Maryland Department of Health and Mental Hygiene

Cancer Report 2008

Cigarette Restitution Fund Program

Cancer Prevention, Education, Screening and Treatment Program

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of Maryland

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Lieutenant Governor
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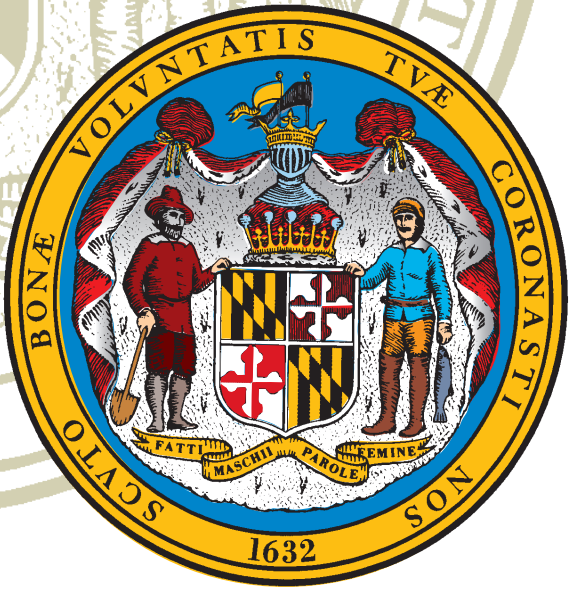

September 2008

STATE OF MARYLAND
DHMH
Maryland Department of Health and Mental Hygiene
201 W. Preston Street • Baltimore, Maryland 21201
Martin O'Malley, Governor – Anthony G. Brown, Lt. Governor – John M. Colmers, Secretary

Dear Fellow Marylanders:

Cancer is the second leading cause of death in Maryland and in the nation. Over 26,000 Marylanders were diagnosed with cancer in the year 2003, and more than 10,000 died from this disease. Maryland ranks nineteenth in the nation in cancer mortality. Technical advances and improved resources have led to earlier diagnosis and better treatment of most cancers. As a result, more people diagnosed with cancer are surviving each year.

The Cigarette Restitution Fund (CRF) Program is among the highest priorities for the Maryland Department of Health and Mental Hygiene. The CRF Program includes the Cancer Prevention, Education, Screening and Treatment Program. The primary goals are to reduce cancer mortality and to decrease health disparities in cancer. The Department is coordinating efforts of the CRF Program through local health departments and other partnerships in order to reduce the burden of cancer.

The enclosed 2008 Cancer Report of the Cigarette Restitution Fund Program reviews total cancers and 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 for review based on the capacity for prevention (e.g., lung and bronchus, melanoma of the skin), the capacity for early detection and treatment (e.g., colon and rectum, female breast, cervix, oral cavity), or the magnitude of the impact on incidence and mortality (e.g., prostate).

Cancer prevention and control is the result of awareness and proactive behavior of all Marylanders. On behalf of the Maryland Department of Health and Mental Hygiene, I appreciate your efforts to control cancer in our great State.

Sincerely,

John M. Colmers
Secretary

Maryland Department of Health & Mental Hygiene

2008 Cancer Report

Cigarette Restitution Fund Program

Cancer Prevention, Education, Screening and Treatment Program

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Acknowledgments

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 2008 Cancer Report. Our hope is that individuals, groups, and agencies, such as local health departments, Statewide Academic Health Centers, community health coalitions, other community 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. Kimberly S. Stern, M.H.A., C.T.R., provided data coordination and Jennifer Hayes, M.Ed., M.P.H., and Afaq Ahmad, M.D., M.P.H., C.T.R., provided special assistance by extracting incidence data.

- Macro International, Inc., for providing 2003 cancer incidence data.

- Division of Health Statistics, Maryland Vital Statistics Administration, DHMH, for providing mortality data and population estimates. Isabelle Horon, Dr.P.H., Robert Hayman, Ph.D., and their staff provided special assistance.

- Office of Health Policy and Planning, DHMH, for maintaining a Web-based surveillance system and analyzing data from the Maryland Behavioral Risk Factor Surveillance System. Helio Lopez provided special assistance.

- University of Maryland, Baltimore, Department of Epidemiology and Preventive Medicine, for providing Maryland Cancer Survey data. Eileen Steinberger, M.D., M.S., and staff provided special assistance.

- Information Resources Management Administration, DHMH, for developing county and regional maps. Jennifer English provided special assistance.

- Surveillance and Evaluation Unit, Center for Cancer Surveillance and Control, DHMH, for coordinating and developing the report. Maya King and Lorraine Underwood provided special assistance.

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

Dedication

We dedicate this report to all persons whose lives have been touched by cancer.

While this publication reflects numbers and statistics, we recognize that each number represents an individual and the devastating impact that a cancer diagnosis places on an individual and his or her significant others, such as families and friends. We hope to make a difference for cancer survivors and people in their lives so they can face the many challenges and aspects related to cancer diagnosis and treatment.

Table of Contents

I. Executive Summary

A. Introduction

This publication is the Cigarette Restitution Fund Program (CRFP) 2008 Cancer Report. The primary purpose of the 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, other community organizations, and policy makers as they decide how to allocate limited resources (e.g., staff time, funding) for the maximum benefit, with the goal of reducing cancer mortality.

The CRFP was established to provide for the distribution of funds received as a result of multi-state litigation against the tobacco industry. This program provided approximately $25.4 million in Fiscal Year 2008 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 the CPEST 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. 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 the magnitude of their impact on incidence and mortality (e.g., prostate).

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

The 2008 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 compared to the Healthy People 2010 targets for screening behaviors.

B. Major Highlights of the Report

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

- Overall cancer incidence and mortality rates in Maryland continue to decline. For the period 1992-2003, both incidence and mortality rates in Maryland declined at a faster rate than U.S. rates.
- Although cancer mortality is declining in Maryland, overall rates in 2003 were statistically significantly higher than the corresponding U.S. rates.
- Prior to 1991, declines in heart disease mortality among Maryland residents under age 85 years far outpaced decreases in cancer mortality. Since 1991, however, cancer mortality rates have declined at a rate more comparable to those for heart disease in this age group.
- Cancer is the second leading cause of death in Maryland, responsible in 2003 for 23.1% of all deaths; 10,292 cancer deaths occurred in 2003. Cancer mortality in Maryland decreased an average of 1.9% per year from 1999-2003.
- Maryland is ranked 19th among all states and the District of Columbia in total cancer mortality for the time period 1999-2003, dropping from 15th highest from 1998-2002 and 13th highest from 1997-2001.
- Cancer incidence and mortality rates increase with increasing age for both males and females.
- Males generally have higher cancer incidence and mortality rates than females.
- White males, black males, and white females showed decreasing overall cancer mortality rates from 1999 to 2003. Black females stayed level over the five year span. The largest decline in mortality rate was for black males, having an average annual decrease of 3.9% per year from 1999 to 2003.
- Black males have the highest overall cancer mortality rates, white females the lowest.

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

- Lung cancer is the leading cause of cancer death in both men and women in Maryland, accounting for 29.3% of all cancer deaths.
- 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.
- The public health intervention for lung cancer is the prevention and cessation of tobacco use.
- For the period 1999 to 2003, lung cancer incidence and mortality declined in Maryland.
- While lung cancer incidence rates declined for both white and black males from 1999 to 2003, rates increased for white and black females.
- Based on 2006 survey data, Maryland has achieved the Healthy People 2010 goal of reducing to 21% the current use of tobacco products by high school youth.

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 or fecal occult blood testing with flexible sigmoidoscopy.
- Maryland's rank in colorectal cancer mortality dropped from 12th highest (1998-2002) to 13th highest (1999-2003).
- Colorectal cancer mortality in Maryland declined over the period from 1999 to 2003, with decreases among both white and black residents.
- The percentage of Maryland adults age 50 years and older ever receiving sigmoidoscopy or colonoscopy screening increased 6% between 2004 and 2006; in 2006, 69.0% had ever had a sigmoidoscopy or colonoscopy.
- Maryland continues to surpass the Healthy People 2010 objective to increase the percent of adults receiving a sigmoidoscopy. (Note: Comparison is based on percentage of Marylanders ever having either a sigmoidoscopy or colonoscopy.)

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

- Breast cancer is the most common reportable cancer among women and 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.
- From 1999 to 2003, breast cancer mortality rates in Maryland decreased among white women but increased among black women.
- Maryland women continue to surpass the Healthy People 2010 target for mammography screening.

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

- Prostate cancer is the most common reportable cancer and the second leading cause of cancer death (after lung cancer) among Maryland men.
- Black men consistently experienced prostate incidence rates above those of white men. From 1999 to 2003, incidence rates increased among black men while decreasing slightly for white men.
- Prostate cancer mortality rates for black men consistently exceeded rates for white men from 1999 to 2003, although rates declined for men of both races.
- The recommended public health intervention for prostate cancer is that clinicians should discuss with their patients the potential benefits and uncertainties regarding prostate cancer screening and treatment, consider individual patient preferences, and individualize the decision to screen.

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

- Incidence of oral cancer in Maryland increased slightly from 1999 to 2003, particularly among white men.

- Mortality from oral cancer in Maryland is declining, particularly among black men.
- 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 lip balm that blocks ultraviolet (UV) light; and screening for oral cancer targeted to individuals 40 years of age and older.
- Marylanders have consistently surpassed the Healthy People 2010 target for oral cancer screening. In 2006, 37% of Marylanders age 40 years and older reported having an oral cancer exam in the past year.

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

- Melanoma incidence rates in Maryland increased from 1999 to 2003. When tracked over time, males had a pattern of higher melanoma incidence rates than females.
- From 1999 to 2003, mortality rates for melanoma increased among males and declined among females.
- 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 beds).

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

- Cervical cancer incidence rates among Maryland women increased over the 5-year period from 1999-2003. However, cervical cancer mortality rates decreased over the same period.
- Black women have consistently higher incidence and mortality rates of cervical cancer than white women in Maryland.
- The recommended public health intervention for cervical cancer is early detection using the Pap test for women beginning within 3 years of onset of sexual activity or by age 21 years, whichever comes first.
- In 2006, 88% of Maryland women age 40 years and older had a Pap test within the past 3 years, slightly below the Healthy People 2010 target of 90%.
- The Centers for Disease Control and Prevention (CDC) Advisory Committee on Immunization Practices (ACIP) recommends the human papillomavirus vaccine as a means for preventing cervical cancer. ACIP recommends the vaccine be given routinely to girls when they are age 11-12 years. The ACIP recommendation also allows for vaccination of girls beginning at age 9 years, as well as vaccination of girls and women age 13-26 years who have not been previously vaccinated.

C. Major Changes to this Report from the 2006 Annual Cancer Report

- In the 2006 CRF Cancer Report (September 2006), we initially noted that data problems led to the omission of 2002 incidence data for all cancer sites, melanoma, and cervical cancer. In April 2008, remediated incidence data for 2002 were published (http://www.fha.state.md.us/cancer/surveillance/html/crf_amendment.cfm).

All incidence data (counts, rates, and stage of disease) for 2002 included in this report have been updated. The 2002 incidence data presented in the graphs in this report update the figures presented in the 2006 Cancer Report.

- Data suppression rules for tabulated incidence and mortality data have been modified from previous reports. Incidence rates based on case counts of 1-15 (previously 1-25) are suppressed per the revised *DHMH/MCR Data Use Policy*. All death counts of 0-5 (regardless of population size) and mortality rates based on death counts of 0-15 are suppressed per the *DHMH/CCSC Mortality Data Suppression Policy.*
- SEER 13 registry data are used in this report to represent U.S. incidence rates in comparisons with Maryland rates (previously, SEER 9 rates were used).
- Healthy People 2010 targets have been updated, where applicable, to reflect revisions resulting from the Healthy People 2010 Midcourse Review (published in 2006).
- Two new summary graphs have been added to the chapter on all cancer sites. One graph compares Maryland incidence rate trends for all cancer sites against U.S. incidence rates. The second graph compares Maryland and U.S. mortality rates.

II. All Cancer Sites

Incidence (New Cases)

A total of 26,809 new cases of cancer diagnosed in 2003 in Maryland residents were reported to the Maryland Cancer Registry. The total age-adjusted cancer incidence rate for Maryland in 2003 was 494.5 per 100,000 population (488.6-500.6, 95% Confidence Interval [C.I.]). The 2003 Maryland cancer incidence rate is statistically significantly higher than the 2003 U.S. SEER rate of 455.4 per 100,000 population (453.2-457.6, 95% C.I.).

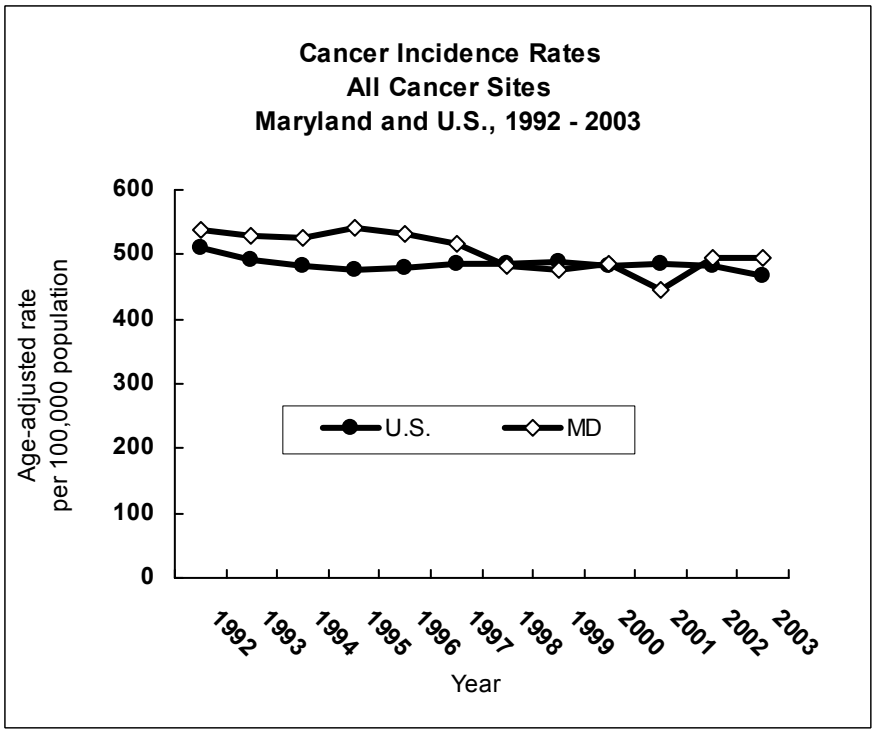
Mortality (Deaths)

Cancer is the second leading cause of death in Maryland, accounting for 23.1% of all deaths in 2003. A total of 10,292 Maryland residents died from cancer in 2003. The overall Maryland cancer mortality rate for 2003 was 195.6 per 100,000 population (191.8-199.4, 95% C.I.). This rate is statistically significantly higher than the 2003 U.S. cancer mortality rate of 190.1 per 100,000 population (189.6-190.6, 95% C.I.). Maryland ranks 19th highest among all states and the District of Columbia in total cancer mortality for the period 1999 to 2003.

Table 1.
All Cancer Sites Incidence and Mortality Rates*
by Gender and Race, Maryland and the United States, 2003

Incidence 2003	*Total*	*Males*	*Females*	*Whites*	*Blacks*	*Other*
New Cases (count)	26,809	13,512	13,296	19,372	6,163	864
MD Incidence Rate	494.5	574.5	440.1	489.2	495.0	384.8
U.S. SEER Rate	455.4	535.4	400.6	465.5	500.0	358.4
Mortality 2003	*Total*	*Males*	*Females*	*Whites*	*Blacks*	*Other*
Deaths (count)	10,292	5,217	5,075	7,517	2,586	189
MD Mortality Rate	195.6	239.9	166.8	189.8	227.8	98.2
U.S. Mortality Rate	190.1	233.4	160.8	188.5	233.3	114.4

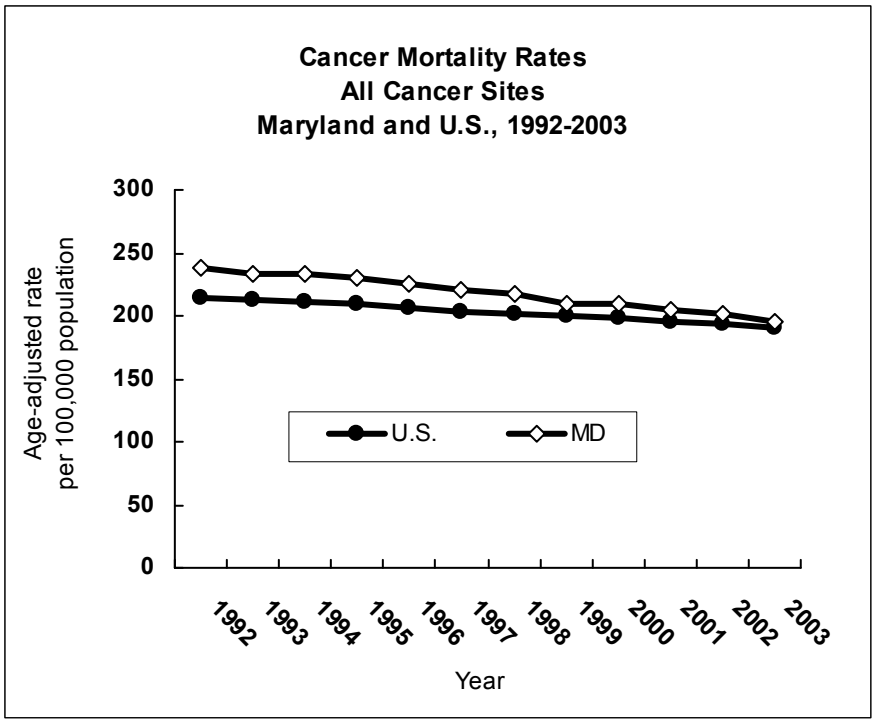
* Rates are per 100,000 and are age-adjusted to 2000 U.S. standard population
Total includes cases reported as transsexual, hermaphrodite, unknown gender, and unknown race
Source: MD incidence data from Maryland Cancer Registry, 2003
U.S. SEER rates from SEER*Stat software
Mortality data from NCHS Compressed Mortality File in CDC WONDER



Maryland Cancer Registry, 1992-2003
SEER Cancer Statistics Review, 1992-2003

Maryland vs. United States, Overall Cancer Incidence Rates, All Age Groups

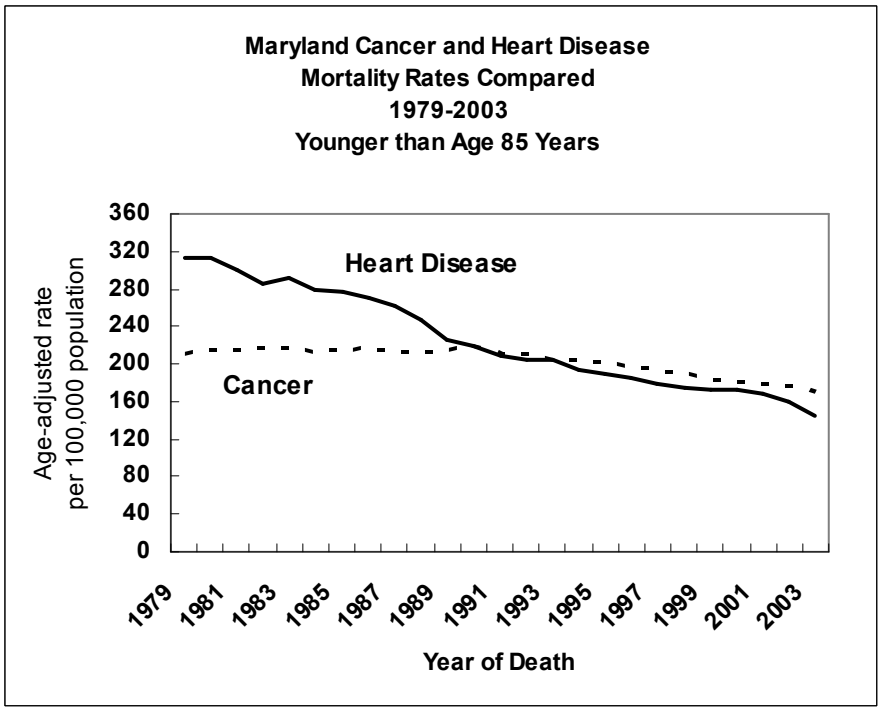
The overall cancer incidence rate in Maryland has generally declined since 1992. Over the period from 1992 to 2003, cancer incidence rates in Maryland decreased at an average rate of 1.3% per year, compared to a decrease of 0.3% per year for the U.S.



NCHS Compressed Mortality File in CDC WONDER, 1992-2003

Maryland vs. United States, Overall Cancer Mortality Rates, All Age Groups

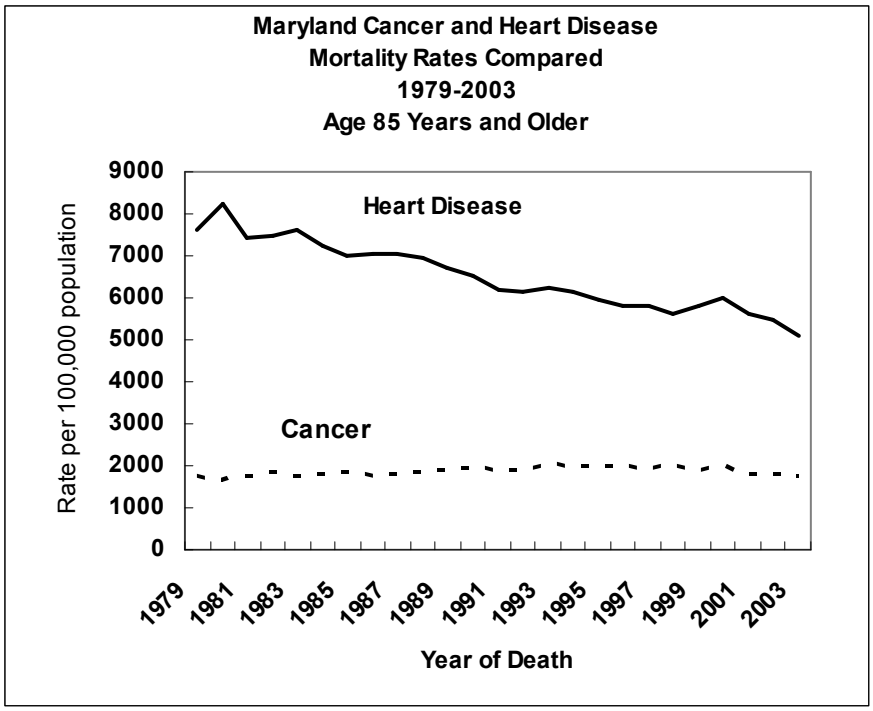
Maryland cancer mortality rates have steadily declined since 1992. From 1992 to 2003, the overall cancer mortality rate in Maryland decreased an average of 1.7% per year. The U.S. mortality rate for all cancers declined an average of 1.1% per year over the same period.



Maryland Division of Health Statistics, 1979-2003

Cancer vs. Heart Disease Mortality Rates, Under Age 85 Years

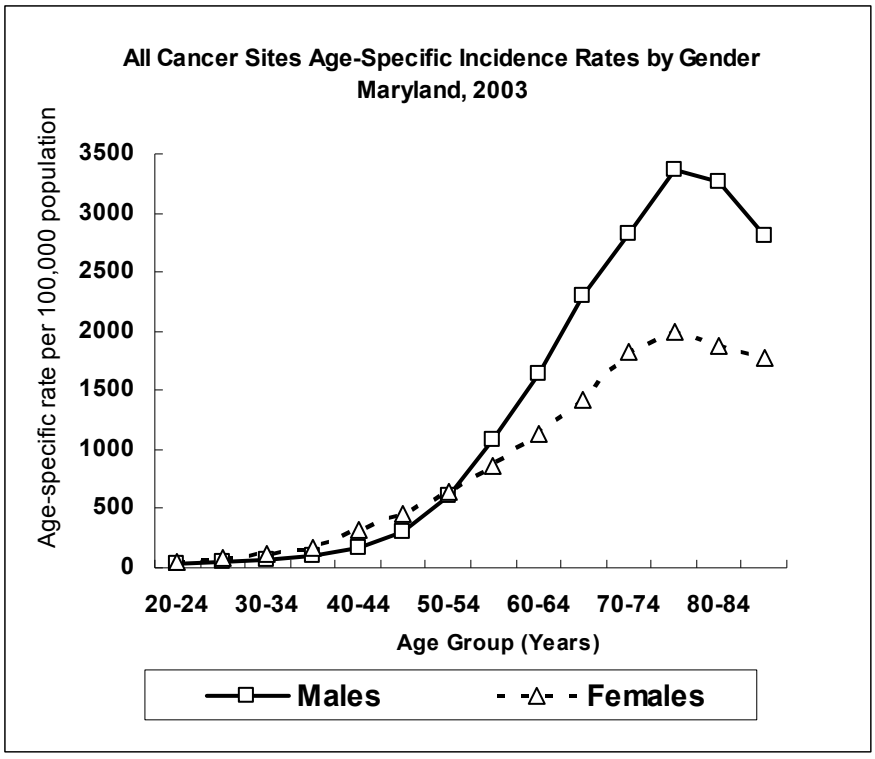
Since 1991, mortality rates for cancer and heart disease among Marylanders under age 85 years declined at more comparable rates than in prior years. For the period 1991 to 2003, cancer mortality declined an average of 1.9% per year, and heart disease mortality decreased 2.6% per year.



Age-adjusted rate cannot be calculated for a single age group (age 85 and older); crude mortality rates are presented.
Maryland Division of Health Statistics, 1979-2003

Cancer vs. Heart Disease Mortality Rates, Over Age 85 Years

Among persons age 85 years and older in Maryland, cancer mortality rates increased slightly from 1979 to 2003, at an annual average of 0.4%. By comparison, heart disease mortality rates for persons in this age group have decreased an average of 1.6% during the same period.

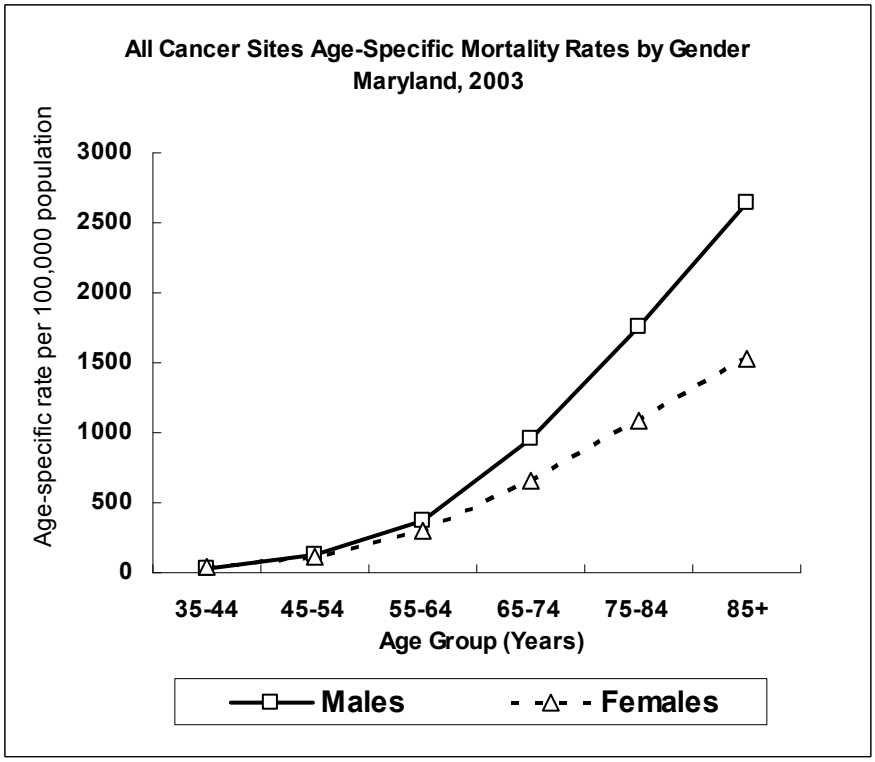


Maryland Cancer Registry, 2003

Age-Specific Incidence Rates by Gender

In Maryland, 84% of all cancers occur among persons age 50 years and older.

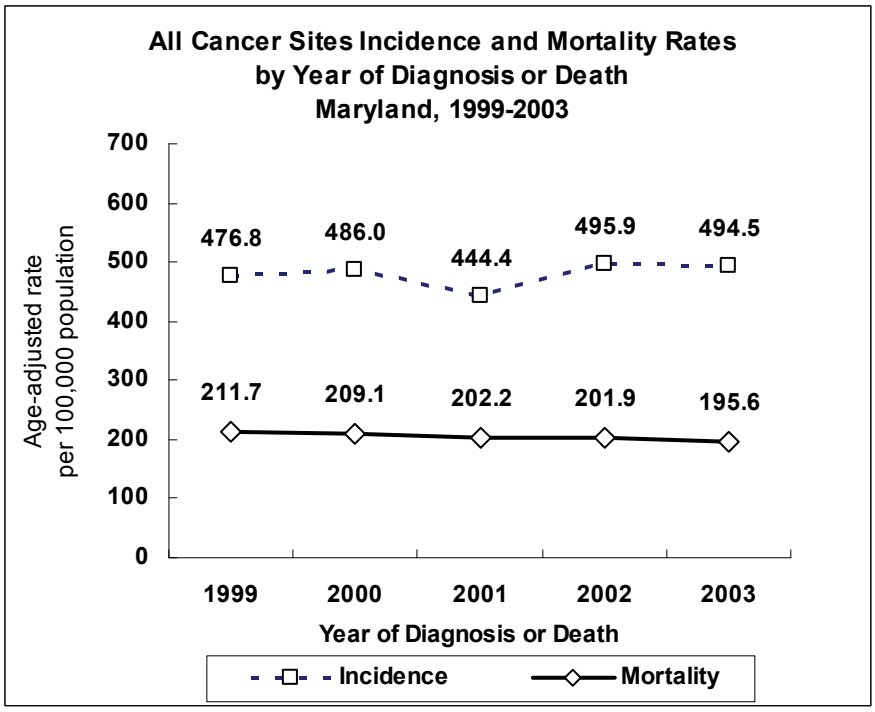
For all cancers combined, females have a higher cancer incidence rate than males until age 50-54 years. After that age, men have a higher cancer incidence rate.



NCHS Compressed Mortality File in CDC WONDER, 2003
CDC WONDER age categories are in 10-year intervals.

Age-Specific Mortality Rates by Gender

Cancer mortality rates increase with age. Males have a higher cancer mortality rate than females after age 45-54 years.



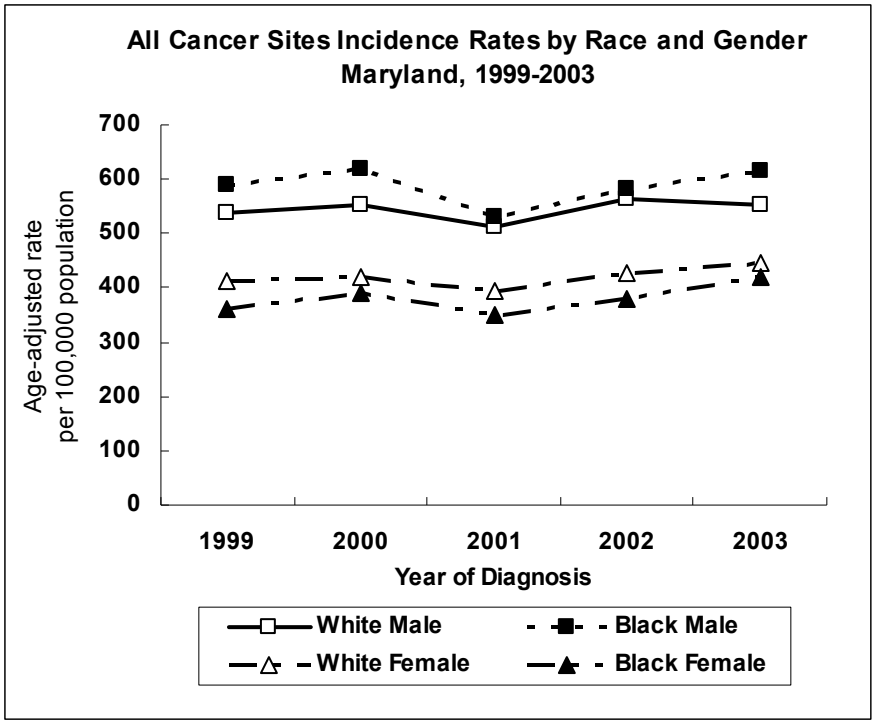
Rates are age-adjusted to 2000 U.S. standard population
Maryland Cancer Registry, 1999-2003
Maryland Division of Health Statistics, 1999-2001
NCHS Compressed Mortality File in CDC WONDER, 2002, 2003

Incidence and Mortality Trends

In Maryland, the incidence rate for all cancers combined increased an average of 0.9% over the period 1999 to 2003.

Overall cancer mortality rates decreased an average of 1.9% per year from 1999 to 2003.

See Appendix I, Tables 1 and 2.

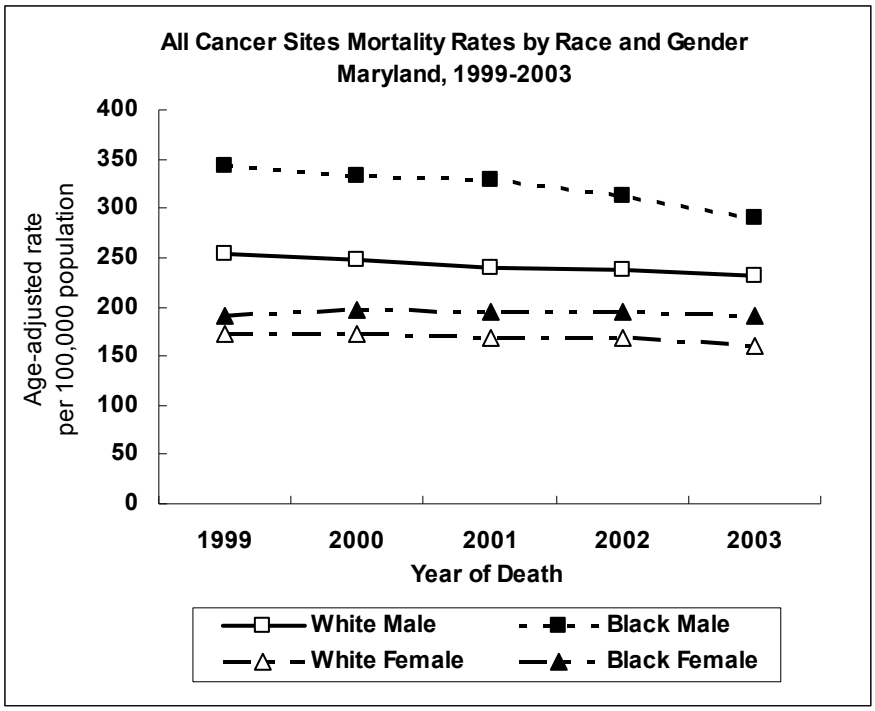


Rates are age-adjusted to 2000 U.S. standard population
Maryland Cancer Registry, 1999-2003

Race and Gender Incidence Trends

Compared to females, males have higher overall cancer incidence rates. Black males have the highest rates, black females the lowest. From 1999 to 2003, incidence rates for all cancer sites combined increased an average of 2.7% for black females and 1.7% for white females, while they remained relatively steady for white and black males.

See Appendix I, Table 3.

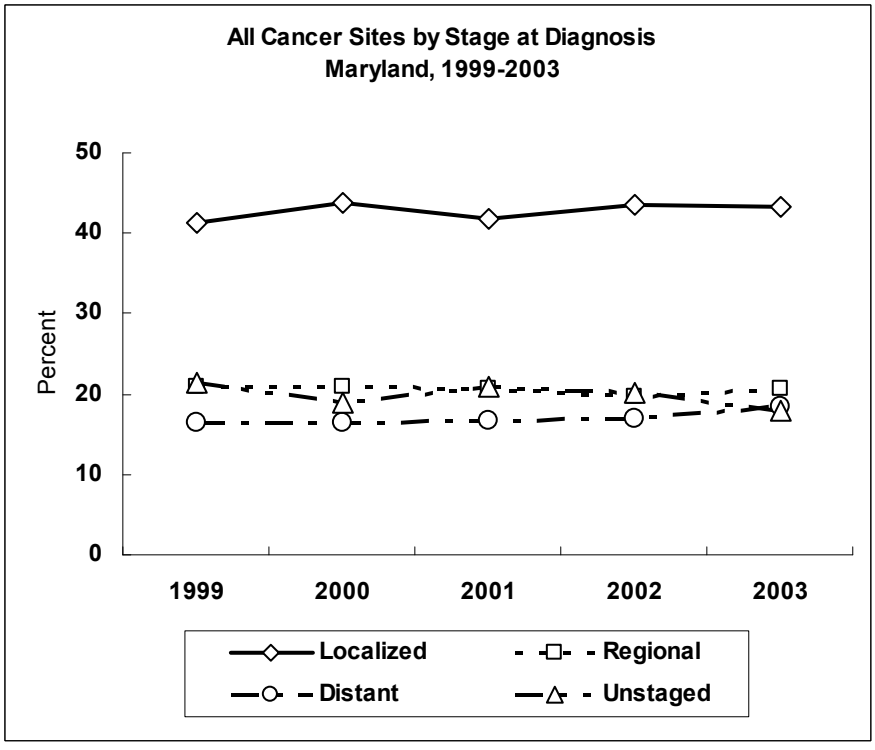


Rates are age-adjusted to 2000 U.S. standard population
Maryland Division of Health Statistics, 1999-2001
NCHS Compressed Mortality File in CDC WONDER, 2002, 2003

Race and Gender Mortality Trends

Males have higher overall cancer mortality rates than females. Black males have the highest rates; white females have the lowest. All gender and race categories except black females showed overall declines in cancer mortality from 1999 to 2003; black females showed no overall change. The largest decrease in mortality occurred for black males, with an average annual decrease of 3.9% per year from 1999 to 2003.

See Appendix I, Table 4.

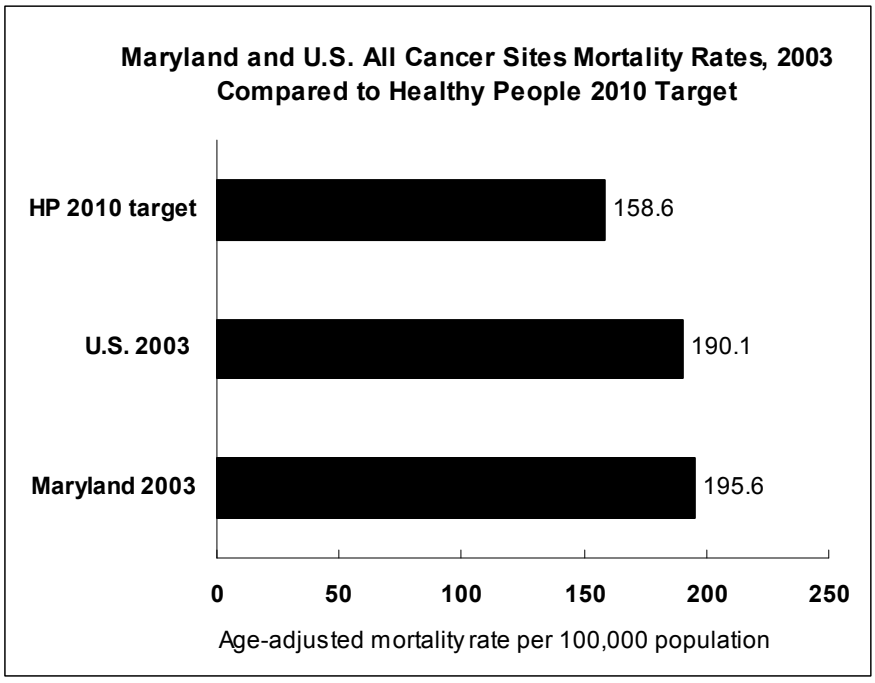


Maryland Cancer Registry, 1999-2003

Stage at Diagnosis

In Maryland, approximately 43% of all cancers diagnosed in 2003 were found at the local stage.

See Appendix J, Table 1.



Healthy People 2010

The overall cancer mortality rate in 2003 for Maryland is 195.6 per 100,000 population. The Healthy People 2010 goal is to reduce cancer mortality to 158.6 per 100,000 population.

Rates are age-adjusted to 2000 U.S. standard population
NCHS Compressed Mortality File in CDC WONDER, 2003
Healthy People 2010 Midcourse Review, U.S. Department of Health and Human Services, 2006

Summary – Identification of Targeted Cancers

The cancers targeted under the Cigarette Restitution Fund in 2008 include: lung and bronchus, colon and rectum, prostate, breast, cervical, oral, and melanoma of the skin. These cancers were chosen due to the capacity to prevent, detect early, and effectively treat these cancers, and due to the magnitude of 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.

The public health interventions to reduce the impact of the targeted cancers are:

- Prevention and cessation of tobacco use
- Early detection and treatment of:
  - colon/rectum cancer
  - breast cancer
  - cervical cancer
  - oral cancer
- Protection of the skin from excessive sun exposure or exposure to UV light

Table 2.
Number of Cancer Cases for All Cancer Sites by Jurisdiction, Gender and Race, Maryland, 2003

Jurisdiction	Total	Gender		Race			
		Males	Females	Whites	Blacks	Other	Unknown
Maryland	26,809	13,512	13,296	19,372	6,163	864	410
Allegany	489	235	254	474	s	<6	0
Anne Arundel	2,440	1,256	1,184	2,114	259	35	32
Baltimore City	3,406	1,715	1,691	1,347	2,001	34	24
Baltimore County	4,544	2,261	2,283	3,759	648	89	48
Calvert	365	184	181	303	41	<6	s
Caroline	169	79	90	145	21	<6	<6
Carroll	804	409	394	757	29	s	<6
Cecil	350	213	137	325	s	<6	14
Charles	575	321	254	436	121	10	8
Dorchester	180	97	83	130	s	<6	0
Frederick	1,010	521	489	941	50	12	7
Garrett	175	96	79	172	<6	0	<6
Harford	1,096	596	500	1,004	68	s	<6
Howard	974	472	502	749	146	60	19
Kent	111	55	56	84	22	<6	<6
Montgomery	4,234	1,975	2,259	3,244	530	386	74
Prince George's	3,170	1,535	1,635	1,103	1,818	159	90
Queen Anne's	243	147	96	214	25	<6	<6
Saint Mary's	325	181	144	258	47	6	14
Somerset	153	90	63	105	s	<6	0
Talbot	265	119	146	230	s	<6	<6
Washington	757	410	347	717	26	8	6
Wicomico	445	218	227	349	85	<6	s
Worcester	368	207	161	321	40	<6	<6
Unknown	161	120	41	91	35	<6	s

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

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

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

Source: Maryland Cancer Registry, 2003

Table 3.
All Cancer Sites Age-Adjusted Incidence Rates*
by Jurisdiction, Gender and Race, Maryland, 2003

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	494.5	574.5	440.1	489.2	495.0	384.8
Allegany	508.9	565.6	484.9	508.2	**	**
Anne Arundel	510.4	588.4	457.2	511.9	493.4	237.5
Baltimore City	521.9	645.4	443.5	528.8	513.0	323.9
Baltimore County	517.3	594.9	465.0	511.4	544.8	388.6
Calvert	490.0	548.4	445.1	468.4	440.6	**
Caroline	516.4	525.3	516.1	517.5	464.8	**
Carroll	505.9	582.3	453.8	493.5	781.1	**
Cecil	399.2	528.2	292.3	388.4	**	**
Charles	532.3	690.9	418.3	551.8	470.3	**
Dorchester	453.4	546.9	386.1	424.5	521.5	**
Frederick	529.7	623.4	466.2	532.1	480.1	**
Garrett	481.5	574.1	402.7	476.1	**	0.0
Harford	497.6	607.1	417.1	501.9	407.5	537.5
Howard	441.7	487.8	413.4	431.9	528.3	306.3
Kent	412.3	445.2	397.0	363.2	612.7	**
Montgomery	460.3	499.2	437.1	459.9	495.3	361.3
Prince George's	463.0	534.3	416.3	424.6	458.2	489.8
Queen Anne's	499.5	642.3	375.5	491.6	561.2	**
Saint Mary's	414.5	503.6	346.4	392.8	424.8	**
Somerset	562.8	728.0	449.7	536.0	653.9	**
Talbot	536.0	533.4	538.1	533.4	524.0	**
Washington	506.0	615.5	431.1	501.2	622.4	**
Wicomico	493.9	562.3	448.6	493.3	478.2	**
Worcester	519.4	630.2	426.7	517.8	461.5	**

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

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

Source: Maryland Cancer Registry, 2003

Table 4.
All Cancer Sites Cases and Age-Adjusted Incidence Rates* Among Hispanics§ by Geographical Area in Maryland, 2003

Jurisdiction	Cases	Rate
Maryland	515	372.4
Allegany	0	0.0
Anne Arundel	33	493.7
Baltimore City	28	403.8
Baltimore County	55	602.9
Calvert	<6	**
Caroline	<6	**
Carroll	<6	**
Cecil	<6	**
Charles	9	**
Dorchester	0	0.0
Frederick	6	**
Garrett	0	0.0
Harford	9	**
Howard	17	364.8
Kent	0	0.0
Montgomery	219	324.1
Prince George's	103	346.5
Queen Anne's	<6	**
St. Mary's	<6	**
Somerset	0	0.0
Talbot	<6	**
Washington	6	**
Wicomico	<6	**
Worcester	<6	**
Region	**Cases**	**Rate**
Baltimore Metropolitan Area ^	146	473.3
Eastern Shore Region	15	**
National Capital Area	322	329.1
Northwest Region	12	**
Southern Region	17	523.0

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

§ Case counts were prepared using MCR data and an algorithm to determine Hispanic ethnicity. (See Appendix C, Section D.6.)

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

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

^ Includes Baltimore City

Source: Maryland Cancer Registry, 2003

Table 5.
Number of Deaths for All Cancer Sites
by Jurisdiction, Gender and Race, Maryland, 2003

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	10,292	5,217	5,075	7,517	2,586	189
Allegany	209	98	111	203	s	<6
Anne Arundel	889	470	419	787	93	9
Baltimore City	1,637	834	803	652	975	10
Baltimore County	1,785	877	908	1,524	237	24
Calvert	150	76	74	124	s	<6
Caroline	74	49	25	60	s	<6
Carroll	310	164	146	296	s	<6
Cecil	169	96	73	162	s	<6
Charles	220	113	107	174	s	<6
Dorchester	92	61	31	66	s	<6
Frederick	335	169	166	314	s	<6
Garrett	66	37	29	65	<6	<6
Harford	401	209	192	369	25	7
Howard	271	127	144	210	46	15
Kent	57	28	29	48	s	<6
Montgomery	1,314	621	693	1,039	200	75
Prince George's	1,260	612	648	522	703	35
Queen Anne's	84	44	40	69	s	<6
Saint Mary's	157	90	67	131	s	<6
Somerset	75	47	28	56	s	<6
Talbot	105	52	53	85	s	<6
Washington	300	153	147	288	s	<6
Wicomico	185	99	86	147	s	<6
Worcester	147	91	56	126	s	<6

<6 = Death counts of 0-5 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

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

Source: NCHS Compressed Mortality File in CDC WONDER

Table 6.
All Cancer Sites Age-Adjusted Mortality Rates*
by Jurisdiction, Gender and Race, Maryland, 2003

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	195.6	239.9	166.8	189.8	227.8	98.2
Allegany	212.6	234.5	204.6	211.3	**	**
Anne Arundel	199.4	251.0	166.1	202.1	199.5	**
Baltimore City	250.0	322.8	205.1	241.3	257.5	**
Baltimore County	198.6	237.7	172.6	195.8	225.9	111.7
Calvert	226.3	275.2	197.3	219.6	279.7	**
Caroline	225.6	349.0	138.1	215.0	**	**
Carroll	205.0	263.1	168.5	202.7	**	**
Cecil	205.6	276.7	158.0	206.8	**	**
Charles	237.3	290.5	200.7	253.0	191.0	**
Dorchester	227.0	359.1	130.6	207.2	279.8	**
Frederick	185.4	225.3	161.0	186.7	220.7	**
Garrett	180.3	227.5	141.0	178.8	**	**
Harford	195.6	239.2	165.3	196.7	174.2	**
Howard	137.5	153.3	130.8	135.5	172.4	**
Kent	201.1	233.3	189.4	197.4	**	**
Montgomery	147.0	170.9	132.5	145.6	201.7	87.3
Prince George's	205.7	248.7	179.7	200.8	217.0	108.7
Queen Anne's	180.9	206.7	156.2	167.4	**	**
Saint Mary's	213.0	267.2	168.9	212.4	226.8	**
Somerset	276.8	375.2	198.1	278.9	273.7	**
Talbot	188.5	216.8	166.0	170.7	307.3	**
Washington	197.3	240.5	170.2	196.2	**	**
Wicomico	204.5	262.8	165.2	205.2	211.4	**
Worcester	207.0	298.4	144.7	203.4	217.4	**

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

** Rates based on death counts of 0-15 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

Source: NCHS Compressed Mortality File in CDC WONDER

Table 7.
Number of Cancer Cases for All Cancer Sites
by Jurisdiction, Gender and Race, Maryland, 1999-2003

Jurisdiction	Total	Gender		Race			
		Males	Females	Whites	Blacks	Other	Unknown
Maryland	123,942	63,563	60,365	90,522	26,634	3,605	3,181
Allegany	2,334	1,225	1,109	2,268	49	9	8
Anne Arundel	11,235	5,859	5,374	9,547	1,171	188	329
Baltimore City	16,570	8,419	8,150	6,755	9,345	162	308
Baltimore County	21,766	11,066	10,699	18,265	2,688	366	447
Calvert	1,613	832	780	1,320	213	22	58
Caroline	819	440	379	689	117	<6	s
Carroll	3,593	1,891	1,701	3,388	89	31	85
Cecil	1,862	1,040	822	1,720	62	12	68
Charles	2,311	1,230	1,081	1,719	477	51	64
Dorchester	996	537	459	765	222	s	<6
Frederick	4,494	2,388	2,106	4,076	228	43	147
Garrett	813	446	367	803	<6	0	<6
Harford	5,138	2,781	2,357	4,620	352	56	110
Howard	4,569	2,262	2,307	3,562	623	247	137
Kent	556	289	267	465	82	<6	s
Montgomery	18,690	9,148	9,538	14,316	2,059	1,642	673
Prince George's	14,014	7,119	6,892	5,584	7,382	583	465
Queen Anne's	1,107	590	517	944	125	7	31
Saint Mary's	1,656	866	790	1,347	216	32	61
Somerset	715	402	313	503	195	s	<6
Talbot	1,277	667	610	1,107	152	9	9
Washington	3,595	1,830	1,765	3,414	122	33	26
Wicomico	2,212	1,082	1,129	1,750	409	27	26
Worcester	1,726	960	766	1,461	203	44	18
Unknown	281	194	87	134	s	s	86

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

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

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

Source: Maryland Cancer Registry, 1999-2003

Table 8.
All Cancer Sites Age-Adjusted Incidence Rates*
by Jurisdiction, Gender and Race, Maryland, 1999-2003

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	477.3	567.8	415.0	470.5	462.4	376.9
Allegany	491.6	595.6	423.7	491.0	551.1	**
Anne Arundel	491.1	576.5	430.8	479.1	489.8	343.8
Baltimore City	507.4	631.7	427.9	512.4	490.4	331.6
Baltimore County	510.3	603.7	446.8	503.0	515.1	389.3
Calvert	485.1	572.0	427.0	461.7	490.9	666.6
Caroline	512.7	609.8	436.7	506.4	520.1	**
Carroll	485.9	587.8	416.3	473.5	537.2	519.2
Cecil	454.1	563.1	373.9	439.4	407.0	**
Charles	466.3	576.4	388.3	458.0	444.6	445.3
Dorchester	503.0	612.9	422.4	501.4	502.8	**
Frederick	506.8	623.0	427.5	491.9	522.0	265.8
Garrett	463.9	555.4	390.9	460.7	**	0.0
Harford	499.3	618.1	415.8	491.5	481.1	328.6
Howard	446.5	507.4	403.3	436.4	477.7	310.0
Kent	418.5	473.4	375.9	414.3	409.0	**
Montgomery	428.7	491.7	386.7	420.5	421.3	364.8
Prince George's	433.7	525.4	371.2	424.6	415.6	396.6
Queen Anne's	490.5	553.6	440.4	469.5	547.9	**
Saint Mary's	443.8	496.9	403.1	428.1	420.1	651.3
Somerset	535.6	655.1	452.8	522.0	553.1	**
Talbot	513.0	591.2	452.3	509.6	493.8	**
Washington	494.0	568.3	450.9	489.0	586.6	634.6
Wicomico	508.7	573.4	461.9	509.2	484.1	458.9
Worcester	509.1	605.5	432.3	497.9	473.1	3,516.5

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

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

Source: Maryland Cancer Registry, 1999-2003

Table 9.
Number of Cancer Deaths for All Cancer Sites
by Jurisdiction, Gender and Race, Maryland, 1999-2003

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	51,442	26,217	25,225	37,991	12,582	869
Allegany	1,004	534	470	986	s	<6
Anne Arundel	4,498	2,311	2,187	3,898	542	58
Baltimore City	8,659	4,382	4,277	3,561	5,055	43
Baltimore County	9,214	4,587	4,627	8,014	1,101	99
Calvert	694	383	311	582	s	<6
Caroline	383	207	176	315	s	<6
Carroll	1,440	761	679	1,386	s	<6
Cecil	868	489	379	829	s	<6
Charles	1,017	528	489	782	215	20
Dorchester	481	293	188	352	s	<6
Frederick	1,617	853	764	1,488	121	8
Garrett	325	186	139	324	<6	<6
Harford	1,887	1,009	878	1,731	141	15
Howard	1,445	710	735	1,166	221	58
Kent	271	158	113	222	s	<6
Montgomery	6,181	2,932	3,249	5,047	751	383
Prince George's	6,248	3,133	3,115	2,798	3,303	147
Queen Anne's	441	220	221	372	s	<6
Saint Mary's	719	407	312	598	114	7
Somerset	327	199	128	247	s	<6
Talbot	510	266	244	430	s	<6
Washington	1,510	756	754	1,479	s	<6
Wicomico	973	504	469	763	203	7
Worcester	730	409	321	621	s	<6

<6 = Death counts of 0-5 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

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

Source: NCHS Compressed Mortality File in CDC WONDER

Table 10.
All Cancer Sites Age-Adjusted Mortality Rates*
by Jurisdiction, Gender and Race, Maryland, 1999-2003

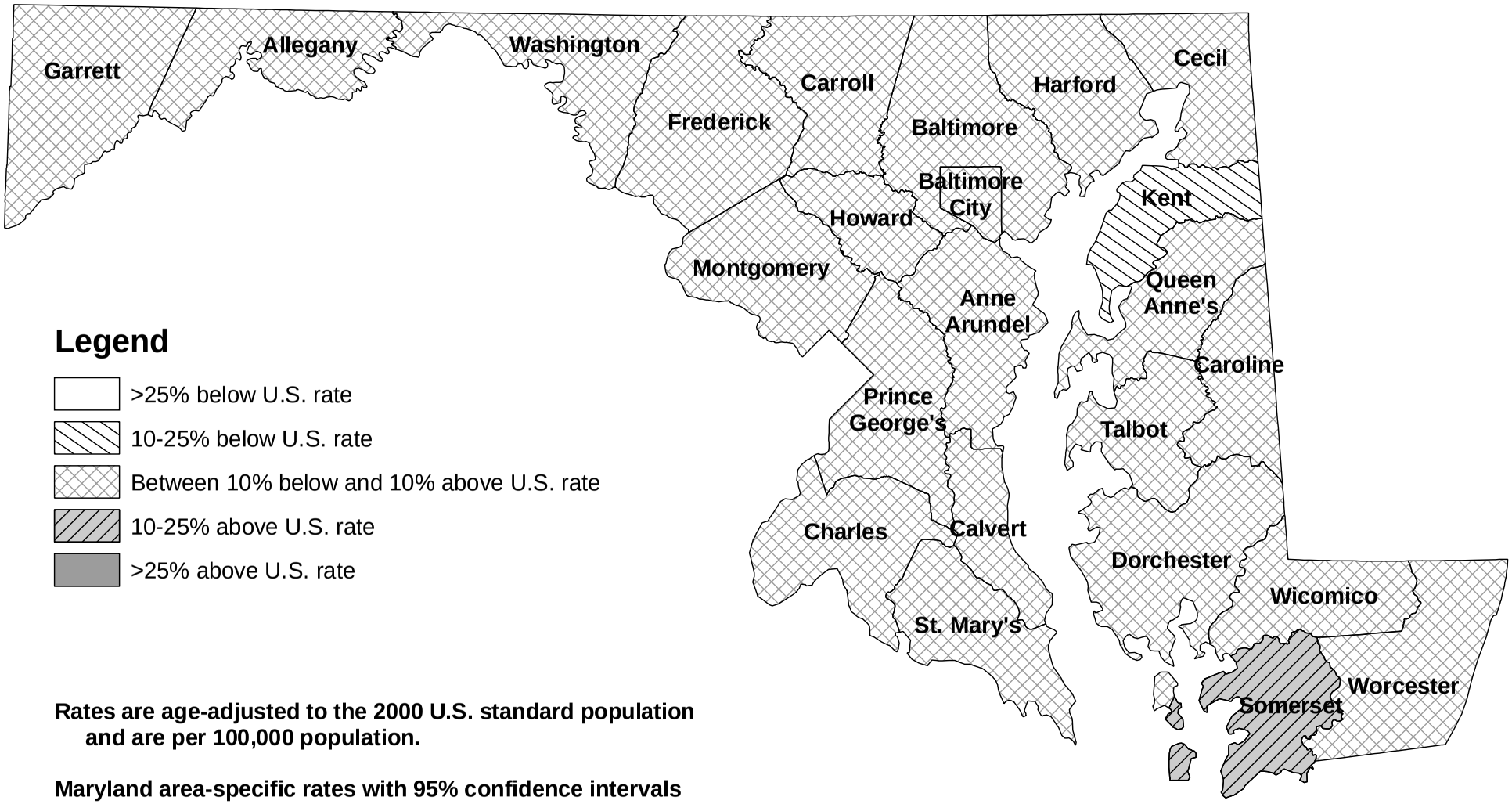
Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	204.2	253.3	172.8	198.0	239.5	107.6
Allegany	201.4	265.1	162.3	202.0	202.3	**
Anne Arundel	211.0	256.4	181.9	208.2	251.0	131.5
Baltimore City	264.0	340.3	217.2	254.0	273.8	96.5
Baltimore County	212.2	259.5	182.3	211.1	240.3	117.6
Calvert	227.7	305.7	180.0	223.9	258.0	**
Caroline	238.4	301.9	192.8	230.4	295.4	**
Carroll	202.7	266.3	165.7	201.2	304.2	**
Cecil	224.6	300.3	176.9	224.5	246.3	**
Charles	228.8	282.0	192.5	230.5	223.9	200.9
Dorchester	237.0	344.9	161.7	222.5	289.0	**
Frederick	191.7	240.2	159.1	188.3	292.8	**
Garrett	184.5	245.8	139.7	184.9	**	**
Harford	197.1	252.5	160.8	197.1	216.8	**
Howard	161.2	191.7	143.8	161.3	194.4	96.4
Kent	191.4	258.5	144.6	182.8	244.0	**
Montgomery	145.9	170.6	130.5	147.0	171.0	103.3
Prince George's	214.5	267.5	182.3	214.1	223.6	109.3
Queen Anne's	203.5	219.1	189.3	194.0	288.3	**
Saint Mary's	207.4	257.8	167.4	205.6	227.4	**
Somerset	245.1	341.5	177.2	249.3	229.4	**
Talbot	192.2	234.8	163.4	184.3	245.1	**
Washington	205.0	249.4	178.7	207.7	155.7	**
Wicomico	224.7	281.6	186.0	220.9	249.8	**
Worcester	212.4	273.8	170.1	208.6	245.8	**

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

** Rates based on death counts of 0-15 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

Source: NCHS Compressed Mortality File in CDC WONDER

Maryland All Cancer Sites Incidence Rates by Geographical Area: Comparison to U.S. Rate, 1999-2003



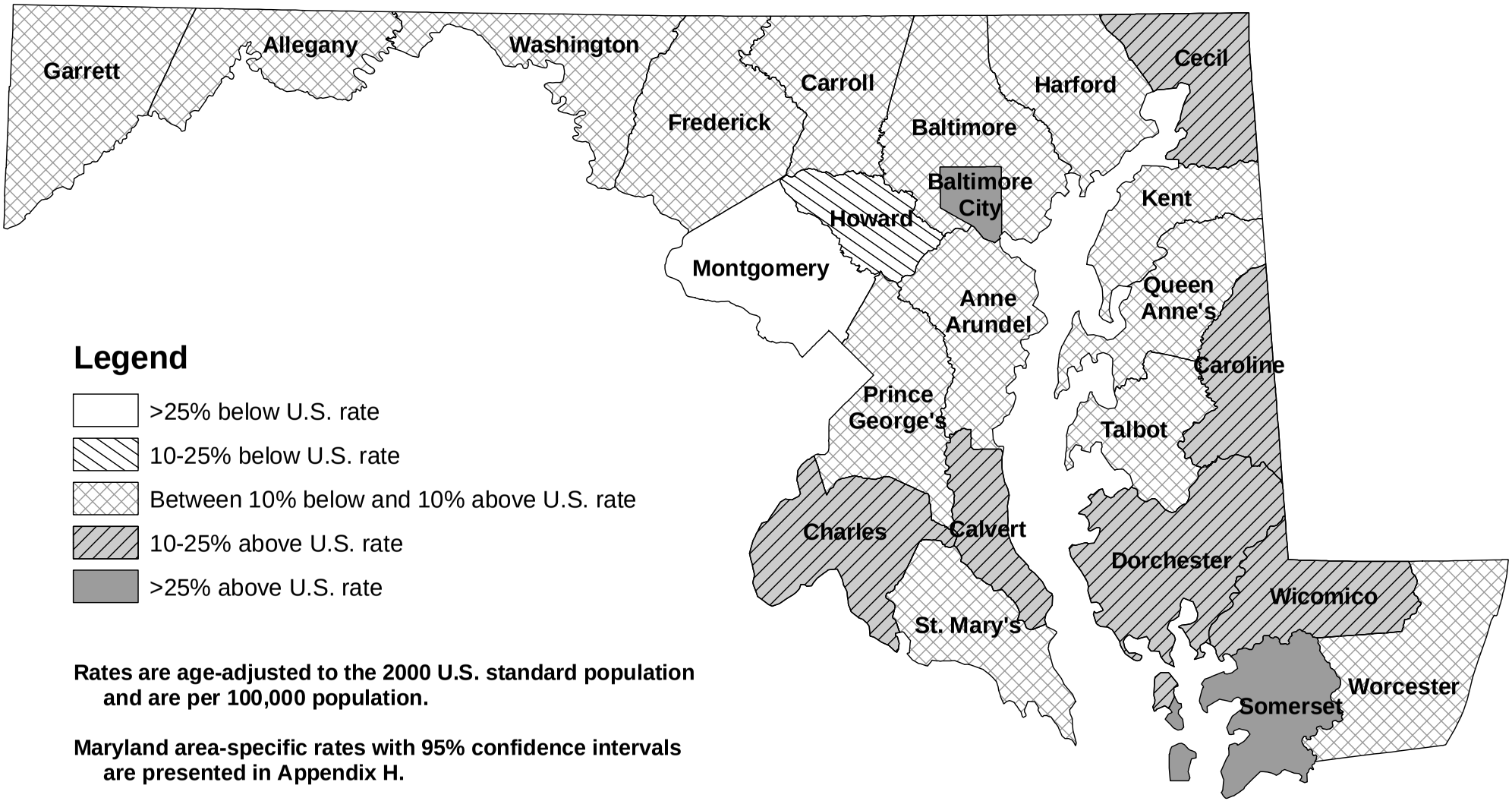
Rates are age-adjusted to the 2000 U.S. standard population and are per 100,000 population.

Maryland area-specific rates with 95% confidence intervals are presented in Appendix H.

U.S. all cancer sites incidence rate, 1999-2003: 469.7/100,000

Source: MD incidence rates from Maryland Cancer Registry, 1999-2003
U.S. rate from SEER*Stat Software

Maryland All Cancer Sites Mortality Rates by Geographical Area: Comparison to U.S. Rate, 1999-2003



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

Maryland area-specific rates with 95% confidence intervals are presented in Appendix H.

U.S. all cancer sites mortality rate, 1999-2003: 195.9/100,000

Source: MD and U.S. mortality rates from NCHS Compressed Mortality File in CDC WONDER

III. Targeted Cancers

A. Lung and Bronchus Cancer

Incidence (New Cases)

There were 3,747 new cases of lung and bronchus cancer (called lung cancer) among Maryland residents in 2003. The 2003 Maryland age-adjusted lung cancer incidence rate was 70.8 per 100,000 population (68.5-73.1, 95% C.I.), which is statistically significantly higher than the 2003 U.S. SEER lung cancer incidence rate of 60.0 per 100,000 population (59.2-60.8, 95% C.I.).

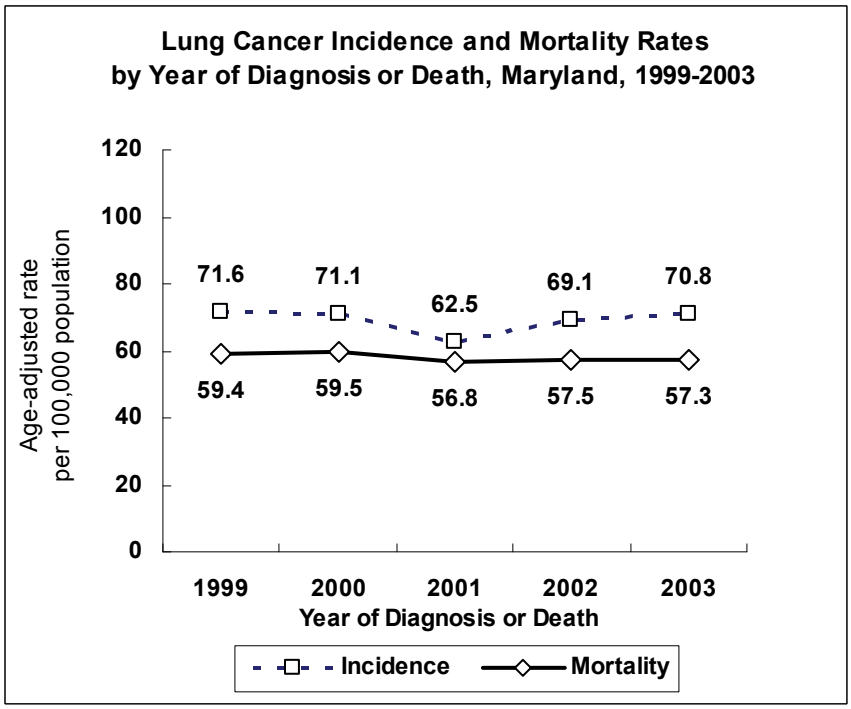
Mortality (Deaths)

There were 3,015 lung cancer deaths among Maryland residents in 2003. In 2003, lung cancer accounted for 29.3% of all cancer deaths in Maryland and was the leading cause of cancer deaths in both men and women. The 2003 age-adjusted lung cancer mortality rate was 57.3 per 100,000 population (55.3-59.3, 95% C.I.) in Maryland. This rate is statistically significantly higher than the 2003 U.S. mortality rate for lung and bronchus cancer of 54.1 per 100,000 population (53.8-54.4, 95% C.I.). Maryland had the 18th highest lung cancer mortality rate among the states and the District of Columbia for the period 1999 to 2003.

Table 11.
Lung Cancer Incidence and Mortality Rates*
by Gender and Race, Maryland and the United States, 2003

Incidence 2003	*Total*	*Males*	*Females*	*Whites*	*Blacks*	*Other*
New Cases (count)	3,747	1,964	1,783	2,811	861	75
MD Incidence Rate	70.8	86.4	59.8	71.2	73.6	37.6
U.S. SEER Rate	60.0	74.7	49.3	60.9	76.7	41.3
Mortality 2003	*Total*	*Males*	*Females*	*Whites*	*Blacks*	*Other*
Deaths (count)	3,015	1,662	1,353	2,239	727	49
MD Mortality Rate	57.3	74.8	44.9	56.5	64.2	25.5
U.S. Mortality Rate	54.1	71.6	41.2	54.4	60.8	27.6

* Rates are per 100,000 and are age-adjusted to 2000 U.S. standard population
Total includes cases reported as transsexual, hermaphrodite, unknown gender, and unknown race
Source: MD incidence data from Maryland Cancer Registry, 2003
U.S. SEER rates from SEER*Stat software
Mortality data from NCHS Compressed Mortality File in CDC WONDER



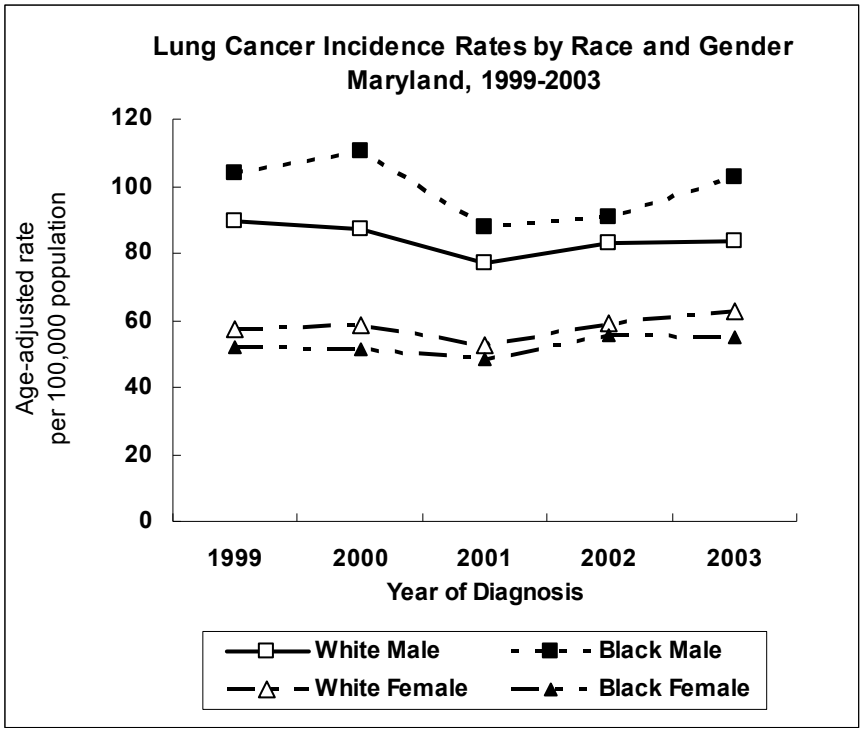
Rates are age-adjusted to 2000 U.S. standard population
Maryland Cancer Registry, 1999-2003
Maryland Division of Health Statistics, 1999-2001
NCHS Compressed Mortality File in CDC WONDER, 2002, 2003

Incidence and Mortality Trends

Lung cancer incidence rates decreased an average of 0.5% per year from 1999 to 2003 in Maryland.

Lung cancer mortality began to decline in the 1990s. In Maryland, lung cancer death rates decreased an average of 1.1% per year from 1999 to 2003.

See Appendix I, Tables 1 and 2.

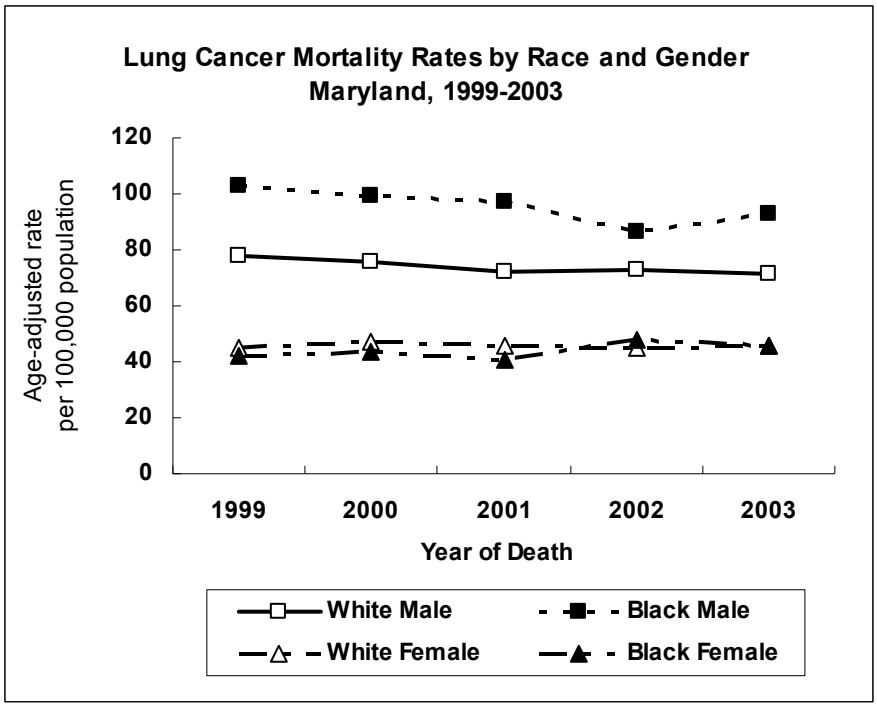


Rates are age-adjusted to 2000 U.S. standard population
Maryland Cancer Registry, 1999-2003

Race and Gender Incidence Trends

Male lung cancer incidence rates exceed those for females, with highest rates among black males. However, while lung cancer incidence rates declined for both white and black males over the period from 1999 to 2003, rates increased for both white and black females.

See Appendix I, Table 5.

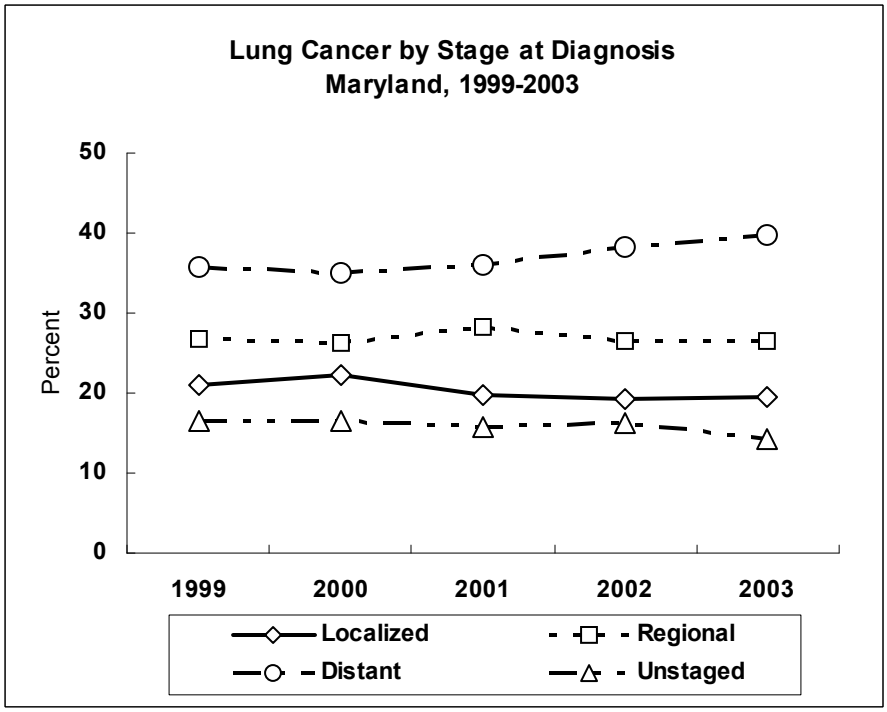


Rates are age-adjusted to 2000 U.S. standard population
Maryland Division of Health Statistics, 1999-2001
NCHS Compressed Mortality File in CDC WONDER, 2002, 2003

Race and Gender Mortality Trends

Males have consistently higher lung cancer mortality rates than females in Maryland. From 1999 to 2003, lung cancer mortality declined for all race and gender groups except black females. Black females had an average increase in lung cancer mortality of 2.7% per year. The largest decline in lung cancer mortality rates occurred among black males, with an average decrease of 3.5% per year over the period.

See Appendix I, Table 6.

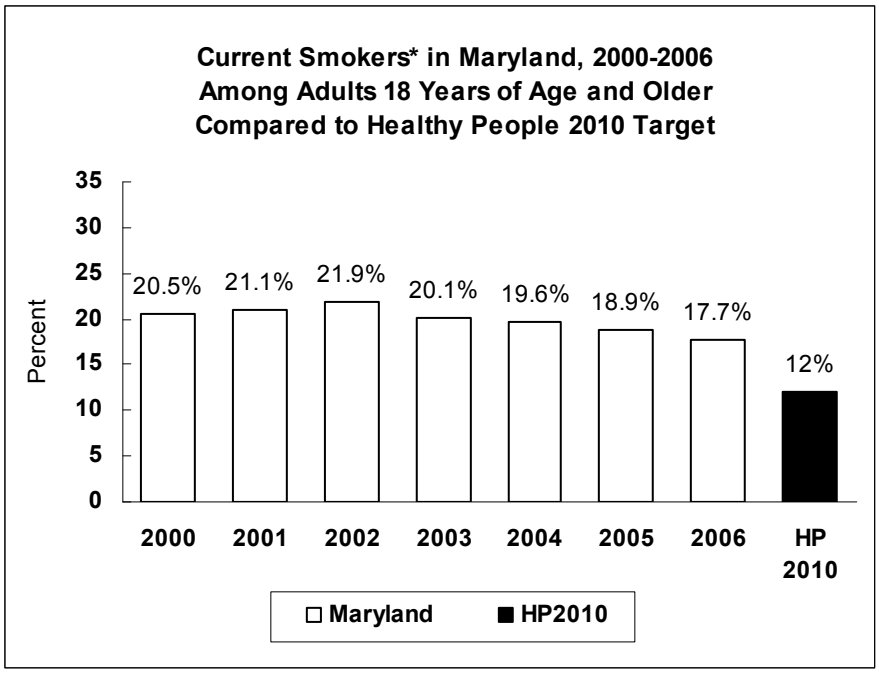


Maryland Cancer Registry, 1999-2003

Stage at Diagnosis

A higher proportion of lung cancer cases are diagnosed at the distant stage than at the localized or regional stage of cancer. In 2003, 39.8% of lung cancer cases were diagnosed at the distant stage. From 1999 to 2003, the proportion of cancers diagnosed at the distant stage increased an average of 3.0% per year; the proportion of cancers diagnosed at the localized stage decreased at the same rate.

See Appendix J, Table 2.



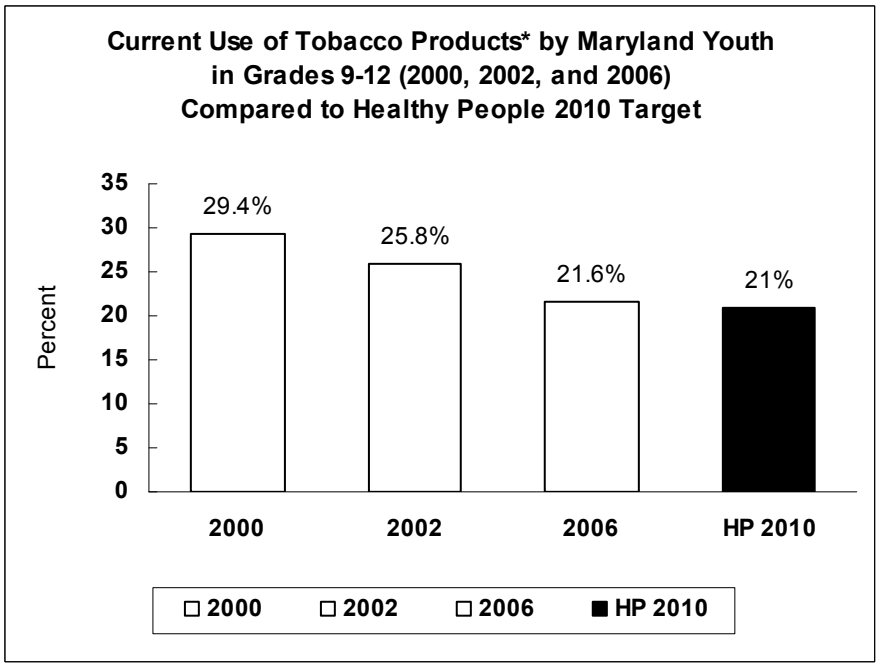
* Current smoker is defined as a person who smokes cigarettes every day or some days

Maryland BRFSS, 2000-2006

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

Healthy People 2010

One Healthy People 2010 target is to reduce to 12% the percentage of adults who are current smokers. Although Maryland has not yet met this target, the percentage of adult smokers has declined an average of 2.7% per year since 2000, with a stronger downward trend since about 2003.



* Current use of tobacco products is defined as use of any tobacco product, including cigarettes, smokeless or spit tobacco, and other products containing tobacco in the last 30 days

MYTS, Maryland DHMH Center for Health Promotion, Education, and Tobacco Use Prevention, 2000, 2002, 2006

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

Healthy People 2010

Healthy People 2010 has established a target of reducing to 21% the percentage of youth in grades 9-12 who are current users of tobacco products.

Based on the Maryland Youth Tobacco Survey (MYTS), 21.6% of Maryland youth in grades 9-12 were current users of tobacco products in 2006, achieving the Healthy People 2010 target.

Public Health Evidence (quoted from National Cancer Institute [NCI], Physician Data Query [PDQ], 4/3/2008, and United States Preventive Services Task Force [USPSTF], 5/2004)

Primary Prevention

The most important risk factor for lung cancer (as well as many other cancers) is tobacco use. Cigarette smoking has been established as the predominant cause of lung cancer, and tobacco 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, independently, with increased lung cancer risk. Smoking avoidance would result in decreased mortality from primary lung cancers. Long-term sustained smoking cessation results in decreased incidence of lung cancer and of second primary lung tumors. A 30 to 50% reduction of lung cancer mortality has been noted after 10 years of smoking cessation.

Environmental, or secondhand, tobacco smoke contains the same components as inhaled mainstream smoke at 1% to 10% the concentration, depending on the component. Exposure to radon increases lung cancer incidence and mortality. Considered in total, occupational exposures have been estimated to account for approximately 10% of lung cancers. These carcinogens include asbestos, radon, tar and soot (source of polycyclic aromatic hydrocarbons), arsenic, chromium, and nickel. For many of these workplace carcinogens, cigarette smoking interacts to synergistically increase the risk.

Chemoprevention

High-intensity smokers (one or more packs per day) who take pharmacological doses of beta-carotene supplementation (> 20 mg/day) have an *increased* lung cancer incidence and mortality that is associated with taking the supplement. Based on solid evidence, taking vitamin E supplements does not affect the risk of lung cancer.

Screening

Based on fair evidence, screening with chest x-ray and/or sputum cytology does not reduce mortality from lung cancer. Evidence is inadequate to determine whether screening with low-dose helical computed tomography (LDCT) decreases mortality from lung cancer. Based on solid evidence, screening with chest x-ray and/or sputum cytology or with LDCT would lead to false-positive tests with unnecessary invasive diagnostic procedures and treatment. In addition, the United States Preventive Services Task Force (USPSTF) concluded that the evidence is insufficient to recommend for or against screening asymptomatic persons for lung cancer with either LDCT, chest x-ray, sputum cytology, or a combination of these tests. Because of the invasive nature of diagnostic testing and the possibility of a high number of false-positive tests in certain populations, there is potential for significant harms from screening. Therefore, the USPSTF could not determine the balance between the benefits and harms of screening for lung cancer.

Public Health Intervention for Lung Cancer (CDC Best Practices for Comprehensive Tobacco Control Programs-2007, 10/2007)

- Prevent tobacco use among youth and young adults
- Promote cessation among adults and young people
- Eliminate exposure to secondhand smoke
- Identify and eliminate tobacco-related disparities

The CDC Best Practice Guidelines address five components of Comprehensive Tobacco Control Programs including:

- ***State and Community Interventions:***

✓ Support and implement programs and policies to influence organizations, systems, and networks
✓ Include local and statewide policies and programs, chronic disease and tobacco-related disparity elimination initiatives, and interventions aimed at youth

- ***Health Communication Interventions:***

✓ Deliver strategic, culturally appropriate, and high-impact messages in sustained and adequately funded campaigns
✓ Use traditional health communication interventions and counter-marketing strategies as well as innovations including more focused targeting of specific audiences and fostering message development and distribution

- ***Cessation Interventions:***

✓ Use interventions that encompass a broad array of policy, system, and population-based measures
✓ Ensure that all patients seen in the health care system are screened for tobacco use, receive brief interventions to help them quit, and are offered more intensive counseling services and FDA-approved cessation medications
✓ Make quitline counseling available to all tobacco users willing to access the service

- ***Surveillance and Evaluation:***

✓ Monitor tobacco-related attitudes, behaviors, and health outcomes
✓ Collect baseline data related to each objective and performance indicator to ensure program effects are adequately measured

- ***Administration and Management:***

✓ Have sufficient funding, internal capacity, and skilled staff for effective tobacco prevention and control programs

Table 12.
Number of Lung and Bronchus Cancer Cases by Jurisdiction, Gender and Race, Maryland, 2003

Jurisdiction	Total	Gender		Race			
		Males	Females	Whites	Blacks	Other	Unknown
Maryland	3,747	1,964	1,783	2,811	861	75	0
Allegany	87	51	36	s	<6	0	0
Anne Arundel	339	181	158	303	s	<6	0
Baltimore City	629	349	280	s	353	<6	0
Baltimore County	682	336	346	581	89	12	0
Calvert	51	32	19	43	s	<6	0
Caroline	37	16	21	s	<6	0	0
Carroll	111	72	39	103	s	<6	0
Cecil	46	23	23	s	<6	0	0
Charles	82	43	39	67	15	0	0
Dorchester	35	25	10	23	s	<6	0
Frederick	128	73	55	s	<6	0	0
Garrett	25	19	6	25	0	0	0
Harford	156	93	63	137	s	<6	0
Howard	102	54	48	85	s	<6	0
Kent	15	<6	s	s	<6	0	0
Montgomery	381	164	217	317	44	20	0
Prince George's	391	191	200	167	199	25	0
Queen Anne's	39	21	18	s	<6	0	0
Saint Mary's	55	23	32	48	7	0	0
Somerset	38	26	12	26	12	0	0
Talbot	46	18	28	s	<6	0	0
Washington	115	71	44	110	<6	<6	0
Wicomico	84	40	44	66	s	<6	0
Worcester	61	34	27	51	10	0	0
Unknown	12	<6	s	7	<6	<6	0

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

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

Source: Maryland Cancer Registry, 2003

Table 13.
Lung and Bronchus Cancer Age-Adjusted Incidence Rates* by Jurisdiction, Gender and Race, Maryland, 2003

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	70.8	86.4	59.8	71.2	73.6	37.6
Allegany	86.9	121.1	60.4	85.6	**	0.0
Anne Arundel	74.5	87.4	64.5	76.5	68.9	**
Baltimore City	96.2	132.3	72.6	106.0	91.0	**
Baltimore County	77.0	88.8	68.5	76.8	84.4	**
Calvert	73.5	105.4	48.9	70.4	**	**
Caroline	112.8	107.1	120.8	124.7	**	0.0
Carroll	72.2	107.9	46.2	69.0	**	**
Cecil	54.9	64.8	50.2	56.1	**	0.0
Charles	83.9	107.6	68.4	92.4	**	0.0
Dorchester	86.0	144.7	**	75.8	**	**
Frederick	70.6	94.5	54.0	73.0	**	0.0
Garrett	66.5	106.4	**	67.0	0.0	0.0
Harford	74.1	102.1	54.0	71.1	**	**
Howard	53.4	62.2	45.8	55.6	**	**
Kent	**	**	**	**	**	0.0
Montgomery	43.1	43.7	43.4	45.5	44.6	20.7
Prince George's	62.4	72.8	55.6	63.8	57.6	76.5
Queen Anne's	78.4	92.4	69.5	79.9	**	0.0
Saint Mary's	71.3	64.2	78.3	74.6	**	0.0
Somerset	139.4	201.7	**	129.8	**	0.0
Talbot	90.5	78.9	101.1	89.4	**	0.0
Washington	76.7	107.4	53.8	76.1	**	**
Wicomico	93.8	105.9	84.5	92.7	99.2	**
Worcester	78.7	98.3	64.3	74.3	**	0.0

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

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

Source: Maryland Cancer Registry, 2003

Table 14.
Number of Lung and Bronchus Cancer Deaths by Jurisdiction, Gender and Race, Maryland, 2003

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	3,015	1,662	1,353	2,239	727	49
Allegany	71	38	33	68	<6	<6
Anne Arundel	274	156	118	243	s	<6
Baltimore City	520	305	215	s	314	<6
Baltimore County	556	283	273	485	s	<6
Calvert	38	22	16	31	s	<6
Caroline	26	17	9	23	<6	<6
Carroll	86	52	34	82	<6	<6
Cecil	57	34	23	56	<6	<6
Charles	66	36	30	54	s	<6
Dorchester	31	23	8	22	s	<6
Frederick	86	49	37	84	<6	<6
Garrett	17	s	<6	s	<6	<6
Harford	138	79	59	131	s	<6
Howard	64	27	37	50	s	<6
Kent	15	s	s	14	<6	<6
Montgomery	288	140	148	231	36	21
Prince George's	338	187	151	145	182	11
Queen Anne's	24	14	10	20	<6	<6
Saint Mary's	47	26	21	39	s	<6
Somerset	26	19	7	21	<6	<6
Talbot	31	13	18	26	<6	<6
Washington	103	61	42	99	<6	<6
Wicomico	69	39	30	59	s	<6
Worcester	44	24	20	37	s	<6

<6 = Death counts of 0-5 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

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

Source: NCHS Compressed Mortality File in CDC WONDER

Table 15.
Lung and Bronchus Cancer Age-Adjusted Mortality Rates* by Jurisdiction, Gender and Race, Maryland, 2003

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	57.3	74.8	44.9	56.5	64.2	25.5
Allegany	70.9	89.3	58.3	68.9	**	**
Anne Arundel	61.1	80.5	46.7	61.8	61.5	**
Baltimore City	79.7	116.8	55.3	75.7	82.3	**
Baltimore County	62.2	75.4	52.4	62.9	65.1	**
Calvert	58.6	78.9	44.4	56.1	**	**
Caroline	79.8	123.4	**	83.3	**	**
Carroll	56.7	79.1	41.7	55.9	**	**
Cecil	69.1	90.2	50.9	71.1	**	**
Charles	71.2	91.1	57.9	78.1	**	**
Dorchester	74.0	131.3	**	68.4	**	**
Frederick	47.9	67.5	35.9	49.9	**	**
Garrett	47.5	**	**	47.8	**	**
Harford	66.3	88.8	50.3	68.8	**	**
Howard	33.8	34.0	35.4	33.7	**	**
Kent	**	**	**	**	**	**
Montgomery	32.7	38.4	28.7	32.7	39.9	24.5
Prince George's	55.4	74.6	42.9	55.3	56.2	**
Queen Anne's	47.4	**	**	44.3	**	**
Saint Mary's	64.2	79.5	52.9	64.0	**	**
Somerset	93.8	147.5	**	101.9	**	**
Talbot	56.3	**	56.7	52.6	**	**
Washington	68.1	93.4	49.2	67.8	**	**
Wicomico	76.2	103.1	58.3	82.4	**	**
Worcester	61.3	78.1	50.7	57.5	**	**

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

** Rates based on death counts of 0-15 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

Source: NCHS Compressed Mortality File in CDC WONDER

Table 16.
Number of Lung and Bronchus Cancer Cases by Jurisdiction, Gender and Race, Maryland, 1999-2003

Jurisdiction	Total	Gender		Race			
		Males	Females	Whites	Blacks	Other	Unknown
Maryland	17,512	9,419	8,091	13,289	3,881	299	43
Allegany	388	223	165	377	s	0	<6
Anne Arundel	1,611	849	761	1,435	152	s	<6
Baltimore City	2,982	1,629	1,353	1,270	1,687	14	11
Baltimore County	3,226	1,690	1,535	2,861	324	s	<6
Calvert	243	145	98	203	36	<6	<6
Caroline	147	77	70	125	s	<6	0
Carroll	452	268	184	431	s	<6	0
Cecil	293	161	132	280	10	<6	<6
Charles	339	197	142	273	63	<6	<6
Dorchester	180	110	70	138	s	<6	0
Frederick	558	344	214	511	42	<6	<6
Garrett	116	75	41	s	<6	0	0
Harford	724	399	325	666	50	8	0
Howard	524	262	262	425	83	16	0
Kent	97	46	51	83	14	0	0
Montgomery	1,839	892	947	1,519	205	s	<6
Prince George's	1,765	943	822	831	866	s	<6
Queen Anne's	175	87	88	152	s	<6	0
Saint Mary's	263	142	121	228	31	<6	<6
Somerset	147	90	57	105	42	0	0
Talbot	185	97	88	164	s	<6	0
Washington	530	289	241	503	s	<6	<6
Wicomico	400	207	193	325	71	<6	<6
Worcester	310	188	122	261	44	<6	<6
Unknown	18	9	9	s	<6	<6	<6

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

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

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

Source: Maryland Cancer Registry, 1999-2003

Table 17.
Lung and Bronchus Cancer Age-Adjusted Incidence Rates* by Jurisdiction, Gender and Race, Maryland, 1999-2003

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	68.7	86.0	56.2	69.0	70.9	35.6
Allegany	78.5	106.2	57.1	77.9	**	0.0
Anne Arundel	73.1	86.8	62.9	74.2	66.5	41.7
Baltimore City	91.2	122.8	70.3	95.3	88.9	**
Baltimore County	74.6	92.0	62.2	76.3	69.5	38.9
Calvert	79.0	111.0	57.8	76.7	88.6	**
Caroline	91.6	109.1	79.7	91.8	92.3	**
Carroll	63.0	86.4	46.4	62.0	104.0	**
Cecil	72.9	89.2	61.3	72.9	**	**
Charles	73.1	97.2	54.8	76.6	63.8	**
Dorchester	87.9	123.5	61.8	87.4	89.5	**
Frederick	65.3	92.3	45.2	63.7	106.5	**
Garrett	64.1	90.5	41.3	62.7	**	0.0
Harford	72.7	93.1	58.5	72.6	77.1	**
Howard	57.7	65.2	52.1	58.6	67.1	24.7
Kent	69.6	72.8	66.7	69.9	**	0.0
Montgomery	43.6	49.6	39.1	44.8	46.2	28.3
Prince George's	58.5	73.9	48.0	62.7	53.9	46.8
Queen Anne's	77.2	81.9	74.3	75.0	88.8	**
Saint Mary's	73.2	84.6	64.1	75.5	61.6	**
Somerset	109.1	143.4	78.4	105.0	119.0	0.0
Talbot	71.7	83.9	62.8	71.4	60.5	**
Washington	72.3	90.6	59.5	70.9	137.8	**
Wicomico	91.9	111.8	77.6	93.6	86.5	**
Worcester	87.7	117.1	63.9	84.5	103.1	**

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

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

Source: Maryland Cancer Registry, 1999-2003

Table 18.
Number of Lung and Bronchus Cancer Deaths
by Jurisdiction, Gender and Race, Maryland, 1999-2003

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	14,644	8,169	6,475	11,074	3,391	179
Allegany	297	179	118	291	s	<6
Anne Arundel	1,346	727	619	1,202	131	13
Baltimore City	2,651	1,488	1,163	1,126	1,511	14
Baltimore County	2,766	1,495	1,271	2,479	274	13
Calvert	208	121	87	178	s	<6
Caroline	124	72	52	106	s	<6
Carroll	394	226	168	384	s	<6
Cecil	272	163	109	261	s	<6
Charles	281	158	123	225	s	<6
Dorchester	155	101	54	117	s	<6
Frederick	418	262	156	386	s	<6
Garrett	88	59	29	s	<6	<6
Harford	606	345	261	564	s	<6
Howard	372	196	176	304	56	12
Kent	83	46	37	s	14	<6
Montgomery	1,370	696	674	1,135	164	71
Prince George's	1,638	926	712	774	825	39
Queen Anne's	128	66	62	108	s	<6
Saint Mary's	199	125	74	170	s	<6
Somerset	111	76	35	85	s	<6
Talbot	137	78	59	123	s	<6
Washington	450	249	201	439	s	<6
Wicomico	319	184	135	263	s	<6
Worcester	231	131	100	197	s	<6

<6 = Death counts of 0-5 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

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

Source: NCHS Compressed Mortality File in CDC WONDER

Table 19.
Lung and Bronchus Cancer Age-Adjusted Mortality Rates* by Jurisdiction, Gender and Race, Maryland, 1999-2003

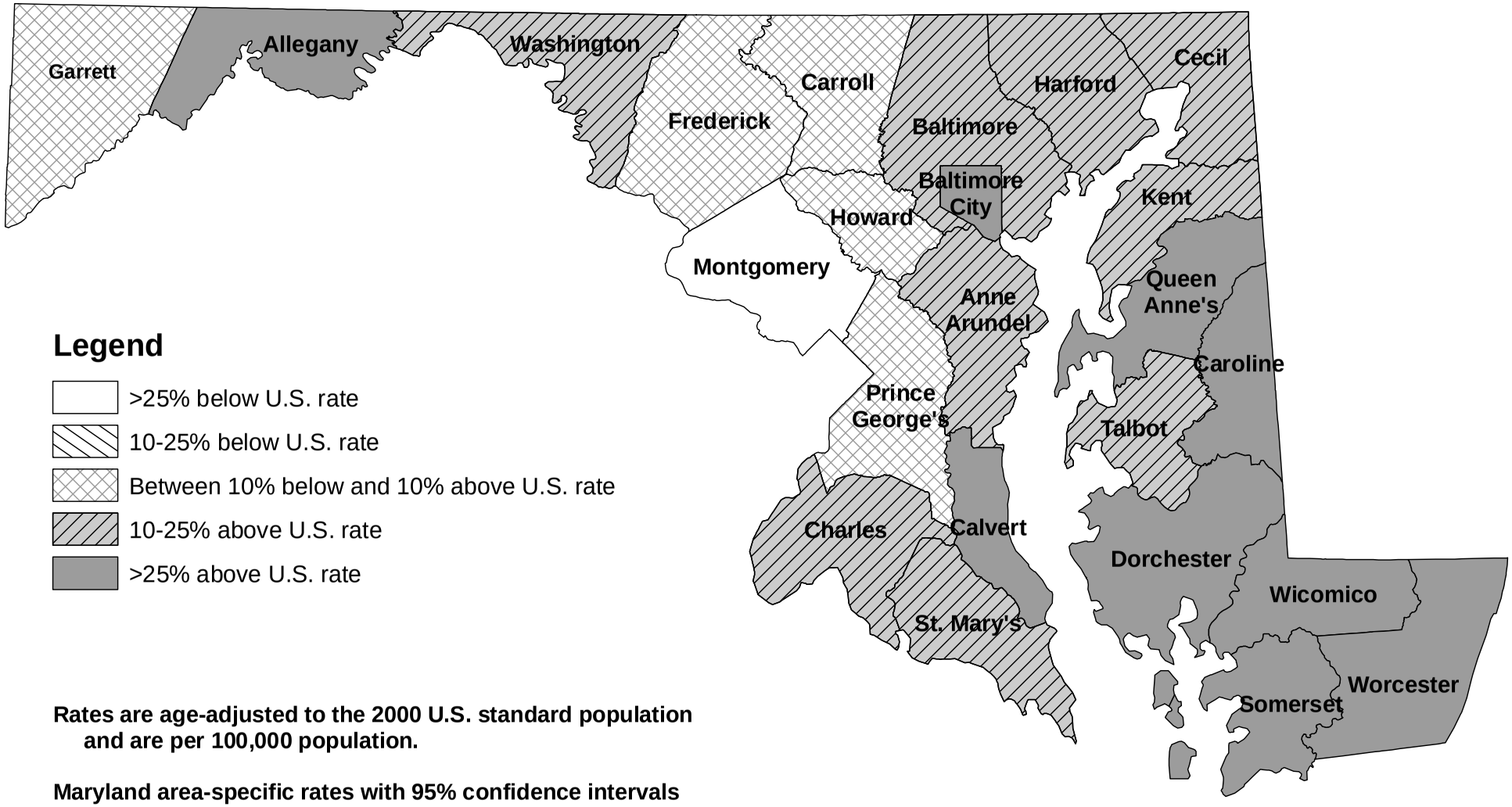
Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	58.0	76.9	44.8	57.6	63.9	22.5
Allegany	59.8	86.4	40.5	59.8	**	**
Anne Arundel	62.9	78.7	51.6	63.8	59.9	**
Baltimore City	80.9	113.6	59.5	82.0	80.7	**
Baltimore County	63.7	82.8	50.4	65.3	59.9	**
Calvert	68.6	94.5	51.8	68.7	72.0	**
Caroline	77.1	105.3	56.9	77.5	79.5	**
Carroll	56.0	76.4	42.3	56.3	**	**
Cecil	68.4	89.3	51.0	68.7	**	**
Charles	62.4	83.2	48.3	65.3	52.9	**
Dorchester	75.7	116.5	47.1	73.2	83.4	**
Frederick	49.6	72.4	33.0	48.8	80.7	**
Garrett	49.7	73.8	29.6	49.9	**	**
Harford	62.1	82.8	47.5	62.9	57.2	**
Howard	42.6	53.9	36.1	43.5	47.6	**
Kent	58.4	74.1	47.5	57.1	**	**
Montgomery	32.8	40.2	27.5	33.4	38.6	20.1
Prince George's	56.1	76.1	42.7	58.5	55.6	28.4
Queen Anne's	57.1	61.9	52.7	54.6	84.6	**
Saint Mary's	56.9	77.9	39.9	58.1	53.2	**
Somerset	82.0	121.7	48.0	84.6	75.4	**
Talbot	51.3	67.6	39.3	52.4	**	**
Washington	61.1	80.1	47.6	61.5	**	**
Wicomico	73.1	100.4	54.1	75.4	66.6	**
Worcester	65.2	84.2	51.5	63.6	77.2	**

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

** Rates based on death counts of 0-15 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

Source: NCHS Compressed Mortality File in CDC WONDER

Maryland Lung Cancer Incidence Rates by Geographical Area: Comparison to U.S. Rate, 1999-2003



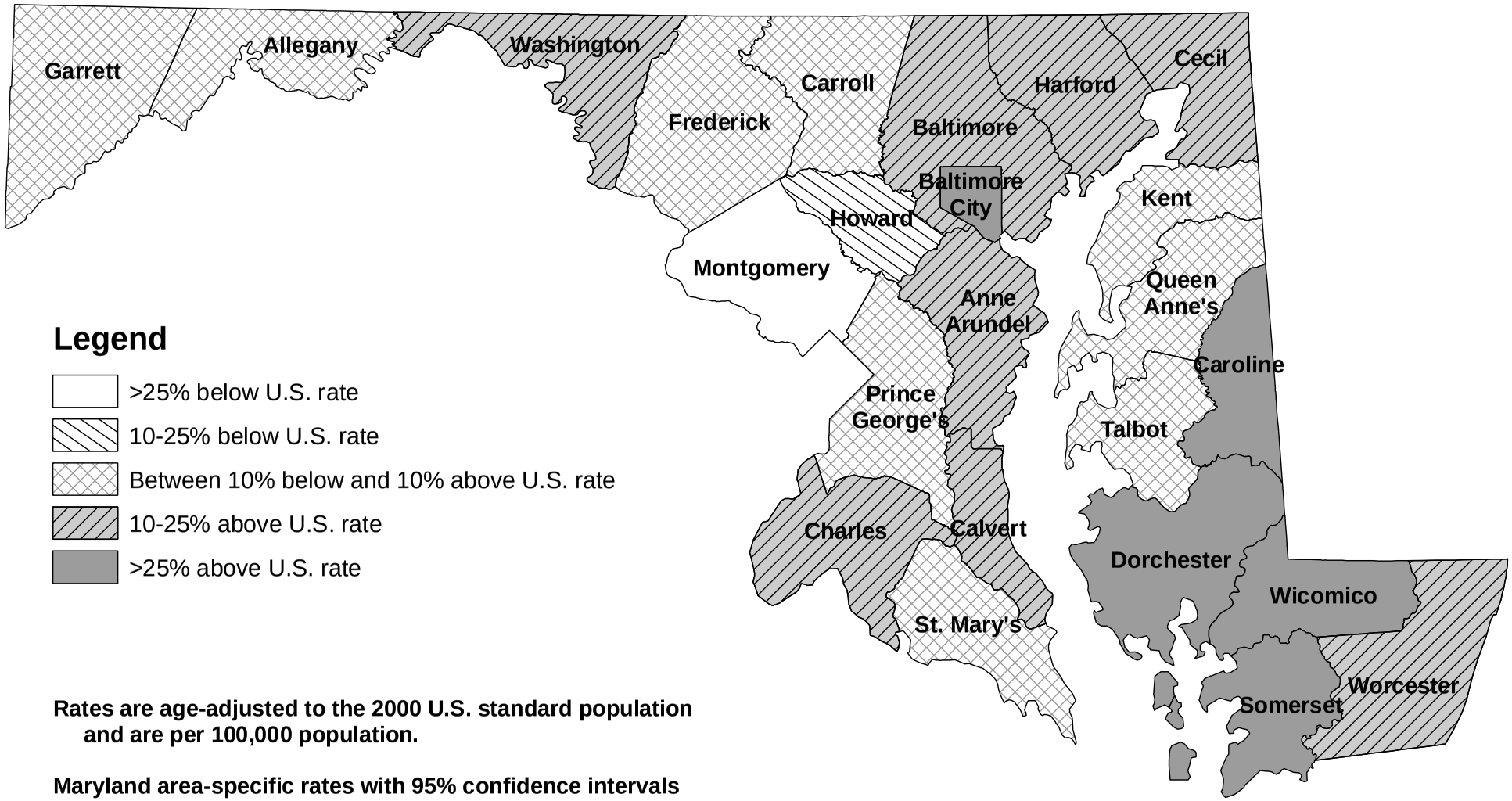
Rates are age-adjusted to the 2000 U.S. standard population and are per 100,000 population.

Maryland area-specific rates with 95% confidence intervals are presented in Appendix H.

U.S. lung cancer incidence rate, 1999-2003: 60.8/100,000

Source: MD incidence rates from Maryland Cancer Registry, 1999-2003
U.S. rate from SEER*Stat Software

Maryland Lung Cancer Mortality Rates by Geographical Area: Comparison to U.S. Rate, 1999-2003



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

Maryland area-specific rates with 95% confidence intervals are presented in Appendix H.

U.S. lung cancer mortality rate, 1999-2003: 55.1/100,000

Source: MD and U.S. mortality rates from NCHS Compressed Mortality File in CDC WONDER

B. Colon and Rectum Cancer

Incidence (New Cases)

Cancer of the colon or rectum is often referred to as colorectal cancer. There were 2,923 new cases of colorectal cancer diagnosed among Maryland residents in 2003. The age-adjusted colorectal cancer incidence rate in Maryland for 2003 was 54.6 per 100,000 population (52.6-56.6, 95% C.I.), which is statistically significantly higher than the 2003 U.S. SEER age-adjusted colorectal cancer incidence rate of 49.4 per 100,000 population (48.7-50.2, 95% C.I.).

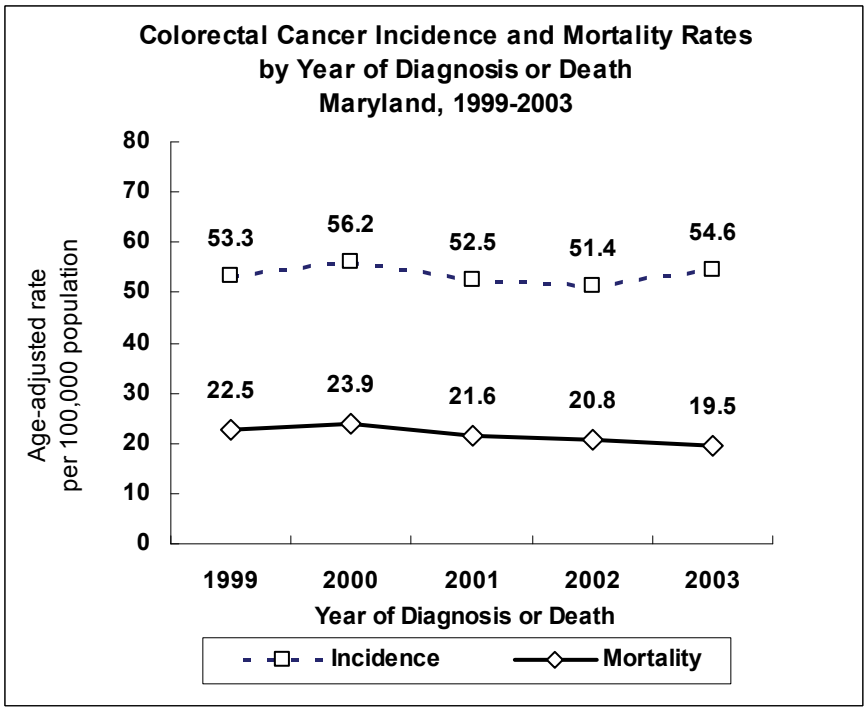
Mortality (Deaths)

A total of 1,015 persons died of colorectal cancer in 2003 in Maryland. In 2003, colorectal cancer accounted for 9.9% of all cancer deaths and was the second leading cause of cancer deaths in Maryland. The age-adjusted colorectal cancer mortality rate in Maryland was 19.5 per 100,000 population (18.3-20.7, 95% C.I.). This rate is similar to the 2003 U.S. colorectal cancer mortality rate of 19.0 per 100,000 population (18.8-19.2, 95% C.I.). Maryland had the 13th highest colorectal cancer mortality rate among the states and the District of Columbia for the period 1999 to 2003.

Table 20.
Colorectal Cancer Incidence and Mortality Rates*
by Gender and Race, Maryland and the United States, 2003

Incidence 2003	*Total*	*Males*	*Females*	*Whites*	*Blacks*	*Other*
New Cases (count)	2,923	1,424	1,499	2,050	748	95
MD Incidence Rate	54.6	61.7	49.4	51.5	62.9	44.7
U.S. SEER Rate	49.4	57.6	43.0	48.7	62.2	44.3
Mortality 2003	*Total*	*Males*	*Females*	*Whites*	*Blacks*	*Other*
Deaths (count)	1,015	496	519	708	291	16
MD Mortality Rate	19.5	22.7	17.0	17.9	26.6	8.7
U.S. Mortality Rate	19.0	22.9	16.1	18.5	26.3	12.0

* Rates are per 100,000 and are age-adjusted to 2000 U.S. standard population
Total includes cases reported as transsexual, hermaphrodite, unknown gender, and unknown race
Source: MD incidence data from Maryland Cancer Registry, 2003
U.S. SEER rates from SEER*Stat software
Mortality data from NCHS Compressed Mortality File in CDC WONDER

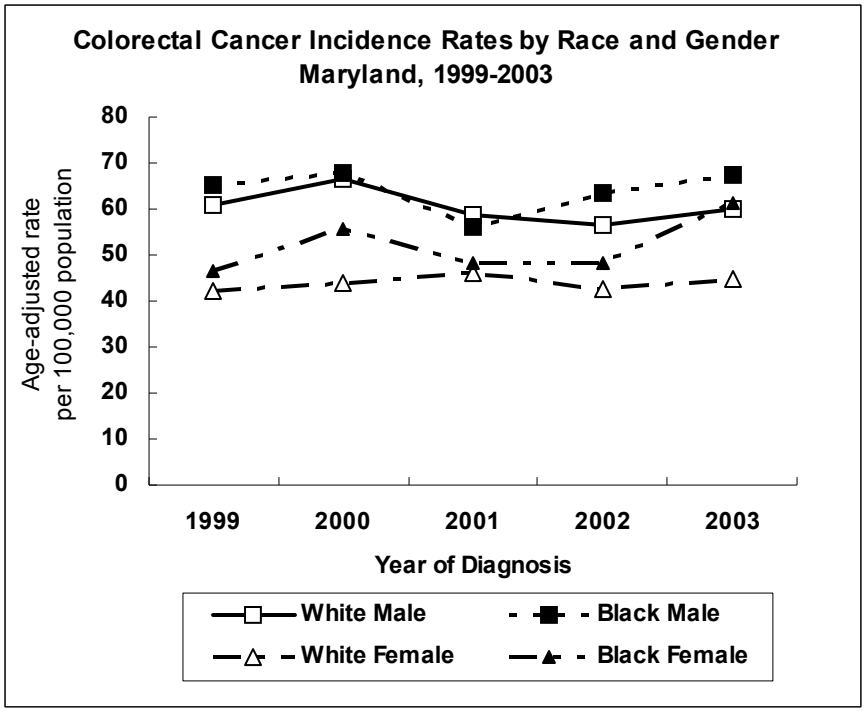


Rates are age-adjusted to 2000 U.S. standard population
Maryland Cancer Registry, 1999-2003
Maryland Division of Health Statistics, 1999-2001
NCHS Compressed Mortality File in CDC WONDER, 2002, 2003

Incidence and Mortality Trends

Both incidence and mortality rates for colorectal cancer have been declining. Incidence rates dropped an average of 0.4% per year from 1999 to 2003, and mortality rates dropped an average of 4.2% per year.

See Appendix I, Tables 1 and 2.

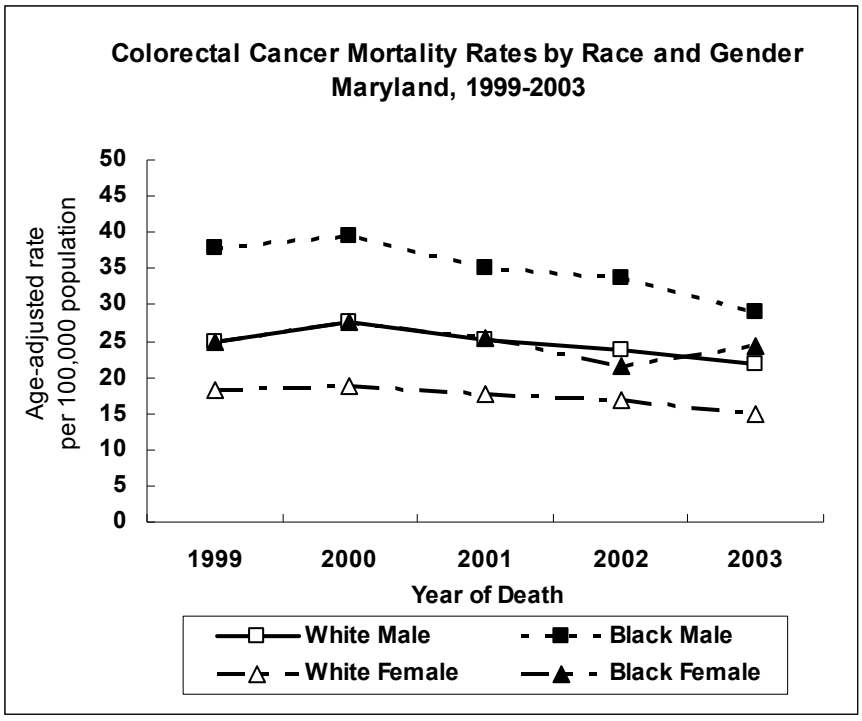


Rates are age-adjusted to 2000 U.S. standard population
Maryland Cancer Registry, 1999-2003

Race and Gender Incidence Trends

From 1999 to 2003, colorectal cancer incidence rates declined for white and black males, but increased for white and black females. The largest increase in incidence rates occurred among black females, with an average increase of 4.0% per year. White males had the largest decline in colorectal cancer incidence rates, with an average annual decrease of 2.0% over the period.

See Appendix I, Table 7.



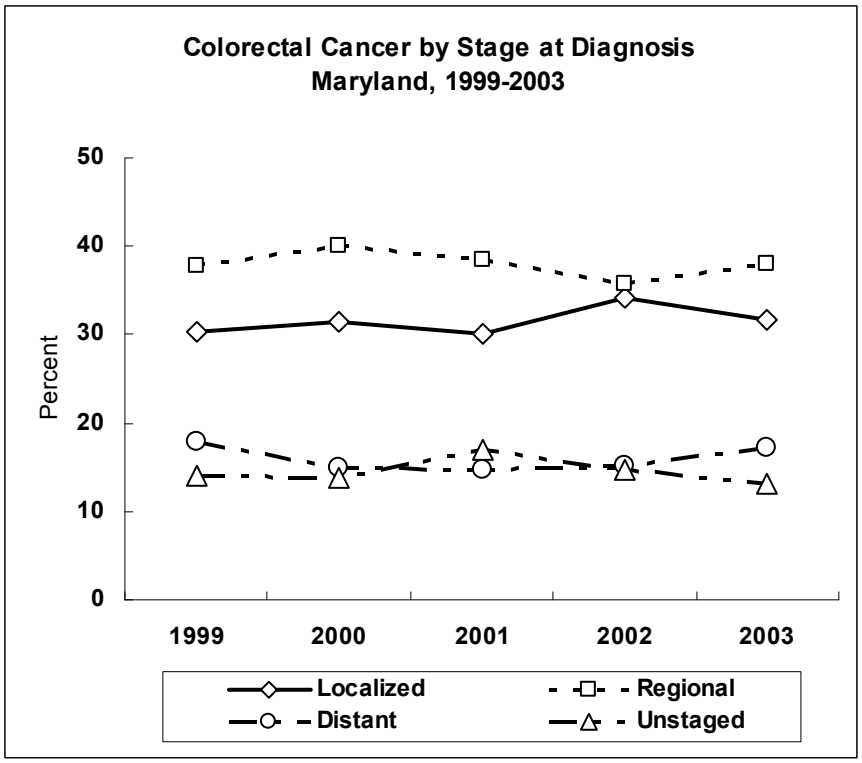
Rates are age-adjusted to 2000 U.S. standard population
Maryland Division of Health Statistics, 1999-2001
NCHS Compressed Mortality File in CDC WONDER, 2002, 2003

Race and Gender Mortality Trends

Among all gender and race groups, colorectal cancer mortality rates from 1999 to 2003 were highest for black males and lowest for white females.

Mortality rates for all four gender-race categories declined from 1999 to 2003. The largest decrease occurred among black males, with an average annual decline of 6.6% over the period.

See Appendix I, Table 8.

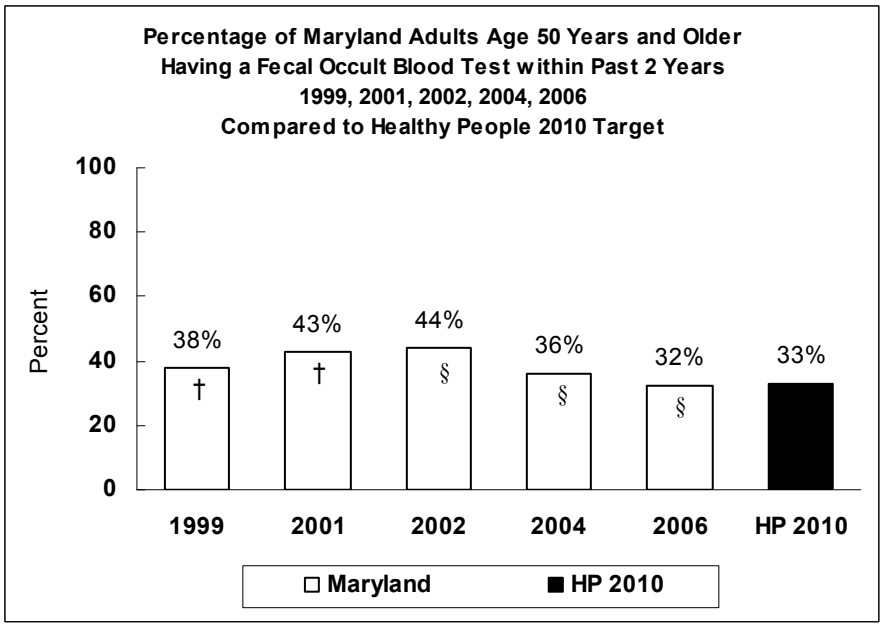


Maryland Cancer Registry, 1999-2003

Stage at Diagnosis

In 2003, 37.9% of colorectal cancers diagnosed in Maryland were detected in the regional stage, and 31.6% were diagnosed at the localized (early) stage. From 1999 to 2003, the proportion of cancers diagnosed at the local stage increased an average of 1.6% per year, while those at the regional stage decreased an average of 1.1% per year.

See Appendix J, Table 3.



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

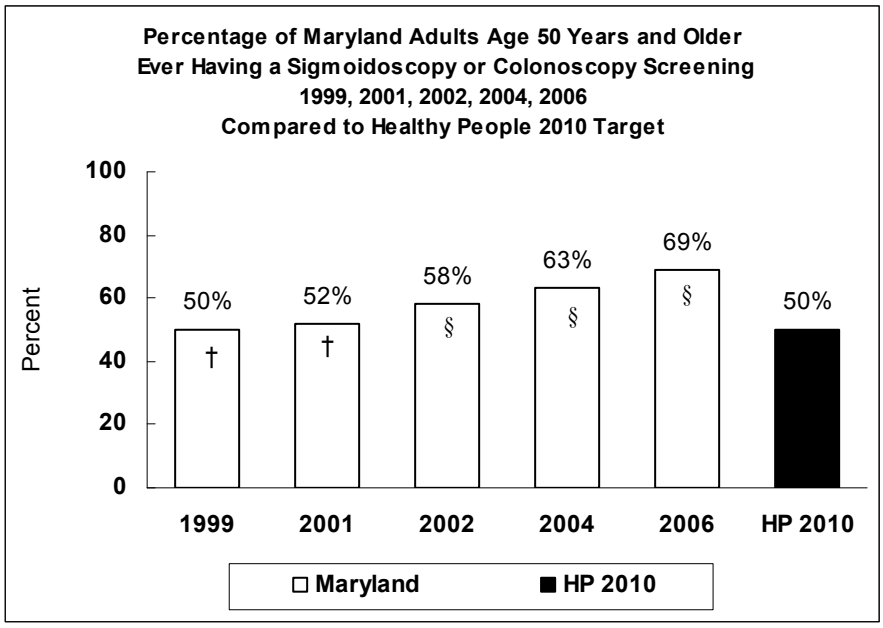
† Maryland BRFSS, 1999, 2001

§ Maryland Cancer Survey 2002, 2004, and 2006

Healthy People 2010 Midcourse Review, U.S. Department of Health and Human Services, 2006

Healthy People 2010

One Healthy People 2010 target for colorectal cancer is to increase to 33% the proportion of adults age 50 years and older who received a fecal occult blood test (FOBT) in the preceding 2 years. FOBT testing in Maryland increased steadily from 1999 to 2002, surpassing the Healthy People 2010 target, but declined to 32% by 2006. This decline is most likely due to the increased use of alternate screening methods, such as colonoscopy.



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

† Maryland BRFSS, 1999, 2001

§ Maryland Cancer Survey 2002, 2004, and 2006

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

Healthy People 2010

The second Healthy People 2010 target for colorectal cancer is to increase to 50% the proportion of adults age 50 years and older who ever received a sigmoidoscopy. In 2006, 69% of Maryland adults age 50 years and older reported ever having a sigmoidoscopy or colonoscopy, surpassing the Healthy People target. (Note: The Maryland BRFSS and MCS ask respondents whether they have ever had either a sigmoidoscopy or colonoscopy.)

Public Health Evidence (quoted from NCI PDQ, 5/9/2008 and 6/6/2008, and USPSTF, 7/2002)

Screening

Screening for colorectal cancer (CRC) reduces colorectal cancer mortality. The United States Preventive Services Task Force (USPSTF) strongly recommends that clinicians screen men and women 50 years of age or older for CRC. The USPSTF 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 CRC. Proven methods of FOBT screening use guaiac-based test cards prepared at home by patients from three consecutive stool samples and forwarded to the clinician. 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 ("virtual colonoscopy"), are effective in improving health outcomes.

Prevention

Based on fair evidence, removal of adenomatous polyps reduces the risk of CRC. Harms of polyp removal include infrequent perforation of the colon during the procedure, as well as bleeding and infection following the procedure. There is inadequate evidence to suggest that a diet low in fat and high in fiber, fruits, and vegetables decreases the risk of CRC; however, there are no known harms from dietary modification, including reduction of fatty acids and increase in intake of fiber, fruits, and vegetables. Obesity is associated with a two-fold risk increase in CRC in premenopausal women. Cigarette smoking is associated with an increased tendency to form adenomas and to develop CRC.

Chemoprevention

There is inadequate evidence that the use of nonsteroidal anti-inflammatory drugs (NSAIDs) reduces the risk of CRC. Based on solid evidence, NSAIDs reduce the risk of adenomas, but the extent to which this translates into a reduction of CRC is uncertain. However, harms of NSAID use include upper gastrointestinal bleeding and serious cardiovascular events such as heart attack, heart failure, and hemorrhagic stroke. Based on solid evidence, postmenopausal estrogen plus progesterone hormone use decreases the incidence of CRC, but this benefit is not applicable to estrogen alone use. However, harms of postmenopausal combined estrogen plus progestin hormone use include increased risk of breast cancer, coronary heart disease, stroke, and other thromboembolic events.

Public Health Intervention for Colorectal Cancer (DHMH Colorectal Cancer Medical Advisory Committee, 2008)
Early detection of colorectal cancer: ➢ For those at average risk, screen with colonoscopy or with FOBT and flexible sigmoidoscopy. ➢ For those unable or unwilling to undergo colonoscopy or sigmoidoscopy, FOBT is an alternative initial screening method. ➢ Reserve DCBE, computer tomographic colography, or other emerging technologies as an alternative for situations where the patient and the provider discuss and determine that DCBE or another test is indicated for the individual.

Table 21.
Number of Colorectal Cancer Cases
by Jurisdiction, Gender and Race, Maryland, 2003

Jurisdiction	Total	Gender		Race			
		Males	Females	Whites	Blacks	Other	Unknown
Maryland	2,923	1,424	1,499	2,050	748	95	30
Allegany	68	39	29	68	0	0	0
Anne Arundel	237	128	109	198	32	<6	<6
Baltimore City	416	189	227	157	252	7	0
Baltimore County	486	231	255	390	89	s	<6
Calvert	58	23	35	48	s	<6	<6
Caroline	17	10	7	s	<6	0	0
Carroll	84	42	42	s	<6	0	0
Cecil	39	19	20	36	<6	0	<6
Charles	78	48	30	60	14	<6	<6
Dorchester	26	14	12	s	<6	0	0
Frederick	112	54	58	98	9	<6	<6
Garrett	15	6	9	15	0	0	0
Harford	100	52	48	93	s	<6	0
Howard	100	55	45	75	14	s	<6
Kent	12	<6	s	s	<6	0	0
Montgomery	426	206	220	311	63	44	8
Prince George's	362	148	214	128	215	s	<6
Queen Anne's	21	11	10	18	<6	0	<6
Saint Mary's	40	24	16	32	s	<6	<6
Somerset	18	12	6	13	<6	<6	0
Talbot	26	14	12	s	<6	0	0
Washington	88	46	42	84	<6	0	<6
Wicomico	43	24	19	37	<6	0	<6
Worcester	41	21	20	s	<6	0	0
Unknown	10	<6	<6	<6	<6	0	<6

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

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

Source: Maryland Cancer Registry, 2003

Table 22.
Colorectal Cancer Age-Adjusted Incidence Rates* by Jurisdiction, Gender and Race, Maryland, 2003

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	54.6	61.7	49.4	51.5	62.9	44.7
Allegany	67.0	96.3	48.1	68.6	0.0	0.0
Anne Arundel	51.9	62.3	44.0	49.7	65.5	**
Baltimore City	63.3	71.4	57.8	59.4	65.5	**
Baltimore County	54.2	61.1	49.6	50.7	82.9	**
Calvert	81.8	61.6	92.9	79.6	**	**
Caroline	51.4	**	**	**	**	0.0
Carroll	54.9	63.4	47.7	54.0	**	0.0
Cecil	44.3	43.1	43.2	42.7	**	0.0
Charles	76.3	105.7	52.4	79.8	**	**
Dorchester	66.1	**	**	66.4	**	0.0
Frederick	62.3	72.6	56.6	59.4	**	**
Garrett	**	**	**	**	0.0	0.0
Harford	46.4	52.8	40.9	47.6	**	**
Howard	46.4	56.2	39.2	42.9	**	**
Kent	**	**	**	**	**	0.0
Montgomery	46.7	52.8	41.9	43.3	58.9	46.6
Prince George's	55.1	51.4	57.4	49.4	59.0	**
Queen Anne's	43.2	**	**	41.7	**	0.0
Saint Mary's	52.5	72.7	39.0	49.8	**	**
Somerset	65.7	**	**	**	**	**
Talbot	46.8	**	**	47.8	**	0.0
Washington	57.8	69.2	47.4	57.4	**	0.0
Wicomico	47.7	61.2	35.8	51.7	**	0.0
Worcester	56.7	61.2	53.6	58.4	**	0.0

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

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

Source: Maryland Cancer Registry, 2003

Table 23.
Number of Colorectal Cancer Deaths
by Jurisdiction, Gender and Race, Maryland, 2003

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	1,015	496	519	708	291	16
Allegany	20	9	11	s	<6	<6
Anne Arundel	93	46	47	81	s	<6
Baltimore City	158	71	87	s	91	<6
Baltimore County	183	93	90	146	s	<6
Calvert	18	6	12	15	<6	<6
Caroline	6	<6	<6	<6	<6	<6
Carroll	33	14	19	31	<6	<6
Cecil	15	9	6	14	<6	<6
Charles	33	22	11	24	s	<6
Dorchester	9	<6	<6	8	<6	<6
Frederick	34	15	19	30	<6	<6
Garrett	<6	<6	<6	<6	<6	<6
Harford	33	16	17	29	<6	<6
Howard	30	16	14	21	<6	<6
Kent	8	s	<6	6	<6	<6
Montgomery	110	50	60	85	s	<6
Prince George's	145	63	82	s	87	<6
Queen Anne's	11	s	<6	10	<6	<6
Saint Mary's	18	9	9	15	<6	<6
Somerset	<6	<6	<6	<6	<6	<6
Talbot	11	s	<6	8	<6	<6
Washington	15	6	9	s	<6	<6
Wicomico	15	s	<6	11	<6	<6
Worcester	12	s	<6	9	<6	<6

<6 = Death counts of 0-5 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

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

Source: NCHS Compressed Mortality File in CDC WONDER

Table 24.
Colorectal Cancer Age-Adjusted Mortality Rates*
by Jurisdiction, Gender and Race, Maryland, 2003

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Others
Maryland	19.5	22.7	17.0	17.9	26.6	8.7
Allegany	22.0	**	**	23.0	**	**
Anne Arundel	21.3	24.0	19.2	21.2	**	**
Baltimore City	24.1	27.4	21.7	24.3	24.3	**
Baltimore County	20.3	25.2	16.6	18.5	35.6	**
Calvert	28.5	**	**	**	**	**
Caroline	**	**	**	**	**	**
Carroll	22.7	**	21.4	21.9	**	**
Cecil	**	**	**	**	**	**
Charles	38.8	60.2	**	36.1	**	**
Dorchester	**	**	**	**	**	**
Frederick	19.0	**	19.3	18.2	**	**
Garrett	**	**	**	**	**	**
Harford	17.1	17.2	15.4	16.3	**	**
Howard	15.5	16.1	**	13.9	**	**
Kent	**	**	**	**	**	**
Montgomery	12.3	13.4	11.4	11.7	21.9	**
Prince George's	24.4	24.3	23.4	21.2	27.8	**
Queen Anne's	**	**	**	**	**	**
Saint Mary's	25.1	**	**	**	**	**
Somerset	**	**	**	**	**	**
Talbot	**	**	**	**	**	**
Washington	**	**	**	**	**	**
Wicomico	**	**	**	**	**	**
Worcester	**	**	**	**	**	**

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

** Rates based on death counts of 0-15 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

Source: NCHS Compressed Mortality File in CDC WONDER

Table 25.
Number of Colorectal Cancer Cases
by Jurisdiction, Gender and Race, Maryland, 1999-2003

Jurisdiction	Total	Gender		Race			
		Males	Females	Whites	Blacks	Other	Unknown
Maryland	13,601	6,761	6,837	9,850	3,056	433	262
Allegany	300	148	152	296	<6	0	<6
Anne Arundel	1,149	598	551	950	145	26	28
Baltimore City	1,879	847	1,031	824	1,015	20	20
Baltimore County	2,473	1,200	1,273	2,046	348	39	40
Calvert	200	93	106	164	27	<6	<6
Caroline	109	66	43	89	20	0	0
Carroll	379	183	196	364	s	<6	<6
Cecil	223	127	96	210	7	<6	<6
Charles	261	140	121	193	54	<6	s
Dorchester	131	70	61	105	26	0	0
Frederick	519	271	248	472	28	10	9
Garrett	93	44	49	93	0	0	0
Harford	514	275	239	454	47	6	7
Howard	474	241	233	358	72	33	11
Kent	69	28	41	57	12	0	0
Montgomery	1,807	914	893	1,338	219	201	49
Prince George's	1,560	758	801	619	834	61	46
Queen Anne's	124	55	69	103	s	0	<6
Saint Mary's	237	126	111	190	39	<6	s
Somerset	80	50	30	59	17	<6	<6
Talbot	161	85	76	136	25	0	0
Washington	412	211	201	391	17	<6	<6
Wicomico	222	103	119	180	39	<6	<6
Worcester	195	110	85	148	30	s	<6
Unknown	30	18	12	11	<6	<6	15

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

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

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

Source: Maryland Cancer Registry, 1999-2003

Table 26.
Colorectal Cancer Age-Adjusted Incidence Rates*
by Jurisdiction, Gender and Race, Maryland, 1999-2003

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	53.3	62.1	46.7	51.0	56.7	49.6
Allegany	60.7	72.7	52.9	61.4	**	0.0
Anne Arundel	52.4	61.6	45.6	49.7	63.7	46.7
Baltimore City	57.1	65.1	51.8	59.1	54.7	44.2
Baltimore County	56.8	66.0	50.0	53.8	73.5	47.8
Calvert	63.5	63.2	61.6	61.0	61.9	**
Caroline	67.9	93.6	47.2	64.9	87.8	0.0
Carroll	53.1	61.4	47.0	52.5	**	**
Cecil	55.1	66.0	44.5	54.3	**	**
Charles	56.4	67.6	46.9	54.3	54.5	**
Dorchester	65.3	81.4	53.7	65.8	60.2	0.0
Frederick	61.0	73.4	51.9	59.5	71.0	**
Garrett	52.6	55.8	49.3	52.9	0.0	0.0
Harford	52.0	62.9	43.5	50.1	69.6	**
Howard	50.1	57.3	43.7	47.1	63.9	46.3
Kent	48.4	44.5	52.1	45.5	**	0.0
Montgomery	42.0	50.2	35.8	38.8	49.0	48.2
Prince George's	51.2	59.0	45.6	47.2	51.8	48.7
Queen Anne's	57.4	54.8	59.4	54.2	65.8	0.0
Saint Mary's	66.2	76.5	58.8	62.8	78.4	**
Somerset	59.8	81.4	39.9	58.4	49.3	**
Talbot	60.4	72.7	51.2	57.8	81.9	0.0
Washington	55.8	65.6	47.1	54.6	100.5	**
Wicomico	51.1	54.4	46.4	51.7	48.4	**
Worcester	57.2	69.2	46.4	49.9	71.1	**

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

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

Source: Maryland Cancer Registry, 1999-2003

Table 27.
Number of Colorectal Cancer Deaths
by Jurisdiction, Gender and Race, Maryland, 1999-2003

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	5,407	2,653	2,754	3,883	1,425	99
Allegany	118	57	61	115	<6	<6
Anne Arundel	422	220	202	360	s	<6
Baltimore City	911	429	482	s	530	<6
Baltimore County	998	478	520	848	137	13
Calvert	75	38	37	61	s	<6
Caroline	46	26	20	36	s	<6
Carroll	158	73	85	150	s	<6
Cecil	90	51	39	84	s	<6
Charles	125	73	52	95	s	<6
Dorchester	58	41	17	47	s	<6
Frederick	184	99	85	165	s	<6
Garrett	38	19	19	s	<6	<6
Harford	180	85	95	156	s	<6
Howard	147	77	70	114	26	7
Kent	27	14	13	20	s	<6
Montgomery	583	261	322	464	74	45
Prince George's	707	335	372	302	388	17
Queen Anne's	48	18	30	38	s	<6
Saint Mary's	89	49	40	76	s	<6
Somerset	26	16	10	18	s	<6
Talbot	59	29	30	39	s	<6
Washington	145	71	74	143	<6	<6
Wicomico	100	50	50	77	s	<6
Worcester	73	44	29	60	s	<6

<6 = Death counts of 0-5 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

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

Source: NCHS Compressed Mortality File in CDC WONDER

Table 28.
Colorectal Cancer Age-Adjusted Mortality Rates*
by Jurisdiction, Gender and Race, Maryland, 1999-2003

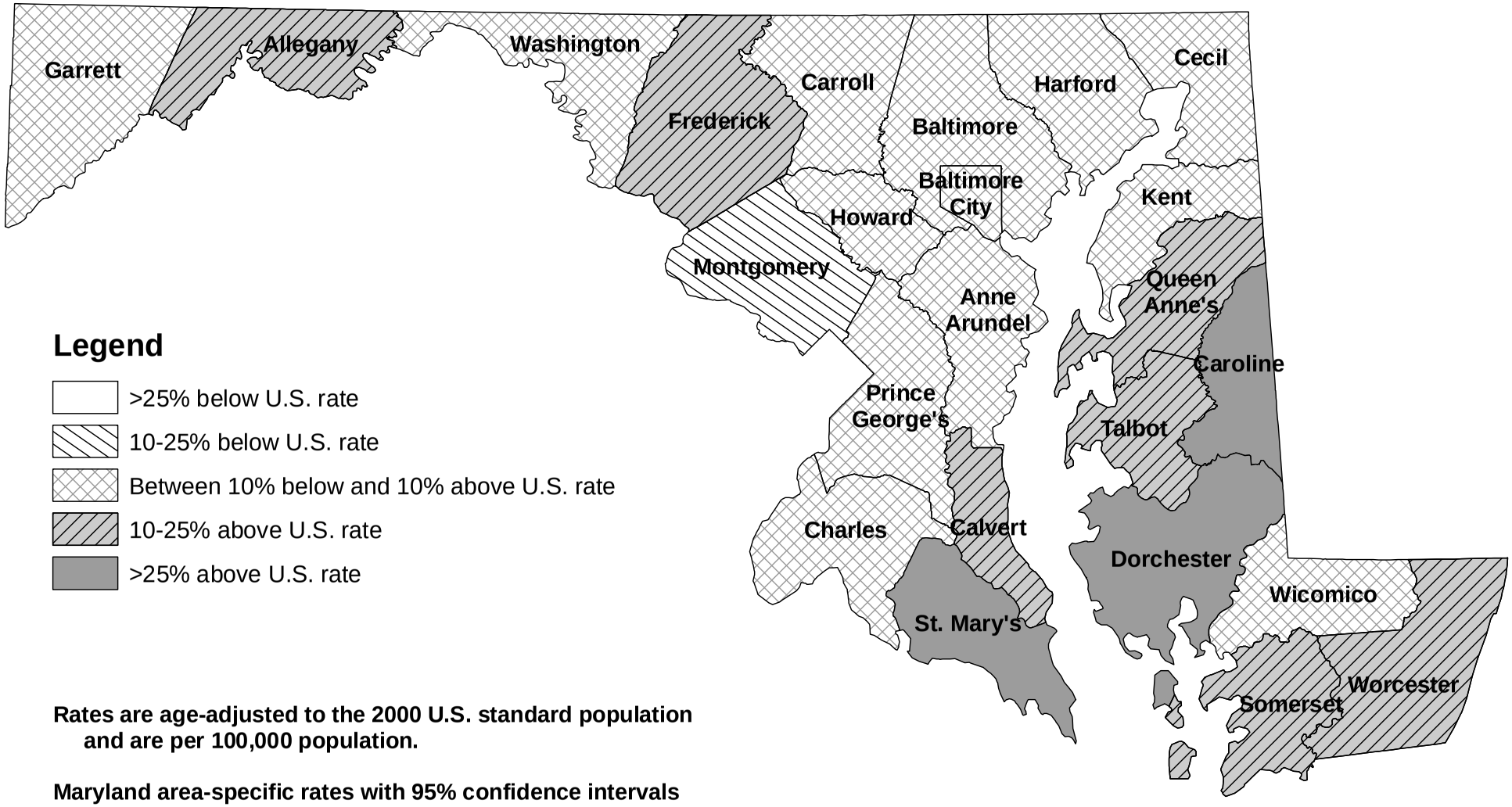
Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	21.7	25.9	18.6	20.3	28.3	13.6
Allegany	23.4	28.9	20.4	23.4	**	**
Anne Arundel	20.2	24.4	17.1	19.6	28.0	**
Baltimore City	27.7	33.8	23.7	26.1	29.5	**
Baltimore County	22.8	27.2	19.7	22.0	33.0	**
Calvert	25.9	33.1	21.5	24.5	**	**
Caroline	28.8	36.9	22.0	26.5	**	**
Carroll	22.3	27.0	20.2	21.8	**	**
Cecil	23.3	29.4	18.3	22.8	**	**
Charles	29.6	37.2	21.8	29.2	29.8	**
Dorchester	28.1	48.4	14.5	29.6	**	**
Frederick	22.1	28.3	17.9	21.2	41.1	**
Garrett	22.0	24.5	19.3	22.1	**	**
Harford	19.8	22.3	18.0	18.8	36.8	**
Howard	17.0	20.1	14.4	16.4	21.0	**
Kent	19.5	**	**	16.9	**	**
Montgomery	13.8	15.1	12.6	13.4	17.1	12.4
Prince George's	25.2	29.0	22.5	23.3	27.5	13.4
Queen Anne's	23.7	19.7	26.1	21.7	**	**
Saint Mary's	25.9	30.5	21.8	26.3	**	**
Somerset	19.4	30.3	**	17.7	**	**
Talbot	22.0	25.0	20.3	16.3	63.4	**
Washington	19.6	23.8	16.8	19.9	**	**
Wicomico	23.2	27.3	19.0	22.3	29.1	**
Worcester	21.6	30.1	14.4	20.3	**	**

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

** Rates based on death counts of 0-15 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

Source: NCHS Compressed Mortality File in CDC WONDER

Maryland Colorectal Cancer Incidence Rates by Geographical Area: Comparison to U.S. Rate, 1999-2003



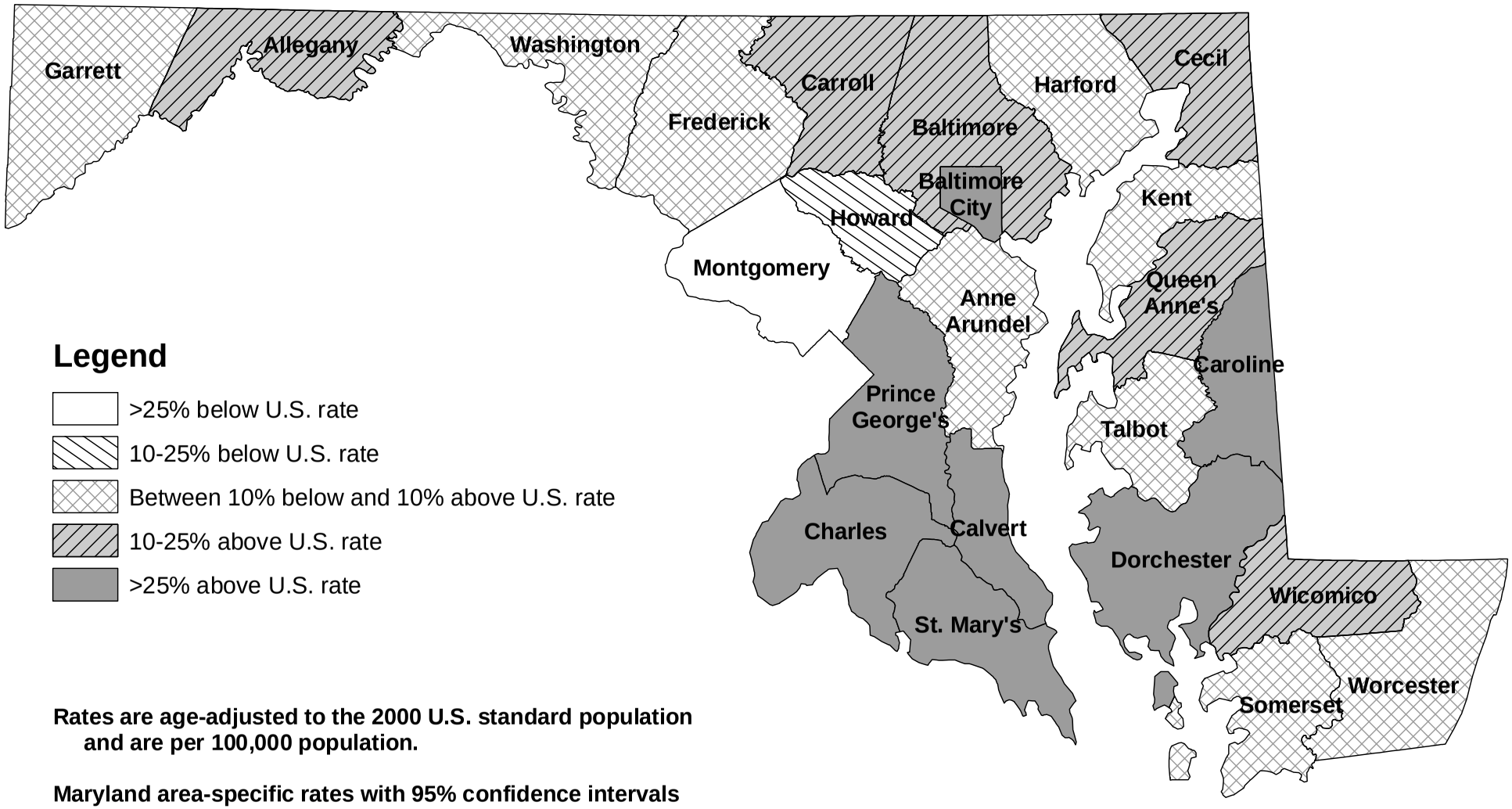
Rates are age-adjusted to the 2000 U.S. standard population and are per 100,000 population.

Maryland area-specific rates with 95% confidence intervals are presented in Appendix H.

U.S. colorectal cancer incidence rate, 1999-2003: 52.0/100,000

Source: MD incidence rates from Maryland Cancer Registry, 1999-2003
U.S. rate from SEER*Stat Software

Maryland Colorectal Cancer Mortality Rates by Geographical Area: Comparison to U.S. Rate, 1999-2003



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

Maryland area-specific rates with 95% confidence intervals are presented in Appendix H.

U.S. colorectal cancer mortality rate, 1999-2003: 20.1/100,000

Source: MD and U.S. mortality rates from NCHS Compressed Mortality File in CDC WONDER

C. Female Breast Cancer

Incidence (New Cases)

Breast cancer is the most common reportable cancer among women. A total of 4,058 cases of breast cancer were diagnosed among Maryland women in 2003. The 2003 age-adjusted incidence rate in Maryland was 133.4 per 100,000 women (129.3-137.6, 95% C.I.); this rate is statistically significantly higher than the 2003 U.S. SEER age-adjusted incidence rate for breast cancer of 122.3 per 100,000 women (120.8-123.8, 95% C.I.).

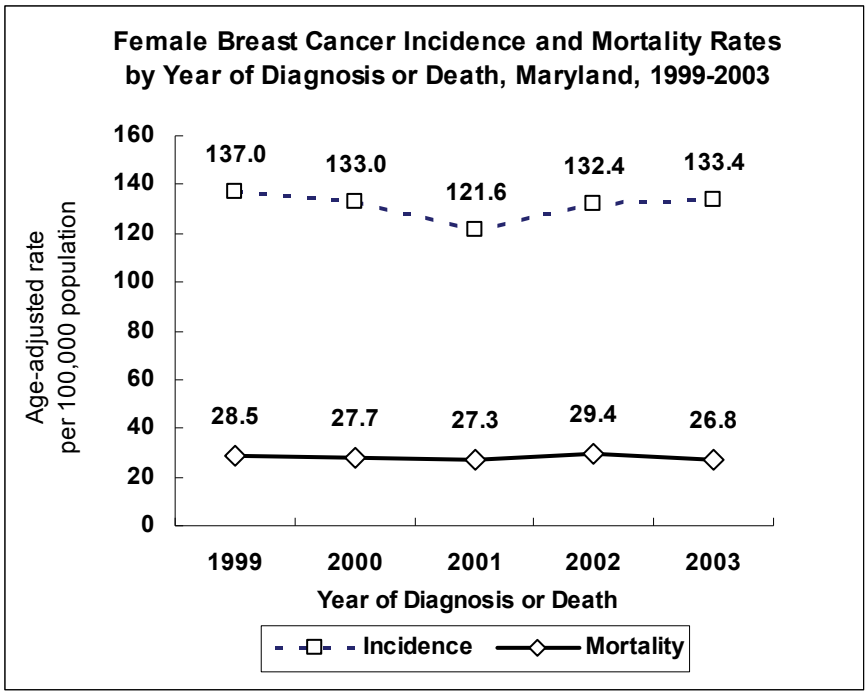
Mortality (Deaths)

In 2003, a total of 820 women died of breast cancer in Maryland. Female breast cancer accounted for 8.0% of all cancer deaths in Maryland in 2003. Breast cancer is the second leading cause of cancer death among women in Maryland after lung cancer. The 2003 age-adjusted mortality rate for breast cancer in Maryland was 26.8 per 100,000 women (25.0-28.6, 95% C.I.). This rate is similar to the 2003 U.S. breast cancer mortality rate of 25.2 per 100,000 population of women (25.0-25.4, 95% C.I.). Maryland ranked 6th highest for female breast cancer mortality among the states and the District of Columbia for the period 1999 to 2003.

Table 29.
Female Breast Incidence and Mortality Rates*
by Race, Maryland and the United States, 2003

Incidence 2003	*Total*	*Whites*	*Blacks*	*Other*
New Cases (count)	4,058	2,919	932	151
MD Incidence Rate	133.4	136.3	118.6	109.6
U.S. SEER Rate	122.3	127.2	120.7	91.9
Mortality 2003	*Total*	*Whites*	*Blacks*	*Other*
Deaths (count)	820	546	262	12
MD Mortality Rate	26.8	24.4	34.9	**
U.S. Mortality Rate	25.2	24.6	34.0	12.8

* Rates are per 100,000 and are age-adjusted to 2000 U.S. standard population
Total includes cases reported as unknown race
** MD mortality rates based on death counts of 0-15 are suppressed per DHMH/CCSC Mortality Data Suppression Policy
Source: MD incidence data from Maryland Cancer Registry, 2003
U.S. SEER rates from SEER*Stat software
Mortality data from NCHS Compressed Mortality File in CDC WONDER

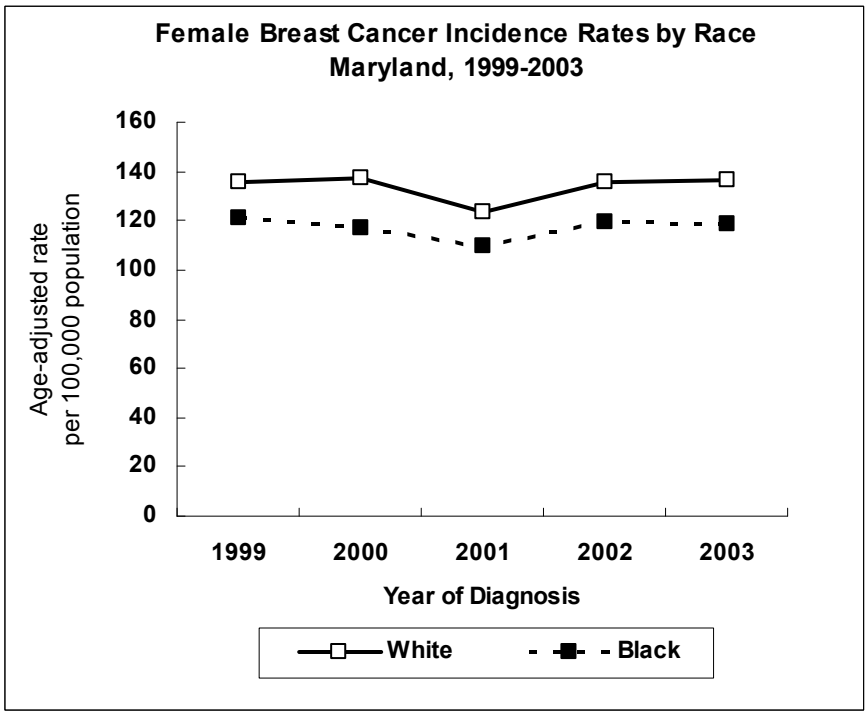


Rates are age-adjusted to 2000 U.S. standard population
Maryland Cancer Registry, 1999-2003
Maryland Division of Health Statistics, 1999-2001
NCHS Compressed Mortality File in CDC WONDER, 2002, 2003

Incidence and Mortality Trends

From 1999 to 2003, both incidence and mortality rates for breast cancer declined an average of 0.6% annually among Maryland women.

See Appendix I, Tables 1 and 2.



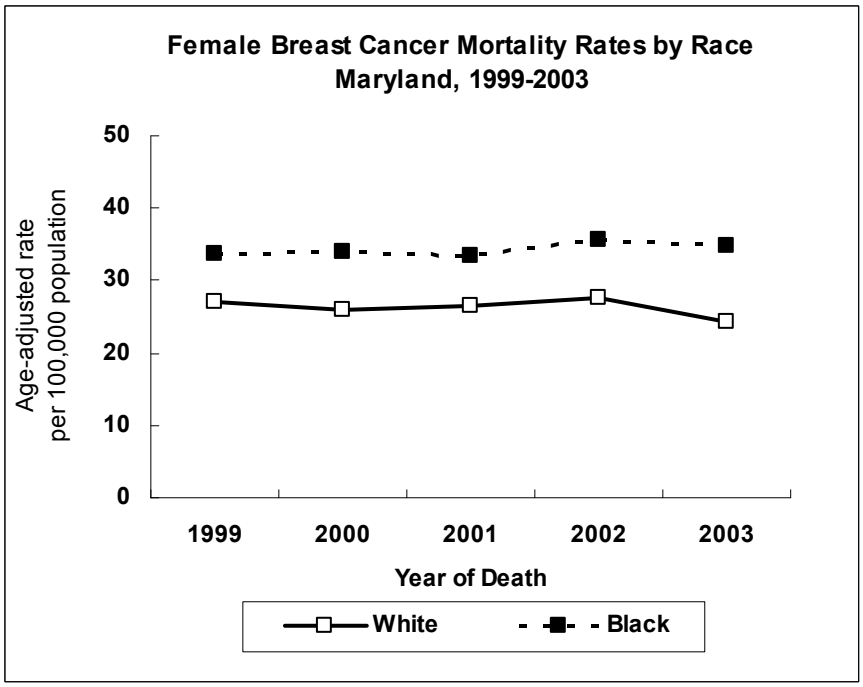
Rates are age-adjusted to 2000 U.S. standard population
Maryland Cancer Registry, 1999-2003

Race Incidence Trends

White women consistently have higher breast cancer incidence rates than black women. In 2003, the breast cancer incidence rate for white women in Maryland was 136.4 compared to 118.6 for black women.

For the period 1999 to 2003, incidence of breast cancer remained stable for both black and white women.

See Appendix I, Table 9.



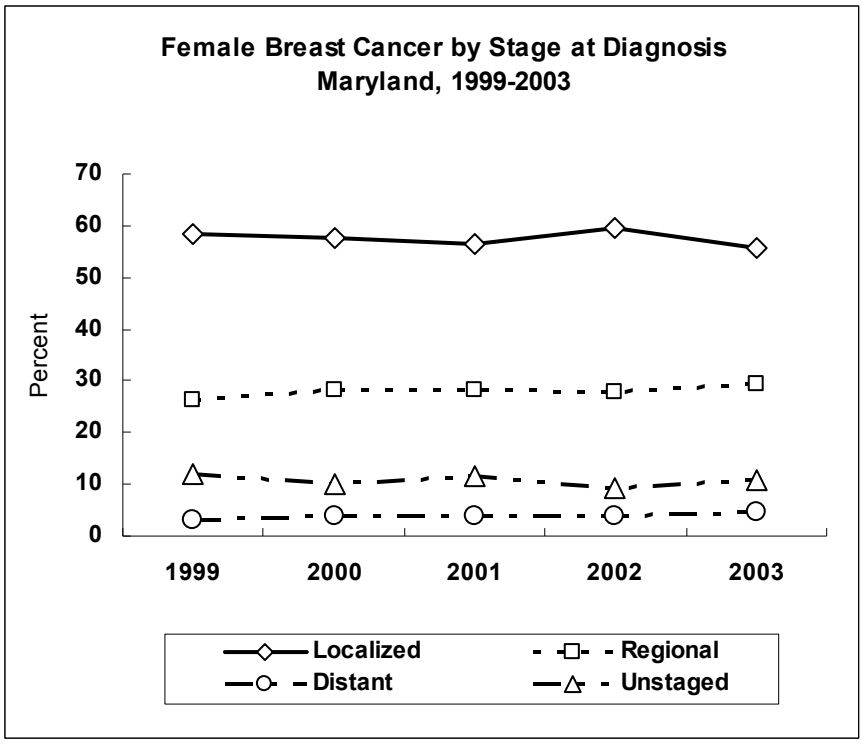
Rates are age-adjusted to 2000 U.S. standard population
Maryland Division of Health Statistics, 1999-2001
NCHS Compressed Mortality File in CDC WONDER, 2002, 2003

Race Mortality Trends

Black women consistently had higher mortality rates than white women for the period 1999 to 2003.

Breast cancer mortality rates for white women in Maryland decreased an average of 1.4% per year over the period. By contrast, rates for black women increased an average of 1.1% per year from 1999 to 2003.

See Appendix I, Table 10.

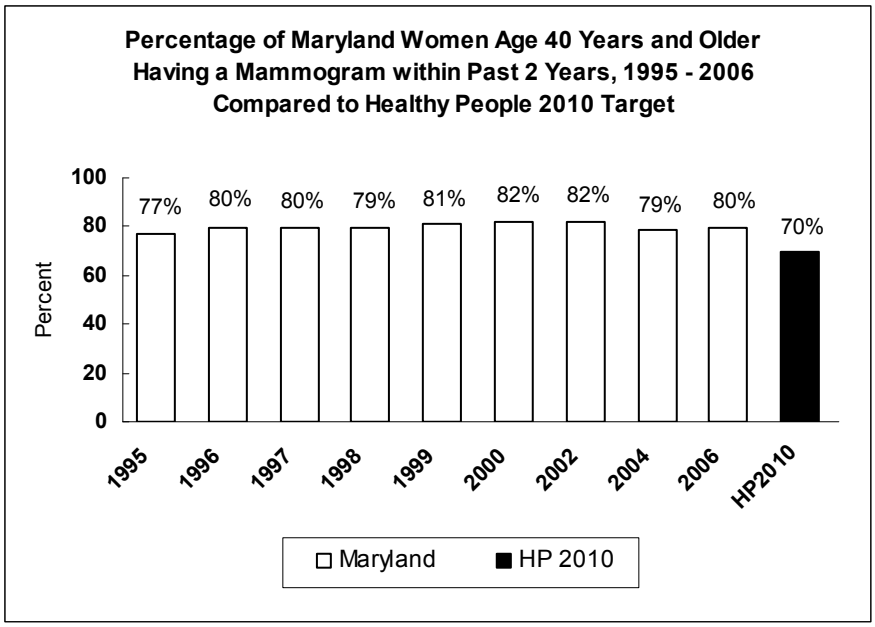


Maryland Cancer Registry, 1999-2003

Stage of Disease at Diagnosis

The stage of disease at diagnosis of breast cancer remained relatively constant from 1999 to 2003, with over 80% of all cases diagnosed at local or regional stage.

See Appendix J, Table 4.



Maryland BRFSS, 1995 - 2006
Healthy People 2010, U.S. Department of Health and Human Services, 2000

Healthy People 2010

The Healthy People 2010 target for breast cancer is to increase to 70% the proportion of women age 40 years and older who received a mammogram within the preceding 2 years. Maryland women have consistently surpassed this target. In 2006, 80% of Maryland women age 40 years and older reported receiving a mammogram within the preceding 2 years.

Public Health Evidence (quoted from NCI PDQ, 6/18/2008, and USPSTF, 2/2002 and 7/2002)

Screening

The United States Preventive Services Task Force (USPSTF) recommends screening mammography, with or without clinical breast exam (CBE), every 1-2 years for women age 40 years and older. The USPSTF found fair evidence that mammography screening every 12-33 months significantly reduces mortality from breast cancer. Evidence is strongest for women age 50-69 years, the age group generally included in screening trials. For women age 40-49 years, 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 choice. The USPSTF did not find sufficient evidence to specify the optimal screening interval for women age 40-49 years. 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.

Chemoprevention

The USPSTF recommends against the routine use of tamoxifen or raloxifene (selective estrogen receptor modulators) 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. 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 or raloxifene as a preventive measure. Based on solid evidence for tamoxifen and fair evidence for raloxifene, treatment reduces the incidence of breast cancer in postmenopausal women. Tamoxifen also reduced the risk of breast cancer in high-risk premenopausal women. Treatment with tamoxifen reduced breast cancer by about 50%. Treatment with raloxifene has a similar effect on reduction of invasive breast cancer but appears to be less effective for prevention of noninvasive tumors. Based on solid evidence, tamoxifen treatment increases the risk of endometrial cancer, thrombotic vascular events (pulmonary embolism, stroke, deep venous thrombosis), and cataracts. Based on fair evidence, raloxifene also increases venous pulmonary embolism and deep venous thrombosis but not endometrial cancer. Aromatase inhibitors or inactivators reduce the incidence of new breast cancers in postmenopausal women who have a history of breast cancer.

Primary Prevention

Factors associated with increased breast cancer risk are ionizing radiation, inherited gene mutation in women, and obesity in postmenopausal women who have not used hormone replacement therapy (HRT), also called hormone therapy (HT); exposure to alcohol is associated with increased breast cancer risk in a dose-dependent fashion. Strenuous exercising more than 4 hours per week and breast-feeding are associated with reduced breast cancer risk. Based on solid evidence, combination HRT (estrogen-progestin)/HT is associated with increased risk of developing breast cancer. It is uncertain whether reducing weight or decreasing alcohol exposure would decrease the risk of breast cancer. 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, 2004)
Early detection of breast cancer: ➢ Screen using mammography and a clinical breast examination by a health professional every 1-2 years for women age 40 years and older.

Table 30.
Number of Female Breast Cancer Cases by Jurisdiction and Race, Maryland, 2003

Jurisdiction	Total	Race			
		Whites	Blacks	Other	Unknown
Maryland	4,058	2,919	932	151	56
Allegany	73	s	<6	0	0
Anne Arundel	362	309	44	s	<6
Baltimore City	420	170	247	<6	<6
Baltimore County	657	531	111	s	<6
Calvert	48	s	<6	0	0
Caroline	27	23	<6	<6	0
Carroll	118	111	<6	<6	0
Cecil	34	34	0	0	0
Charles	87	62	s	<6	<6
Dorchester	25	19	<6	<6	0
Frederick	142	131	s	<6	0
Garrett	30	s	0	0	<6
Harford	136	123	s	<6	0
Howard	204	158	32	s	<6
Kent	18	s	<6	0	0
Montgomery	821	639	83	74	25
Prince George's	531	172	315	26	18
Queen Anne's	28	s	<6	0	0
Saint Mary's	24	18	6	0	0
Somerset	12	s	<6	0	0
Talbot	40	34	6	0	0
Washington	88	s	<6	<6	0
Wicomico	76	57	16	<6	<6
Worcester	43	36	<6	<6	0
Unknown	14	8	<6	<6	0

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

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

Source: Maryland Cancer Registry, 2003

Table 31.
Female Breast Cancer Age-Adjusted Incidence Rates* by Jurisdiction and Race, Maryland, 2003

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	133.4	136.3	118.6	109.6
Allegany	144.2	144.9	**	0.0
Anne Arundel	133.6	133.3	131.7	**
Baltimore City	113.2	128.9	105.3	**
Baltimore County	137.3	135.8	141.6	**
Calvert	111.8	121.6	**	0.0
Caroline	154.4	156.8	**	**
Carroll	132.0	128.8	**	**
Cecil	71.9	75.1	0.0	0.0
Charles	137.0	137.4	139.3	**
Dorchester	121.7	122.6	**	**
Frederick	133.4	132.7	**	**
Garrett	161.6	151.3	0.0	0.0
Harford	110.0	110.6	**	**
Howard	157.2	160.6	171.5	**
Kent	127.1	142.7	**	0.0
Montgomery	157.8	166.1	117.4	114.5
Prince George's	128.7	124.7	120.0	136.5
Queen Anne's	107.8	111.3	**	0.0
Saint Mary's	55.3	49.5	**	0.0
Somerset	**	**	**	0.0
Talbot	157.0	154.4	**	0.0
Washington	114.0	116.1	**	**
Wicomico	155.4	148.7	156.8	**
Worcester	115.2	113.4	**	**

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

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

Source: Maryland Cancer Registry, 2003

Table 32.
Number of Female Breast Cancer Deaths by Jurisdiction and Race, Maryland, 2003

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	820	546	262	12
Allegany	17	16	<6	<6
Anne Arundel	64	57	s	<6
Baltimore City	137	s	82	<6
Baltimore County	126	93	s	<6
Calvert	16	13	<6	<6
Caroline	<6	<6	<6	<6
Carroll	23	22	<6	<6
Cecil	14	13	<6	<6
Charles	18	14	<6	<6
Dorchester	<6	<6	<6	<6
Frederick	27	24	<6	<6
Garrett	7	s	<6	<6
Harford	30	26	<6	<6
Howard	20	12	s	<6
Kent	8	6	<6	<6
Montgomery	114	80	28	6
Prince George's	125	s	76	<6
Queen Anne's	<6	<6	<6	<6
Saint Mary's	9	s	<6	<6
Somerset	6	<6	<6	<6
Talbot	<6	<6	<6	<6
Washington	21	20	<6	<6
Wicomico	16	12	<6	<6
Worcester	9	7	<6	<6

<6 = Death counts of 0-5 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

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

Source: NCHS Compressed Mortality File in CDC WONDER

Table 33.
Female Breast Cancer Age-Adjusted Mortality Rates*
by Jurisdiction and Race, Maryland, 2003

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	26.8	24.4	34.9	**
Allegany	29.5	27.2	**	**
Anne Arundel	25.0	25.8	**	**
Baltimore City	35.8	34.5	35.3	**
Baltimore County	25.1	21.5	42.2	**
Calvert	41.5	**	**	**
Caroline	**	**	**	**
Carroll	26.0	25.6	**	**
Cecil	**	**	**	**
Charles	33.1	**	**	**
Dorchester	**	**	**	**
Frederick	25.1	24.3	**	**
Garrett	**	**	**	**
Harford	24.7	23.5	**	**
Howard	16.5	**	**	**
Kent	**	**	**	**
Montgomery	21.7	19.6	42.6	**
Prince George's	32.2	31.5	32.1	**
Queen Anne's	**	**	**	**
Saint Mary's	**	**	**	**
Somerset	**	**	**	**
Talbot	**	**	**	**
Washington	25.3	24.8	**	**
Wicomico	32.4	**	**	**
Worcester	**	**	**	**

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

** Rates based on death counts of 0-15 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

Source: NCHS Compressed Mortality File in CDC WONDER

Table 34.
Number of Female Breast Cancer Cases by Jurisdiction and Race, Maryland, 1999-2003

Jurisdiction	Total	Race			
		Whites	Blacks	Other	Unknown
Maryland	19,054	13,944	4,251	627	232
Allegany	306	299	s	<6	0
Anne Arundel	1,721	1,494	178	33	16
Baltimore City	2,244	898	1,303	21	22
Baltimore County	3,212	2,684	457	47	24
Calvert	246	210	29	s	<6
Caroline	118	104	11	<6	<6
Carroll	533	508	9	7	9
Cecil	222	214	s	<6	0
Charles	359	262	83	s	<6
Dorchester	140	109	s	<6	0
Frederick	659	608	41	s	<6
Garrett	127	s	0	0	<6
Harford	730	667	55	<6	<6
Howard	838	670	120	40	8
Kent	75	63	s	0	<6
Montgomery	3,462	2,727	358	310	67
Prince George's	2,374	854	1,366	100	54
Queen Anne's	135	122	s	0	<6
Saint Mary's	205	169	28	8	0
Somerset	76	46	s	<6	<6
Talbot	192	169	s	<6	0
Washington	494	479	7	8	0
Wicomico	350	271	67	<6	s
Worcester	208	178	21	s	<6
Unknown	28	s	8	<6	<6

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

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

Source: Maryland Cancer Registry, 1999-2003

Table 35.
Female Breast Cancer Age-Adjusted Incidence Rates* by Jurisdiction and Race, Maryland, 1999-2003

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	130.4	133.5	117.0	103.4
Allegany	122.7	121.2	**	**
Anne Arundel	134.4	135.1	121.6	91.2
Baltimore City	121.0	129.8	114.2	76.5
Baltimore County	138.1	139.4	134.5	73.1
Calvert	127.9	128.2	113.3	**
Caroline	138.2	144.9	**	**
Carroll	129.4	127.3	**	**
Cecil	99.2	100.0	**	**
Charles	121.7	121.0	117.7	**
Dorchester	136.6	139.8	114.4	**
Frederick	131.1	130.2	145.8	**
Garrett	138.3	136.9	0.0	0.0
Harford	124.7	125.9	114.3	**
Howard	136.2	140.2	137.0	75.5
Kent	113.3	114.9	**	0.0
Montgomery	139.3	144.7	110.1	108.5
Prince George's	120.7	123.8	114.8	109.3
Queen Anne's	111.1	112.5	**	0.0
Saint Mary's	102.1	100.4	98.4	**
Somerset	113.0	92.7	159.5	**
Talbot	150.0	151.8	118.4	**
Washington	129.6	130.0	**	**
Wicomico	144.8	142.2	136.0	**
Worcester	121.3	121.5	87.9	**

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

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

Source: Maryland Cancer Registry, 1999-2003

Table 36.
Number of Female Breast Cancer Deaths
by Jurisdiction and Race, Maryland, 1999-2003

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	4,104	2,857	1,185	62
Allegany	68	67	<6	<6
Anne Arundel	365	307	s	<6
Baltimore City	690	s	412	<6
Baltimore County	698	572	117	9
Calvert	48	42	<6	<6
Caroline	29	26	<6	<6
Carroll	101	94	s	<6
Cecil	61	59	<6	<6
Charles	88	62	s	<6
Dorchester	23	18	<6	<6
Frederick	121	108	s	<6
Garrett	28	s	<6	<6
Harford	126	115	s	<6
Howard	124	98	s	<6
Kent	19	15	<6	<6
Montgomery	563	439	100	24
Prince George's	568	205	351	12
Queen Anne's	30	28	<6	<6
Saint Mary's	37	31	s	<6
Somerset	18	13	<6	<6
Talbot	38	29	s	<6
Washington	119	117	<6	<6
Wicomico	95	68	s	<6
Worcester	47	40	s	<6

<6 = Death counts of 0-5 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

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

Source: NCHS Compressed Mortality File in CDC WONDER

Table 37.
Female Breast Cancer Age-Adjusted Mortality Rates* by Jurisdiction and Race, Maryland, 1999-2003

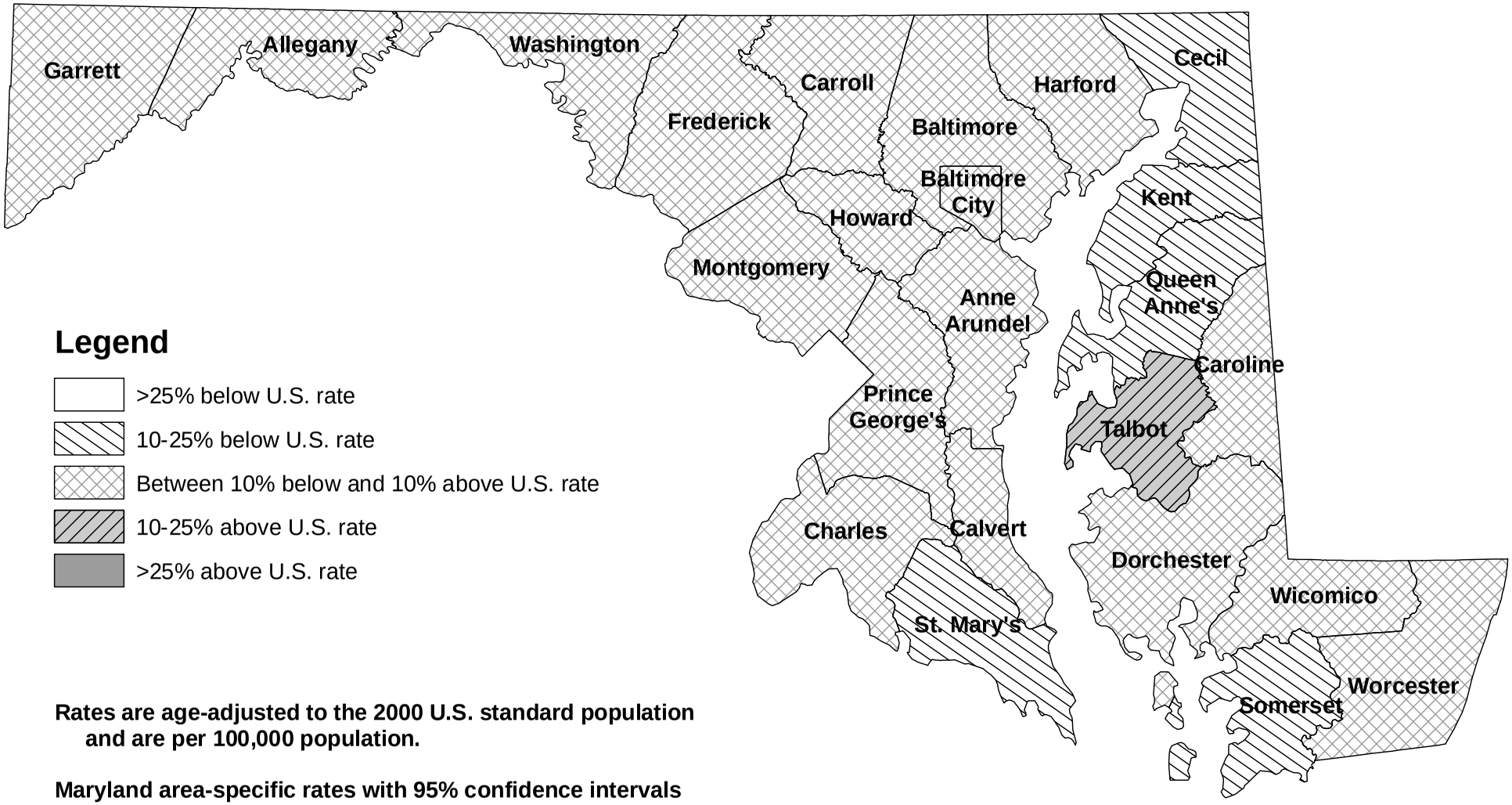
Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	28.0	26.3	34.3	11.1
Allegany	23.9	23.7	**	**
Anne Arundel	29.5	28.7	39.0	**
Baltimore City	36.1	35.2	36.5	**
Baltimore County	28.2	26.9	37.7	**
Calvert	26.1	27.1	**	**
Caroline	32.2	34.0	**	**
Carroll	24.4	23.5	**	**
Cecil	28.4	28.7	**	**
Charles	33.2	31.1	43.6	**
Dorchester	20.6	20.7	**	**
Frederick	24.6	23.7	**	**
Garrett	28.3	28.5	**	**
Harford	22.3	22.4	**	**
Howard	22.4	22.8	24.6	**
Kent	23.2	**	**	**
Montgomery	22.5	22.1	35.1	10.4
Prince George's	30.4	28.4	31.8	**
Queen Anne's	25.8	27.5	**	**
Saint Mary's	18.8	19.0	**	**
Somerset	26.4	**	**	**
Talbot	28.5	24.6	**	**
Washington	30.1	30.5	**	**
Wicomico	38.5	34.8	50.7	**
Worcester	25.1	24.7	**	**

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

** Rates based on death counts of 0-15 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

Source: NCHS Compressed Mortality File in CDC WONDER

Maryland Female Breast Cancer Incidence Rates by Geographical Area: Comparison to U.S. Rate, 1999-2003



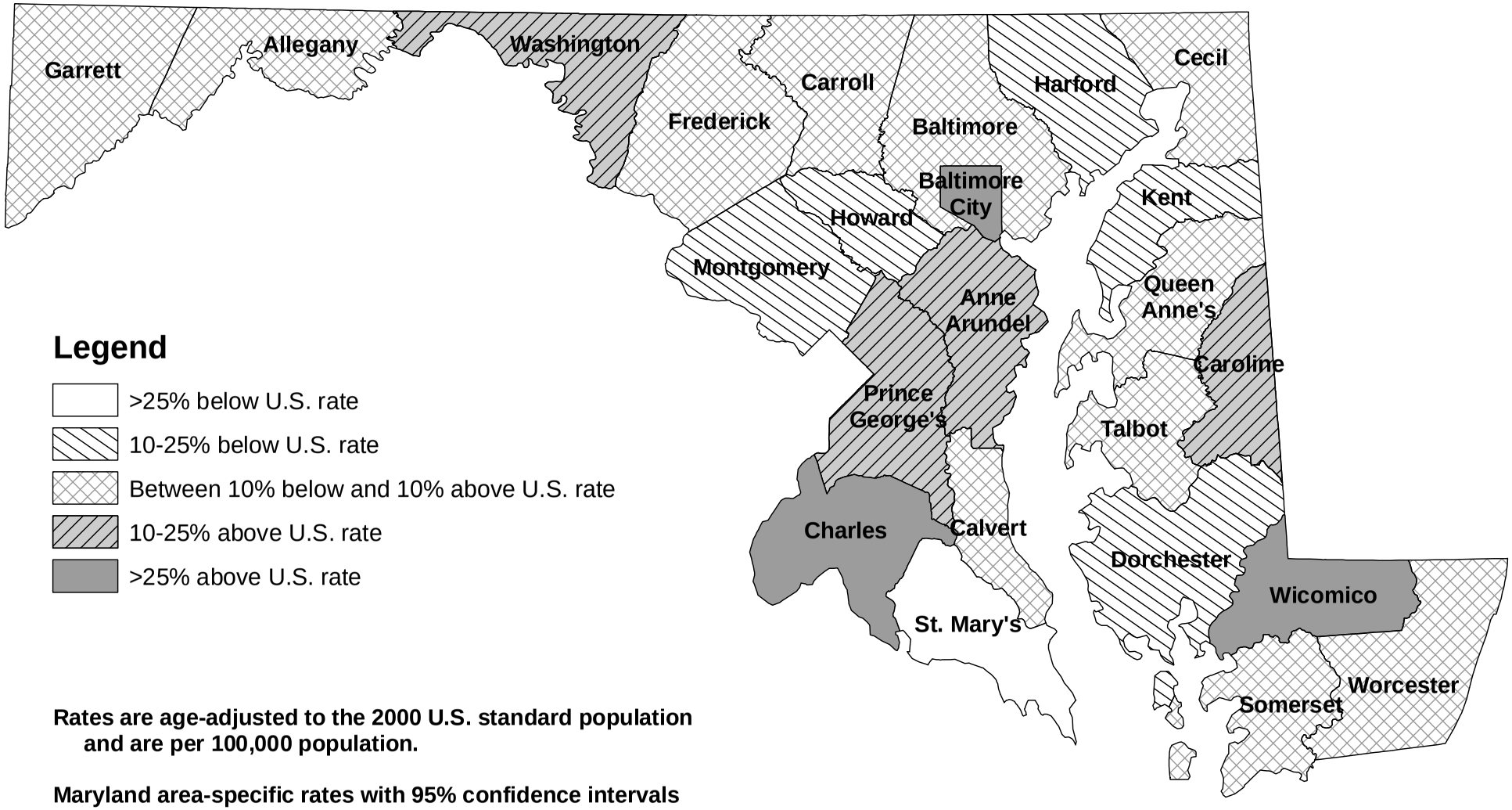
Rates are age-adjusted to the 2000 U.S. standard population and are per 100,000 population.

Maryland area-specific rates with 95% confidence intervals are presented in Appendix H.

U.S. female breast cancer incidence rate, 1999-2003: 131.9/100,000

Source: MD incidence rates from Maryland Cancer Registry, 1999-2003
U.S. rate from SEER*Stat Software

Maryland Female Breast Cancer Mortality Rates by Geographical Area: Comparison to U.S. Rate, 1999-2003



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

Maryland area-specific rates with 95% confidence intervals are presented in Appendix H.

U.S. female breast cancer mortality rate, 1999-2003: 26.0/100,000

Source: MD and U.S. mortality rates from NCHS Compressed Mortality File in CDC WONDER

D. Prostate Cancer

Incidence (New Cases)

Prostate cancer is the most common reportable cancer among men. A total of 4,201 cases of prostate cancer were diagnosed among men in Maryland during 2003. The age-adjusted prostate cancer incidence rate in Maryland for 2003 was 176.7 per 100,000 men (171.3-182.2, 95% C.I.); this is statistically significantly higher than the 2003 U.S. SEER age-adjusted incidence rate for prostate cancer of 162.5 per 100,000 men (160.5-164.5, 95% C.I.).

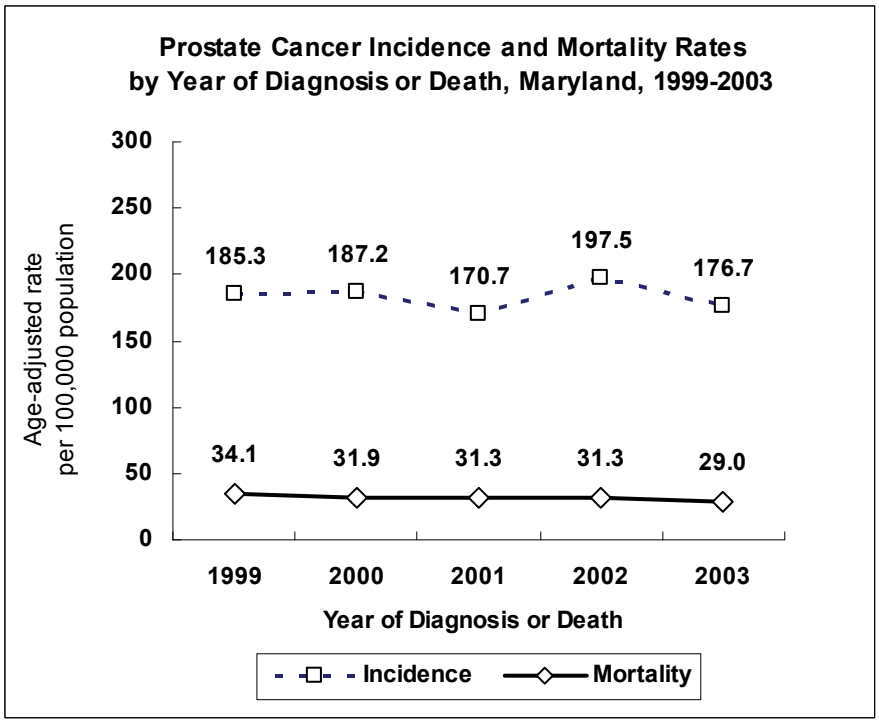
Mortality (Deaths)

Prostate cancer is the second leading cause of cancer deaths in Maryland among men after lung cancer. In 2003, 537 men died of prostate cancer in Maryland, accounting for 5.2% of all cancer deaths in Maryland. The 2003 age-adjusted mortality rate for prostate cancer in Maryland was 29.0 per 100,000 men (26.5-31.5, 95% C.I.). This rate is statistically significantly higher than the 2003 U.S. mortality rate for prostate cancer of 26.5 per 100,000 men (26.2-26.8, 95% C.I.). Maryland had the 10th highest mortality rate for prostate cancer among the states and the District of Columbia for the period 1999 to 2003.

Table 38.
Prostate Cancer Incidence and Mortality Rates*
by Race, Maryland and the United States, 2003

Incidence 2003	*Total*	*Whites*	*Blacks*	*Other*
New Cases (count)	4,201	2,677	1,217	114
MD Incidence Rate	176.7	150.2	241.2	120.9
U.S. SEER Rate	162.5	158.0	244.9	137.7
Mortality 2003	*Total*	*Whites*	*Blacks*	*Other*
Deaths (count)	537	361	170	6
MD Mortality Rate	29.0	24.7	52.6	**
U.S. Mortality Rate	26.5	24.4	57.4	11.9

* Rates are per 100,000 and are age-adjusted to 2000 U.S. standard population
Total includes cases reported as unknown race
** MD mortality rates based on death counts of 0-15 are suppressed per DHMH/CCSC Mortality Data Suppression Policy
Source: MD incidence data from Maryland Cancer Registry, 2003
U.S. SEER rates from SEER*Stat software
Mortality data from NCHS Compressed Mortality File in CDC WONDER



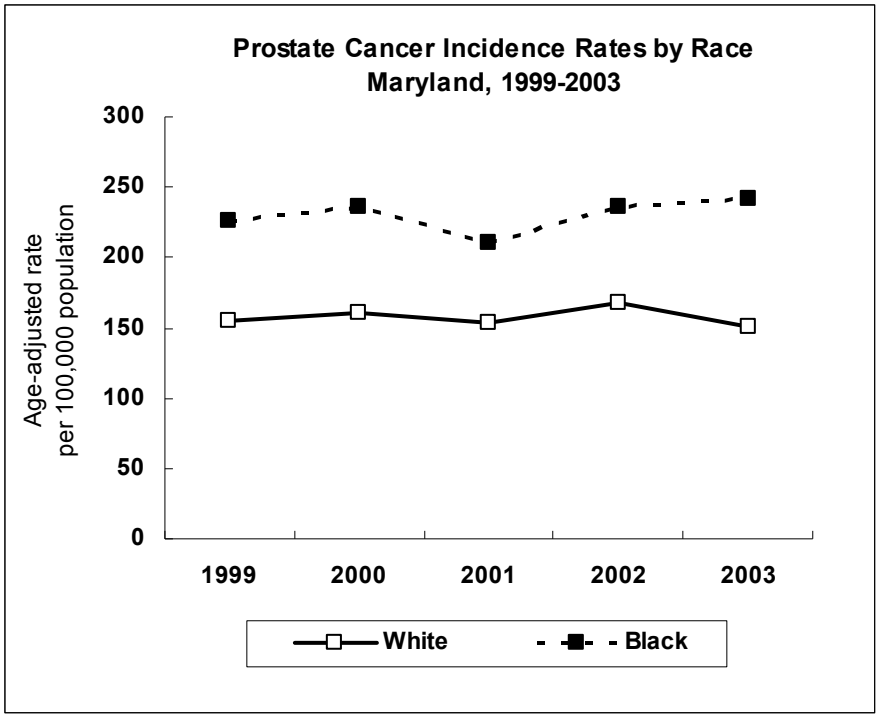
Rates are age-adjusted to 2000 U.S. standard population
Maryland Cancer Registry, 1999-2003
Maryland Division of Health Statistics, 1999-2001
NCHS Compressed Mortality File in CDC WONDER, 2002, 2003

Incidence and Mortality Trends

Prostate cancer incidence rates in Maryland decreased an average of 0.4% per year from 1999 to 2003.

Over the same period, prostate cancer mortality rates among men declined an average of 3.4% per year.

See Appendix I, Tables 1 and 2.



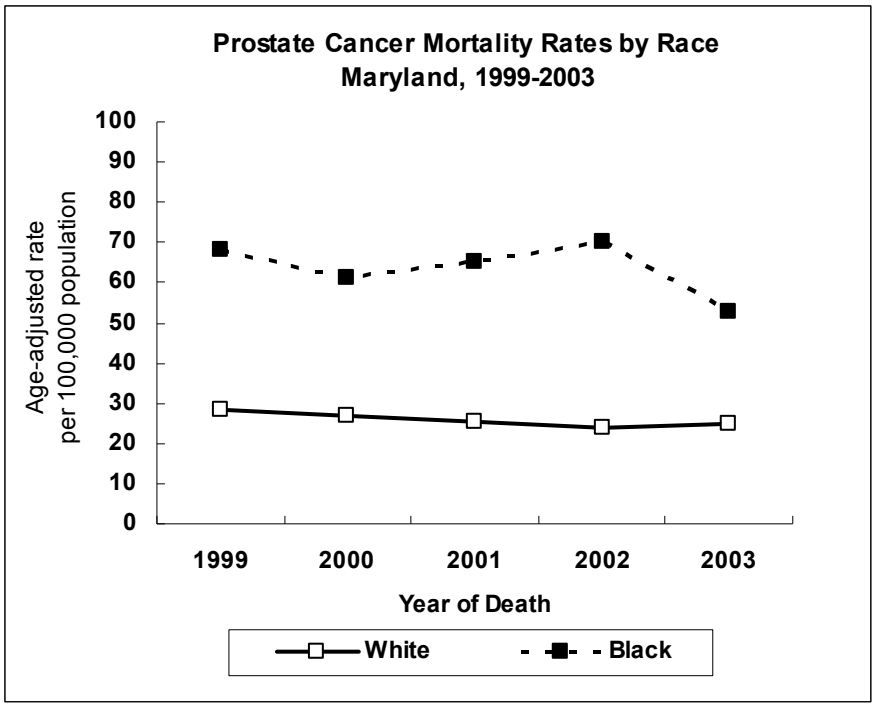
Rates are age-adjusted to 2000 U.S. standard population
Maryland Cancer Registry, 1999-2003

Race Incidence Trends

From 1999 to 2003, black men consistently experienced prostate cancer incidence rates higher than those of white men.

Incidence rates for black men increased an average of 1.3% per year from 1999 to 2003, while rates for white men decreased slightly (0.2% per year).

See Appendix I, Table 11.

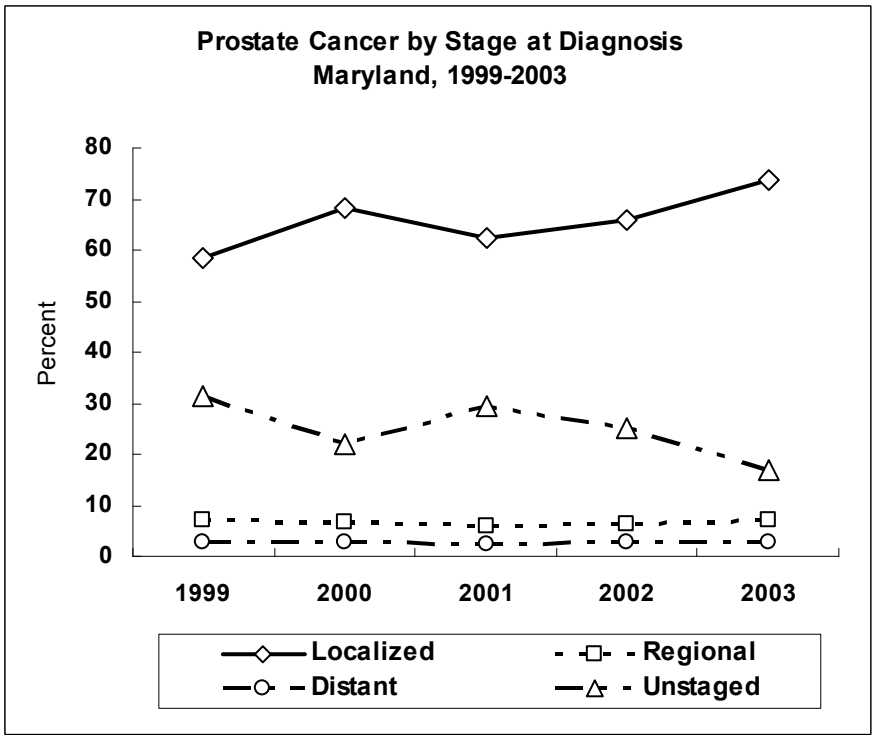


Rates are age-adjusted to 2000 U.S. standard population
Maryland Division of Health Statistics, 1999-2001
NCHS Compressed Mortality File in CDC WONDER, 2002, 2003

Race Mortality Trends

Prostate cancer mortality rates were consistently higher for black men compared to white men from 1999 to 2003. Declines in mortality rates occurred for both white and black men over the period. Mortality rates decreased an average of 4.0% per year for white men and 3.8% per year for black men.

See Appendix I, Table 12.

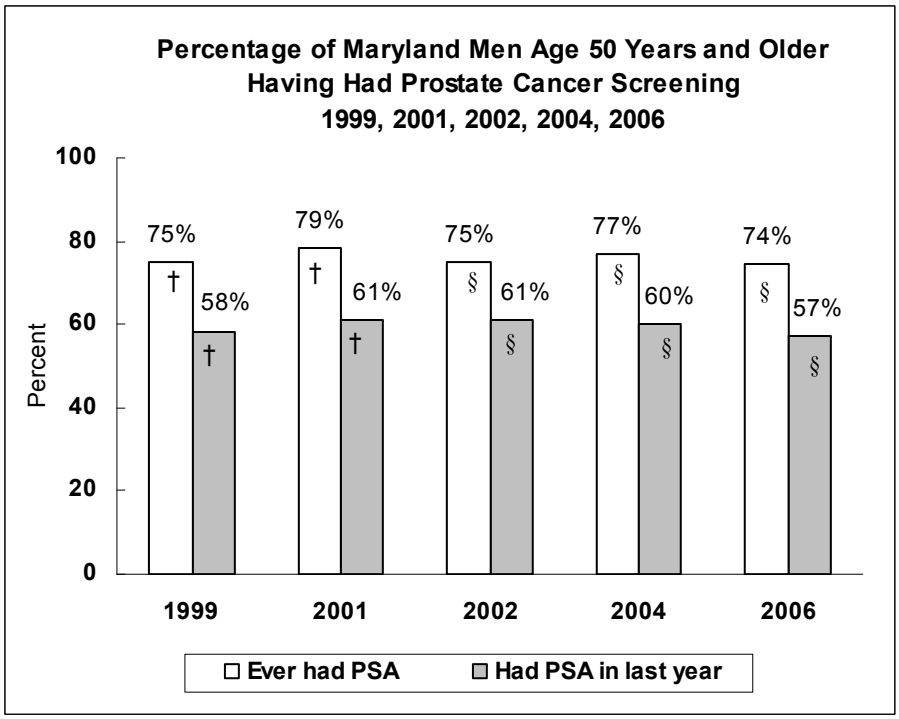


Maryland Cancer Registry, 1999-2003

Stage at Diagnosis

Of prostate cancers diagnosed in Maryland in 2003, 73.6% were detected at the localized (early) stage. From 1999 to 2003, the proportion of prostate cancers diagnosed at the local stage increased an average of 4.3% per year, while the proportion of unstaged cancers declined an average of 10.7% per year.

See Appendix J, Table 5.



Healthy People 2010

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

In 2006, 74% of Maryland men age 50 years and older reported that they have ever had a prostate specific antigen (PSA) test, and 57% of men age 50 years and older had a PSA in the past year.

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

† Maryland BRFSS, 1999, 2001

§ Maryland Cancer Survey, 2002, 2004, and 2006

Public Health Evidence (quoted from NCI PDQ, 5/9/2008 and 5/13/2008, and USPSTF, 8/2008)

Screening

Digital rectal examination (DRE) and the serum prostate specific antigen (PSA) test are two commonly used methods of detecting prostate cancer. The evidence is insufficient to determine whether screening for prostate cancer with DRE or PSA reduces mortality from prostate cancer. Screening tests are able to detect prostate cancer at an early stage, but it is not clear whether this earlier detection and consequent earlier treatment leads to any change in the natural history and outcome of the disease. Observational evidence shows a trend toward lower mortality for prostate cancer in some countries, but the relationship between these trends and intensity of screening is not clear, and associations with screening patterns are inconsistent. The observed trends may be due to screening or to other factors such as improved treatment.

Based on solid evidence, screening with PSA and/or DRE detects some prostate cancers that would never have caused important clinical problems. Thus, screening leads to some degree of overtreatment. Current prostate cancer treatments, including radical prostatectomy and radiation therapy, result in permanent side effects in many men. The most common of these side effects are erectile dysfunction and urinary incontinence. The screening process itself can lead to adverse psychological effects in men who have a prostate biopsy but do not have prostate cancer; prostate biopsies are associated with complications. The U.S. Preventive Service Task Force concludes that the current evidence is insufficient to assess the balance of benefits and harms of prostate cancer screening in men younger than age 75 years and recommends against screening for prostate cancer in men age 75 years or older.

Primary Prevention

There is inadequate evidence to determine whether the prevention strategies of dietary change (i.e., reducing dietary fat or increasing fruits and vegetables), or vitamin E (alpha-tocopherol), selenium, or lycopene supplementation, are effective in reducing prostate cancer incidence or mortality.

Chemoprevention

Based on solid evidence, chemoprevention with finasteride reduces the incidence of prostate cancer, but the evidence is inadequate to determine whether chemoprevention with finasteride reduces mortality from prostate cancer.

Public Health Intervention for Prostate Cancer **(Cancer Screening in the United States, 2008: A Review of Current American Cancer Society Guidelines and Cancer Screening Issues, CA Cancer J Clin 2008 58: 161-179, and DHMH Prostate Cancer Medical Advisory Committee, 2005)**
➢ 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. ➢ 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. ➢ PSA and DRE should be *offered* annually, at age 50 years, to men who have at least a 10-year life expectancy. Men at high risk (African-American men and men with a strong family of one or more first-degree relatives [father, brothers] diagnosed before age 65 years) should begin testing at age 45 years. Men at even higher risk, due to multiple first-degree relatives affected at an early age, could begin testing at age 40 years. Age of further testing may depend on the results of the initial test.

Table 39.
Number of Prostate Cancer Cases
by Jurisdiction and Race, Maryland, 2003

Jurisdiction	Total	Race			
		Whites	Blacks	Other	Unknown
Maryland	4,201	2,677	1,217	114	193
Allegany	49	s	<6	0	0
Anne Arundel	403	331	54	<6	s
Baltimore City	506	142	344	<6	s
Baltimore County	610	449	122	12	27
Calvert	45	33	<6	<6	7
Caroline	21	16	<6	0	<6
Carroll	106	99	<6	<6	<6
Cecil	68	s	<6	0	8
Charles	95	61	31	<6	<6
Dorchester	26	18	8	0	0
Frederick	147	134	s	0	<6
Garrett	32	s	<6	0	0
Harford	172	153	10	s	<6
Howard	155	99	36	6	14
Kent	18	10	s	<6	0
Montgomery	699	523	112	49	15
Prince George's	613	150	393	21	49
Queen Anne's	43	37	6	0	0
Saint Mary's	45	26	9	<6	s
Somerset	17	11	6	0	0
Talbot	37	29	8	0	0
Washington	118	111	<6	<6	<6
Wicomico	51	38	s	0	<6
Worcester	53	43	10	0	0
Unknown	72	28	s	<6	23

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

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

Source: Maryland Cancer Registry, 2003

Table 40.
Prostate Cancer Age-Adjusted Incidence Rates*
by Jurisdiction and Race, Maryland, 2003

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	176.7	150.2	241.2	120.9
Allegany	116.3	114.5	**	0.0
Anne Arundel	185.0	173.2	247.8	**
Baltimore City	191.6	132.8	225.3	**
Baltimore County	158.9	137.7	246.5	**
Calvert	137.5	113.7	**	**
Caroline	138.3	120.3	**	0.0
Carroll	145.7	141.2	**	**
Cecil	169.6	150.8	**	0.0
Charles	203.7	169.2	307.9	**
Dorchester	136.4	121.3	**	0.0
Frederick	181.4	177.5	**	0.0
Garrett	183.0	179.1	**	0.0
Harford	174.1	167.2	**	**
Howard	153.2	122.1	292.6	**
Kent	144.0	**	**	**
Montgomery	176.0	167.7	302.7	96.7
Prince George's	208.7	131.0	230.1	190.4
Queen Anne's	175.5	165.8	**	0.0
Saint Mary's	122.2	82.7	**	**
Somerset	138.8	**	**	0.0
Talbot	156.9	138.8	**	0.0
Washington	177.6	173.4	**	**
Wicomico	132.6	125.1	**	0.0
Worcester	155.2	141.3	**	0.0

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

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

Source: Maryland Cancer Registry, 2003

Table 41.
Number of Prostate Cancer Deaths
by Jurisdiction and Race, Maryland, 2003

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	537	361	170	6
Allegany	10	9	<6	<6
Anne Arundel	31	25	<6	<6
Baltimore City	101	s	70	<6
Baltimore County	94	72	s	<6
Calvert	9	8	<6	<6
Caroline	<6	<6	<6	<6
Carroll	18	17	<6	<6
Cecil	9	s	<6	<6
Charles	10	9	<6	<6
Dorchester	<6	<6	<6	<6
Frederick	13	12	<6	<6
Garrett	<6	<6	<6	<6
Harford	14	13	<6	<6
Howard	17	16	<6	<6
Kent	<6	<6	<6	<6
Montgomery	80	61	s	<6
Prince George's	65	s	36	<6
Queen Anne's	<6	<6	<6	<6
Saint Mary's	11	8	<6	<6
Somerset	<6	<6	<6	<6
Talbot	<6	<6	<6	<6
Washington	15	14	<6	<6
Wicomico	<6	<6	<6	<6
Worcester	12	s	<6	<6

<6 = Death counts of 0-5 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

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

Source: NCHS Compressed Mortality File in CDC WONDER

Table 42.
Prostate Cancer Age-Adjusted Mortality Rates*
by Jurisdiction and Race, Maryland, 2003

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	29.0	24.7	52.6	**
Allegany	**	**	**	**
Anne Arundel	23.3	21.9	**	**
Baltimore City	42.6	25.7	58.9	**
Baltimore County	27.2	23.0	82.4	**
Calvert	**	**	**	**
Caroline	**	**	**	**
Carroll	32.3	32.2	**	**
Cecil	**	**	**	**
Charles	**	**	**	**
Dorchester	**	**	**	**
Frederick	**	**	**	**
Garrett	**	**	**	**
Harford	**	**	**	**
Howard	28.7	31.9	**	**
Kent	**	**	**	**
Montgomery	24.9	22.5	69.9	**
Prince George's	34.7	27.6	45.8	**
Queen Anne's	**	**	**	**
Saint Mary's	**	**	**	**
Somerset	**	**	**	**
Talbot	**	**	**	**
Washington	**	**	**	**
Wicomico	**	**	**	**
Worcester	**	**	**	**

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

** Rates based on death counts of 0-15 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

Source: NCHS Compressed Mortality File in CDC WONDER

Table 43.
Number of Prostate Cancer Cases
by Jurisdiction and Race, Maryland, 1999-2003

Jurisdiction	Total	Race			
		Whites	Blacks	Other	Unknown
Maryland	20,539	13,500	5,261	500	1,278
Allegany	339	325	8	<6	<6
Anne Arundel	1,782	1,442	234	19	87
Baltimore City	2,602	800	1,622	21	159
Baltimore County	3,442	2,641	540	49	212
Calvert	249	178	41	<6	s
Caroline	99	75	21	<6	<6
Carroll	572	532	s	<6	21
Cecil	312	255	14	0	43
Charles	409	270	111	12	16
Dorchester	149	99	s	<6	<6
Frederick	740	602	s	<6	90
Garrett	146	142	<6	0	<6
Harford	895	761	76	8	50
Howard	748	531	128	32	57
Kent	84	64	16	<6	<6
Montgomery	3,339	2,448	456	238	197
Prince George's	2,803	885	1,619	84	215
Queen Anne's	183	153	23	<6	s
Saint Mary's	212	153	36	<6	s
Somerset	98	65	s	<6	0
Talbot	205	167	32	<6	<6
Washington	505	477	16	<6	s
Wicomico	268	181	76	<6	s
Worcester	254	221	30	<6	<6
Unknown	104	33	s	<6	44

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

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

Source: Maryland Cancer Registry, 1999-2003

Table 44.
Prostate Cancer Age-Adjusted Incidence Rates* by Jurisdiction and Race, Maryland, 1999-2003

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	182.7	157.6	229.8	127.9
Allegany	161.5	158.6	**	**
Anne Arundel	172.1	157.2	228.8	87.8
Baltimore City	196.5	141.4	221.1	93.3
Baltimore County	186.4	164.9	255.4	129.4
Calvert	173.7	141.1	225.0	**
Caroline	137.4	121.6	215.2	**
Carroll	176.6	169.5	**	**
Cecil	171.7	145.9	**	0.0
Charles	196.1	165.4	263.0	**
Dorchester	163.6	138.0	258.4	**
Frederick	201.6	174.3	244.2	**
Garrett	175.7	172.1	**	0.0
Harford	199.3	182.2	264.4	**
Howard	169.3	144.9	243.3	103.0
Kent	134.6	119.5	192.6	**
Montgomery	178.8	165.0	253.4	125.0
Prince George's	203.0	149.5	220.0	145.0
Queen Anne's	164.1	149.6	231.9	**
Saint Mary's	119.6	99.1	157.5	**
Somerset	158.3	139.1	209.9	**
Talbot	174.4	161.0	242.4	**
Washington	156.1	152.8	145.3	**
Wicomico	141.2	119.3	215.8	**
Worcester	151.2	147.4	166.3	**

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

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

Source: Maryland Cancer Registry, 1999-2003

Table 45.
Number of Prostate Cancer Deaths
by Jurisdiction and Race, Maryland, 1999-2003

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	2,791	1,819	943	29
Allegany	57	56	<6	<6
Anne Arundel	177	137	s	<6
Baltimore City	575	s	412	<6
Baltimore County	457	377	s	<6
Calvert	45	28	s	<6
Caroline	23	13	s	<6
Carroll	82	79	<6	<6
Cecil	56	48	s	<6
Charles	45	28	s	<6
Dorchester	33	18	s	<6
Frederick	76	66	s	<6
Garrett	21	s	<6	<6
Harford	93	84	s	<6
Howard	70	54	s	<6
Kent	15	11	<6	<6
Montgomery	361	293	56	12
Prince George's	335	130	199	6
Queen Anne's	17	12	<6	<6
Saint Mary's	38	29	s	<6
Somerset	19	12	s	<6
Talbot	38	28	s	<6
Washington	74	73	<6	<6
Wicomico	46	29	s	<6
Worcester	38	32	s	<6

<6 = Death counts of 0-5 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

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

Source: NCHS Compressed Mortality File in CDC WONDER

Table 46.
Prostate Cancer Age-Adjusted Mortality Rates* by Jurisdiction and Race, Maryland, 1999-2003

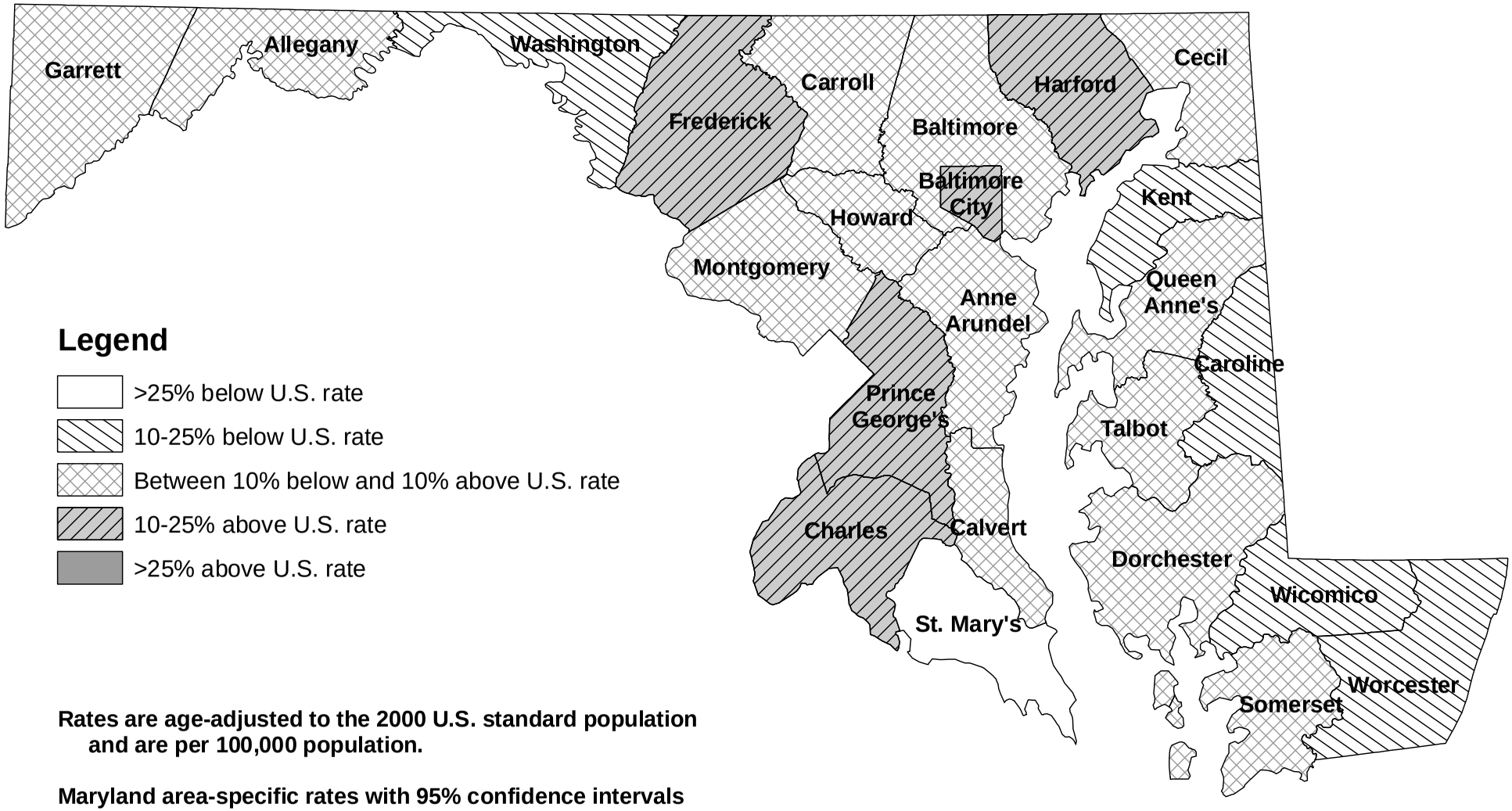
Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	31.6	25.9	63.2	11.8
Allegany	29.7	29.7	**	**
Anne Arundel	25.7	22.4	56.8	**
Baltimore City	48.8	28.0	71.1	**
Baltimore County	28.1	25.4	66.1	**
Calvert	45.3	35.3	113.9	**
Caroline	39.6	**	**	**
Carroll	34.8	34.9	**	**
Cecil	44.8	42.1	**	**
Charles	32.4	28.0	49.8	**
Dorchester	41.4	27.6	**	**
Frederick	25.2	23.4	**	**
Garrett	32.6	32.7	**	**
Harford	27.6	26.7	**	**
Howard	26.2	24.3	**	**
Kent	**	**	**	**
Montgomery	23.4	22.4	49.0	**
Prince George's	38.2	27.9	56.4	**
Queen Anne's	19.6	**	**	**
Saint Mary's	28.4	25.8	**	**
Somerset	35.7	**	**	**
Talbot	34.6	28.4	**	**
Washington	27.7	28.0	**	**
Wicomico	31.4	24.4	63.5	**
Worcester	30.0	30.1	**	**

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

** Rates based on death counts of 0-15 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

Source: NCHS Compressed Mortality File in CDC WONDER

Maryland Prostate Cancer Incidence Rates by Geographical Area: Comparison to U.S. Rate, 1999-2003



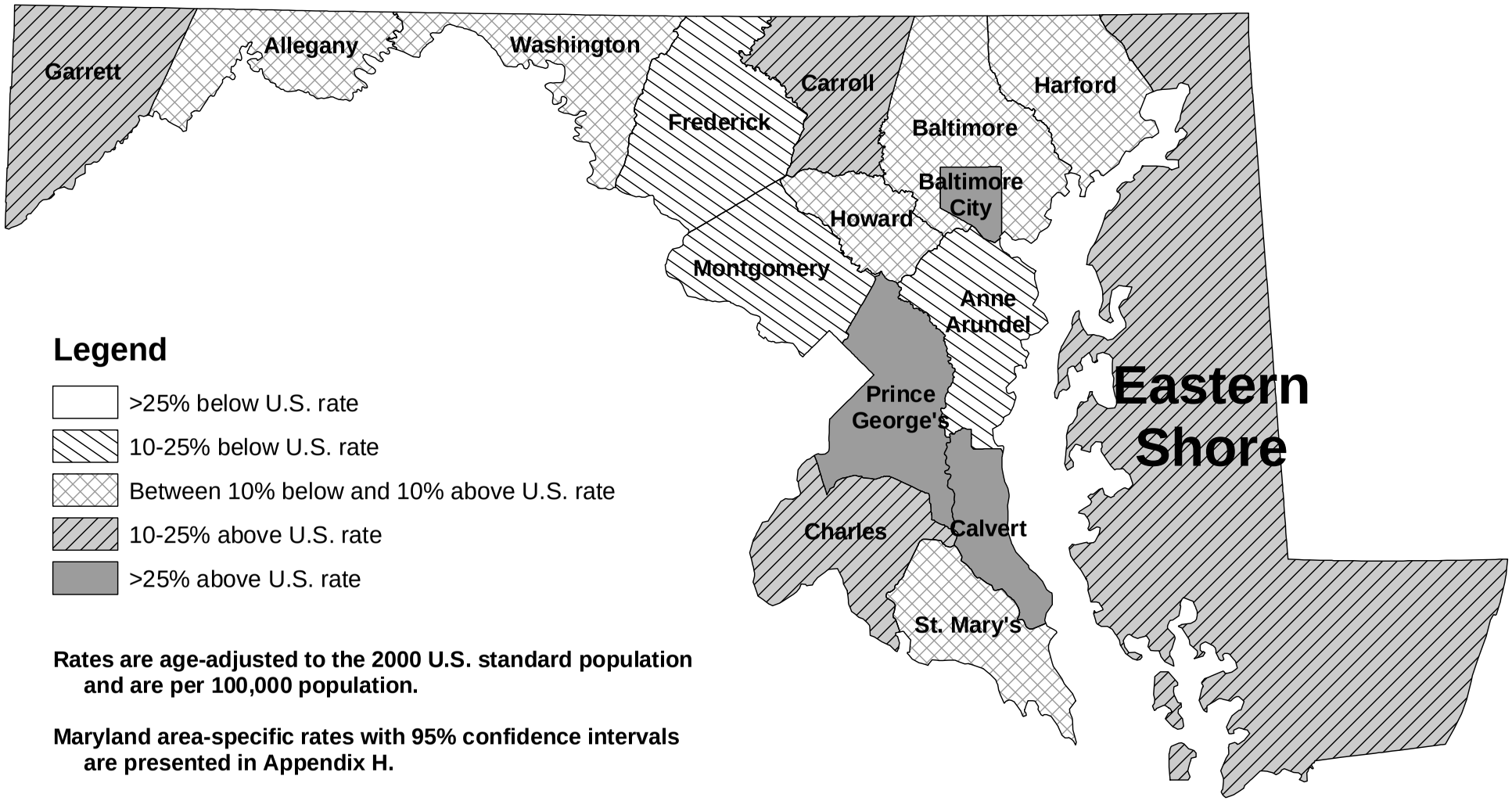
Rates are age-adjusted to the 2000 U.S. standard population and are per 100,000 population.

Maryland area-specific rates with 95% confidence intervals are presented in Appendix H.

U.S. prostate cancer incidence rate, 1999-2003: 174.4/100,000

Source: MD incidence rates from Maryland Cancer Registry, 1999-2003
U.S. rate from SEER*Stat Software

Maryland Prostate Cancer Mortality Rates by Geographical Area: Comparison to U.S. Rate, 1999-2003



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

Maryland area-specific rates with 95% confidence intervals are presented in Appendix H.

U.S. prostate cancer mortality rate, 1999-2003: 29.0/100,000

Note: Aggregated regional rates are used in comparisons when rates for one or more counties in that region are suppressed due to small numbers of cases or deaths. (See Appendix C for methods.)

Source: MD and U.S mortality rates from NCHS Compressed Mortality File in CDC WONDER

E. Oral Cancer

Incidence (New Cases)

A total of 652 cases of oral cavity and pharynx cancer (called oral cancer) were diagnosed in Maryland in 2003. The age-adjusted incidence rate for oral cancer in Maryland in 2003 was 11.7 per 100,000 population (10.8-12.7, 95% C.I.), which is statistically significantly higher than the 2003 U.S. SEER age-adjusted oral cancer incidence rate of 10.0 per 100,000 population (9.7-10.4, 95% C.I.).

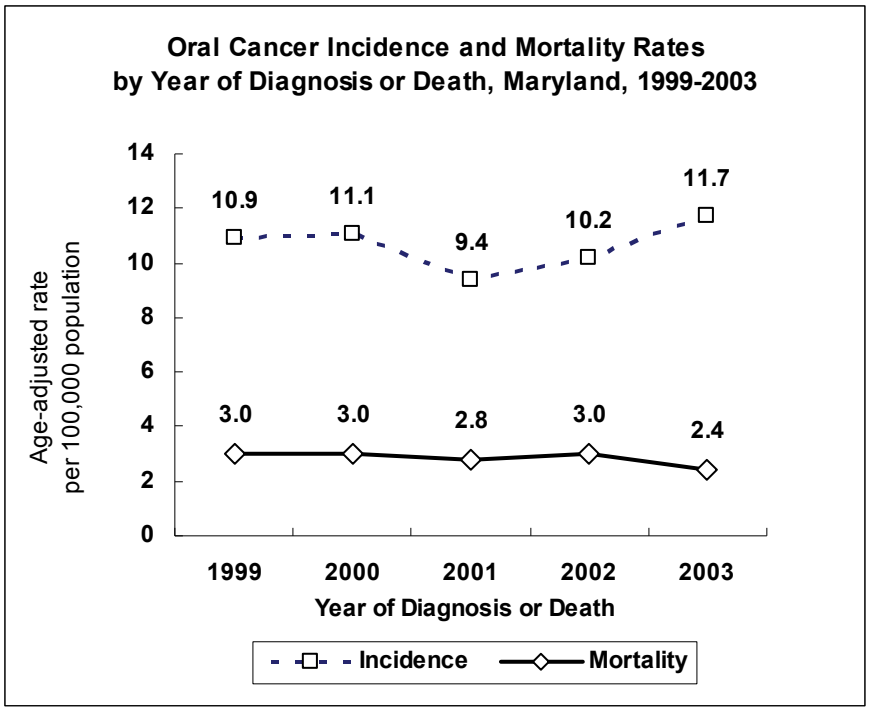
Mortality (Deaths)

In 2003, 131 persons in Maryland died of oral cancer. The 2003 age-adjusted mortality rate of 2.4 per 100,000 population (2.0-2.8, 95% C.I.) in Maryland is similar to the 2003 U.S. oral cancer mortality rate of 2.6 per 100,000 (2.5-2.7, 95% C.I.). Maryland ranked 18th highest for oral cancer mortality among the states and the District of Columbia for the period 1999 to 2003.

Table 47.
Oral Cancer Incidence and Mortality Rates*
by Gender and Race, Maryland and the United States, 2003

Incidence 2002	*Total*	*Males*	*Females*	*Whites*	*Blacks*	*Other*
New Cases (count)	652	464	188	471	155	s
MD Incidence Rate	11.7	18.4	6.2	11.8	11.4	9.0
U.S. SEER Rate	10.0	15.0	5.9	10.1	11.3	8.6
Mortality 2002	*Total*	*Males*	*Females*	*Whites*	*Blacks*	*Other*
Deaths (count)	131	97	34	95	s	<6
MD Mortality Rate	2.4	4.0	1.1	2.4	2.9	**
U.S. Mortality Rate	2.6	4.0	1.5	2.5	3.8	2.2

* Rates are per 100,000 and are age-adjusted to 2000 U.S. standard population
Total includes cases reported as transsexual, hermaphrodite, unknown gender, and unknown race
s = Counts are suppressed to prevent disclosure of data in other cell(s) based on Tables 48 and 50
<6 = MD death counts of 0-5 are suppressed per DHMH/CCSC Mortality Data Suppression Policy
** MD mortality rates based on death counts of 0-15 are suppressed per DHMH/CCSC Mortality Data Suppression Policy
Source: MD incidence data from Maryland Cancer Registry, 2003
U.S. SEER rates from SEER*Stat software
Mortality data from NCHS Compressed Mortality File in CDC WONDER



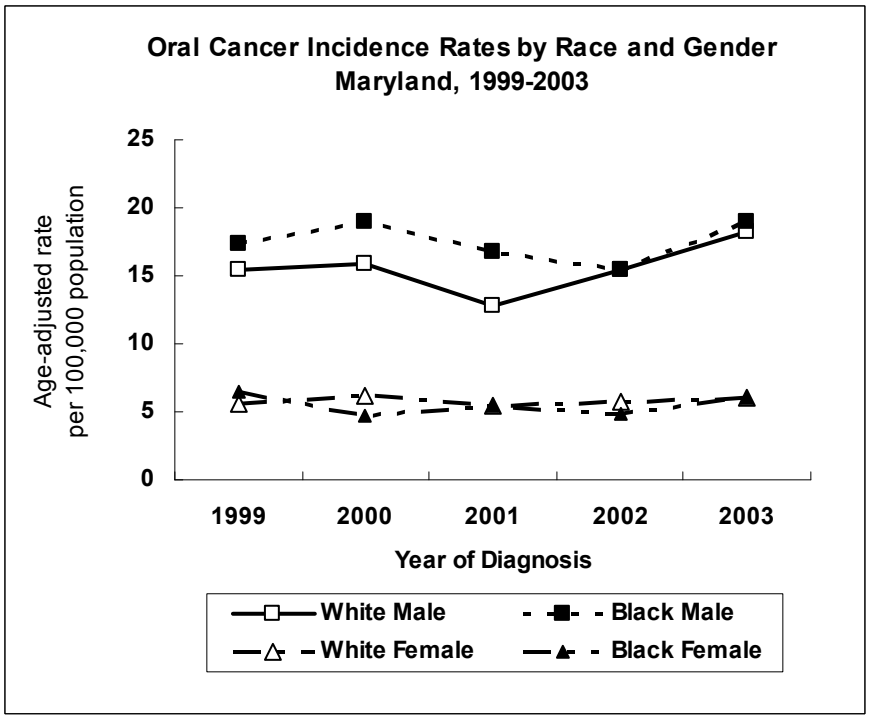
Rates are age-adjusted to 2000 U.S. standard population
Maryland Cancer Registry, 1999-2003
Maryland Division of Health Statistics, 1999-2001
NCHS Compressed Mortality File in CDC WONDER, 2002, 2003

Incidence and Mortality Trends

The incidence of oral cancer in Maryland increased slightly from 1999 to 2003, with an annual average increase of 0.6%.

Mortality rates for oral cancer declined an average of 4.4% per year from 1999 to 2003.

See Appendix I, Tables 1 and 2.



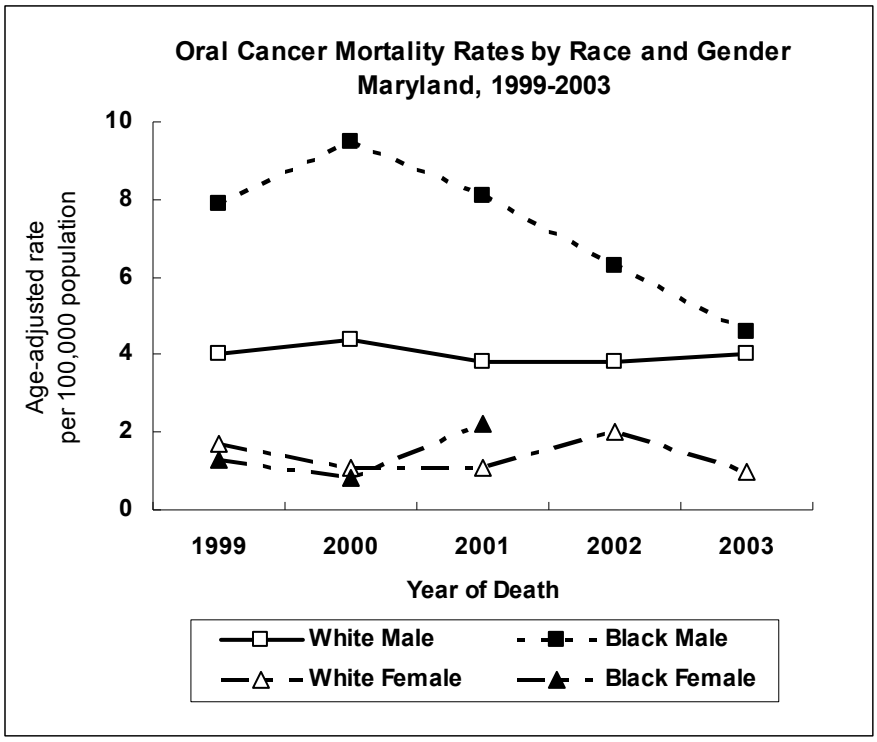
Rates are age-adjusted to 2000 U.S. standard population
Maryland Cancer Registry, 1999-2003

Race and Gender Incidence Trends

Over the period from 1999 to 2003, males consistently had higher oral cancer incidence rates than females.

Over the 5-year period, oral cancer incidence rates declined slightly for black men and women, but increased for whites. White men had the largest increase in oral cancer incidence, with an average annual increase of 3.2%.

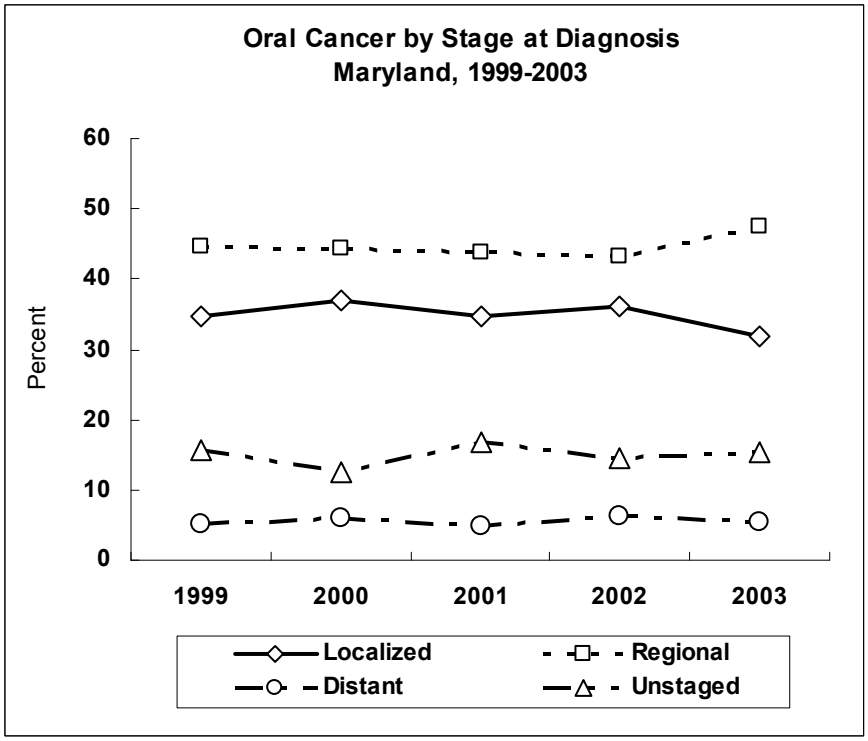
See Appendix I, Table 13.



Rates are age-adjusted to 2000 U.S. standard population
Maryland Division of Health Statistics, 1999-2001
NCHS Compressed Mortality File in CDC WONDER, 2002, 2003

Race and Gender Mortality Trends

Oral cancer mortality rates are consistently higher for males than females in Maryland. Declines in oral cancer mortality among black males (annual average decline of 13.9%) since 2000 have closed the gap in mortality between white and black men. Rates have also declined among white women. Note: 2002 and 2003 rates are suppressed for black females due to low death counts and unstable rates. See Appendix I, Table 14.

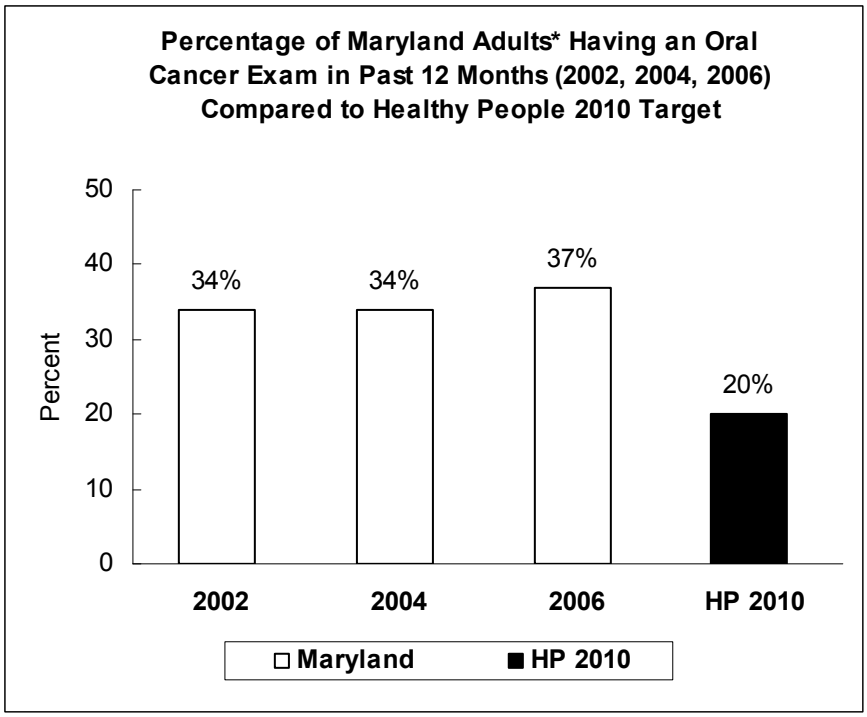


Maryland Cancer Registry, 1999-2003

Stage at Diagnosis

During 2003, 31.9% of oral cancer cases in Maryland were diagnosed at the localized (early) stage; 47.4% were diagnosed at the regional stage.

See Appendix J, Table 6.



* Adults age 40 years and older
Maryland Cancer Survey, 2002, 2004, and 2006
Healthy People 2010, U.S. Department of Health and Human Services, 2000

Healthy People 2010

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

In the 2006 Maryland Cancer Survey, 37% of persons 40 years of age and older reported they had an oral cancer exam in the past year, again surpassing the Healthy People 2010 target.

Public Health Evidence (quoted from NCI PDQ, 4/10/2008 and 7/1/2008, and USPSTF, 2/2004)

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 is a second independent major risk factor for oral cancer. There is a suggestion that beer and hard liquor confer greater risk of oral cancer than wine. The combined use of tobacco and alcohol increases the risks for oral cancer more than either risk behavior alone. There appears to be an association between human papillomavirus (HPV) and oral cancer; however, the role remains unclear. For lip cancer, there is evidence that sunlight exposure is associated with an increased risk.

Avoidance or cessation of exposure to tobacco (e.g., cigarettes, pipes, cigars, and smokeless tobacco) would lead to a decrease in oral cancer. A 50% reduction of oral cancer risk has been noted after 3 to 5 years of smoking cessation and a return to normal risk noted within 10 years of cessation. Although alcohol use is a risk factor for oral cancer, there is inadequate evidence that cessation of alcohol use decreases the risk of oral cancer. A diet high in fruits and fiber is associated with a decreased risk of oral and pharyngeal cancer, particularly among smokers; however, there is inadequate evidence to determine whether a *change* in diet would decrease the risk of oral cancer. There is inadequate evidence to determine whether reducing sun exposure would prevent lip cancer.

Screening

While the routine examination of asymptomatic and symptomatic patients can lead to detection of earlier stage cancers as well as premalignant lesions, the United States Preventive Services Task Force (USPSTF) concludes that the evidence is insufficient to recommend for or against routinely screening adults for oral cancer. The USPSTF found no new good-quality evidence that screening for oral cancer leads to improved health outcomes for either high-risk adults (i.e., those over the age of 50 years who use tobacco) or for average-risk adults in the general population. It is unlikely that controlled trials of screening for oral cancer will ever be conducted in the general population because of the very low incidence of oral cancer in the U.S. There is also no new evidence for the harms of screening. As a result, the USPSTF could not determine the balance between benefits and harms of screening.

Public Health Intervention for Oral Cancer (DHMH Oral Cancer Medical Advisory Committee, 2005)
➢ Avoidance or cessation of smoking and other tobacco use. ➢ Avoidance or reduction of alcohol consumption. ➢ Avoidance of sun exposure; use of ultraviolet light-blocking lip balm. ➢ Screening for oral cancer targeted to individuals age 40 years and older.

Table 48.
Number of Oral Cancer Cases
by Jurisdiction, Gender and Race, Maryland, 2003

Jurisdiction	Total	Gender		Race			
		Males	Females	Whites	Blacks	Other	Unknown
Maryland	652	464	188	471	155	s	<6
Allegany	7	<6	<6	7	0	0	0
Anne Arundel	69	55	14	62	s	<6	0
Baltimore City	87	64	23	32	55	0	0
Baltimore County	114	81	33	91	s	<6	0
Calvert	12	6	6	s	<6	0	0
Caroline	<6	<6	0	<6	0	0	0
Carroll	18	s	<6	s	<6	<6	0
Cecil	12	12	0	s	<6	0	0
Charles	14	s	<6	8	<6	0	<6
Dorchester	0	0	0	0	0	0	0
Frederick	28	21	7	23	<6	0	<6
Garrett	<6	<6	0	<6	0	0	0
Harford	32	22	10	26	<6	<6	0
Howard	15	s	<6	s	0	<6	0
Kent	<6	<6	<6	<6	<6	0	0
Montgomery	94	58	36	75	10	s	<6
Prince George's	66	44	22	s	37	<6	0
Queen Anne's	9	s	<6	9	0	0	0
Saint Mary's	12	s	<6	s	<6	<6	<6
Somerset	<6	<6	0	<6	<6	0	0
Talbot	6	<6	<6	6	0	0	0
Washington	18	12	6	18	0	0	0
Wicomico	13	s	<6	s	<6	0	0
Worcester	11	s	<6	s	<6	0	0
Unknown	<6	<6	0	<6	0	0	<6

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

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

Source: Maryland Cancer Registry, 2003

Table 49.
Oral Cancer Age-Adjusted Incidence Rates*
by Jurisdiction, Gender and Race, Maryland, 2003

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	11.7	18.4	6.2	11.8	11.4	9.0
Allegany	**	**	**	**	0.0	0.0
Anne Arundel	14.1	23.9	**	14.7	**	**
Baltimore City	13.1	22.5	5.7	12.9	13.4	0.0
Baltimore County	13.2	21.0	7.1	12.6	14.7	**
Calvert	**	**	**	**	**	0.0
Caroline	**	**	0.0	**	0.0	0.0
Carroll	10.7	**	**	10.0	**	**
Cecil	**	**	0.0	**	**	0.0
Charles	**	**	**	**	**	0.0
Dorchester	0.0	0.0	0.0	0.0	0.0	0.0
Frederick	12.8	20.8	**	11.3	**	0.0
Garrett	**	**	0.0	**	0.0	0.0
Harford	13.5	18.3	**	12.2	**	**
Howard	**	**	**	**	0.0	**
Kent	**	**	**	**	**	0.0
Montgomery	10.3	14.4	7.3	10.9	**	**
Prince George's	8.9	13.4	5.3	9.3	8.3	**
Queen Anne's	**	**	**	**	0.0	0.0
Saint Mary's	**	**	**	**	**	**
Somerset	**	**	0.0	**	**	0.0
Talbot	**	**	**	**	0.0	0.0
Washington	12.3	**	**	13.0	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 case counts of 1-15 are suppressed per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 2003

Table 50.
Number of Oral Cancer Deaths
by Jurisdiction, Gender and Race, Maryland, 2003

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	131	97	34	95	s	<6
Allegany	<6	<6	<6	<6	<6	<6
Anne Arundel	11	s	<6	10	<6	<6
Baltimore City	29	22	7	s	21	<6
Baltimore County	23	16	7	19	<6	<6
Calvert	<6	<6	<6	<6	<6	<6
Caroline	<6	<6	<6	<6	<6	<6
Carroll	<6	<6	<6	<6	<6	<6
Cecil	<6	<6	<6	<6	<6	<6
Charles	<6	<6	<6	<6	<6	<6
Dorchester	<6	<6	<6	<6	<6	<6
Frederick	<6	<6	<6	<6	<6	<6
Garrett	<6	<6	<6	<6	<6	<6
Harford	8	s	<6	s	<6	<6
Howard	<6	<6	<6	<6	<6	<6
Kent	<6	<6	<6	<6	<6	<6
Montgomery	12	s	<6	8	<6	<6
Prince George's	13	s	<6	9	<6	<6
Queen Anne's	<6	<6	<6	<6	<6	<6
Saint Mary's	<6	<6	<6	<6	<6	<6
Somerset	<6	<6	<6	<6	<6	<6
Talbot	<6	<6	<6	<6	<6	<6
Washington	<6	<6	<6	<6	<6	<6
Wicomico	<6	<6	<6	<6	<6	<6
Worcester	<6	<6	<6	<6	<6	<6

<6 = Death counts of 0-5 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

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

Source: NCHS Compressed Mortality File in CDC WONDER

Table 51.
Oral Cancer Age-Adjusted Mortality Rates*
by Jurisdiction, Gender and Race, Maryland, 2003

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	2.4	4.0	1.1	2.4	2.9	**
Allegany	**	**	**	**	**	**
Anne Arundel	**	**	**	**	**	**
Baltimore City	4.5	7.8	**	**	5.3	**
Baltimore County	2.6	4.1	**	2.6	**	**
Calvert	**	**	**	**	**	**
Caroline	**	**	**	**	**	**
Carroll	**	**	**	**	**	**
Cecil	**	**	**	**	**	**
Charles	**	**	**	**	**	**
Dorchester	**	**	**	**	**	**
Frederick	**	**	**	**	**	**
Garrett	**	**	**	**	**	**
Harford	**	**	**	**	**	**
Howard	**	**	**	**	**	**
Kent	**	**	**	**	**	**
Montgomery	**	**	**	**	**	**
Prince George's	**	**	**	**	**	**
Queen Anne's	**	**	**	**	**	**
Saint Mary's	**	**	**	**	**	**
Somerset	**	**	**	**	**	**
Talbot	**	**	**	**	**	**
Washington	**	**	**	**	**	**
Wicomico	**	**	**	**	**	**
Worcester	**	**	**	**	**	**

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

** Rates based on death counts of 0-15 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

Source: NCHS Compressed Mortality File in CDC WONDER

Table 52.
Number of Oral Cancer Cases
by Jurisdiction, Gender and Race, Maryland, 1999-2003

Jurisdiction	Total	Gender		Race			
		Males	Females	Whites	Blacks	Other	Unknown
Maryland	2,817	1,963	854	1,998	681	88	50
Allegany	55	38	17	s	<6	0	0
Anne Arundel	288	215	73	251	30	<6	<6
Baltimore City	473	347	126	178	285	<6	s
Baltimore County	446	302	144	359	72	s	<6
Calvert	40	22	18	34	6	0	0
Caroline	18	s	<6	14	<6	0	<6
Carroll	78	58	20	71	<6	<6	<6
Cecil	46	38	8	s	<6	0	0
Charles	46	33	13	35	8	<6	<6
Dorchester	19	s	<6	s	<6	0	0
Frederick	89	64	25	77	8	<6	<6
Garrett	12	s	<6	12	0	0	0
Harford	108	77	31	95	9	<6	<6
Howard	78	52	26	63	<6	7	<6
Kent	10	s	<6	s	<6	0	0
Montgomery	395	244	151	307	42	34	12
Prince George's	308	204	104	125	159	18	6
Queen Anne's	42	30	12	s	<6	0	0
Saint Mary's	57	46	11	44	9	<6	<6
Somerset	s	<6	<6	<6	<6	0	0
Talbot	27	19	8	s	<6	0	0
Washington	70	43	27	65	<6	<6	0
Wicomico	55	41	14	39	s	<6	0
Worcester	46	35	11	41	<6	0	<6
Unknown	<6	<6	0	<6	0	0	<6

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

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

Source: Maryland Cancer Registry, 1999-2003

Table 53.
Oral Cancer Age-Adjusted Incidence Rates*
by Jurisdiction, Gender and Race, Maryland, 1999-2003

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	10.6	16.3	5.9	10.3	10.6	8.1
Allegany	12.0	19.0	6.0	11.7	**	0.0
Anne Arundel	12.3	19.6	6.0	12.3	12.0	**
Baltimore City	14.6	24.7	6.6	14.3	14.3	**
Baltimore County	10.6	16.3	6.2	10.2	11.8	**
Calvert	11.8	13.4	10.0	11.7	**	0.0
Caroline	11.1	**	**	**	**	0.0
Carroll	10.2	16.2	5.0	9.7	**	**
Cecil	10.9	18.6	**	10.7	**	0.0
Charles	9.0	12.7	**	9.1	**	**
Dorchester	9.8	**	**	**	**	0.0
Frederick	9.5	14.8	4.8	8.8	**	**
Garrett	**	**	**	**	0.0	0.0
Harford	10.0	14.8	5.5	9.6	**	**
Howard	7.4	9.8	5.3	7.7	**	**
Kent	**	**	**	**	**	0.0
Montgomery	8.9	12.5	6.2	9.0	7.4	7.1
Prince George's	8.7	12.9	5.4	9.5	7.6	10.4
Queen Anne's	18.6	27.6	**	20.0	**	0.0
Saint Mary's	14.4	23.4	**	13.4	**	**
Somerset	**	**	**	**	**	0.0
Talbot	11.6	17.2	**	11.7	**	0.0
Washington	9.7	13.0	7.1	9.4	**	**
Wicomico	12.6	20.2	**	11.4	**	**
Worcester	14.2	24.3	**	14.7	**	0.0

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

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

Source: Maryland Cancer Registry, 1999-2003

Table 54.
Number of Oral Cancer Deaths
by Jurisdiction, Gender and Race, Maryland, 1999-2003

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	728	516	212	493	224	11
Allegany	13	6	7	s	<6	<6
Anne Arundel	66	54	12	53	s	<6
Baltimore City	171	134	37	s	112	<6
Baltimore County	122	83	39	104	s	<6
Calvert	9	<6	<6	8	<6	<6
Caroline	<6	<6	<6	<6	<6	<6
Carroll	9	s	<6	s	<6	<6
Cecil	10	s	<6	9	<6	<6
Charles	24	s	<6	14	s	<6
Dorchester	<6	<6	<6	<6	<6	<6
Frederick	12	s	<6	10	<6	<6
Garrett	<6	<6	<6	<6	<6	<6
Harford	25	18	7	23	<6	<6
Howard	23	9	14	18	<6	<6
Kent	6	s	<6	<6	<6	<6
Montgomery	78	41	37	61	s	<6
Prince George's	81	58	23	s	41	<6
Queen Anne's	9	s	<6	s	<6	<6
Saint Mary's	11	s	<6	9	<6	<6
Somerset	<6	<6	<6	<6	<6	<6
Talbot	7	<6	<6	s	<6	<6
Washington	17	10	7	16	<6	<6
Wicomico	7	<6	<6	<6	<6	<6
Worcester	16	s	<6	15	<6	<6

<6 = Death counts of 0-5 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

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

Source: NCHS Compressed Mortality File in CDC WONDER

Table 55.
Oral Cancer Age-Adjusted Mortality Rates*
by Jurisdiction, Gender and Race, Maryland, 1999-2003

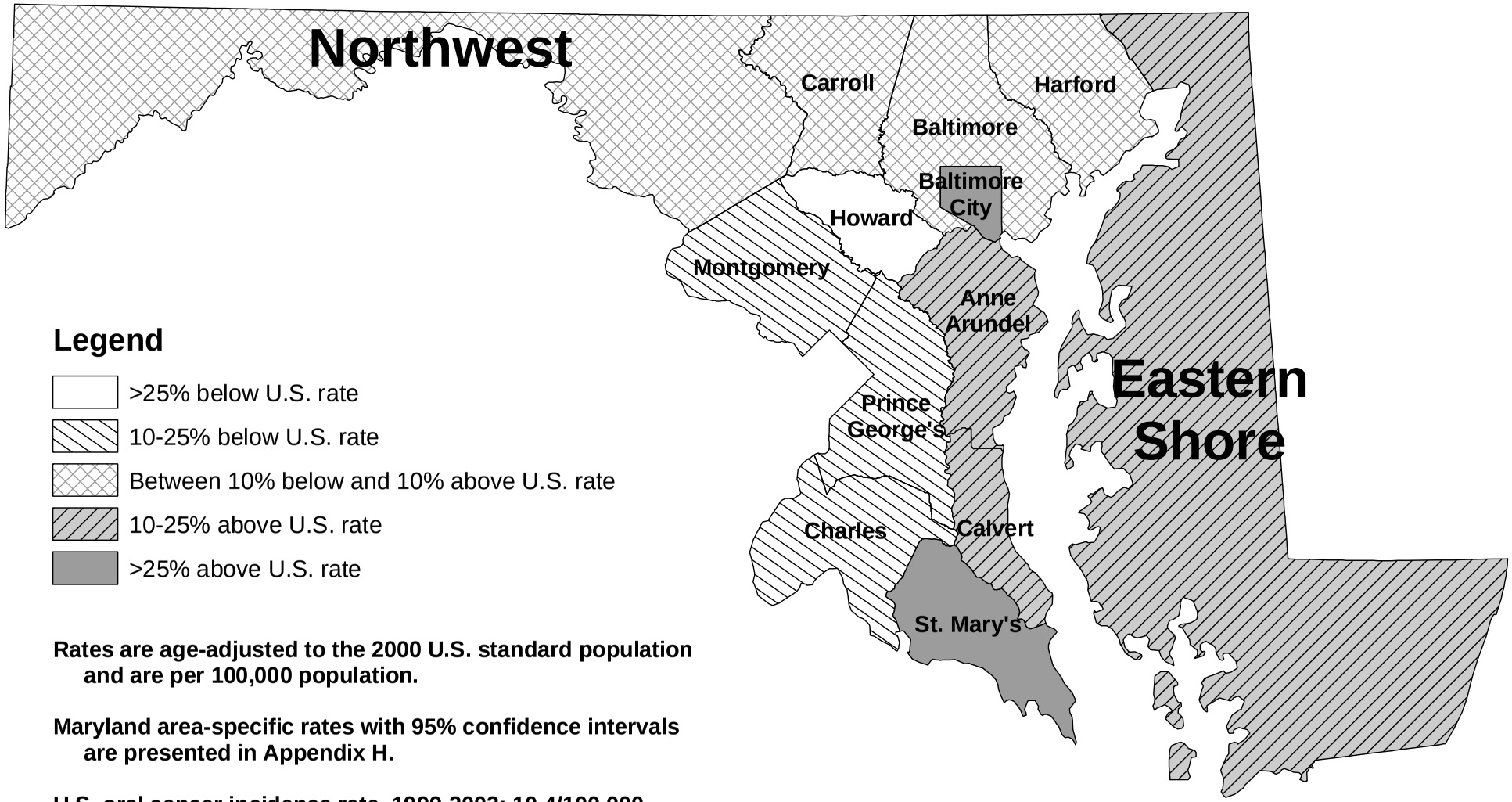
Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	2.8	4.6	1.4	2.6	3.9	**
Allegany	**	**	**	**	**	**
Anne Arundel	3.0	5.6	**	2.8	**	**
Baltimore City	5.3	9.8	1.9	4.4	5.8	**
Baltimore County	2.8	4.6	1.6	2.8	3.2	**
Calvert	**	**	**	**	**	**
Caroline	**	**	**	**	**	**
Carroll	**	**	**	**	**	**
Cecil	**	**	**	**	**	**
Charles	5.0	8.3	**	**	**	**
Dorchester	**	**	**	**	**	**
Frederick	**	**	**	**	**	**
Garrett	**	**	**	**	**	**
Harford	2.5	4.5	**	2.5	**	**
Howard	2.5	**	**	2.4	**	**
Kent	**	**	**	**	**	**
Montgomery	1.8	2.3	1.5	1.8	**	**
Prince George's	2.6	4.1	1.3	3.0	2.3	**
Queen Anne's	**	**	**	**	**	**
Saint Mary's	**	**	**	**	**	**
Somerset	**	**	**	**	**	**
Talbot	**	**	**	**	**	**
Washington	2.3	**	**	2.3	**	**
Wicomico	**	**	**	**	**	**
Worcester	4.7	**	**	**	**	**

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

** Rates based on death counts of 0-15 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

Source: NCHS Compressed Mortality File in CDC WONDER

Maryland Oral Cancer Incidence Rates by Geographical Area: Comparison to U.S. Rate, 1999-2003



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

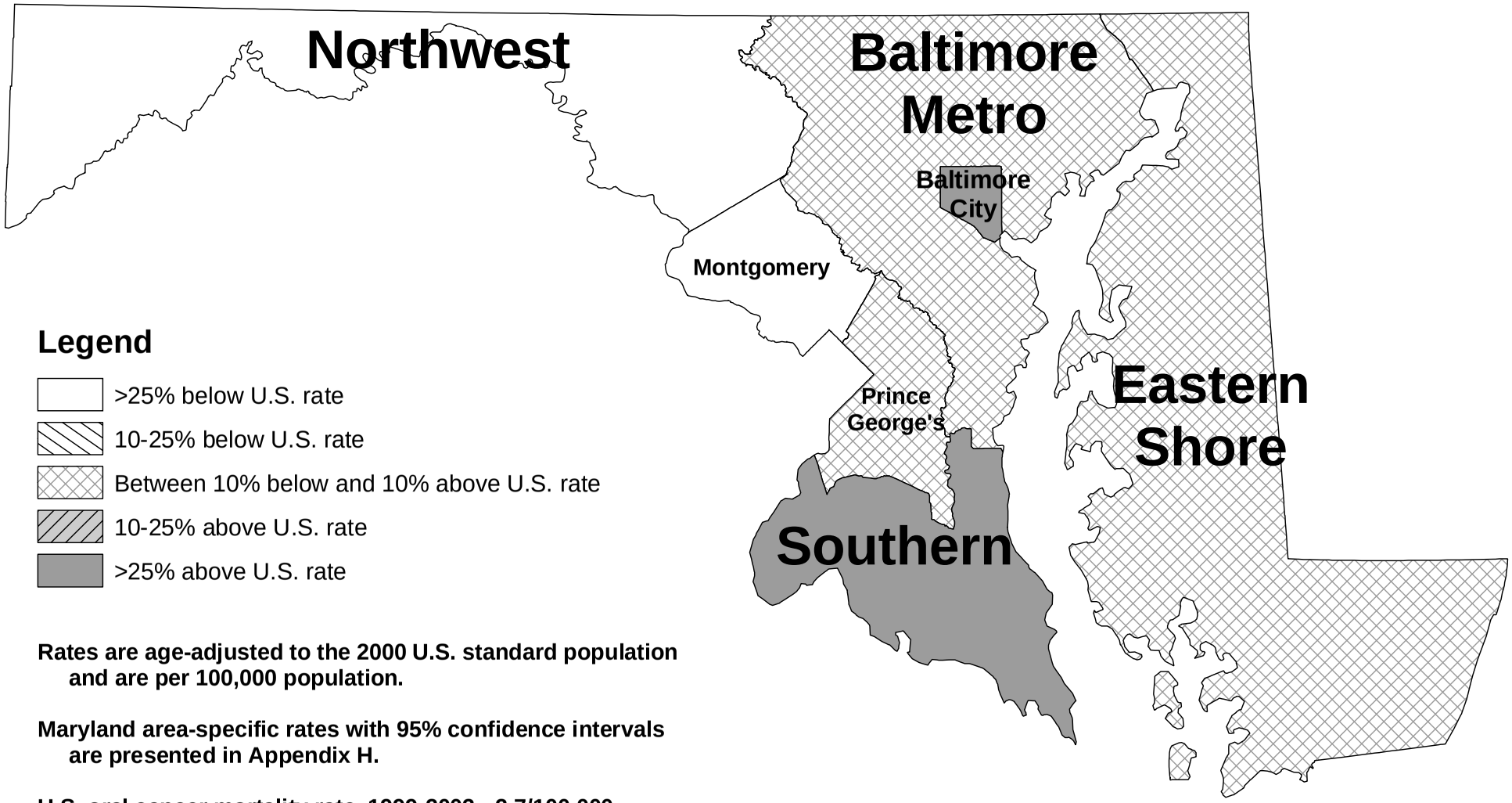
Maryland area-specific rates with 95% confidence intervals are presented in Appendix H.

U.S. oral cancer incidence rate, 1999-2003: 10.4/100,000

Note: Aggregated regional rates are used in comparisons when rates for one or more counties in that region are suppressed due to small numbers of cases or deaths. (See Appendix C for methods.)

Source: MD incidence rates from Maryland Cancer Registry, 1999-2003
U.S. rate from SEER*Stat Software

Maryland Oral Cancer Mortality Rates by Geographical Area: Comparison to U.S. Rate, 1999-2003



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

Maryland area-specific rates with 95% confidence intervals are presented in Appendix H.

U.S. oral cancer mortality rate, 1999-2003: 2.7/100,000

Note: Aggregated regional rates are used in comparisons when rates for one or more counties in that region are suppressed due to small numbers of cases or deaths. (See Appendix C for methods.)

Source: MD and U.S. mortality rates from NCHS Compressed Mortality File in CDC WONDER

F. Melanoma of the Skin

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

Incidence (New Cases)

In 2003, a total of 1,067 cases of melanoma of the skin were diagnosed in Maryland residents. The age-adjusted incidence rate for melanoma for 2003 was 19.4 per 100,000 population (18.2-20.6, 95% C.I.). This Maryland incidence rate is statistically significantly higher than the 2003 U.S. SEER age-adjusted incidence rate for melanoma of 17.7 per 100,000 population (17.3-18.1, 95% C.I.).

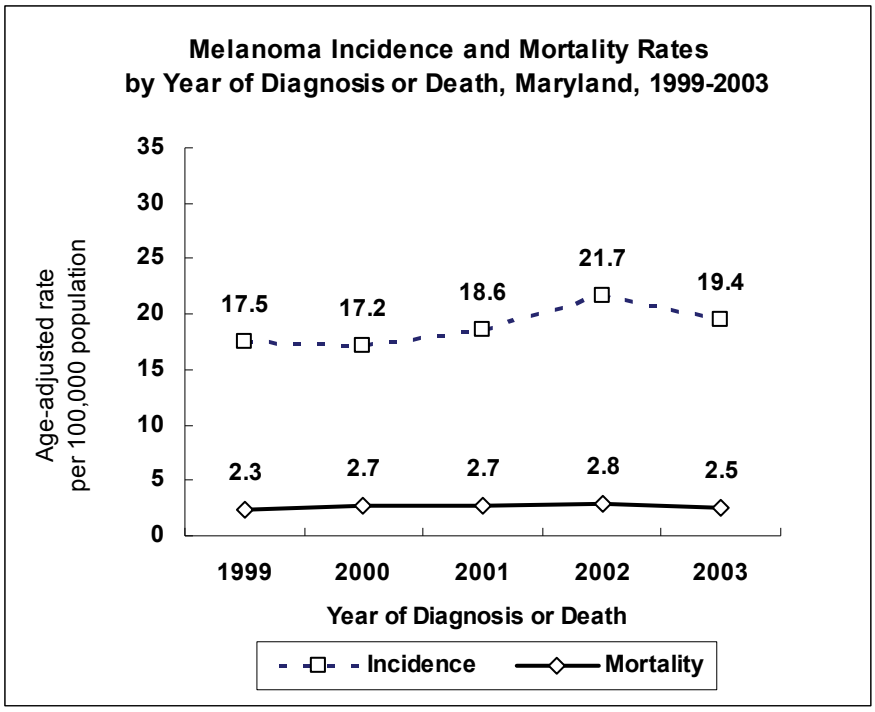
Mortality (Deaths)

In 2003, a total of 135 persons died of melanoma in Maryland. The 2003 age-adjusted mortality rate for melanoma in Maryland was 2.5 per 100,000 population (2.1-2.9, 95% C.I.). This rate is similar to the 2003 U.S. melanoma mortality rate of 2.7 per 100,000 population (2.6-2.8, 95% C.I.). Maryland ranked 32nd for melanoma mortality among the states and the District of Columbia for the period 1999 to 2003.

Table 56.
Melanoma Incidence and Mortality Rates*
by Gender and Race, Maryland and the United States, 2003

Incidence 2003	*Total*	*Males*	*Females*	*Whites*	*Blacks*	*Other*
New Cases (count)	1,067	589	478	1,005	14	7
MD Incidence Rate	19.4	24.1	16.0	25.7	**	**
U.S. SEER Rate	17.7	22.4	14.4	21.7	0.9	5.5
Mortality 2003	*Total*	*Males*	*Females*	*Whites*	*Blacks*	*Other*
Deaths (count)	135	86	49	127	s	<6
MD Mortality Rate	2.5	3.7	1.6	3.2	**	**
U.S. Mortality Rate	2.7	3.9	1.7	3.0	0.4	0.4

* Rates are per 100,000 and are age-adjusted to 2000 U.S. standard population
Total includes cases reported as transsexual, hermaphrodite, unknown gender, and unknown race
** MD incidence rates based on case counts of 1-15 are suppressed per DHMH/MCR Data Use Policy; MD mortality rates based on death counts of 0-15 are suppressed per DHMH/CCSC Mortality Data Suppression Policy
s = Death count is suppressed to prevent disclosure of data in other cell(s) based on Table 59
<6 = MD death counts of 0-5 are suppressed per DHMH/CCSC Mortality Data Suppression Policy
Source: MD incidence data from Maryland Cancer Registry, 2003
U.S. SEER rates from SEER*Stat software
Mortality data from NCHS Compressed Mortality File in CDC WONDER

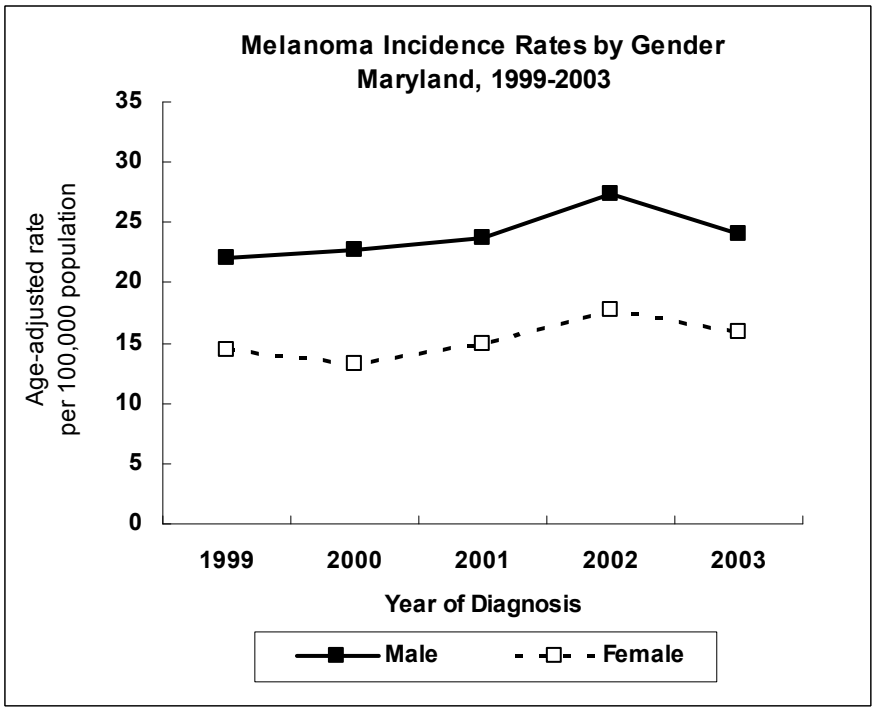


Rates are age-adjusted to 2000 U.S. standard population
Maryland Cancer Registry, 1999-2003
Maryland Division of Health Statistics, 1999-2001
NCHS Compressed Mortality File in CDC WONDER, 2002, 2003

Incidence and Mortality Trends

Melanoma incidence rates in Maryland increased an average of 4.5% yearly from 1999 to 2003. Mortality rates increased an average of 2.1% per year over the same period.

See Appendix I, Tables 1 and 2.

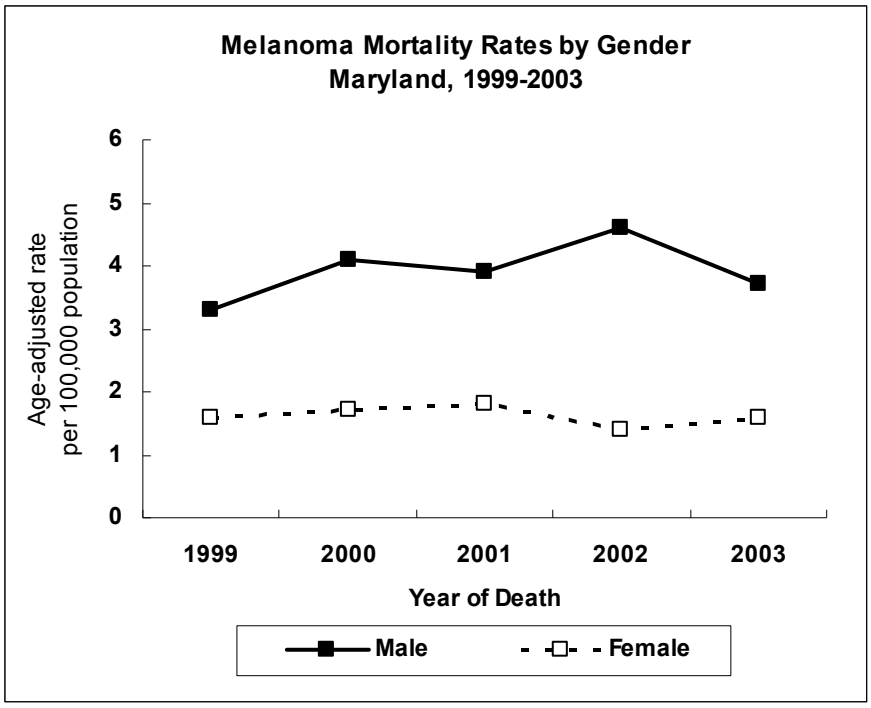


Rates are age-adjusted to 2000 U.S. standard population
Maryland Cancer Registry, 1999-2003

Gender Incidence Trends

Over the period from 1999 to 2003, males had higher rates of melanoma incidence than females. Rates increased for both males and females over the period: an average of 3.6% per year for males and 5.1% for females.

See Appendix I, Table 15.



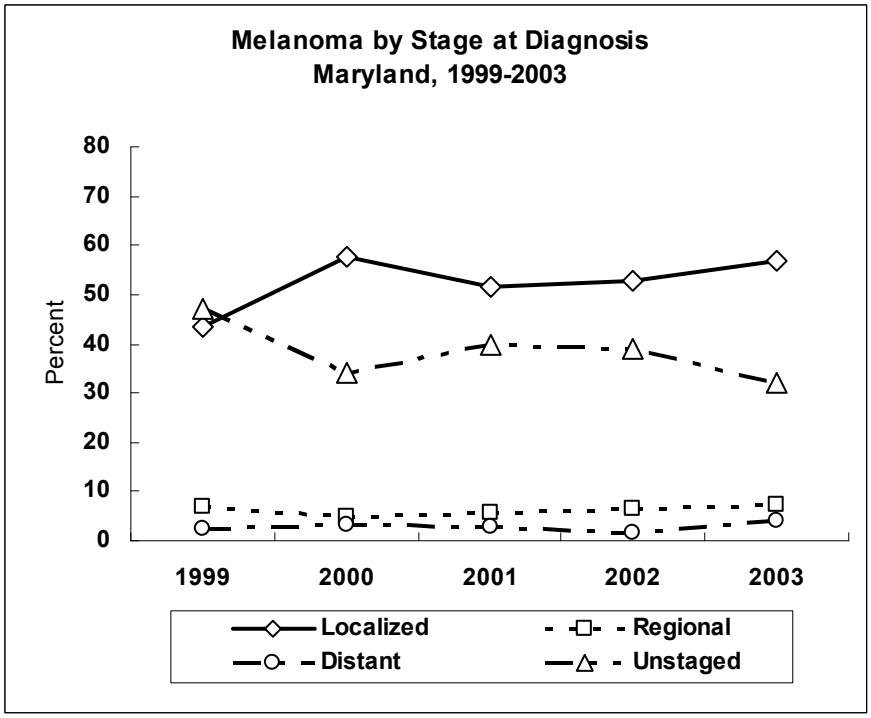
Rates are age-adjusted to 2000 U.S. standard population
Maryland Division of Health Statistics, 1999-2001
NCHS Compressed Mortality File in CDC WONDER, 2002, 2003

Gender Mortality Trends

Males had consistently higher rates of melanoma mortality than females over the period from 1999 to 2003.

Male mortality rates from melanoma increased at an average annual rate of 3.5%, while corresponding female rates have been declining an average of 1.9% per year from 1999 to 2003.

See Appendix I, Table 16.



Maryland Cancer Registry, 1999-2003

Stage at Diagnosis

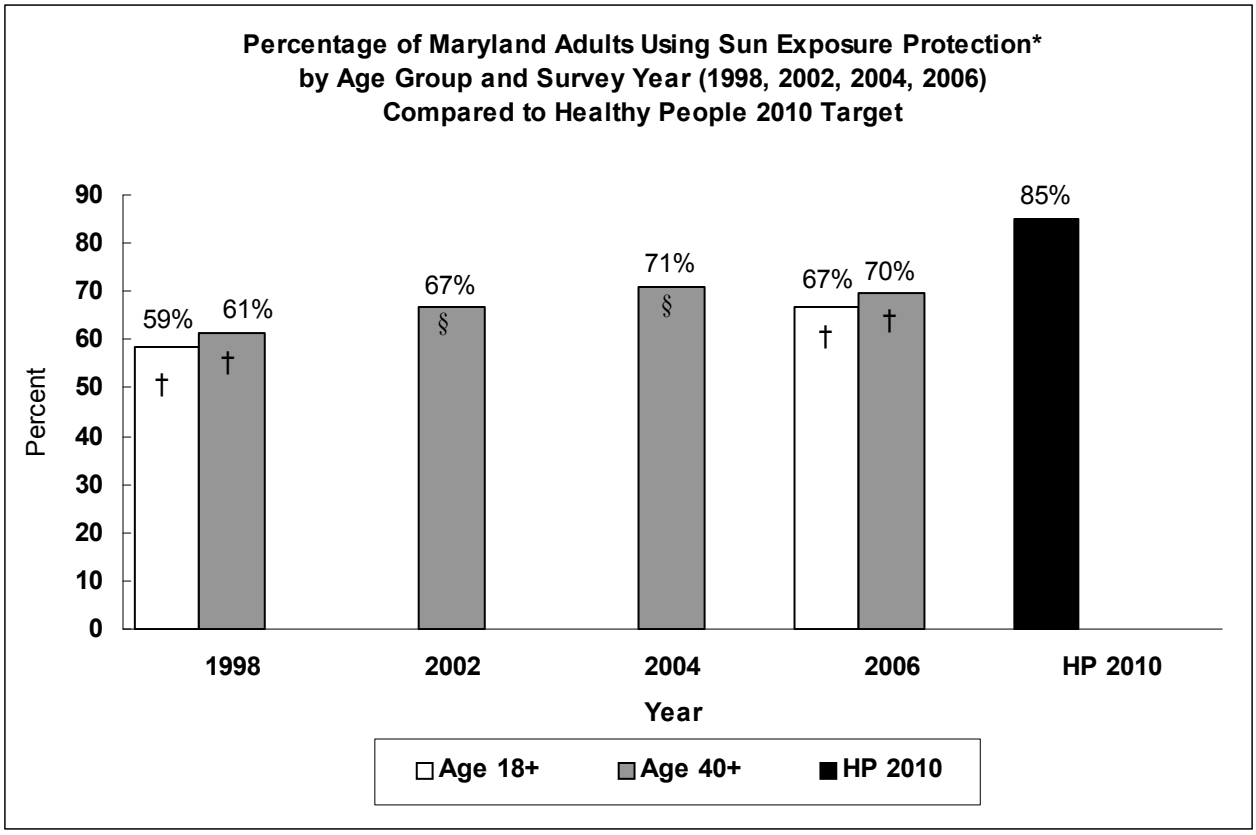
In 2003, 56.7% of all melanoma was diagnosed at the localized stage. Over the period 1999 to 2003, the proportion of melanomas diagnosed at the localized and regional stages increased by 4.5% and 3.8% per year, respectively; the proportion of unstaged cancers decreased an average of 6.1% per year over the same period.

See Appendix J, Table 7.

Healthy People 2010

The Healthy People 2010 target is to increase to 85% the percentage of persons age 18 years 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 2006, the Maryland BRFSS found that 67% of adults age 18 years and older and 70% of those age 40 years and older used at least one method of protection against sun exposure.



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

* Sun exposure protection means percentage of adults who report "always" or "nearly always" using one or more of the following measures: a) avoid sun between 10 a.m. and 4 p.m., b) wear sun-protective clothing when exposed to sunlight, c) use sunscreen with a sun protective factor of 15 or higher, and d) wear a hat when outdoors. The BRFSS and MCS do not include questions regarding frequency of exposure to ultraviolet light.

† Maryland BRFSS, 1998, 2006

§ Maryland Cancer Survey, 2002, 2004

Healthy People 2010 Midcourse Review, U.S. Department of Health and Human Services, 2006

Public Health Evidence (quoted from NCI PDQ, 4/3/2008 and 4/10/2008, and USPSTF, 4/2001)

Primary Prevention

There are three major types of skin cancer: basal cell carcinoma, squamous cell carcinoma, and cutaneous melanoma. Epidemiologic evidence suggests that exposure to ultraviolet (UV) radiation from the sun or artificial sources and the sensitivity of an individual's skin to UV radiation are risk factors for skin cancer, though the type of exposure (high-intensity and short-duration vs. chronic exposure) and pattern of exposure (continuous vs. intermittent) may differ among the three main types of skin cancer. The best defense against skin cancer is protection from the sun and other UV light. Sun-protective strategies may include avoiding sun exposure at times of the day when the exposure is more intense and wearing clothing that protects skin from sun exposure.

There is inadequate evidence to determine whether the use of sunscreen reduces the incidence of nonmelanoma skin cancer (basal cell and squamous cell cancer) or whether the avoidance of sunburns alters the incidence of cutaneous melanoma.

While studies have consistently shown that increasing cumulative sun exposure is a risk factor for nonmelanoma skin cancer, it is not known if reduction of exposure to UV radiation through the use of sunscreens and/or protective clothing or through limitation of exposure time can reduce the incidence of nonmelanoma skin cancer in humans; the relationship between UV radiation exposure and cutaneous melanoma is less clear. Individuals with certain types of pigmented lesions (dysplastic or atypical nevi [moles]), with several large nondysplastic nevi, with many small nevi, or with moderate freckling have a twofold to threefold increased risk of developing melanoma. Individuals with familial dysplastic nevus syndrome or with several dysplastic or atypical nevi are at high risk of developing melanoma (greater than five times the risk of those without dysplastic or atypical nevi). There is inadequate evidence to determine whether the avoidance of sunburn alters the incidence of cutaneous melanoma.

As of October 2008, an owner, employee, or operator of a tanning facility in Maryland may not allow a minor under the age of 18 years to use a tanning device unless the minor's parent or legal guardian provides written consent on the premises of the tanning facility and in the presence of an owner, employee, or operator of the tanning facility.

Screening

The United States Preventive Services Task Force concludes that the evidence is insufficient to recommend for or against routine screening for skin cancer using a total-body skin examination for the early detection of cutaneous melanoma, basal cell cancer, or squamous cell skin cancer. In asymptomatic populations, the evidence that visual skin examination would reduce mortality from nonmelanoma or melanoma skin cancer is unknown or inadequate.

Public Health Intervention for Skin Cancer
Reduction of exposure to the sun and other UV light by: ➢ Avoiding sun exposure, especially between 10 a.m. and 4 p.m. ➢ Wearing sun-protective hat and clothing when exposed to sunlight. ➢ Avoiding artificial sources of UV light (e.g., tanning booths). ➢ If sun cannot be avoided: Using sunscreen with a SPF of 15 or higher.

Table 57.
Number of Melanoma Cases
by Jurisdiction, Gender and Race, Maryland, 2003

Jurisdiction	Total	Gender		Race			
		Males	Females	Whites	Blacks	Other	Unknown
Maryland	1,067	589	478	1,005	14	7	41
Allegany	14	<6	s	s	<6	0	0
Anne Arundel	131	67	64	s	0	0	<6
Baltimore City	38	20	18	35	<6	0	<6
Baltimore County	192	128	64	185	<6	0	s
Calvert	24	15	9	18	0	0	6
Caroline	6	<6	<6	6	0	0	0
Carroll	50	26	24	s	0	0	<6
Cecil	18	11	7	s	0	0	<6
Charles	13	6	7	13	0	0	0
Dorchester	7	<6	<6	7	0	0	0
Frederick	42	29	13	s	0	0	<6
Garrett	<6	<6	<6	<6	0	0	0
Harford	57	29	28	54	<6	0	<6
Howard	51	21	30	s	0	<6	<6
Kent	6	<6	<6	<6	0	0	<6
Montgomery	169	87	82	156	<6	<6	7
Prince George's	55	31	24	46	<6	<6	<6
Queen Anne's	15	s	<6	s	0	0	<6
Saint Mary's	23	11	12	s	0	0	<6
Somerset	6	<6	<6	6	0	0	0
Talbot	25	13	12	s	0	0	<6
Washington	42	18	24	39	0	<6	<6
Wicomico	26	15	11	26	0	0	0
Worcester	41	24	17	s	0	<6	0
Unknown	s	s	0	s	<6	0	<6

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

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

Source: Maryland Cancer Registry, 2003

Table 58.
Melanoma Age-Adjusted Incidence Rates*
by Jurisdiction, Gender and Race, Maryland, 2003

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	19.4	24.1	16.0	25.7	**	**
Allegany	**	**	**	**	**	0.0
Anne Arundel	26.9	31.0	24.3	31.1	0.0	0.0
Baltimore City	5.8	7.2	5.0	14.1	**	0.0
Baltimore County	22.5	33.6	14.0	27.1	**	0.0
Calvert	30.9	**	**	26.5	0.0	0.0
Caroline	**	**	**	**	0.0	0.0
Carroll	29.4	32.9	28.1	29.3	0.0	0.0
Cecil	19.8	**	**	**	0.0	0.0
Charles	**	**	**	**	0.0	0.0
Dorchester	**	**	**	**	0.0	0.0
Frederick	19.9	29.1	**	21.2	0.0	0.0
Garrett	**	**	**	**	0.0	0.0
Harford	25.6	29.0	23.0	26.9	**	0.0
Howard	22.8	21.5	24.0	28.4	0.0	**
Kent	**	**	**	**	0.0	0.0
Montgomery	18.1	20.7	15.9	21.8	**	**
Prince George's	7.9	10.5	5.9	17.7	**	**
Queen Anne's	**	**	**	**	0.0	0.0
Saint Mary's	27.0	**	**	29.6	0.0	0.0
Somerset	**	**	**	**	0.0	0.0
Talbot	51.8	**	**	56.0	0.0	0.0
Washington	28.3	26.5	32.9	28.1	0.0	**
Wicomico	29.2	**	**	37.7	0.0	0.0
Worcester	65.0	84.4	46.3	73.3	0.0	**

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

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

Source: Maryland Cancer Registry, 2003

Table 59.
Number of Melanoma Cancer Deaths
by Jurisdiction, Gender and Race, Maryland, 2003

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	135	86	49	127	s	<6
Allegany	<6	<6	<6	<6	<6	<6
Anne Arundel	23	16	7	s	<6	<6
Baltimore City	10	<6	<6	7	<6	<6
Baltimore County	21	14	7	20	<6	<6
Calvert	<6	<6	<6	<6	<6	<6
Caroline	<6	<6	<6	<6	<6	<6
Carroll	6	<6	<6	s	<6	<6
Cecil	<6	<6	<6	<6	<6	<6
Charles	<6	<6	<6	<6	<6	<6
Dorchester	<6	<6	<6	<6	<6	<6
Frederick	6	<6	<6	s	<6	<6
Garrett	<6	<6	<6	<6	<6	<6
Harford	<6	<6	<6	<6	<6	<6
Howard	<6	<6	<6	<6	<6	<6
Kent	<6	<6	<6	<6	<6	<6
Montgomery	17	9	8	16	<6	<6
Prince George's	12	6	6	10	<6	<6
Queen Anne's	<6	<6	<6	<6	<6	<6
Saint Mary's	<6	<6	<6	<6	<6	<6
Somerset	<6	<6	<6	<6	<6	<6
Talbot	<6	<6	<6	<6	<6	<6
Washington	<6	<6	<6	<6	<6	<6
Wicomico	<6	<6	<6	<6	<6	<6
Worcester	<6	<6	<6	<6	<6	<6

<6 = Death counts of 0-5 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

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

Source: NCHS Compressed Mortality File in CDC WONDER

Table 60.
Melanoma Age-Adjusted Mortality Rates*
by Jurisdiction, Gender and Race, Maryland, 2003

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	2.5	3.7	1.6	3.2	**	**
Allegany	**	**	**	**	**	**
Anne Arundel	4.9	7.1	**	5.6	**	**
Baltimore City	**	**	**	**	**	**
Baltimore County	2.3	**	**	2.6	**	**
Calvert	**	**	**	**	**	**
Caroline	**	**	**	**	**	**
Carroll	**	**	**	**	**	**
Cecil	**	**	**	**	**	**
Charles	**	**	**	**	**	**
Dorchester	**	**	**	**	**	**
Frederick	**	**	**	**	**	**
Garrett	**	**	**	**	**	**
Harford	**	**	**	**	**	**
Howard	**	**	**	**	**	**
Kent	**	**	**	**	**	**
Montgomery	1.9	**	**	2.2	**	**
Prince George's	**	**	**	**	**	**
Queen Anne's	**	**	**	**	**	**
Saint Mary's	**	**	**	**	**	**
Somerset	**	**	**	**	**	**
Talbot	**	**	**	**	**	**
Washington	**	**	**	**	**	**
Wicomico	**	**	**	**	**	**
Worcester	**	**	**	**	**	**

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

** Rates based on death counts of 0-15 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

Source: NCHS Compressed Mortality File in CDC WONDER

Table 61.
Number of Melanoma Cases
by Jurisdiction, Gender and Race, Maryland, 1999-2003

Jurisdiction	Total	Gender		Race			
		Males	Females	Whites	Blacks	Other	Unknown
Maryland	5,030	2,823	2,207	4,344	66	64	556
Allegany	69	27	42	s	<6	0	0
Anne Arundel	585	338	247	488	<6	s	84
Baltimore City	256	143	113	232	s	<6	13
Baltimore County	988	570	418	901	7	13	67
Calvert	80	43	37	63	0	0	17
Caroline	39	29	10	s	0	0	<6
Carroll	200	124	76	170	0	<6	s
Cecil	77	41	36	69	0	0	8
Charles	88	49	39	69	<6	<6	14
Dorchester	36	17	19	s	<6	0	<6
Frederick	227	137	90	206	<6	<6	s
Garrett	24	13	11	24	0	0	0
Harford	277	139	138	245	<6	<6	28
Howard	240	123	117	208	<6	<6	27
Kent	24	18	6	s	0	0	<6
Montgomery	814	437	377	641	8	16	149
Prince George's	255	158	97	187	s	<6	42
Queen Anne's	68	36	32	57	0	0	11
Saint Mary's	95	58	37	76	0	0	19
Somerset	22	10	12	s	0	<6	0
Talbot	83	44	39	79	0	<6	<6
Washington	175	91	84	160	<6	<6	10
Wicomico	161	88	73	s	0	0	<6
Worcester	126	75	51	115	0	s	<6
Unknown	21	15	6	12	<6	<6	6

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

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

Source: Maryland Cancer Registry, 1999-2003

Table 62.
Melanoma Age-Adjusted Incidence Rates*
by Jurisdiction, Gender and Race, Maryland, 1999-2003

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	18.8	24.0	15.2	22.8	1.2	6.0
Allegany	16.5	13.6	20.5	17.4	**	0.0
Anne Arundel	24.2	31.2	19.1	23.6	**	**
Baltimore City	7.8	10.8	6.0	18.3	**	**
Baltimore County	23.7	30.9	18.6	26.6	**	**
Calvert	22.0	25.6	19.1	20.7	0.0	0.0
Caroline	24.6	38.6	**	28.2	0.0	0.0
Carroll	25.0	33.6	18.5	22.3	0.0	**
Cecil	18.1	23.2	15.3	16.8	0.0	0.0
Charles	14.5	17.5	12.0	15.8	**	**
Dorchester	20.3	20.4	20.0	25.8	**	0.0
Frederick	23.4	31.0	17.6	23.0	**	**
Garrett	14.9	**	**	14.9	0.0	0.0
Harford	25.8	27.9	24.1	25.4	**	**
Howard	21.2	23.7	19.2	23.6	**	**
Kent	20.0	31.7	**	23.1	0.0	0.0
Montgomery	18.2	22.2	15.3	18.9	**	3.3
Prince George's	7.6	11.3	5.0	14.3	1.3	**
Queen Anne's	30.8	33.2	29.5	29.4	0.0	0.0
Saint Mary's	23.5	29.8	17.9	22.3	0.0	0.0
Somerset	17.0	**	**	24.5	0.0	**
Talbot	36.8	40.7	33.8	41.0	0.0	**
Washington	24.5	27.4	23.9	24.1	**	**
Wicomico	37.6	46.1	32.5	47.7	0.0	0.0
Worcester	40.9	50.5	33.4	44.1	0.0	**

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

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

Source: Maryland Cancer Registry, 1999-2003

Table 63.
Number of Melanoma Deaths
by Jurisdiction, Gender and Race, Maryland, 1999-2003

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	666	427	239	636	s	<6
Allegany	19	11	8	s	<6	<6
Anne Arundel	81	56	25	79	<6	<6
Baltimore City	46	24	22	41	<6	<6
Baltimore County	122	77	45	117	<6	<6
Calvert	14	7	7	13	<6	<6
Caroline	7	<6	<6	s	<6	<6
Carroll	34	26	8	s	<6	<6
Cecil	14	7	7	s	<6	<6
Charles	10	s	<6	s	<6	<6
Dorchester	<6	<6	<6	<6	<6	<6
Frederick	23	17	6	s	<6	<6
Garrett	<6	<6	<6	<6	<6	<6
Harford	24	16	8	s	<6	<6
Howard	16	8	8	s	<6	<6
Kent	8	s	<6	7	<6	<6
Montgomery	114	74	40	110	<6	<6
Prince George's	51	30	21	40	s	<6
Queen Anne's	9	s	<6	s	<6	<6
Saint Mary's	16	s	<6	s	<6	<6
Somerset	<6	<6	<6	<6	<6	<6
Talbot	11	s	<6	s	<6	<6
Washington	17	11	6	s	<6	<6
Wicomico	10	s	<6	s	<6	<6
Worcester	9	<6	<6	s	<6	<6

<6 = Death counts of 0-5 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

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

Source: NCHS Compressed Mortality File in CDC WONDER

Table 64.
Melanoma Age-Adjusted Mortality Rates*
by Jurisdiction, Gender and Race, Maryland, 1999-2003

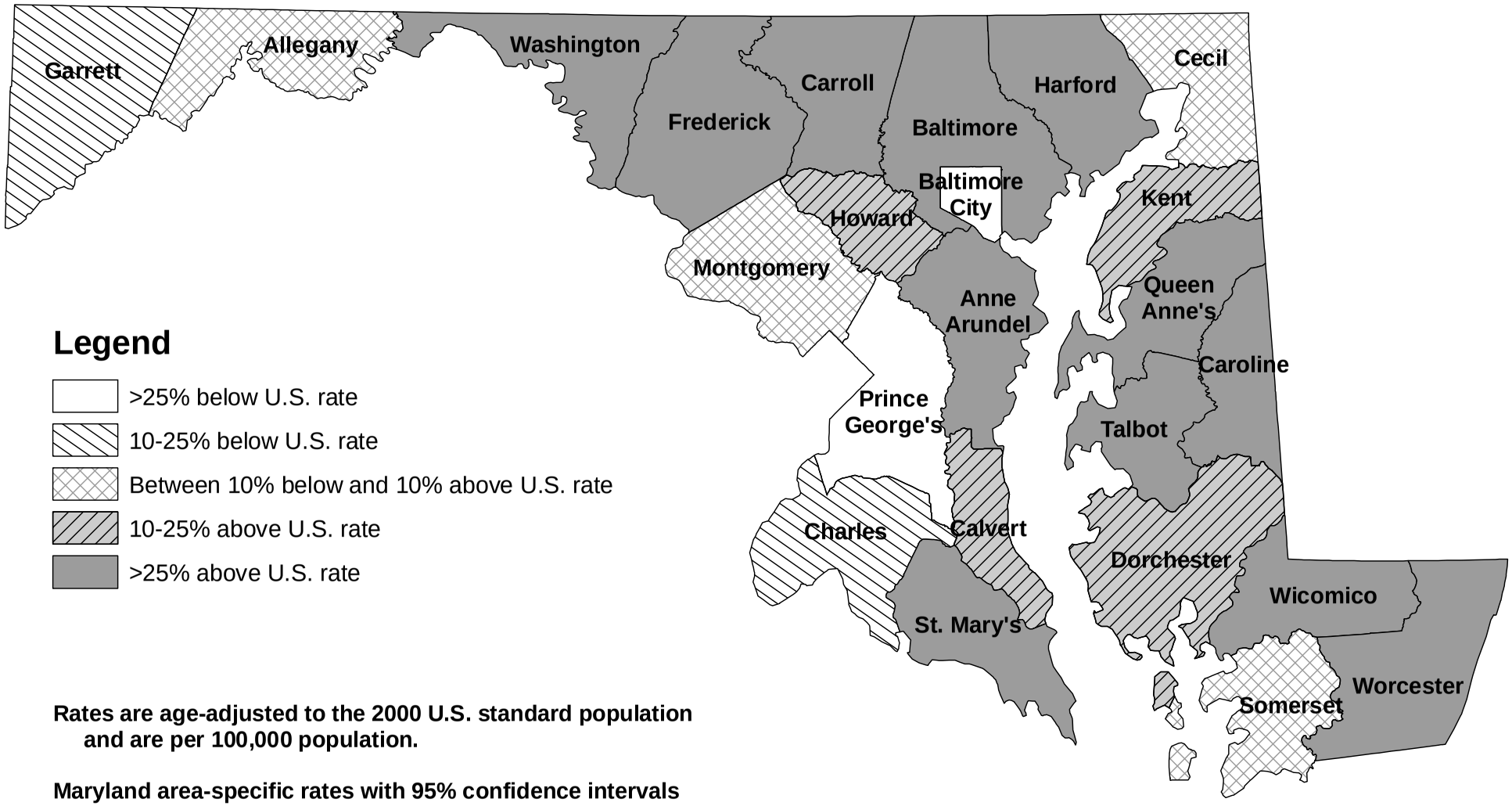
Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	2.6	3.9	1.6	3.3	0.5	**
Allegany	4.1	**	**	4.2	**	**
Anne Arundel	3.5	5.6	2.0	3.9	**	**
Baltimore City	1.4	1.8	1.1	3.0	**	**
Baltimore County	2.8	4.3	1.8	3.2	**	**
Calvert	**	**	**	**	**	**
Caroline	**	**	**	**	**	**
Carroll	4.5	7.7	**	4.6	**	**
Cecil	**	**	**	**	**	**
Charles	**	**	**	**	**	**
Dorchester	**	**	**	**	**	**
Frederick	2.6	4.5	**	2.7	**	**
Garrett	**	**	**	**	**	**
Harford	2.4	3.6	**	2.6	**	**
Howard	1.6	**	**	2.0	**	**
Kent	**	**	**	**	**	**
Montgomery	2.7	4.1	1.6	3.2	**	**
Prince George's	1.8	2.3	1.3	3.1	**	**
Queen Anne's	**	**	**	**	**	**
Saint Mary's	4.1	**	**	4.8	**	**
Somerset	**	**	**	**	**	**
Talbot	**	**	**	**	**	**
Washington	2.3	**	**	2.4	**	**
Wicomico	**	**	**	**	**	**
Worcester	**	**	**	**	**	**

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

** Rates based on death counts of 0-15 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

Source: NCHS Compressed Mortality File in CDC WONDER

Maryland Melanoma Incidence Rates by Geographical Area: Comparison to U.S. Rate, 1999-2003



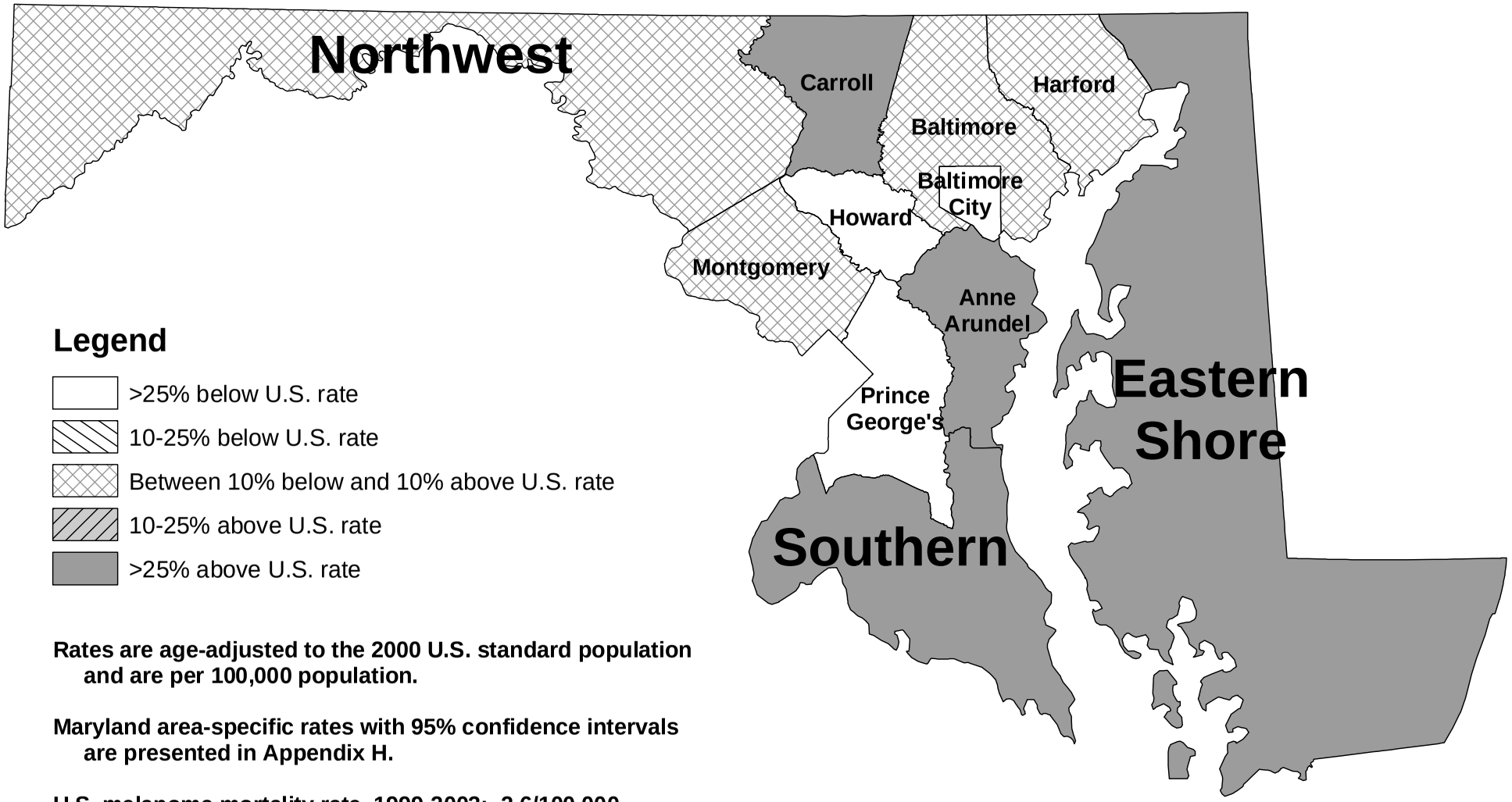
Rates are age-adjusted to the 2000 U.S. standard population and are per 100,000 population.

Maryland area-specific rates with 95% confidence intervals are presented in Appendix H.

U.S. melanoma incidence rate, 1999-2003: 17.7/100,000

Source: MD incidence data from Maryland Cancer Registry, 1999-2003
U.S. rate from SEER*Stat Software

Maryland Melanoma Mortality Rates by Geographical Area: Comparison to U.S. Rate, 1999-2003



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

Maryland area-specific rates with 95% confidence intervals are presented in Appendix H.

U.S. melanoma mortality rate, 1999-2003: 2.6/100,000

Note: Aggregated regional rates are used in comparisons when rates for one or more counties in that region are suppressed due to small numbers of cases or deaths. (See Appendix C for methods.)

Source: MD and U.S. mortality rates from NCHS Compressed Mortality File in CDC WONDER

G. Cervical Cancer

Incidence (New Cases)

A total of 275 cases of cervical cancer among women in Maryland were diagnosed in 2003. The age-adjusted incidence rate for cervical cancer in Maryland for 2003 was 9.3 per 100,000 population of women (8.3-10.5, 95% C.I.). This rate is similar to the 2003 U.S. SEER age-adjusted cervical cancer incidence rate of 8.1 per 100,000 population of women (7.7-8.5, 95% C.I.).

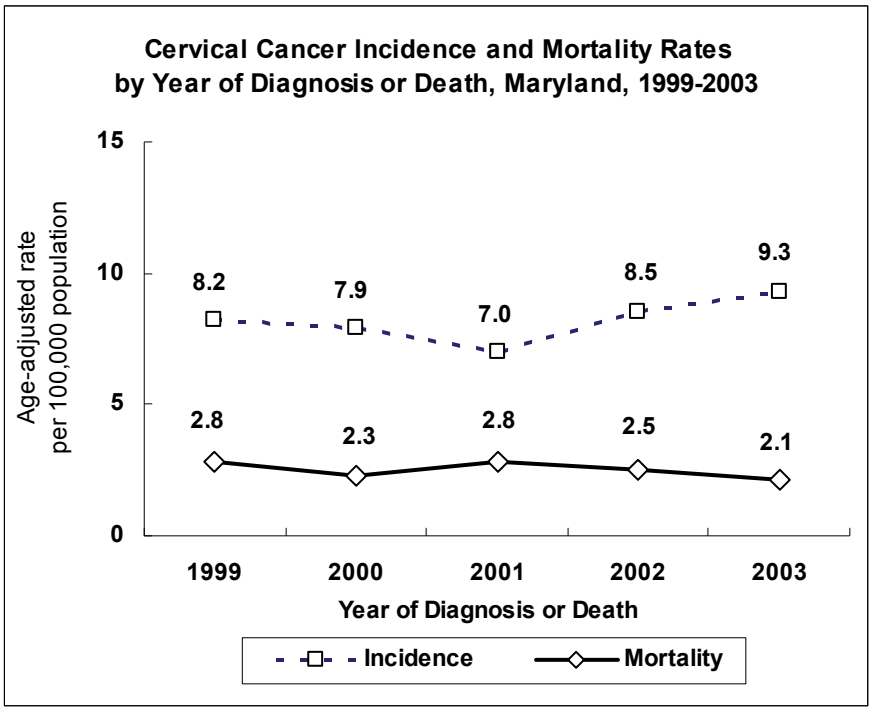
Mortality (Deaths)

In 2003, a total of 63 women died of cervical cancer in Maryland. The age-adjusted cervical cancer mortality rate in Maryland in 2003 was 2.1 per 100,000 women (1.6-2.6, 95% C.I.). This rate is similar to the 2003 U.S. cervical cancer mortality rate of 2.5 per 100,000 population of women (2.4-2.6, 95% C.I.). Maryland ranked 29th highest for cervical cancer mortality rate among the states and the District of Columbia for the period 1999 to 2003.

Table 65.
Cervical Cancer Incidence and Mortality Rates*
by Race, Maryland and the United States, 2003

Incidence 2003	*Total*	*Whites*	*Blacks*	*Other*
New Cases (count)	275	164	88	15
MD Incidence Rate	9.3	8.4	10.7	**
U.S. SEER Rate	8.1	7.8	10.5	8.4
Mortality 2003	*Total*	*Whites*	*Blacks*	*Other*
Deaths (count)	63	31	s	<6
MD Mortality Rate	2.1	1.5	3.6	**
U.S. Mortality Rate	2.5	2.2	4.6	2.5

* Rates are per 100,000 and are age-adjusted to 2000 U.S. standard population
Total includes cases reported as unknown race
** MD incidence rates based on case counts of 1-15 are suppressed per DHMH/MCR Data Use Policy; MD mortality rates based on death counts of 0-15 are suppressed per DHMH/CCSC Mortality Data Suppression Policy
s = Death count is suppressed to prevent disclosure of data in other cell(s) based on Table 68
<6 = MD death counts of 0-5 are suppressed per DHMH/CCSC Mortality Data Suppression Policy
Source: MD incidence data from Maryland Cancer Registry, 2003
U.S. SEER rates from SEER*Stat software
Mortality data from NCHS Compressed Mortality File in CDC WONDER

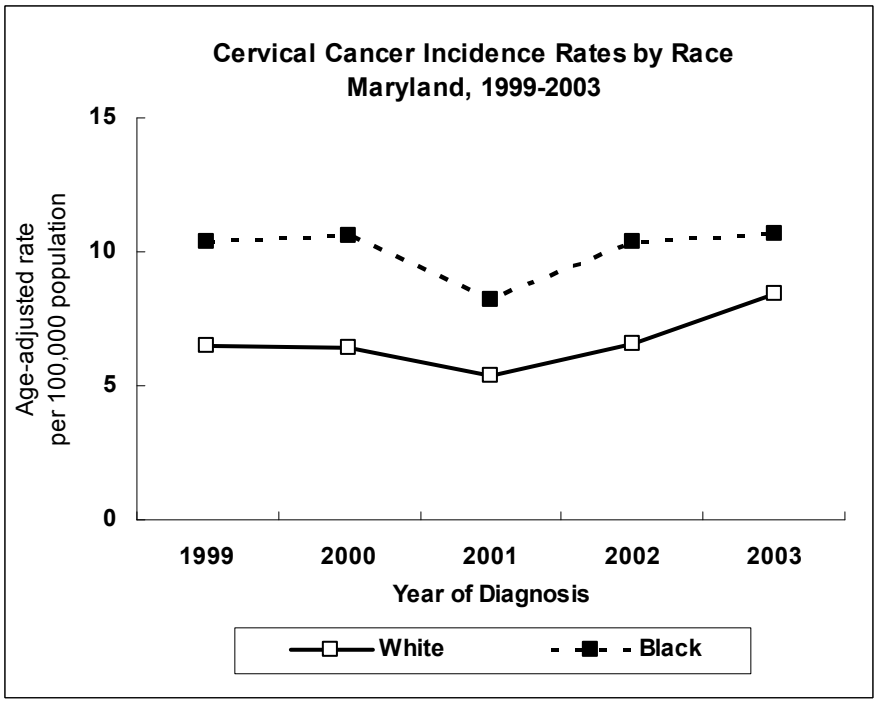


Rates are age-adjusted to 2000 U.S. standard population
Maryland Cancer Registry, 1999-2003
Maryland Division of Health Statistics, 1999-2001
NCHS Compressed Mortality File in CDC WONDER, 2002, 2003

Incidence and Mortality Trends

Cervical cancer incidence rates among Maryland women increased an average of 3.3% per year over the period 1999 to 2003. However, mortality rates for cervical cancer decreased an average of 4.8% per year over the same period.

See Appendix I, Tables 1 and 2.



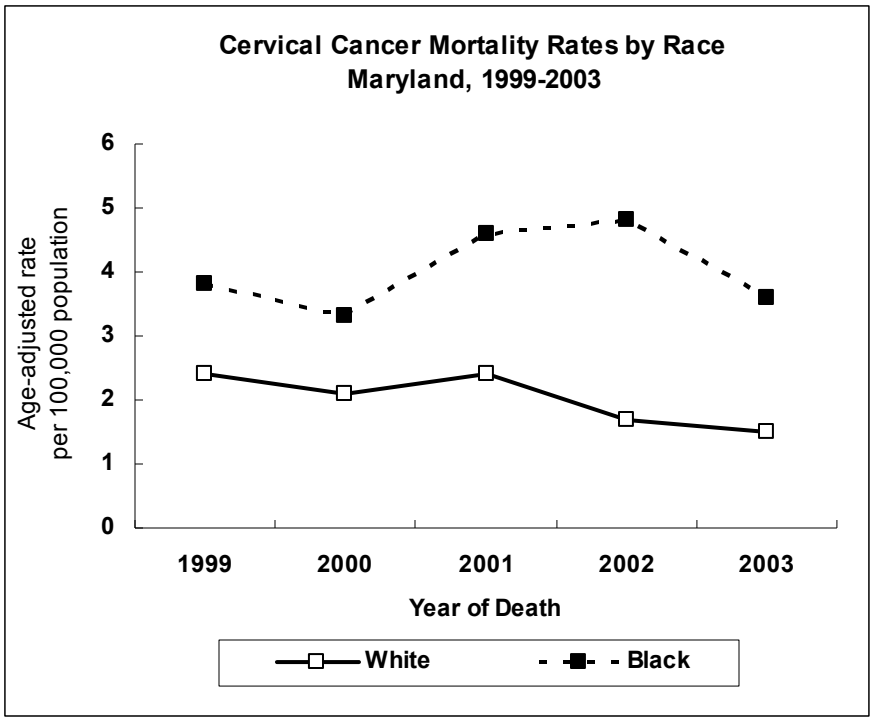
Rates are age-adjusted to 2000 U.S. standard population
Maryland Cancer Registry, 1999-2003

Race Incidence Trends

Cervical cancer incidence rates were higher among black women than white women during the period 1999 to 2003.

From 1999 to 2003, cervical cancer incidence rates increased an average of 5.6% for white women, and only 0.4% for black women.

See Appendix I, Table 17.



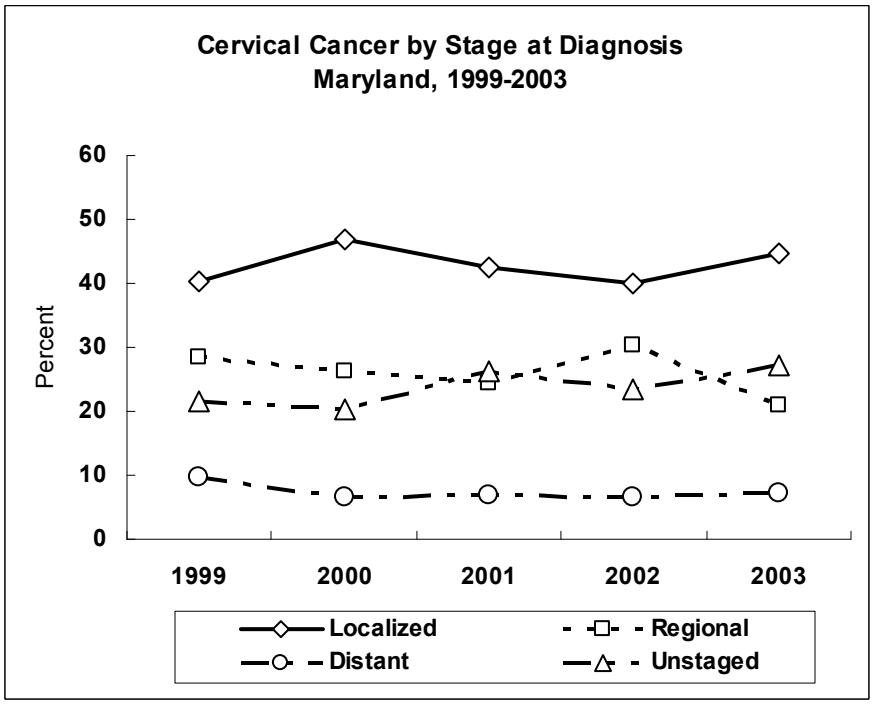
Rates are age-adjusted to 2000 U.S. standard population
Maryland Division of Health Statistics, 1999-2001
NCHS Compressed Mortality File in CDC WONDER, 2002, 2003

Race Mortality Trends

Black women had higher rates of cervical cancer mortality than white women from 1999 to 2003.

The average annual mortality rate for black women increased 2.7% per year, while the rate for white women decreased an average 10.9% per year.

See Appendix I, Table 18.

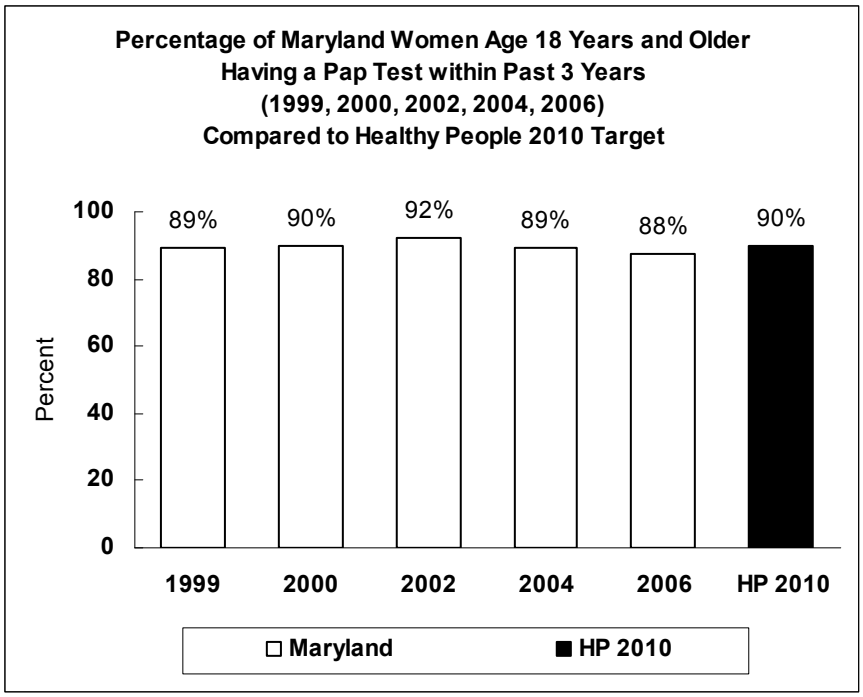


Maryland Cancer Registry, 1999-2003

Stage at Diagnosis

In 2003, 44.6% of all cervical cancer cases in Maryland were diagnosed at the localized stage, and 21.0% were diagnosed at the regional stage. From 1999 to 2003, the proportion of cervical cancers diagnosed at the regional and distant stages declined an average of 4.4% and 5.7% per year, respectively. The proportion of unstaged cancers increased an average of 6.1% per year.

See Appendix J, Table 8.



Maryland BRFSS, 1999, 2000, 2002, 2004, 2006
Healthy People 2010, U.S. Department of Health and Human Services, 2000

Healthy People 2010

A Healthy People 2010 target for cervical cancer is to increase to 90% the percentage of women age 18 years and older who have had a Pap test within the preceding 3 years. In 2006, 88% of Maryland women age 18 years and older reported they had a Pap test within the preceding 3 years.

Public Health Evidence (quoted from NCI PDQ, 4/10/2008 and 4/28/2008; Advisory Committee on Immunization Practices [ACIP], 3/23/2007; and USPSTF, 1/2003)

Screening

Based on solid evidence, regular screening of appropriate women using the Papanicolaou (Pap) test in addition to treatment of precancerous abnormalities decreases the incidence and mortality of cervical cancer. Screening is effective when started within 3 years after first vaginal intercourse. Continued screening in elderly women who have had negative Pap tests is of minimal value. Screening is not helpful in women who do not have a cervix as a result of a hysterectomy for a benign condition.

Newer techniques that employ liquid-based cytology (e.g., ThinPrep) have been developed to improve the sensitivity of screening. As with the Pap test, the optimal studies to determine the sensitivity and specificity of these technologies have not been done. Some less than optimal studies show that sensitivity is modestly higher for detecting any degree of cervical intraepithelial neoplasia, with modestly lower specificity. One careful study, however, showed that conventional Pap testing was slightly more sensitive and specific than liquid-based cytology.

The evidence is also mixed about whether liquid-based techniques improve rates of test adequacy. One advantage of liquid-based cytology is that human papillomavirus (HPV) testing can be done on the same preparation; one disadvantage is that liquid-based approaches are more expensive than conventional Pap testing. No study has examined whether liquid-based cytology actually reduces the number of women dying of cervical cancer compared with conventional Pap testing.

Primary Prevention

Epidemiologic studies to evaluate risk factors for the development of squamous intraepithelial lesions (SIL) of the cervix and cervical cancer demonstrate conclusively a sexual mode of transmission of a carcinogen. It is now widely accepted that HPV is the primary causative infectious agent. Based on solid evidence, the following measures are effective to avoid HPV infection and thus cervical cancer: abstinence from sexual activity; barrier protection and/or spermicidal gel during sexual intercourse; and (based on fair evidence) vaccination against HPV-16/HPV-18. Based on solid evidence, cigarette smoking, both active and passive, increases the risk of cervical cancer. The Advisory Committee on Immunization Practices (ACIP) recommends vaccination (with three doses) of females age 11-12 years, but can be administered as young as age 9 years. Catch-up vaccination is recommended for females age 13-26 years who have not previously been vaccinated.

Public Health Intervention for Cervical Cancer (NCI PDQ, USPSTF, and ACIP)
➢ Screen using the Pap test for all women who have a cervix, within 3 years after onset of sexual activity or by age 21 years if not sexually active. ➢ Vaccinate girls and women according to ACIP recommendations.

Table 66.
Number of Cervical Cancer Cases
by Jurisdiction and Race, Maryland, 2003

Jurisdiction	Total	Race			
		Whites	Blacks	Other	Unknown
Maryland	275	164	88	15	8
Allegany	6	<6	<6	0	0
Anne Arundel	24	20	<6	<6	0
Baltimore City	43	13	30	0	0
Baltimore County	34	27	7	0	0
Calvert	<6	<6	<6	0	0
Caroline	<6	<6	0	0	0
Carroll	<6	<6	0	0	0
Cecil	<6	<6	0	0	0
Charles	<6	<6	<6	0	0
Dorchester	<6	<6	<6	0	0
Frederick	6	6	0	0	0
Garrett	0	0	0	0	0
Harford	<6	<6	0	0	0
Howard	6	<6	<6	0	0
Kent	0	0	0	0	0
Montgomery	68	43	11	s	<6
Prince George's	49	14	29	<6	<6
Queen Anne's	<6	<6	<6	0	0
Saint Mary's	<6	<6	0	0	0
Somerset	<6	<6	<6	0	0
Talbot	0	0	0	0	0
Washington	<6	<6	0	0	0
Wicomico	<6	<6	0	0	0
Worcester	<6	<6	0	0	0
Unknown	0	0	0	0	0

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

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

Source: Maryland Cancer Registry, 2003

Table 67.
Cervical Cancer Age-Adjusted Incidence Rates*
by Jurisdiction and Race, Maryland, 2003

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	9.3	8.4	10.7	**
Allegany	**	**	**	0.0
Anne Arundel	9.2	9.3	**	**
Baltimore City	12.0	**	13.0	0.0
Baltimore County	8.3	9.4	**	0.0
Calvert	**	**	**	0.0
Caroline	**	**	0.0	0.0
Carroll	**	**	0.0	0.0
Cecil	**	**	0.0	0.0
Charles	**	**	**	0.0
Dorchester	**	**	**	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	13.9	12.0	**	**
Prince George's	11.4	**	9.9	**
Queen Anne's	**	**	**	0.0
Saint Mary's	**	**	0.0	0.0
Somerset	**	**	**	0.0
Talbot	0.0	0.0	0.0	0.0
Washington	**	**	0.0	0.0
Wicomico	**	**	0.0	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 case counts of 1-15 are suppressed per DHMH/MCR Data Use Policy

Source: Maryland Cancer Registry, 2003

Table 68.
Number of Cervical Cancer Deaths
by Jurisdiction and Race, Maryland, 2003

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	63	31	s	<6
Allegany	<6	<6	<6	<6
Anne Arundel	<6	<6	<6	<6
Baltimore City	15	<6	12	<6
Baltimore County	9	6	<6	<6
Calvert	<6	<6	<6	<6
Caroline	<6	<6	<6	<6
Carroll	<6	<6	<6	<6
Cecil	<6	<6	<6	<6
Charles	<6	<6	<6	<6
Dorchester	<6	<6	<6	<6
Frederick	<6	<6	<6	<6
Garrett	<6	<6	<6	<6
Harford	<6	<6	<6	<6
Howard	<6	<6	<6	<6
Kent	<6	<6	<6	<6
Montgomery	9	<6	<6	<6
Prince George's	10	<6	7	<6
Queen Anne's	<6	<6	<6	<6
Saint Mary's	<6	<6	<6	<6
Somerset	<6	<6	<6	<6
Talbot	<6	<6	<6	<6
Washington	<6	<6	<6	<6
Wicomico	<6	<6	<6	<6
Worcester	<6	<6	<6	<6

<6 = Death counts of 0-5 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

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

Source: NCHS Compressed Mortality File in CDC WONDER

Table 69.
Cervical Cancer Age-Adjusted Mortality Rates*
by Jurisdiction and Race, Maryland, 2003

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	2.1	1.5	3.6	**
Allegany	**	**	**	**
Anne Arundel	**	**	**	**
Baltimore City	**	**	**	**
Baltimore County	**	**	**	**
Calvert	**	**	**	**
Caroline	**	**	**	**
Carroll	**	**	**	**
Cecil	**	**	**	**
Charles	**	**	**	**
Dorchester	**	**	**	**
Frederick	**	**	**	**
Garrett	**	**	**	**
Harford	**	**	**	**
Howard	**	**	**	**
Kent	**	**	**	**
Montgomery	**	**	**	**
Prince George's	**	**	**	**
Queen Anne's	**	**	**	**
Saint Mary's	**	**	**	**
Somerset	**	**	**	**
Talbot	**	**	**	**
Washington	**	**	**	**
Wicomico	**	**	**	**
Worcester	**	**	**	**

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

** Rates based on death counts of 0-15 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

Source: NCHS Compressed Mortality File in CDC WONDER

Table 70.
Number of Cervical Cancer Cases
by Jurisdiction and Race, Maryland, 1999-2003

Jurisdiction	Total	Race			
		Whites	Blacks	Other	Unknown
Maryland	1,180	658	379	75	68
Allegany	16	s	<6	0	0
Anne Arundel	100	72	13	9	6
Baltimore City	217	61	144	<6	s
Baltimore County	150	107	37	<6	<6
Calvert	14	s	<6	0	0
Caroline	<6	<6	<6	0	0
Carroll	22	s	0	<6	0
Cecil	21	18	<6	0	<6
Charles	19	12	<6	<6	<6
Dorchester	<6	<6	<6	0	0
Frederick	36	s	0	0	<6
Garrett	6	6	0	0	0
Harford	34	27	<6	0	<6
Howard	40	26	7	<6	<6
Kent	<6	<6	0	0	0
Montgomery	205	111	33	34	27
Prince George's	191	53	111	16	11
Queen Anne's	9	<6	<6	0	<6
Saint Mary's	15	s	<6	0	<6
Somerset	13	7	6	0	0
Talbot	7	<6	<6	0	0
Washington	21	s	<6	0	<6
Wicomico	19	s	<6	0	<6
Worcester	13	s	<6	0	0
Unknown	0	0	0	0	0

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

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

Source: Maryland Cancer Registry, 1999-2003

Table 71.
Cervical Cancer Age-Adjusted Incidence Rates*
by Jurisdiction and Race, Maryland, 1999-2003

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	8.1	6.7	10.1	11.3
Allegany	7.6	**	**	0.0
Anne Arundel	7.8	6.6	**	**
Baltimore City	12.2	10.1	12.7	**
Baltimore County	7.0	6.6	8.8	**
Calvert	**	**	**	0.0
Caroline	**	**	**	0.0
Carroll	5.2	5.2	0.0	**
Cecil	9.0	8.1	**	0.0
Charles	6.2	**	**	**
Dorchester	**	**	**	0.0
Frederick	7.0	7.3	0.0	0.0
Garrett	**	**	0.0	0.0
Harford	5.9	5.1	**	0.0
Howard	6.3	5.2	**	**
Kent	**	**	0.0	0.0
Montgomery	8.5	6.2	9.6	10.8
Prince George's	9.4	8.1	9.3	19.0
Queen Anne's	**	**	**	0.0
Saint Mary's	**	**	**	0.0
Somerset	**	**	**	0.0
Talbot	**	**	**	0.0
Washington	5.8	5.4	**	0.0
Wicomico	8.1	9.6	**	0.0
Worcester	**	**	**	0.0

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

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

Source: Maryland Cancer Registry, 1999-2003

Table 72.
Number of Cervical Cancer Deaths
by Jurisdiction and Race, Maryland, 1999-2003

Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	362	207	142	13
Allegany	<6	<6	<6	<6
Anne Arundel	25	17	s	<6
Baltimore City	87	s	63	<6
Baltimore County	47	36	s	<6
Calvert	<6	<6	<6	<6
Caroline	<6	<6	<6	<6
Carroll	10	s	<6	<6
Cecil	<6	<6	<6	<6
Charles	10	7	<6	<6
Dorchester	6	<6	<6	<6
Frederick	20	s	<6	<6
Garrett	<6	<6	<6	<6
Harford	<6	<6	<6	<6
Howard	6	<6	<6	<6
Kent	<6	<6	<6	<6
Montgomery	39	21	9	9
Prince George's	57	s	37	<6
Queen Anne's	<6	<6	<6	<6
Saint Mary's	<6	<6	<6	<6
Somerset	<6	<6	<6	<6
Talbot	<6	<6	<6	<6
Washington	13	s	<6	<6
Wicomico	6	<6	<6	<6
Worcester	7	<6	<6	<6

<6 = Death counts of 0-5 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

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

Source: NCHS Compressed Mortality File in CDC WONDER

Table 73.
Cervical Cancer Age-Adjusted Mortality Rates* by Jurisdiction and Race, Maryland, 1999-2003

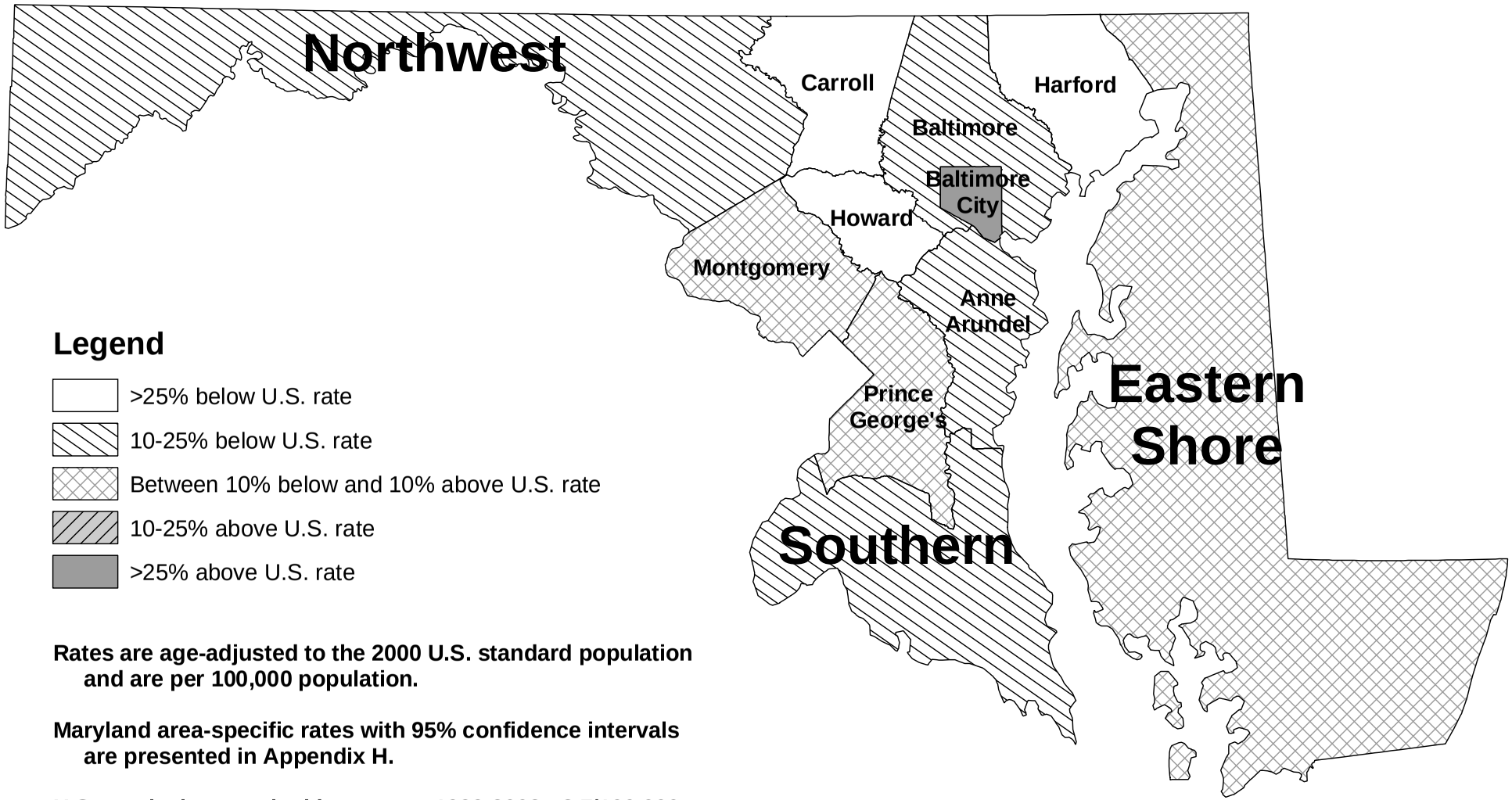
Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	2.5	2.0	4.0	**
Allegany	**	**	**	**
Anne Arundel	1.9	1.6	**	**
Baltimore City	4.8	3.5	5.6	**
Baltimore County	2.0	2.0	**	**
Calvert	**	**	**	**
Caroline	**	**	**	**
Carroll	**	**	**	**
Cecil	**	**	**	**
Charles	**	**	**	**
Dorchester	**	**	**	**
Frederick	4.1	4.4	**	**
Garrett	**	**	**	**
Harford	**	**	**	**
Howard	**	**	**	**
Kent	**	**	**	**
Montgomery	1.6	1.1	**	**
Prince George's	3.0	2.8	3.5	**
Queen Anne's	**	**	**	**
Saint Mary's	**	**	**	**
Somerset	**	**	**	**
Talbot	**	**	**	**
Washington	**	**	**	**
Wicomico	**	**	**	**
Worcester	**	**	**	**

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

** Rates based on death counts of 0-15 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

Source: NCHS Compressed Mortality File in CDC WONDER

Maryland Cervical Cancer Incidence Rates by Geographical Area: Comparison to U.S. Rate, 1999-2003



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

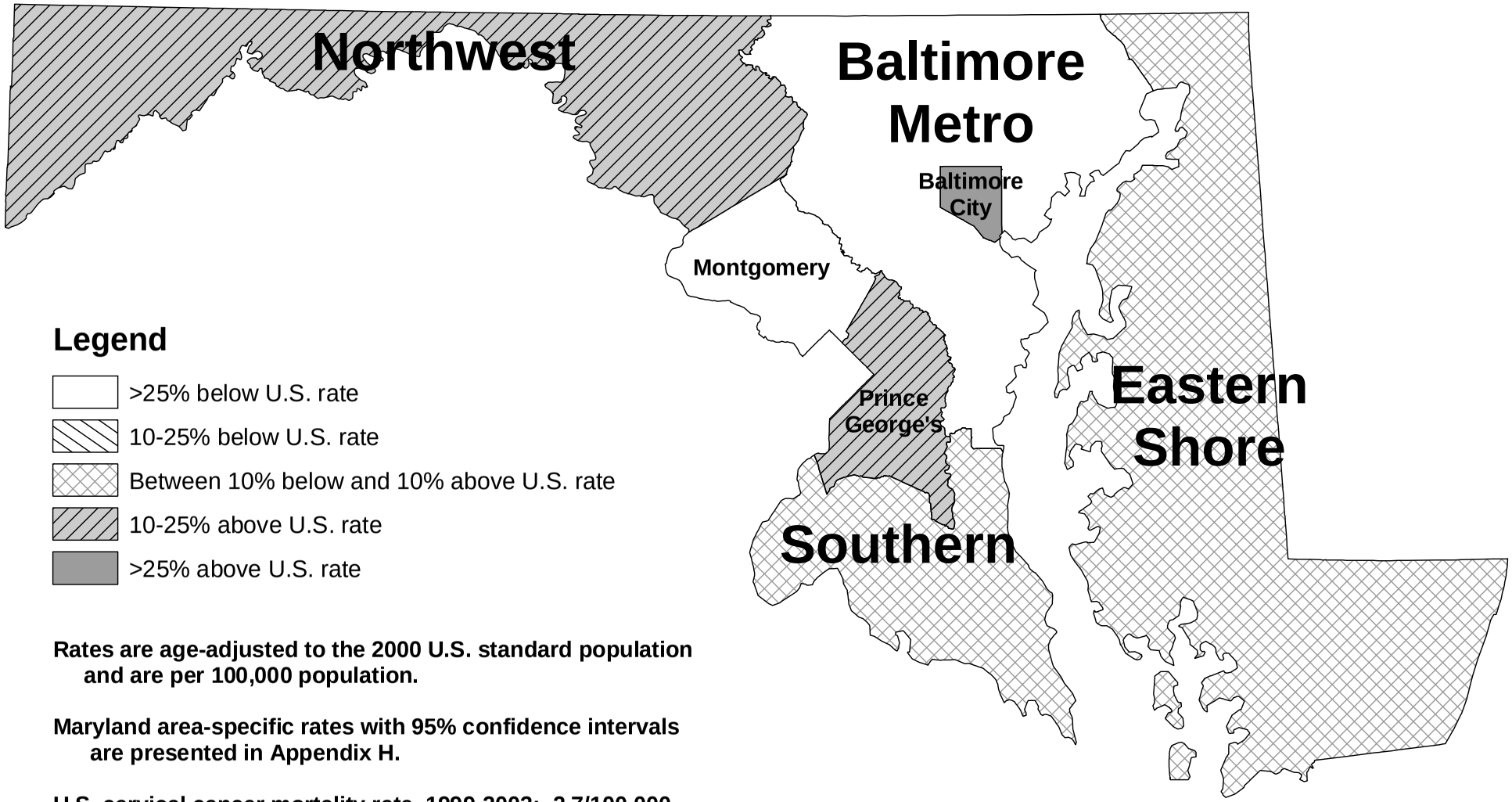
Maryland area-specific rates with 95% confidence intervals are presented in Appendix H.

U.S. cervical cancer incidence rate, 1999-2003: 8.7/100,000

Note: Aggregated regional rates are used in comparisons when rates for one or more counties in that region are suppressed due to small numbers of cases or deaths. (See Appendix C for methods.)

Source: MD incidence rates from Maryland Cancer Registry, 1999-2003
U.S. rate from SEER*Stat Software

Maryland Cervical Cancer Mortality Rates by Geographical Area: Comparison to U.S. Rate, 1999-2003



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

Maryland area-specific rates with 95% confidence intervals are presented in Appendix H.

U.S. cervical cancer mortality rate, 1999-2003: 2.7/100,000

Note: Aggregated regional rates are used in comparisons when rates for one or more counties in that region are suppressed due to small numbers of cases or deaths. (See Appendix C for methods.)

Source: MD and U.S. mortality rates from NCHS Compressed Mortality File in CDC WONDER

IV. County-Specific Data

Incidence and Mortality Data by Jurisdiction

This section presents five-year (1999-2003) combined incidence and mortality data, by jurisdiction, for all cancers and the seven targeted cancers. Maryland and U.S. rates are also presented.

The rates for Maryland's 23 counties and Baltimore City may be based on small counts (cases or deaths) or small population sizes. Therefore, comparisons of rates for one jurisdiction to another, or to Maryland or U.S. rates, may not be valid. As described in Appendix C (Section D.4), confidence intervals can be used to facilitate statistical comparisons between two rates. Appendix H of this report presents 95% confidence intervals for incidence and mortality rates, by cancer site and jurisdiction.

Table 74.
Incidence and Mortality Rates* by Type of Cancer
Allegany County, Maryland, and U.S., 1999-2003

Type of Cancer	Incidence				Mortality			
	County Case Count	County Rate	MD Rate	U.S. SEER Rate	County Death Count	County Rate	MD Rate	U.S. Rate
All Cancers	2,334	491.6	477.3	469.7	1,004	201.4	204.2	195.9
Lung and Bronchus	388	78.5	68.7	60.8	297	59.8	58.0	55.1
Colorectal	300	60.7	53.3	52.0	118	23.4	21.7	20.1
Female Breast	306	122.7	130.4	131.9	68	23.9	28.0	26.0
Prostate	339	161.5	182.7	174.4	57	29.7	31.6	29.0
Oral	55	12.0	10.6	10.4	13	**	2.8	2.7
Melanoma	69	16.5	18.8	17.7	19	4.1	2.6	2.6
Cervical	16	7.6	8.1	8.7	<6	**	2.5	2.7

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

<6 = County death counts of 0-5 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

** County mortality rates based on death counts of 0-15 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

Source: County and MD incidence data from Maryland Cancer Registry, 1999-2003

U.S. rates from SEER*Stat software

County, MD, and U.S. mortality data from NCHS Compressed Mortality File in CDC WONDER

Table 75.
Incidence and Mortality Rates* by Type of Cancer
Anne Arundel County, Maryland, and U.S., 1999-2003

Type of Cancer	Incidence				Mortality			
	County Case Count	County Rate	MD Rate	U.S. SEER Rate	County Death Count	County Rate	MD Rate	U.S. Rate
All Cancers	11,235	491.1	477.3	469.7	4,498	211.0	204.2	195.9
Lung and Bronchus	1,611	73.1	68.7	60.8	1,346	62.9	58.0	55.1
Colorectal	1,149	52.4	53.3	52.0	422	20.2	21.7	20.1
Female Breast	1,721	134.4	130.4	131.9	365	29.5	28.0	26.0
Prostate	1,782	172.1	182.7	174.4	177	25.7	31.6	29.0
Oral	288	12.3	10.6	10.4	66	3.0	2.8	2.7
Melanoma	585	24.2	18.8	17.7	81	3.5	2.6	2.6
Cervical	100	7.8	8.1	8.7	25	1.9	2.5	2.7

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

Source: County and MD incidence data from Maryland Cancer Registry, 1999-2003
U.S. rates from SEER*Stat software
County, MD, and U.S. mortality data from NCHS Compressed Mortality File in CDC WONDER

Table 76.
Incidence and Mortality Rates* by Type of Cancer
Baltimore City, Maryland, and U.S., 1999-2003

Type of Cancer	Incidence				Mortality			
	City Case Count	City Rate	MD Rate	U.S. SEER Rate	City Death Count	City Rate	MD Rate	U.S. Rate
All Cancers	16,570	507.4	477.3	469.7	8,659	264.0	204.2	195.9
Lung and Bronchus	2,982	91.2	68.7	60.8	2,651	80.9	58.0	55.1
Colorectal	1,879	57.1	53.3	52.0	911	27.7	21.7	20.1
Female Breast	2,244	121.0	130.4	131.9	690	36.1	28.0	26.0
Prostate	2,602	196.5	182.7	174.4	575	48.8	31.6	29.0
Oral	473	14.6	10.6	10.4	171	5.3	2.8	2.7
Melanoma	256	7.8	18.8	17.7	46	1.4	2.6	2.6
Cervical	217	12.2	8.1	8.7	87	4.8	2.5	2.7

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

Source: City and MD incidence data from Maryland Cancer Registry, 1999-2003
U.S. rates from SEER*Stat software
City, MD, and U.S. mortality data from NCHS Compressed Mortality File in CDC WONDER

Table 77.
Incidence and Mortality Rates* by Type of Cancer
Baltimore County, Maryland, and U.S., 1999-2003

Type of Cancer	Incidence				Mortality			
	County Case Count	County Rate	MD Rate	U.S. SEER Rate	County Death Count	County Rate	MD Rate	U.S. Rate
All Cancers	21,766	510.3	477.3	469.7	9,214	212.2	204.2	195.9
Lung and Bronchus	3,226	74.6	68.7	60.8	2,766	63.7	58.0	55.1
Colorectal	2,473	56.8	53.3	52.0	998	22.8	21.7	20.1
Female Breast	3,212	138.1	130.4	131.9	698	28.2	28.0	26.0
Prostate	3,442	186.4	182.7	174.4	457	28.1	31.6	29.0
Oral	446	10.6	10.6	10.4	122	2.8	2.8	2.7
Melanoma	988	23.7	18.8	17.7	122	2.8	2.6	2.6
Cervical	150	7.0	8.1	8.7	47	2.0	2.5	2.7

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

Source: County and MD incidence data from Maryland Cancer Registry, 1999-2003
U.S. rates from SEER*Stat software
County, MD, and U.S. mortality data from NCHS Compressed Mortality File in CDC WONDER

Table 78.
Incidence and Mortality Rates* by Type of Cancer
Calvert County, Maryland, and U.S., 1999-2003

Type of Cancer	Incidence				Mortality			
	County Case Count	County Rate	MD Rate	U.S. SEER Rate	County Death Count	County Rate	MD Rate	U.S. Rate
All Cancers	1,613	485.1	477.3	469.7	694	227.7	204.2	195.9
Lung and Bronchus	243	79.0	68.7	60.8	208	68.6	58.0	55.1
Colorectal	200	63.5	53.3	52.0	75	25.9	21.7	20.1
Female Breast	246	127.9	130.4	131.9	48	26.1	28.0	26.0
Prostate	249	173.7	182.7	174.4	45	45.3	31.6	29.0
Oral	40	11.8	10.6	10.4	9	**	2.8	2.7
Melanoma	80	22.0	18.8	17.7	14	**	2.6	2.6
Cervical	14	**	8.1	8.7	<6	**	2.5	2.7

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

<6 = County death counts of 0-5 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

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

County mortality rates based on death counts of 0-15 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

Source: County and MD incidence data from Maryland Cancer Registry, 1999-2003

U.S. rates from SEER*Stat software

County, MD, and U.S. mortality data from NCHS Compressed Mortality File in CDC WONDER

Table 79.
Incidence and Mortality Rates* by Type of Cancer
Caroline County, Maryland, and U.S., 1999-2003

Type of Cancer	Incidence				Mortality			
	County Case Count	County Rate	MD Rate	U.S. SEER Rate	County Death Count	County Rate	MD Rate	U.S. Rate
All Cancers	819	512.7	477.3	469.7	383	238.4	204.2	195.9
Lung and Bronchus	147	91.6	68.7	60.8	124	77.1	58.0	55.1
Colorectal	109	67.9	53.3	52.0	46	28.8	21.7	20.1
Female Breast	118	138.2	130.4	131.9	29	32.2	28.0	26.0
Prostate	99	137.4	182.7	174.4	23	39.6	31.6	29.0
Oral	18	11.1	10.6	10.4	<6	**	2.8	2.7
Melanoma	39	24.6	18.8	17.7	7	**	2.6	2.6
Cervical	<6	**	8.1	8.7	<6	**	2.5	2.7

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

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

County death counts of 0-5 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

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

County mortality rates based on death counts of 0-15 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

Source: County and MD incidence data from Maryland Cancer Registry, 1999-2003

U.S. rates from SEER*Stat software

County, MD, and U.S. mortality data from NCHS Compressed Mortality File in CDC WONDER

Table 80.
Incidence and Mortality Rates* by Type of Cancer
Carroll County, Maryland, and U.S., 1999-2003

Type of Cancer	Incidence				Mortality			
	County Case Count	County Rate	MD Rate	U.S. SEER Rate	County Death Count	County Rate	MD Rate	U.S. Rate
All Cancers	3,593	485.9	477.3	469.7	1,440	202.7	204.2	195.9
Lung and Bronchus	452	63.0	68.7	60.8	394	56.0	58.0	55.1
Colorectal	379	53.1	53.3	52.0	158	22.3	21.7	20.1
Female Breast	533	129.4	130.4	131.9	101	24.4	28.0	26.0
Prostate	572	176.6	182.7	174.4	82	34.8	31.6	29.0
Oral	78	10.2	10.6	10.4	9	**	2.8	2.7
Melanoma	200	25.0	18.8	17.7	34	4.5	2.6	2.6
Cervical	22	5.2	8.1	8.7	10	**	2.5	2.7

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

** County mortality rates based on death counts of 0-15 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

Source: County and MD incidence data from Maryland Cancer Registry, 1999-2003

U.S. rates from SEER*Stat software

County, MD, and U.S. mortality data from NCHS Compressed Mortality File in CDC WONDER

Table 81.
Incidence and Mortality Rates* by Type of Cancer
Cecil County, Maryland, and U.S., 1999-2003

Type of Cancer	Incidence				Mortality			
	County Case Count	County Rate	MD Rate	U.S. SEER Rate	County Death Count	County Rate	MD Rate	U.S. Rate
All Cancers	1,862	454.1	477.3	469.7	868	224.6	204.2	195.9
Lung and Bronchus	293	72.9	68.7	60.8	272	68.4	58.0	55.1
Colorectal	223	55.1	53.3	52.0	90	23.3	21.7	20.1
Female Breast	222	99.2	130.4	131.9	61	28.4	28.0	26.0
Prostate	312	171.7	182.7	174.4	56	44.8	31.6	29.0
Oral	46	10.9	10.6	10.4	10	**	2.8	2.7
Melanoma	77	18.1	18.8	17.7	14	**	2.6	2.6
Cervical	21	9.0	8.1	8.7	<6	**	2.5	2.7

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

<6 = County death counts of 0-5 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

** County mortality rates based on death counts of 0-15 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

Source: County and MD incidence data from Maryland Cancer Registry, 1999-2003

U.S. rates from SEER*Stat software

County, MD, and U.S. mortality data from NCHS Compressed Mortality File in CDC WONDER

Table 82.
Incidence and Mortality Rates* by Type of Cancer
Charles County, Maryland, and U.S., 1999-2003

Type of Cancer	Incidence				Mortality			
	County Case Count	County Rate	MD Rate	U.S. SEER Rate	County Death Count	County Rate	MD Rate	U.S. Rate
All Cancers	2,311	466.3	477.3	469.7	1,017	228.8	204.2	195.9
Lung and Bronchus	339	73.1	68.7	60.8	281	62.4	58.0	55.1
Colorectal	261	56.4	53.3	52.0	125	29.6	21.7	20.1
Female Breast	359	121.7	130.4	131.9	88	33.2	28.0	26.0
Prostate	409	196.1	182.7	174.4	45	32.4	31.6	29.0
Oral	46	9.0	10.6	10.4	24	5.0	2.8	2.7
Melanoma	88	14.5	18.8	17.7	10	**	2.6	2.6
Cervical	19	6.2	8.1	8.7	10	**	2.5	2.7

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

** County mortality rates based on death counts of 0-15 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

Source: County and MD incidence data from Maryland Cancer Registry, 1999-2003

U.S. rates from SEER*Stat software

County, MD, and U.S. mortality data from NCHS Compressed Mortality File in CDC WONDER

Table 83.
Incidence and Mortality Rates* by Type of Cancer
Dorchester County, Maryland, and U.S., 1999-2003

Type of Cancer	Incidence				Mortality			
	County Case Count	County Rate	MD Rate	U.S. SEER Rate	County Death Count	County Rate	MD Rate	U.S. Rate
All Cancers	996	503.0	477.3	469.7	481	237.0	204.2	195.9
Lung and Bronchus	180	87.9	68.7	60.8	155	75.7	58.0	55.1
Colorectal	131	65.3	53.3	52.0	58	28.1	21.7	20.1
Female Breast	140	136.6	130.4	131.9	23	20.6	28.0	26.0
Prostate	149	163.6	182.7	174.4	33	41.4	31.6	29.0
Oral	19	9.8	10.6	10.4	<6	**	2.8	2.7
Melanoma	36	20.3	18.8	17.7	<6	**	2.6	2.6
Cervical	<6	**	8.1	8.7	6	**	2.5	2.7

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

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

County death counts of 0-5 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

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

County mortality rates based on death counts of 0-15 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

Source: County and MD incidence data from Maryland Cancer Registry, 1999-2003

U.S. rates from SEER*Stat software

County, MD, and U.S. mortality data from NCHS Compressed Mortality File in CDC WONDER

Table 84.
Incidence and Mortality Rates* by Type of Cancer
Frederick County, Maryland, and U.S., 1999-2003

Type of Cancer	Incidence				Mortality			
	County Case Count	County Rate	MD Rate	U.S. SEER Rate	County Death Count	County Rate	MD Rate	U.S. Rate
All Cancers	4,494	506.8	477.3	469.7	1,617	191.7	204.2	195.9
Lung and Bronchus	558	65.3	68.7	60.8	418	49.6	58.0	55.1
Colorectal	519	61.0	53.3	52.0	184	22.1	21.7	20.1
Female Breast	659	131.1	130.4	131.9	121	24.6	28.0	26.0
Prostate	740	201.6	182.7	174.4	76	25.2	31.6	29.0
Oral	89	9.5	10.6	10.4	12	**	2.8	2.7
Melanoma	227	23.4	18.8	17.7	23	2.6	2.6	2.6
Cervical	36	7.0	8.1	8.7	20	4.1	2.5	2.7

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

** County mortality rates based on death counts of 0-15 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

Source: County and MD incidence data from Maryland Cancer Registry, 1999-2003

U.S. rates from SEER*Stat software

County, MD, and U.S. mortality data from NCHS Compressed Mortality File in CDC WONDER

Table 85.
Incidence and Mortality Rates* by Type of Cancer
Garrett County, Maryland, and U.S., 1999-2003

Type of Cancer	Incidence				Mortality			
	County Case Count	County Rate	MD Rate	U.S. SEER Rate	County Death Count	County Rate	MD Rate	U.S. Rate
All Cancers	813	463.9	477.3	469.7	325	184.5	204.2	195.9
Lung and Bronchus	116	64.1	68.7	60.8	88	49.7	58.0	55.1
Colorectal	93	52.6	53.3	52.0	38	22.0	21.7	20.1
Female Breast	127	138.3	130.4	131.9	28	28.3	28.0	26.0
Prostate	146	175.7	182.7	174.4	21	32.6	31.6	29.0
Oral	12	**	10.6	10.4	<6	**	2.8	2.7
Melanoma	24	14.9	18.8	17.7	<6	**	2.6	2.6
Cervical	6	**	8.1	8.7	<6	**	2.5	2.7

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

<6 = County death counts of 0-5 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

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

County mortality rates based on death counts of 0-15 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

Source: County and MD incidence data from Maryland Cancer Registry, 1999-2003

U.S. rates from SEER*Stat software

County, MD, and U.S. mortality data from NCHS Compressed Mortality File in CDC WONDER

Table 86.
Incidence and Mortality Rates* by Type of Cancer
Harford County, Maryland, and U.S., 1999-2003

Type of Cancer	Incidence				Mortality			
	County Case Count	County Rate	MD Rate	U.S. SEER Rate	County Death Count	County Rate	MD Rate	U.S. Rate
All Cancers	5,138	499.3	477.3	469.7	1,887	197.1	204.2	195.9
Lung and Bronchus	724	72.7	68.7	60.8	606	62.1	58.0	55.1
Colorectal	514	52.0	53.3	52.0	180	19.8	21.7	20.1
Female Breast	730	124.7	130.4	131.9	126	22.3	28.0	26.0
Prostate	895	199.3	182.7	174.4	93	27.6	31.6	29.0
Oral	108	10.0	10.6	10.4	25	2.5	2.8	2.7
Melanoma	277	25.8	18.8	17.7	24	2.4	2.6	2.6
Cervical	34	5.9	8.1	8.7	<6	**	2.5	2.7

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

<6 = County death counts of 0-5 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

** County mortality rates based on death counts of 0-15 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

Source: County and MD incidence data from Maryland Cancer Registry, 1999-2003

U.S. rates from SEER*Stat software

County, MD, and U.S. mortality data from NCHS Compressed Mortality File in CDC WONDER

Table 87.
Incidence and Mortality Rates* by Type of Cancer
Howard County, Maryland, and U.S., 1999-2003

Type of Cancer	Incidence				Mortality			
	County Case Count	County Rate	MD Rate	U.S. SEER Rate	County Death Count	County Rate	MD Rate	U.S. Rate
All Cancers	4,569	446.5	477.3	469.7	1,445	161.2	204.2	195.9
Lung and Bronchus	524	57.7	68.7	60.8	372	42.6	58.0	55.1
Colorectal	474	50.1	53.3	52.0	147	17.0	21.7	20.1
Female Breast	838	136.2	130.4	131.9	124	22.4	28.0	26.0
Prostate	748	169.3	182.7	174.4	70	26.2	31.6	29.0
Oral	78	7.4	10.6	10.4	23	2.5	2.8	2.7
Melanoma	240	21.2	18.8	17.7	16	1.6	2.6	2.6
Cervical	40	6.3	8.1	8.7	6	**	2.5	2.7

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

** County mortality rates based on death counts of 0-15 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

Source: County and MD incidence data from Maryland Cancer Registry, 1999-2003

U.S. rates from SEER*Stat software

County, MD, and U.S. mortality data from NCHS Compressed Mortality File in CDC WONDER

Table 88.
Incidence and Mortality Rates* by Type of Cancer
Kent County, Maryland, and U.S., 1999-2003

Type of Cancer	Incidence				Mortality			
	County Case Count	County Rate	MD Rate	U.S. SEER Rate	County Death Count	County Rate	MD Rate	U.S. Rate
All Cancers	556	418.5	477.3	469.7	271	191.4	204.2	195.9
Lung and Bronchus	97	69.6	68.7	60.8	83	58.4	58.0	55.1
Colorectal	69	48.4	53.3	52.0	27	19.5	21.7	20.1
Female Breast	75	113.3	130.4	131.9	19	23.2	28.0	26.0
Prostate	84	134.6	182.7	174.4	15	**	31.6	29.0
Oral	10	**	10.6	10.4	6	**	2.8	2.7
Melanoma	24	20.0	18.8	17.7	8	**	2.6	2.6
Cervical	<6	**	8.1	8.7	<6	**	2.5	2.7

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

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

County death counts of 0-5 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

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

County mortality rates based on death counts of 0-15 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

Source: County and MD incidence data from Maryland Cancer Registry, 1999-2003

U.S. rates from SEER*Stat software

County, MD, and U.S. mortality data from NCHS Compressed Mortality File in CDC WONDER

Table 89.
Incidence and Mortality Rates* by Type of Cancer
Montgomery County, Maryland, and U.S., 1999-2003

Type of Cancer	Incidence				Mortality			
	County Case Count	County Rate	MD Rate	U.S. SEER Rate	County Death Count	County Rate	MD Rate	U.S. Rate
All Cancers	18,690	428.7	477.3	469.7	6,181	145.9	204.2	195.9
Lung and Bronchus	1,839	43.6	68.7	60.8	1,370	32.8	58.0	55.1
Colorectal	1,807	42.0	53.3	52.0	583	13.8	21.7	20.1
Female Breast	3,462	139.3	130.4	131.9	563	22.5	28.0	26.0
Prostate	3,339	178.8	182.7	174.4	361	23.4	31.6	29.0
Oral	395	8.9	10.6	10.4	78	1.8	2.8	2.7
Melanoma	814	18.2	18.8	17.7	114	2.7	2.6	2.6
Cervical	205	8.5	8.1	8.7	39	1.6	2.5	2.7

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

Source: County and MD incidence data from Maryland Cancer Registry, 1999-2003
U.S. rates from SEER*Stat software
County, MD, and U.S. mortality data from NCHS Compressed Mortality File in CDC WONDER

Table 90.
Incidence and Mortality Rates* by Type of Cancer
Prince George's County, Maryland, and U.S., 1999-2003

Type of Cancer	Incidence				Mortality			
	County Case Count	County Rate	MD Rate	U.S. SEER Rate	County Death Count	County Rate	MD Rate	U.S. Rate
All Cancers	14,014	433.7	477.3	469.7	6,248	214.5	204.2	195.9
Lung and Bronchus	1,765	58.5	68.7	60.8	1,638	56.1	58.0	55.1
Colorectal	1,560	51.2	53.3	52.0	707	25.2	21.7	20.1
Female Breast	2,374	120.7	130.4	131.9	568	30.4	28.0	26.0
Prostate	2,803	203.0	182.7	174.4	335	38.2	31.6	29.0
Oral	308	8.7	10.6	10.4	81	2.6	2.8	2.7
Melanoma	255	7.6	18.8	17.7	51	1.8	2.6	2.6
Cervical	191	9.4	8.1	8.7	57	3.0	2.5	2.7

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

Source: County and MD incidence data from Maryland Cancer Registry, 1999-2003
U.S. rates from SEER*Stat software
County, MD, and U.S. mortality data from NCHS Compressed Mortality File in CDC WONDER

Table 91.
Incidence and Mortality Rates* by Type of Cancer
Queen Anne's County, Maryland, and U.S., 1999-2003

Type of Cancer	Incidence				Mortality			
	County Case Count	County Rate	MD Rate	U.S. SEER Rate	County Death Count	County Rate	MD Rate	U.S. Rate
All Cancers	1,107	490.5	477.3	469.7	441	203.5	204.2	195.9
Lung and Bronchus	175	77.2	68.7	60.8	128	57.1	58.0	55.1
Colorectal	124	57.4	53.3	52.0	48	23.7	21.7	20.1
Female Breast	135	111.1	130.4	131.9	30	25.8	28.0	26.0
Prostate	183	164.1	182.7	174.4	17	19.6	31.6	29.0
Oral	42	18.6	10.6	10.4	9	**	2.8	2.7
Melanoma	68	30.8	18.8	17.7	9	**	2.6	2.6
Cervical	9	**	8.1	8.7	<6	**	2.5	2.7

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

<6 = County death counts of 0-5 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

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

County mortality rates based on death counts of 0-15 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

Source: County and MD incidence data from Maryland Cancer Registry, 1999-2003

U.S. rates from SEER*Stat software

County, MD, and U.S. mortality data from NCHS Compressed Mortality File in CDC WONDER

Table 92.
Incidence and Mortality Rates* by Type of Cancer
Saint Mary's County, Maryland, and U.S., 1999-2003

Type of Cancer	Incidence				Mortality			
	County Case Count	County Rate	MD Rate	U.S. SEER Rate	County Death Count	County Rate	MD Rate	U.S. Rate
All Cancers	1,656	443.8	477.3	469.7	719	207.4	204.2	195.9
Lung and Bronchus	263	73.2	68.7	60.8	199	56.9	58.0	55.1
Colorectal	237	66.2	53.3	52.0	89	25.9	21.7	20.1
Female Breast	205	102.1	130.4	131.9	37	18.8	28.0	26.0
Prostate	212	119.6	182.7	174.4	38	28.4	31.6	29.0
Oral	57	14.4	10.6	10.4	11	**	2.8	2.7
Melanoma	95	23.5	18.8	17.7	16	4.1	2.6	2.6
Cervical	15	**	8.1	8.7	<6	**	2.5	2.7

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

<6 = County death counts of 0-5 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

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

County mortality rates based on death counts of 0-15 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

Source: County and MD incidence data from Maryland Cancer Registry, 1999-2003

U.S. rates from SEER*Stat software

County, MD, and U.S. mortality data from NCHS Compressed Mortality File in CDC WONDER

Table 93.
Incidence and Mortality Rates* by Type of Cancer
Somerset County, Maryland, and U.S., 1999-2003

Type of Cancer	Incidence				Mortality			
	County Case Count	County Rate	MD Rate	U.S. SEER Rate	County Death Count	County Rate	MD Rate	U.S. Rate
All Cancers	715	535.6	477.3	469.7	327	245.1	204.2	195.9
Lung and Bronchus	147	109.1	68.7	60.8	111	82.0	58.0	55.1
Colorectal	80	59.8	53.3	52.0	26	19.4	21.7	20.1
Female Breast	76	113.0	130.4	131.9	18	26.4	28.0	26.0
Prostate	98	158.3	182.7	174.4	19	35.7	31.6	29.0
Oral	s	**	10.6	10.4	<6	**	2.8	2.7
Melanoma	22	17.0	18.8	17.7	<6	**	2.6	2.6
Cervical	13	**	8.1	8.7	<6	**	2.5	2.7

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

s = Count is suppressed to prevent disclosure of data in other cell(s) based on Table 52. (See Appendix C for methods.)

<6 = County death counts of 0-5 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

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

County mortality rates based on death counts of 0-15 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

Source: County and MD incidence data from Maryland Cancer Registry, 1999-2003

U.S. rates from SEER*Stat software

County, MD, and U.S. mortality data from NCHS Compressed Mortality File in CDC WONDER

Table 94.
Incidence and Mortality Rates* by Type of Cancer
Talbot County, Maryland, and U.S., 1999-2003

Type of Cancer	Incidence				Mortality			
	County Case Count	County Rate	MD Rate	U.S. SEER Rate	County Death Count	County Rate	MD Rate	U.S. Rate
All Cancers	1,277	513.0	477.3	469.7	510	192.2	204.2	195.9
Lung and Bronchus	185	71.7	68.7	60.8	137	51.3	58.0	55.1
Colorectal	161	60.4	53.3	52.0	59	22.0	21.7	20.1
Female Breast	192	150.0	130.4	131.9	38	28.5	28.0	26.0
Prostate	205	174.4	182.7	174.4	38	34.6	31.6	29.0
Oral	27	11.6	10.6	10.4	7	**	2.8	2.7
Melanoma	83	36.8	18.8	17.7	11	**	2.6	2.6
Cervical	7	**	8.1	8.7	<6	**	2.5	2.7

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

<6 = County death counts of 0-5 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

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

County mortality rates based on death counts of 0-15 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

Source: County and MD incidence data from Maryland Cancer Registry, 1999-2003

U.S. rates from SEER*Stat software

County, MD, and U.S. mortality data from NCHS Compressed Mortality File in CDC WONDER

Table 95.
Incidence and Mortality Rates* by Type of Cancer
Washington County, Maryland, and U.S., 1999-2003

Type of Cancer	Incidence				Mortality			
	County Case Count	County Rate	MD Rate	U.S. SEER Rate	County Death Count	County Rate	MD Rate	U.S. Rate
All Cancers	3,595	494.0	477.3	469.7	1,510	205.0	204.2	195.9
Lung and Bronchus	530	72.3	68.7	60.8	450	61.1	58.0	55.1
Colorectal	412	55.8	53.3	52.0	145	19.6	21.7	20.1
Female Breast	494	129.6	130.4	131.9	119	30.1	28.0	26.0
Prostate	505	156.1	182.7	174.4	74	27.7	31.6	29.0
Oral	70	9.7	10.6	10.4	17	2.3	2.8	2.7
Melanoma	175	24.5	18.8	17.7	17	2.3	2.6	2.6
Cervical	21	5.8	8.1	8.7	13	**	2.5	2.7

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

** County mortality rates based on death counts of 0-15 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

Source: County and MD incidence data from Maryland Cancer Registry, 1999-2003

U.S. rates from SEER*Stat software

County, MD, and U.S. mortality data from NCHS Compressed Mortality File in CDC WONDER

Table 96.
Incidence and Mortality Rates* by Type of Cancer
Wicomico County, Maryland, and U.S., 1999-2003

Type of Cancer	Incidence				Mortality			
	County Case Count	County Rate	MD Rate	U.S. SEER Rate	County Death Count	County Rate	MD Rate	U.S. Rate
All Cancers	2,212	508.7	477.3	469.7	973	224.7	204.2	195.9
Lung and Bronchus	400	91.9	68.7	60.8	319	73.1	58.0	55.1
Colorectal	222	51.1	53.3	52.0	100	23.2	21.7	20.1
Female Breast	350	144.8	130.4	131.9	95	38.5	28.0	26.0
Prostate	268	141.2	182.7	174.4	46	31.4	31.6	29.0
Oral	55	12.6	10.6	10.4	7	**	2.8	2.7
Melanoma	161	37.6	18.8	17.7	10	**	2.6	2.6
Cervical	19	8.1	8.1	8.7	6	**	2.5	2.7

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

** County mortality rates based on death counts of 0-15 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

Source: County and MD incidence data from Maryland Cancer Registry, 1999-2003

U.S. rates from SEER*Stat software

County, MD, and U.S. mortality data from NCHS Compressed Mortality File in CDC WONDER

Table 97.
Incidence and Mortality Rates* by Type of Cancer
Worcester County, Maryland, and U.S., 1999-2003

Type of Cancer	Incidence				Mortality			
	County Case Count	County Rate	MD Rate	U.S. SEER Rate	County Death Count	County Rate	MD Rate	U.S. Rate
All Cancers	1,726	509.1	477.3	469.7	730	212.4	204.2	195.9
Lung and Bronchus	310	87.7	68.7	60.8	231	65.2	58.0	55.1
Colorectal	195	57.2	53.3	52.0	73	21.6	21.7	20.1
Female Breast	208	121.3	130.4	131.9	47	25.1	28.0	26.0
Prostate	254	151.2	182.7	174.4	38	30.0	31.6	29.0
Oral	46	14.2	10.6	10.4	16	4.7	2.8	2.7
Melanoma	126	40.9	18.8	17.7	9	**	2.6	2.6
Cervical	13	**	8.1	8.7	7	**	2.5	2.7

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

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

County mortality rates based on death counts of 0-15 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

Source: County and MD incidence data from Maryland Cancer Registry, 1999-2003

U.S. rates from SEER*Stat software

County, MD, and U.S. mortality data from NCHS Compressed Mortality File in CDC WONDER

Appendix A

Cigarette Restitution Fund
Cancer Report Requirements

Cigarette Restitution Fund 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 created 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 (DHMH) to conduct a baseline cancer survey (2000) as well as cancer surveys at least every other year thereafter.

The law requires that the survey include:

(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 Cancer Report as follows:

Required Component of the Cancer Report	***Location of Information in this Report***
1. Number and percentage 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 percentage 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

6. Other aspects of targeted and non-targeted cancers that DHMH seeks to measure.	For cancer overall and for each targeted cancer, the report: 1. Compares the cancer burden to that of heart disease; 2. Compares Maryland incidence and mortality rates to that of the U.S.; 3. Depicts trends by age for overall cancer incidence and mortality; 4. Delineates incidence and mortality trends by race and gender; 5. Shows 5-year mortality trends and 5-year combined data; 6. Presents 5-year incidence trends and 5-year combined data; 7. Tracks stage of disease at diagnosis over a 5-year period; 8. Lists appropriate Healthy People 2010 objective(s) showing trend data for each targeted cancer and identifies where Maryland currently is in meeting the respective objective(s); 9. Describes the evidence for screening, primary prevention and chemoprevention for each targeted cancer, based on current scientific literature; and 10. Describes the recommended public health intervention for each targeted cancer based on the evidence referenced above. This information is located throughout the report.
7. Other factors that DHMH determines to be important for measuring rates of cancer in the State or for evaluating whether the program meets its objectives.	Same as above.

Appendix B

Cancer Report Format

Cancer Report Format

1. Selection of Targeted Cancers

Under the Cigarette Restitution Fund Program, Cancer Prevention, Education, Screening and Treatment Program, the Maryland Department of Health and Mental Hygiene 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 cancer sites reported in Maryland and the seven specific cancer sites targeted by the Cancer Prevention, Education, Screening and Treatment Program.

The report begins with graphs comparing Maryland and U.S. trends in overall cancer incidence and mortality rates from 1992 to 2003. Another set of graphs depicts the burden of cancer by comparing the mortality pattern from 1979 to 2003 for cancer and heart disease for two age groups: younger than age 85 years and age 85 years and older.

For each targeted cancer site and all cancer sites, the number of new cancers, cancer deaths, and age-adjusted cancer incidence and mortality rates are presented by gender, race, and jurisdiction in the chapters. All rates are age-adjusted to the 2000 U.S. standard population. For each targeted cancer site, trends in incidence and mortality, race- and gender-specific incidence and mortality rates, trends in stage of disease at diagnosis, public health evidence, recommended areas for public health intervention, and Maryland screening/behavior rates compared to Healthy People (HP) 2010 screening/behavior targets are also presented. Each section also contains 5-year (1999-2003) combined data for incidence and mortality. A section with county-specific data presents 5-year incidence and mortality data along with Maryland and U.S. rates.

Additionally, Maryland 2003 incidence and mortality rates with 95% confidence intervals (95% C.I.) are compared to U.S. 2003 data in each chapter. Maryland mortality rankings among the 50 states and the District of Columbia, based on 5-year mortality rates, are also included in each cancer chapter.

Figures (graphs and maps) are also used to display data. Two "All Cancer Sites" graphs show age-specific incidence and mortality rates by gender for 2003. Graphs are further used to display data on incidence and mortality from 1999-2003 with the annual percentage change (APC; see Appendix D, Glossary, for more information on APC); separate 5-year time-series graphs for incidence and mortality by race and gender, including APCs; stage of diagnosis; and cancer-related behaviors of persons in Maryland compared to HP 2010 national targets.

Maryland population estimates for 2003 by race and gender can be found in Appendix E. Population numbers are denominators for calculating rates. In addition, Appendix F depicts the 2000 U.S. standard population organized by age groupings. There is a listing of International Classification of Diseases for Oncology (ICD-O-3) codes for incidence along with corresponding ICD-10 codes for mortality for cancer sites included in the report (Appendix G). Maps included in each cancer chapter portray Maryland incidence and mortality rates compared to corresponding U.S. rates for combined years 1999-2003 by geographical area (see Appendix H for map data). Appendix I shows trends in age-adjusted cancer incidence and mortality rates for all cancer sites and the targeted cancers, for quick comparisons of rates and the annual percentage change, 1999-2003. Finally, Appendix J shows the distribution of cancer stage at diagnosis for all cancer sites and the targeted cancers from 1999 to 2003.

Appendix C

Cancer Report Data Sources, References, and Data Considerations

2008 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; Vital Statistics Administration, Division of Health Statistics; Office of Health Policy and Planning; Center for Health Promotion, Education and Tobacco Use Prevention; and the Center for Cancer Surveillance and Control, Surveillance and Evaluation Unit.

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 were calculated using cases reported to the MCR as of February 4, 2008 for diagnosis year 2003.

In the 2006 CRF Cancer Report (September 2006), DHMH initially noted that data problems led to omission of all cancer sites, melanoma, and cervical cancer data. In April 2008, remediated data for the 2002 incidence year were published (http://www.fha.state.md.us/cancer/surveillance/html/crf_amendment.cfm). All incidence data (counts, rates, and stage of disease) for 2002 included in this report have been updated. The 2002 incidence data presented in the graphs in this report update the figures presented in the 2006 Cancer Report.

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, and West Virginia, as well as the District of Columbia. Information on Maryland residents diagnosed or treated for cancer in these states and the District of Columbia is included in this report.

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 (for years prior to 2002) and Maryland population estimates. MCR used data from the Maryland Vital Statistics Administration for calculating Maryland cancer mortality rates annually from 1999 through 2001 on graphs of incidence and mortality trends and for displaying cancer and heart disease annual mortality rates on

graphs (1979-2003). Maryland and U.S. cancer mortality data for the single years of 2002 and 2003 and for the aggregated 5-year period (1999-2003) are from the National Center for Health Statistics (NCHS) Compressed Mortality File 1999-2005. These mortality data were extracted from the Centers for Disease Control and Prevention (CDC) Wide-ranging Online Data for Epidemiologic Research (WONDER) system, a national Web-based data source. (Refer to Section B.1 of this appendix for more information on CDC WONDER.)

3. Behavioral Risk Factor Surveillance System

The Maryland Behavioral Risk Factor Surveillance System (BRFSS) is an annual telephone survey conducted on a random sample of Maryland adult residents. This survey, managed by the Maryland DHMH Family Health Administration, Office of Health Policy and Planning, provided risk behavior and cancer screening information for this report. Maryland data can be accessed online at http://www.marylandbrfss.org. In addition, both Maryland and state-aggregated national data on health risk behavior can be obtained from the CDC BRFSS Web site at: http://www.cdc.gov/brfss.

4. Maryland Youth Tobacco Survey

The Maryland Youth Tobacco Survey (MYTS) was administered for the purpose of gathering information regarding attitudes, usage, and exposure to tobacco products among public middle and high school students Statewide and within each of Maryland's 23 counties and Baltimore City. Survey results are also used in apportioning Local Tobacco Use Prevention and Cessation grants among Maryland's 24 major political subdivisions.

The most recent survey was conducted in the Fall of 2006. Over 82,000 students in eligible Maryland public middle and high schools completed MYTS questionnaires Statewide.

The MYTS is managed by the Center for Health Promotion, Education, and Tobacco Use Prevention in the DHMH Family Health Administration. Complete data for the MYTS were published in 2000, 2002, and 2006. Published reports are available on the DHMH Web site at: http://www.crf.state.md.us/html/stats.cfm. Additional information can be obtained from the Center for Health Promotion, Education, and Tobacco Use Prevention at 410-767-1362.

5. Maryland Cancer Survey

The Maryland Cancer Survey (MCS) is a biennial survey managed by the DHMH Center for Cancer Surveillance and Control, Surveillance and Evaluation Unit. The purpose of the MCS is to determine cancer screening rates and to measure cancer risk behaviors among persons age 40 years and older living in Maryland, for selected cancers targeted by DHMH. Completed surveys are available for 2002, 2004, and 2006; the 2008 MCS is currently in progress. MCS data are tabulated and reported as not including missing

values; all percentages are based on the number of respondents who answered the question. Some charts in this report include both MCS and Maryland BRFSS data, as a basis for comparison with Healthy People (HP) 2010 targets. Caution should be used when comparing results from the MCS and BRFSS. Although they are similar, these surveys have certain design and methodological differences, including targeted age groups, scope and timing of the surveys, and weighting. The MCS reports, including detailed information on the survey methods, are available on the Web at: http://www.fha.state.md.us/cancer/surveillance/html/data_reports.cfm.

B. National Data Sources

Statistics for the U.S. 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 (DHHS)), the National Center for Health Statistics (NCHS), and the National Cancer Institute (NCI). Maryland mortality statistics were obtained from CDC WONDER, a Web-based data resource sponsored by CDC.

1. CDC WONDER

CDC's WONDER is an easy-to-use Internet system that makes information from CDC available to public health professionals and the public at large. It provides access to a wide array of public health information, including a Web resource for data and information about HP 2010 targets (see Section B.2 of this appendix) and another Web site where data such as cancer mortality numbers and rates can be accessed using International Classification of Diseases (ICD) codes.

Mortality data for this report were obtained from the NCHS Compressed Mortality File (CMF) 1999 – 2005 in CDC WONDER (http://wonder.cdc.gov/mortSQL.html). The CMF is a county-level national mortality and population database spanning the years 1979-2005. The number of deaths, crude death rates, and age-adjusted death rates can be obtained by place of residence (total U.S., state, and county), age group, race (white, black, and other), gender, year of death, and underlying cause-of-death (ICD code or group of codes). Although data before 1999 are no longer a focus of this report, deaths for 1979-1998 are classified using the Ninth Revision (ICD-9); deaths for 1999 and later are classified using the Tenth Revision (ICD-10). The two classification schemes are sufficiently different to make direct comparisons of cause-of-death difficult. The Maryland and U.S. mortality data used in this report (single-year data for 2003 and 5-year data for 1999-2003) were extracted from CDC WONDER over the period from April to June 2008.

2. HP 2010

HP 2010 is a collaboration of local and national governmental agencies and private organizations that have developed prevention-oriented national objectives to improve the health of Americans. There are 28 focus areas and 467 specific objectives in HP 2010.

For cancer prevention, the overarching HP 2010 goal is to "reduce the number of new cases as well as the illness, disability, and death caused by cancer." To achieve this goal, measurable objectives related to cancer screening and cancer risk behaviors were established, each with a specific quantitative target. In 2006, a Midcourse Review of HP 2010 was completed to assess progress toward the original HP 2010 objectives and to revise those objectives for which new data had become available.

The HP initiative is under the Office of Disease Prevention and Health Promotion at the DHHS. Further information can be found on the Web at: http://www.healthypeople.gov/ and http://www.healthypeople.gov/data/midcourse.

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

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

SEER 13 incidence data are used in this report as a basis for comparison with Maryland data because they provide the broadest population coverage that is available for both 2003 and the 5-year period of 1999-2003. (SEER did not begin reporting data from SEER 17 registries until the year 2000.) The SEER 13 registry data were obtained from the SEER*Stat software (version 6.4.4). 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://seer.cancer.gov/csr/1975_2005/sections.html. Further information about SEER can also be found on the Web site at www.seer.cancer.gov.

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

1. National Cancer Institute Physician Data Query (NCI PDQ)

Information provided in the chapters under the sections for "Public Health Evidence" and "Public Health Intervention" was taken primarily from the NCI PDQ® Web site. While the United State Preventive Services Task Force (USPSTF) reviews its recommendations every few years, the information presented in the PDQ on cancer prevention and

screening is updated more frequently and the date of the most recent revision can be found on each Web page for that topic. 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. For some cancer types, the information is reviewed by a scientific editorial board and is updated as new research becomes available. The PDQ Editorial Board has revised its procedure; a two-step process is now in place for evaluating levels of evidence: a) study design, and b) assessment of the evidence. Whereas the Board previously only considered study design (evidence from the best studies available, ranked in descending order of strength), the PDQ Editorial Board now evaluates evidence in two steps. The first step is to describe the evidence within five domains (see below); the second is an assessment of certainty--to judge the overall "level" of evidence as "solid," "fair," or "inadequate." The Board conducts the same process separately for potential benefits and potential harms of each intervention.

Step 1: Description of the evidence
Step 1 involves evaluating the levels of evidence in five domains.

1. Study Design: study designs in order of strongest evidence to weakest evidence, are described as follows:
    a. Evidence obtained from at least one randomized controlled trial (this is considered the gold standard for scientific research);
    b. Evidence obtained from controlled trials without randomization;
    c. Evidence obtained from well-designed and conducted cohort or case-control studies, preferably from more than one center or research group;
    d. Evidence obtained from multiple time series with or without intervention; and
    e. Opinions of respected authorities based on clinical experience, descriptive studies, or reports of expert committees.
2. Internal validity
3. Consistency (coherence)/volume of the evidence
4. Direction and magnitude of effects for health outcomes (both absolute and relative risks, as quantitative as possible, may vary for different populations)
5. External validity

Step 2: Assessment of the evidence
Step 2 is a judgment of the level of certainty (solid, fair, inadequate) and is based on the Board's understanding of the direction and magnitude of the health effects of widespread implementation. The assessment may also include a statement of benefits and a second statement of harms of widespread implementation.

More information about NCI PDQ can be accessed at:

Levels of evidence
http://www.cancer.gov/cancertopics/pdq/screening/levels-of-evidence

Prevention and screening/detection
http://www.cancer.gov/cancertopics/pdq/prevention
http://www.cancer.gov/cancertopics/pdq/screening

The PDQ reference is used throughout the report for consistency in interpreting the results of scientific literature and the PDQ Summary of Evidence is often quoted verbatim and sometimes paraphrased. This report includes the date(s) of the last update of the PDQ for each targeted cancer site accessed in July 2008. PDQ definitions are included in Appendix D (Glossary). For additional information, the Web site is: http://www.cancer.gov/cancertopics/pdq.

2. 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 for screening, diagnosis, and treatment. The guidelines are located at:
http://www.fha.state.md.us/cancer/html/guidelines.cfm.

3. Additional Medical Literature

A. Lung and Bronchus Cancer
Centers for Disease Control and Prevention. *Best Practices for Comprehensive Tobacco Control Programs – 2007* (October 2007). National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, Atlanta, GA. http://www.cdc.gov/tobacco/tobacco_control_programs/stateandcommunity/best_practices/. Last accessed July 24, 2008.

Screening for Lung Cancer, Topic Page. May 2004. U.S. Preventive Services Task Force. Agency for Healthcare Research and Quality, Rockville, MD. http://www.ahrq.gov/clinic/uspstf/uspslung.htm. Last accessed July 24, 2008.

B. Colorectal Cancer
Screening for Colorectal Cancer, Topic Page. July 2002. U.S. Preventive Services Task Force. Agency for Healthcare Research and Quality, Rockville, MD. http://www.ahrq.gov/clinic/uspstf/uspscolo.htm. Last accessed July 24, 2008.

C. Female Breast Cancer
Screening for Breast Cancer, Topic Page. November 2003. U.S. Preventive Services Task Force. Agency for Healthcare Research and Quality, Rockville, MD. http://www.ahrq.gov/clinic/uspstf/uspsbrca.htm. Last accessed July 24, 2008.

Chemoprevention for Breast Cancer, Topic Page. July 2002. U.S. Preventive Services Task Force. Agency for Healthcare Research and Quality, Rockville, MD. http://www.ahrq.gov/clinic/uspstf/uspsbrpv.htm. Last accessed July 24, 2008.

D. Prostate Cancer

Smith RA, Cokkinides V, and Brawley OW. Cancer Screening in the United States, 2008: A Review of Current American Cancer Society Guidelines and Cancer Screening Issues, 2008. *CA Cancer J Clin* 2007 55: 31-44. http://caonline.amcancersoc.org/cgi/content/full/58/3/161. Last accessed July 24, 2008.

Screening for Prostate Cancer, Topic Page. August 2008. U.S. Preventive Services Task Force. Agency for Healthcare Research and Quality, Rockville, MD. http://www.ahrq.gov/clinic/uspstf/uspsprca.htm. Last accessed July 24, 2008.

E. Oral Cancer

Screening for Oral Cancer, Topic Page. February 2004. U.S. Preventive Services Task Force. Agency for Healthcare Research and Quality, Rockville, MD. http://www.ahrq.gov/clinic/uspstf/uspsoral.htm. Last accessed July 24, 2008.

F. Skin Cancer

Screening for Skin Cancer, Topic Page. April 2001. U.S. Preventive Services Task Force. Agency for Healthcare Research and Quality, Rockville, MD. http://www.ahrq.gov/clinic/uspstf/uspsskca.htm. Last accessed July 24, 2008.

G. Cervical Cancer

Screening for Cervical Cancer, Topic Page. January 2003. U.S. Preventive Services Task Force. Agency for Healthcare Research and Quality, Rockville, MD. http://www.ahrq.gov/clinic/uspstf/uspscerv.htm. Last accessed July 24, 2008.

CDC. Quadrivalent Human Papillomavirus Vaccine: recommendations of the Advisory Committee on Immunization Practices. *MMWR* 2007;56 (No. RR-02).

D. Data Considerations

1. Data Confidentiality

DHMH regards all data received, processed, and reported to and by the 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.

Because incidence data and mortality data come from different sources, separate suppression procedures were employed. For the number of cancer cases collected by MCR and for incidence rates calculated using case and population data, the following protocols apply: In order to ensure patient confidentiality and to comply with the *MCR*

Data Use Policy, cells with counts of 1-5 cases are suppressed and presented as "<6." Complementary suppression of case counts in additional cell(s) is used, denoted by "s," to prevent back-calculation of numbers in those cells with primary suppression. Incidence rates based on 15 or fewer (non-zero) cases are presented with asterisks (**) because the rates are unstable and do not provide reliable information.

Mortality data for the report were extracted from the NCHS CMF in CDC WONDER using its Web-based data query facility. ICD codes listed in Appendix G of this report were used for identifying type of cancer for extraction. Data obtained from the NCHS CMF are subject to both CDC WONDER and NCHS data use restrictions, which differ from those of the *MCR Data Use Policy* used for incidence data. To ensure that individual identity is protected in the use and re-release of mortality data from the CMF in CDC WONDER, and that reliable mortality rates are presented in this and other CCSC publications, the DHMH Center for Cancer Surveillance and Control (CCSC) developed the *Mortality Data Suppression Policy When Using National Center for Health Statistics (NCHS) Mortality Data in CCSC Publications* (June 2008). In accordance with this policy, the following protocols are applied to mortality data in this report: Death counts of fewer than 6 (i.e., 0-5 deaths) are suppressed, and denoted by "<6." Complementary suppression of death counts in additional cell(s) is used, as denoted by the letter "s," to prevent back-calculation of numbers in cells with primary suppression. Age-adjusted mortality rates based on counts less than 16 (i.e., 0-15 deaths) are suppressed (denoted by ** symbol) due to poor statistical reliability. Although CDC WONDER publishes and annotates as "unreliable" rates based on counts less than 20 deaths, CCSC suppresses death rates based on counts of less than 16 deaths. This threshold is consistent with the criteria used in both the NCI U.S. Cancer Statistics report and the *MCR Data Use Policy* for incidence rate suppression.

2. Gender

Gender is reported to the Maryland Cancer Registry 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

Single year incidence rates presented in this report were calculated using Maryland resident cancer cases diagnosed from January 1, 2003 through December 31, 2003, and reported to the MCR as of February 4, 2008. The single year mortality data consist of deaths that occurred between January 1, 2003 and December 31, 2003. Multiple year incidence rates presented were calculated for 5-year collapsed rates using MCR 1999-2003 data. Corresponding mortality rates were extracted from the NCHS CMF in CDC WONDER as 5-year combined data from 1999-2003.

Age-adjustment, also called age-standardization, is one of the tools used to control for the different and changing age distributions of the population in states, counties, etc., and to

enable meaningful comparisons of vital rates over time. Age-adjusted rates do not include cancer cases on which age has not been reported. Federal agencies have adopted the year 2000 U.S. standard population as the standard for age-adjusting incidence and mortality rates. For consistency and ease of comparison, incidence and mortality rates in this report were calculated and age-adjusted using the 2000 U.S. standard population. This latest standard replaces the 2000 U.S. standard million population and prior standards (e.g., 1940 and 1970 standard populations). Additional information on age-adjustment can be found at http://www.cdc.gov/nchs/data/statnt/statnt20.pdf.

Incidence and mortality counts and rates are suppressed according to the *DHMH/MCR Data Use Policy* and the *DHMH/CCSC Mortality Data Suppression Policy*, as described in Section D.1 above.

The Annual Percent Change (APC) was calculated for incidence and mortality trends and for tracking incidence and mortality rates by race and gender over time (from 1999 to 2003). See Appendix D, Glossary, for the definition of APC.

4. Confidence Intervals and Statistical Significance

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

A confidence interval is used to describe the range of uncertainty around a point estimate (e.g., an incidence or mortality rate) and serves as an indicator of the precision or stability of a rate. Most confidence intervals are, by convention, calculated at the 95% level; at this level, there is a 95% probability that the interval covers the true value. The smaller the number of events upon which a rate is based, the wider the confidence interval will be.

Confidence intervals for incidence and mortality rates are included in this report to facilitate comparisons between rates, such as the comparison of Maryland rates to U.S. rates. Confidence intervals for Maryland and SEER 13 incidence rates, provided by the MCR, are developed from the SEER*Stat software. CDC WONDER does not provide confidence intervals for NCHS mortality data (CMF); therefore, the following formula was used to approximate the 95% confidence interval for age-adjusted mortality rates in this report:

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

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

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

When the confidence intervals around two rates (e.g., county and state rates) do not overlap, it can be stated with 95% confidence that the two rates are statistically significantly different. For example, Maryland's 2003 lung cancer incidence rate is 70.8 per 100,000, with a confidence interval of 68.5-73.1. The 2003 U.S. SEER-reported lung cancer incidence rate was 60.0 per 100,000 population, with a 95% confidence interval of 59.2-60.8. Since these rates do not overlap, the two rates are considered to be statistically significantly different (i.e., the difference between these rates is more than that expected by chance).

If the two confidence overlap, and if the rate for one area is included in the confidence interval of the other rate, then the rates are not statistically significantly different. However, when there is overlap in the confidence intervals for two rates, but the rate for the comparison area is not included in the interval for the rate of interest, the two rates may or may not be statistically significantly different. In this situation, statistical testing is needed to determine whether the differences between the two rates are statistically significant. The method used in this report to assess statistical significance of the difference between two age-adjusted rates is described in the North American Association of Central Cancer Registries (NAACCR) report, *Cancer in North America* (Section I, Introduction and Technical Notes). The NAACCR report is available on the Web at: http://www.naaccr.org/filesystem/pdf/v1.sec1.pdf.

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

5. National Comparison Data

Maryland and county incidence and mortality rates are compared to U.S. SEER incidence rates and U.S. mortality rates from NCHS, as described in Sections B.1 and B.3 of this appendix.

Data used for Maryland cancer mortality ranking by site are based on NCHS mortality files extracted from CDC WONDER. Maryland's mortality ranking among the 50 states and the District of Columbia for all cancer sites combined and for specific targeted cancers is based on a 5-year average (1999-2003) of age-adjusted rates. Because mortality rates describe the cancer burden better than incidence rates, only Maryland rankings for mortality are presented for each targeted cancer.

The report also includes comparisons of Maryland incidence and mortality rates, by geographical area, to U.S. rates, depicted in maps. For both incidence and mortality rate maps, the 5-year (1999-2003) U.S. cancer incidence or mortality rate was used as a basis for comparison with rates for Maryland jurisdictions (county and region). A ramp is used for grouping Maryland data into categories in reference to U.S. rates. The ramp groups data into five divisions: >25% above U.S. rate; 10-25% above U.S. rate; between 10%

below and 10% above U.S. rate; 10-25% below U.S. rate; and >25% below U.S. rate. Note that 10-25% includes the 10 and 25%, but less than 10 and more than 25 do not include the endpoints of the range. Where 5-year incidence or mortality rates for any given jurisdiction are suppressed due to small number of cases or deaths, aggregated regional rates for the affected area are used in lieu of county rates as a basis for comparison in maps.

6. Race and Hispanic Ethnicity

The MCR began requiring submission of more detailed data on race and ethnicity beginning August 1998. Incidence data provided by the MCR for this report include the following race categories: white, black, and other. The "other" race category includes cases reported as American Indian or Alaska Native, Asian or Pacific Islander, and any other race category except those cases with unknown or missing race. The MCR uses the National Cancer Institute SEER*Stat software to compile incidence data.

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

The NCHS CMF in CDC WONDER, which was used as a source of mortality data in this report, reports race in three categories -- white, black, and other -- based on race data collected on death certificates. The category of "other" races includes the American Indian or Alaskan Native race category and the Asian or Pacific Islander race category. NCHS, in collaboration with the Census Bureau, developed a race-bridging methodology for assigning multiple-race groups to single-race categories.

7. HP 2010 Targets

In this report, quantitative HP 2010 targets, where available, are compared to Maryland data related to cancer risk behaviors (e.g., smoking, sun exposure) and adherence to cancer screening recommendations. Specifically, HP 2010 targets are compared to data from the Maryland BRFSS and the MCS. The data from these Maryland surveys are weighted to the age, race, and gender of Maryland population. Unlike the national data that serve as the basis for HP 2010 targets, Maryland BRFSS and MCS data are not age-adjusted to the 2000 U.S. standard population.

The HP 2010 targets in this report have been updated to reflect changes resulting from the HP 2010 Midcourse review completed in 2006. Further information about HP 2010 can be found at: http://www.healthypeople.gov and http://www.healthypeople.gov/data/midcourse. Monitoring data for tracking specific HP 2010 objectives can also be obtained via an interactive, query-based system, DATA2010, accessible through CDC WONDER (http://wonder.cdc.gov/DATA2010).

8. Appendices

Please refer to additional appendices for:

- Cigarette Restitution Fund Program Cancer Report Requirements (Appendix A)
- Cancer Report Format (Appendix B)
- Glossary (technical terms and definitions; Appendix D)
- Maryland Population Estimates (Appendix E)
- U.S. Standard Population for 2000 (Appendix F)
- Definitions of International Classification of Diseases (ICD) Codes Used for Cancer Incidence and Mortality (Appendix G)
- Maryland Cancer Incidence and Mortality Rates by Geographical Area, 1999-2003 (Appendix H)
- Trends in Cancer Incidence and Mortality Rates in Maryland by Cancer Site and Year, 1999-2003 (Appendix I)
- Trends in Cancer Stage of Disease at Diagnosis in Maryland by Cancer Site and Year, 1999-2003 (Appendix J)

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: http://www.cdc.gov/nchs/data/statnt/statnt20.pdf and http://www.cdc.gov/nchs/datawh/nchsdefs/ageadjustment.htm.

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

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

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

- **Confidence Interval (CI):** Range of values for a rate that will include the true value of the rate a given percentage of the time. Example: 95% CI includes the true value of the rate 95% of the time.

- **Annual Percent Change (APC) (5-year trend data):** APC 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 incidence and mortality trend data and corresponding APCs are presented for the years 1999 through 2003. In addition, APCs are used for analyzing trends by race and gender by establishing which trend line had the greatest change. A more detailed description of the method can be found at: http://seer.cancer.gov/seerstat/WebHelp/seerstat.htm#Trend_Algorithms.htm

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

- **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 2003. Cancer incidence data are also presented in aggregated form as the average annual incidence for the years 1999 through 2003.

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

- **Mortality:** Mortality refers to the number of deaths during a defined time, usually one year. For the purposes of this report, cancer mortality data are presented for calendar year 2003. Data for cancer mortality are also presented in an aggregated form as the average annual mortality for the years 1999 through 2003.

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

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

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

- **Region:** Following are definitions for the regional categories:

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

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

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

National Capital Area
Montgomery, Prince George's

Northwest Region
Allegany, Frederick, Garrett, Washington

Southern Region
Calvert, Charles, Saint Mary's

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

- **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:** the stage of disease at diagnosis was unable to be classified (often due to insufficient information) or not reported to the cancer registry.

Appendix E

Maryland Population Estimates, 2003

Maryland Population Estimates by Jurisdiction, 2003

	Total All Genders	Total Male	Total Female	Total White	White Male	White Female	Total Black	Black Male	Black Female
Maryland	**5,508,909**	**2,665,643**	**2,843,266**	**3,648,443**	**1,790,433**	**1,858,010**	**1,576,416**	**738,065**	**838,351**
Baltimore Metro	**2,572,121**	**1,238,656**	**1,333,465**	**1,753,388**	**857,319**	**896,069**	**722,490**	**334,735**	**387,755**
Anne Arundel County	506,620	252,759	253,861	421,117	210,134	210,983	69,437	34,932	34,505
Baltimore City	628,670	292,690	335,980	202,737	98,686	104,051	412,139	187,296	224,843
Baltimore County	777,184	368,938	408,246	571,343	273,219	298,124	174,300	80,224	94,076
Carroll County	163,207	80,468	82,739	156,826	77,190	79,636	4,014	2,167	1,847
Harford County	232,175	113,833	118,342	204,037	100,315	103,722	23,135	11,186	11,949
Howard County	264,265	129,968	134,297	197,328	97,775	99,553	39,465	18,930	20,535
Eastern Shore	**415,103**	**202,720**	**212,383**	**343,851**	**168,121**	**175,730**	**65,803**	**31,878**	**33,925**
Caroline County	30,861	15,138	15,723	26,264	12,984	13,280	4,250	1,972	2,278
Cecil County	92,746	45,894	46,852	88,164	43,617	44,547	3,522	1,776	1,746
Dorchester County	30,612	14,440	16,172	21,913	10,448	11,465	8,368	3,826	4,542
Kent County	19,680	9,446	10,234	16,384	7,939	8,445	3,094	1,402	1,692
Queen Anne's County	44,108	21,883	22,225	40,114	19,947	20,167	3,460	1,680	1,780
Somerset County	25,447	13,548	11,899	14,727	7,438	7,289	10,429	5,964	4,465
Talbot County	34,670	16,563	18,107	29,194	13,971	15,223	5,081	2,390	2,691
Wicomico County	87,375	41,691	45,684	65,214	31,262	33,952	20,296	9,485	10,811
Worcester County	49,604	24,117	25,487	41,877	20,515	21,362	7,303	3,383	3,920
National Capital	**1,757,597**	**844,415**	**913,182**	**895,698**	**441,493**	**454,205**	**694,851**	**322,264**	**372,587**
Montgomery County	918,881	441,868	477,013	649,795	315,500	334,295	141,740	65,185	76,555
Prince George's County	838,716	402,547	436,169	245,903	125,993	119,910	553,111	257,079	296,032
Northwest	**454,175**	**226,664**	**227,511**	**416,614**	**204,260**	**212,354**	**29,798**	**18,634**	**11,164**
Allegany County	73,668	36,720	36,948	69,151	33,360	35,791	4,032	3,106	926
Frederick County	213,662	105,235	108,427	193,631	95,289	98,342	14,388	7,221	7,167
Garrett County	30,049	14,832	15,217	29,801	14,683	15,118	163	112	51
Washington County	136,796	69,877	66,919	124,031	60,928	63,103	11,215	8,195	3,020
Southern	**309,913**	**153,188**	**156,725**	**238,892**	**119,240**	**119,652**	**63,474**	**30,554**	**32,920**
Calvert County	84,110	41,489	42,621	72,580	36,027	36,553	10,311	4,921	5,390
Charles County	133,049	65,144	67,905	88,172	43,725	44,447	40,795	19,582	21,213
St. Mary's County	92,754	46,555	46,199	78,140	39,488	38,652	12,368	6,051	6,317

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: Maryland Vital Statistics Administration, Division of Health Statistics, 2003

Appendix F

U.S. Standard Population, 2000

2000 U.S. Standard Population
(Census P25-1130)

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

Source: National Cancer Institute, SEER, 2000

Appendix G

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

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

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

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

Appendix H

Maryland Cancer Incidence and Mortality Rates by Geographical Area, 1999-2003

All Cancer Sites Incidence
Age-Adjusted Incidence Rates
by Geographical Area, Maryland, 1999-2003

Geographical Area	Incidence Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	477.3	474.7	480.0
Northwest Region	495.5	486.4	504.8
Allegany	491.6	471.6	512.4
Frederick	506.8	491.9	522.0
Garrett	463.9	432.4	497.2
Washington	494.0	478.0	510.5
Baltimore Metropolitan Area ^	495.7	491.2	500.3
Anne Arundel	491.1	481.9	500.4
Baltimore City	507.4	499.8	515.3
Baltimore County	510.3	503.5	517.2
Carroll	485.9	470.0	502.2
Harford	499.3	485.5	513.3
Howard	446.5	433.1	460.3
National Capital Area	431.0	426.3	435.8
Montgomery	428.7	422.6	435.0
Prince George's	433.7	426.3	441.3
Southern Region	464.0	451.5	476.6
Calvert	485.1	461.2	510.0
Charles	466.3	446.7	486.5
Saint Mary's	443.8	422.3	466.0
Eastern Shore Region	492.6	483.6	501.9
Caroline	512.7	478.1	549.1
Cecil	454.1	433.5	475.5
Dorchester	503.0	471.9	535.7
Kent	418.5	383.7	455.9
Queen Anne's	490.5	461.8	520.7
Somerset	535.6	496.9	576.5
Talbot	513.0	484.6	542.8
Wicomico	508.7	487.7	530.4
Worcester	509.1	484.7	534.5

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

^ Area rate does not include Baltimore City

Source: Maryland Cancer Registry, 1999-2003

Lung and Bronchus Cancer Incidence
Age-Adjusted Incidence Rates*
by Geographical Area, Maryland, 1999-2003

Geographical Area	Incidence Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	68.7	67.7	69.7
Northwest Region	70.4	67.0	73.9
Allegany	78.5	70.8	86.8
Frederick	65.3	60.0	71.0
Garrett	64.1	52.9	77.0
Washington	72.3	66.3	78.7
Baltimore Metropolitan Area ^	71.2	69.5	72.9
Anne Arundel	73.1	69.6	76.8
Baltimore City	91.2	88.0	94.6
Baltimore County	74.6	72.1	77.3
Carroll	63.0	57.3	69.1
Harford	72.7	67.5	78.3
Howard	57.7	52.7	63.0
National Capital Area	50.0	48.3	51.7
Montgomery	43.6	41.6	45.6
Prince George's	58.5	55.7	61.4
Southern Region	74.6	69.5	79.9
Calvert	79.0	69.2	89.7
Charles	73.1	65.2	81.5
Saint Mary's	73.2	64.5	82.6
Eastern Shore Region	83.2	79.5	87.0
Caroline	91.6	77.4	107.7
Cecil	72.9	64.7	81.8
Dorchester	87.9	75.5	102.0
Kent	69.6	56.3	85.5
Queen Anne's	77.2	66.1	89.6
Somerset	109.1	92.2	128.4
Talbot	71.7	61.6	83.2
Wicomico	91.9	83.1	101.4
Worcester	87.7	78.0	98.4

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

^ Area rate does not include Baltimore City

Source: Maryland Cancer Registry, 1999-2003

Colorectal Cancer Incidence
Age-Adjusted Incidence Rates*
by Geographical Area, Maryland, 1999-2003

Geographical Area	Incidence Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	53.3	52.4	54.2
Northwest Region	58.3	55.2	61.6
Allegany	60.7	53.9	68.1
Frederick	61.0	55.8	66.5
Garrett	52.6	42.5	64.7
Washington	55.8	50.6	61.5
Baltimore Metropolitan Area ^	54.3	52.8	55.8
Anne Arundel	52.4	49.4	55.6
Baltimore City	57.1	54.5	59.7
Baltimore County	56.8	54.6	59.1
Carroll	53.1	47.8	58.7
Harford	52.0	47.5	56.8
Howard	50.1	45.5	55.0
National Capital Area	45.9	44.4	47.5
Montgomery	42.0	40.0	44.0
Prince George's	51.2	48.5	53.9
Southern Region	61.4	56.8	66.2
Calvert	63.5	54.8	73.1
Charles	56.4	49.5	63.9
Saint Mary's	66.2	58.0	75.3
Eastern Shore Region	57.1	54.0	60.2
Caroline	67.9	55.7	81.9
Cecil	55.1	48.0	62.9
Dorchester	65.3	54.5	77.8
Kent	48.4	37.5	61.9
Queen Anne's	57.4	47.6	68.6
Somerset	59.8	47.4	74.5
Talbot	60.4	51.3	70.8
Wicomico	51.1	44.6	58.3
Worcester	57.2	49.2	66.1

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

^ Area rate does not include Baltimore City

Source: Maryland Cancer Registry, 1999-2003

Female Breast Cancer Incidence
Age-Adjusted Incidence Rates*
by Geographical Area, Maryland, 1999-2003

Geographical Area	Incidence Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	130.4	128.6	132.3
Northwest Region	130.0	123.6	136.6
Allegany	122.7	108.7	138.1
Frederick	131.1	121.2	141.6
Garrett	138.3	115.1	165.1
Washington	129.6	118.3	141.7
Baltimore Metropolitan Area ^	135.0	131.9	138.2
Anne Arundel	134.4	128.1	141.0
Baltimore City	121.0	116.1	126.2
Baltimore County	138.1	133.3	143.0
Carroll	129.4	118.6	140.9
Harford	124.7	115.8	134.2
Howard	136.2	126.9	146.1
National Capital Area	131.4	128.0	134.9
Montgomery	139.3	134.7	144.0
Prince George's	120.7	115.7	125.7
Southern Region	117.7	109.6	126.2
Calvert	127.9	112.2	145.1
Charles	121.7	109.2	135.3
Saint Mary's	102.1	88.5	117.1
Eastern Shore Region	125.3	119.0	131.8
Caroline	138.2	114.3	165.7
Cecil	99.2	86.6	113.2
Dorchester	136.6	114.4	162.0
Kent	113.3	88.2	143.8
Queen Anne's	111.1	93.1	131.7
Somerset	113.0	88.7	142.2
Talbot	150.0	128.8	174.1
Wicomico	144.8	130.0	161.0
Worcester	121.3	104.8	139.9

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

^ Area rate does not include Baltimore City

Source: Maryland Cancer Registry, 1999-2003

Prostate Cancer Incidence
Age-Adjusted Incidence Rates*
by Geographical Area, Maryland, 1999-2003

Geographical Area	Incidence Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	182.7	180.2	185.3
Northwest Region	175.2	166.9	183.7
Allegany	161.5	144.7	179.8
Frederick	201.6	186.8	217.1
Garrett	175.7	148.1	207.2
Washington	156.1	142.7	170.5
Baltimore Metropolitan Area ^	181.5	177.3	185.7
Anne Arundel	172.1	163.9	180.7
Baltimore City	196.5	189.0	204.3
Baltimore County	186.4	180.2	192.7
Carroll	176.6	162.0	192.2
Harford	199.3	185.9	213.5
Howard	169.3	156.5	182.9
National Capital Area	189.0	184.2	193.9
Montgomery	178.8	172.7	185.1
Prince George's	203.0	195.0	211.2
Southern Region	164.0	152.6	176.0
Calvert	173.7	151.4	198.2
Charles	196.1	175.9	217.8
Saint Mary's	119.6	103.6	137.4
Eastern Shore Region	155.2	147.8	163.0
Caroline	137.4	111.5	167.6
Cecil	171.7	152.3	192.8
Dorchester	163.6	138.3	192.7
Kent	134.6	107.3	167.5
Queen Anne's	164.1	140.8	190.3
Somerset	158.3	128.2	193.4
Talbot	174.4	151.2	200.6
Wicomico	141.2	124.6	159.5
Worcester	151.2	132.7	171.9

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

^ Area rate does not include Baltimore City

Source: Maryland Cancer Registry, 1999-2003

Oral Cancer Incidence
Age-Adjusted Incidence Rates*
by Geographical Area, Maryland, 1999-2003

Geographical Area	Incidence Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	10.6	10.2	11.0
Northwest Region	9.9	8.6	11.3
Allegany	12.0	9.0	15.7
Frederick	9.5	7.6	11.7
Garrett	**	**	**
Washington	9.7	7.6	12.3
Baltimore Metropolitan Area ^	10.5	9.8	11.2
Anne Arundel	12.3	10.9	13.8
Baltimore City	14.6	13.3	16.0
Baltimore County	10.6	9.6	11.7
Carroll	10.2	8.1	12.8
Harford	10.0	8.2	12.1
Howard	7.4	5.8	9.3
National Capital Area	8.9	8.3	9.6
Montgomery	8.9	8.1	9.9
Prince George's	8.7	7.7	9.8
Southern Region	11.4	9.6	13.5
Calvert	11.8	8.4	16.2
Charles	9.0	6.5	12.1
Saint Mary's	14.4	10.9	18.8
Eastern Shore Region	11.8	10.4	13.3
Caroline	11.1	6.6	17.7
Cecil	10.9	7.9	14.5
Dorchester	9.8	5.9	15.6
Kent	**	**	**
Queen Anne's	18.6	13.4	25.3
Somerset	**	**	**
Talbot	11.6	7.5	17.3
Wicomico	12.6	9.5	16.4
Worcester	14.2	10.3	19.3

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

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

^ Area rate does not include Baltimore City

Source: Maryland Cancer Registry, 1999-2003

Melanoma Incidence
Age-Adjusted Incidence Rates
by Geographical Area, Maryland, 1999-2003

Geographical Area	Incidence Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	18.8	18.3	19.4
Northwest Region	21.7	19.9	23.8
Allegany	16.5	12.8	21.1
Frederick	23.4	20.5	26.8
Garrett	14.9	9.5	22.3
Washington	24.5	21.0	28.5
Baltimore Metropolitan Area ^	23.9	22.9	24.9
Anne Arundel	24.2	22.3	26.3
Baltimore City	7.8	6.9	8.8
Baltimore County	23.7	22.3	25.3
Carroll	25.0	21.6	28.8
Harford	25.8	22.8	29.1
Howard	21.2	18.5	24.2
National Capital Area	13.5	12.7	14.4
Montgomery	18.2	17.0	19.5
Prince George's	7.6	6.6	8.6
Southern Region	19.4	17.1	21.9
Calvert	22.0	17.3	27.5
Charles	14.5	11.5	17.9
Saint Mary's	23.5	19.0	28.8
Eastern Shore Region	28.9	26.7	31.2
Caroline	24.6	17.5	33.7
Cecil	18.1	14.2	22.7
Dorchester	20.3	14.1	28.4
Kent	20.0	12.6	30.4
Queen Anne's	30.8	23.8	39.3
Somerset	17.0	10.6	25.8
Talbot	36.8	29.0	46.1
Wicomico	37.6	32.0	43.9
Worcester	40.9	33.8	49.2

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

^ Area rate does not include Baltimore City

Source: Maryland Cancer Registry, 1999-2003

Cervical Cancer Incidence
Age-Adjusted Incidence Rates
by Geographical Area, Maryland, 1999-2003

Geographical Area	Incidence Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	8.1	7.7	8.6
Northwest Region	6.7	5.3	8.4
Allegany	7.6	4.3	12.7
Frederick	7.0	4.9	9.6
Garrett	**	**	**
Washington	5.8	3.6	9.0
Baltimore Metropolitan Area ^	6.8	6.1	7.5
Anne Arundel	7.8	6.3	9.5
Baltimore City	12.2	10.6	13.9
Baltimore County	7.0	6.0	8.3
Carroll	5.2	3.3	8.0
Harford	5.9	4.0	8.2
Howard	6.3	4.4	8.6
National Capital Area	8.8	7.9	9.7
Montgomery	8.5	7.4	9.7
Prince George's	9.4	8.1	10.9
Southern Region	6.6	4.9	8.8
Calvert	**	**	**
Charles	6.2	3.7	9.8
Saint Mary's	**	**	**
Eastern Shore Region	8.4	6.8	10.3
Caroline	**	**	**
Cecil	9.0	5.6	13.9
Dorchester	**	**	**
Kent	**	**	**
Queen Anne's	**	**	**
Somerset	**	**	**
Talbot	**	**	**
Wicomico	8.1	4.9	12.7
Worcester	**	**	**

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

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

^ Area rate does not include Baltimore City

Source: Maryland Cancer Registry, 1999-2003

All Cancer Sites Mortality
Age-Adjusted Mortality Rates*
by Geographical Area, Maryland, 1999-2003

Geographical Area	Mortality Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	204.2	202.4	206.0
Northwest Region	197.3	191.5	203.1
Allegany	201.4	188.9	213.9
Frederick	191.7	182.4	201.0
Garrett	184.5	164.4	204.6
Washington	205.0	194.7	215.3
Baltimore Metropolitan Area ^	204.1	201.2	207.0
Anne Arundel	211.0	204.8	217.2
Baltimore City	264.0	258.4	269.6
Baltimore County	212.2	207.9	216.5
Carroll	202.7	192.2	213.2
Harford	197.1	188.2	206.0
Howard	161.2	152.9	169.5
National Capital Area	174.1	171.0	177.2
Montgomery	145.9	142.3	149.5
Prince George's	214.5	209.2	219.8
Southern Region	221.5	212.7	230.3
Calvert	227.7	210.8	244.6
Charles	228.8	214.7	242.9
Saint Mary's	207.4	192.2	222.6
Eastern Shore Region	218.0	211.9	224.1
Caroline	238.4	214.5	262.3
Cecil	224.6	209.7	239.5
Dorchester	237.0	215.8	258.2
Kent	191.4	168.6	214.2
Queen Anne's	203.5	184.5	222.5
Somerset	245.1	218.5	271.7
Talbot	192.2	175.5	208.9
Wicomico	224.7	210.6	238.8
Worcester	212.4	197.0	227.8

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

^ Area rate does not include Baltimore City

Source: Mortality rates from NCHS Compressed Mortality File in CDC WONDER

Lung and Bronchus Cancer Mortality
Age-Adjusted Mortality Rates*
by Geographical Area, Maryland, 1999-2003

Geographical Area	Mortality Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	58.0	57.1	58.9
Northwest Region	55.4	52.3	58.5
Allegany	59.8	53.0	66.6
Frederick	49.6	44.8	54.4
Garrett	49.7	39.3	60.1
Washington	61.1	55.5	66.7
Baltimore Metropolitan Area ^	60.3	58.7	61.9
Anne Arundel	62.9	59.5	66.3
Baltimore City	80.9	77.8	84.0
Baltimore County	63.7	61.3	66.1
Carroll	56.0	50.5	61.5
Harford	62.1	57.2	67.0
Howard	42.6	38.3	46.9
National Capital Area	42.5	41.0	44.0
Montgomery	32.8	31.1	34.5
Prince George's	56.1	53.4	58.8
Southern Region	62.3	57.6	67.0
Calvert	68.6	59.3	77.9
Charles	62.4	55.1	69.7
Saint Mary's	56.9	49.0	64.8
Eastern Shore Region	67.4	64.1	70.7
Caroline	77.1	63.5	90.7
Cecil	68.4	60.3	76.5
Dorchester	75.7	63.8	87.6
Kent	58.4	45.8	71.0
Queen Anne's	57.1	47.2	67.0
Somerset	82.0	66.7	97.3
Talbot	51.3	42.7	59.9
Wicomico	73.1	65.1	81.1
Worcester	65.2	56.8	73.6

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

^ Area rate does not include Baltimore City

Source: Mortality rates from NCHS Compressed Mortality File in CDC WONDER

Colorectal Cancer Mortality
Age-Adjusted Mortality Rates*
by Geographical Area, Maryland, 1999-2003

Geographical Area	Mortality Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	21.7	21.1	22.3
Northwest Region	21.5	19.6	23.4
Allegany	23.4	19.2	27.6
Frederick	22.1	18.9	25.3
Garrett	22.0	15.0	29.0
Washington	19.6	16.4	22.8
Baltimore Metropolitan Area ^	21.3	20.3	22.3
Anne Arundel	20.2	18.3	22.1
Baltimore City	27.7	25.9	29.5
Baltimore County	22.8	21.4	24.2
Carroll	22.3	18.8	25.8
Harford	19.8	16.9	22.7
Howard	17.0	14.3	19.7
National Capital Area	18.3	17.3	19.3
Montgomery	13.8	12.7	14.9
Prince George's	25.2	23.3	27.1
Southern Region	27.3	24.2	30.4
Calvert	25.9	20.0	31.8
Charles	29.6	24.4	34.8
Saint Mary's	25.9	20.5	31.3
Eastern Shore Region	23.1	21.1	25.1
Caroline	28.8	20.5	37.1
Cecil	23.3	18.5	28.1
Dorchester	28.1	20.9	35.3
Kent	19.5	12.1	26.9
Queen Anne's	23.7	17.0	30.4
Somerset	19.4	11.9	26.9
Talbot	22.0	16.4	27.6
Wicomico	23.2	18.7	27.7
Worcester	21.6	16.6	26.6

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

^ Area rate does not include Baltimore City

Source: Mortality rates from NCHS Compressed Mortality File in CDC WONDER

Female Breast Cancer Mortality
Age-Adjusted Mortality Rates*
by Geographical Area, Maryland, 1999-2003

Geographical Area	Mortality Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	28.0	27.1	28.9
Northwest Region	26.6	23.8	29.4
Allegany	23.9	18.2	29.6
Frederick	24.6	20.2	29.0
Garrett	28.3	17.8	38.8
Washington	30.1	24.7	35.5
Baltimore Metropolitan Area ^	27.0	25.6	28.4
Anne Arundel	29.5	26.5	32.5
Baltimore City	36.1	33.4	38.8
Baltimore County	28.2	26.1	30.3
Carroll	24.4	19.6	29.2
Harford	22.3	18.4	26.2
Howard	22.4	18.5	26.3
National Capital Area	26.1	24.6	27.6
Montgomery	22.5	20.6	24.4
Prince George's	30.4	27.9	32.9
Southern Region	26.7	22.7	30.7
Calvert	26.1	18.7	33.5
Charles	33.2	26.3	40.1
Saint Mary's	18.8	12.7	24.9
Eastern Shore Region	28.7	25.7	31.7
Caroline	32.2	20.5	43.9
Cecil	28.4	21.3	35.5
Dorchester	20.6	12.2	29.0
Kent	23.2	12.8	33.6
Queen Anne's	25.8	16.6	35.0
Somerset	26.4	14.2	38.6
Talbot	28.5	19.4	37.6
Wicomico	38.5	30.8	46.2
Worcester	25.1	17.9	32.3

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

^ Area rate does not include Baltimore City

Source: Mortality rates from NCHS Compressed Mortality File in CDC WONDER

Prostate Cancer Mortality
Age-Adjusted Mortality Rates*
by Geographical Area, Maryland, 1999-2003

Geographical Area	Mortality Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	31.6	30.4	32.8
Northwest Region	27.9	24.3	31.5
Allegany	29.7	22.0	37.4
Frederick	25.2	19.5	30.9
Garrett	32.6	18.7	46.5
Washington	27.7	21.4	34.0
Baltimore Metropolitan Area ^	27.9	26.1	29.7
Anne Arundel	25.7	21.9	29.5
Baltimore City	48.8	44.8	52.8
Baltimore County	28.1	25.5	30.7
Carroll	34.8	27.3	42.3
Harford	27.6	22.0	33.2
Howard	26.2	20.1	32.3
National Capital Area	28.6	26.5	30.7
Montgomery	23.4	21.0	25.8
Prince George's	38.2	34.1	42.3
Southern Region	34.6	28.6	40.6
Calvert	45.3	32.1	58.5
Charles	32.4	22.9	41.9
Saint Mary's	28.4	19.4	37.4
Eastern Shore Region	33.5	29.6	37.4
Caroline	39.6	23.4	55.8
Cecil	44.8	33.1	56.5
Dorchester	41.4	27.3	55.5
Kent	**	**	**
Queen Anne's	19.6	10.3	28.9
Somerset	35.7	19.6	51.8
Talbot	34.6	23.6	45.6
Wicomico	31.4	22.3	40.5
Worcester	30.0	20.5	39.5

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

^ Area rate does not include Baltimore City

** Rates based on death counts of 0-15 deaths are suppressed per DHMH/CCSC Mortality Data Suppression Policy

Source: Mortality rates from NCHS Compressed Mortality File in CDC WONDER

Oral Cancer Mortality
Age-Adjusted Mortality Rates*
by Geographical Area, Maryland, 1999-2003

Geographical Area	Mortality Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	2.8	2.6	3.0
Northwest Region	2.0	1.4	2.6
Allegany	**	**	**
Frederick	**	**	**
Garrett	**	**	**
Washington	2.3	1.2	3.4
Baltimore Metropolitan Area ^	2.7	2.4	3.0
Anne Arundel	3.0	2.3	3.7
Baltimore City	5.3	4.5	6.1
Baltimore County	2.8	2.3	3.3
Carroll	**	**	**
Harford	2.5	1.5	3.5
Howard	2.5	1.5	3.5
National Capital Area	2.2	1.9	2.5
Montgomery	1.8	1.4	2.2
Prince George's	2.6	2.0	3.2
Southern Region	3.8	2.7	4.9
Calvert	**	**	**
Charles	5.0	3.0	7.0
Saint Mary's	**	**	**
Eastern Shore Region	2.8	2.1	3.5
Caroline	**	**	**
Cecil	**	**	**
Dorchester	**	**	**
Kent	**	**	**
Queen Anne's	**	**	**
Somerset	**	**	**
Talbot	**	**	**
Wicomico	**	**	**
Worcester	4.7	2.4	7.0

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

^ Area rate does not include Baltimore City

** Rates based on death counts of 0-15 deaths are suppressed per DHMH/CCSC Mortality Data Suppression Policy

Source: Mortality rates from NCHS Compressed Mortality File in CDC WONDER

Melanoma Mortality
Age-Adjusted Mortality Rates*
by Geographical Area, Maryland, 1999-2003

Geographical Area	Mortality Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	2.6	2.4	2.8
Northwest Region	2.8	2.1	3.5
Allegany	4.1	2.3	5.9
Frederick	2.6	1.5	3.7
Garrett	**	**	**
Washington	2.3	1.2	3.4
Baltimore Metropolitan Area ^	3.0	2.6	3.4
Anne Arundel	3.5	2.7	4.3
Baltimore City	1.4	1.0	1.8
Baltimore County	2.8	2.3	3.3
Carroll	4.5	3.0	6.0
Harford	2.4	1.4	3.4
Howard	1.6	0.8	2.4
National Capital Area	2.3	1.9	2.7
Montgomery	2.7	2.2	3.2
Prince George's	1.8	1.3	2.3
Southern Region	3.3	2.3	4.3
Calvert	**	**	**
Charles	**	**	**
Saint Mary's	4.1	2.1	6.1
Eastern Shore Region	3.3	2.6	4.0
Caroline	**	**	**
Cecil	**	**	**
Dorchester	**	**	**
Kent	**	**	**
Queen Anne's	**	**	**
Somerset	**	**	**
Talbot	**	**	**
Wicomico	**	**	**
Worcester	**	**	**

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

^ Area rate does not include Baltimore City

** Rates based on death counts of 0-15 deaths are suppressed per DHMH/CCSC Mortality Data Suppression Policy

Source: Mortality rates from NCHS Compressed Mortality File in CDC WONDER

Cervical Cancer Mortality
Age-Adjusted Mortality Rates*
by Geographical Area, Maryland, 1999-2003

Geographical Area	Mortality Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	2.5	2.2	2.8
Northwest Region	3.1	2.1	4.1
Allegany	**	**	**
Frederick	4.1	2.3	5.9
Garrett	**	**	**
Washington	**	**	**
Baltimore Metropolitan Area ^	1.8	1.4	2.2
Anne Arundel	1.9	1.2	2.6
Baltimore City	4.8	3.8	5.8
Baltimore County	2.0	1.4	2.6
Carroll	**	**	**
Harford	**	**	**
Howard	**	**	**
National Capital Area	2.2	1.8	2.6
Montgomery	1.6	1.1	2.1
Prince George's	3.0	2.2	3.8
Southern Region	2.6	1.4	3.8
Calvert	**	**	**
Charles	**	**	**
Saint Mary's	**	**	**
Eastern Shore Region	2.7	1.8	3.6
Caroline	**	**	**
Cecil	**	**	**
Dorchester	**	**	**
Kent	**	**	**
Queen Anne's	**	**	**
Somerset	**	**	**
Talbot	**	**	**
Wicomico	**	**	**
Worcester	**	**	**

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

^ Area rate does not include Baltimore City

** Rates based on death counts of 0-15 deaths are suppressed per DHMH/CCSC Mortality Data Suppression Policy

Source: Mortality rates from NCHS Compressed Mortality File in CDC WONDER

Appendix I

Trends in Cancer Incidence and Mortality Rates in Maryland by Cancer Site and Year, 1999-2003

Trends in Cancer Incidence and Mortality Rates in Maryland 1999-2003

Table 1: Cancer Incidence Rates, by Cancer Site and Year Maryland, 1999-2003

Cancer Site	1999	2000	2001	2002	2003	APC 1999 - 2003	MD Trend
All Cancer Sites	476.8	486.0	444.4	495.9	494.5	0.9%	↑
Lung	71.6	71.1	62.5	69.1	70.8	-0.5%	↓
Colorectal	53.3	56.2	52.5	51.4	54.6	-0.4%	↓
Breast	137.0	133.0	121.6	132.4	133.4	-0.6%	↓
Prostate	185.3	187.2	170.7	197.5	176.7	-0.4%	↓
Oral	10.9	11.1	9.4	10.2	11.7	0.6%	↑
Melanoma	17.5	17.2	18.6	21.7	19.4	4.5%	↑
Cervical	8.2	7.9	7.0	8.5	9.3	3.3%	↑

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

APC = Annual Percent Change (%)

Source: Rates from Maryland Cancer Registry, 1999-2003

Table 2: Cancer Mortality Rates, by Cancer Site and Year Maryland, 1999-2003

Cancer Site	1999	2000	2001	2002	2003	APC 1999 - 2003	MD Trend
All Cancer Sites	211.7	209.1	202.2	201.9	195.6	-1.9%	↓
Lung	59.4	59.5	56.8	57.5	57.3	-1.1%	↓
Colorectal	22.5	23.9	21.6	20.8	19.5	-4.2%	↓
Breast	28.5	27.7	27.3	29.4	26.8	-0.6%	↓
Prostate	34.1	31.9	31.3	31.3	29.0	-3.4%	↓
Oral	3.0	3.0	2.8	3.0	2.4	-4.4%	↓
Melanoma	2.3	2.7	2.7	2.8	2.5	2.1%	↑
Cervical	2.8	2.3	2.8	2.5	2.1	-4.8%	↓

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

APC = Annual Percent Change (%)

Source: Maryland Division of Health Statistics (1999-2001 data)
NCHS Compressed Mortality File in CDC WONDER (2002 and 2003 data)

Table 3: All Sites Cancer Incidence Rates, by Race-Gender Group and Year Maryland, 1999-2003

Race and Gender	1999	2000	2001	2002	2003	APC 1999 - 2003
White Male	538.6	553.3	512.3	564.8	554.4	0.8%
Black Male	591.0	620.0	532.1	581.8	613.6	0.1%
White Female	413.6	420.0	395.2	428.3	445.9	1.7%
Black Female	361.6	390.7	351.2	379.8	418.3	2.7%

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

APC = Annual Percent Change (%)

Source: Rates from Maryland Cancer Registry, 1999-2003

Table 4: All Sites Cancer Mortality Rates, by Race-Gender Group and Year Maryland, 1999-2003

Race and Gender	1999	2000	2001	2002	2003	APC 1999 - 2003
White Male	253.5	248.6	239.8	237.9	232.4	-2.2%
Black Male	343.3	332.2	328.4	312.4	290.4	-3.9%
White Female	172.2	173.4	168.9	168.2	161.4	-1.6%
Black Female	190.6	196.4	194.2	194.4	191.4	0.0%

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

APC = Annual Percent Change (%)

Source: Maryland Division of Health Statistics (1999-2001 data)

NCHS Compressed Mortality File in CDC WONDER (2002 and 2003 data)

Table 5: Lung Cancer Incidence Rates, by Race-Gender Group and Year
Maryland, 1999-2003

Race and Gender	1999	2000	2001	2002	2003	APC 1999 - 2003
White Male	89.6	87.3	77.3	82.7	83.5	-1.9%
Black Male	104.1	110.6	87.6	90.5	102.5	-2.3%
White Female	57.5	58.4	52.8	59.1	62.6	1.8%
Black Female	52.0	51.4	48.1	55.6	55.1	2.0%

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

APC = Annual Percent Change (%)

Source: Rates from Maryland Cancer Registry, 1999-2003

Table 6: Lung Cancer Mortality Rates, by Race-Gender Group and Year
Maryland, 1999-2003

Race and Gender	1999	2000	2001	2002	2003	APC 1999 - 2003
White Male	77.7	75.7	72.5	72.8	71.7	-2.0%
Black Male	103.2	99.0	97.4	86.3	92.7	-3.5%
White Female	44.8	47.3	45.8	45.3	45.6	-0.1%
Black Female	42.2	43.5	40.5	48.1	45.9	2.7%

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

APC = Annual Percent Change (%)

Source: Maryland Division of Health Statistics (1999-2001 data)

NCHS Compressed Mortality File in CDC WONDER (2002 and 2003 data)

Table 7: Colorectal Cancer Incidence Rates, by Race-Gender Group and Year Maryland, 1999-2003

Race and Gender	1999	2000	2001	2002	2003	APC 1999 - 2003
White Male	61.0	66.6	58.5	56.6	59.9	-2.0%
Black Male	65.3	67.7	56.0	63.6	67.2	-0.1%
White Female	42.0	43.8	46.0	42.4	44.6	0.9%
Black Female	46.7	55.8	48.1	48.2	61.1	4.0%

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

APC = Annual Percent Change (%)

Source: Rates from Maryland Cancer Registry, 1999-2003

Table 8: Colorectal Cancer Mortality Rates, by Race-Gender Group and Year Maryland, 1999-2003

Race and Gender	1999	2000	2001	2002	2003	APC 1999 - 2003
White Male	24.9	27.6	25.1	23.7	21.8	-4.1%
Black Male	37.9	39.5	35.0	33.7	29.1	-6.6%
White Female	18.3	18.7	17.6	16.9	15.0	-4.9%
Black Female	25.0	27.5	25.3	21.6	24.4	-2.9%

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

APC = Annual Percent Change (%)

Source: Maryland Division of Health Statistics (1999-2001 data)

NCHS Compressed Mortality File in CDC WONDER (2002 and 2003 data)

Table 9: Female Breast Cancer Incidence Rates, by Race and Year
Maryland, 1999-2003

Race	1999	2000	2001	2002	2003	APC 1999 - 2003
White	135.5	136.9	123.4	135.8	136.4	0.1%
Black	121.3	116.6	109.4	119.0	118.6	-0.2%

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

APC = Annual Percent Change (%)

Source: Rates from Maryland Cancer Registry, 1999-2003

Table 10: Female Breast Cancer Mortality Rates, by Race and Year
Maryland, 1999-2003

Race	1999	2000	2001	2002	2003	APC 1999 - 2003
White	27.0	26.0	26.4	27.6	24.4	-1.4%
Black	33.8	34.1	33.5	35.6	34.9	1.1%

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

APC = Annual Percent Change (%)

Source: Maryland Division of Health Statistics (1999-2001 data)
NCHS Compressed Mortality File in CDC WONDER (2002 and 2003 data)

Table 11: Prostate Cancer Incidence Rates, by Race and Year
Maryland, 1999-2003

Race						
	1999	2000	2001	2002	2003	APC 1999 - 2003
White	155.2	161.3	153.0	168.3	150.2	-0.2%
Black	226.1	236.5	210.0	236.4	241.2	1.3%

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

APC = Annual Percent Change (%)

Source: Rates from Maryland Cancer Registry, 1999-2003

Table 12: Prostate Cancer Mortality Rates, by Race and Year
Maryland, 1999-2003

Race						
	1999	2000	2001	2002	2003	APC 1999 - 2003
White	28.6	26.9	25.2	24.0	24.7	-4.0%
Black	68.1	61.4	65.3	70.2	52.6	-3.8%

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

APC = Annual Percent Change (%)

Source: Maryland Division of Health Statistics (1999-2001 data)
NCHS Compressed Mortality File in CDC WONDER (2002 and 2003 data)

Table 13: Oral Cancer Incidence Rates, by Race-Gender Group and Year Maryland, 1999-2003

Race and Gender	1999	2000	2001	2002	2003	APC 1999 - 2003
White Male	15.4	15.9	12.8	15.4	18.3	3.2%
Black Male	17.4	18.9	16.7	15.4	19.0	-0.3%
White Female	5.6	6.2	5.4	5.8	6.1	1.0%
Black Female	6.4	4.7	5.5	4.8	6.1	-0.7%

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

APC = Annual Percent Change (%)

Source: Rates from Maryland Cancer Registry, 1999-2003

Table 14: Oral Cancer Mortality Rates, by Race-Gender Group and Year Maryland, 1999-2003

Race and Gender	1999	2000	2001	2002	2003	APC 1999 - 2003
White Male	4.0	4.4	3.8	3.8	4.0	-1.5%
Black Male	7.9	9.5	8.1	6.3	4.6	-13.9%
White Female	1.7	1.1	1.1	2.0	1.0	-4.5%
Black Female	1.3	0.8	2.2	**	**	n/a

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

APC = Annual Percent Change (%)

** Mortality rates based on death counts of 0-15 are suppressed per DHMH/CCSC Mortality Data Suppression Policy

n/a - Not available

Source: Maryland Division of Health Statistics (1999-2001 data)

NCHS Compressed Mortality File in CDC WONDER (2002 and 2003 data)

Table 15: Melanoma Incidence Rates, by Gender and Year
Maryland, 1999-2003

Gender	1999	2000	2001	2002	2003	APC 1999 - 2003
Male	22.1	22.8	23.7	27.3	24.1	3.6%
Female	14.5	13.2	14.9	17.8	16.0	5.1%

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

APC = Annual Percent Change (%)

Source: Rates from Maryland Cancer Registry, 1999-2003

Table 16: Melanoma Mortality Rates, by Gender and Year
Maryland, 1999-2003

Gender	1999	2000	2001	2002	2003	APC 1999 - 2003
Male	3.3	4.1	3.9	4.6	3.7	3.5%
Female	1.6	1.7	1.8	1.4	1.6	-1.9%

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

APC = Annual Percent Change (%)

Source: Maryland Division of Health Statistics (1999-2001 data)
NCHS Compressed Mortality File in CDC WONDER (2002 and 2003 data)

Table 17: Cervical Cancer Incidence Rates, by Race and Year
Maryland, 1999-2003

Race	1999	2000	2001	2002	2003	APC 1999 - 2003
White	6.5	6.4	5.4	6.6	8.4	5.6%
Black	10.4	10.6	8.2	10.4	10.7	0.4%

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

APC = Annual Percent Change (%)

Source: Rates from Maryland Cancer Registry, 1999-2003

Table 18: Cervical Cancer Mortality Rates, by Race and Year
Maryland, 1999-2003

Race	1999	2000	2001	2002	2003	APC 1999 - 2003
White	2.4	2.1	2.4	1.7	1.5	-10.9%
Black	3.8	3.3	4.6	4.8	3.6	2.7%

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

APC = Annual Percent Change (%)

Source: Maryland Division of Health Statistics (1999-2001 data)
NCHS Compressed Mortality File in CDC WONDER (2002 and 2003 data)

Appendix J

Trends in Cancer Stage of Disease at Diagnosis in Maryland by Cancer Site and Year, 1999-2003

Table 1: All Cancer Sites
Distribution of Cancer Stage at Diagnosis, by Year
Maryland, 1999-2003

Stage	1999	2000	2001	2002	2003
	%	%	%	%	%
Local	41.4	43.8	41.9	43.5	43.2
Regional	20.8	20.9	20.6	19.7	20.7
Distant	16.5	16.5	16.7	16.8	18.3
Unstaged	21.4	18.8	20.8	20.1	17.8

Source: Maryland Cancer Registry, 1999-2003

Table 2: Lung Cancer
Distribution of Cancer Stage at Diagnosis, by Year
Maryland, 1999-2003

Stage	1999	2000	2001	2002	2003
	%	%	%	%	%
Local	21.0	22.3	19.8	19.2	19.4
Regional	26.7	26.3	28.3	26.4	26.4
Distant	35.8	35.0	36.1	38.2	39.8
Unstaged	16.6	16.4	15.7	16.2	14.3

Source: Maryland Cancer Registry, 1999-2003

Table 3: Colorectal Cancer
Distribution of Cancer Stage at Diagnosis, by Year
Maryland, 1999-2003

Stage	1999	2000	2001	2002	2003
	%	%	%	%	%
Local	30.4	31.4	30.1	34.2	31.6
Regional	37.8	40.0	38.4	35.7	37.9
Distant	17.8	14.9	14.6	15.3	17.3
Unstaged	14.1	13.7	16.9	14.8	13.2

Source: Maryland Cancer Registry, 1999-2003

Table 4: Breast Cancer
Distribution of Cancer Stage at Diagnosis, by Year
Maryland, 1999-2003

Stage	1999	2000	2001	2002	2003
	%	%	%	%	%
Local	58.4	57.8	56.4	59.4	55.6
Regional	26.4	28.4	28.2	27.7	29.3
Distant	3.2	3.8	3.7	3.7	4.5
Unstaged	12.0	10.1	11.7	9.2	10.7

Source: Maryland Cancer Registry, 1999-2003

Table 5: Prostate Cancer
Distribution of Cancer Stage at Diagnosis, by Year
Maryland, 1999-2003

Stage					
	1999	2000	2001	2002	2003
	%	%	%	%	%
Local	58.4	68.4	62.2	65.9	73.6
Regional	7.2	6.8	5.8	6.4	6.9
Distant	2.8	2.8	2.5	2.6	2.7
Unstaged	31.5	22.1	29.5	25.1	16.8

Source: Maryland Cancer Registry, 1999-2003

Table 6: Oral Cancer
Distribution of Cancer Stage at Diagnosis, by Year
Maryland, 1999-2003

Stage					
	1999	2000	2001	2002	2003
	%	%	%	%	%
Local	34.7	37.0	34.6	36.1	31.9
Regional	44.7	44.5	43.9	43.3	47.4
Distant	5.0	6.1	4.8	6.3	5.4
Unstaged	15.6	12.4	16.7	14.4	15.3

Source: Maryland Cancer Registry, 1999-2003

Table 7: Melanoma
Distribution of Cancer Stage at Diagnosis, by Year
Maryland, 1999-2003

Stage					
	1999	2000	2001	2002	2003
	%	%	%	%	%
Local	43.6	57.6	51.4	53.0	56.7
Regional	7.0	4.9	5.7	6.7	7.2
Distant	2.5	3.3	3.0	1.5	3.9
Unstaged	47.0	34.1	40.0	38.9	32.2

Source: Maryland Cancer Registry, 1999-2003

Table 8: Cervical Cancer
Distribution of Cancer Stage at Diagnosis, by Year
Maryland, 1999-2003

Stage					
	1999	2000	2001	2002	2003
	%	%	%	%	%
Local	40.3	46.9	42.4	39.9	44.6
Regional	28.3	26.1	24.4	30.2	21.0
Distant	9.7	6.6	6.8	6.5	7.3
Unstaged	21.7	20.4	26.3	23.4	27.2

Source: Maryland Cancer Registry, 1999-2003

For comments or questions about this report contact:

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