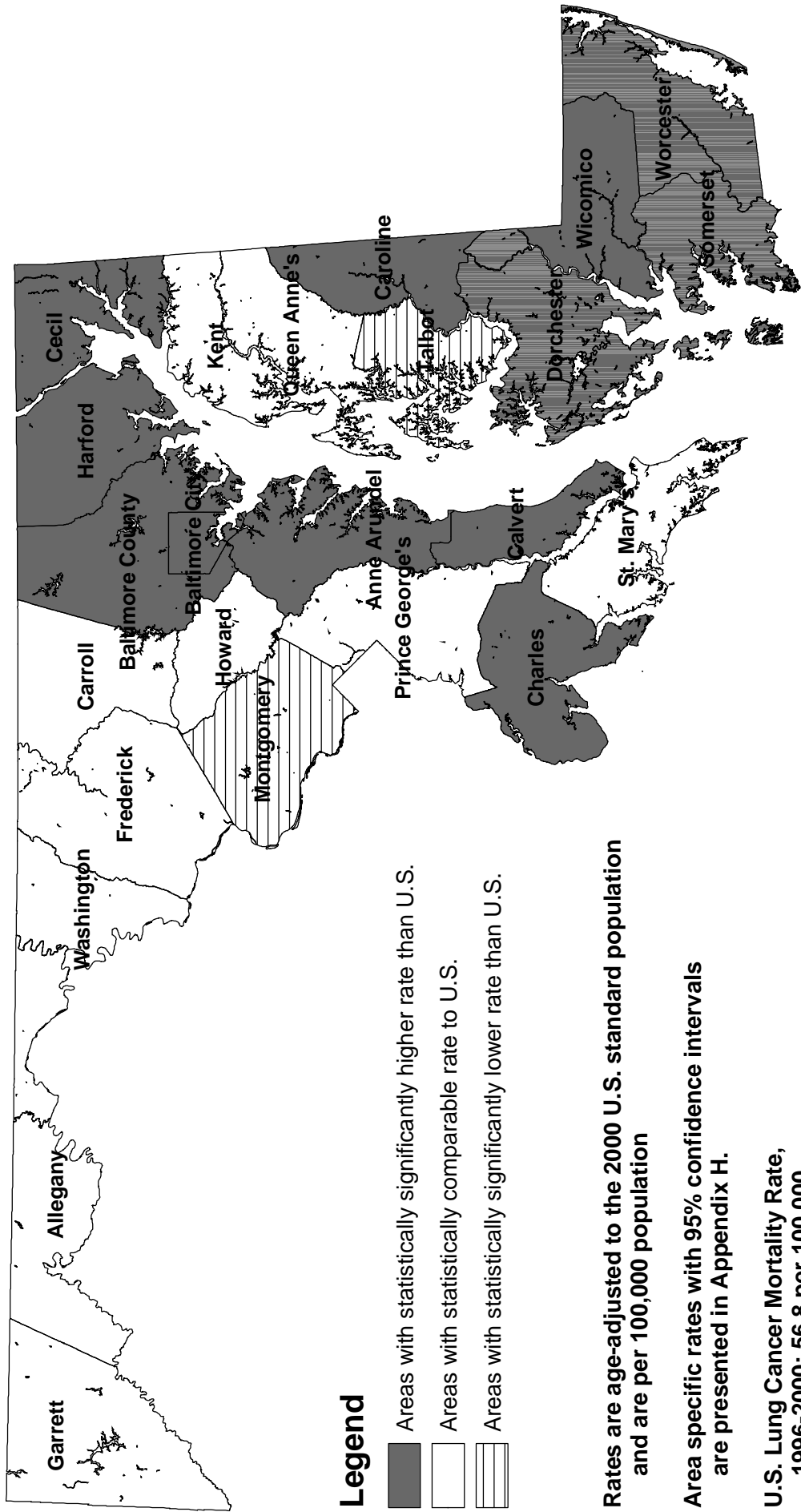
Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	61.6	84.2	45.9	60.5	70.5	22.5
Allegany	62.3	91.6	41.7	62.0	**	0.0
Anne Arundel	70.5	91.8	55.5	72.8	62.0	**
Baltimore City	86.2	128.9	58.7	86.7	87.6	**
Baltimore County	61.6	82.3	47.7	62.0	64.7	**
Calvert	67.5	80.9	56.3	71.6	50.1	**
Caroline	72.0	100.4	49.8	71.4	**	0.0
Carroll	56.0	77.3	40.4	56.4	**	0.0
Cecil	74.3	103.1	50.9	75.5	**	**
Charles	77.1	93.9	65.3	86.1	50.7	**
Dorchester	71.6	110.2	43.3	71.4	75.0	0.0
Frederick	58.3	90.2	34.1	57.7	73.7	**
Garrett	51.3	78.8	31.7	51.7	0.0	0.0
Harford	62.6	83.6	48.5	64.8	44.3	**
Howard	54.2	72.8	43.3	54.7	63.0	**
Kent	57.8	82.1	40.1	65.6	**	0.0
Montgomery	37.1	47.0	30.4	37.3	49.2	20.3
Prince George's	58.9	80.8	44.1	56.2	67.0	27.0
Queen Anne's	64.9	76.1	55.0	64.6	**	**
Saint Mary's	51.9	72.3	36.2	55.7	**	**
Somerset	90.3	136.3	52.2	93.8	85.2	0.0
Talbot	45.2	64.8	31.6	46.6	**	0.0
Washington	60.2	82.1	44.4	60.8	**	0.0
Wicomico	77.3	104.3	58.7	82.1	61.6	0.0
Worcester	66.2	90.3	47.1	70.1	52.5	0.0

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

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Division of Health Statistics, 1996-2000

# Maryland Lung Cancer Mortality Rates by Geographical Area: Comparison to U.S. Rates, 1996-2000



## Legend

- Areas with statistically significantly higher rate than U.S.
- Areas with statistically comparable rate to U.S.
- ▨ Areas with statistically significantly lower rate than U.S.

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

Area specific rates with 95% confidence intervals are presented in Appendix H.

U.S. Lung Cancer Mortality Rate, 1996-2000: 56.8 per 100,000

Source: Maryland Division of Health Statistics, 1996-2000

## B. Colon and Rectum Cancer

### Incidence (New Cases)

Cancer of the colon or rectum is often referred to as colorectal cancer. There were 2,778 new cases of colorectal cancer diagnosed among Maryland residents in 2000. Colorectal cancer cases represent 11.3% of 2000 new cancers. The age-adjusted colorectal cancer incidence rate in Maryland for 2000 is 56.2 per 100,000 population (54.1-58.4, 95% C.I.) which is statistically significantly higher than the 2000 U.S. SEER age-adjusted colorectal cancer incidence rate of 53.1 per 100,000 population.

### Mortality (Deaths)

A total of 1,158 persons died of colorectal cancer in 2000 in Maryland. Colorectal cancer accounts for 11.3% of all cancer deaths and is the 2<sup>nd</sup> leading cause of cancer deaths in Maryland. The age-adjusted colorectal cancer mortality rate in Maryland is 23.9 per 100,000 population (22.6-25.3, 95% C.I.). This rate is statistically significantly higher than the 2000 U.S. colorectal cancer mortality rate of 20.8 per 100,000 population. Maryland has the 3<sup>rd</sup> highest colorectal cancer mortality rate among the states and the District of Columbia.

**Table 20.**  
**Colorectal Cancer Incidence and Mortality Rates**  
**by Gender and Race, Maryland and the United States, 2000**

<i>Incidence 2000</i>	<i>Total</i>	<i>Males</i>	<i>Females</i>	<i>Whites</i>	<i>Blacks</i>	<i>Other</i>
New Cases (#)	2,778	1,426	1,351	2,017	615	92
Incidence Rate*	56.2	69.2	47.4	53.4	61.0	59.3
U.S. SEER Rate*	53.1	62.5	45.9	52.5	62.7	NA
<i>Mortality 2000</i>	<i>Total</i>	<i>Males</i>	<i>Females</i>	<i>Whites</i>	<i>Blacks</i>	<i>Other</i>
MD Deaths (#)	1,158	575	583	832	299	27
MD Mortality Rate*	23.9	29.4	20.2	22.1	31.1	19.2
U.S. Mortality Rate*	20.8	25.2	17.6	20.2	28.3	NA

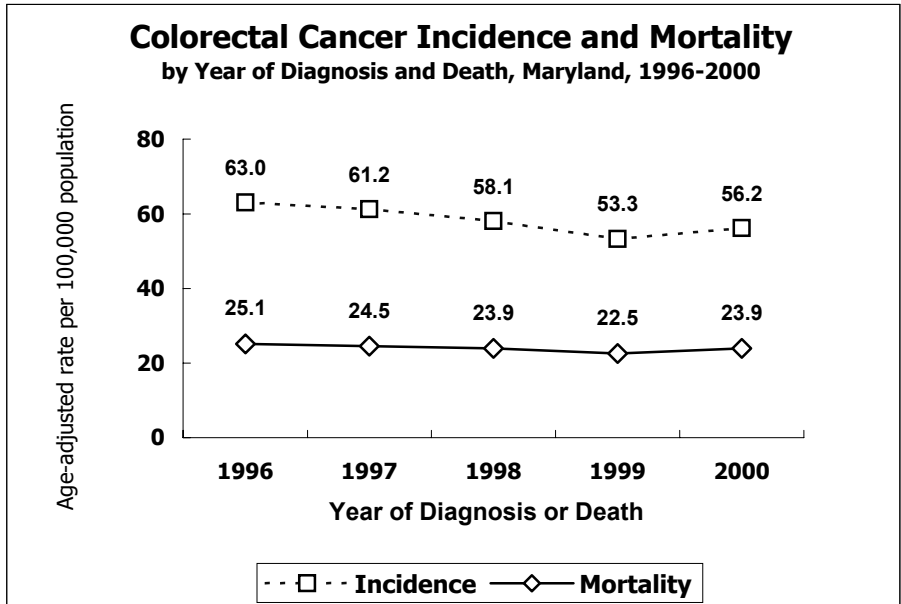
\* Rates are per 100,000 and are age-adjusted to 2000 U.S. standard population

NA: Data were not available

Source: Maryland Cancer Registry, 2000

Maryland Division of Health Statistics, 2000

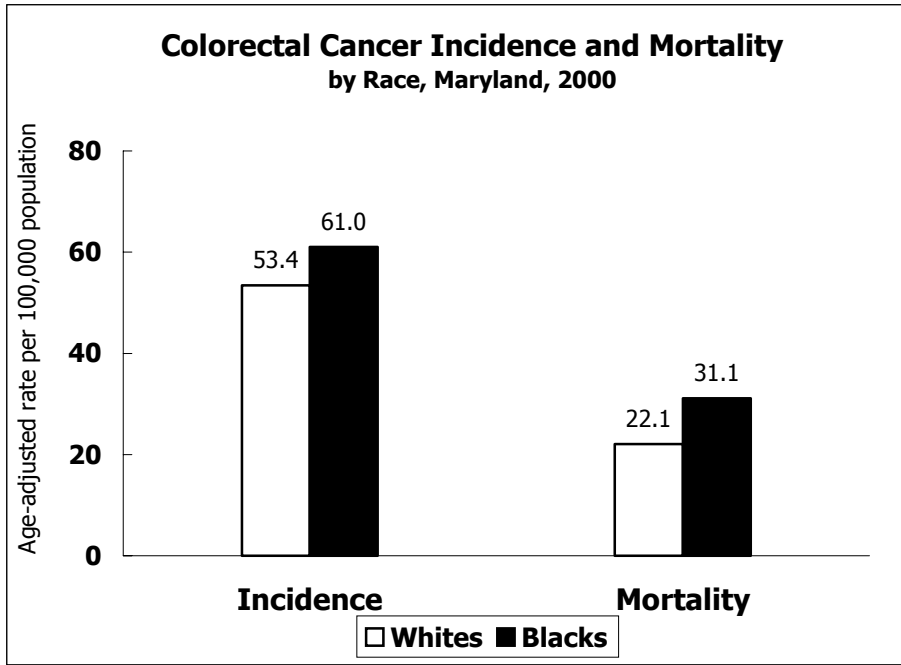
SEER, National Cancer Institute, 2000



Rates are age-adjusted to 2000 U.S. standard population  
 Maryland Cancer Registry, 1996-2000  
 Maryland Division of Health Statistics, 1996-2000

**Trends**

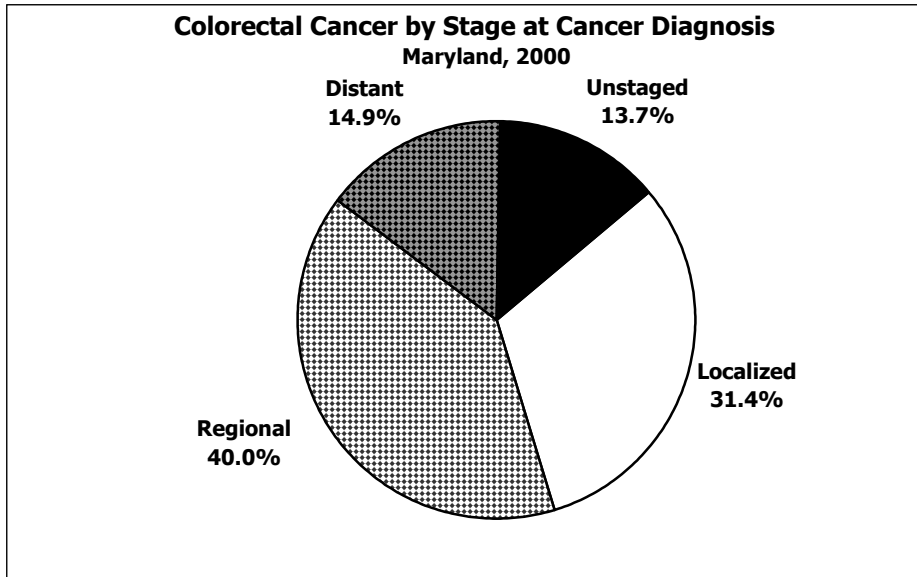
Both incidence and mortality rates for colorectal cancer have been declining. Incidence rates dropped an average of 3.6% per year from 1996 to 2000 with mortality rates dropping an average of 1.8% per year.



Rates are age-adjusted to 2000 U.S. standard population  
 Maryland Cancer Registry, 2000  
 Maryland Division of Health Statistics, 2000

**Race-Specific Rates**

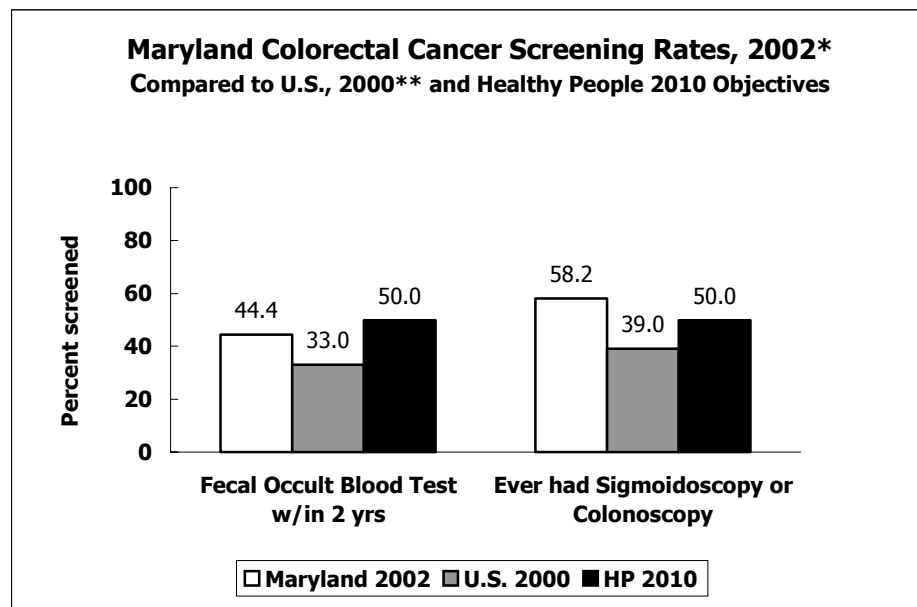
In 2000, blacks had both incidence and mortality rates statistically significantly higher than whites.



Maryland Cancer Registry, 2000

**Stage at Diagnosis**

In 2000, 31.4% of colorectal cancers were diagnosed at the localized (early) stage in Maryland.



**Healthy People 2010 Objectives**

Healthy People 2010 objectives for colorectal cancer are to increase to 50% the proportion of adults 50 years and older who received a fecal occult blood test (FOBT) in the preceding 2 years and those who received a sigmoidoscopy or colonoscopy.

\* Adults 50 years of age and older

\*\* The U.S. data are age-adjusted to 2000 U.S. standard population

Maryland Cancer Survey (MCS), DHMH Center for Cancer Surveillance and Control, 2002

National Health Interview Survey (NHIS), 2000

Healthy People 2010, U.S. Department of Health and Human Services, 2000

Of Maryland adults 50 years and older surveyed in 2002, 44.4% reported having had a home test kit for fecal occult blood testing within the preceding 2 years. This compares to 33.0% in the 2000 NHIS survey. In the 2002 MCS Survey, 58.2% reported having *ever* had a “sigmoidoscopy or colonoscopy,” compared to 39.0% who, in the 2000 NHIS survey, said they had *ever* had a “proctoscopy or sigmoidoscopy.”

## **Public Health Evidence (from National Cancer Institute, PDQ, 6/2003 and the U.S. Preventive Services Task Force, 7/2002)**

### **Screening**

The United States Preventive Services Task Force (USPSFT) strongly recommends that clinicians screen men and women 50 years of age and older for colorectal cancer. The USPSFT found fair to good evidence that several screening methods (e.g., fecal occult blood testing [FOBT], sigmoidoscopy, colonoscopy, double contrast barium enema [DCBE]) are effective in reducing mortality from colorectal cancer. They concluded that the benefits from screening substantially outweigh potential harms, but the quality of evidence, magnitude of benefit and potential harms vary with each method. They found that there were insufficient data to determine which strategy is best in terms of the balance of benefits and potential harms or cost-effectiveness. The USPSTF found insufficient evidence that newer technologies, such as computer tomographic colography, are effective in improving health outcome (July, 2002, USPSTF).

### **Prevention**

Studies suggest that colorectal cancer results from complex interactions between inherited susceptibility and environmental factors. It is hypothesized that adenomatous polyps (adenomas) are precursors for the vast majority of colorectal cancers. Colonoscopy with removal of adenomas may reduce the risk of colorectal cancer. Epidemiological, experimental (animal), and clinical studies suggest that diets high in total fat, protein, calories, alcohol, and meat (both red and white meat) and low in calcium and folate are associated with an increased incidence of colorectal cancer. Randomized controlled trials among those who had had adenomas demonstrated that wheat-bran fiber supplementation and diets low in fat (20% of total calories) and high in fiber, fruits, and vegetables, however, did not reduce the risk of adenoma recurrence during a 3-4 year period. Cigarette smoking is associated with an increased tendency to form adenomas and to develop colorectal cancer. Obesity is associated with a two-fold increase in colorectal cancer in premenopausal women. A sedentary lifestyle has been associated in some but not all studies with an increased risk of colorectal cancer.

### **Chemoprevention**

Nonsteroidal anti-inflammatory drugs (NSAIDS) and aspirin may prevent adenoma formation or cause adenomatous polyps to regress in individuals with prior colorectal cancer or adenomatous polyps and in the setting of familial adenomatous polyposis, and may be associated with a reduced risk of colorectal cancer. The potential use of NSAIDS as a primary prevention measure is being studied. The potential preventive benefits must be balanced with the long-term risks such as gastrointestinal ulceration.

#### **Public Health Intervention for Colorectal Cancer (DHMH Colorectal Cancer Medical Advisory Committee)**

Early detection of colorectal cancer:

- For those at average risk, screen with colonoscopy, or with FOBT (three sample) and flexible sigmoidoscopy.
- For those unable or unwilling to undergo colonoscopy or sigmoidoscopy—FOBT (three samples) is an alternative initial screening method.
- DCBE is reserved as an alternative for situations where the patient and the provider discuss and determine that DCBE is indicated for the individual.

**Table 21.**  
**Number of Colorectal Cancer Cases**  
**by Jurisdiction, Gender and Race, Maryland, 2000**

Jurisdiction	Total	Gender		Race			
		Males	Females	Whites	Blacks	Other	Unknown
Maryland	2,778	1,426	1,351	2,017	615	92	54
Allegany	57	25	32	s	<6	0	0
Anne Arundel	241	125	116	202	28	s	<6
Baltimore City	370	177	193	158	203	<6	s
Baltimore County	484	235	249	412	62	<6	s
Calvert	41	19	22	31	s	<6	<6
Caroline	22	13	9	s	<6	0	0
Carroll	80	40	40	s	<6	0	<6
Cecil	45	32	13	s	<6	0	0
Charles	48	24	24	38	10	0	0
Dorchester	22	12	10	s	<6	0	0
Frederick	104	68	36	97	<6	<6	<6
Garrett	22	10	12	22	0	0	0
Harford	127	63	64	109	s	0	<6
Howard	102	50	52	80	15	<6	<6
Kent	11	s	<6	s	<6	0	0
Montgomery	369	206	163	260	47	56	6
Prince George's	339	170	168	151	164	13	11
Queen Anne's	28	13	15	s	<6	0	0
St Mary's	58	33	25	45	s	0	<6
Somerset	16	7	9	s	<6	0	0
Talbot	31	15	16	23	8	0	0
Washington	87	49	38	82	<6	<6	0
Wicomico	30	12	18	s	<6	0	0
Worcester	34	16	18	26	<6	<6	<6
Unknown	10	s	<6	<6	0	<6	s

s=Number was suppressed to ensure confidentiality of cell in other column

Cells with 5 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 2000



**Table 22.**  
**Colorectal Cancer Age-Adjusted Incidence Rates\***  
**by Jurisdiction, Gender and Race, Maryland, 2000**

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	56.2	69.2	47.4	53.4	61.0	59.3
Allegany	58.3	**	58.3	59.2	**	0.0
Anne Arundel	55.8	68.8	48.6	53.4	61.7	**
Baltimore City	55.7	69.3	47.9	54.6	56.2	**
Baltimore County	56.5	68.5	49.3	54.0	68.2	**
Calvert	70.9	**	**	61.0	**	**
Caroline	**	**	**	**	**	0.0
Carroll	58.6	70.9	50.1	59.0	**	0.0
Cecil	57.1	89.3	**	55.9	**	0.0
Charles	56.9	**	**	58.9	**	0.0
Dorchester	**	**	**	**	**	0.0
Frederick	64.4	98.8	40.0	64.1	**	**
Garrett	**	**	**	**	0.0	0.0
Harford	68.5	82.0	60.6	64.0	**	0.0
Howard	58.6	69.7	51.6	54.8	**	**
Kent	**	**	**	**	**	0.0
Montgomery	44.4	58.7	33.9	38.8	56.9	68.8
Prince George's	59.4	72.5	50.4	57.9	56.7	**
Queen Anne's	70.0	**	**	**	**	0.0
Saint Mary's	83.7	102.4	**	76.0	**	0.0
Somerset	**	**	**	**	**	0.0
Talbot	61.0	**	**	**	**	0.0
Washington	59.9	77.7	46.7	58.2	**	**
Wicomico	34.9	**	**	**	**	0.0
Worcester	51.3	**	**	**	**	**

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

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 2000

**Table 23.**  
**Number of Colorectal Cancer Deaths**  
**by Jurisdiction, Gender and Race, Maryland, 2000**

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	1,158	575	583	832	299	27
Allegany	37	19	18	37	0	0
Anne Arundel	86	47	39	74	s	<6
Baltimore City	193	85	108	s	119	<6
Baltimore County	219	120	99	186	s	<6
Calvert	12	6	6	s	<6	<6
Caroline	12	6	6	s	<6	0
Carroll	31	11	20	31	0	0
Cecil	18	10	8	s	<6	0
Charles	25	13	12	17	8	0
Dorchester	11	s	<6	s	<6	0
Frederick	35	21	14	31	<6	<6
Garrett	11	s	<6	11	0	0
Harford	36	18	18	s	<6	0
Howard	32	16	16	s	<6	0
Kent	<6	<6	<6	<6	0	0
Montgomery	127	55	72	96	15	16
Prince George's	146	71	75	59	s	<6
Queen Anne's	11	<6	s	s	<6	0
Saint Mary's	15	9	6	15	0	0
Somerset	s	s	<6	s	<6	0
Talbot	13	6	7	s	<6	0
Washington	33	16	17	s	<6	0
Wicomico	20	8	12	s	<6	0
Worcester	22	13	9	s	<6	0

s=Number was suppressed to ensure confidentiality of cell in other column

Cells with 5 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Division of Health Statistics, 2000

**Table 24.**  
**Colorectal Cancer Age-Adjusted Mortality Rates\***  
**by Jurisdiction, Gender and Race, Maryland, 2000**

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Others
Maryland	23.9	29.4	20.2	22.1	31.1	19.2
Allegany	35.9	**	**	36.6	0.0	0.0
Anne Arundel	21.2	26.7	16.9	20.9	**	**
Baltimore City	29.2	33.7	26.5	24.4	33.9	**
Baltimore County	25.3	35.6	19.0	23.9	37.5	**
Calvert	**	**	**	**	**	**
Caroline	**	**	**	**	**	0.0
Carroll	22.5	**	**	23.1	0.0	0.0
Cecil	**	**	**	**	**	0.0
Charles	**	**	**	**	**	0.0
Dorchester	**	**	**	**	**	0.0
Frederick	22.3	**	**	21.1	**	**
Garrett	**	**	**	**	0.0	0.0
Harford	21.2	**	**	20.9	**	0.0
Howard	20.6	**	**	21.0	**	0.0
Kent	**	**	**	**	0.0	0.0
Montgomery	15.4	16.3	14.5	14.2	**	**
Prince George's	27.3	33.0	23.8	23.2	32.0	**
Queen Anne's	**	**	**	**	**	0.0
Saint Mary's	**	**	**	**	0.0	0.0
Somerset	**	**	**	**	**	0.0
Talbot	**	**	**	**	**	0.0
Washington	22.7	**	**	22.7	**	0.0
Wicomico	**	**	**	**	**	0.0
Worcester	**	**	**	**	**	0.0

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

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Division of Health Statistics, 2000

**Table 25.**  
**Number of Colorectal Cancer Cases**  
**by Jurisdiction, Gender and Race, Maryland, 1996-2000**

Jurisdiction	Total	Gender		Race			
		Males	Females	Whites	Blacks	Others	Unknown
Maryland	13,717	6,819	6,897	10,191	2,959	353	214
Allegany	337	164	173	328	6	<6	<6
Anne Arundel	1,135	598	537	943	136	21	35
Baltimore City	2,104	967	1,137	1,010	1,062	15	17
Baltimore County	2,485	1,225	1,260	2,147	284	30	24
Calvert	169	96	73	136	28	<6	<6
Caroline	119	66	53	103	16	0	0
Carroll	381	192	189	368	7	<6	<6
Cecil	198	111	87	188	7	<6	<6
Charles	223	105	118	170	45	<6	s
Dorchester	140	68	72	111	s	0	<6
Frederick	465	245	220	410	40	<6	s
Garrett	93	48	45	s	0	0	<6
Harford	494	272	222	433	56	<6	<6
Howard	390	184	206	306	55	20	9
Kent	62	28	34	51	11	0	0
Montgomery	1,810	896	914	1,416	194	171	29
Prince George's	1,671	812	858	784	797	56	34
Queen Anne's	126	59	67	108	s	0	<6
Saint Mary's	211	114	97	170	35	<6	<6
Somerset	88	54	34	70	s	<6	0
Talbot	154	83	71	118	s	0	<6
Washington	409	204	205	394	s	<6	0
Wicomico	209	88	121	171	s	<6	0
Worcester	188	105	83	143	33	s	<6
Unknown	56	35	21	22	<6	s	23

s=Number was suppressed to ensure confidentiality of cell in other column

Cells with 5 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 1996-2000

**Table 26.**  
**Colorectal Cancer Age-Adjusted Incidence Rates\***  
**by Jurisdiction, Gender and Race, Maryland, 1996-2000**

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Others
Maryland	58.3	68.9	50.6	55.6	64.4	51.0
Allegany	67.4	80.0	58.0	66.9	**	**
Anne Arundel	57.4	69.3	48.7	55.8	55.0	**
Baltimore City	64.1	75.2	57.2	65.6	62.0	**
Baltimore County	59.5	70.7	51.3	56.6	86.8	35.3
Calvert	62.4	79.1	48.6	61.7	56.5	**
Caroline	76.3	94.0	60.1	81.6	**	0.0
Carroll	58.5	70.3	49.4	58.5	**	**
Cecil	55.0	65.4	45.3	55.3	**	**
Charles	56.6	57.4	54.6	58.0	49.5	**
Dorchester	71.9	84.2	63.1	77.0	57.7	0.0
Frederick	62.5	76.3	52.8	59.6	89.9	**
Garrett	55.2	65.0	47.5	54.4	0.0	0.0
Harford	57.1	73.3	45.9	55.7	76.2	**
Howard	50.4	56.7	46.0	48.4	53.9	**
Kent	46.8	47.2	46.1	49.4	**	0.0
Montgomery	46.4	56.0	39.9	43.4	56.2	52.8
Prince George's	63.1	72.4	56.4	53.9	73.5	51.9
Queen Anne's	63.5	67.5	61.2	66.4	**	0.0
Saint Mary's	65.6	75.5	56.5	64.9	62.8	**
Somerset	65.9	90.4	44.7	75.6	**	**
Talbot	62.8	77.4	52.9	58.4	79.2	0.0
Washington	57.7	66.8	49.7	57.3	**	**
Wicomico	51.8	51.6	50.2	55.2	36.9	**
Worcester	61.8	75.3	49.4	58.1	56.4	**

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

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 1996-2000

**Table 27.**  
**Number of Colorectal Cancer Deaths**  
**by Jurisdiction, Gender and Race, Maryland, 1996-2000**

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	5,541	2,727	2,814	4,088	1,368	85
Allegany	143	74	69	s	<6	0
Anne Arundel	447	240	207	388	s	<6
Baltimore City	1,002	469	533	425	571	6
Baltimore County	1,009	486	523	906	93	10
Calvert	68	33	35	52	s	<6
Caroline	48	25	23	s	<6	0
Carroll	148	68	80	145	<6	<6
Cecil	74	39	35	68	<6	<6
Charles	103	56	47	78	s	<6
Dorchester	47	27	20	33	14	0
Frederick	179	91	88	164	s	<6
Garrett	45	22	23	45	0	0
Harford	187	96	91	164	s	<6
Howard	151	79	72	124	s	<6
Kent	27	16	11	19	8	0
Montgomery	665	319	346	542	80	43
Prince George's	668	320	348	309	350	9
Queen Anne's	37	13	24	30	7	0
Saint Mary's	76	43	33	64	s	<6
Somerset	35	20	15	25	10	0
Talbot	60	39	21	40	20	0
Washington	161	76	85	s	<6	0
Wicomico	84	36	48	61	23	0
Worcester	77	40	37	64	13	0

s=Number was suppressed to ensure confidentiality of cell in other column  
Cells with 5 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy  
Source: Maryland Division of Health Statistics, 1996-2000

**Table 28.**  
**Colorectal Cancer Age-Adjusted Mortality Rates\***  
**by Jurisdiction, Gender and Race, Maryland, 1996-2000**

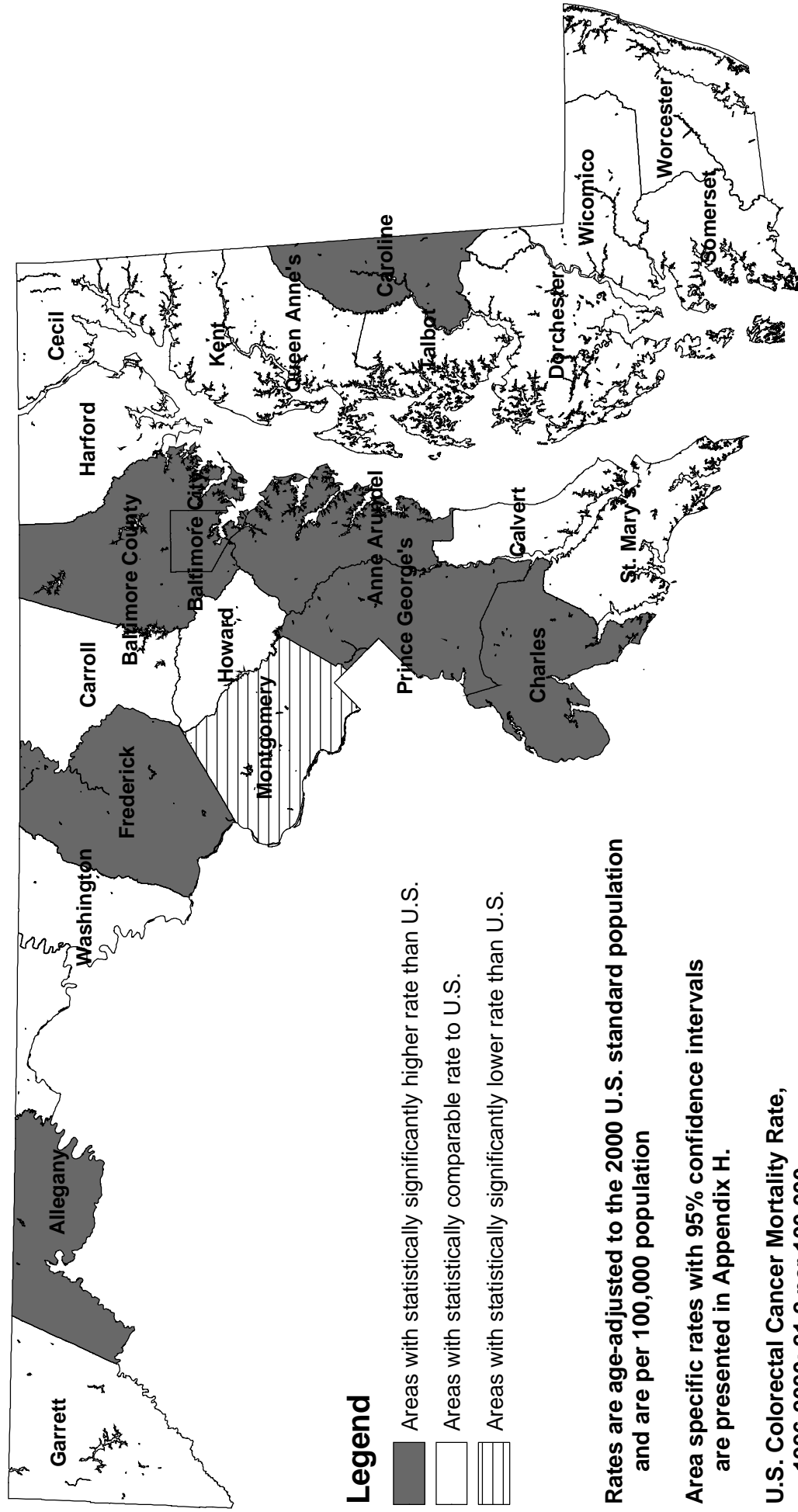
Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	24.0	29.0	20.4	22.4	31.5	14.2
Allegany	28.1	38.1	22.0	28.1	**	0.0
Anne Arundel	24.0	30.8	19.2	24.3	23.6	**
Baltimore City	30.6	37.2	26.2	26.7	34.3	**
Baltimore County	24.0	29.2	20.7	23.6	30.5	**
Calvert	26.7	30.1	23.8	26.1	**	**
Caroline	30.8	**	**	34.4	**	0.0
Carroll	22.8	26.0	20.4	23.1	**	**
Cecil	21.4	23.7	18.7	20.8	**	**
Charles	28.1	34.6	22.8	28.2	**	**
Dorchester	23.7	34.1	**	22.9	**	0.0
Frederick	24.8	30.5	20.7	24.3	**	**
Garrett	27.2	**	**	27.4	0.0	0.0
Harford	22.4	27.5	19.0	21.8	**	**
Howard	20.6	26.2	16.8	20.7	**	**
Kent	20.1	**	**	**	**	0.0
Montgomery	17.3	20.9	14.7	16.6	25.2	15.8
Prince George's	26.6	30.4	23.6	21.7	35.8	**
Queen Anne's	19.3	**	**	18.9	**	0.0
Saint Mary's	24.3	30.0	19.2	25.0	**	**
Somerset	26.1	**	**	**	**	0.0
Talbot	23.9	36.1	**	19.7	**	0.0
Washington	22.5	25.5	19.8	22.8	**	0.0
Wicomico	20.9	21.9	19.2	19.7	**	0.0
Worcester	26.2	32.7	21.6	27.0	**	0.0

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




\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Division of Health Statistics, 1996-2000

# Maryland Colorectal Cancer Mortality Rates by Geographical Area: Comparison to U.S. Rates, 1996-2000



## Legend

-  Areas with statistically significantly higher rate than U.S.
-  Areas with statistically comparable rate to U.S.
-  Areas with statistically significantly lower rate than U.S.

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

Area specific rates with 95% confidence intervals are presented in Appendix H.

U.S. Colorectal Cancer Mortality Rate, 1996-2000: 21.2 per 100,000

Source: Maryland Division of Health Statistics, 1996-2000





## C. Female Breast Cancer

### Incidence (New Cases)

Breast cancer is the most common reportable cancer among women. A total of 3,781 women in Maryland were diagnosed with breast cancer in 2000. Female breast cancers represent 15.4% of all cancers in 2000. The 2000 age-adjusted incidence rate in Maryland is 133.0 per 100,000 women (128.8-137.3, 95% C.I.); this is similar to the 2000 SEER age-adjusted incidence rate for breast cancer of 135.1 per 100,000 women.

### Mortality (Deaths)

In 2000, a total of 793 women died of breast cancer in Maryland. Female breast cancer accounts for 7.7% of all cancer deaths in Maryland. Breast cancer is the second leading cause of cancer death among women after lung cancer in Maryland. The age-adjusted mortality rate in Maryland is 27.7 per 100,000 women (25.8-29.7, 95% C.I.). This rate is equivalent to the 2000 U.S. mortality rate for breast cancer of 26.7 per 100,000 population of women. Maryland women rank 8<sup>th</sup> highest for female breast cancer mortality among the states and the District of Columbia.

**Table 29.**  
**Female Breast Incidence and Mortality Rates**  
**by Race, Maryland and the United States, 2000**

<i>Incidence 2000</i>	<i>Total</i>	<i>Whites</i>	<i>Blacks</i>	<i>Other</i>
New Cases (#)	3,781	2,810	821	120
Incidence Rate*	133.0	137.2	117.7	110.4
U.S. SEER Rate*	135.1	140.9	116.3	NA
<i>Mortality 2000</i>	<i>Total</i>	<i>Whites</i>	<i>Blacks</i>	<i>Other</i>
MD Deaths (#)	793	556	221	16
MD Mortality Rate*	27.7	25.9	34.2	**
U.S. Mortality Rate*	26.7	26.3	34.6	NA

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

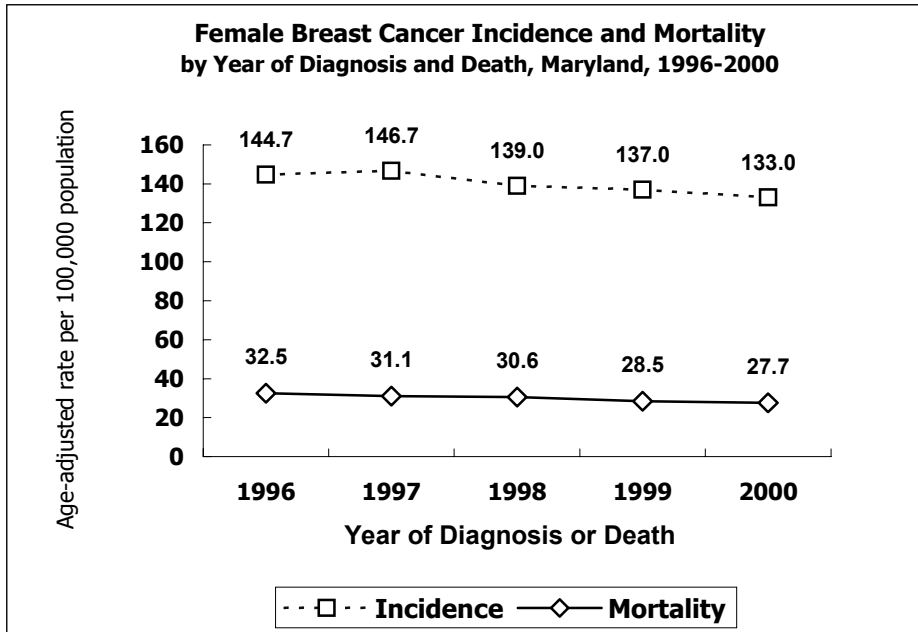
\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

NA: Data were not available

Source: Maryland Cancer Registry, 2000

Maryland Division of Health Statistics, 2000

SEER, National Cancer Institute, 2000

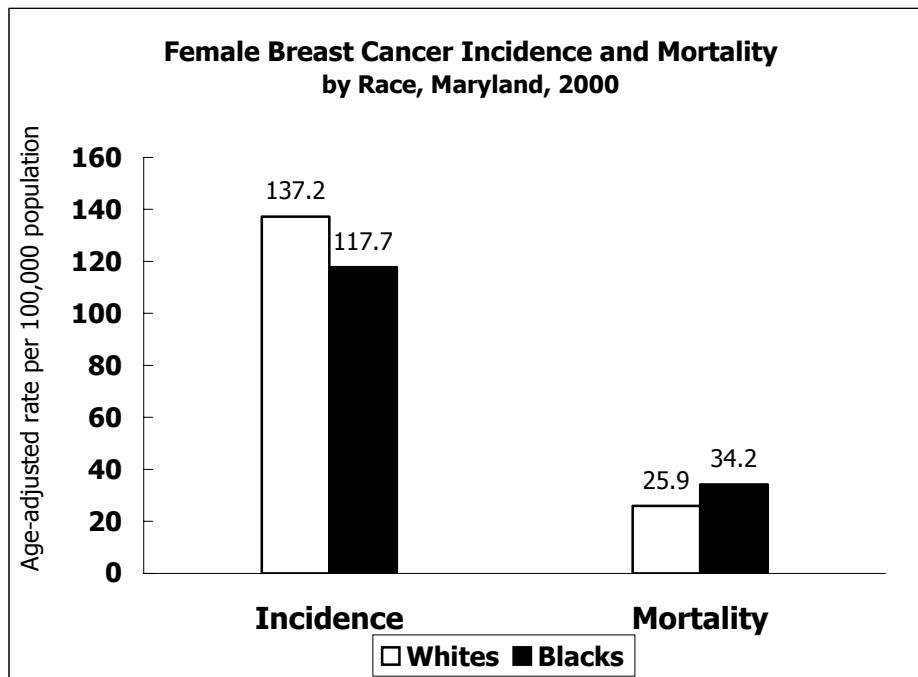


**Trends**

From 1996 to 2000, there has been a decrease of 2.3% annually in breast cancer incidence among Maryland women.

Similarly, breast cancer mortality has been decreasing an average of 4.0% per year between 1996 and 2000.

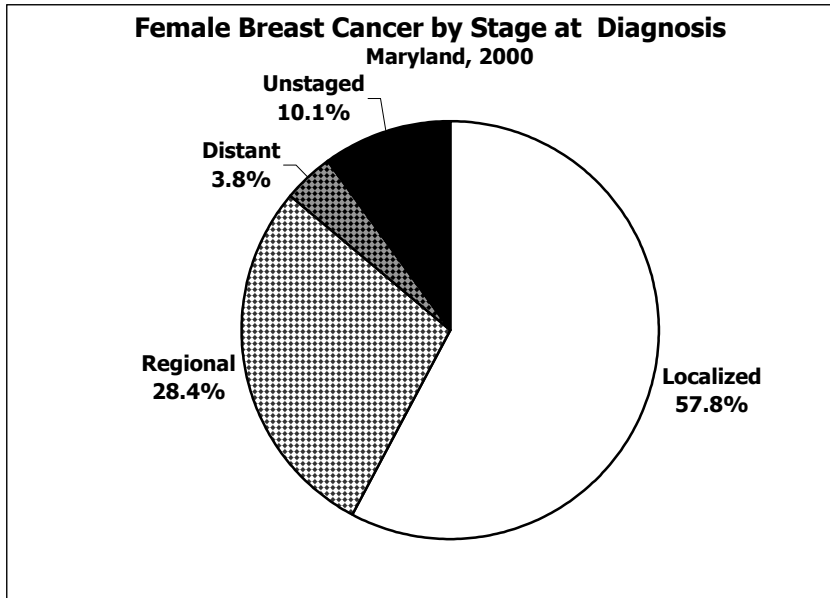
Rates are age-adjusted to 2000 U.S. standard population  
 Maryland Cancer Registry, 1996-2000  
 Maryland Division of Health Statistics, 1996-2000



**Race-Specific Rates**

White women had a statistically significantly higher incidence of breast cancer while black women had a statistically significantly higher mortality rate than white women.

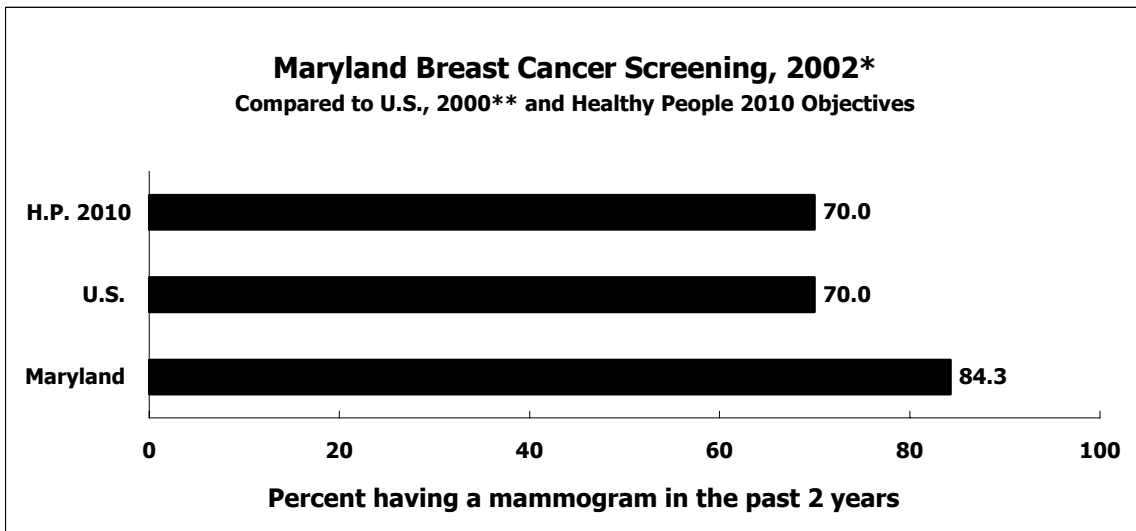
Rates are age-adjusted to 2000 U.S. standard population  
 Maryland Cancer Registry, 2000  
 Maryland Division of Health Statistics, 2000



**Stage of Disease at Diagnosis**

In 2000, 57.8% of female breast cancer cases were diagnosed at the localized (early) stage.

Maryland Cancer Registry, 2000



\* Women 40 years of age and older

\*\* The U.S. data are age-adjusted to 2000 U.S. standard population

Maryland Cancer Survey, DHMH Center for Cancer Surveillance and Control, 2002

National Health Interview Survey, 2000

Healthy People 2010, U.S. Department of Health and Human Services, 2000

**Healthy People Objectives**

The Healthy People 2010 objective for breast cancer is to increase to 70% the proportion of women age 40 and older who received a mammogram within the preceding 2 years.

In 2002, 84.3% of Maryland women 40 years and older reported receiving a mammogram within the previous 2 years (MCS), exceeding the Healthy People 2010 goal of 70%. This rate is higher than 81.6% of women 40 years and older in Maryland in 2000, and 80.9% in 1999 (BRFSS).

## **Public Health Evidence (from National Cancer Institute, PDQ, 6/2003, and the U.S. Preventive Services Task Force, 2/2002 and 7/2002)**

### **Screening**

The United States Preventive Services Task Force (USPSTF) updated its recommendations on mammography, and found fair evidence that mammography screening every 12-33 months significantly reduces mortality from breast cancer. Evidence is strongest for women aged 50-69, the age group generally included in screening trials. For women aged 40-49, the evidence that screening mammography reduces mortality from breast cancer is weaker, and the absolute benefit of mammography is smaller than it is for older women. The precise age at which the benefits from screening mammography justify the potential harms is a subjective judgment and should take into account patient preferences. Clinicians should inform women about the potential benefits (e.g., reduced chance of dying from breast cancer), potential harms (e.g., false positive results, unnecessary biopsies), and limitations of the test that apply to women their age (February, 2002, USPSTF).

### **Chemoprevention**

A randomized controlled trial has shown that tamoxifen lowers the risk of developing breast cancer in women who are at elevated risk of developing the disease. However, tamoxifen may also increase the risk of developing endometrial cancer, stroke, and blood clots in the veins and lungs. The USPSTF recommends against the routine use of tamoxifen or raloxifene for the primary prevention of breast cancer in women at low or average risk for breast cancer. The USPSTF recommends that clinicians discuss chemoprevention with women at high risk for breast cancer and at low risk for adverse effects of chemoprevention. Clinicians should inform patients of the potential benefits and harms of chemoprevention (July, 2002, USPSTF). Women who are concerned that they may be at increased risk of developing breast cancer should talk with their doctor about whether to take tamoxifen as a preventive measure. Other drugs, such as raloxifene are being studied for their potential usefulness as breast cancer prevention measures. A clinical trial (STAR) comparing the efficacy of tamoxifen and raloxifene for reducing the risk of breast cancer among high risk post-menopausal women is currently underway.

### **Primary Prevention**

Obesity is a risk factor for breast cancer, especially after menopause (NEJM 2003; 348: 1625-38). An ongoing trial, the Women's Health Initiative, has a low-fat dietary intervention arm that will assess the impact of a low-fat diet on cancer, heart disease, and other health outcomes. Studies suggest that exercise at certain ages is associated with reduced breast cancer risk. Exposure to alcohol may be associated with increased breast cancer risk.

Postmenopausal hormone replacement therapy (HRT), also called hormone therapy (HT), with estrogen alone or in combination with progesterone is associated with increased risk of developing breast cancer. This risk may be proportionate to duration of use and worse for combination therapy. The USPSTF recommends against the routine use of estrogen and progestin for the prevention of chronic conditions in postmenopausal women.

### **Public Health Intervention for Breast Cancer (USPSTF and DHMH Breast Cancer Medical Advisory Committee)**

- Screen using mammography and a clinical breast examination by a health professional every 1-2 years for women aged 40 and older.

**Table 30.**  
**Number of Female Breast Cancer Cases**  
**by Jurisdiction and Race, Maryland, 2000**

Jurisdiction	Total	Race			
		Whites	Blacks	Other	Unknown
Maryland	3,781	2,810	821	120	30
Allegany	52	s	<6	0	0
Anne Arundel	343	303	34	<6	<6
Baltimore City	421	165	250	<6	<6
Baltimore County	629	529	85	s	<6
Calvert	44	40	<6	<6	0
Caroline	22	s	<6	0	0
Carroll	102	99	<6	0	<6
Cecil	54	51	<6	<6	0
Charles	75	48	20	<6	<6
Dorchester	22	s	<6	0	0
Frederick	142	135	s	<6	0
Garrett	21	21	0	0	0
Harford	140	129	s	0	<6
Howard	178	139	30	9	0
Kent	7	7	0	0	0
Montgomery	710	576	74	51	9
Prince George's	490	199	264	s	<6
Queen Anne's	18	s	<6	0	0
St Mary's	48	42	<6	<6	0
Somerset	16	9	7	0	0
Talbot	31	27	<6	<6	0
Washington	94	90	<6	<6	0
Wicomico	71	57	11	<6	<6
Worcester	48	40	<6	<6	<6
Unknown	<6	0	<6	0	<6

s=Number was suppressed to ensure confidentiality of cell in other column

Cells with 5 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 2000

**Table 31.**  
**Female Breast Cancer Age-Adjusted Incidence Rates\***  
**by Jurisdiction and Race, Maryland, 2000**

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	133.0	137.2	117.7	110.4
Allegany	108.1	104.1	**	0.0
Anne Arundel	139.0	141.3	122.7	**
Baltimore City	114.7	118.2	111.3	**
Baltimore County	137.0	137.7	140.7	**
Calvert	120.9	128.8	**	**
Caroline	**	**	**	0.0
Carroll	128.0	128.4	**	0.0
Cecil	127.8	126.0	**	**
Charles	131.7	113.5	**	**
Dorchester	**	**	**	0.0
Frederick	149.2	152.9	**	**
Garrett	**	**	0.0	0.0
Harford	125.0	126.8	**	0.0
Howard	147.8	148.6	168.1	**
Kent	**	**	0.0	0.0
Montgomery	149.0	156.8	123.8	104.2
Prince George's	130.9	141.5	118.4	**
Queen Anne's	**	**	**	0.0
Saint Mary's	121.5	127.4	**	**
Somerset	**	**	**	0.0
Talbot	123.6	123.1	**	**
Washington	126.2	124.9	**	**
Wicomico	148.5	149.7	**	**
Worcester	148.2	142.5	**	**

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

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 2000

**Table 32.**  
**Number of Female Breast Cancer Deaths**  
**by Jurisdiction and Race, Maryland, 2000**

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	793	556	221	16
Allegany	11	11	0	0
Anne Arundel	71	58	s	<6
Baltimore City	122	46	76	0
Baltimore County	150	122	s	<6
Calvert	<6	<6	0	0
Caroline	8	s	<6	0
Carroll	13	s	<6	0
Cecil	12	12	0	0
Charles	16	s	<6	0
Dorchester	<6	<6	0	0
Frederick	26	23	<6	<6
Garrett	<6	<6	0	0
Harford	27	s	<6	0
Howard	27	19	<6	<6
Kent	<6	<6	<6	0
Montgomery	110	91	s	<6
Prince George's	105	39	s	<6
Queen Anne's	7	7	0	0
Saint Mary's	<6	<6	<6	0
Somerset	<6	<6	0	0
Talbot	7	<6	<6	0
Washington	29	29	0	0
Wicomico	20	9	s	<6
Worcester	11	s	<6	0

s=Number was suppressed to ensure confidentiality of cell in other column

Cells with 5 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Division of Health Statistics, 2000



**Table 33.**  
**Female Breast Cancer Age-Adjusted Mortality Rates\***  
**by Jurisdiction and Race, Maryland, 2000**

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	27.7	25.9	34.2	**
Allegany	**	**	0.0	0.0
Anne Arundel	29.6	27.8	**	**
Baltimore City	31.5	27.0	34.5	0.0
Baltimore County	30.9	29.2	47.4	**
Calvert	**	**	0.0	0.0
Caroline	**	**	**	0.0
Carroll	**	**	**	0.0
Cecil	**	**	0.0	0.0
Charles	**	**	**	0.0
Dorchester	**	**	0.0	0.0
Frederick	28.4	**	**	**
Garrett	**	**	0.0	0.0
Harford	24.9	26.2	**	0.0
Howard	25.7	**	**	**
Kent	**	**	**	0.0
Montgomery	22.6	23.3	**	**
Prince George's	29.4	26.9	30.7	**
Queen Anne's	**	**	0.0	0.0
Saint Mary's	**	**	**	0.0
Somerset	**	**	0.0	0.0
Talbot	**	**	**	0.0
Washington	35.5	36.5	0.0	0.0
Wicomico	**	**	**	**
Worcester	**	**	**	0.0

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

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Division of Health Statistics, 2000

**Table 34.**  
**Number of Female Breast Cancer Cases**  
**by Jurisdiction and Race, Maryland, 1996-2000**

Jurisdiction	Total	Race			
		Whites	Blacks	Others	Unknown
Maryland	18,827	14,173	3,903	547	204
Allegany	317	312	<6	<6	0
Anne Arundel	1,775	1,543	188	26	18
Baltimore City	2,426	1,165	1,227	22	12
Baltimore County	3,163	2,702	387	51	23
Calvert	205	173	26	<6	<6
Caroline	118	106	s	<6	0
Carroll	500	483	<6	<6	7
Cecil	248	238	6	<6	<6
Charles	319	230	72	s	<6
Dorchester	140	111	s	0	<6
Frederick	631	585	36	<6	s
Garrett	117	114	0	<6	<6
Harford	631	579	46	<6	<6
Howard	732	578	107	s	<6
Kent	91	75	16	0	0
Montgomery	3,393	2,753	345	228	67
Prince George's	2,333	978	1,221	106	28
Queen Anne's	131	113	s	0	<6
Saint Mary's	227	188	28	11	0
Somerset	87	66	s	<6	0
Talbot	188	167	s	<6	0
Washington	469	457	<6	s	0
Wicomico	336	265	60	s	<6
Worcester	206	171	28	<6	<6
Unknown	44	21	<6	<6	14

s=Number was suppressed to ensure confidentiality of cell in other column

Cells with 5 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 1996-2000

**Table 35.**  
**Female Breast Cancer Age-Adjusted Incidence Rates\***  
**by Jurisdiction and Race, Maryland, 1996-2000**

Jurisdiction	Total	Race		
		Whites	Blacks	Others
Maryland	140.0	143.4	125.3	113.2
Allegany	121.6	121.6	**	**
Anne Arundel	153.2	156.8	129.1	79.0
Baltimore City	132.1	162.8	114.5	**
Baltimore County	142.4	140.2	168.3	104.7
Calvert	126.6	136.8	82.1	**
Caroline	145.3	164.3	**	**
Carroll	134.4	134.7	**	**
Cecil	125.9	127.9	**	**
Charles	131.3	128.0	130.1	**
Dorchester	143.4	158.3	105.1	0.0
Frederick	145.8	146.5	129.4	**
Garrett	134.9	132.8	0.0	**
Harford	123.4	127.1	102.8	**
Howard	141.9	143.2	133.3	135.0
Kent	143.7	155.5	**	0.0
Montgomery	150.9	154.9	129.3	103.3
Prince George's	134.1	122.5	144.3	122.1
Queen Anne's	120.1	123.5	**	0.0
Saint Mary's	126.4	130.1	90.6	**
Somerset	136.1	153.6	**	**
Talbot	153.9	169.3	**	**
Washington	126.9	127.6	**	**
Wicomico	150.3	156.3	112.5	**
Worcester	139.2	146.5	92.9	**

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

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 1996-2000

**Table 36.**  
**Number of Female Breast Cancer Deaths**  
**by Jurisdiction and Race, Maryland, 1996-2000**

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	4,071	2,959	1,064	48
Allegany	55	s	<6	0
Anne Arundel	360	303	s	<6
Baltimore City	718	318	400	0
Baltimore County	682	607	s	<6
Calvert	29	s	<6	0
Caroline	23	s	<6	0
Carroll	82	s	<6	0
Cecil	65	s	<6	0
Charles	67	44	23	0
Dorchester	28	s	<6	0
Frederick	119	108	s	<6
Garrett	23	23	0	0
Harford	134	121	s	<6
Howard	137	105	24	8
Kent	17	s	<6	0
Montgomery	611	510	85	16
Prince George's	537	218	308	11
Queen Anne's	27	s	<6	0
Saint Mary's	47	37	10	0
Somerset	22	s	<6	0
Talbot	35	28	7	0
Washington	124	s	<6	0
Wicomico	86	59	s	<6
Worcester	43	s	<6	0

s=Number was suppressed to ensure confidentiality of cell in other column

Cells with 5 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Division of Health Statistics, 1996-2000

**Table 37.**  
**Female Breast Cancer Age-Adjusted Mortality Rates\***  
**by Jurisdiction and Race, Maryland, 1996-2000**

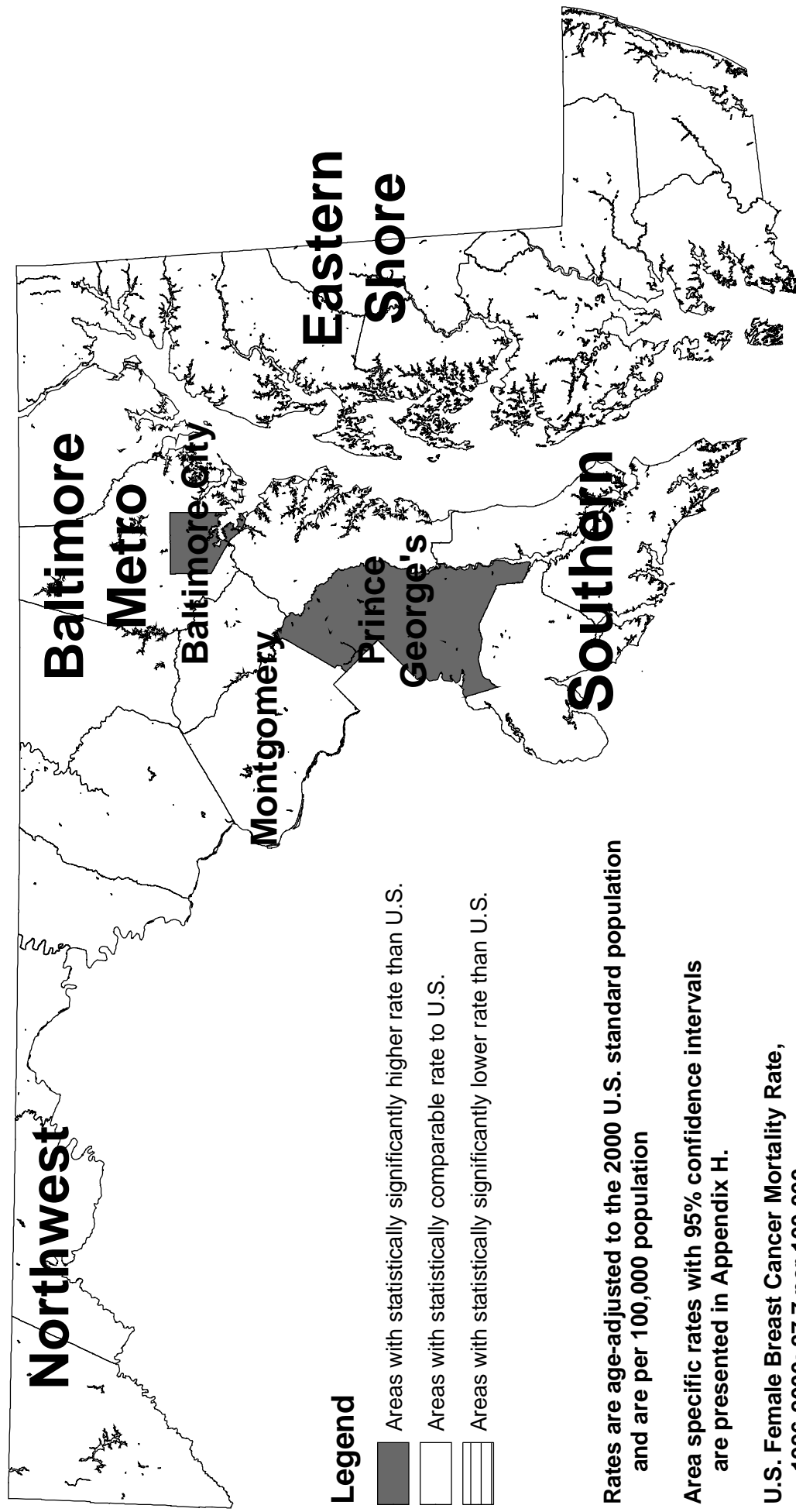
Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	30.0	28.6	36.6	10.0
Allegany	17.4	17.3	**	0.0
Anne Arundel	31.9	31.6	36.6	**
Baltimore City	37.4	36.8	37.9	0.0
Baltimore County	28.8	28.8	36.8	**
Calvert	18.2	**	**	0.0
Caroline	**	**	**	0.0
Carroll	22.5	22.5	**	0.0
Cecil	33.4	33.7	**	0.0
Charles	29.7	25.6	**	0.0
Dorchester	25.8	**	**	0.0
Frederick	28.4	27.7	**	**
Garrett	**	**	0.0	0.0
Harford	26.9	27.2	**	**
Howard	29.0	28.2	**	**
Kent	**	**	**	0.0
Montgomery	26.9	27.5	36.0	**
Prince George's	32.7	26.4	41.0	**
Queen Anne's	24.6	**	**	0.0
Saint Mary's	25.9	25.1	**	0.0
Somerset	**	**	**	0.0
Talbot	25.4	24.9	**	0.0
Washington	31.4	31.4	**	0.0
Wicomico	37.7	33.9	49.2	**
Worcester	25.4	28.8	**	0.0

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

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Division of Health Statistics, 1996-2000

# Maryland Female Breast Cancer Mortality Rates by Geographical Area: Comparison to U.S. Rates, 1996-2000



Source: Maryland Division of Health Statistics, 1996-2000



## D. Prostate Cancer

### Incidence (New Cases)

A total of 4,080 cases of prostate cancer were diagnosed among men during 2000 in Maryland. Prostate cancer is the most common reportable cancer among men. Excluding non-melanoma skin cancer, prostate cancer accounts for 16.6% of all reportable cancers in 2000. The age-adjusted prostate cancer incidence rate in Maryland for 2000 is 187.2 per 100,000 men (181.3-193.1, 95% C.I.); this is statistically significantly higher than the 2000 U.S. SEER age-adjusted incidence rate for prostate cancer of 176.9 per 100,000 men.

### Mortality (Deaths)

Prostate cancer is the 3<sup>rd</sup> leading cause of cancer deaths in Maryland among men after colon and rectum cancer. In 2000, 541 men died of prostate cancer in Maryland; this accounts for 5.3% of all cancer deaths in Maryland. The age-adjusted mortality rate for prostate cancer is 31.9 per 100,000 men (29.2-34.8, 95% C.I.). This rate is similar to the 2000 U.S. mortality rate for prostate cancer of 30.6 per 100,000 men. Maryland has the 10<sup>th</sup> highest mortality rate for prostate cancer among the states and the District of Columbia.

**Table 38.**  
**Prostate Cancer Incidence and Mortality Rates**  
**by Race, Maryland and the United States, 2000**

<i>Incidence 2000</i>	<i>Total</i>	<i>Whites</i>	<i>Blacks</i>
New Cases (#)	4,080	2,702	1,059
Incidence Rate*	187.2	161.8	239.0
U.S. SEER Rate*	176.9	170.6	278.1
<i>Mortality 2000</i>	<i>Total</i>	<i>Whites</i>	<i>Blacks</i>
MD Deaths (#)	541	365	174
MD Mortality Rate*	31.9	26.8	62.4
U.S. Mortality Rate*	30.6	27.9	69.2

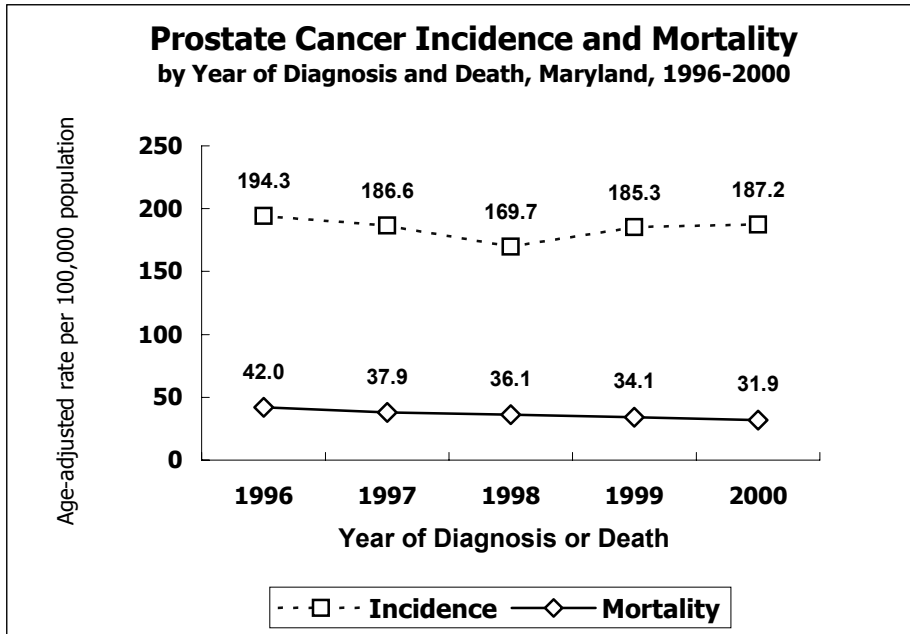
\* Rates are per 100,000 and are age-adjusted to 2000 U.S. standard population

Source: Maryland Cancer Registry, 2000

Maryland Division of Health Statistics, 2000

SEER, National Cancer Institute, 2000



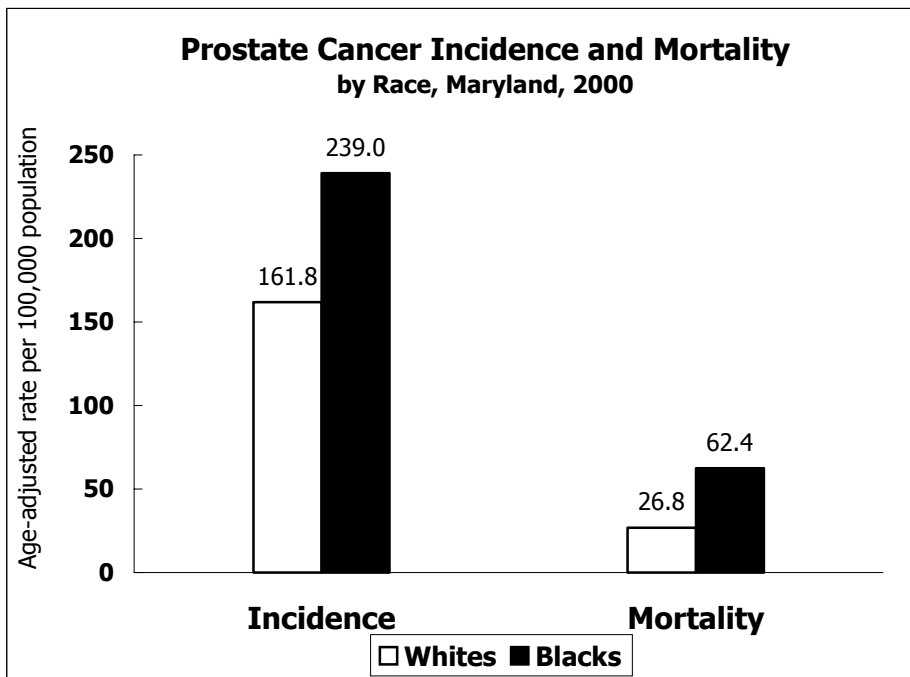


Rates are age-adjusted to 2000 U.S. standard population  
 Maryland Cancer Registry, 1996-2000  
 Maryland Division of Health Statistics, 1996-2000

### Trends

Prostate cancer incidence rates have decreased an average of 0.8% per year from 1996 to 2000 in Maryland.

Prostate cancer mortality rates declined an average of 6.4% per year among men from 1996 to 2000.

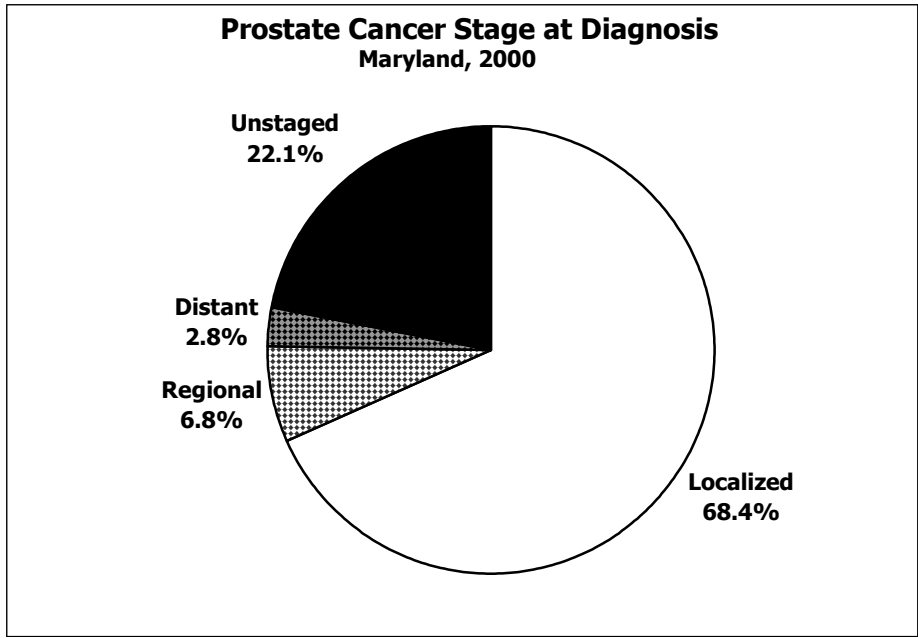


Rates are age-adjusted to 2000 U.S. standard population  
 Maryland Cancer Registry, 2000  
 Maryland Division of Health Statistics, 2000

### Race-Specific Rates

The prostate cancer incidence rate for black men was statistically significantly higher than for white men in 2000.

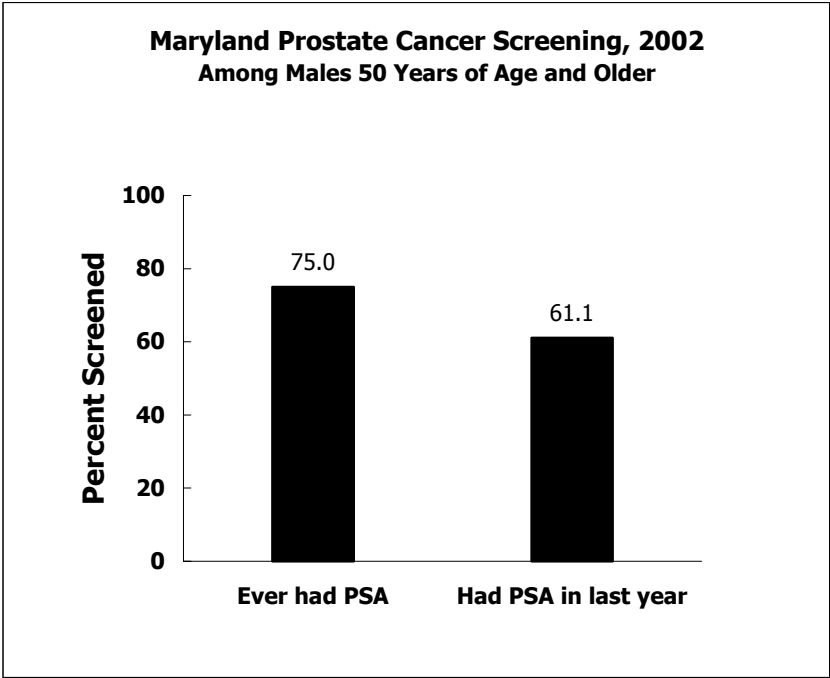
The 2000 prostate cancer mortality rate for black men was statistically significantly higher than the corresponding rate for white men. In fact, the prostate cancer mortality rate was more than twice as high among black men than among white men.



Maryland Cancer Registry, 2000

**Stage at Diagnosis**

During 2000, 68.4% of prostate cancer cases were diagnosed at the localized (early) stage in Maryland.



No comparable national data are available  
 There are no Healthy People 2010 prostate cancer screening guidelines  
 Maryland Cancer Survey, DHMH Center for Cancer Surveillance and Control, 2002

**Healthy People 2010  
Objectives**

There is no Healthy People 2010 objective for prostate cancer detection.

In 2000, 75.0% of Maryland men 50 years of age and older reported that they have *ever* had a prostate specific antigen (PSA) test, and 61.1% of men 50 years and older had a PSA in the past year. This figure is higher than the 1999 measure of 58.0% of men having a PSA in the last year.

## **Public Health Evidence (from National Cancer Institute, PDQ, 6/2003)**

### **Screening**

Digital rectal examination (DRE) and the serum prostate specific antigen (PSA) test are two commonly used methods of detecting prostate cancer. There is insufficient evidence to establish whether a decrease in mortality from prostate cancer occurs with screening by DRE or PSA. Clinical trials investigating the benefit of DRE and PSA are underway. While some observational studies of cohorts of men among whom prostate cancer screening was performed have witnessed a decline in prostate cancer mortality, these observations have not been consistent in all populations or within a given population.

Although potential harms of screening for prostate cancer can be established (such as the complications of therapeutic intervention, e.g., incontinence, urethral stricture, sexual dysfunction, morbidity associated with surgery), the presence or magnitude of potential benefits cannot. Therefore, the net benefit of screening cannot be determined.

### **Primary Prevention**

A diet high in fat may increase the risk of prostate cancer. Increased dietary intake of fruits and vegetables has been associated with a reduced risk of prostate cancer in some studies.

### **Chemoprevention**

Several agents, including finasteride, dutasteride, difluoromethylornithine (DFMO), isoflavonoids, selenium, vitamins D and E, and lycopene, may reduce the risk of prostate cancer, but further studies are needed to confirm this.

<b>Public Health Intervention for Prostate Cancer (American Cancer Society: Guidelines for the early detection of cancer: <i>CA Cancer J. Clin.</i> 2003, Jan-Feb; 53(1):27-43, and DHMH Prostate Cancer Medical Advisory Committee)</b>
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- |  |
|--|
| <ul style="list-style-type: none"><li>➤ On the basis of available data, men should be made aware of the availability of the PSA and DRE tests and the potential risks and benefits, in order to make an informed choice about screening.</li><li>➤ Clinicians should discuss with their patients the potential benefits and uncertainties regarding prostate cancer detection and subsequent treatment, consider individual patient preferences, and individualize the decision to screen.</li><li>➤ PSA and DRE should be offered annually to men 50-70 years of age who have at least a 10-year life expectancy. High risk men (African Americans, men with one or more first degree relatives diagnosed with prostate cancer) should begin testing at age 45.</li></ul> |
|--|

**Table 39.**  
**Number of Prostate Cancer Cases**  
**by Jurisdiction and Race, Maryland, 2000**

Jurisdiction	Total	Race			
		Whites	Blacks	Other	Unknown
Maryland	4,080	2,702	1,059	95	224
Allegany	66	s	<6	0	0
Anne Arundel	347	280	51	<6	s
Baltimore City	516	157	319	<6	s
Baltimore County	742	573	109	12	48
Calvert	47	30	10	0	7
Caroline	18	s	<6	0	0
Carroll	94	88	<6	0	<6
Cecil	62	56	<6	0	<6
Charles	84	58	22	<6	<6
Dorchester	20	s	<6	0	0
Frederick	124	95	6	0	23
Garrett	35	35	0	0	0
Harford	165	152	8	<6	<6
Howard	137	109	s	<6	0
Kent	14	14	0	0	0
Montgomery	643	472	95	47	29
Prince George's	619	204	356	19	40
Queen Anne's	21	s	<6	0	0
St Mary's	48	40	8	0	0
Somerset	22	17	<6	<6	0
Talbot	36	30	<6	<6	0
Washington	102	s	<6	<6	<6
Wicomico	57	36	18	<6	<6
Worcester	49	45	<6	0	<6
Unknown	12	<6	<6	0	s

s=Number was suppressed to ensure confidentiality of cell in other column

Cells with 5 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 2000

**Table 40.  
Prostate Cancer Age-Adjusted Incidence Rates\*  
by Jurisdiction and Race, Maryland, 2000**

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	187.2	161.8	239.0	155.3
Allegany	154.1	154.5	**	0.0
Anne Arundel	170.6	156.1	256.2	**
Baltimore City	191.9	134.5	216.6	**
Baltimore County	205.1	180.9	280.5	**
Calvert	178.2	125.9	**	0.0
Caroline	**	**	**	0.0
Carroll	157.7	152.7	**	0.0
Cecil	181.9	172.4	**	0.0
Charles	211.6	182.0	**	**
Dorchester	**	**	**	0.0
Frederick	182.9	147.2	**	0.0
Garrett	212.0	213.1	0.0	0.0
Harford	192.9	189.1	**	**
Howard	168.3	168.6	**	**
Kent	**	**	0.0	0.0
Montgomery	180.8	165.0	268.6	172.3
Prince George's	231.2	170.8	256.0	**
Queen Anne's	**	**	**	0.0
Saint Mary's	137.6	131.3	**	0.0
Somerset	**	**	**	**
Talbot	152.0	144.1	**	**
Washington	163.4	164.5	**	**
Wicomico	152.8	118.7	**	**
Worcester	149.7	156.8	**	0.0

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

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 2000

**Table 41.**  
**Number of Prostate Cancer Deaths**  
**by Jurisdiction and Race, Maryland, 2000**

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	541	365	s	<6
Allegany	12	12	0	0
Anne Arundel	37	s	<6	0
Baltimore City	112	30	82	0
Baltimore County	98	84	14	0
Calvert	11	s	<6	0
Caroline	<6	<6	<6	0
Carroll	16	16	0	0
Cecil	17	s	<6	0
Charles	12	<6	s	0
Dorchester	<6	<6	<6	0
Frederick	14	s	<6	0
Garrett	<6	<6	0	0
Harford	21	s	<6	0
Howard	8	s	<6	0
Kent	<6	<6	0	0
Montgomery	59	49	10	0
Prince George's	52	s	30	<6
Queen Anne's	<6	<6	<6	0
Saint Mary's	7	<6	<6	0
Somerset	<6	<6	0	0
Talbot	6	<6	<6	0
Washington	19	19	0	0
Wicomico	10	s	<6	0
Worcester	6	<6	<6	0

s=Number was suppressed to ensure confidentiality of cell in other column

Cells with 5 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Division of Health Statistics, 2000

**Table 42.  
Prostate Cancer Age-Adjusted Mortality Rates\*  
by Jurisdiction and Race, Maryland, 2000**

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	31.9	26.8	62.4	**
Allegany	**	**	0.0	0.0
Anne Arundel	28.0	26.6	**	0.0
Baltimore City	48.1	25.9	71.5	0.0
Baltimore County	31.2	29.3	**	0.0
Calvert	**	**	**	0.0
Caroline	**	**	**	0.0
Carroll	**	**	0.0	0.0
Cecil	**	**	**	0.0
Charles	**	**	**	0.0
Dorchester	**	**	**	0.0
Frederick	**	**	**	0.0
Garrett	**	**	0.0	0.0
Harford	**	**	**	0.0
Howard	**	**	**	0.0
Kent	**	**	0.0	0.0
Montgomery	19.6	19.2	**	0.0
Prince George's	31.2	**	49.5	**
Queen Anne's	**	**	**	0.0
Saint Mary's	**	**	**	0.0
Somerset	**	**	0.0	0.0
Talbot	**	**	**	0.0
Washington	**	**	0.0	0.0
Wicomico	**	**	**	0.0
Worcester	**	**	**	0.0

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

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Division of Health Statistics, 2000

**Table 43.**  
**Number of Prostate Cancer Cases**  
**by Jurisdiction and Race, Maryland, 1996-2000**

Jurisdiction	Total	Race			
		Whites	Blacks	Others	Unknown
Maryland	19,020	12,441	4,766	400	1,414
Allegany	345	331	9	<6	<6
Anne Arundel	1,580	1,233	213	25	109
Baltimore City	2,725	936	1,572	28	189
Baltimore County	3,221	2,482	471	35	233
Calvert	230	160	40	<6	s
Caroline	113	88	s	<6	<6
Carroll	519	465	s	<6	41
Cecil	276	227	s	<6	34
Charles	410	278	106	13	13
Dorchester	141	89	47	<6	<6
Frederick	550	400	s	<6	111
Garrett	117	s	0	0	<6
Harford	765	634	66	8	57
Howard	584	423	92	12	57
Kent	88	62	13	<6	s
Montgomery	3,077	2,297	406	156	219
Prince George's	2,606	912	1,399	80	215
Queen Anne's	134	109	19	<6	<6
Saint Mary's	220	168	45	<6	<6
Somerset	92	61	s	<6	0
Talbot	218	178	32	<6	s
Washington	421	393	14	<6	s
Wicomico	258	179	70	<6	<6
Worcester	220	182	29	<6	s
Unknown	110	38	13	9	50

s=Number was suppressed to ensure confidentiality of cell in other column

Cells with 5 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 1996-2000



**Table 44.**  
**Prostate Cancer Age-Adjusted Incidence Rates\***  
**by Jurisdiction and Race, Maryland, 1996-2000**

Jurisdiction	Total	Race		
		Whites	Blacks	Others
Maryland	184.6	155.0	243.8	137.4
Allegany	165.6	162.0	**	**
Anne Arundel	172.5	156.4	192.2	**
Baltimore City	205.1	156.2	224.5	182.0
Baltimore County	176.8	150.9	321.6	105.2
Calvert	177.2	155.6	157.6	**
Caroline	160.0	153.4	**	**
Carroll	186.7	173.9	**	**
Cecil	168.4	146.7	**	**
Charles	240.5	217.9	272.8	**
Dorchester	163.3	137.2	216.9	**
Frederick	172.2	133.3	175.9	**
Garrett	153.4	153.1	0.0	0.0
Harford	197.4	177.4	249.7	**
Howard	165.4	144.3	200.5	**
Kent	143.4	128.5	**	**
Montgomery	182.8	164.6	302.4	118.7
Prince George's	218.0	140.2	297.6	143.0
Queen Anne's	127.5	122.4	**	**
Saint Mary's	141.2	132.4	176.8	**
Somerset	148.1	142.7	160.1	**
Talbot	196.1	196.7	167.4	**
Washington	138.7	133.5	**	**
Wicomico	152.0	137.4	187.9	**
Worcester	156.2	159.1	114.7	**

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

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 1996-2000

**Table 45.**  
**Number of Prostate Cancer Deaths**  
**by Jurisdiction and Race, Maryland, 1996-2000**

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	2,974	1,957	996	21
Allegany	47	47	0	0
Anne Arundel	208	174	s	<6
Baltimore City	624	s	446	<6
Baltimore County	483	409	74	0
Calvert	40	27	13	0
Caroline	19	s	<6	0
Carroll	75	69	6	0
Cecil	66	58	8	0
Charles	64	40	24	0
Dorchester	37	22	15	0
Frederick	78	71	s	<6
Garrett	17	17	0	0
Harford	115	100	15	0
Howard	85	61	s	<6
Kent	17	11	6	0
Montgomery	376	308	58	10
Prince George's	343	s	200	<6
Queen Anne's	18	12	6	0
Saint Mary's	40	28	12	0
Somerset	22	11	11	0
Talbot	32	s	<6	0
Washington	81	s	<6	0
Wicomico	47	34	13	0
Worcester	40	23	17	0

s=Number was suppressed to ensure confidentiality of cell in other column

Cells with 5 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Division of Health Statistics, 1996-2000

**Table 46.**  
**Prostate Cancer Age-Adjusted Mortality Rates\***  
**by Jurisdiction and Race, Maryland, 1996-2000**

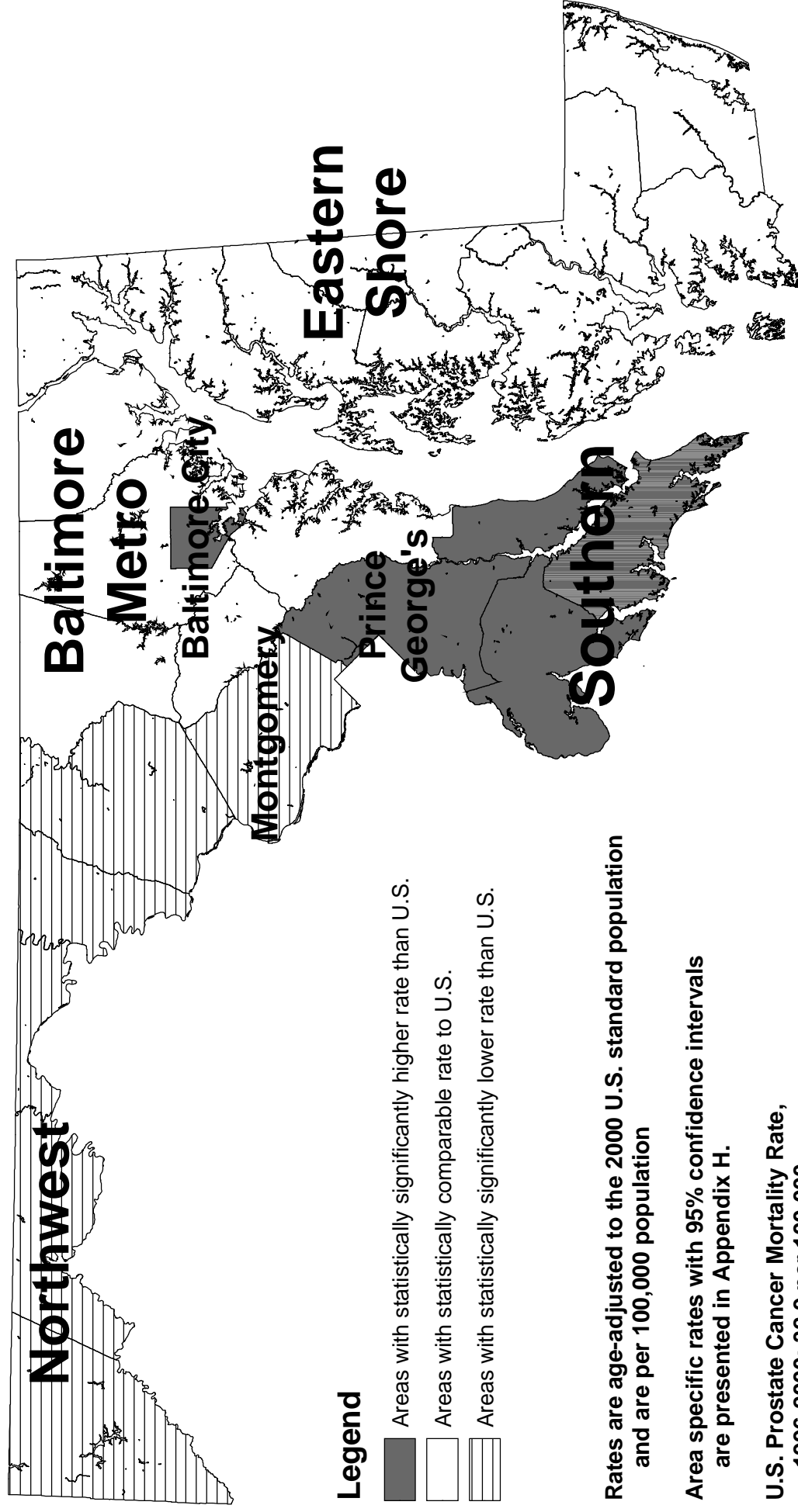
Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	36.3	29.7	73.8	**
Allegany	25.3	25.8	0.0	0.0
Anne Arundel	32.5	31.5	40.6	**
Baltimore City	53.8	29.7	82.4	**
Baltimore County	31.1	28.6	74.1	0.0
Calvert	43.5	38.1	**	0.0
Caroline	**	**	**	0.0
Carroll	32.1	31.2	**	0.0
Cecil	54.4	50.7	**	0.0
Charles	56.7	47.7	**	0.0
Dorchester	47.9	**	**	0.0
Frederick	28.8	28.1	**	**
Garrett	**	**	0.0	0.0
Harford	39.4	37.3	**	0.0
Howard	36.6	31.6	**	**
Kent	**	**	**	0.0
Montgomery	28.0	26.2	70.2	**
Prince George's	42.6	28.6	79.2	**
Queen Anne's	**	**	**	0.0
Saint Mary's	32.2	26.1	**	0.0
Somerset	**	**	**	0.0
Talbot	30.6	33.0	**	0.0
Washington	31.1	30.5	**	0.0
Wicomico	33.5	31.3	**	0.0
Worcester	32.9	**	**	0.0

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

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Division of Health Statistics, 1996-2000

# Maryland Prostate Cancer Mortality Rates by Geographical Area: Comparison to U.S. Rates, 1996-2000





## E. Oral Cancer

### Incidence (New Cases)

A total of 573 cases of oral cavity and pharynx cancer (called oral cancer) were diagnosed in Maryland in 2000. The age-adjusted incidence rate for oral cancer in Maryland in 2000 is 11.1 per 100,000 population (10.2-12.0, 95% C.I.) which is similar to the 2000 SEER age-adjusted oral cancer incidence rate of 10.6 per 100,000 population.

### Mortality (Deaths)

In 2000, 152 persons in Maryland died of oral cancer. The age-adjusted mortality rate of 3.0 per 100,000 population (2.6-3.5, 95% C.I.) in Maryland is similar to the 2000 U.S. oral cancer mortality rate of 2.7. Maryland ranks 10<sup>th</sup> highest for oral cancer mortality among the states and the District of Columbia.

**Table 47.**  
**Oral Cancer Incidence and Mortality Rates**  
**by Gender and Race, Maryland and the United States, 2000**

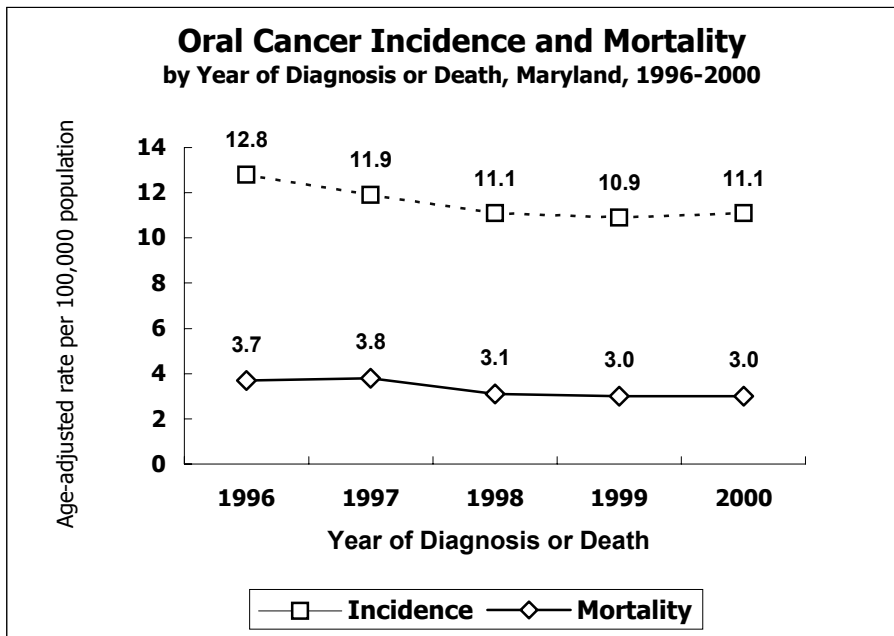
<i>Incidence 2000</i>	<i>Total</i>	<i>Males</i>	<i>Females</i>	<i>Whites</i>	<i>Blacks</i>
New Cases (#)	573	400	173	405	137
Incidence Rate*	11.1	17.2	6.1	10.7	11.0
U.S. SEER Rate*	10.6	15.9	6.2	10.5	11.6
<i>Mortality 2000</i>	<i>Total</i>	<i>Males</i>	<i>Females</i>	<i>Whites</i>	<i>Blacks</i>
MD Deaths (#)	152	121	31	100	48
MD Mortality Rate*	3.0	5.4	1.1	2.6	4.4
U.S. Mortality Rate*	2.7	4.1	1.6	2.5	4.1

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

Source: Maryland Cancer Registry, 2000

Maryland Division of Health Statistics, 2000

SEER, National Cancer Institute, 2000

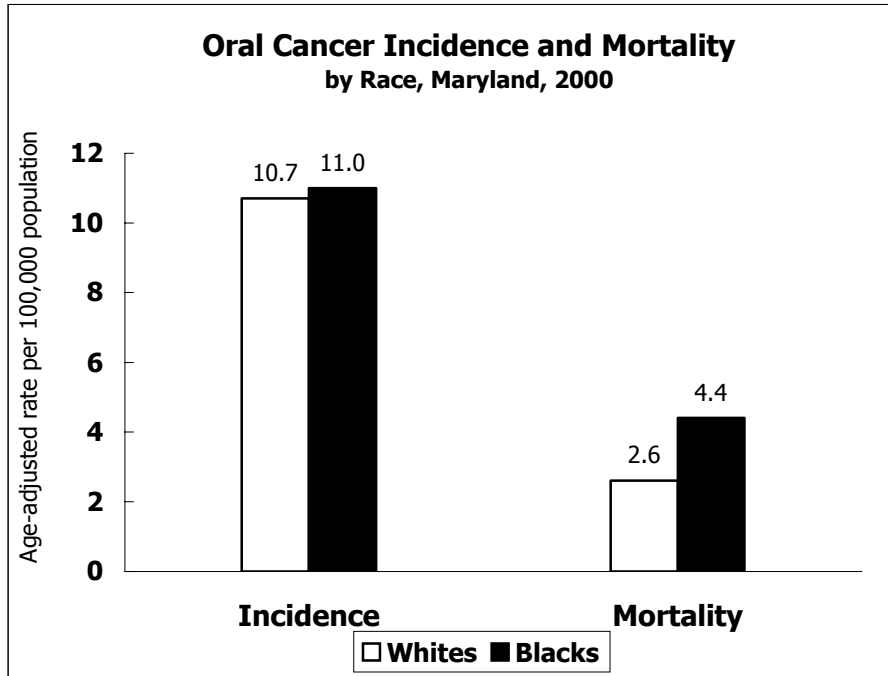


Rates are age-adjusted to 2000 U.S. standard population  
 Maryland Cancer Registry, 1996-2000  
 Maryland Division of Health Statistics, 1996-2000

### Trends

The incidence of oral cancer has decreased an average of 3.7% per year from 1996 to 2000 in Maryland.

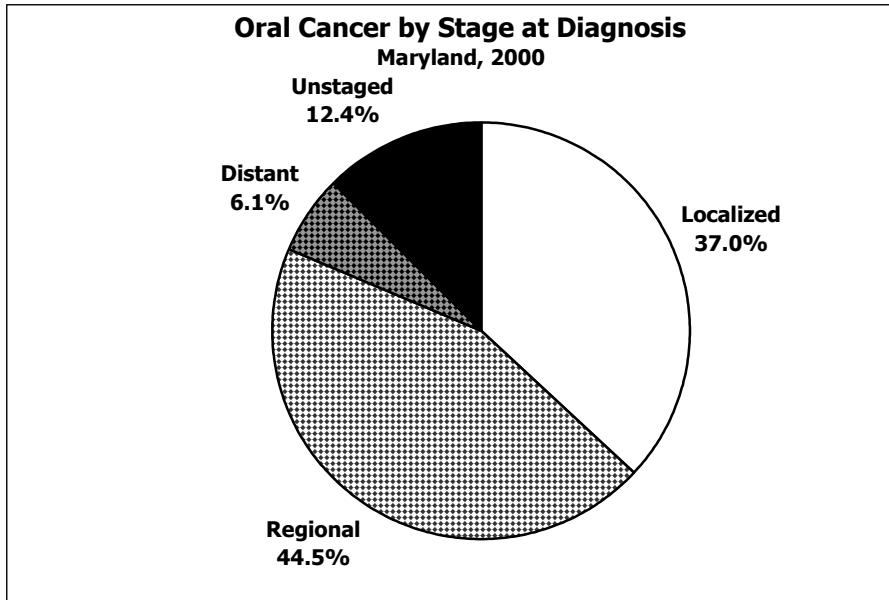
Mortality rates for oral cancer overall declined an average of 6.4% per year from 1996 to 2000.



Rates are age-adjusted to 2000 U.S. standard population  
 Maryland Cancer Registry, 2000  
 Maryland Division of Health Statistics, 2000

### Race-Specific Rates

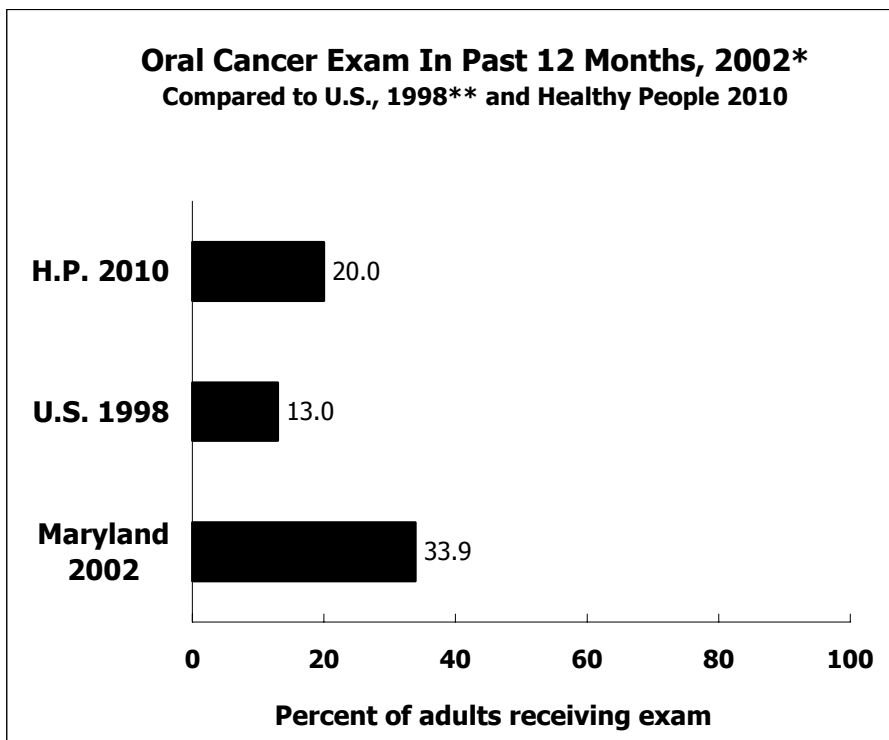
Incidence and mortality rates for oral cancer for blacks and whites were not statistically significantly different.



Maryland Cancer Registry, 2000

**Stage at Diagnosis**

Of the 573 cases of oral cancer in 2000, 37.0% were diagnosed at the localized (early) stage.



**Healthy People 2010 Objectives**

The Healthy People 2010 objective for oral cancer is to increase to 20% the proportion of adults 40 years and older who report having had an oral cancer screening examination in the past 12 months to detect oral and pharyngeal cancer.

In the 2002 Maryland Cancer Survey, 33.9% of persons 40 years of age and older in Maryland reported they had an oral cancer exam in the past year.

\* Adults 40 years of age and older

\*\* The U.S. data are age-adjusted to 2000 U.S. standard population

Maryland Cancer Survey, DHMH Center for Cancer Surveillance and Control, 2002

National Health Interview Survey, 1998

Healthy People 2010, U.S. Department of Health and Human Services, 2000



## **Public Health Evidence (from National Cancer Institute, PDQ, 6/2003)**

### **Primary Prevention**

Tobacco (including cigarettes, cigars, pipes, and smokeless or spit tobacco) causes oral cancer. Tobacco use is responsible for more than 90% of oral cancer among men and 60% among women, and is responsible for more than 90% of oral cancer-related deaths in males. Alcohol use, particularly beer and hard liquor, is associated with an increased risk of oral cancer. The combined use of tobacco and alcohol increases the risks for oral cancer more than either risk behavior alone. For lip cancer, there is evidence that sunlight exposure is associated with an increased risk.

Avoiding or stopping smoking and avoiding or stopping the use of other tobacco products will decrease the risk of oral cancer. A 50% reduction of oral cancer risk has been noted after 3 to 5 years of smoking cessation and a return to non-smoker risk noted after 10 years of cessation. A diet high in fruits and fiber is associated with a decreased risk of oral and pharyngeal cancer, particularly among smokers.

### **Screening**

Oral cancer occurs in a region of the body that is generally accessible to physical examination by the patient, dentist, and physician. Screening involves inspecting the floor of the mouth, the ventrolateral aspect of the tongue, the soft palate complex, and the face, head and neck, lips, labial and buccal mucosa, and gingival tissue.

There is insufficient evidence to establish that screening would result in a decrease in mortality from oral cancer.

<b>Public Health Intervention for Oral Cancer (DHMH Oral Cancer Medical Advisory Committee)</b>
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- |  |
|--|
| <ul style="list-style-type: none"><li>➤ Avoidance and cessation of smoking and other tobacco use</li><li>➤ Avoidance and reduction of alcohol consumption</li><li>➤ Avoidance of sun exposure; use of ultraviolet (UV) light-blocking lip balm</li><li>➤ Screening for oral cancer targeted to individuals 40 years of age and older</li></ul> |
|--|

**Table 48.**  
**Number of Oral Cancer Cases**  
**by Jurisdiction, Gender and Race, Maryland, 2000**

Jurisdiction	Total	Gender		Race			
		Males	Females	Whites	Blacks	Other	Unknown
Maryland	573	400	173	405	137	19	12
Allegany	13	s	<6	13	0	0	0
Anne Arundel	68	48	20	58	10	0	0
Baltimore City	109	83	26	46	59	<6	<6
Baltimore County	90	55	35	75	15	0	0
Calvert	7	<6	<6	7	0	0	0
Caroline	<6	<6	<6	<6	0	0	<6
Carroll	13	s	<6	s	0	0	<6
Cecil	7	s	<6	7	0	0	0
Charles	7	s	<6	s	0	0	<6
Dorchester	6	<6	<6	<6	<6	0	0
Frederick	7	<6	<6	7	0	0	0
Garrett	<6	<6	0	<6	0	0	0
Harford	20	13	7	20	0	0	0
Howard	11	s	<6	7	<6	<6	<6
Kent	<6	<6	0	<6	0	0	0
Montgomery	87	55	32	65	s	12	<6
Prince George's	63	46	17	24	34	<6	<6
Queen Anne's	11	s	<6	s	<6	0	0
St Mary's	15	s	<6	s	<6	0	0
Somerset	0	0	0	0	0	0	0
Talbot	<6	<6	0	<6	0	0	0
Washington	15	s	<6	s	<6	0	0
Wicomico	6	6	0	<6	<6	<6	0
Worcester	8	<6	<6	s	0	0	<6
Unknown	0	0	0	0	0	0	0

s=Number was suppressed to ensure confidentiality of cell in other column

Cells with 5 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 2000

**Table 49.**  
**Oral Cancer Age-Adjusted Incidence Rates\***  
**by Jurisdiction, Gender and Race, Maryland, 2000**

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	11.1	17.2	6.1	10.7	11.0	**
Allegany	**	**	**	**	0.0	0.0
Anne Arundel	15.1	24.4	**	14.6	**	0.0
Baltimore City	16.9	29.9	6.8	17.9	15.0	**
Baltimore County	11.0	15.1	7.7	10.8	**	0.0
Calvert	**	**	**	**	0.0	0.0
Caroline	**	**	**	**	0.0	0.0
Carroll	**	**	**	**	0.0	0.0
Cecil	**	**	**	**	0.0	0.0
Charles	**	**	**	**	0.0	0.0
Dorchester	**	**	**	**	**	0.0
Frederick	**	**	**	**	0.0	0.0
Garrett	**	**	0.0	**	0.0	0.0
Harford	**	**	**	**	0.0	0.0
Howard	**	**	**	**	**	**
Kent	**	**	0.0	**	0.0	0.0
Montgomery	10.0	14.1	6.8	9.6	**	**
Prince George's	9.3	15.6	**	**	8.2	**
Queen Anne's	**	**	**	**	**	0.0
Saint Mary's	**	**	**	**	**	0.0
Somerset	0.0	0.0	0.0	0.0	0.0	0.0
Talbot	**	**	0.0	**	0.0	0.0
Washington	**	**	**	**	**	0.0
Wicomico	**	**	0.0	**	**	**
Worcester	**	**	**	**	0.0	0.0

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

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 2000

**Table 50.**  
**Number of Oral Cancer Deaths**  
**by Jurisdiction, Gender and Race, Maryland, 2000**

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	152	121	31	100	s	<6
Allegany	<6	<6	<6	<6	0	0
Anne Arundel	15	s	<6	9	6	0
Baltimore City	43	s	<6	17	26	0
Baltimore County	20	s	<6	17	<6	<6
Calvert	<6	<6	0	<6	0	0
Caroline	0	0	0	0	0	0
Carroll	<6	<6	<6	<6	0	0
Cecil	<6	<6	0	<6	0	0
Charles	7	7	0	<6	<6	0
Dorchester	<6	<6	<6	<6	0	0
Frederick	<6	<6	<6	<6	0	0
Garrett	0	0	0	0	0	0
Harford	<6	<6	<6	<6	<6	0
Howard	8	<6	<6	8	0	0
Kent	0	0	0	0	0	0
Montgomery	18	12	6	13	<6	<6
Prince George's	12	s	<6	s	<6	0
Queen Anne's	0	0	0	0	0	0
Saint Mary's	<6	<6	0	<6	0	0
Somerset	<6	<6	0	0	<6	0
Talbot	<6	<6	0	<6	0	0
Washington	<6	<6	<6	<6	0	0
Wicomico	<6	<6	<6	0	<6	0
Worcester	<6	<6	0	<6	0	0

s=Number was suppressed to ensure confidentiality of cell in other column

Cells with 5 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Division of Health Statistics, 2000

**Table 51.**  
**Oral Cancer Age-Adjusted Mortality Rates\***  
**by Jurisdiction, Gender and Race, Maryland, 2000**

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	3.0	5.4	1.1	2.6	4.4	**
Allegany	**	**	**	**	0.0	0.0
Anne Arundel	**	**	**	**	**	0.0
Baltimore City	6.6	14.2	**	**	6.6	0.0
Baltimore County	**	**	**	**	**	**
Calvert	**	**	0.0	**	0.0	0.0
Caroline	0.0	0.0	0.0	0.0	0.0	0.0
Carroll	**	**	**	**	0.0	0.0
Cecil	**	**	0.0	**	0.0	0.0
Charles	**	**	0.0	**	**	0.0
Dorchester	**	**	**	**	0.0	0.0
Frederick	**	**	**	**	0.0	0.0
Garrett	0.0	0.0	0.0	0.0	0.0	0.0
Harford	**	**	**	**	**	0.0
Howard	**	**	**	**	0.0	0.0
Kent	0.0	0.0	0.0	0.0	0.0	0.0
Montgomery	**	**	**	**	**	**
Prince George's	**	**	**	**	**	0.0
Queen Anne's	0.0	0.0	0.0	0.0	0.0	0.0
Saint Mary's	**	**	0.0	**	0.0	0.0
Somerset	**	**	0.0	0.0	**	0.0
Talbot	**	**	0.0	**	0.0	0.0
Washington	**	**	**	**	0.0	0.0
Wicomico	**	**	**	0.0	**	0.0
Worcester	**	**	0.0	**	0.0	0.0

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

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Division of Health Statistics, 2000

**Table 52.**  
**Number of Oral Cancer Cases**  
**by Jurisdiction, Gender and Race, Maryland, 1996-2000**

Jurisdiction	Total	Gender		Race			
		Males	Females	Whites	Blacks	Others	Unknown
Maryland	2,813	1,916	897	2,002	669	81	61
Allegany	59	42	17	s	<6	0	0
Anne Arundel	270	183	87	218	44	<6	<6
Baltimore City	515	374	141	197	306	<6	s
Baltimore County	472	302	170	388	65	9	10
Calvert	39	21	18	33	<6	0	<6
Caroline	16	s	<6	s	<6	0	<6
Carroll	73	58	15	s	0	0	<6
Cecil	48	37	11	s	0	<6	<6
Charles	48	33	15	42	<6	<6	<6
Dorchester	28	18	10	24	<6	<6	0
Frederick	68	46	22	s	<6	<6	<6
Garrett	9	s	<6	9	0	0	0
Harford	102	67	35	97	<6	<6	<6
Howard	66	41	25	46	11	s	<6
Kent	13	s	<6	s	<6	0	0
Montgomery	353	209	144	271	31	37	14
Prince George's	326	224	102	149	159	11	7
Queen Anne's	34	24	10	s	<6	0	0
Saint Mary's	55	45	10	44	s	<6	<6
Somerset	12	s	<6	s	<6	0	<6
Talbot	33	26	7	s	<6	0	0
Washington	76	56	20	69	s	0	<6
Wicomico	43	32	11	31	s	<6	0
Worcester	46	35	11	39	<6	0	<6
Unknown	9	<6	<6	6	0	<6	<6

s=Number was suppressed to ensure confidentiality of cell in other column

Cells with 5 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 1996-2000

**Table 53.**  
**Oral Cancer Age-Adjusted Incidence Rates\***  
**by Jurisdiction, Gender and Race, Maryland, 1996-2000**

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Others
Maryland	11.5	17.5	6.7	10.9	12.2	8.8
Allegany	13.0	21.8	**	13.0	**	0.0
Anne Arundel	12.7	19.0	7.7	12.1	16.0	**
Baltimore City	16.3	27.7	7.6	15.6	16.2	**
Baltimore County	11.6	17.0	7.6	10.9	15.8	**
Calvert	13.4	**	**	14.2	**	0.0
Caroline	**	**	**	**	**	0.0
Carroll	10.8	18.3	**	11.0	0.0	0.0
Cecil	12.7	19.9	**	12.9	0.0	**
Charles	10.5	14.7	**	12.4	**	**
Dorchester	15.6	**	**	**	**	**
Frederick	8.8	13.1	**	9.1	**	**
Garrett	**	**	**	**	0.0	0.0
Harford	10.9	15.6	7.2	11.6	**	**
Howard	7.4	9.4	**	6.5	**	**
Kent	**	**	**	**	**	0.0
Montgomery	8.8	11.7	6.4	8.4	7.6	9.0
Prince George's	10.6	16.0	6.1	10.0	11.0	**
Queen Anne's	16.2	**	**	18.4	**	0.0
Saint Mary's	15.8	27.1	**	15.4	**	**
Somerset	**	**	**	**	**	0.0
Talbot	14.5	25.7	**	16.9	**	0.0
Washington	11.0	18.0	**	10.3	**	0.0
Wicomico	10.7	17.8	**	10.1	**	**
Worcester	16.0	26.4	**	17.1	**	0.0

\* Rates are per 100,00 and are age-adjusted to 2000 U.S. standard population

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 1996-2000

**Table 54.**  
**Number of Oral Cancer Deaths**  
**by Jurisdiction, Gender and Race, Maryland, 1996-2000**

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	783	547	236	537	234	12
Allegany	17	10	7	17	0	0
Anne Arundel	64	47	17	52	12	0
Baltimore City	189	153	36	s	112	<6
Baltimore County	117	71	46	103	s	<6
Calvert	11	s	<6	s	<6	0
Caroline	<6	<6	0	<6	<6	0
Carroll	13	s	<6	13	0	0
Cecil	14	s	<6	s	<6	0
Charles	26	19	7	15	11	0
Dorchester	<6	<6	<6	<6	<6	0
Frederick	19	13	6	s	<6	0
Garrett	<6	<6	<6	<6	0	0
Harford	25	17	8	s	<6	0
Howard	23	12	11	18	<6	<6
Kent	<6	<6	0	<6	0	0
Montgomery	76	43	33	62	8	6
Prince George's	102	72	30	51	s	<6
Queen Anne's	<6	<6	<6	<6	0	0
Saint Mary's	8	s	<6	<6	<6	0
Somerset	<6	<6	0	<6	<6	0
Talbot	12	s	<6	s	<6	0
Washington	22	15	7	s	<6	0
Wicomico	13	7	6	s	<6	0
Worcester	9	s	<6	s	<6	0

s=Number was suppressed to ensure confidentiality of cell in other column  
Cells with 5 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy  
Source: Maryland Division of Health Statistics, 1996-2000



**Table 55.  
Oral Cancer Age-Adjusted Mortality Rates\*  
by Jurisdiction, Gender and Race, Maryland, 1996-2000**

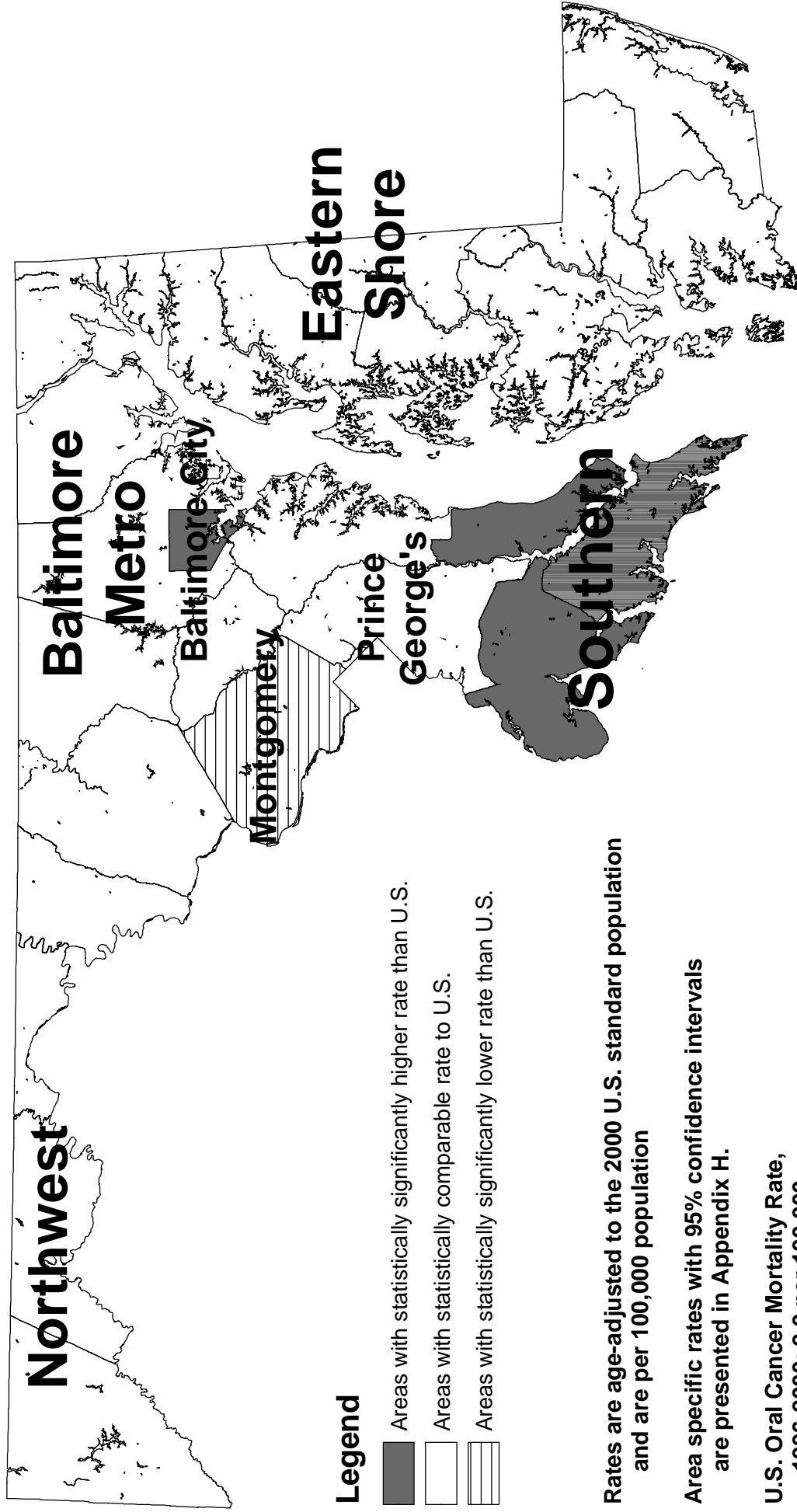
Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	3.3	5.4	1.7	2.9	4.7	**
Allegany	**	**	**	**	0.0	0.0
Anne Arundel	3.4	5.8	**	3.2	**	0.0
Baltimore City	5.9	11.6	1.8	5.3	6.2	**
Baltimore County	2.8	4.3	1.9	2.7	**	**
Calvert	**	**	**	**	**	0.0
Caroline	**	**	0.0	**	**	0.0
Carroll	**	**	**	**	0.0	0.0
Cecil	**	**	**	**	**	0.0
Charles	5.8	**	**	**	**	0.0
Dorchester	**	**	**	**	**	0.0
Frederick	**	**	**	**	**	0.0
Garrett	**	**	**	**	0.0	0.0
Harford	**	**	**	**	**	0.0
Howard	**	**	**	**	**	**
Kent	**	**	0.0	**	0.0	0.0
Montgomery	2.0	2.7	1.4	1.9	**	**
Prince George's	3.6	5.7	2.0	3.4	3.8	**
Queen Anne's	**	**	**	**	0.0	0.0
Saint Mary's	**	**	**	**	**	0.0
Somerset	**	**	0.0	**	**	0.0
Talbot	**	**	**	**	**	0.0
Washington	**	**	**	**	**	0.0
Wicomico	**	**	**	**	**	0.0
Worcester	**	**	**	**	**	0.0

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

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Division of Health Statistics, 1996-2000

# Maryland Oral Cancer Mortality Rates by Geographical Area: Comparison to U.S. Rates, 1996-2000



Source: Maryland Division of Health Statistics, 1996-2000



## F. Melanoma of the Skin

### Incidence (New Cases)

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. Melanoma is the rarest and most serious type of skin cancer (NCI, PDQ).

In 2000, a total of 902 persons in Maryland were diagnosed with melanoma of the skin. The age-adjusted incidence rate for melanoma for 2000 is 17.2 per 100,000 population (16.1-18.4, 95% C.I.). The Maryland rate is similar to the 2000 U.S. SEER age-adjusted incidence rate of 17.7 per 100,000 population for melanoma.

### Mortality (Deaths)

In 2000, a total of 132 persons died of melanoma in Maryland. The age-adjusted mortality rate for melanoma in Maryland is 2.7 per 100,000 population (2.2-3.2, 95% C.I.). This rate is the same as the 2000 U.S. melanoma mortality rate of 2.7 per 100,000 population. Maryland is ranked 41<sup>st</sup> for melanoma mortality among the states and the District of Columbia.

**Table 56.**  
**Melanoma Cancer Incidence and Mortality Rates**  
**by Gender and Race, Maryland and the United States, 2000**

<i>Incidence 2000</i>	<i>Total</i>	<i>Males</i>	<i>Females</i>	<i>Whites</i>	<i>Blacks</i>
New Cases (#)	902	526	376	754	7
Incidence Rate*	17.2	22.8	13.2	20.2	**
U.S. SEER Rate*	17.7	22.5	14.4	20.9	-
<i>Mortality 2000</i>	<i>Total</i>	<i>Males</i>	<i>Females</i>	<i>Whites</i>	<i>Blacks</i>
MD Deaths (#)	132	84	48	124	7
MD Mortality Rate*	2.7	4.0	1.7	3.3	**
U.S. Mortality Rate*	2.7	3.8	1.8	3.0	0.5

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

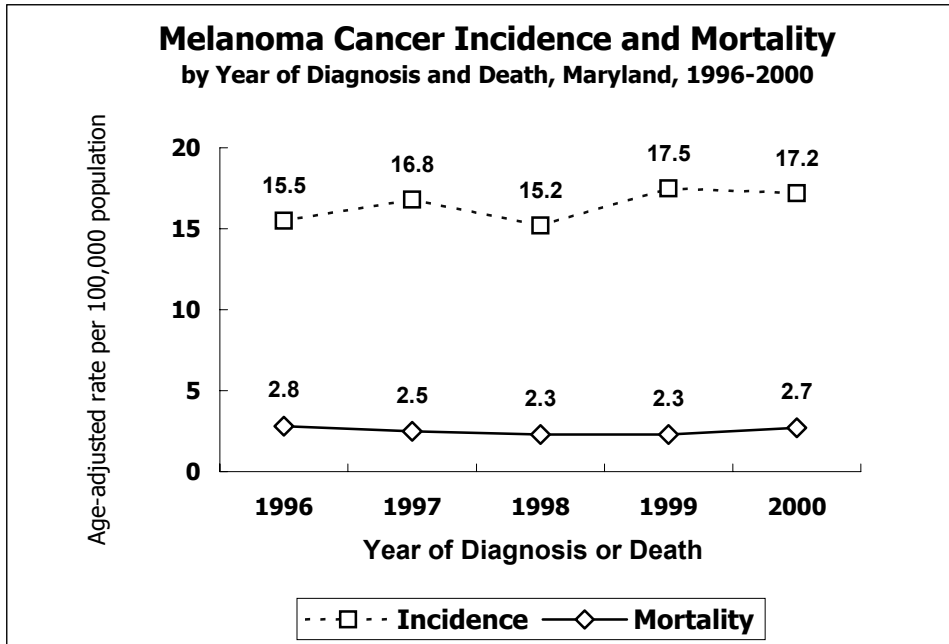
\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

- Statistic not shown in SEER; rate based on less than 25 cases

Source: Maryland Cancer Registry, 2000

Maryland Division of Health Statistics, 2000

SEER, National Cancer Institute, 2000

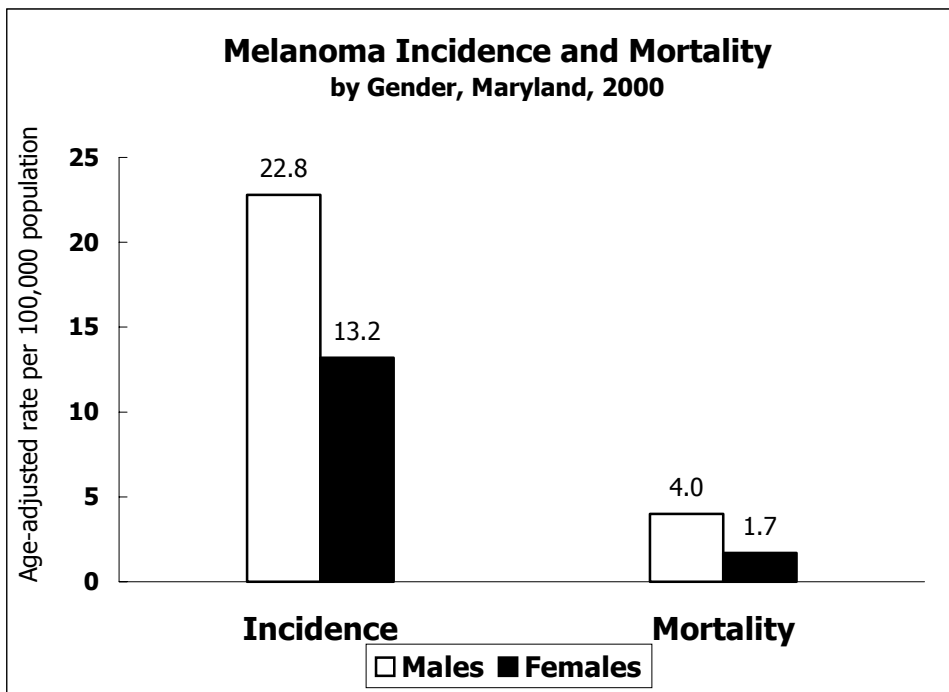


### Trend

Melanoma incidence rates have increased an average of 2.5% per year from 1996 to 2000 in Maryland.

Melanoma mortality rates dropped an average of 1.6% per year in Maryland from 1996 to 2000.

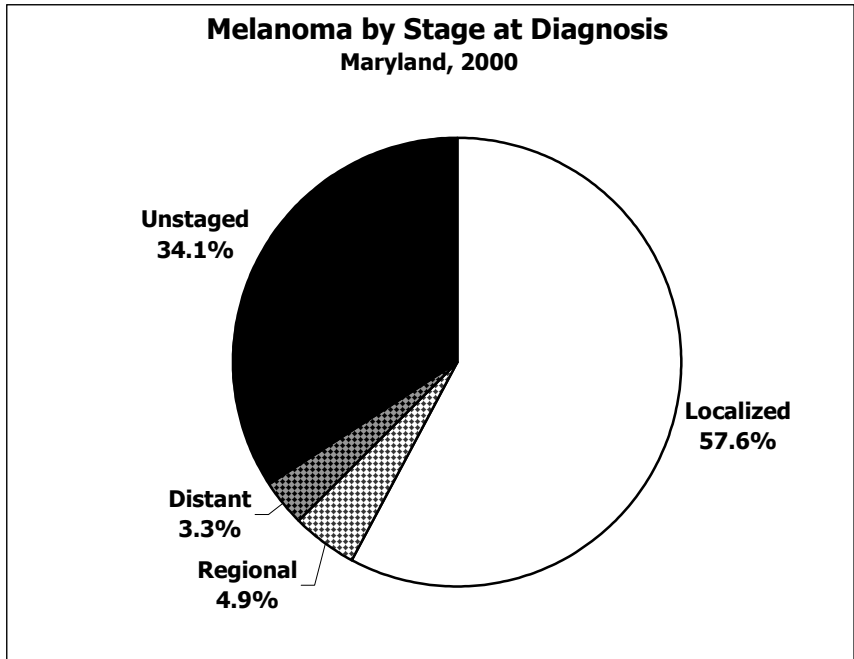
Rates are age-adjusted to 2000 U.S. standard population  
Maryland Cancer Registry, 1996-2000  
Maryland Division of Health Statistics, 1996-2000



### Gender-Specific Rates

Males had statistically significantly higher incidence and mortality rates for melanoma than females. The mortality rate was more than double for males than for females.

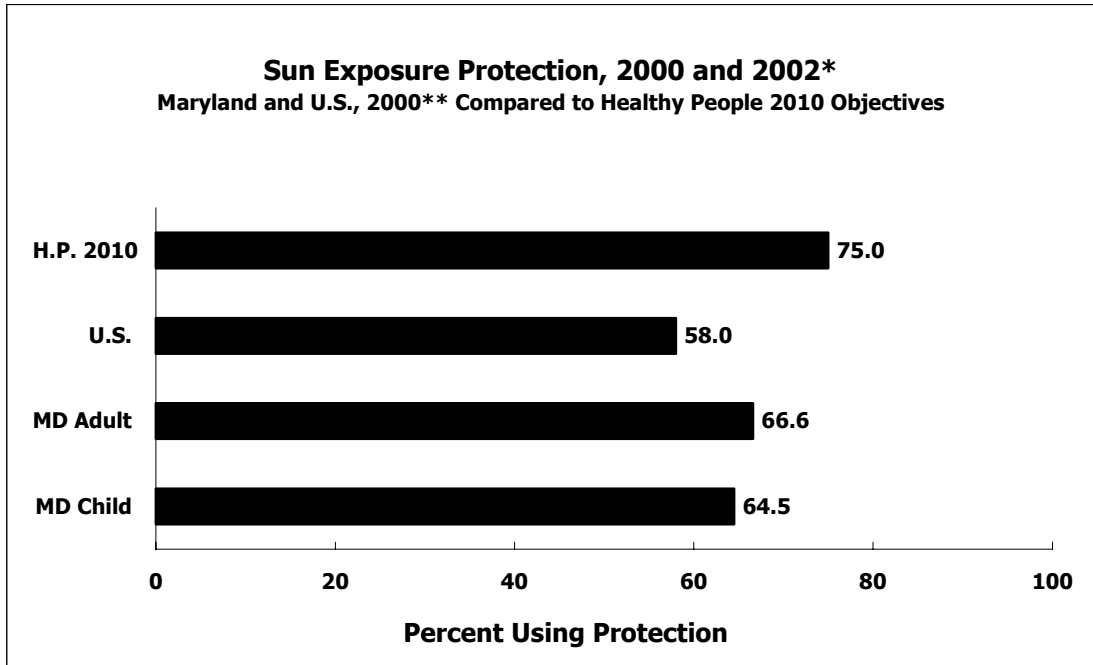
Rates are age-adjusted to 2000 U.S. standard population  
Maryland Cancer Registry, 2000  
Maryland Division of Health Statistics, 2000



**Stage at Diagnosis**

Of the 902 melanoma cases diagnosed in 2000, 57.6% were detected at the localized (early) stage. This present figure may be underrepresented due to the high percent of unstaged melanoma (34.1%).

Maryland Cancer Registry, 2000



\*Adult 18 years of age or older; Maryland child under the age of 13 years  
 \*\* The U.S. data are age-adjusted to 2000 U.S. standard population  
 BRFSS, Maryland DHMH Office of Surveillance and Assessment, 2000 (child data)  
 Maryland Cancer Survey, DHMH Center for Cancer Surveillance and Control, 2002 (adult data)  
 National Health Interview Survey, 2000  
 Healthy People 2010, U.S. Department of Health and Human Services, 2000

## **Healthy People 2010 Objectives**

The Healthy People 2010 objective is to increase to 75% the percentage of persons 18 and older who use at least one of the following measures that may reduce the risk of skin cancer:

- Avoid sun between 10 a.m. and 4 p.m.;
- Wear sun-protective clothing when exposed to sunlight;
- Use sunscreen with a sun protective factor of 15 or higher; and
- Avoid artificial sources of ultraviolet light (e.g., tanning booths).

In 2002, 66.6% of Maryland adults over age 40 reported using one or more of the first three measures listed above (MCS). In 2000, parents reported that 64.5% of Maryland children under age 13 when outdoors on a sunny day for an hour or more always or nearly always had their skin protected from the sun with protection such as sunscreen or sunblock or wearing hats or protective clothing (BRFSS).

## **Public Health Evidence (National Cancer Institute, PDQ, 6/2003)**

### **Primary Prevention**

Avoidance of sunburns, especially in childhood and adolescence, may reduce the incidence of melanoma. Sunburn can be avoided by reducing exposure to high-intensity ultraviolet (UV) radiation (e.g., sunlight, tanning booths), by wearing protective clothing when exposed to sunlight, and by using adequate amounts of sufficiently protective sunscreen. Sunscreen is *not* a substitute for the avoidance of sun exposure.

Evidence suggests that reduction of exposure to UV radiation will reduce the incidence of non-melanoma skin cancer (basal cell and squamous cell cancer).

### **Screening**

There is insufficient evidence to determine whether a decrease in mortality from melanoma occurs with routine examination of the skin (by self or provider). There is also insufficient evidence to establish whether other theoretical benefits (such as decreased morbidity from less aggressive treatments) or harms associated with incorrect diagnosis occur.

<b>Public Health Intervention for Skin Cancer</b>
Reduction of exposure to UV light by: <ul style="list-style-type: none"><li>➤ Avoiding sun especially between 10 a.m. and 4 p.m.</li><li>➤ Wearing sun-protective clothing when exposed to sunlight</li><li>➤ Using sunscreens with a SPF of 15 or higher</li><li>➤ Avoiding artificial sources of UV light (e.g., tanning booths)</li></ul>

**Table 57.  
Number of Melanoma Cancer Cases  
by Jurisdiction, Gender and Race, Maryland, 2000**

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	902	526	376	754	7	10
Allegany	7	<6	<6	7	0	0
Anne Arundel	100	63	37	s	<6	<6
Baltimore City	50	34	16	49	0	0
Baltimore County	169	90	79	149	<6	<6
Calvert	14	8	6	13	0	0
Caroline	11	s	<6	11	0	0
Carroll	38	27	11	s	0	<6
Cecil	14	7	7	12	0	0
Charles	15	s	<6	13	0	0
Dorchester	8	<6	<6	8	0	0
Frederick	35	23	12	34	0	0
Garrett	<6	0	<6	<6	0	0
Harford	54	27	27	46	0	0
Howard	43	19	24	39	0	0
Kent	<6	<6	<6	<6	0	0
Montgomery	152	92	60	109	<6	<6
Prince George's	54	38	16	37	<6	<6
Queen Anne's	8	<6	<6	7	0	0
Saint Mary's	15	s	<6	13	0	0
Somerset	<6	<6	<6	<6	0	0
Talbot	11	<6	s	11	0	0
Washington	31	18	13	30	0	0
Wicomico	36	20	16	34	0	0
Worcester	19	11	8	s	0	<6
Unknown	<6	<6	<6	0	0	<6

s=Number was suppressed to ensure confidentiality of cell in other column

Cells with 5 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 2000



**Table 58.**  
**Melanoma Cancer Age-Adjusted Incidence Rates\***  
**by Jurisdiction, Gender and Race, Maryland, 2000**

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	17.2	22.8	13.2	20.2	**	**
Allegany	**	**	**	**	0.0	0.0
Anne Arundel	20.6	27.8	14.5	17.4	**	**
Baltimore City	7.6	13.1	**	18.6	0.0	0.0
Baltimore County	20.8	24.6	18.0	22.7	**	**
Calvert	**	**	**	**	0.0	0.0
Caroline	**	**	**	**	0.0	0.0
Carroll	25.2	37.5	**	21.3	0.0	**
Cecil	**	**	**	**	0.0	0.0
Charles	**	**	**	**	0.0	0.0
Dorchester	**	**	**	**	0.0	0.0
Frederick	18.7	**	**	19.6	0.0	0.0
Garrett	**	0.0	**	**	0.0	0.0
Harford	26.0	28.1	23.9	24.5	0.0	0.0
Howard	20.4	**	**	23.7	0.0	0.0
Kent	**	**	**	**	0.0	0.0
Montgomery	17.6	24.3	12.7	16.4	**	**
Prince George's	8.9	15.2	**	14.0	**	**
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	21.9	**	**	22.9	0.0	0.0
Wicomico	42.8	**	**	52.6	0.0	0.0
Worcester	**	**	**	**	0.0	**

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

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 2000

**Table 59.**  
**Number of Melanoma Cancer Deaths**  
**by Jurisdiction, Gender and Race, Maryland, 2000**

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	132	84	48	124	s	<6
Allegany	<6	<6	0	<6	0	0
Anne Arundel	9	s	<6	9	0	0
Baltimore City	9	s	<6	s	<6	0
Baltimore County	27	15	12	s	<6	0
Calvert	<6	<6	<6	<6	0	0
Caroline	<6	0	<6	<6	0	0
Carroll	7	<6	<6	7	0	0
Cecil	<6	<6	<6	<6	0	0
Charles	<6	<6	0	<6	0	0
Dorchester	0	0	0	0	0	0
Frederick	<6	<6	0	<6	0	0
Garrett	<6	<6	<6	<6	0	0
Harford	<6	<6	<6	<6	0	0
Howard	<6	<6	<6	<6	0	0
Kent	<6	<6	0	<6	0	0
Montgomery	22	13	9	s	0	<6
Prince George's	14	s	<6	s	<6	0
Queen Anne's	0	0	0	0	0	0
Saint Mary's	<6	<6	<6	<6	0	0
Somerset	<6	0	<6	<6	0	0
Talbot	<6	<6	<6	<6	0	0
Washington	<6	<6	<6	<6	0	0
Wicomico	<6	<6	0	<6	0	0
Worcester	<6	<6	0	<6	0	0

s=Number was suppressed to ensure confidentiality of cell in other column

Cells with 5 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Division of Health Statistics, 2000

**Table 60.**  
**Melanoma Cancer Age-Adjusted Mortality Rates\***  
**by Jurisdiction, Gender and Race, Maryland, 2000**

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	2.7	4.0	1.7	3.3	**	**
Allegany	**	**	0.0	**	0.0	0.0
Anne Arundel	**	**	**	**	0.0	0.0
Baltimore City	**	**	**	**	**	0.0
Baltimore County	3.1	**	**	3.4	**	0.0
Calvert	**	**	**	**	0.0	0.0
Caroline	**	0.0	**	**	0.0	0.0
Carroll	**	**	**	**	0.0	0.0
Cecil	**	**	**	**	0.0	0.0
Charles	**	**	0.0	**	0.0	0.0
Dorchester	0.0	0.0	0.0	0.0	0.0	0.0
Frederick	**	**	0.0	**	0.0	0.0
Garrett	**	**	**	**	0.0	0.0
Harford	**	**	**	**	0.0	0.0
Howard	**	**	**	**	0.0	0.0
Kent	**	**	0.0	**	0.0	0.0
Montgomery	**	**	**	**	0.0	**
Prince George's	**	**	**	**	**	0.0
Queen Anne's	0.0	0.0	0.0	0.0	0.0	0.0
Saint Mary's	**	**	**	**	0.0	0.0
Somerset	**	0.0	**	**	0.0	0.0
Talbot	**	**	**	**	0.0	0.0
Washington	**	**	**	**	0.0	0.0
Wicomico	**	**	0.0	**	0.0	0.0
Worcester	**	**	0.0	**	0.0	0.0

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

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Division of Health Statistics, 2000

**Table 61**  
**Number of Melanoma Cancer Cases**  
**by Jurisdiction, Gender and Race, Maryland, 1996-2000**

Jurisdiction	Total	Gender		Race			
		Males	Females	Whites	Blacks	Others	Unknown
Maryland	4,113	2,343	1,769	3,493	50	64	506
Allegany	59	31	28	59	0	0	0
Anne Arundel	495	283	212	364	<6	s	115
Baltimore City	279	162	117	242	s	<6	27
Baltimore County	746	401	345	676	7	13	50
Calvert	58	26	32	49	0	<6	s
Caroline	39	25	14	39	0	0	0
Carroll	176	112	64	154	<6	<6	17
Cecil	74	34	40	70	0	<6	<6
Charles	66	39	27	53	<6	0	s
Dorchester	25	13	12	25	0	0	0
Frederick	166	107	59	141	<6	0	s
Garrett	20	9	11	s	<6	0	0
Harford	231	117	114	211	<6	0	s
Howard	194	105	89	163	<6	<6	s
Kent	28	18	10	s	<6	0	0
Montgomery	667	397	269	517	<6	s	131
Prince George's	219	133	86	168	s	<6	35
Queen Anne's	43	25	18	s	0	0	<6
Saint Mary's	63	40	23	s	0	0	<6
Somerset	25	12	13	22	0	<6	<6
Talbot	50	25	25	s	0	0	<6
Washington	160	96	64	150	0	0	10
Wicomico	119	65	54	110	<6	<6	s
Worcester	90	57	33	78	0	<6	s
Unknown	21	11	10	10	0	s	<6

s=Number was suppressed to ensure confidentiality of cell in other column

Cells with 5 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 1996-2000

**Table 62.**  
**Melanoma Cancer Age-Adjusted Incidence Rates\***  
**by Jurisdiction, Gender and Race, Maryland, 1996-2000**

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Others
Maryland	16.4	21.5	13.0	19.1	1.0	7.9
Allegany	14.4	16.0	13.1	14.9	0.0	0.0
Anne Arundel	21.9	28.5	17.5	19.0	**	**
Baltimore City	8.6	12.6	6.3	18.4	**	**
Baltimore County	18.6	22.8	16.1	19.9	**	**
Calvert	18.1	20.1	17.7	19.3	0.0	**
Caroline	25.8	**	**	32.0	0.0	0.0
Carroll	24.2	34.3	16.1	22.1	**	**
Cecil	19.4	20.9	19.9	19.4	0.0	**
Charles	13.2	17.7	9.8	14.3	**	0.0
Dorchester	**	**	**	**	0.0	0.0
Frederick	20.2	29.8	12.8	18.4	**	0.0
Garrett	**	**	**	**	**	0.0
Harford	22.7	24.6	21.0	23.3	**	0.0
Howard	19.1	23.8	16.1	20.2	**	**
Kent	25.9	**	**	32.8	**	0.0
Montgomery	16.0	21.9	11.9	15.8	**	**
Prince George's	7.2	10.3	4.9	11.3	**	**
Queen Anne's	21.7	**	**	23.0	0.0	0.0
Saint Mary's	17.1	22.1	**	19.3	0.0	0.0
Somerset	**	**	**	**	0.0	**
Talbot	25.1	**	**	31.2	0.0	0.0
Washington	23.5	30.3	19.1	23.3	0.0	0.0
Wicomico	29.8	39.4	25.1	36.6	**	**
Worcester	33.7	44.3	24.9	37.9	0.0	**

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

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 1996-2000

**Table 63.**  
**Number of Melanoma Cancer Deaths**  
**by Jurisdiction, Gender and Race, Maryland, 1996-2000**

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	603	375	228	582	s	<6
Allegany	11	s	<6	11	0	0
Anne Arundel	57	44	13	s	<6	0
Baltimore City	53	26	27	s	<6	0
Baltimore County	110	63	47	s	<6	0
Calvert	14	s	<6	14	0	0
Caroline	<6	0	<6	<6	0	0
Carroll	33	18	15	33	0	0
Cecil	18	10	8	18	0	0
Charles	10	s	<6	10	0	0
Dorchester	<6	<6	0	<6	0	0
Frederick	22	s	<6	22	0	0
Garrett	<6	<6	<6	<6	0	0
Harford	25	13	12	25	0	0
Howard	27	16	11	27	0	0
Kent	<6	<6	0	<6	0	0
Montgomery	103	67	36	99	<6	<6
Prince George's	43	29	14	36	7	0
Queen Anne's	7	<6	<6	7	0	0
Saint Mary's	12	s	<6	12	0	0
Somerset	<6	<6	<6	<6	0	0
Talbot	9	s	<6	9	0	0
Washington	15	8	7	15	0	0
Wicomico	12	s	<6	s	<6	0
Worcester	9	<6	<6	9	0	0

s=Number was suppressed to ensure confidentiality of cell in other column  
Cells with 5 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy  
Source: Maryland Division of Health Statistics, 1996-2000

**Table 64.**  
**Melanoma Cancer Age-Adjusted Mortality Rates\***  
**by Jurisdiction, Gender and Race, Maryland, 1996-2000**

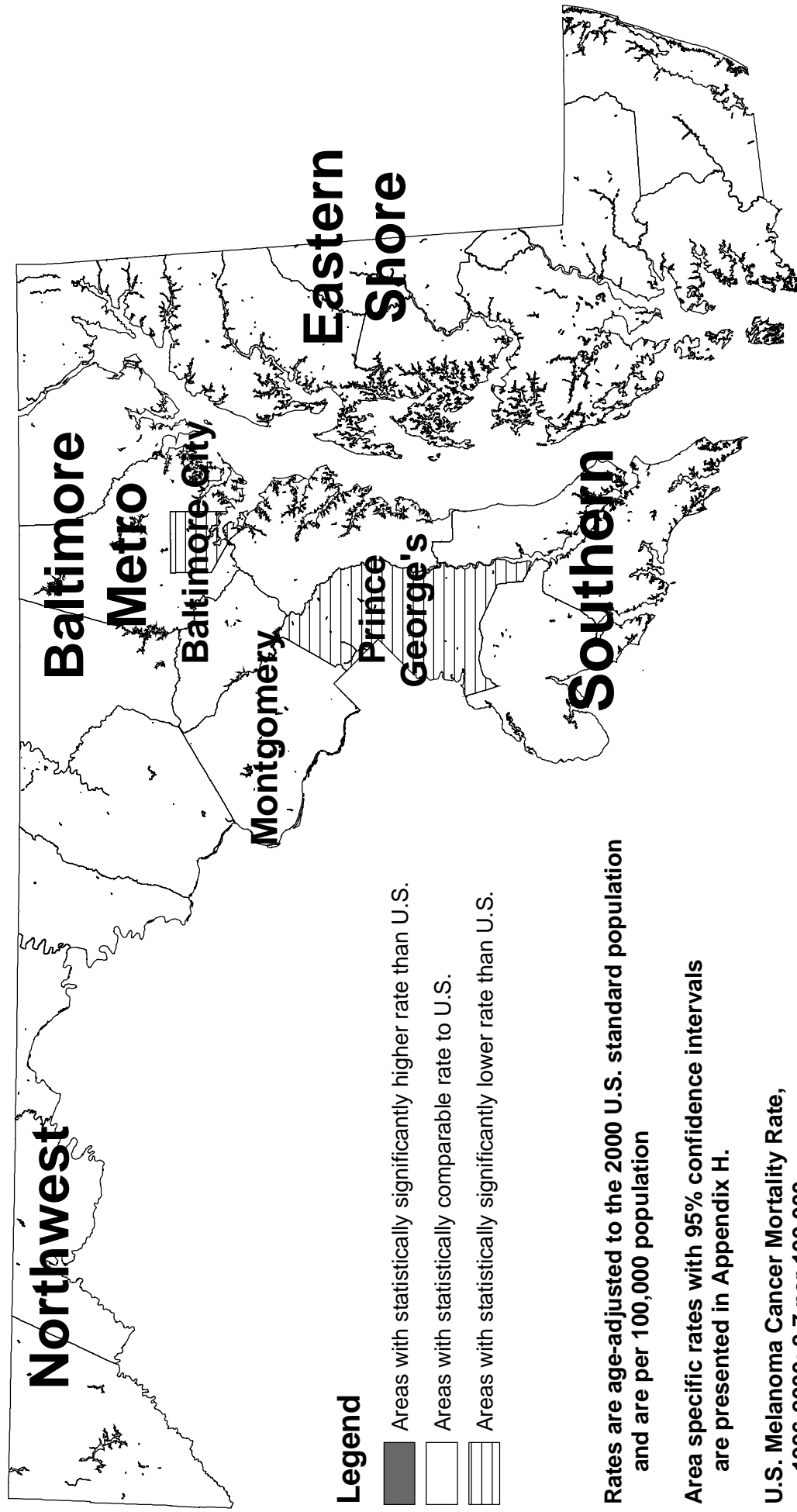
Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	2.5	3.7	1.7	3.2	**	**
Allegany	**	**	**	**	0.0	0.0
Anne Arundel	2.7	4.7	**	3.1	**	0.0
Baltimore City	1.6	2.0	1.4	3.5	**	0.0
Baltimore County	2.7	3.7	2.0	3.0	**	0.0
Calvert	**	**	**	**	0.0	0.0
Caroline	**	0.0	**	**	0.0	0.0
Carroll	4.9	**	**	5.0	0.0	0.0
Cecil	**	**	**	**	0.0	0.0
Charles	**	**	**	**	0.0	0.0
Dorchester	**	**	0.0	**	0.0	0.0
Frederick	**	**	**	**	0.0	0.0
Garrett	**	**	**	**	0.0	0.0
Harford	**	**	**	**	0.0	0.0
Howard	2.8	**	**	3.5	0.0	0.0
Kent	**	**	0.0	**	0.0	0.0
Montgomery	2.6	4.1	1.6	3.1	**	**
Prince George's	1.5	2.7	**	2.4	**	0.0
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	**	**	**	**	0.0	0.0
Wicomico	**	**	**	**	**	0.0
Worcester	**	**	**	**	0.0	0.0

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

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Division of Health Statistics, 1996-2000

# Maryland Melanoma Cancer Mortality Rates by Geographical Area: Comparison to U.S. Rates, 1996-2000



Source: Maryland Division of Health Statistics, 1996-2000





## G. Cervical Cancer

### Incidence (New Cases)

A total of 226 women in Maryland were diagnosed with cervical cancer in 2000. The age-adjusted incidence rate for cervical cancer in Maryland for 2000 is 7.9 per 100,000 population of women (6.9-9.0, 95% C.I.). This rate is similar to the 2000 U.S. SEER age-adjusted cervical cancer incidence rate of 7.6 per 100,000 population of women.

### Mortality (Deaths)

In 2000, a total of 66 women died of cervical cancer in Maryland. The age-adjusted cervical cancer mortality rate in Maryland is 2.3 per 100,000 women (1.8-2.9, 95% C.I.). This rate is similar to the 2000 U.S. cervical cancer mortality rate of 2.8 per 100,000 population of women. Maryland women rank 28<sup>th</sup> highest for cervical cancer mortality rate among the states and the District of Columbia.

**Table 65.**  
**Cervical Cancer Incidence and Mortality Rates**  
**by Race, Maryland and the United States, 2000**

<i>Incidence 2000</i>	<i>Total</i>	<i>Whites</i>	<i>Blacks</i>
New Cases (#)	226	124	78
Incidence Rate*	7.9	6.4	10.7
U.S. SEER Rate*	7.6	7.2	10.1
<i>Mortality 2000</i>	<i>Total</i>	<i>Whites</i>	<i>Blacks</i>
MD Deaths (#)	66	42	23
MD Mortality Rate*	2.3	2.1	**
U.S. Mortality Rate*	2.8	2.5	5.5

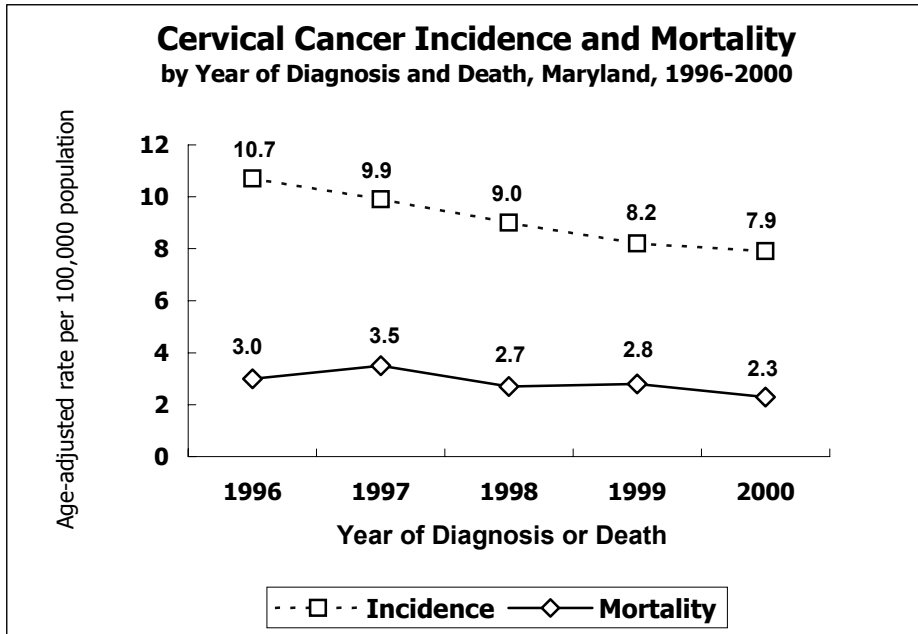
\* Rates are per 100,000 and are age-adjusted to 2000 U.S. standard population

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 2000

Maryland Division of Health Statistics, 2000

SEER, National Cancer Institute, 2000

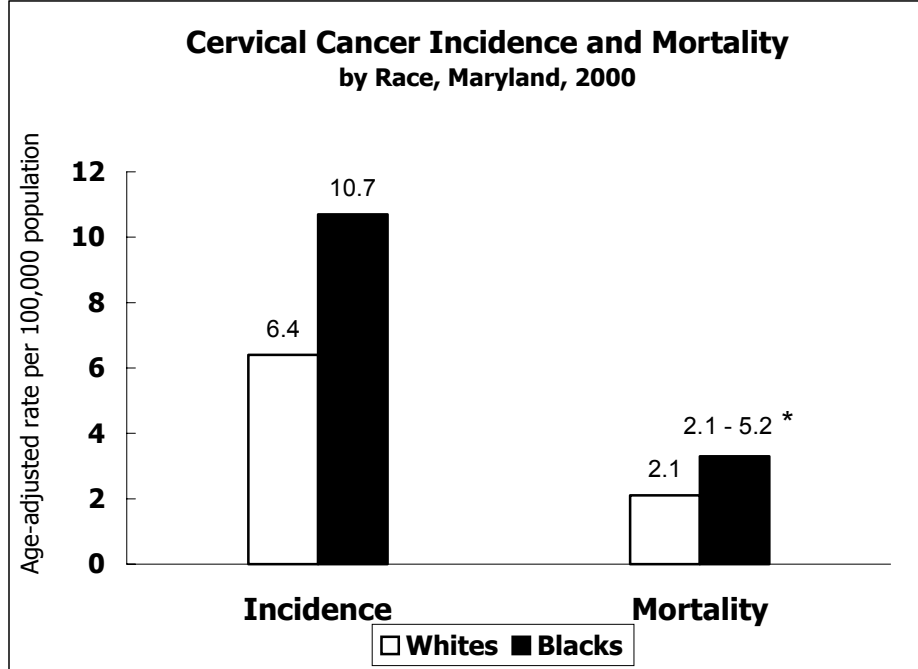


**Trend**

Cervical cancer incidence rates have decreased an average of 7.6% per year from 1996 to 2000 in Maryland.

Mortality rates have also decreased an average of 7.3% per year from 1996 to 2000 in Maryland.

Rates are age-adjusted to 2000 U.S. standard population  
 Maryland Cancer Registry, 1996-2000  
 Maryland Division of Health Statistics, 1996-2000

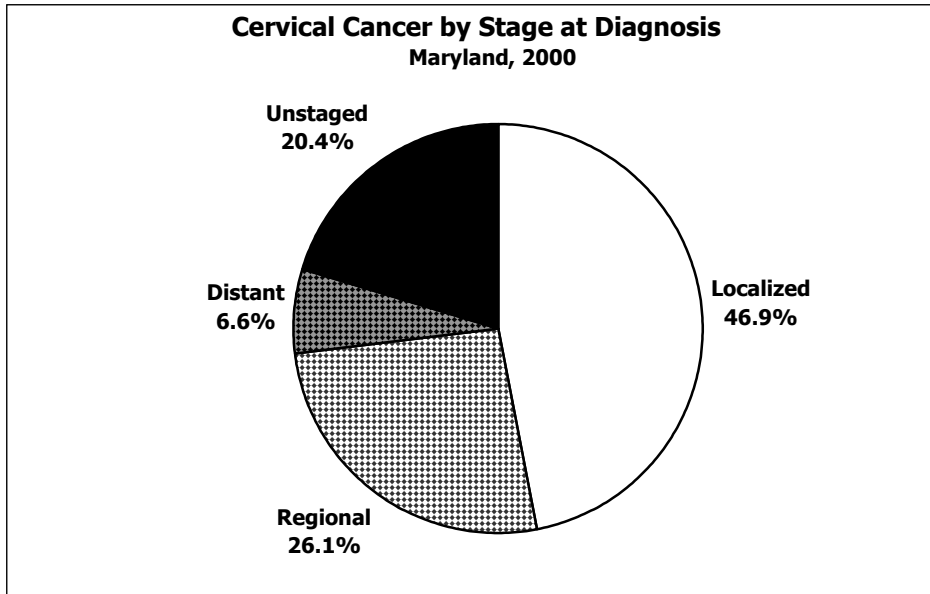


**Race-Specific Rates**

Incidence rates for black women were statistically significantly higher than for whites, whereas the mortality rates were similar for both white and black women in Maryland in 2000.

Rates are age-adjusted to 2000 U.S. standard population  
 Maryland Cancer Registry, 2000  
 Maryland Division of Health Statistics, 2000

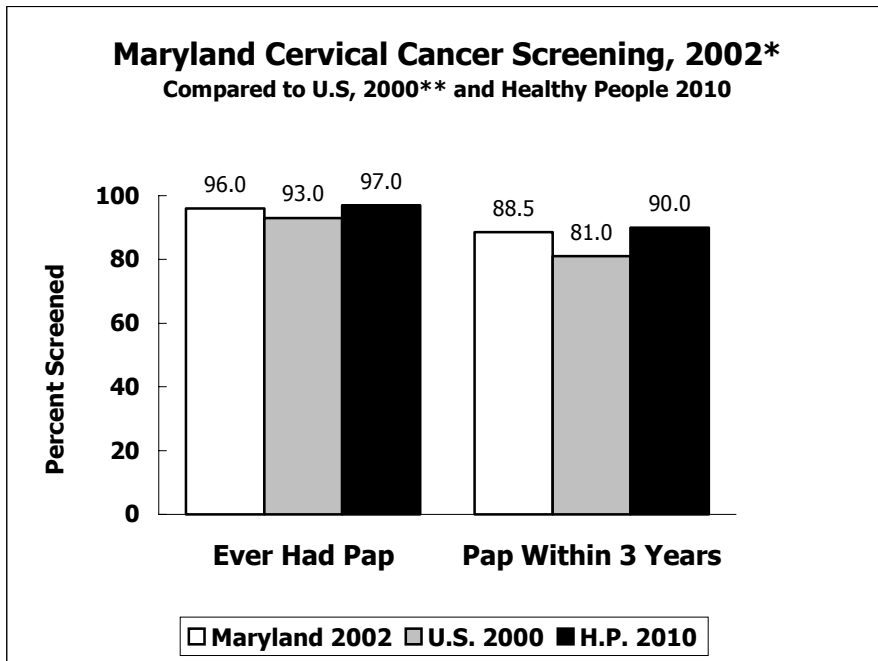
\* Confidence interval shown in place of rate for mortality data in blacks because the data are unstable due to the small number of deaths reported to MCR and per DHMH/MCR Data Use Policy



Maryland Cancer Registry, 2000

**Stage at Diagnosis**

In 2000, 46.9% of all cervical cancer cases were diagnosed in the localized (early) stage.



**Healthy People 2010 Objectives**

The Healthy People 2010 objectives for cervical cancer are to increase the percent of women 18 years and older who have *ever* had a Pap test to 97%, and to increase the percent of women 18 years and older who have had a Pap test within the preceding 3 years to 90%.

\* Women 18 years of age and older

\*\* The U.S. data are age-adjusted to 2000 U.S. standard population  
BRFSS, Maryland DHMH Office Surveillance and Assessment, 2002  
National Health Interview Survey, 2000

Healthy People 2010, U.S. Department of Health and Human Services, 2000

In the 2002 BRFSS survey, 96.0% of Maryland women 18 years and older report *ever* having a Pap smear compared to 94.9% in 2000 and 94.2% in 1999. In 2002, 88.5% of women 18 years and older said they had had their Pap smear within the preceding 3 years compared to 87.8% in 2000 and 87.2% in 1999.

**Public Health Evidence (from National Cancer Institute, PDQ, 6/2003 and U.S. Preventive Services Task Force [USPSTF], 1/2003)**

**Screening**

Evidence strongly suggests that regular screening using the Pap smear test decreases incidence and mortality due to cervical cancer. Early detection, using cervical cytology, is currently the only practical means of detecting cervical cancer in localized or premalignant stages. Women who have not had regular Pap tests are at increased risk of cervical cancer. Receiving regular Pap tests is the most important step in detecting and preventing cervical cancer among women with a cervix. Cervical cancer screening should begin within three years after a woman begins having sexual intercourse, but no later than at 21 years old. The upper age limit at which such screening ceases to be effective is unknown but the USPSTF recommends against routinely screening women older than age 65 if they have had adequate recent screening with normal Pap smears and are not otherwise at high risk for cervical cancer.

The use of human papilloma virus (HPV) testing for primary population-based screening is not recommended due to low specificity, particularly among young sexually active women. An HPV test may be used as a secondary test following an atypical squamous cells of undetermined significance (ASC-US) or abnormal Pap test result, allowing the focus of work-up and treatment of those women who are most likely to progress to advanced disease. The American Society for Colposcopy and Cervical Pathology recommends an HPV high-risk panel test be performed after a Pap test with the result of ASC-US.

**Primary Prevention**

Cervical infection with the HPV is the primary causative infectious agent for cervical cancer. However, HPV is very common, and only a small percentage of women infected with HPV will develop cervical cancer. HPV types 16 and 18 are most often associated with invasive cervical cancer. Women who have sexual intercourse before age 16 and women who have many sexual partners are at greater risk of HPV infection and developing cervical cancer. Women who are infected with the human immunodeficiency virus (HIV) are at increased risk for development of cervical cancer. Exposure to cigarette smoke is associated with increased risk. Education regarding risk factors for cervical cancer may lead to behavioral modification resulting in diminished exposure.

Vaccines that would immunize against HPV infection are in clinical trials. Preliminary evidence suggests a vaccine against HPV-16 using empty-viral capsids, called “virus-like particles,” reduces the risk of acquiring transient and persistent HPV-16 infections and cervical neoplasia. Vaccines for HPV-16 and other oncogenic strains may offer a primary prevention strategy for cervical cancer.

**Public Health Intervention for Cervical Cancer (NCI, PDQ and USPSTF)**

Early detection of cervical cancer:

- Screen using the Pap test for all women who have a cervix, within three years after onset of sexual activity or by age 21 if not sexually active.

**Table 66.**  
**Number of Cervical Cancer Cases**  
**by Jurisdiction and Race, Maryland, 2000**

Jurisdiction	Total	Race			
		Whites	Blacks	Other	Unknown
Maryland	226	124	78	12	12
Allegany	<6	<6	0	0	0
Anne Arundel	16	8	<6	<6	<6
Baltimore City	45	s	34	0	<6
Baltimore County	26	16	s	<6	0
Calvert	<6	<6	0	0	0
Caroline	<6	<6	0	0	0
Carroll	<6	<6	0	0	0
Cecil	9	s	0	0	<6
Charles	<6	<6	0	<6	0
Dorchester	<6	<6	0	0	0
Frederick	10	10	0	0	0
Garrett	<6	<6	0	0	0
Harford	8	s	<6	0	0
Howard	7	<6	<6	0	0
Kent	<6	<6	0	0	0
Montgomery	31	17	<6	6	<6
Prince George's	37	12	20	<6	<6
Queen Anne's	<6	<6	0	0	0
Saint Mary's	<6	<6	0	0	0
Somerset	<6	<6	0	0	0
Talbot	6	<6	<6	0	0
Washington	<6	<6	<6	0	0
Wicomico	<6	<6	0	0	0
Worcester	<6	<6	<6	0	0
Unknown	0	0	0	0	0

s=Number was suppressed to ensure confidentiality of cell in other column

Cells with 5 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 2000

**Table 67.  
Cervical Cancer Age-Adjusted Incidence Rates\*  
by Jurisdiction and Race, Maryland, 2000**

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	7.9	6.4	10.7	**
Allegany	**	**	0.0	0.0
Anne Arundel	**	**	**	**
Baltimore City	12.5	**	15.2	0.0
Baltimore County	6.1	**	**	**
Calvert	**	**	0.0	0.0
Caroline	**	**	0.0	0.0
Carroll	**	**	0.0	0.0
Cecil	**	**	0.0	0.0
Charles	**	**	0.0	**
Dorchester	**	**	0.0	0.0
Frederick	**	**	0.0	0.0
Garrett	**	**	0.0	0.0
Harford	**	**	**	0.0
Howard	**	**	**	0.0
Kent	**	**	0.0	0.0
Montgomery	6.5	**	**	**
Prince George's	8.8	**	**	**
Queen Anne's	**	**	0.0	0.0
Saint Mary's	**	**	0.0	0.0
Somerset	**	**	0.0	0.0
Talbot	**	**	**	0.0
Washington	**	**	**	0.0
Wicomico	**	**	0.0	0.0
Worcester	**	**	**	0.0

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

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 2000

**Table 68.**  
**Number of Cervical Cancer Deaths**  
**by Jurisdiction and Race, Maryland, 2000**

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	66	42	s	<6
Allegany	0	0	0	0
Anne Arundel	<6	<6	0	0
Baltimore City	20	7	13	0
Baltimore County	7	s	<6	0
Calvert	<6	0	<6	0
Caroline	<6	0	<6	0
Carroll	0	0	0	0
Cecil	<6	<6	0	0
Charles	<6	<6	<6	0
Dorchester	0	0	0	0
Frederick	<6	<6	0	0
Garrett	0	0	0	0
Harford	<6	<6	0	0
Howard	<6	<6	<6	0
Kent	0	0	0	0
Montgomery	<6	<6	0	<6
Prince George's	7	<6	<6	0
Queen Anne's	<6	<6	0	0
Saint Mary's	0	0	0	0
Somerset	<6	<6	0	0
Talbot	<6	<6	<6	0
Washington	<6	<6	0	0
Wicomico	<6	<6	0	0
Worcester	0	0	0	0

s=Number was suppressed to ensure confidentiality of cell in other column

Cells with 5 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Division of Health Statistics, 2000



**Table 69.**  
**Cervical Cancer Age-Adjusted Mortality Rates\***  
**by Jurisdiction and Race, Maryland, 2000**

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	2.3	2.1	**	**
Allegany	0.0	0.0	0.0	0.0
Anne Arundel	**	**	0.0	0.0
Baltimore City	**	**	**	0.0
Baltimore County	**	**	**	0.0
Calvert	**	0.0	**	0.0
Caroline	**	0.0	**	0.0
Carroll	0.0	0.0	0.0	0.0
Cecil	**	**	0.0	0.0
Charles	**	**	**	0.0
Dorchester	0.0	0.0	0.0	0.0
Frederick	**	**	0.0	0.0
Garrett	0.0	0.0	0.0	0.0
Harford	**	**	0.0	0.0
Howard	**	**	**	0.0
Kent	0.0	0.0	0.0	0.0
Montgomery	**	**	0.0	**
Prince George's	**	**	**	0.0
Queen Anne's	**	**	0.0	0.0
Saint Mary's	0.0	0.0	0.0	0.0
Somerset	**	**	0.0	0.0
Talbot	**	**	**	0.0
Washington	**	**	0.0	0.0
Wicomico	**	**	0.0	0.0
Worcester	0.0	0.0	0.0	0.0

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

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Division of Health Statistics, 2000

**Table 70.**  
**Number of Cervical Cancer Cases**  
**by Jurisdiction and Race, Maryland, 1996-2000**

Jurisdiction	Total	Race			
		Whites	Blacks	Others	Unknown
Maryland	1,253	756	375	65	57
Allegany	26	s	0	0	<6
Anne Arundel	101	68	20	6	7
Baltimore City	238	79	151	<6	<6
Baltimore County	147	101	35	<6	s
Calvert	15	s	<6	0	0
Caroline	9	s	<6	0	0
Carroll	32	s	<6	0	<6
Cecil	22	s	<6	<6	<6
Charles	29	17	<6	<6	<6
Dorchester	7	<6	<6	0	0
Frederick	50	s	0	<6	0
Garrett	6	6	0	0	0
Harford	43	35	s	0	<6
Howard	37	24	9	<6	<6
Kent	<6	<6	<6	0	0
Montgomery	164	105	20	28	11
Prince George's	176	55	98	13	10
Queen Anne's	9	s	<6	0	<6
Saint Mary's	23	19	<6	0	<6
Somerset	10	s	<6	0	0
Talbot	10	s	<6	0	0
Washington	36	s	<6	0	<6
Wicomico	32	24	s	<6	<6
Worcester	18	s	<6	0	0
Unknown	9	<6	0	<6	<6

s=Number was suppressed to ensure confidentiality of cell in other column

Cells with 5 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 1996-2000

**Table 71.**  
**Cervical Cancer Age-Adjusted Incidence Rates\***  
**by Jurisdiction and Race, Maryland, 1996-2000**

Jurisdiction	Total	Race		
		Whites	Blacks	Others
Maryland	9.1	7.9	11.2	12.7
Allegany	12.0	**	0.0	0.0
Anne Arundel	8.2	6.6	**	**
Baltimore City	13.1	11.9	13.6	**
Baltimore County	7.0	5.8	12.5	**
Calvert	**	**	**	0.0
Caroline	**	**	**	0.0
Carroll	8.7	8.5	**	0.0
Cecil	**	**	**	**
Charles	10.3	**	**	**
Dorchester	**	**	**	0.0
Frederick	11.3	11.9	0.0	**
Garrett	**	**	0.0	0.0
Harford	8.0	7.4	**	0.0
Howard	6.2	**	**	**
Kent	**	**	**	0.0
Montgomery	7.1	6.0	**	12.4
Prince George's	9.4	7.3	10.5	**
Queen Anne's	**	**	**	0.0
Saint Mary's	**	**	**	0.0
Somerset	**	**	**	0.0
Talbot	**	**	**	0.0
Washington	10.6	10.3	**	0.0
Wicomico	15.2	**	**	**
Worcester	**	**	**	0.0

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

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 1996-2000

**Table 72.**  
**Number of Cervical Cancer Deaths**  
**by Jurisdiction and Race, Maryland, 1996-2000**

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	388	227	150	11
Allegany	9	9	0	0
Anne Arundel	20	s	<6	0
Baltimore City	106	s	70	<6
Baltimore County	33	25	s	<6
Calvert	<6	<6	<6	<6
Caroline	<6	<6	<6	0
Carroll	8	s	<6	0
Cecil	8	<6	<6	0
Charles	9	6	<6	<6
Dorchester	7	s	<6	0
Frederick	11	11	0	0
Garrett	<6	<6	0	0
Harford	14	s	<6	0
Howard	15	11	<6	<6
Kent	<6	<6	<6	0
Montgomery	35	25	s	<6
Prince George's	48	s	30	<6
Queen Anne's	<6	<6	0	0
Saint Mary's	<6	<6	<6	0
Somerset	<6	<6	<6	0
Talbot	6	<6	<6	0
Washington	19	s	<6	0
Wicomico	11	s	<6	0
Worcester	6	<6	<6	0

s=Number was suppressed to ensure confidentiality of cell in other column

Cells with 5 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Division of Health Statistics, 1996-2000

**Table 73.  
Cervical Cancer Age-Adjusted Mortality Rates\*  
by Jurisdiction and Race, Maryland, 1996-2000**

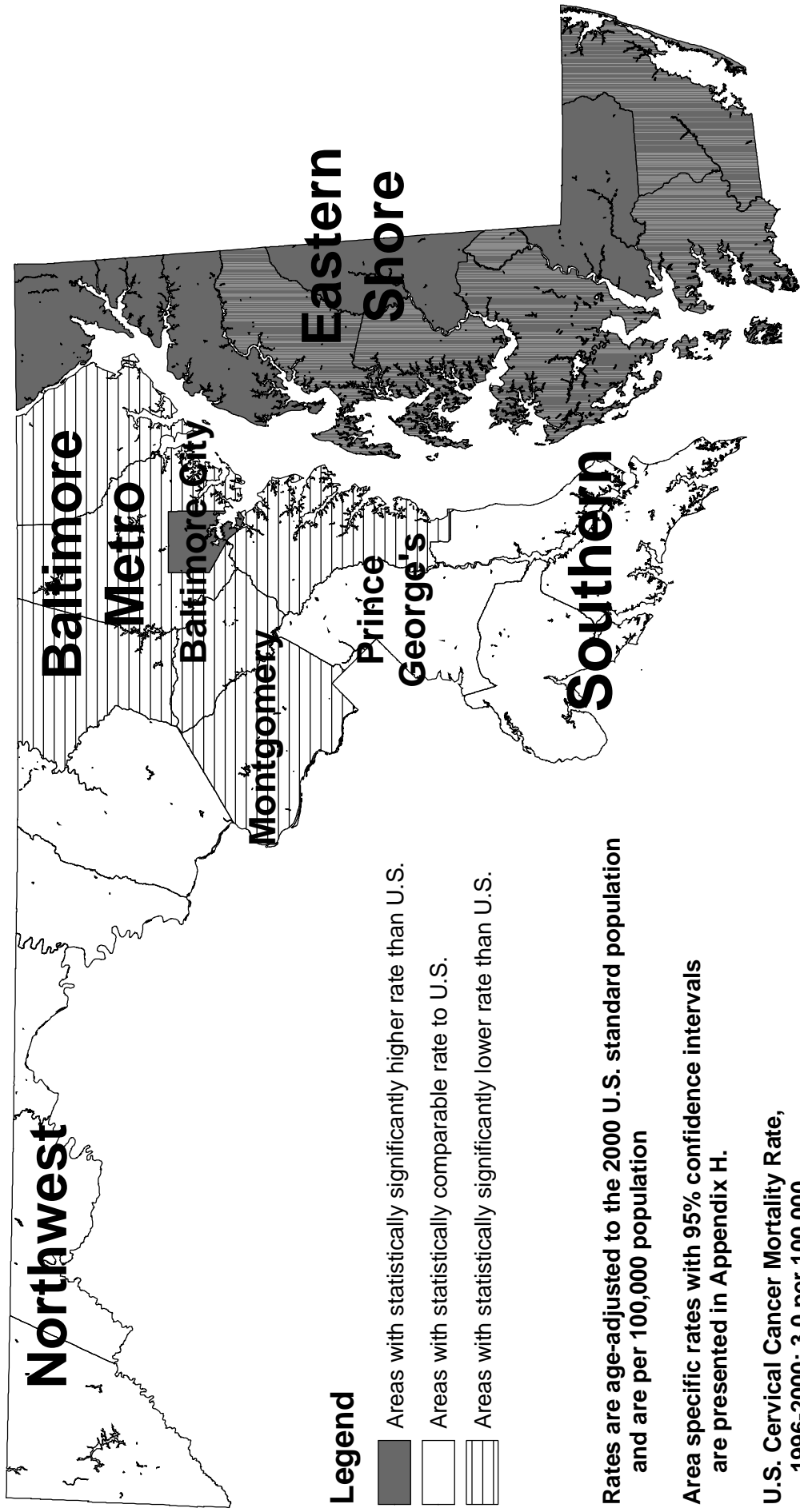
Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	2.9	2.3	4.8	**
Allegany	**	**	0.0	0.0
Anne Arundel	**	**	**	0.0
Baltimore City	5.9	4.9	6.4	**
Baltimore County	1.5	**	**	**
Calvert	**	**	**	**
Caroline	**	**	**	0.0
Carroll	**	**	**	0.0
Cecil	**	**	**	0.0
Charles	**	**	**	**
Dorchester	**	**	**	0.0
Frederick	**	**	0.0	0.0
Garrett	**	**	0.0	0.0
Harford	**	**	**	0.0
Howard	**	**	**	**
Kent	**	**	**	0.0
Montgomery	1.5	**	**	**
Prince George's	2.6	**	3.2	**
Queen Anne's	**	**	0.0	0.0
Saint Mary's	**	**	**	0.0
Somerset	**	**	**	0.0
Talbot	**	**	**	0.0
Washington	**	**	**	0.0
Wicomico	**	**	**	0.0
Worcester	**	**	**	0.0

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

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Division of Health Statistics, 1996-2000

# Maryland Cervical Cancer Mortality Rates by Geographical Area: Comparison to U.S. Rates, 1996-2000



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

Area specific rates with 95% confidence intervals are presented in Appendix H.

U.S. Cervical Cancer Mortality Rate, 1996-2000: 3.0 per 100,000

Source: Maryland Division of Health Statistics, 1996-2000



## **IV. County-Specific Data**

### **Incidence and Mortality Data by County**

Five-year combined incidence and mortality data for 1996 to 2000 by jurisdiction, presented with the rates for Maryland and the U.S., are provided in this section.

The rates for counties and Baltimore City may be based on small numbers of cases or small population sizes. Therefore, comparisons of rates of one jurisdiction to the U.S., Maryland, or another jurisdiction may not be valid. For valid mortality comparisons, refer to Appendix H and the maps.





**Table 74.  
Incidence (1996-2000) and Mortality Rates\* (1996-2000) by Type of Cancer  
Allegany County, Maryland, and U.S.**

Type of Cancer	Incidence (1996-2000)			Mortality (1996-2000)			
	County Number	County Rate	MD Rate	U.S. SEER Rate	County Rate	MD Rate	U.S. SEER Rate
All Cancers	2,432	509.0	498.1	480.4	206.3	216.3	202.3
Lung and Bronchus	399	79.4	75.3	65.5	62.3	61.6	56.8
Colorectal	337	67.4	58.3	55.1	28.1	24.0	21.2
Female Breast	317	121.6	140.0	137.1	17.4	30.0	27.7
Prostate	345	165.6	184.6	172.8	25.3	36.3	32.9
Oral	59	13.0	11.5	11.1	**	3.3	2.9
Melanoma	59	14.4	16.4	17.5	**	2.5	2.7
Cervical	26	12.0	9.1	8.7	**	2.9	3.0

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

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 1996-2000

Maryland Division of Health Statistics, 1996-2000

SEER, National Cancer Institute, 1996-2000

**Table 75.  
Incidence (1996-2000) and Mortality Rates\* (1996-2000) by Type of Cancer  
Anne Arundel County, Maryland, and U.S.**

Type of Cancer	Incidence (1996-2000)				Mortality (1996-2000)			
	County Number	County Rate	MD Rate	U.S. SEER Rate	County Number	County Rate	MD Rate	U.S. SEER Rate
All Cancers	10,847	520.9	498.1	480.4	4,378	225.4	216.3	202.3
Lung and Bronchus	1,784	88.7	75.3	65.5	1,389	70.5	61.6	56.8
Colorectal	1,135	57.4	58.3	55.1	447	24.0	24.0	21.2
Female Breast	1,775	153.2	140.0	137.1	360	31.9	30.0	27.7
Prostate	1,580	172.5	184.6	172.8	208	32.5	36.3	32.9
Oral	270	12.7	11.5	11.1	64	3.4	3.3	2.9
Melanoma	495	21.9	16.4	17.5	57	2.7	2.5	2.7
Cervical	101	8.2	9.1	8.7	20	**	2.9	3.0

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

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 1996-2000  
Maryland Division of Health Statistics, 1996-2000  
SEER, National Cancer Institute, 1996-2000

**Table 76.**  
**Incidence (1996-2000) and Mortality Rates\* (1996-2000) by Type of Cancer**  
**Baltimore City, Maryland, and U.S.**

Type of Cancer	Incidence (1996-2000)				Mortality (1996-2000)			
	City Number	City Rate	MD Rate	U.S. SEER Rate	City Number	City Rate	MD Rate	U.S. SEER Rate
All Cancers	17,885	549.0	498.1	480.4	9,327	285.1	216.3	202.3
Lung and Bronchus	3,256	99.5	75.3	65.5	2,829	86.2	61.6	56.8
Colorectal	2,104	64.1	58.3	55.1	1,002	30.6	24.0	21.2
Female Breast	2,426	132.1	140.0	137.1	718	37.4	30.0	27.7
Prostate	2,725	205.1	184.6	172.8	624	53.8	36.3	32.9
Oral	515	16.3	11.5	11.1	189	5.9	3.3	2.9
Melanoma	279	8.6	16.4	17.5	53	1.6	2.5	2.7
Cervical	238	13.1	9.1	8.7	106	5.9	2.9	3.0

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

Source: Maryland Cancer Registry, 1996-2000  
 Maryland Division of Health Statistics, 1996-2000  
 SEER, National Cancer Institute, 1996-2000

**Table 77.**  
**Incidence (1995-99) and Mortality Rates\* (1996-2000) by Type of Cancer**  
**Baltimore County, Maryland, and U.S.**

Type of Cancer	Incidence (1996-2000)			Mortality (1996-2000)				
	County Number	County Rate	MD Rate	U.S. SEER Rate	County Number	County Rate	MD Rate	U.S. SEER Rate
All Cancers	20,739	502.1	498.1	480.4	8,904	212.6	216.3	202.3
Lung and Bronchus	3,203	75.6	75.3	65.5	2,615	61.6	61.6	56.8
Colorectal	2,485	59.5	58.3	55.1	1,009	24.0	24.0	21.2
Female Breast	3,163	142.4	140.0	137.1	682	28.8	30.0	27.7
Prostate	3,221	176.8	184.6	172.8	483	31.1	36.3	32.9
Oral	472	11.6	11.5	11.1	117	2.8	3.3	2.9
Melanoma	746	18.6	16.4	17.5	110	2.7	2.5	2.7
Cervical	147	7.0	9.1	8.7	33	1.5	2.9	3.0

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

Source: Maryland Cancer Registry, 1996-2000  
Maryland Division of Health Statistics, 1996-2000  
SEER, National Cancer Institute, 1996-2000

**Table 78.  
Incidence (1996-2000) and Mortality Rates\* (1996-2000) by Type of Cancer  
Calvert County, Maryland, and U.S.**

Type of Cancer	Incidence (1996-2000)				Mortality (1996-2000)			
	County Number	County Rate	MD Rate	U.S. SEER Rate	County Number	County Rate	MD Rate	U.S. SEER Rate
All Cancers	1,437	494.0	498.1	480.4	596	218.7	216.3	202.3
Lung and Bronchus	230	82.8	75.3	65.5	186	67.5	61.6	56.8
Colorectal	169	62.4	58.3	55.1	68	26.7	24.0	21.2
Female Breast	205	126.6	140.0	137.1	29	18.2	30.0	27.7
Prostate	230	177.2	184.6	172.8	40	43.5	36.3	32.9
Oral	39	13.4	11.5	11.1	11	**	3.3	2.9
Melanoma	58	18.1	16.4	17.5	14	**	2.5	2.7
Cervical	15	**	9.1	8.7	<6	**	2.9	3.0

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

Cells with 5 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 1996-2000

Maryland Division of Health Statistics, 1996-2000

SEER, National Cancer Institute, 1996-2000

**Table 79.  
Incidence (1996-2000) and Mortality Rates\* (1996-2000) by Type of Cancer  
Caroline County, Maryland, and U.S.**

Type of Cancer	Incidence (1996-2000)				Mortality (1996-2000)			
	County Number	County Rate	MD Rate	U.S. SEER Rate	County Number	County Rate	MD Rate	U.S. SEER Rate
All Cancers	808	522.3	498.1	480.4	343	219.0	216.3	202.3
Lung and Bronchus	141	90.5	75.3	65.5	113	72.0	61.6	56.8
Colorectal	119	76.3	58.3	55.1	48	30.8	24.0	21.2
Female Breast	118	145.3	140.0	137.1	23	**	30.0	27.7
Prostate	113	160.0	184.6	172.8	19	**	36.3	32.9
Oral	16	**	11.5	11.1	<6	**	3.3	2.9
Melanoma	39	25.8	16.4	17.5	<6	**	2.5	2.7
Cervical	9	**	9.1	8.7	<6	**	2.9	3.0

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

Cells with 5 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 1996-2000

Maryland Division of Health Statistics, 1996-2000

SEER, National Cancer Institute, 1996-2000

**Table 80.  
Incidence (1996-2000) and Mortality Rates\* (1996-2000) by Type of Cancer  
Carroll County, Maryland, and U.S.**

Type of Cancer	Incidence (1996-2000)				Mortality (1996-2000)			
	County Number	County Rate	MD Rate	U.S. SEER Rate	County Number	County Rate	MD Rate	U.S. SEER Rate
All Cancers	3,387	508.7	498.1	480.4	1,300	200.0	216.3	202.3
Lung and Bronchus	444	68.8	75.3	65.5	359	56.0	61.6	56.8
Colorectal	381	58.5	58.3	55.1	148	22.8	24.0	21.2
Female Breast	500	134.4	140.0	137.1	82	22.5	30.0	27.7
Prostate	519	186.7	184.6	172.8	75	32.1	36.3	32.9
Oral	73	10.8	11.5	11.1	13	**	3.3	2.9
Melanoma	176	24.2	16.4	17.5	33	4.9	2.5	2.7
Cervical	32	8.7	9.1	8.7	8	**	2.9	3.0

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

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 1996-2000

Maryland Division of Health Statistics, 1996-2000

SEER, National Cancer Institute, 1996-2000



**Table 81.**  
**Incidence (1996-2000) and Mortality Rates\* (1996-2000) by Type of Cancer**  
**Cecil County, Maryland, and U.S.**

Type of Cancer	Incidence (1996-2000)				Mortality (1996-2000)			
	County Number	County Rate	MD Rate	U.S. SEER Rate	County Number	County Rate	MD Rate	U.S. SEER Rate
All Cancers	1,859	506.9	498.1	480.4	849	243.0	216.3	202.3
Lung and Bronchus	328	90.1	75.3	65.5	267	74.3	61.6	56.8
Colorectal	198	55.0	58.3	55.1	74	21.4	24.0	21.2
Female Breast	248	125.9	140.0	137.1	65	33.4	30.0	27.7
Prostate	276	168.4	184.6	172.8	66	54.4	36.3	32.9
Oral	48	12.7	11.5	11.1	14	**	3.3	2.9
Melanoma	74	19.4	16.4	17.5	18	**	2.5	2.7
Cervical	22	**	9.1	8.7	8	**	2.9	3.0

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

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 1996-2000

Maryland Division of Health Statistics, 1996-2000

SEER, National Cancer Institute, 1996-2000

**Table 82.**  
**Incidence (1996-2000) and Mortality Rates\* (1996-2000) by Type of Cancer**  
**Charles County, Maryland, and U.S.**

Type of Cancer	Incidence (1996-2000)				Mortality (1996-2000)			
	County Number	County Rate	MD Rate	U.S. SEER Rate	County Number	County Rate	MD Rate	U.S. SEER Rate
All Cancers	2,133	508.8	498.1	480.4	965	250.0	216.3	202.3
Lung and Bronchus	333	82.8	75.3	65.5	306	77.1	61.6	56.8
Colorectal	223	56.6	58.3	55.1	103	28.1	24.0	21.2
Female Breast	319	131.3	140.0	137.1	67	29.7	30.0	27.7
Prostate	410	240.5	184.6	172.8	64	56.7	36.3	32.9
Oral	48	10.5	11.5	11.1	26	5.8	3.3	2.9
Melanoma	66	13.2	16.4	17.5	10	**	2.5	2.7
Cervical	29	10.3	9.1	8.7	9	**	2.9	3.0

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

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 1996-2000

Maryland Division of Health Statistics, 1996-2000

SEER, National Cancer Institute, 1996-2000

**Table 83.  
Incidence (1996-2000) and Mortality Rates\* (1996-2000) by Type of Cancer  
Dorchester County, Maryland, and U.S.**

Type of Cancer	Incidence (1996-2000)				Mortality (1996-2000)			
	County Number	County Rate	MD Rate	U.S. SEER Rate	County Number	County Rate	MD Rate	U.S. SEER Rate
All Cancers	1,022	544.2	498.1	480.4	457	236.4	216.3	202.3
Lung and Bronchus	183	94.2	75.3	65.5	137	71.6	61.6	56.8
Colorectal	140	71.9	58.3	55.1	47	23.7	24.0	21.2
Female Breast	140	143.4	140.0	137.1	28	25.8	30.0	27.7
Prostate	141	163.3	184.6	172.8	37	47.9	36.3	32.9
Oral	28	15.6	11.5	11.1	<6	**	3.3	2.9
Melanoma	25	**	16.4	17.5	<6	**	2.5	2.7
Cervical	7	**	9.1	8.7	7	**	2.9	3.0

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

Cells with 5 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 1996-2000

Maryland Division of Health Statistics, 1996-2000

SEER, National Cancer Institute, 1996-2000

**Table 84.  
Incidence (1996-2000) and Mortality Rates\* (1996-2000) by Type of Cancer  
Frederick County, Maryland, and U.S.**

Type of Cancer	Incidence (1996-2000)				Mortality (1996-2000)			
	County Number	County Rate	MD Rate	U.S. SEER Rate	County Number	County Rate	MD Rate	U.S. SEER Rate
All Cancers	3,833	495.5	498.1	480.4	1,500	203.5	216.3	202.3
Lung and Bronchus	486	65.3	75.3	65.5	429	58.3	61.6	56.8
Colorectal	465	62.5	58.3	55.1	179	24.8	24.0	21.2
Female Breast	631	145.8	140.0	137.1	119	28.4	30.0	27.7
Prostate	550	172.2	184.6	172.8	78	28.8	36.3	32.9
Oral	68	8.8	11.5	11.1	19	**	3.3	2.9
Melanoma	166	20.2	16.4	17.5	22	**	2.5	2.7
Cervical	50	11.3	9.1	8.7	11	**	2.9	3.0

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

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 1996-2000

Maryland Division of Health Statistics, 1996-2000

SEER, National Cancer Institute, 1996-2000

**Table 85.  
Incidence (1996-2000) and Mortality Rates\* (1996-2000) by Type of Cancer  
Garrett County, Maryland, and U.S.**

Type of Cancer	Incidence (1996-2000)				Mortality (1996-2000)			
	County Number	County Rate	MD Rate	U.S. SEER Rate	County Number	County Rate	MD Rate	U.S. SEER Rate
All Cancers	712	435.2	498.1	480.4	298	178.9	216.3	202.3
Lung and Bronchus	106	63.4	75.3	65.5	86	51.3	61.6	56.8
Colorectal	93	55.2	58.3	55.1	45	27.2	24.0	21.2
Female Breast	117	134.9	140.0	137.1	23	**	30.0	27.7
Prostate	117	153.4	184.6	172.8	17	**	36.3	32.9
Oral	9	**	11.5	11.1	<6	**	3.3	2.9
Melanoma	20	**	16.4	17.5	<6	**	2.5	2.7
Cervical	6	**	9.1	8.7	<6	**	2.9	3.0

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

Cells with 5 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 1996-2000

Maryland Division of Health Statistics, 1996-2000

SEER, National Cancer Institute, 1996-2000

**Table 86.**  
**Incidence (1995-99) and Mortality Rates\* (1996-2000) by Type of Cancer**  
**Harford County, Maryland, and U.S.**

Type of Cancer	Incidence (1996-2000)				Mortality (1996-2000)			
	County Number	County Rate	MD Rate	U.S. SEER Rate	County Number	County Rate	MD Rate	U.S. SEER Rate
All Cancers	4,708	517.2	498.1	480.4	1,830	213.8	216.3	202.3
Lung and Bronchus	710	80.5	75.3	65.5	543	62.6	61.6	56.8
Colorectal	494	57.1	58.3	55.1	187	22.4	24.0	21.2
Female Breast	631	123.4	140.0	137.1	134	26.9	30.0	27.7
Prostate	765	197.4	184.6	172.8	115	39.4	36.3	32.9
Oral	102	10.9	11.5	11.1	25	**	3.3	2.9
Melanoma	231	22.7	16.4	17.5	25	**	2.5	2.7
Cervical	43	8.0	9.1	8.7	14	**	2.9	3.0

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

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 1996-2000

Maryland Division of Health Statistics, 1996-2000

SEER, National Cancer Institute, 1996-2000

**Table 87.  
Incidence (1996-2000) and Mortality Rates\* (1996-2000) by Type of Cancer  
Howard County, Maryland, and U.S.**

Type of Cancer	Incidence (1996-2000)				Mortality (1996-2000)			
	County Number	County Rate	MD Rate	U.S. SEER Rate	County Number	County Rate	MD Rate	U.S. SEER Rate
All Cancers	3,884	452.5	498.1	480.4	1,521	199.5	216.3	202.3
Lung and Bronchus	490	64.6	75.3	65.5	402	54.2	61.6	56.8
Colorectal	390	50.4	58.3	55.1	151	20.6	24.0	21.2
Female Breast	732	141.9	140.0	137.1	137	29.0	30.0	27.7
Prostate	584	165.4	184.6	172.8	85	36.6	36.3	32.9
Oral	66	7.4	11.5	11.1	23	**	3.3	2.9
Melanoma	194	19.1	16.4	17.5	27	2.8	2.5	2.7
Cervical	37	6.2	9.1	8.7	15	**	2.9	3.0

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

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 1996-2000

Maryland Division of Health Statistics, 1965-2000

SEER, National Cancer Institute, 1996-2000

**Table 88.**  
**Incidence (1996-2000) and Mortality Rates\* (1996-2000) by Type of Cancer**  
**Kent County, Maryland, and U.S.**

Type of Cancer	Incidence (1996-2000)				Mortality (1996-2000)			
	County Number	County Rate	MD Rate	U.S. SEER Rate	County Number	County Rate	MD Rate	U.S. SEER Rate
All Cancers	614	493.2	498.1	480.4	259	197.9	216.3	202.3
Lung and Bronchus	112	84.3	75.3	65.5	77	57.8	61.6	56.8
Colorectal	62	46.8	58.3	55.1	27	20.1	24.0	21.2
Female Breast	91	143.7	140.0	137.1	17	**	30.0	27.7
Prostate	88	143.4	184.6	172.8	17	**	36.3	32.9
Oral	13	**	11.5	11.1	<6	**	3.3	2.9
Melanoma	28	25.9	16.4	17.5	<6	**	2.5	2.7
Cervical	<6	**	9.1	8.7	<6	**	2.9	3.0

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

Cells with 5 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 1996-2000

Maryland Division of Health Statistics, 1996-2000

SEER, National Cancer Institute, 1996-2000



**Table 89.**  
**Incidence (1996-2000) and Mortality Rates\* (1996-2000) by Type of Cancer**  
**Montgomery County, Maryland, and U.S.**

Type of Cancer	Incidence (1996-2000)				Mortality (1996-2000)			
	County Number	County Rate	MD Rate	U.S. SEER Rate	County Number	County Rate	MD Rate	U.S. SEER Rate
All Cancers	17,762	445.6	498.1	480.4	6,323	162.7	216.3	202.3
Lung and Bronchus	1,925	49.5	75.3	65.5	1,431	37.1	61.6	56.8
Colorectal	1,810	46.4	58.3	55.1	665	17.3	24.0	21.2
Female Breast	3,393	150.9	140.0	137.1	611	26.9	30.0	27.7
Prostate	3,077	182.8	184.6	172.8	376	28.0	36.3	32.9
Oral	353	8.8	11.5	11.1	76	2.0	3.3	2.9
Melanoma	667	16.0	16.4	17.5	103	2.6	2.5	2.7
Cervical	164	7.1	9.1	8.7	35	1.5	2.9	3.0

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

Source: Maryland Cancer Registry, 1996-2000  
Maryland Division of Health Statistics, 1996-2000  
SEER, National Cancer Institute, 1996-2000

**Table 90.  
Incidence (1996-2000) and Mortality Rates\* (1996-2000) by Type of Cancer  
Prince George's County, Maryland, and U.S.**

Type of Cancer	Incidence (1996-2000)			Mortality (1996-2000)				
	County Number	County Rate	MD Rate	U.S. SEER Rate	County Number	County Rate	MD Rate	U.S. SEER Rate
All Cancers	14,000	486.8	498.1	480.4	5,894	222.9	216.3	202.3
Lung and Bronchus	1,869	68.0	75.3	65.5	1,575	58.9	61.6	56.8
Colorectal	1,671	63.1	58.3	55.1	668	26.6	24.0	21.2
Female Breast	2,333	134.1	140.0	137.1	537	32.7	30.0	27.7
Prostate	2,606	218.0	184.6	172.8	343	42.6	36.3	32.9
Oral	326	10.6	11.5	11.1	102	3.6	3.3	2.9
Melanoma	219	7.2	16.4	17.5	43	1.5	2.5	2.7
Cervical	176	9.4	9.1	8.7	48	2.6	2.9	3.0

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

Source: Maryland Cancer Registry, 1996-2000  
Maryland Division of Health Statistics, 1996-2000  
SEER, National Cancer Institute, 1996-2000

**Table 91.  
Incidence (1996-2000) and Mortality Rates\* (1996-2000) by Type of Cancer  
Queen Anne's County, Maryland, and U.S.**

Type of Cancer	Incidence (1996-2000)			Mortality (1996-2000)				
	County Number	County Rate	MD Rate	U.S. SEER Rate	County Number	County Rate	MD Rate	U.S. SEER Rate
All Cancers	966	465.3	498.1	480.4	423	209.5	216.3	202.3
Lung and Bronchus	163	77.4	75.3	65.5	136	64.9	61.6	56.8
Colorectal	126	63.5	58.3	55.1	37	19.3	24.0	21.2
Female Breast	131	120.1	140.0	137.1	27	24.6	30.0	27.7
Prostate	134	127.5	184.6	172.8	18	25.5	36.3	32.9
Oral	34	16.2	11.5	11.1	<6	**	3.3	2.9
Melanoma	43	21.7	16.4	17.5	7	**	2.5	2.7
Cervical	9	**	9.1	8.7	<6	**	2.9	3.0

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

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 1996-2000

Maryland Division of Health Statistics, 1996-2000

SEER, National Cancer Institute, 1996-2000

**Table 92.**  
**Incidence (1996-2000) and Mortality Rates\* (1996-2000) by Type of Cancer**  
**Saint Mary's County, Maryland, and U.S.**

Type of Cancer	Incidence (1996-2000)				Mortality (1996-2000)			
	County Number	County Rate	MD Rate	U.S. SEER Rate	County Number	County Rate	MD Rate	U.S. SEER Rate
All Cancers	1,671	493.1	498.1	480.4	672	210.7	216.3	202.3
Lung and Bronchus	271	83.0	75.3	65.5	167	51.9	61.6	56.8
Colorectal	211	65.6	58.3	55.1	76	24.3	24.0	21.2
Female Breast	227	126.4	140.0	137.1	47	25.9	30.0	27.7
Prostate	220	141.2	184.6	172.8	40	32.2	36.3	32.9
Oral	55	15.8	11.5	11.1	8	**	3.3	2.9
Melanoma	63	17.1	16.4	17.5	12	**	2.5	2.7
Cervical	23	**	9.1	8.7	<6	**	2.9	3.0

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

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 1996-2000

Maryland Division of Health Statistics, 1996-2000

SEER, National Cancer Institute, 1996-2000

**Table 93.  
Incidence (1996-2000) and Mortality Rates\* (1996-2000) by Type of Cancer  
Somerset County, Maryland, and U.S.**

Type of Cancer	Incidence (1996-2000)				Mortality (1996-2000)			
	County Number	County Rate	MD Rate	U.S. SEER Rate	County Number	County Rate	MD Rate	U.S. SEER Rate
All Cancers	703	539.7	498.1	480.4	353	266.6	216.3	202.3
Lung and Bronchus	141	107.8	75.3	65.5	119	90.3	61.6	56.8
Colorectal	88	65.9	58.3	55.1	35	26.1	24.0	21.2
Female Breast	87	136.1	140.0	137.1	22	**	30.0	27.7
Prostate	92	148.1	184.6	172.8	22	**	36.3	32.9
Oral	12	**	11.5	11.1	<6	**	3.3	2.9
Melanoma	25	**	16.4	17.5	<6	**	2.5	2.7
Cervical	10	**	9.1	8.7	<6	**	2.9	3.0

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

Cells with 5 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 1996-2000

Maryland Division of Health Statistics, 1996-2000

SEER, National Cancer Institute, 1996-2000

**Table 94.**  
**Incidence (1996-2000) and Mortality Rates\* (1996-2000) by Type of Cancer**  
**Talbot County, Maryland, and U.S.**

Type of Cancer	Incidence (1996-2000)				Mortality (1996-2000)			
	County Number	County Rate	MD Rate	U.S. SEER Rate	County Number	County Rate	MD Rate	U.S. SEER Rate
All Cancers	1,188	501.7	498.1	480.4	474	188.8	216.3	202.3
Lung and Bronchus	155	62.6	75.3	65.5	113	45.2	61.6	56.8
Colorectal	154	62.8	58.3	55.1	60	23.9	24.0	21.2
Female Breast	188	153.9	140.0	137.1	35	25.4	30.0	27.7
Prostate	218	196.1	184.6	172.8	32	30.6	36.3	32.9
Oral	33	14.5	11.5	11.1	12	**	3.3	2.9
Melanoma	50	25.1	16.4	17.5	9	**	2.5	2.7
Cervical	10	**	9.1	8.7	6	**	2.9	3.0

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

Cells with 5 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 1996-2000

Maryland Division of Health Statistics, 1996-2000

SEER, National Cancer Institute, 1996-2000

**Table 95.  
Incidence (1996-2000) and Mortality Rates\* (1996-2000) by Type of Cancer  
Washington County, Maryland, and U.S.**

Type of Cancer	Incidence (1996-2000)				Mortality (1996-2000)			
	County Number	County Rate	MD Rate	U.S. SEER Rate	County Number	County Rate	MD Rate	U.S. SEER Rate
All Cancers	3,342	478.9	498.1	480.4	1,471	207.3	216.3	202.3
Lung and Bronchus	515	72.8	75.3	65.5	429	60.2	61.6	56.8
Colorectal	409	57.7	58.3	55.1	161	22.5	24.0	21.2
Female Breast	469	126.9	140.0	137.1	124	31.4	30.0	27.7
Prostate	421	138.7	184.6	172.8	81	31.1	36.3	32.9
Oral	76	11.0	11.5	11.1	22	**	3.3	2.9
Melanoma	160	23.5	16.4	17.5	15	**	2.5	2.7
Cervical	36	10.6	9.1	8.7	19	**	2.9	3.0

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

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 1996-2000

Maryland Division of Health Statistics, 1996-2000

SEER, National Cancer Institute, 1996-2000

**Table 96.  
Incidence (1996-2000) and Mortality Rates\* (1996-2000) by Type of Cancer  
Wicomico County, Maryland, and U.S.**

Type of Cancer	Incidence (1996-2000)				Mortality (1996-2000)			
	County Number	County Rate	MD Rate	U.S. SEER Rate	County Number	County Rate	MD Rate	U.S. SEER Rate
All Cancers	2,067	512.9	498.1	480.4	920	227.8	216.3	202.3
Lung and Bronchus	355	87.6	75.3	65.5	313	77.3	61.6	56.8
Colorectal	209	51.8	58.3	55.1	84	20.9	24.0	21.2
Female Breast	336	150.3	140.0	137.1	86	37.7	30.0	27.7
Prostate	258	152.0	184.6	172.8	47	33.5	36.3	32.9
Oral	43	10.7	11.5	11.1	13	**	3.3	2.9
Melanoma	119	29.8	16.4	17.5	12	**	2.5	2.7
Cervical	32	15.2	9.1	8.7	11	**	2.9	3.0

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

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 1996-2000

Maryland Division of Health Statistics, 1996-2000

SEER, National Cancer Institute, 1996-2000



**Table 97.**  
**Incidence (1996-2000) and Mortality Rates\* (1996-2000) by Type of Cancer**  
**Worcester County, Maryland, and U.S.**

Type of Cancer	Incidence (1996-2000)			Mortality (1996-2000)			
	County Number	County Rate	MD Rate	U.S. SEER Rate	County Rate	MD Rate	U.S. SEER Rate
All Cancers	1,621	558.8	498.1	480.4	226.7	216.3	202.3
Lung and Bronchus	296	97.7	75.3	65.5	66.2	61.6	56.8
Colorectal	188	61.8	58.3	55.1	26.2	24.0	21.2
Female Breast	206	139.2	140.0	137.1	25.4	30.0	27.7
Prostate	220	156.2	184.6	172.8	32.9	36.3	32.9
Oral	46	16.0	11.5	11.1	**	3.3	2.9
Melanoma	90	33.7	16.4	17.5	**	2.5	2.7
Cervical	18	**	9.1	8.7	**	2.9	3.0

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

\*\* Rates based on cells with 25 or fewer non-zero cases are not presented per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 1996-2000

Maryland Division of Health Statistics, 1996-2000

SEER, National Cancer Institute, 1996-2000

## **Appendix A**

### **Cigarette Restitution Fund Annual Cancer Report Requirements**



## Cigarette Restitution Fund Annual Cancer Report Requirements

The Maryland General Assembly established a Cigarette Restitution Fund (CRF) to provide for the distribution of funds from the tobacco settlement (Enrolled House Bill 1425-2000/Enrolled Senate Bill 896-2000). The law creates a Tobacco Use Prevention and Cessation Program and a Cancer Prevention, Education, Screening and Treatment Program and provides parameters on how the funds may be spent. One provision of the law requires the Maryland Department of Health and Mental Hygiene to conduct a baseline cancer survey (2000) as well as cancer surveys thereafter.

The law requires that the survey includes:

- (1) The number and percentage of individuals who have each targeted cancer, both statewide and in each county;
- (2) The number and percentage of individuals within each minority population who have each targeted cancer, both statewide and in each county;
- (3) The mortality rate for each targeted cancer, both statewide and in each county;
- (4) The mortality rate for the different minority populations for each targeted cancer, both statewide and in each county;
- (5) The number of identifiable cancers with a high incidence in the State for which there are effective methods of prevention and early detection, and treatment after detection;
- (6) Any aspect of targeted and non-targeted cancers that DHMH seeks to measure; and
- (7) Any other factor that DHMH determines to be important for measuring rates of cancer in the State or for evaluating whether the program meets its objectives.

This information is provided in this Annual Cancer Report as follows:

<b><i>Required Component of the Annual Cancer Report</i></b>	<b><i>Location of Information in this Report</i></b>
1. Number and percent of individuals having each targeted cancer, both statewide and in each jurisdiction.	Tables 1, 2, 3, 4, 7, 8, 11, 12, 13, 16, 17, 20, 21, 22, 25, 26, 29, 30, 31, 34, 35, 38, 39, 40, 43, 44, 47, 48, 49, 52, 53, 56, 57, 58, 61, 62, 65, 66, 67, 70, 71, 74-97
2. Number and percent of individuals within each minority population having each targeted cancer, both statewide and in each jurisdiction.	Same as above.
3. Mortality rate for each targeted cancer both statewide and in each jurisdiction.	Tables 1, 5, 6, 9, 10, 11, 14, 15, 18, 19, 20, 23, 24, 27, 28, 29, 32, 33, 36, 37, 38, 41, 42, 45, 46, 47, 50, 51, 54, 55, 56, 59, 60, 63, 64, 65, 68, 69, 72, 73, 74-97
4. Mortality rate for the different minority populations for each targeted cancer, both statewide and in each county.	Same as above.
5. Number of identifiable cancers with a high incidence in the State for which there are effective methods of prevention and early detection, and treatment after detection.	High incidence and effective prevention: Lung cancer: Tables 11, 12, 13, 16, 17 High incidence and effective detection: Colorectal and breast cancer: Tables 20, 21, 22, 25, 26, 29, 30, 31, 34, 35

<p>6. Other aspects of targeted and non-targeted cancers that the Department seeks to measure.</p>	<p>For cancer overall and for each targeted cancer, the report:</p> <ol style="list-style-type: none"> <li>1. Compares Maryland incidence and mortality rates to that of the U.S.;</li> <li>2. Shows 5-year mortality trends and 5-year combined data;</li> <li>3. Presents 5-year combined incidence data;</li> <li>4. Shows stage of disease at diagnosis;</li> <li>5. Lists appropriate Healthy People 2010 objective(s) for each targeted cancer and identifies where Maryland and the U.S. currently are in meeting the respective objective(s);</li> <li>6. Describes the current evidence for screening, primary prevention and chemoprevention for each targeted cancer, based on scientific literature; and</li> <li>7. Describes the recommended public health intervention for each targeted cancer based on the evidence referenced above.</li> </ol> <p>This information is located throughout the report.</p>
<p>7. Other factors that the Department determines to be important for measuring rates of cancer in the State or for evaluating whether the program meets its objectives.</p>	<p>Same as above.</p>

## **Appendix B**

### **Annual Cancer Report Format**



## **Annual Cancer Report Format**

### *1. Selection of Targeted Cancers*

Under the Cigarette Restitution Fund's Cancer Prevention, Education, Screening and Treatment Program, DHMH targeted seven cancer sites: lung and bronchus, colon and rectum, female breast, prostate, oral, melanoma of the skin, and cervix. These cancers have been targeted because they can be prevented (e.g., lung and bronchus, melanoma of the skin) or detected early and treated (e.g., colon and rectum, female breast, cervical, oral), or are a major cause of cancer death (e.g., prostate).

### *2. Report Format*

Information provided in this report focuses on all combined cancer sites reported in Maryland and the seven specific cancer sites targeted by the Cancer Prevention, Education, Screening and Treatment Program.

For each targeted cancer site and all sites combined, the number of new cancers, cancer deaths, and age-adjusted cancer incidence and mortality rates are presented by race, gender, and jurisdiction. All sites incidence is presented also by Hispanic ethnicity. All rates are age-adjusted to the 2000 U.S. standard population. For each targeted cancer site, trends in incidence and mortality, race-specific incidence and mortality rates, stage of disease at diagnosis, public health evidence, recommended areas for public health intervention, and Maryland screening/behavior rates compared to Healthy People 2010 screening/behavior objectives are also presented. Each section also contains 5-year combined data for incidence and mortality. A section with county-specific data portrays 5-year incidence and mortality data along with Maryland and U.S. rates.

Additionally, Maryland 2000 incidence and mortality rates with 95% confidence intervals (95% C.I.) were compared to U.S. 2000 data from the Surveillance, Epidemiology and End Results (SEER) Program Cancer Statistics Review (1996-2000). The SEER program does not provide statistics on "other" races for incidence and mortality; therefore, incidence and mortality counts and rates were not presented for the "other" race category. Incidence data on Hispanics have been added for all sites combined using a prescribed methodology for estimating Hispanic ethnicity. See Appendix C, Section D.7 (Data Considerations--Race and Ethnicity), for more information.

Figures (graphs and maps) are also used to display data. Graphs are used to display data on incidence and mortality from 1996-2000 with the estimated annual percentage change (EAPC) (see Appendix D, (Glossary), for more information on EAPC); incidence and mortality by race or gender; stage of diagnosis; and behaviors of persons in Maryland as compared to persons in the U.S. Maps portray Maryland mortality data as compared to the U.S. for the combined years 1996-2000 by geographical area. Maps denote areas with mortality rates statistically significantly higher and lower than that of the U.S.





## **Appendix C**

### **Annual Cancer Report Data Sources, References, and Data Considerations**



# Annual Cancer Report Data Sources, References, and Data Considerations

## A. Maryland Data Sources

The Maryland-specific data used in this report were supplied by offices in the Maryland Department of Health and Mental Hygiene (DHMH) including the Maryland Cancer Registry, the Division of Health Statistics, the Office of Surveillance and Assessment, Center for Health Promotion, Education and Tobacco Use Prevention, and the Center for Cancer Surveillance and Control.

### *1. Maryland Cancer Registry*

The Maryland Cancer Registry (MCR), Center for Cancer Surveillance and Control, DHMH, is a computerized data system that registers all new cases of reportable cancers (excluding non-genital squamous cell or basal cell carcinoma) diagnosed or treated in Maryland. Incidence rates used in this report are calculated for the year 2000, in which the most complete data are available and includes all cases reported to the MCR as of November 2002.

#### *a. Registry Data Sources*

The Maryland cancer reporting law mandates the collection of cancer information from hospitals, radiation therapy centers, diagnostic laboratories (both in-state and out-of-state), 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 neighboring states including Delaware, Pennsylvania, Virginia, West Virginia, and the District of Columbia. Information on Maryland residents diagnosed or treated for cancer in these states is included in this report.

#### *b. MCR Data Quality and Completeness of Case Ascertainment*

MCR 2000 incidence data achieved the "gold" certification for high quality from the North American Association of Central Cancer Registries (NAACCR) certification program. MCR has been awarded the "gold" status three years in a row, for the year 1998, 1999, and 2000 data. MCR data were evaluated using the following criteria: data completeness, data quality, and timeliness.

### *2. Maryland Division of Health Statistics*

The Division of Health Statistics in the Vital Statistics Administration of DHMH registers births, deaths, marriages, and divorces. Data provided from this office includes numbers of deaths and Maryland population estimates. MCR used these data to calculate cancer mortality rates.

### *3. Behavioral Risk Factor Surveillance Survey*

The Maryland Behavioral Risk Factor Surveillance Survey (BRFSS) is an annual telephone survey conducted on a random sample of Maryland adult residents. This survey, managed by the Maryland DHMH, Center for Preventive Health Services, Office of Surveillance and Assessment

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 web site at <http://www.cdc.gov/brfss>.

#### *4. Maryland Cancer Survey*

The Maryland Cancer Survey (MCS) is managed by the DHMH, Center for Cancer Surveillance and Control, Surveillance and Evaluation Unit. The purpose of the MCS survey was 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. The methodology used in the MCS is similar to the Behavioral Risk Factor Surveillance Systems (BRFSS) survey. Unlike the BRFSS, the MCS focuses on people age 40 years and over, who have the highest risk of developing cancer.

#### *5. Maryland Youth Tobacco Survey and Maryland Adult Tobacco Survey*

The Maryland Youth Tobacco Survey (MYTS) and the Maryland Adult Tobacco Survey (MATS) are administered biennially for the purpose of gathering attitude, usage, and exposure information regarding tobacco products statewide and within each of the 23 counties and Baltimore City in Maryland. Survey results are also used in apportioning Local Tobacco Use Prevention and Cessation grants among Maryland's 24 major political subdivisions.

The most recent surveys were conducted in the fall of 2002. Over 66,000 students in eligible Maryland public middle and high schools completed MYTS survey questionnaires statewide. At the same time, approximately 25,000 Maryland adults age 18 or older participated in a computer assisted telephone survey.

Both the MYTS and the MATS surveys are managed by the Center for Health Promotion, Education, and Tobacco Use Prevention. Complete data for the MYTS and MATS are published on September 1 in the year following survey administration. Copies of published reports are available from the Center at 410-767-1362. Reports are also available through the DHMH web site at: <http://www.fha.state.md.us/crftp/html/stats.cfm>.

## **B. National Data Sources**

National statistics cited in this report were obtained from the federal Centers for Disease Control and Prevention (CDC), the Office of Disease Prevention and Health Promotion (U.S. Department of Health and Human Services), the National Center for Health Statistics (NCHS), and the National Cancer Institute (NCI).

### *1. National Health Interview Survey (NHIS)*

The National Health Interview Survey (NHIS) is a continuous in-person interview survey conducted on a random sample of households in the United States. The survey gathers information on the amount, distribution, and effects of illness and disability in the United States.

It is conducted and managed by the National Center for Health Statistics (NCHS). The NCHS Web site is [www.cdc.gov/nchs](http://www.cdc.gov/nchs).

## *2. Healthy People 2010*

Healthy People 2010 is a collaboration of local and national governmental agencies and private organizations that have developed national health objectives to improve the health of Americans. There are 28 focus areas and 467 specific objectives in Healthy People 2010. Healthy People 2010 objectives now have a year 2000 baseline; beginning with the baseline year, NHIS or other data being compared against the Healthy People 2010 objectives are age adjusted to the 2000 U.S. population. The Healthy People initiative is under the Office of Disease Prevention and Health Promotion, U.S. Department of Health and Human Services. Further information can be found on the web site at [www.health.gov/healthypeople](http://www.health.gov/healthypeople).

## *3. Surveillance, Epidemiology, and End Results Program (SEER)/National Center for Health Statistics*

The Surveillance, Epidemiology, and End Results (SEER) Program of the National Cancer Institute is an authoritative source of information on cancer incidence, stage, and survival in the United States. Staff of the National Cancer Institute manages SEER. The SEER Program collects and publishes cancer incidence and survival data in order to assemble and report estimates of cancer incidence, survival, and mortality in the United States. The data are collected from 11 cancer registries throughout the United States and are estimated to represent approximately 14% 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. The mortality data reported by SEER are provided by the National Center for Health Statistics. The SEER program began in 1973 and, in 1992, was expanded to increase coverage of minority populations, primarily Hispanics. The SEER program updates cancer statistics annually in a publication called the SEER Cancer Statistics Review (CSR). SEER data for specific cancers can be seen on the Web at: [http://www.seer.cancer.gov/csr/1975\\_2000/sections.html](http://www.seer.cancer.gov/csr/1975_2000/sections.html). Further information about SEER can also be found on the Web site at [www.seer.cancer.gov](http://www.seer.cancer.gov).

## **C. References Used for Public Health Evidence and Public Health Intervention Sections**

### *1. National Cancer Institute Physician Data Query (PDQ)*

Information provided in the chapters under the sections for "Public Health Evidence" and "Public Health Intervention" was taken primarily from the National Cancer Institute Physician Data Query (PDQ<sup>®</sup> CancerNet<sup>™</sup>) Web site. Prevention and screening sections from this source provide information for health professionals and the public on various aspects of cancer control such as prevention, screening, treatment, genetics, and clinical trials. The information is reviewed by a scientific editorial board and is updated as new research becomes available. Each statement listed in the PDQ is based on research with certain levels of evidence. The levels of evidence used by the National Cancer Institute PDQ, in order of strongest evidence to weakest evidence, are as follows:

1. Evidence obtained from at least one randomized controlled trial (this is considered the gold standard for scientific research);
2. Evidence obtained from controlled trials without randomization;
3. Evidence obtained from well-designed and conducted cohort or case-control studies, preferably from more than one center or research group;
4. Evidence obtained from multiple time series with or without intervention;
5. Opinions of respected authorities based on clinical experience, descriptive studies, or reports of expert committees.

More information about NCI PDQ can be accessed at:

[http://www.cancer.gov/cancer\\_information/pdq](http://www.cancer.gov/cancer_information/pdq)

This reference is used throughout the report for consistency in interpreting the results of scientific literature. For additional information, the Web site is [www.cancernet.nci.nih.gov](http://www.cancernet.nci.nih.gov).

Definitions include:

*“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).

*“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.

*“Screening”* is checking for disease when there are no symptoms resulting in detection of malignancies in situ or in an early stage.

5. *Maryland Department of Health and Mental Hygiene, Medical Advisory Committees for Breast, Cervical, Colorectal, Oral, and Prostate Cancer*

The Center for Cancer Surveillance and Control has convened four Medical Advisory Committees to formulate guidelines for breast, cervical, colorectal, and prostate cancer screening, diagnosis, and treatment. The Office of Oral Health has convened a Medical Advisory Committee to formulate guidelines for oral cancer.

#### 6. *Additional Medical Literature Cited*

Lung and Bronchus Cancer: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health. Best Practices for Comprehensive Tobacco Control Programs (August 1999). [http://www.cdc.gov/tobacco/research\\_data/stat\\_nat\\_data/bpfactsheet.htm](http://www.cdc.gov/tobacco/research_data/stat_nat_data/bpfactsheet.htm).

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<http://caonline.amcancersoc.org/cgi/content/full/53/1/27>.

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Cervical Cancer: Wright, T.C., Thomas, C., Steward, M., Twiggs, L.B., Wilkinson, E.J., 2001 Consensus Guidelines for the Management of Women With Cervical Cytological Abnormalities (2002). *Journal of the American Medical Association*, 287:16, 2120-29.

## **D. Data Considerations**

### *1. Data Confidentiality*

The Maryland Department of Health and Mental Hygiene (DHMH) regards all data received, processed, and reported to and by the Maryland Cancer Registry (MCR) and the Division of Health Statistics 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 Code of Maryland Regulations, COMAR 10.14.01 (Cancer Registry) and Health-General Article §§ 18-203 and 18-204, Annotated Code of Maryland.

In order to ensure patient confidentiality and to comply with the *MCR Data Use Policy*, cells with five or fewer cases are presented with “<6.” Cell counts that could be used to calculate the number of cases within a restricted cell are suppressed with “s.” Rates based on 25 or fewer cases are presented with asterisks (\*\*) because the rates are unstable and do not provide reliable information.



## *2. Gender*

Gender is now reported to the MCR as: a) male, b) female, c) hermaphrodite, d) transsexual, and e) unknown. 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.

## *3. Rate Analysis*

Incidence rates presented in this report were calculated using Maryland resident cancer cases diagnosed from January 1, 2000 through December 31, 2000, and reported to the MCR as of November 2002. The mortality data consist of deaths that occurred between January 1, 2000 and December 31, 2000.

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. Federal agencies have adopted the year 2000 U.S. standard population as the new standard for age-adjusting incidence and mortality rates, beginning with data year 1999. For consistency and ease of comparison, incidence and mortality rates in this report were calculated and age-adjusted using the 2000 U.S. population as the standard population. This new standard replaces prior standards based on the 1940 or 1970 standard population for the nation.

The age structure of the U.S. population has changed considerably between 1970 and 2000, with the 2000 population having a larger proportion of older persons than the 1970 population standard. Given that age is the most important risk factor for cancer, using the year 2000 U.S. standard population results in higher overall age-adjusted cancer incidence and mortality rates.

Because cancer incidence and mortality rates presented in this report have been standardized to the 2000 U.S. standard population, they may differ from similar rates presented for the same year in prior Cigarette Restitution Fund annual reports and other reports. Please note that the new standard may affect trends and narrow race differentials in age-adjusted death rates. Additional information on age-adjustment can be found at <http://www.cdc.gov/nchs/data/statnt/statnt20.pdf>.

Incidence and mortality rates are not presented for cells based on 25 or fewer cases. Rates based on numbers of this size are unstable and do not provide reliable information.

The Estimate Annual Percent Change (EAPC) was calculated for incidence and mortality over time (from 1996 to 2000). See Appendix D, Glossary, for the definition of EAPC.

## *4. Confidence Intervals and Statistical Significance*

A confidence interval is a range of values within which the true rate is expected to fall. If the confidence interval of a Maryland rate includes the U.S. (SEER) rate, Maryland and the U.S. are considered comparable or not statistically significantly different. All rates presented in this report were calculated at the 95 percent confidence level. For example, the 2000 U.S. SEER-reported lung cancer incidence rate was 62.3 per 100,000 population. Maryland's rate is 71.1 per 100,000.

The 95% confidence interval for this rate is 68.8 to 73.5. We have, therefore, a 95% degree of certainty that the true (real) rate is between 68.8 and 73.5 per 100,000 age-adjusted population. The way the test is applied for deciding whether two rates are different and the direction of the difference involves looking for overlapping ranges. If any part of the confidence interval for the two populations overlaps, there is no difference. If no overlapping occurs, then the two groups are statistically significantly different. The numerically larger non-overlapping category is statistically significantly higher. A slightly modified formula worked for SEER data because only a particular U.S. rate was available for representing the confidence interval. The way the method for testing confidence intervals for statistical significance was applied is different for SEER data because only a specific rate is known--not the confidence interval itself. Because U.S. data were based on a large sample, the range for the confidence interval is narrow. A small confidence interval enables the rate as a single data point to be used in place of a confidence interval. For additional information regarding the formula used to calculate the confidence level, refer to the National Cancer Institute/SEER Web site: [http://seer.cancer.gov/seerstat/WebHelp/Rate\\_Algorithms.htm](http://seer.cancer.gov/seerstat/WebHelp/Rate_Algorithms.htm).

#### *5. Year 2000 U.S. Population Standard*

Federal agencies have adopted the year 2000 U.S. standard population as the new standard for age-adjusting incidence and mortality rates, beginning in data year 1999 (see Appendix F). The year 2000 population standard replaces at least three different population standards used in earlier years. The use of multiple standards resulted in difficulties comparing data prepared by national and federal agencies, and caused confusion among data users and the general public. Use of the 2000 standard was recommended to promote uniformity of data among agencies, and to eliminate the need to calculate rates using more than one standard.

The age structure of the U.S. population has changed considerably between 1970 and 2000, and incidence and mortality for the years 1996-2000 presented in this report are all adjusted to the 2000 U.S. population and will differ from rates for the same year in prior reports. The CRF Annual Report began using the 2000 U.S. population base for age-adjusting of rates beginning with the published report in 2001. The 2000 population has a larger proportion of older persons than the 1970 population standard. Given that age is the most important risk factor for cancer, using the year 2000 standard results in higher overall age-adjusted cancer incidence and mortality rates.

#### *6. National Comparison Data*

Maryland and county incidence and mortality rates are compared to 2000 SEER incidence rates and 2000 U.S. mortality rates (NCHS). In addition, the SEER program does not provide rates for "other" races, so comparisons are not presented.

Maryland's mortality ranking among the 50 states and the District of Columbia for all cancers combined and for specific targeted cancers is based on a five-year average. SEER data contained in this report is based on the average annual age-adjusted cancer death rates by state, 1996-2000.

## *7. Race and Ethnicity*

The MCR began requiring submission of more detailed data on race and ethnicity beginning August 1998. Previously, race reported as Native American, Asian, and Pacific Islander were counted in the “other” race category. Because information on ethnicity was not reliably reported to the MCR in 2000, it is not included in this report. The present report does, however, include one table (see Table 4, page 11) depicting Hispanic cancer incidence. Only year 2000 new cases and incidence rates were included. The table shows overall counts and incidence rates by county and region for all cancer sites combined.

Hispanic ethnicity data as presented in Table 4 are derived from two sources using Maryland data from the MCR. The first method examines the ethnicity variable as recorded in the MCR that is obtained through chart abstraction/documentation from the reporting source. The second method estimates Hispanic ethnicity via analysis of a person’s surname, maiden name, birthplace, and racial coding.

## *8. Healthy People 2010 Objectives/BRFSS/MCS*

When behavioral risk behaviors are being compared to Healthy People 2010 objectives, measures change for cancer-related behaviors (e.g., screening tests) and the recommendations for their use. The Behavioral Risk Factor Surveillance System (BRFSS) and Maryland Cancer Survey (MCS) questions that measure screening and other health behaviors are also being updated to reflect changes in how risk behavior needs to be measured.

In addition, the Healthy People 2010 objectives may change over time to reflect new health-related behavior and screening recommendations. Comparisons in this report are made between the Healthy People 2010 objectives (age-adjusted to the year 2000 U.S. standard population) and data from the Maryland BRFSS and MCS, which is weighted to the age of Maryland population in that year. Unlike U.S. data used for Healthy People 2010, Maryland BRFSS and MCS data are both age-adjusted to the current Maryland population--not to the year 2000 U.S. standard population.

## *9. Appendices*

Please refer to additional appendices for Cigarette Restitution Fund Program Annual Cancer Report requirements, report format, technical notes and definitions, Maryland population counts, U.S. standard population for 2000, International Classification of Diseases (ICD) codes for cancer, and Maryland counts, rates, and confidence intervals for mortality data from 1996-2000.

## **Appendix D**

### **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. Therefore, 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:  
[www.cdc.gov/nchs/data/statnt/statnt20.pdf](http://www.cdc.gov/nchs/data/statnt/statnt20.pdf) and  
[www.cdc.gov/nchs/products/pubs/workpap/ageadjust.htm](http://www.cdc.gov/nchs/products/pubs/workpap/ageadjust.htm).
- **Ascertainment:** Ascertainment refers to the quality assurance procedures Maryland Cancer Registry staff use for insuring 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.
- **Estimated Annual Percentage Change (EAPC) (5-year trend data):** EAPC is measure of the annual percent increase or decrease in cancer rates over time. It is an estimated average change per year over a defined time span. For the purpose of this report, 5-year trend data and corresponding EAPCs are presented for the years 1996 through 2000.
- **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 calendar year 2000. Cancer incidence data are also presented in aggregated form as the average annual incidence for the years 1996 through 2000.
- **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 calendar year 2000. Data for cancer mortality are also presented in an aggregated form as the average annual mortality for the years 1996 through 2000.
- **Rate:** A rate is an estimate of the burden of a given disease on a defined population in a specified period of time. A crude rate is calculated by dividing the number of cases (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. No crude rates are given in this report; all rates are age-adjusted. Incidence rate is the number of new cases during a specific period (usually one year) divided by the population at risk, standardized to a population of 100,000. 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.

- **Stage at Diagnosis:** 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. 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:** stage of disease at diagnosis was unable to be classified or not reported to the cancer registry.

## **Appendix E**

### **Maryland Population Estimates, 2000**





## Maryland Population Estimates by County, 2000

	Total		Total		Total		Total		Total		Total	
	All Genders	Male	Female	White Male	White Female	Black Male	Black Female	White Male	White Female	Black Male	Black Female	Black Female
<b>Maryland</b>	<b>5,296,486</b>	<b>2,557,794</b>	<b>2,738,692</b>	<b>3,391,308</b>	<b>1,656,409</b>	<b>1,734,899</b>	<b>1,477,411</b>	<b>689,991</b>	<b>787,420</b>			
<b>Baltimore Metro</b>	<b>2,512,431</b>	<b>1,208,036</b>	<b>1,304,395</b>	<b>1,683,195</b>	<b>820,075</b>	<b>863,120</b>	<b>696,402</b>	<b>322,318</b>	<b>374,084</b>			
Anne Arundel County	489,656	243,677	245,979	397,789	197,799	199,990	66,428	33,370	33,058			
Baltimore City	651,154	303,687	347,467	205,982	99,478	106,504	418,951	191,076	227,875			
Baltimore County	754,292	357,347	396,945	561,132	267,634	293,498	151,600	69,211	82,389			
Carroll County	150,897	74,470	76,427	144,399	71,093	73,306	3,433	1,870	1,563			
Harford County	218,590	107,081	111,509	189,678	93,134	96,544	20,260	9,821	10,439			
Howard County	247,842	121,774	126,068	184,215	90,937	93,278	35,730	16,970	18,760			
<b>Eastern Shore</b>	<b>395,903</b>	<b>193,430</b>	<b>202,473</b>	<b>318,202</b>	<b>155,525</b>	<b>162,677</b>	<b>66,206</b>	<b>31,979</b>	<b>34,227</b>			
Caroline County	29,772	14,571	15,201	24,322	11,949	12,373	4,398	2,047	2,351			
Cecil County	85,951	42,594	43,357	80,272	39,752	40,520	3,361	1,701	1,660			
Dorchester County	30,674	14,510	16,164	21,302	10,200	11,102	8,708	3,973	4,735			
Kent County	19,197	9,192	10,005	15,288	7,354	7,934	3,343	1,506	1,837			
Queen Anne's County	40,563	20,195	20,368	36,120	17,997	18,123	3,560	1,738	1,822			
Somerset County	24,747	13,213	11,534	13,949	7,071	6,878	10,172	5,825	4,347			
Talbot County	33,812	16,125	17,687	27,720	13,225	14,495	5,193	2,441	2,752			
Wicomico County	84,644	40,335	44,309	61,438	29,384	32,054	19,717	9,157	10,560			
Worcester County	46,543	22,695	23,848	37,791	18,593	19,198	7,754	3,591	4,163			
<b>National Capital</b>	<b>1,674,856</b>	<b>801,672</b>	<b>873,184</b>	<b>782,448</b>	<b>381,369</b>	<b>401,079</b>	<b>634,806</b>	<b>292,901</b>	<b>341,905</b>			
Montgomery County	873,341	418,622	454,719	565,719	272,407	293,312	132,256	60,375	71,881			
Prince George's County	801,515	383,050	418,465	216,729	108,962	107,767	502,550	232,526	270,024			
<b>Northwest</b>	<b>431,976</b>	<b>215,516</b>	<b>216,460</b>	<b>391,978</b>	<b>191,765</b>	<b>200,213</b>	<b>26,810</b>	<b>17,189</b>	<b>9,621</b>			
Allegany County	74,930	37,319	37,611	69,702	33,576	36,126	4,006	3,115	891			
Frederick County	195,277	96,079	99,198	174,432	85,591	88,841	12,429	6,296	6,133			
Garrett County	29,846	14,708	15,138	29,496	14,524	14,972	128	82	46			
Washington County	131,923	67,410	64,513	118,348	58,074	60,274	10,247	7,696	2,551			
<b>Southern</b>	<b>281,320</b>	<b>139,140</b>	<b>142,180</b>	<b>215,485</b>	<b>107,675</b>	<b>107,810</b>	<b>53,187</b>	<b>25,604</b>	<b>27,583</b>			
Calvert County	74,563	36,767	37,796	62,578	31,105	31,473	9,773	4,686	5,087			
Charles County	120,546	58,878	61,668	82,587	40,830	41,757	31,411	15,005	16,406			
St. Mary's County	86,211	43,495	42,716	70,320	35,740	34,580	12,003	5,913	6,090			

Race groupings do not include: a) individuals who have identified themselves as belonging to an "Other" race category, and b) individuals reporting membership in more than one race at the same time.

Source: U.S. Department of the Census web site, [www.census.gov](http://www.census.gov)



## **Appendix F**

### **U.S. Standard Population, 2000**



## 2000 U.S. Standard Population

<b>Age Group (years)</b>	<b>2000 Population</b>
00-04	69,135
05-09	72,533
10-14	73,032
15-19	72,169
20-24	66,478
25-29	64,529
30-34	71,044
35-39	80,762
40-44	81,851
45-49	72,118
50-54	62,716
55-59	48,454
60-64	38,793
65-69	34,264
70-74	31,773
75-79	26,999
80-84	17,842
85+	15,508
<b>Total</b>	<b>1,000,000</b>

Source: SEER, National Cancer Institute



## **Appendix G**

### **SEER Definitions (ICD Codes) of Site Categories**





**ICD-O-2 and ICD-10 Codes Used to Classify Primary Sites  
(SEER Definitions)**

<b>Cancer Site</b>	<b>ICD-O-2 Codes (Incidence)</b>	<b>ICD-10 Codes (Mortality)</b>
Oral Cavity and Pharynx	C00.0-C14.8*	Same as ICD-O-2 code
Esophagus	C15.0-C15.9*	Same as ICD-O-2 code
Stomach	C16.0-C16.9*	Same as ICD-O-2 code
Colon, excluding rectum	C18.0-C18.9, C19.9, C20.9, C26.0*	Same as ICD-O-2 code
Liver and intrahepatic bile duct	C22.0-C22.1*	C22.0-C22.9
Pancreas	C25.0-C25.9*	Same as ICD-O-2 code
Larynx	C32.0-C32.9*	Same as ICD-O-2 code
Lung and bronchus	C34.0-C34.9*	Same as ICD-O-2 code
Bone and joint	C40.0-C41.9*	Same as ICD-O-2 code
Soft tissue, including heart	C38.0, C47.0-C47.9, C49.0-C49.9*	C38.0, C45.2, C47.0-C47.9, C49.0-C49.9
Melanomas of the skin	C44.0-C44.9 (only types 8720-8790)	C43.0-C43.9
Breast	C50.0-C50.9*	Same as ICD-O-2 code
Cervix	C53.0-C53.9*	Same as ICD-O-2 code
Uterus	C54.0-C54.9, C55.9*	Same as ICD-O-2 code
Ovary	C56.9*	Same as ICD-O-2 code
Prostate	C61.9*	Same as ICD-O-2 code
Testis	C62.0-C62.9*	Same as ICD-O-2 code
Bladder	C67.0-C67.9*	Same as ICD-O-2 code
Kidney and renal pelvis	C64.9, C65.9*	Same as ICD-O-2 code
Eye	C69.0-C69.9*	Same as ICD-O-2 code
Brain and other nervous system	C70.0-C72.9*	Same as ICD-O-2 code
Thyroid	C73.9*	Same as ICD-O-2 code
Leukemia	types 9800-9941	C90.1, C91.0-C95.9
Hodgkin's disease	types 9650-9667	C81.0-C81.9
Non-Hodgkin's lymphoma	types 9590-9595, 9670-9717	C82.0-C85.9, C96.3
Multiple Myeloma	types 9731-9732	C90.1, C90.2
Ill defined and unspecified sites	types 9720-9723, 9740, 9741, 9950, 9760-9764, 9950-9989 C76.0-C76.8, C80.9 (only types 8000-9589) C42.0-C42.4 (only types 8000-9589) C77.0-C77.9 (only types 8000-9589)	C26.1, C45.7, C45.9, C76.0-C78.9, C80.9, C88.0-C88.9, C96.0-C96.2, C96.7, C96.9, C97.9

\*Sites exclude ICD-O-2 morphology types 9590-9989.



## **Appendix H**

### **Maryland Cancer Mortality (1996-2000): Rates and Confidence Intervals**



**All Cancer Sites Mortality**  
**Number of Cancer Deaths and Age-Adjusted Mortality Rates\***  
**by Geographical Area, Maryland, 1996-2000**

Geographical Area	Number of Deaths	Mortality Rates*	95% Confidence Interval	
			Lower CI	Upper CI
Maryland	50,777	216.3	214.4	218.2
Northwest Region	4,312	203.2	197.1	209.3
Allegany	1,043	206.3	193.8	219.6
Frederick	1,500	203.5	193.3	214.2
Garrett	298	178.9	159.1	200.9
Washington	1,471	207.3	196.8	218.2
Baltimore Metropolitan Area**	17,933	213.3	210.1	216.4
Anne Arundel	4,378	225.4	218.6	232.3
Baltimore City	9,327	285.1	279.3	290.9
Baltimore County	8,904	212.6	208.2	217.1
Carroll	1,300	200.0	189.2	211.2
Harford	1,830	213.8	203.9	224.0
Howard	1,521	199.5	189.2	210.2
National Capital Area				
Montgomery	6,323	162.7	158.7	166.8
Prince George's	5,894	222.9	217.0	228.9
Southern Region	2,233	228.1	218.5	238.0
Calvert	596	218.7	201.2	237.5
Charles	965	250.0	234.0	267.0
Saint Mary's	672	210.7	194.9	227.4
Eastern Shore	4,755	224.3	217.9	230.8
Caroline	343	219.0	196.4	243.8
Cecil	849	243.0	226.7	260.2
Dorchester	457	236.4	215.0	259.8
Kent	259	197.9	174.2	224.6
Queen Anne's	423	209.5	189.8	231.0
Somerset	353	266.6	239.3	296.5
Talbot	474	188.8	171.9	207.6
Wicomico	920	227.8	213.4	243.1
Worcester	677	226.7	209.6	245.1

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

\*\* Region does not include data for Baltimore City

Source: Maryland Division of Health Statistics, 1996-2000

**Lung and Bronchus Mortality**  
**Number of Cancer Deaths and Age-Adjusted Mortality Rates\***  
**by Geographical Area, Maryland, 1996-2000**

Geographical Area	Number of Deaths	Mortality Rates*	95% Confidence Interval	
			Lower CI	Upper CI
Maryland	14,546	61.6	60.6	62.6
Northwest Region	1,261	59.4	56.2	62.8
Allegany	317	62.3	55.6	69.8
Frederick	429	58.3	52.9	64.2
Garrett	86	51.3	41.0	63.8
Washington	429	60.2	54.6	66.2
Baltimore Metropolitan Area**	5,308	62.6	60.9	64.3
Anne Arundel	1,389	70.5	66.8	74.4
Baltimore City	2,829	86.2	83.0	89.4
Baltimore County	2,615	61.6	59.3	64.0
Carroll	359	56.0	50.3	62.1
Harford	543	62.6	57.4	68.2
Howard	402	54.2	48.9	60.0
National Capital Area				
Montgomery	1,431	37.1	35.2	39.0
Prince George's	1,575	58.9	56.0	62.0
Southern Region	659	66.3	61.2	71.6
Calvert	186	67.5	58.0	78.2
Charles	306	77.1	68.6	86.7
Saint Mary's	167	51.9	44.3	60.5
Eastern Shore	1,483	69.2	65.8	72.9
Caroline	113	72.0	59.4	87.0
Cecil	267	74.3	65.5	83.9
Dorchester	137	71.6	60.0	85.3
Kent	77	57.8	45.5	73.2
Queen Anne's	136	64.9	54.4	77.2
Somerset	119	90.3	74.7	108.6
Talbot	113	45.2	37.2	55.3
Wicomico	313	77.3	68.9	86.4
Worcester	208	66.2	57.4	76.5

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

\*\* Region does not include data for Baltimore City

Source: Maryland Division of Health Statistics, 1996-2000

**Colon and Rectum Cancer Mortality  
Number of Cancer Deaths and Age-Adjusted Mortality Rates\*  
by Geographical Area, Maryland, 1996-2000**

Geographical Area	Number of Deaths	Mortality Rates*	95% Confidence Interval	
			Lower CI	Upper CI
Maryland	5,541	24.0	23.3	24.6
Northwest Region	528	24.8	22.8	27.1
Allegany	143	28.1	23.6	33.4
Frederick	179	24.8	21.3	28.7
Garrett	45	27.2	19.8	36.9
Washington	161	22.5	19.1	26.3
Baltimore Metropolitan Area**	1,942	23.5	22.5	24.6
Anne Arundel	447	24.0	21.8	26.4
Baltimore City	1,002	30.6	28.7	32.6
Baltimore County	1009	24.0	22.6	25.6
Carroll	148	22.8	19.2	26.8
Harford	187	22.4	19.3	26.0
Howard	151	20.6	17.4	24.3
National Capital Area				
Montgomery	665	17.3	16.0	18.6
Prince George's	668	26.6	24.6	28.8
Southern Region	247	26.4	23.1	30.0
Calvert	68	26.7	20.6	34.1
Charles	103	28.1	22.8	34.3
Saint Mary's	76	24.3	19.1	30.6
Eastern Shore	489	23.1	21.1	25.2
Caroline	48	30.8	22.7	41.3
Cecil	74	21.4	16.7	27.0
Dorchester	47	23.7	17.4	32.2
Kent	27	20.1	13.2	30.3
Queen Anne's	37	19.3	13.5	27.1
Somerset	35	26.1	18.1	37.0
Talbot	60	23.9	18.2	31.8
Wicomico	84	20.9	16.7	26.0
Worcester	77	26.2	20.6	33.3

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

\*\* Region does not include data for Baltimore City

Source: Maryland Division of Health Statistics, 1996-2000



**Female Breast Cancer Mortality  
Number of Cancer Deaths and Age-Adjusted Mortality Rates\*  
by Geographical Area, Maryland, 1996-2000**

Geographical Area	Number of Deaths	Mortality Rates*	95% Confidence Interval	
			Lower CI	Upper CI
Maryland	4,071	30.0	29.1	31.0
Northwest Region	321	26.7	23.8	29.8
Baltimore Metro Region**	1,395	29.0	27.5	30.5
Baltimore City	718	37.4	34.7	40.3
Montgomery County	611	26.9	24.8	29.2
Prince George's County	537	32.7	30.0	35.7
Southern Region	143	25.0	21.1	29.6
Eastern Shore Region	346	29.9	26.8	33.3

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

\*\* Region does not include data for Baltimore City

Source: Maryland Division of Health Statistics, 1996-2000

**Prostate Cancer Mortality**  
**Number of Cancer Deaths and Age-Adjusted Mortality Rates\***  
**by Geographical Area, Maryland, 1996-2000**

Geographical Area	Number of Deaths	Mortality Rates*	95% Confidence Interval	
			Lower CI	Upper CI
Maryland	2,974	36.3	34.9	37.6
Northwest Region	223	28.6	24.9	32.8
Baltimore Metro Region**	966	32.7	30.5	34.9
Baltimore City	624	53.8	49.6	58.4
Montgomery County	376	28.0	25.1	31.0
Prince George's County	343	42.6	37.9	47.9
Southern Region	144	43.4	36.2	51.8
Eastern Shore Region	298	37.0	32.8	41.6

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

\*\* Region does not include data for Baltimore City

Source: Maryland Division of Health Statistics, 1996-2000

**Oral Cancer Mortality**  
**Number of Cancer Deaths and Age-Adjusted Mortality Rates\***  
**by Geographical Area, Maryland, 1996-2000**

Geographical Area	Number of Deaths	Mortality Rates*	95% Confidence Interval	
			Lower CI	Upper CI
Maryland	783	3.3	3.1	3.5
Northwest Region	61	2.9	2.2	3.7
Baltimore Metro Region**	242	2.9	2.5	3.3
Baltimore City	189	5.9	5.1	6.8
Montgomery County	76	2.0	1.5	2.5
Prince George's County	102	3.6	2.9	4.5
Southern Region	45	4.2	3.1	5.7
Eastern Shore Region	68	3.2	2.5	4.1

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

\*\* Region does not include data for Baltimore City

Source: Maryland Division of Health Statistics, 1996-2000

**Melanoma Cancer Mortality**  
**Number of Cancer Deaths and Age-Adjusted Mortality Rates\***  
**by Geographical Area, Maryland, 1996-2000**

Geographical Area	Number of Deaths	Mortality Rates*	95% Confidence Interval	
			Lower CI	Upper CI
Maryland	603	2.5	2.3	2.7
Northwest Region	51	2.4	1.8	3.2
Baltimore Metro Region**	252	2.9	2.6	3.3
Baltimore City	53	1.6	1.2	2.1
Montgomery County	103	2.6	2.1	3.2
Prince George's County	43	1.5	1.1	2.1
Southern Region	36	3.3	2.3	4.7
Eastern Shore Region	65	3.2	2.4	4.0

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

\*\* Region does not include data for Baltimore City

Source: Maryland Division of Health Statistics, 1996-2000

**Cervical Cancer Mortality**  
**Number of Cancer Deaths and Age-Adjusted Mortality Rates\***  
**by Geographical Area, Maryland, 1996-2000**

Geographical Area	Number of Deaths	Mortality Rates*	95% Confidence Interval	
			Lower CI	Upper CI
Maryland	388	2.9	2.6	3.2
Northwest Region	41	3.6	2.6	5.0
Baltimore Metro Region**	90	1.9	1.5	2.3
Baltimore City	106	5.9	4.8	7.1
Montgomery County	35	1.5	1.0	2.1
Prince George's County	48	2.6	1.9	3.5
Southern Region	17	3.1	1.8	5.0
Eastern Shore Region	51	4.6	3.4	6.1

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

\*\* Region does not include data for Baltimore City

Source: Maryland Division of Health Statistics, 1996-2000

**PLEASE COMPLETE ONLINE REPORT EVALUATION FORM HERE**

THANK YOU.

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